

Proceedings of the 5th International Conference of Health Behavioral Science 2006

第5回国際保健医療行動科学会議



「健康と環境の教育 統合医療と環境教育」プロシーディング

Education on Health and Environment: Integrated Medicine and
Environmental Education



日本保健医療行動科学会



The 5th International Conference of Health Behavioral Science
Education on Health and Environment:
Integrated Medicine and Environmental Education

17-20 August 2006

Bangkok, Thailand
Phranakhon Grand View Hotel
Phranakhon Rajabhat University

Organizers Japan Academy for Health Behavioral Science
International Association of Earth-Environment and Global-Citizen

Co-Organizer Phranakhon Rajabhat University

Supported by International Sociological Association, The Japanese Society of Health and Medical Sociology, Japan Academy for Mental Health Sociology, Japan Academy for Health Counseling, The Association for Preventive Medicine of Japan, Japanese Association of Alternative, Complementary, Traditional Medicine, Japanese Society for Integrative Medicine, Japan Holistic Medicine Society, The Japan Dental Association, Japanese Nursing Association, Japanese Society for Hospice and Home Care, Home Care Ensuring Clinic Network in Japan, The Asia-Pacific Network for Global Change Research(APN), Institute for Global Environmental Strategies (IGES) Kansai Research Centre, The Japanese Society of Environmental Education: Kansai



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Printed by:

Fuzanbo International Co., Ltd.

Front Cover Photo credit: Fumiaki Taniguchi; Department of Human Sciences, Faculty of Letters, Konan University.

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MESSAGE



We in the past held four meetings for the International Conference of Health Behavioral Science. The 1st conference, back in August 1988 in Hawaii, USA was under the main theme of “Traditional & Modernity in Health Care”. The 2nd conference, in September 1991 in Tokyo, Japan received around the main theme of “Health Care Systems: How Should It Be in 21st Century”. The 3rd conference, also in Tokyo, in September 1996 was under the main theme of “Crisis Behavior toward Growth & Solidarity”. The 4th conference, in April, 2001 in Kobe, Japan was under the main theme of “Integrated Approaches to Health”. Now, the 5th International Conference of Health Behavioral Science is to be held in August 2006 in Bangkok, Thailand under the main theme of “Education on Health and Environment: Integrated Medicine and Environmental Education”.

The external environmental problems relating to life and health have caused a serious situation, which in turn causes a further serious future situation. The environmental problems of the past directly contributed to our current internal environmental problems via our genes and memories, and they make it pretty difficult for us to surmount the current external environmental problems.

Behavioral science aims to get a hold of the mutual functions between life and environment at various levels from molecules, cells, and tissues to individual people, groups of people, society, the earth and the universe, to explicate them systematically as well as empirically, and thus to contribute to the solution of our problems.

At the forthcoming 5th conference we plan to study by way of behavioral sciences how to solve health problems as the mutual functions between life and environment from the view point of education.

I hope for the enrichment of the conference through lively and international discussions among the participants from various countries and specializations, and for the pursuit of effectual methods for an educational solution.

Prof. Dr. Munakata, Tsunetsugu
Chairperson
The 5th International Conference of
Health Behavioral Science
August 2006

OPENING REMARKS



The Japan Academy for Health Behavioral Science will host the 5th International Conference of Health Behavioral Science, *Education on Health and Environment: Integrated Medicine & Environmental Education*, which will be held August 16th-21st, 2006, in Bangkok, Thailand. The Conference will include keynote speeches, a local excursion to an integrative health care facility, oral presentations, poster presentations, a symposium, satellite symposiums, workshops, and an optional sightseeing tour.

We will take an interdisciplinary approach drawing on each of the different sciences to enable the most thorough discussion of health behavioral science. Currently, we are faced with various problems regarding life and bioethics due to the development of such life science technology as cloning techniques, abortion, sterilization, artificial contraception, chemotherapy, surrogate pregnancy, gene therapy, organ transplants and regenerative medicine. Issues such as the rights of brain-dead patients and related concerns dealing with informed consent are also at the center of contemporary bioethics. All of these issues demand a deep understanding of the roles various kinds of environments play in human life.

In regards to global environmental problems, there is the destruction of the natural environment such as global warming, acid rain, desertification, deforestation, and a decrease in biodiversity. Problems in the social environment include the North-South problem, the widening gap between the levels of social and economic systems in the world, and the concept of sustainability and development. Another consideration is the mind environment which relies on input from both the natural and the social environment. Disturbances in those environments can negatively affect the environment of the mind, a problem which is becoming increasingly noticeable in many important social facets of life such as communication. This imbalance in the mind environment demands an overhaul both of lifestyle choices and environmental ethics. Accordingly, we need to make efforts towards solving the problems surrounding bioethics and the environment. Therefore, we will discuss the goal of a healthy life through a sound environment from the holistic and integrative perspective.

In order to restore and promote healthy life and sound environment in the 21st century, our goals are to promote the study and the discussion of Integrative Medicine and Environmental Education from a global perspective and to encourage a deeper level of international exchange among countries. Throughout the Symposium, in addition to the topics mentioned above we will also discuss the latest developments in the fields of health and the environment. We will also promote health behavioral science and environmental education studies for the goal of a sustainable future.

We welcome all participants to the International Conference. And we would like to express our deepest appreciation for Dr. Preang KITRATPORN, President of Phranakhon Rajabhat University and members of Environmental Education Center for the cooperation of this conference.

Fumiaki TANIGUCHI

Executive Director

*The 5th International Conference of
Health Behavioral Science*

August 2006

Keynote Speeches

Keynote Speech I

New Paradigm, Integrative Medicine: Towards Future Health Care System

Kazuhiko ATSUMI., MD. Ph. D.
Professor Emeritus, Tokyo University
President, Japanese Society for Integrative Medicine

Ladies and Gentleman,

It's my great pleasure to come here and to give my lecture. Today's lecture is a new paradigm that means the Integrative Medicine(IM). We are going a new paradigm toward future health care system.

Table (1) shows a history of medicine. Several thousands years ago, the major Traditional Medicine (TM) started in Asia; Chinese Medicine, Ayurveda, and Unani Medicine. We are very proud of these world famous TM were created in oriental religion. These TM were amalgamated and transferred to Europe through Greece and Roma. Then, the western medicine was constructed and revolutionized by the progress of an advanced technology. In future, integrative medicine will be created and bring the ideal health care system.

Figure (1) shows the system of IM. The Modern Western Medicine (MWM) was integrated with Complementary and Alternative Medicine (CAM) and IM was created. IM is aiming to individualize and to realize patient oriented, and IM means tailored medicine by evidence.

In order to realize IM, analysis of individual constitution is necessary.

Tailored diagnosis and therapy will be archived by the progress of genome analysis.

Table (2) shows the major domains of CAM, by the definition of the National Center of CAM in NIH (National Institute of Health) of the United State of America. Firstly, alternative medical systems; that are traditional Chinese medicine, Ayurveda, homeopathy, naturopathy etc. Secondly, mind-body interventions; that are meditation, hypnosis, dance, music, art therapy and so on. Thirdly, biologically based treatments; which include vitamins, minerals, herbs and vegetarianism. The fourth is manipulative and body-based methods; which include chiropractic, massage therapies and so on. The last one is a energy therapies.

Medical system is different, according to the regional factors such as weather, regional foods, social customs, economy and educational systems etc. There is classification on CAM in Japan (Table (3)) shows a different constitutions compared the other countries. Japanese characteristics are shown such as Kampo, Shiatsu, Judo-Seifuku and Zen meditation etc.

Table (4) shows the utilization rate of CAM in US, UK, and Japan. In USA, utility rate of CAM is 42.1%. In the US, the use of number one is relaxation, the second is herbal medicine, the third is massage, the forth is chiropractic and the fifth is spiritual healing. But, recently this order was changed. In 2004, number one is spirituality in the Unites States of America. In Japan, the utility rate is 74.3%, the use of number one is herbs, real kind of herbs and Kampo, the second is massage, the third is acupressure, the forth is acupuncture and fifth is a diet therapy.

Table (5) shows the states of world actions of IM. In USA, in 1996, Presidential Committee was organized in the White House, and in 1999, National Center of CAM was established in NIH. In Canada, in this May, North America symposium of CAM/IM was held in Edmonton. In Europe, Spiritual Healing Center in UK has been supported by the royal family. Homeopathy Center in Germany was established. Many international conferences of CAM were organized. In Asia, in this February, China Japan Korean symposium on IM was held in Tokyo. In this October, the CAM symposium was held in Seoul. In WHO, international map on CAM was constructed in 2005.

Why CAM has been recently so respected? (Table (6))

The first, CAM is countermeasure to treat intractable disease; namely by integrated holistic medicine, the second, conversion of treatment strategy, the third, it is recognizing of body/mind relationship, the fourth is, harmonization between nature and human and lastly, it's important, allocation of medical resources; these are the reasons that CAM appreciated recently.

The definition of IM is as shown in the Table (7). It integrates MWM and CAM/TM aiming for patient oriented medicine.

The Table (8) shows a mission of IM. The first, it is aiming to total health care, not only to treatment but also to prevention and health promoting. The second, for this purpose, it is to utilize the possible treatment not only by MWM but also CAM/TM. The third, it is the individualized, holistic, comprehensive and humanized medicine.

The goal of IM, is to integrate oriental wisdom and western science, to live healthier, beautiful and longer.

The Table (9) shows the comparison between CAM and MWM. In MWM, the target is for organ therapy and treatment is achieved to remove pathogen by drug therapy and surgery. The effectiveness of MWM are mostly verified scientifically. On the other hand, in CAM, the target is holistic health maintenance and prevention of diseases, and enhancing natural healing potential by improving lifestyle. MWM is mostly invasive and the cost is expensive. On the other hand, CAM is reverse in these points compared with MWM.

The Table (10) shows the contents of the major TM. In Japan, Kampo, Shiatsu, Judo-Seifuku and hot spring are listed up. In China, Chinese Medicine, acupuncture, Taichi and Qigong are listed up. In Korea, Korean Medicine and Korean herbs, in Thailand, Thai TM, Thai herb and Thai massage, in India, Ayurveda and Yoga, in Europe, homeopathy, hot spring therapy and phytotherapy, and in USA, native American medicine, chiropractics and Naturopathy.

Chinese medicine is very important in a TM. This is the experienced-based, individual oriented, and unique, which consist of Qi, five elements. Internal organs depend on Chinese philosophy as shown in the table (11). Different therapy is decided with same diagnosis. The effects of Chinese herbs are integrative and the contents are not identified scientifically and chemically. Therefore, the standardization of Chinese medicine is very difficult.

The pulse diagnosis is a very important tool in the oriental medicine, not only China but also India. The pulse diagnosis is unique of the whole body condition not only local areas condition. We constructed the device of pulse diagnosis by cooperation with SONY company (Figure (2)).

The three sensitive audio sensors were settled on the skin surface of the radial artery, instead of three fingers of doctor (Figure (3)). The software is based on Chinese medicine, however, understanding of meaning is different. The three amplitude patterns depend on the sensors instead of fingers, this Figure (4) is the record of the pulse changes before and after of the dialysis treatment. In the figure, recovery to the better condition is recorded with this pulse devices.

Kampo is the unique Japanese TM, imported from China about 1000 years ago. The 200 species of Kampo herbs were approved by Japanese Government. At present, 70 % of medical doctors used, 46 % of scientific data reported, 37 % is a holistic medical oriented, 28 % is patient's requirement and 21 % is for the use on the life style disorder.

Principles of Kampo is shown in the Table (12). Kampo is an individual patients oriented medicine. Diseases come from unbalance of the essential elements, treatment will be decided according of "Sho (symptom)", Kampo is used for prevention, health promotion, and also treatments.

The Figure (5) shows the difference between Chinese medicine and Kampo. The upper side shows the Chinese medicine, the down side shows the Kampo. In Chinese diagnosis & therapy, the complicated way is needed. However, Kampo is a very simple, only to identify the individual constitution, which means "Sho", decide automatically the therapy.

The Table (13) shows the characteristics and functions of the three Dosha in Ayurveda. The three Dosha consists of Verta, Pitta and Kava. These are connected with five elements and different characteristics and functions. The three Dosha are a very important to understand health and behavioral conditions.

The Figure (6) shows relationships among Dosya, Agni and Aama. Agni and Aama are special words in Ayurveda. Unbalance of Dosha will cause disorder of Agni, as the results Aama accumulates, and then the route is obstructed and cause disease and aging. If it makes a balance of Dosha and adjust of Agni, disease is recovered and health is promoted.

Yoga is considered to start in India, 4500 years ago.

At present, Yoga is popular in Japan among young and aged people for health promotion (slide (27)). There are probably the 1000 training center of Yoga even in Tokyo.

Acupuncture was started in China 3000 years ago. The first use of the fragments of stone to press of special points of the Tsubo for stimulation.

The scientific evidences on acupuncture have been approved.

This Figure (7) shows the thermal recording of the typical changes in skin temperature using the thermograph camera. This Figure (8) shows the rising of the skin temperature, after acupuncture you can see the red color of points rising the skin temperature, 3 centi-degrees up compared with the other areas. Utilizing Tsubo stimulation by acupuncture, some connecting area's temperature rising which means blood flood increasing.

Chinese acupuncture needle is long and thick, however, Japanese one is short and fine, but these effects of both of needle would consider as the same effects.

The evidences on efficacy of acupuncture are shown in the Table (14). Positive effects are approved on tooth pain, lumbago, nausea and vomiting are approved. However, negative effects are shown on stop

on smoking, and reduction body weight.

This slide shows a laser acupuncture device developed by Matsushita company. This device was applied to relief pain on the patients with rheumatism.

Qigong has been used some patients in China and now is popular in Japan. Last year, the association of medical Qigong was constructed in Japan.

Naturopathy is also the most important treatment in CAM. The various methods in naturopathy are shown the slide; hydrotherapy, diet therapy, phytotherapy means by herbs, exercise, massage, psychosomatic therapy and induction therapy.

The various kinds of manual therapy using the chiropractics, and hydrotherapy reflexology etc. are experienced in naturopathy.

This Table (15) shows the comparison on the various manual therapies; Amma, massage, Judo-Seifuku, chiropractics, Seitai, Suikon, Reflexology and aromatherapy etc. which are comparing in the methodologies and points.

Meditation is the very important CAM in the world, in particular Ayurveda and Zen, etc. The transcendence meditation has been applied in the treatment of ayurveda. The Table (16) shows the data of the physical and biomedical changes after the transcendent meditation. You can see the blood pressure down, blood flow increase, cholesterol is down after the meditation.

The Table (17) is the psychological changes, mind-body interaction and healthy condition, improved by the transcendental meditation.

In Japan, many volcanoes issued hot springs not only in mountains but also in seaside. Japanese enjoy hot springs in every season (Figure (10)). Japanese long life is considered to depend on hot spring. The efficacy of hot spring on health promotion and anti-aging are shown in the Table (18). The physical, thermal and chemical effects of the hot spring are shown in the middle side and these effects combined with physical and mental effect, and with also the effects of the exercise, and then it is integratively effective for health promotion and the anti-aging.

Mind-body interaction is very important for CAM therapies.

It includes various area; -support groups, mental healing, psychotherapy, meditation, image guide therapy, hypno-therapy, bio-feedback, yoga, dance therapy, music therapy and art therapy- (Figure (11)).

The academic approaches to CAM and IM are mostly divided into the following three groups' categories (Table (19)). The group one is explained by the conventional methodology, it just means the scientific evidence and it is available to explain with the conventional medicine. The second group is by new developed technology method.

The third group is very important, because it is beyond the conventional scientific methodology. For this explanation, the new methodology should be developed in future.

In 2002, Dr. M. H. Cohen reported the possibility of risks for medical fault treatment by various CAM and divided into the four groups (Table (20)). The A group is positive evidence on both efficacy and

safety. The B group is positive evidence on safety but not positive evidence on efficacy. The C group is positive evidence on efficacy, but not positive evidence of safety. The D group is not positive evidence on both efficacy and safety. The D group will be given up to use, at present time. The A group will be recommended to use and the B and the C group need to monitor and to try to use. For instance, the A group includes chiropractic for acute lumbago, acupuncture for nausea and for dental pain, and psychosomatic therapy for chronic pain or insomnia. The C group includes St. Johns Warts for depression, saw palmetto for prostate hypertrophy, chondroitin for osteo-arthritis, ginkgo for dementia, so we should analyze and classify these CAM and use them with some needs of monitoring.

What are the concept and the image on the IM? In the Table (21), the horizontal column, medical targets are listed up; health maintenance, preventive medicine, surgery, acute infection, early cancer, advanced cancer, allergy, stress, and so on. It looks continued endless. On the other hand, in the vertical column, medical methods are listed up; MWM, psychosomatic medicine, Chinese medicine, Ayurveda, Islamic medicine, image therapy, and so on. For instance, at the present, MWM is necessary in the cases of the surgery, acute infection, and early cancer. But, the other area is not always necessary. In some cases, Chinese medicine and Ayurveda is more useful than MWM. In future, we need to construct a guideline for doctor who can choice most appropriate modernity for the patients.

The characteristics of IM are shown as follows;

First, IM is patient oriented medicine, it means the individual oriented medicine. Second, IM is wide health services including health promotion and preventive medicine. Third, IM is comprehensive cares on human life from birth to death. And forth, humanized and holistic medicine.

In order to promote the IM, design of regional model of IM center is necessary.

This medical center connected with MWM center, institutes, and also medical schools and databank, and also this is connected with the facilities of acupuncture, naturopathy, herb, taraso therapy, massage, music therapy, supplement, psycho mental therapy, so this is the one of model as the IM center.

Now, the consortium and the concept of the IM center in Okinawa was designed (Figure (12)). In the upper and middle of slide, IM center in Okinawa connected medical university, schools, heavy particle ion therapy, databank, nutrition & diet center, anti-aging center, rehabilitation center, sport center, kampo, ayurveda, shiatsu, chiropractics, naturopathy, aromatherapy, tharassotherapy, animal therapy, and museum.

In underside, IM center is connected with international health industries, long-stay health resort hotels, international congress and exhibition center and also international market mall. These are now designing in Okinawa.

I would discuss about the problems to be solved and promoted in IM how to integrate between MWM and CAM/TM. These systems are different each other. Therefore, the philosophy and concepts are needed how to integrate (Table (22)). Second, at the present, CAM is not approved scientifically and then is needed to EBM on CAM. Third, the technology are needed bridging over MWM to the CAM. In future, the medical system should be improved. And for instance, health insurance, some certification and participation of medical coworkers are necessary.

Education is very important. Our Japanese medical education should be improved and be included of the TM, acupuncture and so on. And also the verification of medical specialist on IM, for instance, chiropractics, aromatherapy, reflexology etc. are needed which are not approved in my country.

In order to organize on model hospital and model region, propaganda for IM are needed. International

cooperation on promotion for IM would be promoted.

Finally, I would like to propose on the future image of the total health care. On the right column, the development of the medical basic research is shown (Figure (13)).

At present, the two outstanding researches are expecting, one is the genetic science, another is the regenerative medicine. These two revolutionary researches would change the medical therapy and the end of organ therapies will come.

In left column of the Figure (13), now we are using MWM as the conventional medicine. But, we are going to integrate TM and alternative medicine, and to make of the IM, it means the holistic medicine. And finally, these basic research and clinical approach would join towards the total health care services.

Future direction in medicine will be changed from therapeutic medicine to health promotion and preventive medicine. From organ therapy to holistic therapy. And then, from transient health care to comprehensive health care from birth to death.

Dr. H. Imura, who is a distinguished medical doctor, and key person to design the plan on Japanese science and technology. He described the comparison of the modern medicine and health cares in 20th century and 21st century as shown in the Table (23).

In the 20th century, method is the reductionism, a keyword is a gene, and mind and body were separated. Health care and medicine were doctor oriented therapeutics, and used of the MWM. However, in the 21st century, method is the integration, a key word is a network and mind and body are integrated. Medicine is generalized as team care and prevention, and IM would be realized.

Summary

- 1) The IM will open the door of the future health care service.
- 2) In order to realize IM, many problems to be solved, that are evidence on CAM, revolution on medical education, remolding on health care structure, and so on.
- 3) By proceeding of IM, evolutional changes will be occurred, not only in medical community and health care, but also in society, human value etc.

Table (1)



Figure (1)

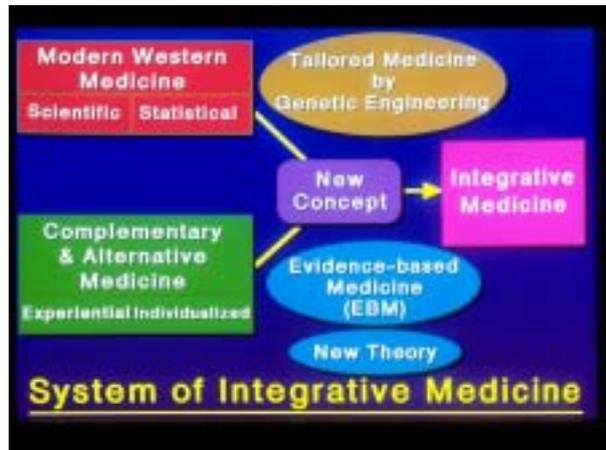


Table (2)



Table (3)



Table (4)

Utilization Rate of CAM in Developed Countries
(H. Yamashita)

	US	UK (England)	Japan (Geriatric Outpatient)
Date	1997	1998	1999
Total Utility / Year, Capita	42.1%	28.3%	74.3% (Except Vitamins, Minerals)
(Content)			
1	Relaxation (18.3%)	Herbal Medicine (19.8%)	Herbal Medicine (27.0%)
2	Herbal Medicine (13.1%)	Homeopathy (16.5%)	Massage (19.0%)
3	Massage (11.7%)	Osteopathy (4.3%)	Acupuncture (10.5%)
4	Chiropractic (11.8%)	Chiropractic (5.6%)	Acupuncture (7.2%)
5	Spiritual Healing (7.0%)		Diet Therapy (7.0%)
Remarks			
Acupuncture	(1.0%)	(1.8%)	

Table (5)

World Actions for Integrative Medicine

USA	1992 — 34% of Americans use CAM 1993 — CAM settled in NIH 1996 — Presidential Committee on CAM 1999 — NCCAM settled in NIH 2004 — Integrative Oncology
Canada	2006 — North America C. I. M.
Europe	- Spiritual Healing Center in UK supported by Royal Family - Homeopathy Center in Scotland - European Homeopathy Center in Germany 2001 — Int. Conf. of EBM-CAM (Munich) 2003-2005 — Int. Conf. of EBM-CAM (London)
Asia	2001 — Int. Conf. of Oriental Medicine (Seoul) 2002 — China-US symp. of Integrative Medicine 2006 — J.C.K. Symo. On I.M. (Tokyo) 2006 — J.C.K. Symo. On I.M. (Seoul)
WHO	2001~2003 — Int. Conf. on CAM/TM (Kobe)

Table (6)

The Reason for Appreciation on CAM	
1.	Countermeasure to treat Intractable Disease (Integrative, Holistic Medicine)
2.	Conversion of Strategy for Treatment (Enhancement of Natural Healing Potential)
3.	Recognition for Body/Mind Relationship
4.	Harmonization between Nature and Human
5.	Allocation of Medical Resources (Personal, Finance etc)

Table (7)

Integrative Medicine

Definition

To integrate Modern Western Medicine (MWM) and Complementary Alternative Medicine (CAM) / Traditional Medicine (TM)



Table (8)

(89) Mission of Integrative Medicine	
1)	Aiming to Total Health Care not only to Cure the Patients but also to prevent his/her Diseases, to Promote Health and to Sustain Long Life
2)	For this Purpose, to Utilize the Possible Treatment not only by MWM but also CAM/TM and others
3)	The Characteristics of IM are Individualized, Holistic, Comprehensive and Humanized Medicine

Table (9)

Comparison Between CAM and Modern Western Medicine		
	CAM	Modern Western Medicine
Target	Holistic Health Maintenance & Preventive Medicine	Therapeutics-oriented, Organ Therapy
Treatment	Enhancement of Natural Healing Potential	Removal of Pathogen
Methodology	Improvement on Lifestyle	Drug Therapy and Surgery
Effectiveness	Less Verified Scientifically	Mostly Verified Scientifically
Safety	Less Verified Scientifically	Mostly Verified Scientifically
Invasion	Mostly non-invasive Method	Mostly Invasive Method
Comfortability	More	Less
Cost	Reasonable	Expensive
Cost / Effectiveness	Better	Worse

Table (10)

The Major Traditional Medicine in the World	
Country & Region	Contents of Traditional Medicine
Japan	Kampo, Acupuncture & Moxibustion, Shiatsu, Judo-Seifuku, Hot Spring, Healthy Food
China, Taiwan	Chinese Medicine, Acupuncture & Moxibustion, Tui Na Medicine, Mongol Medicine, Tai Chi, Qigong
Korea	Korean Medicine, Korean Herb
Thailand	Thai TM, Thai Herb, Thai Massage
India	Ayurveda, Unani Medicine, Yoga
Arab	Unani Medicine
Europe	Aromopathy, Homeopathy, Acupuncture, Hot Spring Therapy, Phytotherapy, Aromatherapy
USA	Native American Medicine, Chiropractics, Naturopathy,

Table (11)

	Modern Western Medicine	Chinese Medicine
Base & Mode	Science based, Statistical	Experience-based, Individual
Unit	Cell, Molecule	Qi, Five Elements
Organ	Modern Anatomy	Chinese Philosophy
Diagnosis & Therapy	Same Therapy with Same Diagnosis	Different Therapy with Same Diagnosis
Drug vs. Herb	Effect of Identified Chemical Substances	Integrative Effect, not Identified Scientifically
Standardization	Easy	Difficult

Figure (2)

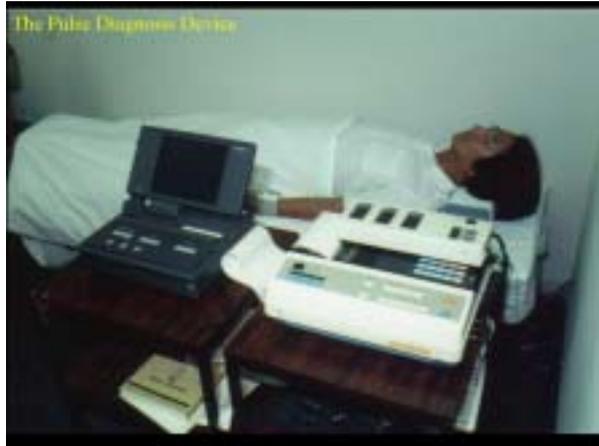


Figure (3)

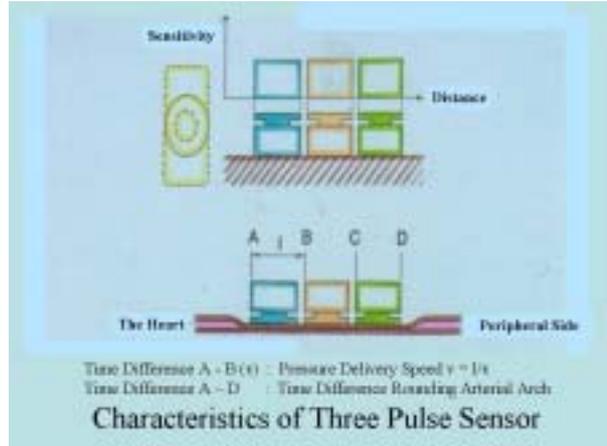


Figure (4)

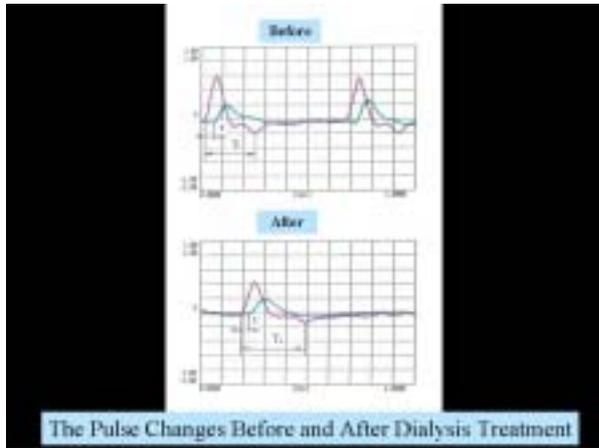


Table (12)

Principles of Kampo	
Individual (Patient) Oriented Medicine	
Diseases will occur from Unbalance of Essential Elements	
Treatment will be decided according of Sho (Symptom)	
Focusing on Preventive Care & Health Promotion rather than Therapeutics	
Kampo Herb, Acupuncture, Herbal Diet, Exercise, Massage are Utilized as Therapeutic Tools	

Figure (5)



Table (13)

The Characteristics and Functions on Three Dosha in Ayurveda			
Physical Dosha	Five Elements	Characteristics	Functions
Vata	Wind Energy, Motion Energy	Light, Dynamics, Cold, Speed, Dry	Catabolism, Movement, Delivery
Pitta	Fire Energy, Transformation Energy	Hot, Sharp, Light Liquid, Fine Oil	Metabolism, Digestion
Kafa	Water Energy, Fusion Energy	Heavy, Cold, Slow, Oil, Stable	Maintenance of Structure, Immunological Effect, Anabolism

Figure (6)

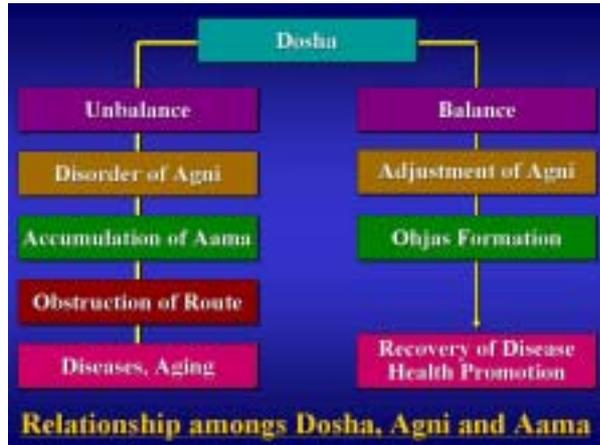


Figure (7)



Figure (8)

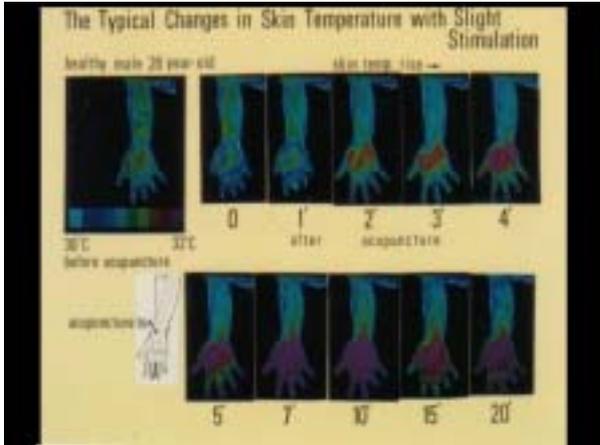


Table (14)

Evidence on Efficacy of Acupuncture (Dale, J. 1997)		
Positive	Unknown	Negative
Tooth Pain, Lumbago, Nausea, & Vomiting	Head & Neck Pain, Osteoarthritis, Inflammatory Rheumatism, Apoplexia, Asthma	Stop on Smoking, Body Weight, Reduction

Figure (9)



Table (15)

		Comparison on the Various Manual Therapies						
Therapy		Acupuncture	Massage	Joint Mobilization	Chiropractic	Yoga	Reflexology	Aromatherapy
Therapy Method	Relax	○	○		○	○	○	○
	Chiropractic		○		○	○	○	○
	Massage		○			○	○	○
	Yoga	○			○	○	○	○
	Stroke		○			○	○	○
	Vibrations		○			○	○	○
Others				Treatment on Dislocation & Fracture		Reflexology	*	Electric
Therapy Area		Soft Tissue	Soft Tissue		Soft Tissue	Muscles & Joints	Lower Extremities	Whole Body, Soft Tissues

Table (16)

Change	Recording Data	Changes by Regular Aging	Improvement by TM
Physiological Change	Systolic Blood Pressure	↑	↓
	Diastolic Blood Pressure	↑	↓
	Cardiovascular Efficiency	↓	↑
	Cerebral Blood Flow	↓	↑
	Lung Volume	↓	↑
	Maximal Ventilation Volume	↓	↑
	Auditory Response Threshold	↑	↓
	Function to Maintain Homeostasis	↓	↑
	Amplitude of α -Wave of EEG	↓	↑
Biochemical Change	Serum Cholesterol	↑	↓
	Hb	↓	↑

Table (17)

Change	Recording Data	Changes by Regular Aging	Improvement by TM
Psychological Change	Tolerance to Stress	↑	↓
	Learning Capability	↓	↑
	Memorial Capability	↓	↑
	Creativity	↓	↑
	Intelligence	↓	↑
Mind-Body Interaction	Response Time	↑	↓
	Sensory-Motor Function	↓	↑
Healthy Condition	Cardiovascular Disease	↑	↓
	Immunological Balance	↓	↑
	Sleeping Disorder	↑	↓
	Sleeping Deepness	↓	↑
	Depression	↑	↓

Figure (10)

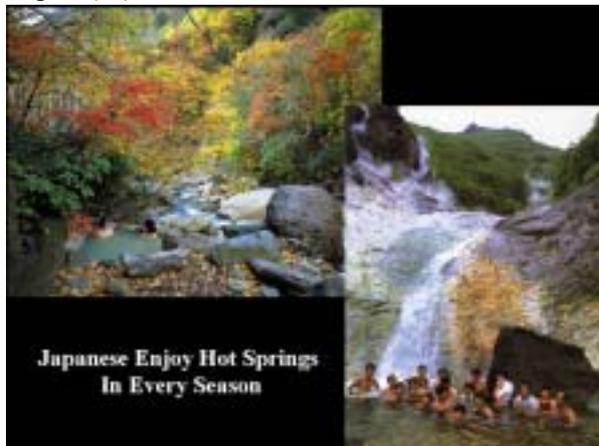


Table (18)



Figure (11)

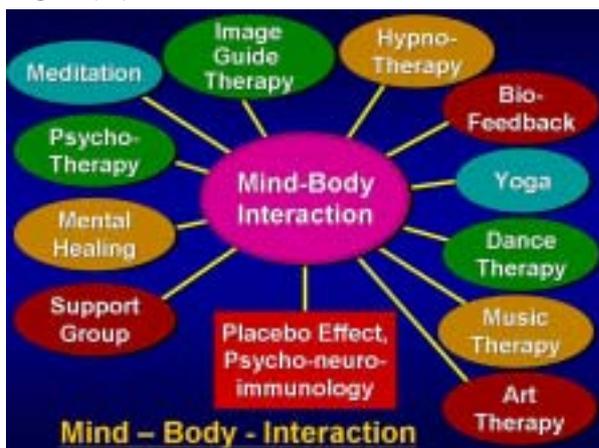


Table (19)



Table (20)

Possibility of Risk for Medical Fault Treatment by Various CAM
(M.H Cohen, 2002)

(A) Positive Evidence on Both Efficacy & Safety	(B) Positive Evidence on Safety, but Not Positive Evidence on Efficacy
-Chiropractic for Acute Lumbago -Acupuncture for Nausea and for Dental Pain -Psychosomatic Therapy for Chronic Pain or Insomnia	-Acupuncture for Chronic Pain -Homeopathy for Hay Fever -Fat Restriction for Cancer -Massage for Lumbago -Hypno Therapy for Cancer Metastasis
(C) Positive Evidence on Efficacy, but Not Positive Evidence of Safety	(D) Not Positive Evidence on Both Efficacy & Safety
-St. Johns Works for Depression -Saw Palmetto for Prostate Hypertrophy -Chondroitin for Osteo-Arthritis -Ginkgo for Dementia -Acupuncture for a Cross Birth	-Use of Toxic Herb -Interaction between Herb & Drug -Risk of Delay for Conventional Treatment

Table (21)

The Concept and Images from the View of the "Third Medicine"

Medical Targets	Health Maintenance	Preventive Medicine	Surgery	Acute Infection	Early Cancer	Advanced Cancer	Allergy	Stress
Modern Western Medicine	△	△	○	○	○	△	△	×
Psychosomatic Medicine	○	△	×	△	×	△	△	△
Chinese Medicine	○	○	×	△	△	△	○	○
Ayurveda	○	○	×	△	×	△	○	△
Islamic Medicine	△	△	×	?	△	△	△	△
Image Therapy	○	○	×	△	△	△	○	○

Figure (12)

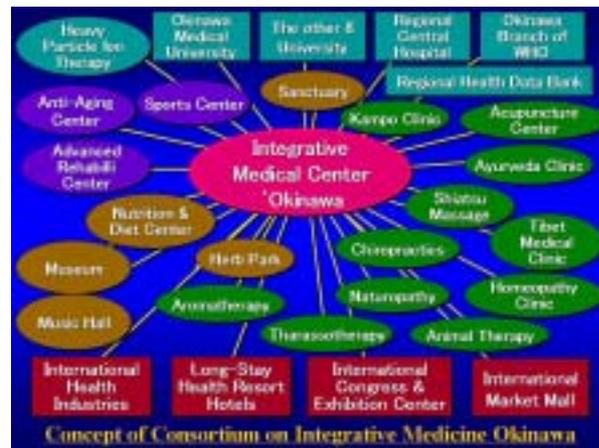


Table (22)

The Problem to be Solved in Integrative Medicine (1)

- 1) Philosophy for Integration
- 2) EBM on CAM (Creation of New Theory)
- 3) Bridging over Modern Western Medicine and CAM (Gene Science, Tissue Engineering)
- 4) Improvement on Medical System
 - Mixed Care System in Natural Insurance and Private Insurance
 - Share on Natural Insurance and Private Insurance
 - Participation of Medical Coworkers (Acupuncturist, Nutritionist, etc.) to Medical Care Team

Figure (13)

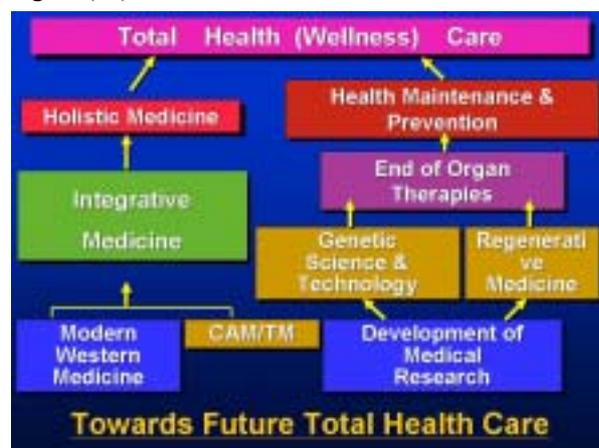


Table (23)

Comparison on Medicine and Healthcare in 20th and 21st Century
(H. Imura)

	20th Century	21st Century
Method	Reductionism	Integration
Key Word	Gene	Network
Mind & Body	Separation	Integration
Medicine	Specialization	Generalization
Health Care	Doctor-Oriented Therapeutics	Team Care Prevention
	Modern Western Medicine	Integrative Medicine

Keynote Speech II

**Keeping Healthy: Traditional Medicine, Health and Well-being
for Canadian First Nations**

Nancy J. Turner
School of Environmental Studies
University of Victoria
CANADA [Powerpoint Slide 1]

5TH INTERNATIONAL CONFERENCE
OF HEALTH BEHAVIORAL SCIENCE
Integration of Health & Environmental Education
Integrative Medicine and Environmental Education
Phranakhon Rajabhat University
Bangkok, Thailand

Friday, August 18, 2006

ACKNOWLEDGEMENTS [Powerpoint Slides 2, 3]

I am very grateful to Professor Fumiaki Taniguchi, Prof. Dr. Munakata Tsunetsugu, and all the other organizers of the 5th International Conference on Health Behavioral Science. Thank you for the opportunity to participate in this conference and to share some of my ideas. I extend my deepest thanks to the many Aboriginal cultural specialists and elders of First Nations in Canada who are working hard to maintain the health and well-being of their communities and environments and who have shared their knowledge and perspectives with me over the years. I am particularly indebted to the following: Elsie Claxton; Violet Williams; Helen Clifton; Ernie Hill Jr.; Cam Hill and Eva Ann Hill; Marven Robinson; Chief Adam Dick (Kwaxsistala); Kim Recalma-Clutesi (Ogwilogwa); Dr. Daisy Sewid-Smith (Mayanilth); Dr. Mary Thomas; Dennis Martinez, and Dr. Enriqu e Salm n. I would also like to thank my colleagues Dr. Rosemary Ommer, Dr. Robin Gregory, Dr. Anne Marshall, and my students and former students, especially Dawn Smith and Judith Thompson. The work on which this presentation is based is supported in part by research grants to myself and my colleagues from: Coasts Under Stress Major Collaborative Research Initiative; Social Sciences and Humanities Research Council of Canada; and National Science Foundation.

INTRODUCTION

In 1948, The World Health Organization defined health as: "*a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity*" (WHO 1948), a definition which has not been updated since that time. [Powerpoint Slide 4] This designation reflects to some extent a holistic view of health. However, for First Nations and other indigenous peoples who strongly identify with their home territories and environments, the requirement of "*a state of well-being*" extends beyond human beings to include the Earth's other lifeforms with whom they share their territories, as well as to the mountains, waters and other habitats that

sustain all life on the planet. This is a predominant indigenous worldview, wherein sentience (self-awareness and ability to feel emotion) is attributed to *all* the entities of the universe, and where the other beings are seen as close relatives of human beings, with their own societies and families and the power to influence humans, positively or negatively. This latter view of human relationships with other lifeforms was termed “kin-centric ecology” [**Powerpoint Slide 5**] by indigenous ecological restoration expert Dennis Martinez (Senos et al. in press) and is discussed in detail by Salmón (2000; see also Turner 2005).

In considering health and well-being, the indigenous perspective of “kin-centric ecology” is particularly important, because it extends the WHO definition of “health” to ensuring that the environment is also healthy, that ecosystems are functioning and productive, and that individuals and populations of other species, from whales to great blue herons to pine trees and rice plants, are also healthy and well, in the same spirit of the term “health” as it is applied to humans. [**Powerpoint Slide 6**] In fact, such a perspective is logical in any culture or belief system, since even the most objective scientist or humanist recognizes that humans depend totally on our environments for our sustenance. Without the earth’s green plants and their miraculous process of photosynthesis, we would not have an atmosphere with oxygen to breathe, and we would not have the chemical energy in the form of carbohydrates, proteins and fats that we rely on for our nutrition – and neither would any of the other animals and organisms which depend upon this process of green plants. In essence, green plants “eat sunlight;” they get their energy directly from the sun – and they are the only organisms that can do this. [**Powerpoint Slide 7**] The rest of us then receive our energy as a gift from the plants and, indirectly, from the animals that have converted the energy into edible hydrocarbons. All of us animals share this complete dependency on plants, and without these plants being healthy and productive, we would not be able to maintain our own health. The entire web of life must retain its strength and resiliency or we humans would not be able to survive (Chivian 2001).

For First Nations in Canada and elsewhere, this relationship of complete dependence on other lifeforms is embodied within their kin-centric belief system, and is seen to carry with it a responsibility and a need for reciprocity, for “giving back” and caring for the Earth and for the resources we take. [**Powerpoint Slide 8**] If we do not take this responsibility seriously, we can never be healthy. My paper is presented within this context. It focuses on four major themes that underlie the holistic concept of health and well-being of First Nations – the concept that embraces kin-centric ecology: Health and Nutrition; Health and Traditional Medicine; Health and the Environment, and Health and Education. [**Powerpoint Slide 9**]

FIRST NATIONS IN CANADA

“First Nations” refers to the indigenous peoples, or original inhabitants of Canada. In my province, British Columbia, there are over 30 distinct language groups of First Peoples. Although many of these people now live in urban centres, and participate fully in western lifestyles and economies, many have remained in smaller rural communities and have retained, at least in part their original dependence on the plant and animal, terrestrial, aquatic and marine resources of their ancestors. Many are descendants of people who have occupied the same territories for thousands of years, and they have developed deep and close relationships with their home places and with the hundreds of species of plants and animals they live with and depend upon. [**Powerpoint Slides 10, 11, 12, 13, 14 – map; scenes of indigenous villages; Gitga’at seasonal rounds poster**]

HEALTH AND NUTRITION

Many indigenous people declare, “Our Food is our Medicine” (Turner and Ommer 2004). They regard their traditional food as essential for good health, and point to the problem of precipitous changes in their traditional food systems as a major reason why people are not as healthy as they should be. In my

presentation at the previous Health Behavioural Science Conference in Kobe (Turner 2002), I noted that historical dietary change is seen as a key factor in reduced overall health of indigenous peoples in Canada. The traditional diet was generally well-balanced and healthy (Nuxalk Food and Nutrition Program 1984), and the loss of access to many of these original foods is a primary concern. This dietary change is a complex issue; the causes are diverse and cumulative (Turner and Turner 2006). [**Powerpoint Slide 15**] Among the myriad factors that have eroded traditional food use are: introduction of European-style foods like potatoes, wheat flour and sugar, starting, on the Northwest Coast of Canada, in the late 1700s; colonial policies allowing the takeover of indigenous lands and appropriation of resources; enforcement and coercion by government and churches of agriculture and wage activities in place of traditional land use practices; shifts to a wage-based economy; enforced formalized education that precluded use of traditional foods and inhibited transfer of knowledge about these foods and how to gather and process them between older and younger generations; increasing availability of, reliance on, and preference for processed, marketed, imported food, especially high carbohydrate and fat rich foods. [**Powerpoint Slides 16, 17**]

Especially over the past century, intensive commercial-scale harvesting of salmon and other marine food for the global market, and industrial forestry and clearcutting, has resulted in a drastic decline in populations of fish and other food resources of indigenous peoples. Almost every wild animal species has declined in numbers over its traditional range, and numbers of many of the commercially harvested species such as salmon and abalone have literally plummeted. For example, many runs of Pacific salmon, once carefully maintained and promoted under First Nations' selective harvesting and stewardship, have virtually disappeared from the streams and rivers where they used to spawn abundantly (Nabhan 2006).

Kwakwaka'wakw cultural specialist Kim Recalma-Clutesi and her partner Chief Adam Dick (pers. comm. 2002) stressed this relationship between health and availability of traditional food:

It's very hard to practice the culture accurately and properly without proper food. . . we are not going to survive as a People if we do not have access [to traditional foods] – our bodies have not adapted yet to this new food. . . the culture and the food are tied hand in hand. . . The reason why Adam and I are as healthy as we are with our serious diseases [rheumatoid arthritis and diabetes] is because we eat really carefully. We eat our indigenous foods at home all the time. And we usually eat about a side of . . . elk, deer, and at least 50 salmon. We received only one sockeye [salmon] this year. And we received six spring salmon, that's it. And we usually go through at least two gallons of oolichan grease [nutritious oil rendered from a small fish]. We haven't received *any* this year [2002]. (Kim Recalma-Clutesi, pers. comm. 2002). [**Powerpoint Slides 18, 19**]

The loss of these foods is even more alarming when these species are considered from the “kin-centric” perspective. Salmon and other food species are seen as sentient beings who, with proper and respectful use, offer themselves as gifts to humans in return for the care and acknowledgement they receive from the people. Caring for the salmon – through careful handling, conservation practices, giving spiritual recognition through the First Salmon Ceremony and other rituals, sharing with all those in need, and never wasting – is seen as a responsibility of humans. The carelessness with which these living beings have been wasted and overexploited is seen by indigenous people as devastating to the well-being of humans, just as if we allowed a close friend or family member to be destroyed through lack of care or attention. [**Powerpoint Slide 20**]

A similar situation was seen by the Gitga'at elders of the north coast in relation to abalone. Northern Abalone is a shellfish that has long been a traditional food of coastal peoples, who also used the colourful, gleaming shells in art and decoration. As recently as three decades ago, abalones were

abundant in the intertidal zones all along our coastline. People who used to gather then recall them being so thick on the rocks that they were piled up one on top of the other. The First Peoples who harvested abalone were extremely careful and respectful of these animals. They went to special locations to collect them, only at certain times when the tide was very low. They did not make any noise with their canoes or boats, and they quietly moved over the rocks, talking softly to the abalone, thanking the large ones for giving themselves as food, and explaining to the young ones that they would not be taken, but would be left for a year or two to grow and reproduce. Under this careful, respectful management, abalone populations flourished and there were enough for many First Nations families to enjoy a few times a year. They provided a nutritious component to peoples diets, and were valued as a healthy and culturally important food. **[Powerpoint Slide 21]**

Then, starting in the 1970s, the abalone became the target of a virtually unregulated commercial fishery, overseen by the Canadian federal Department of Fisheries and Oceans. Without consultation or permission from the local indigenous communities, and without any real understanding of population dynamics and ecological requirements of abalone, harvesters seeking maximum profit came in with large boats and harvested these shellfish in enormous quantities, using diving equipment and large-scale harvesting technologies. The vast majority of the abalones harvested were shipped to offshore markets, especially to Japan and other Asian destinations, to be served in high-end restaurants. Soon, because of the drastic depletion in abalone, they virtually disappeared from many areas, and a moratorium was placed on abalone harvesting all along the coast. As Gitga'at elder Helen Clifton lamented, "We used to be able to gather abalone but we can't. There are none any more." (Gitga'ata Spring Harvest video, Hood and Fox 2003). **[Powerpoint Slide 22]**

The loss of abalone is just one example of how peoples' traditional food systems have been eroded, placing their health and well-being in jeopardy. This pattern of large-scale commercial exploitation for global markets has caused depletions of one traditional resource after another (see Berkes et al. 2006; Nabhan 2006). There is a parallel erosion of traditional medicine practices, and a concern for loss of access to traditional medicines for First Peoples linking, again, to peoples' general health and well-being.

HEALTH AND TRADITIONAL MEDICINE

Indigenous peoples of Canada have long relied on medicinal plants to help maintain their health and treat various ailments and afflictions. Their pharmacopoeia is extensive, and many of the plants they use are similar to those used in traditional medicine systems in other parts of the world, for example, Japan and China. First Peoples of British Columbia have traditionally used over 200 different species of plants and fungi as medicine, including leaves, stems, bark, roots, flowers, fruits and whole plants (Turner and Hebda 1990; Turner 2002). **[Powerpoint Slide 23]** Many elders have described the effectiveness of herbal remedies, and many have shared personal stories relating how they or their family members were saved from life-threatening afflictions by use of herbal medicines. For example, as described in my previous talk to the 4th International Conference, Kwakwaka'wakw elder and historian Dr. Daisy Sewid-Smith recounted (pers. comm. 1998) how her grandmother treated her when she had tuberculosis of the kidney as a young adult. Her grandmother, Agnes Alfred, gave her a medicinal tea made from devil's club, grand fir and alder bark, and, much to the amazement of the doctor who was treating her, she recovered completely within a short time. Another elder, Elsie Claxton from the Saanich Nation, recalled that she was successfully treated for tuberculosis with another mixture of tree barks, and her friend Violet Williams, of the Hul'qumi'num and Saanich Nations (both pers. comm. 1993), was saved from almost certain death from difficulties in childbirth by being treated by her sister with an infusion of red elderberry bark, which is potentially toxic but was traditionally used as a purgative and emetic.

[Powerpoint Slide 24]

People treated these and other medicines with great care and respect, in keeping with the philosophy of “kin-centric ecology.” The healers collecting the medicine addressed the trees and medicinal plants, explaining how they wished to use the medicine, and asking permission of the spirit of the plant to harvest bark, or roots from it. They also requested the help of the spirit of the medicine to heal the illness or affliction of the one being treated. Medicine, like food, was never wasted, and if possible, only a portion of the plant – a strip of bark, or a branch – was taken, so that the healing plant would continue to live. This was not only a conservation method, but also a sign of respect for the plant and the Creator. In fact, it was believed that the faster the tree healed from its wound of having its bark removed, the faster the patient being treated would be healed by the medicine. **[Powerpoint Slide 25]** Furthermore, many medicines were prepared in secret, and sometimes even the person receiving the treatment did not know what was in it.

To be a medicine practitioner took tremendous patience and careful training and experience. There is an entire *system* of knowledge around the harvesting, preparation and administration of medicines. Knowing where to collect them, the special words to say, what part to harvest, methods of preparation, what combinations of herbs to use and in what dosage – all of this was part of the herbal healer’s training.

Today, the use of traditional medicines has declined dramatically almost everywhere. As with traditional foods, part of the reason is loss of people’s access to the places where medicines can be gathered, part of it is a decline in the populations of the plants themselves due mainly to habitat loss, and part of it is a change in lifestyles and a reduced interest in traditional medicine use. This erosion is related to the first two circumstances and is also associated with colonization, missionaries’ teachings, loss of opportunity for younger people to learn the complex systems of medicine and healing because of being away at school, and the adoption of western medicine and commercial store-bought or doctor-prescribed medicine preparations. The overwhelming enticement of the modern globalized consumerist lifestyle, as depicted everywhere in advertising and on television, is both a reflection of and a further cause of loss of traditional healing. **[Powerpoint Slide 26]**

On the other hand, there is an increasing world movement towards the appreciation of “natural” and “herbal” medicines and products. Whereas this can be seen generally as a positive occurrence, it has resulted in a widespread interest in harvesting medicinal plants and other products from wild area. Some First Nations elders and healers have supported this movement as a potential source of local economic development, but others have pointed out the problem of over-exploitation that often occurs when products are commercialized. They worry that their medicinal plants will be further threatened by unregulated harvesting over which they have no control. They point to the commercial harvesting of Pacific yew bark as a cancer medicine, and of Echinacea roots as an immune system booster, as examples of what can happen to their valued medicines (Lantz et al. 2004). **[Powerpoint Slide 27]** This concern is ongoing, and is often raised, along with intellectual property rights, as one of the major issues surrounding traditional medicine use.

Obviously, not all traditional medicines are completely effective, and the value of western medicine in treating many conditions cannot be denied. However, many of the health problems of modern populations, and especially of contemporary indigenous peoples, are within the realm of emotional and psychological afflictions, including drug and alcohol addiction. These problems, as well as some of the physical problems related to them, are increasingly associated with a loss of self esteem, loss of cultural

identity, and feelings of futility and marginalization. Such problems can, in part, be alleviated by strengthening cultural values and identity, which in turn involves restoration and renewal of traditional foods and medicines and the knowledge and practices that go with them. **[Powerpoint Slide 28]**

Strengthening and renewing peoples' use of traditional food and medicine as a way of promoting health is directly tied to the capability of the environment to produce these products. Concern for the health of the environment is therefore a primary consideration.

HEALTH AND THE ENVIRONMENT

There are many threats to environmental integrity: from habitat depletion and loss of biodiversity, to encroachment of invasive species, to agricultural and industrial forestry practices that cause erosion and soil degradation, to pollution and contamination of environments and species, to impacts of high atmospheric ozone depletion, to global climate change. **[Powerpoint Slide 29]** Each of these, and especially the combination of all of them, poses threats to human health and well-being, both directly and indirectly. Dawn Smith, a Nuu-Chah-Nulth student at the University of Victoria, expressed the critical importance of environmental health to human health in simple terms: "Our very health relies on the well-being of the environment – if our environment is not healthy, how can we be healthy?" **[Powerpoint Slide 30]** Given the kin-centric view indigenous people have towards nature, caring for the environment is like caring for our relatives; it is a responsibility and just as important as caring for ourselves.

Recent interdisciplinary research in Canada under a project called "Coasts Under Stress" lead by Dr Rosemary Ommers (see Dolan et al. 2005; Ommers et al. forthcoming; Parrish et al. accepted), identified the close ties and interconnections between human health and food systems and environmental health. For small rural communities, including many First Nations communities, the linkages are particularly obvious.

A good example of how human health and environmental health are directly connected is in a recent event that happened on the north coast of British Columbia. A passenger ferry, the *Queen of the North*, hit a rocky island and sank just across the channel from the Gitga'at community of Hartley Bay at around 1:00 in the morning on March 22, 2006. **[Powerpoint Slide 31]** All but two of the passengers and crew were saved; the first rescuers on the scene were the Gitga'at, who immediately set out with five speedboats and were there within 20 minutes of the first "Mayday" call. Unfortunately, however, it was impossible to stop the diesel fuel and oil from leaking, and even now, two months later, the pollution is continuing at a low but significant level. Marven Robinson, a Gitga'at fisherman, and one of the men who took part in the rescue, has been monitoring the waters and shorelines around their territory, and has sighted oil slicks over an extensive area (pers. comm. 2006). Already it is known that one of the most productive and favourite clam beds has been contaminated, so that people can no longer harvest there clams there. **[Powerpoint Slide 32]** The full extent of the pollution is not yet known, but the Gitga'at people are extremely worried, not only because of the loss of their own food, but also because of the impacts to the whales, salmon, herring, bears, seaweed, eelgrass and all the other lifeforms of their traditional territory, for which they assume responsibility and stewardship. This threat to the health of their environment they do not distinguish from a direct threat to themselves.

HEALTH AND EDUCATION

For many First Nations people, especially the elders, the key to improving the health of their communities lies in their ability to teach their children and youth the important knowledge about their

traditional food, traditional medicine, and how to care for their environment. It is ironic that much of this very knowledge and understanding was eroded by the residential schools and education system imposed on the people starting in the late 1800s and continuing until the mid 1900s and beyond. For some families and communities, two or three generations of children were taken away to these schools where they were taught to feel ashamed of their traditional food, their methods of healing and their lifestyles in general. New foods, often less nutritious than their traditional foods, were imposed on them. They were forbidden to speak their own languages, and were forced to speak English. At the same time, the federal government, in concert with the religious and legal institutions, excluded people from their traditional lands and banned their traditional feasts and ceremonial practices carried out within the potlatch. **[Powerpoint Slide 33]** Adults of these generations were increasingly participating in the wage economy and were therefore unable to take the time to harvest and process traditional food. Hospitals and western style healthcare were promoted over traditional healing. All of these circumstances resulted in a multi-layered barrier to the continuity of knowledge transmission between children and adults. Only a very few individuals, who either were fortunate enough not to be sent away to school or who continued to be trained and taught by knowledgeable grandparents and parents, were able to learn and retain the traditional knowledge and practices of food production and healing. It is these people who are the elders and teachers of the communities today. **[Powerpoint Slide 34]**

Now that there is a general renewed interest in and commitment to restoring traditional foods and other cultural practices among First Nations, these knowledge-keepers and teachers are seen as a key resource in reversing the downward spiral of loss and erosion of critically important cultural practices relating to nutrition, health and environmental integrity. One of the initiatives that academics interested in supporting the re-emergence of this knowledge can undertake is to facilitate the reconnection between young people and the elders. This occurred in one of the projects we worked on through Coasts Under Stress, with the students of the Gitga'at School at Hartley Bay. We organized, in collaboration with the principal and teachers (who were themselves Gitga'at), a research project on culturally important plants, that the students undertook. They were each assigned one or two plants to learn about, and their learning was in the form of literature research, field reconnaissance, and – most importantly – interviewing elders in their community about the names and cultural values of the plants. **[Powerpoint Slide 35]** They presented the results of their research at a school function to which the elders were invited, and their written plant reports were then published in a booklet which also included more detailed information provided by the elders during interviews (Turner and Thompson 2006). **[Powerpoint Slide 36]** Indigenous graduate student, Judith Thompson, studied and evaluated this project as part of her Master's research, and found that it was considered highly successful from the perspective of the students, parents, teachers and elders alike (Thompson 2004).

CONCLUSIONS: KEEPING HEALTHY; INTEGRATED HEALTH

The Gitga'at Plant Project is just one example of how the modern education system, with interest and cooperation of elders, teachers and researchers, can be employed to help students rediscover the valuable knowledge of their ancestors. Ultimately, this knowledge will improve their own health and well-being, their cultural pride, and their ability to integrate learning to survive in the modern globalized, commercialized world with traditional time-tested wisdom about their own homelands. There are many other such initiatives, from resumption of the harvesting and cooking of camas bulbs, to the many workshops and conferences around renewing endangered food and healing traditions (Turner and Turner 2006). **[Powerpoint Slide 37]**

There is a generation of young indigenous people growing up in First Nations families and communities

who hold tremendous pride in their cultural traditions, and who are anxious to reinstate some of the lifeways and practices of their grandparents and great grandparents. Many in this generation have emerged from a time of despair and shame in being indigenous – a time in which many people succumbed to alcoholism and unhealthy lifestyles – to a new era of confidence, pride and commitment to their ethnicity and their cultural traditions. It is these young people – and I see many of them at our university – who will be able to use the best of all worlds to maintain their own health and well-being. Furthermore, it is these people, drawing on the environmental teachings of their culture, who can see the inextricable connection between our well-being as humans and the health of the environment. They will devote themselves to caring not only for themselves, but for their relations, both human and non-human, with whom we share this planet. **[Powerpoint Slide 38]**

REFERENCES CITED

- Berkes, F., T. P. Hughes, R. S. Steneck, J. A. Wilson, D. R. Bellwood, B. Crona, C. Folke, L. H. Gunderson, H. M. Leslie, J. Norberg, M. Nyström, P. Olsson, H. Österblom, M. Scheffer, and B. Worm. 2006. Globalization, Roving Bandits, and Marine Resources. *Science* 311(5767): 1557-1558
- Chivian, E.. 2001. Environment and health: 7. Species loss and ecosystem disruption – the implications for human health. *Canadian Medical Association Journal* 164(1): 66-69.
- Dolan, A. H., M. Taylor, B. Neis, R. Ommer, J. Eyles, D. Scheider, and B. Montevecchi. 2005. Restructuring and Health in Canadian Coastal Communities. *EcoHealth* 2: 195-208.
- Hood, R. J. and B. Fox (directors) 2003. *Gitga'ata Spring Harvest*. A Co-production by the Gitga'at Nation and Coasts Under Stress Major Collaborative Research Initiative (Rosemary Ommer, P.I.), University of Victoria, British Columbia.
- Lantz, T., K. Swerhun and N. J. Turner. 2004. Devil's Club (*Oplomanax horridus*): An Ethnobotanical Review. *Herbalgram* 62: 33-48.
- Nabhan, G. P. (ed.). 2006. *Renewing Salmon Nation's Food Traditions*. Ecotrust, Portland and Northern Arizona University, Flagstaff.
- Nuxalk Food and Nutrition Program. 1984. *Nuxalk Food and Nutrition Handbook*. Bella Coola, British Columbia.
- Ommer, R. E. and the *Coasts Under Stress* team. Forthcoming. *Coasts Under Stress: Restructuring and Social-ecological Health*. McGill-Queen's University Press, Montreal, Québec.
- Parrish, C.C., N.J. Turner, and S.M. Solberg (eds.). Accepted, 2006. *Resetting the Kitchen Table: Food Security, Culture, Health and Resilience in Coastal Communities*. Nova Science Publishers, Hauppague, New York.
- Salmón, E. 2000. Kincentric Ecology: Indigenous Perceptions of the Human-Nature Relationship. *Ecological Applications* 10(5): 1327-1332.
- Senos, R., F. Lake, N. J. Turner and D. Martinez. In press, 2006. "Traditional Ecological Knowledge and Restoration Practice in the Pacific Northwest. In: *Encyclopedia for Restoration of Pacific Northwest Ecosystems*. (Dean Apostol, ed.). Island Press, Washington, DC.
- Thompson, J. C. (Edosdi). 2004. *Gitga'at Plant Project: The Intergenerational Transmission of Gitga'at Plant Knowledge and Wisdom Using School Science Curricula*. Master's of Science thesis, School of Environmental Studies and Department of Educational Psychology and Leadership Studies, University of Victoria, British Columbia.
- Turner, N. J. 2002. "Herbal Therapy: North American First Nations (Examples from British Columbia, Canada), pp. 30-38, in: *Proceedings of The Fourth International Conference of Health Behavioral Science, "Integrated Approaches to Health,"* edited by F. Taniguchi, Konan University, Kobe, Japan, August 24-27, 2001. Japan Academy for Health Behavioral Science.
- Turner, N. J. 2005. *The Earth's Blanket. Traditional Teachings for Sustainable Living*. Douglas & McIntyre, Vancouver, and University of Washington Press, Seattle.
- Turner, N. J. and R. J. Hebda. 1990. Contemporary use of bark for medicine by two Salishan Native elders of southeast

Vancouver Island. *Journal of Ethnopharmacology* 229 (1990): 59-72.

- Turner, N. J. and R. Ommer. 2004. "Our Food is Our Medicine": Traditional Plant Foods, Traditional Ecological Knowledge and Health in a Changing Environment. pp. 22-39 in: *First Nations Nutrition and Health Conference Proceedings*, edited by Alfred Wong (Conference June 2003, Squamish Nation, Vancouver, B.C.), Arbokem Inc., Vancouver, British Columbia.
- Turner, N. J. and K. L. Turner. 2006. "Where our women used to get the food": Cumulative effects and loss of ethnobotanical knowledge and practice; case study from coastal British Columbia. Presentation to the Canadian Botanical Association Annual Meetings, symposium on ethnobotany, Concordia University, Montréal, Québec.
- World Health Organization. 1948. Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948. (See also WHO 2003. <http://www.who.int/about/definition/en/>)

ABSTRACT

First Nations Peoples in Canada, as in many areas of the world, hold a holistic concept of health. Good health reflects, not just a lack of disease, but a total state of physical, emotional and psychological well-being. More than this, however, First Peoples extend their relationships not only to other humans, but to all of the earth's life and the places where it lives. This concept, termed "kin-centric ecology," inextricably links human health and well-being to the health and integrity of the environment and the other plants and animals of the earth. In traditional indigenous worldview, people have a responsibility to care for the environment and treat it with respect. If they neglect to do so, their own well-being is at risk. In fact, although this is not always recognized by society at large, humans' dependence on the health of the environment for our own health is absolute. Without the life-support system provided for us by the plants and animals around us, we could not survive, let alone enjoy strong and healthy lives.

There are many different First Nations in Canada; in British Columbia alone, there are over thirty distinct language groups. For thousands of years, these peoples have relied for their food on diverse combinations of plant and animal resources from their local regions. They have generally conserved and maintained – in some cases, enhanced – these resources so that they provided a healthy and well balanced diet. Over the past century or more, however, these traditional foods have declined in productivity and use. Along with this decline has been a loss of importance knowledge about how to harvest, process and maintain these foods. People have adopted new foods, often not as nutritious, to replace their traditional ones, and, combined with dramatic changes in lifestyles, in many cases they have experienced poor health as a result. Not only has the nutritional quality of peoples' food deteriorated, but the imposed cultural losses and impacts of industrial development and exploitation on environmental integrity have lead to poorer emotional and psychological health for First Peoples, with addictions to alcohol and drugs being widespread over the past century.

As well as dietary change, First Peoples have lost many of their traditions of healing, including restricted access to their traditional medicines and, again, loss of knowledge about the protocols and techniques for harvesting, preparing and administering these medicines. Western healthcare has not been able to remedy adequately the emotional and psychological trauma of cultural loss, low self-esteem and shame brought about by colonial attitudes, the residential school system and past legal prohibition of cultural practices.

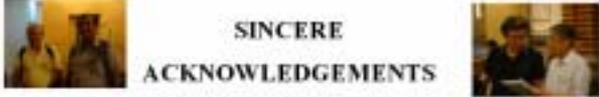
First Peoples have witnessed and experienced environmental degradation in many forms, which has in turn impacted their own health in many ways. However, there is a movement among younger First Nations people in many communities to restore and renew their cultural traditions, including their traditional food and medicine practices. These individuals, supported by their elders, have gained renewed pride in their heritage and cultures, and this will certainly enhance their health and well-being. Furthermore, these people are reclaiming their rights to their traditional territories, and reassuming the responsibility of caring for their lands and resources. This trend will bring positive benefits to all.

5th International Conference
of Health Behavioral Science Phranakhon
Rajabhat University Bangkok, Thailand
(August 18, 2006)

Keeping Healthy: Traditional Medicine, Health and Well-being for Canadian First Nations



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SINCERE ACKNOWLEDGEMENTS

- Dr. Preang Kitratporn, President of Phranakhon Rajabhat University
- EE Center Director Professor Sriwat Soondarotok and Vice Director Chinatat Nagashinha
- Prof. Dr. Tsunetsugu Munakata, Chairperson, Professor Fumiaki Taniguchi, Executive Director, of the 5th International Conference of Health Behavioral Science (August 2006) and all those who helped to organize this Conference

Thank you for the wonderful field trip yesterday!




And with deep respect and appreciation:



- To His Majesty King Bhumibol and Her Majesty Queen Sirikit, for all their wonderful work and dedication to environmental education and the health and well-being of the people of Thailand.

Acknowledgements, cont.

- Aboriginal cultural specialists and elders of First Nations in Canada
- Coasts Under Stress Research Project (Rosemary Ommer, Project Director): SSHRC & NSERC



Dr. Mary Thomas, Shwawap First Nation, British Columbia

Special appreciation to:

- Elsie Clifton; Violet Williams; Helen Clifton; Ernie Hill Jr.; Cam Hill and Eva Ann Hill; Marven Robinson; Barbara Wilson; Chief Ernie Wilson; Chief Adam Dick (Kwacsistala); Kim Recalma-Clutesi (Ogwilogwa); Dr. Daisy Sewid-Smith (Maryamth); Dr. Mary Thomas; Dennis Martinez; and Dr. Enriqñe Salmón



Barbara Wilson and her father, Chief Ernie Wilson, Haida Gwaii

Standard Definition of “Health”

- “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity” (WHO 1948)



“Kin-centric ecology”: a predominant indigenous worldview

- other life-forms are seen as close relatives of human beings, with their own societies and families and the power to influence humans, positively or negatively



Belief Systems that Promote Conservation ... :

- “All living things have a spirit life. We acknowledged and still do that every life is worthy of being respected.” (Pauline Waterfall, Heiltsuk, pers. comm. 2004)



Bear totem, Haida Gwaii; bear cub - Pauline Chryps photo

Never wasting food

- Helen Clifton cuts halibut;
- halibut drying;
- halibut head soup



First Salmon Ceremony...

- Shows appreciation and respect for salmon; caring for salmon; sharing salmon; conserving salmon...



Cam Hill with spring salmon for feast, June 2006

extends the WHO definition of "health"



- ensuring that ecosystems are functioning and productive, and that individuals and populations of other species, from whales to great blue herons to pine trees and rice plants, are also healthy and well

Photosynthesis: "eating sunlight"

- We humans receive our energy as a gift from the plants that have converted the sun's energy into edible hydrocarbons
- Another gift of this process is the oxygen we breathe



Kin-centric perspective

- carries with it a responsibility and a need for reciprocity, for "giving back" and caring for the Earth and for the resources we take



Total Health



- Health and Nutrition;
- Health and Traditional Medicine;
- Health and the Environment, and
- Health and Education

Study Region: Western Canada



Diverse region: geographically, ecologically, culturally, and linguistically

First Nations of British Columbia



Hartley Bay, a Gitga'at Community of the North Coast

- About 200 people; no roads
- Depend on seafood, seaweed, berries, and now, imported food
- Worried about ocean pollution, loss of important food species




Traditionally, people travelled in extended family or lineage groups from their winter villages around their traditional territories, harvesting and processing the different resources as they became available and storing foods and materials for winter (e.g. Gitga'at seasonal round, north coast of British Columbia)

Kiel, the spring seaweed camp of the Gitga'at

- People have gone here for many generations to harvest and dry spring seafood, seaweed, halibut

Seaweed on racks, Kiel; halibut, real snapper, gwaan

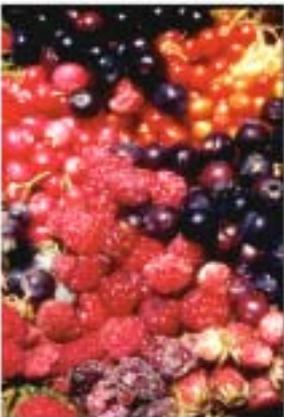


Western Hemlock (*Tsuga heterophylla*)

ksiiv - edible inner bark
gyük - herring eggs on hemlock




Everything is interdependent: Plants and animals; forest and sea



Summertime: 40-50 different kinds of berries and fruits

Dietary Contributions:

- Vitamins C & A
- Iron and other essential minerals
- Some carbohydrates
- Dietary fibre
- Flourour - a special treat



Fall fruits: wild crabapples, wild cranberries and rose hips...

Abalone

- “We used to be able to gather abalone but we can’t. There are none any more.” (Helen Clifton)



Traditional Medicine: over 200 kinds of medicinal plants for B.C. First Peoples

- leaves,
- stems,
- bark,
- roots,
- flowers,
- fruits and
- whole plants



Cassia (Bhanjanera purshiana)

Medicine specialists Daisy Sewid-Smith, Elsie Claxton, Violet Williams



Grand fir, red elderberry

Careful harvesting of medicine...



- Medicines harvested with great respect
- Medicinal plants are not killed; a branch is taken or a strip of bark cut from a standing, living tree;
- Medicine is never wasted
- *kin-centric ecology perspective*

The lure of commercial medicine products...

- As almost everywhere in the world, people are losing knowledge of and access to their traditional medicines, and commercial “western” medicines are taking primacy.



Pacific yew and Echinacea: wild-harvested medicine products

- Concerns about commercializing traditional medicines and synthetic compounds based on extractions of medicinal plants



Pacific yew and Echinacea wild harvested medicine products

Modern medicine



- Many advantages, but also some shortcomings
- Not culturally relevant for many illnesses
- Psychological disorders are higher, probably related to loss of cultural identity & self esteem

A Continuum...

- From *Total Traditional Food & Medicine Use to Total Loss of Traditional Food & Medicine*
- Many in-between stages
- Trends can be reversed... As long as someone, somewhere, knows, and if people want to make it happen



Threats to Environmental Integrity

- habitat depletion and loss of biodiversity,
- encroachment of invasive species,
- agricultural and industrial forestry practices
- pollution
- impacts of high atmospheric ozone depletion,
- global climate change

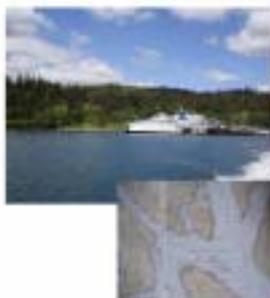


Our Health ~ Environmental Health



- "Our very health relies on the well-being of the environment – if our environment is not healthy, how can we be healthy?"

Ferry sinking near Hartley Bay



- All but two passengers rescued by Gitga'at with speedboats, but...
- Oil slicks and diesel fuel leaking from the ship

Pollution & contamination of Gitga'at clam beaches

- Future of peoples' shellfish, seaweed and other important foods is uncertain now



For a long time Potlatch & feasting were banned



- Now, people are allowed to practice their culture and ceremonies, including feasting, as before... but meanwhile many people have forgotten how it was done, and can no longer access their food.

“Cultural refugium”

- Helen Clifton from Hartley Bay: an elder who knows about traditional food and medicine and helps teach youth and young adults about fish, seaweed, devil's club, etc.



The Gitga'at Plant Project... Youth learning from Elders...



- E.g., the Gitga'at Plant Project at Hartley Bay, British Columbia: Cheryl and Tiffany learn about *miyubmgyet* (northern riceroot), a food of their grandparents...

Judy Thompson (Edosdi) and Gitga'at children & Youth at Hartley Bay



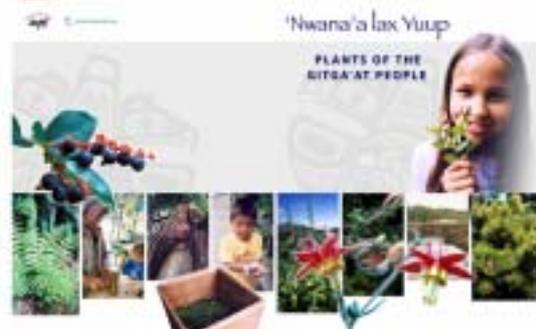
Strengthening cultural values and identity



- Archie Dundas and Elizabeth Dundas teach granddaughter Ashley Sandy about medicines. Ashley videos Archie harvesting false hellebore



A Book on Plants...



Keynote Speech III

**TOWARD A THEORY OF INTEGRATIVE IMAGERY HEALTH:
SAT IMAGERY THERAPY FOR CANCER TREATMENT**

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5th International Conference of Health Behavioral Science

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ABSTRACT

People who are vulnerable to lifestyle-related illnesses including cancer are seekers of rewards from others. The more we live in order to be praised and not to be neglected by others, the more our self-negating stress that exposes us to over-active oxygen builds up. Under Retrospective Evolution Imagery, SAT imagery therapy uses the information in the period of embryo and fetus, the inter-generationally transmitted information among our ancestors, the inter-biologically and physically transmitted information in pre-human and cosmic evolution. We urge clients to travel among these ages with the aid of retrogressive hypnotherapy; they are first of all requested to recollect their own fetal images associated with their distress and physical pains. All the evolutionary information is condensed in the micro-cosmos of the womb. When we let clients change the imagery of their ancestors, pre-human evolution, and cosmic evolution, their fetal images in the womb are changed and their self-images are also changed to a self-reward-seeker personality that can express frank emotions, trust others around, accept their support, and enjoy both him/herself and others. As a result of maintaining the self-reward-seeking lifestyle, the number of lymphocytes in the individual's white blood cell is increased to around 2000/ μ l, and the expressed anti-tumor genes such as *p53* and *RB* are increased more than twice the baseline.

Keywords: cancer, other-reward-seeker personality, SAT imagery therapy, anti-tumor genes, immunological function

1. MEANING OF CONTRACTING CANCER

Disease helps you find your “true self”

Generally speaking, cancer cells tend to be regarded as malignancies resulting from genetic damage brought about by the radiation exposure of cancer-causing substances like active oxygen. However, there have not been that many cancer cases caused by such radiation exposure. Additionally, there are people who live a long life despite being exposed to carcinogenic substances like benzopyrene that are emitted from cigarettes. Just as people floating in the sea for a long time will not necessarily drown if they have a life jacket on, those who manage to retain the defense capabilities of their genes and immune system tend to be resistant to cancer. Then what kind of people contracts cancer?

Those who contract cancer share certain characteristics: they have very powerful life energy, set high goals for themselves, and try to reach their idealized self. Also, they try to be perfect in everything they do. In other words, it is those who have strong life energy that contract cancer.

The present author believes that not only cancer but all chronic diseases or lifestyle-related diseases result from the negative outburst of strong life energy in the form of somatic disorders. This is because, despite being blessed with strong life energy, those who are prone to contract cancer show their inborn power in a way that predisposes them to follow a lifestyle that seeks rewards predominantly from others (Munakata and Kobayasi, 2007). They may not be aware of it, but those who are vulnerable to cancer, rather than following a lifestyle that predisposes them to seek self-rewards, which gives pleasure to both themselves and others, follow a lifestyle that predisposes them to seek approval from people around them. Thus cancer-prone individuals try to show their inborn power by following a lifestyle that deviates from their “true self.” These individuals try to achieve self-realization by mistaking what they see in, say, their résumé, the organization they belong to, and in their relationship with other people for their true identity. Since that self is not the real self, whether or not one is appreciated by others, the more one strives not to be rejected by others, the greater the accumulation of self-denying stress elsewhere, and as a result, one finds oneself in a situation where one is exposed to a level of active oxygen that exceeds one’s antioxidation capacity. “True self,” in a nutshell, refers to the self that enjoys life and is able to keep stress from building up so long as the self is able to express itself. Strictly speaking, the true self refers to the self that has been loved unconditionally by its rearer and is able to love itself for what it is. However, many people have been raised by rearers who had high hopes for them, were critical of their charge, suffered from anxiety, and had a sense of guilt. Consequently, unable to commit themselves with abandonment to the care of their rearers, they could not spend their childhood days without being unduly cautious about those around them, with the result that they have had to live their lives in ways that deviated from their true self.

Thus, even when the gap between their true self and their false self widens excessively, their bodies begin to cry out for help since they are unaware of this widening gap. In other words, as they try to deal with the stress caused by this widening gap by forcefully pushing it into the unconscious realm, the resulting negative energy has no way to express itself other than by forming somatic disorders. Cancer is a typical disease that awakens people to this situation.

Those who are vulnerable to cancer

“Good-natured persons” are said to be prone to contract cancer. “Good-natured persons” are, in a word, “seekers of rewards from others.” They are so obsessed with the self that they have cultivated in their human relationships and in their relationships at the office and elsewhere that they mistake the “image” that people around them have formed about them as their true identity. Therefore, when the relationships they have built up begin to change, such as when they retire or get divorced (or are on the verge of getting divorced) or their spouse dies, they suddenly lose their identity. Behind the onset of cancer are almost always these kinds of stressful experiences of losing the self in the process of ending former relationships.

The onset of cancer is related to the environment in which a person is raised. When such feelings as expectation, criticism, shame, and fear are included in the rearer’s attitude, the child will neither have a sense of being “fully loved” nor be able to commit himself to the care of his rearer. The personality of those who seek rewards from others, which are characterized by their inability to truly trust in other people, is the result of never having experienced the solid sense of being welcome at birth, being fully loved at the appropriate time, and being dependent on other people’s kindness. In fact, many people have such personality, and as a result, they feel lonely even when they are surrounded by their family.

About 80 percent of cancer cases may be “good-natured persons.” The remaining 20 percent are “emotional persons” such as those who are short-tempered. Such persons are unable to effectively express their anger and other feelings, which in turn prevents them from overcoming their mental pain and moving forward. American clinical social psychologist Lydia Temoshok (1992) discovered the existence of a personality that predisposes people to contract cancer, which she named “Type C personality” (C stands for cancer). Type C personality refers to the tendency of individuals whose emotions are difficult to recognize because they are unable to freely express their feelings. In Japan, Type C personality is referred to as “the cancer-prone personality.”

The answer to the question, “What should be done to reduce the likelihood of contracting cancer?” may vary from person to person. Generally speaking, however, the answer should be to form a personality that seeks self rewards and is capable of “expressing emotions frankly,” “accepting the love of family and those around one and trusting in them,” and “enjoying both oneself and the others” by repudiating the false image of oneself that others recognize.

Two types of disease-causing genetic temperament

Human beings are born with certain characteristic traits: the two temperaments commonly observed among people with stressful personality, obsessiveness and seriousness, seem to be caused by “persistence temperament” and “anxiety temperament.” These are the two genetic temperaments this author refers to as stress temperaments. Cancer patients, almost without exception, have either or both of these temperaments. Conversely, it can also be affirmed that those who do not have either of these temperament genes will rarely contract cancer (Munakata, 2007).

Placed in a situation where expectations are high, a person with persistent temperament will try very hard to meet those expectations, and as a result, become debilitated both in mind and body. Additionally, placed in a situation heightened tension and anxiety, a person with anxiety temperament is likely to develop paranoia. Genetically speaking, the type of memory that causes stress-related illness is involved in these two types of temperament.

Temperaments themselves cannot be changed artificially, as they are biological factors related to genetic factors and neurotransmitters. Nevertheless, it is possible to learn to act and live in a way that will relieve stress by realizing that one possesses either or both of these temperaments and by learning the behavioral patterns peculiar to these temperaments.

The persistence temperament - the perfectionist who sets extremely high standards for both himself and others

Among the items listed below, put a circle next to the items that apply to you judging from your own experiences. Add up the items you chose, and calculate the total. Those who score 4-5 points for each domain (i.e., item) are deemed to have the expressed relevant temperament. Those scoring 3 points are deemed to possess the quasi-expressed relevant temperament (Munakata et al. , 2007)

Items to be checked	Always	Sometimes	Never	
1. In whatever I do, if I don't tackle it seriously, I'm inclined to feel dissatisfied.	1	1	0	
2. I'm inclined to behave honestly, even pushing myself to the limit, to carry out my responsibility.	1	1	0	
3. I'm inclined to seek perfection in whatever I start.	1	1	0	
4. I can't play any role assigned to me halfheartedly.	1	1	0	
5. I can't tolerate anyone that breaks the rules.	1	1	0	

Approximately 50 percent of the population of Japan is believed to have this persistence temperament (scoring 4-5 points in the above check list). The dramatic growth of Japan’s post-war economy was, to a significant degree, supported by the tenacious efforts of people with this persistence temperament. The problem, however, is that those who possess this temperament do not know how to exercise moderation. They demand more than hundred percent in their work, in their human relationship, and even in their hobbies, and as result, they end up tormenting themselves as well as others.

(1) Characteristics at the genetic level

It may be that a gene of reward insufficiency called D2R2, a receptor which has difficulty joining with dopamine (a reward pleasure substance) may be involved (Comings et al., 2000). It is because of D2R2 that no pleasure is experienced regardless how much reward is provided. Thus a person with D2R2 may be forced to live a life devoid of any sense of satisfaction.

(2) Attitude and behavior patterns

The serious look on their faces and their equally serious attitudes are characteristic peculiar to those with persistent temperament, and they tend to show passionate enthusiasm, thoroughness, a strong sense of responsibility and duty, honesty, and perfectionism. They are eager to seek rewards and gain recognition from others, demand more than hundred percent of themselves and others. As a result, they torment themselves as well as those around them. In addition, they occasionally want self-confidence and assurance of love. On the one hand, they demand much of themselves, and on the other hand, because of this, they suffer from an acute sense of helplessness.

(3) Four steps to mental self-care

Those of you who scored more than 4 points in the above checklist are recommended to implement every day, without fail, the following four steps to mental self-care. If you keep taking these steps, you will develop self-confidence in due course.

- (1) Take your time and choose a slow career path. Try to let your inner voice persuade you to be satisfied with accomplishing thirty percent of your full potential, and try to avoid demanding hundred percent of either yourself or others.
- (2) Try to take things seriously only when you are immersed in your hobbies or whatnot, but otherwise set your sights on remaining relaxed and not get hung up on details.
- (3) Neither expect nor force others around you to think like you.
- (4) Don’t worry whether you can do it perfectly or no. Just do it.

Anxiety temperament - living in constant anxiety

Among the items listed below, put a circle next to the ones that apply to you judging from your own experiences. Add up the items you chose, and calculate the total. Those who score 4-5 points for each domain (i.e. item) are deemed to have the expressed persistence temperament. Those scoring 3 points are deemed to have the quasi-expressed persistence temperament (Munakata et al. , 2007)

Items to be checked	Always	Sometimes	Never	
1. I tend to take things too seriously	1	1	0	
2. I’m rather sensitive	1	1	0	
3. I tend to be opinionated	1	1	0	

4. I'm given to agonizing once I lose my peace of mind	1	1	0	
5. I tend to become paranoid once I begin doubting	1	1	0	

Approximately 70 percent of the population of Japan is believed to have this persistence temperament (scoring 4-5 points in the above check list). These people are constantly in a state of anxiety, overreact to trifles, and easily panic. They tend to give up trying to become happy saying, "All right, I know there's no future for me." Some of them lack self-confidence but eagerly expect sympathy from others, that is, they have a strong tendency to be psychologically dependent on others. But, of course, they are unable to express their thoughts, so they fail to convey their intentions to others. Consequently, they cannot break the vicious circle of further losing their self-confidence.

(1) Characteristics observed at the genetic level

Those with persistence temperament have so-called harm-avoidance genes (Cloninger, 1997), which are related to the serotonin receptor 5-HTTLRP. The latter has difficulty joining with serotonin, an organic compound found in the brain that generates self-confidence. Since nonradrenarine genes (15%) are also involved (Coming et al., 2000), these people are constantly in a state of anxiety. The faces of those who possess these characteristics at the genetic level are characteristically devoid of expression (they look like a Noh mask), and their eyes are quite penetrating. Deep down, they easily get upset; some even show symptoms of a tourette syndrome (TS) known as tics.

(2) Attitude and behavior characteristics

Those with persistence temperament are, by nature, solitary and possessed with a sense of dread and fear. They tend to have delusions caused by pessimism, undue anxiety, nervous temperament, and hostile feelings (as inner anger). Also they tend to be depressive and withdrawn. On the one hand, they panic easily under short-term stress, but on the other hand, they are rather resilient in long- term risk management.

(3) Four steps to mental self-care

Those who scored more than 4 points in the above checklist are recommended to implement every day, without fail, the following four steps to mental self-care. If you keep taking these steps, you will develop self-confidence in due course.

- (1) If anyone arouses negative feelings in you, such as undue fear and anger, consciously try to put them aside, observe him for the time being and dispel any groundless assumptions or delusions you may have of him.
- (2) If you have negative feelings, get a disinterested party to listen to your complaints. ("A disinterested party is a person who has nothing to do with the event that has aroused such negative feelings in you. If the person you confide has anything to do with the said event, he may end up sharing a joint delusion with you...)
- (3) Distance yourself from any extremely stressful environment. (If the stressful environment is your workplace, take a long vacation or change your job.)
- (4) Let the other party know how you feel about the situation using the "I" mode of expression.
- (5) Try not to respond rashly to the strong reaction of the people around you, but stay calm instead.
- (6) Try to enter into relationships with those you can deepen your mutual trust in.

2. PRINCIPLE AND STRUCTURE OF SAT IMAGERY THERAPY FOR CANCER

2.1 What is SAT imagery therapy?

SAT imagery therapy is a mind-body theory developed by the author in 1995. Here typical techniques mainly used

in treating cancer are introduced beginning with the principle and structure of SAT imagery therapy.

Immune defense capability and genetic defense capability, which hold the key to conquering cancer, are deeply involved with the attitude and thinking toward life of cancer patients and their accompanying behavior. SAT imagery therapy supports the patients' effort to change their lifestyle and behavior.

For example, SAT imagery therapy places importance on not only "verbal information" obtained through conversations with clients, but also on "somatic information" that manifests itself in the physical such as in somatic symptoms, facial expressions, action, and even in results of blood tests and genetic testing. This is because somatic information includes latent information that is not cognitively recognized as linguistic information. Moreover, in SAT imagery therapy, with both types of information as a lead, the SAT counselor lets the client temporarily externalize the factors responsible for the problems besetting him (i.e., the client is urged to look for the causes of the problems outside of the self). After that, the client is allowed to internalize the problems anew. In other words, the client is urged to confront the problems face to face as his own). In this way, the client is guided through each step of the SAT imagery therapy to support his effort to change his behavior so that he can solve the problems besetting him.

Why is the process of externalizing the factors causing the problems necessary? It is necessary because the heightened sense of security stimulates the client's will to confront the problem head-on. If the client finds himself blaming his parents and grandparents, he might end up hating himself for shifting the blame on them instead of taking responsibility himself, thereby intensifying his sense of self-denial. To avoid this, the client is urged to imagine himself going back through time to the age when living things had not yet evolved into human beings, or if needed, to the age of organic substances, genes and even cosmic particles so that they may attribute his problems to something or someone other than himself (Munakata, 2006).

What happens next is something that has to be seen to be believed. The problems and how to solve them flash into the client's mind. This is Retrospective Evolution Imagery (REI), one of the techniques used in SAT imagery therapy, which enables the client to have such a divine revelation. In SAT imagery therapy, the client is urged to travel through the ages with the aid of retrogressive hypnotherapy. At this point, the client is urged to recall his own fetal image in the womb. The recall functions as the key image in the execution of the theory.

Human beings and other mammals have wombs. Since mammals were first provided with wombs, just like in a bird's nest, information began to be passed through the womb from parents to children and from children to grandchildren. Most people have probably seen a screen image of a fetus growing in the womb. Beginning with the cleavage of a single cell organism, the fetus gradually morphs closer to the shape of a human being as it retraces the stages of evolution from invertebrates to fish to amphibians to reptiles to mammals. This author believes that all evolutionary information, including the information on the origin of life, is condensed in a micro cosmos of the womb (Munakata, 2006).

If, for instance, the fetal images in the womb a client has is those of life crisis in which the umbilical cord wraps itself around the neck, those images will clearly lead the client back to some past age in the evolution of life when he ran into another image of life crisis – albeit it must be admitted that this is difficult for anyone who has not experienced it himself. When the client is then allowed to change these images to positive ones, the fetal images in the womb he had will also be changed. Why does such a strange phenomenon occur? The mystery will be solved if it can be established that all evolutionary information, including genetic information, is condensed in the micro-cosmos of the womb.

Figure 1 Structure of SAT therapy



2.2 Problem repeats itself overtime

The specific procedure used in SAT imagery therapy is described in this section using the case of Mrs. A., a uterine cancer patient, as an example. The structure drawing of Figure 1 above is provided to facilitate understanding of the explanation above.

During the therapy, Mrs. A was asked, “How do you want to change so you can become healthy again (self-transfiguration goal)?” She replied, “I want to be a broad-minded person who is not easily upset by little things.” However, the degree of her self-confidence was 65%. (In SAT imagery therapy, clients are instructed to indicate how self-confident they are as the degree of self-confidence flashes in their mind.) Then the client was asked to describe the feelings that were blocking her goals by using two categories of visual information: color and shape. Compared with other types of information, visual information is easier to process in the left hemisphere of the brain, the reason being that visual information is easily transformed into somatosensory information. Mrs. A described the feelings blocking her goals as “dark blue and an acute-angled shape.” Asked whether she felt anything different in her body when she visualized this particular color and shape, Mrs. A replied, “My breathing becomes unstable and I feel cold.” Mrs. A is then instructed to change this somatic sense over to the sense in the womb with the aid of SAT Retrogressive Hypnotherapy. Then Mrs. A communicated a negative womb image: “I can’t breathe. The uterine wall looks thick and hard. It’s pitch-dark inside the womb.” When the question “How do you wish it to be, otherwise” was posed to her, Mrs. A’s negative image immediately changed to a rewarding piece of information. The image of her womb changed to “a soft, bright, orange-colored womb.” Mrs. A became conspicuously assertive. It seems that those who are usually unwilling to depend on people’s kindness are more willing to do so when they regress to their fetus stage in their imagination.

Figure 2. Rewarding and Aversive Information of the Senses in the Womb

Brightness	-	bright vs. dark
Temperature	-	warm vs. cold
Color	-	warm color vs. cold color
Sound	-	pleasant vs. jarring
Elasticity of the wall	-	elastic vs. inelastic
Hardness of the wall	-	soft vs. hard
Somatic senses	-	relaxed vs. tense
Cervical os	-	visible vs. invisible

After the client established the rewarding image in the interior of the womb (Figure2), she was encouraged to envision again the aversive image in the womb interior, and with that image as a clue, she was told to start going back again through time and look for the sources of the aversive information. Mrs. A envisioned herself fighting with fellow members of her associates over scarcity of water in the amphibious age. She said, "I'm so anxious and on edge all the time." Mrs. A always looked timid, but she didn't become timid overnight. This is what the author calls the "externalization of the causes."

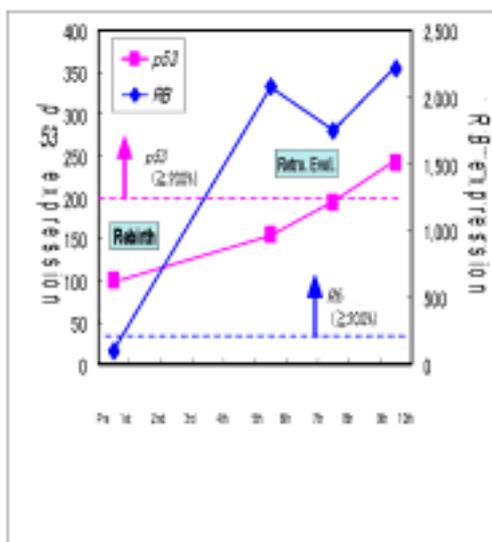
At this point, Mrs. A was once again led to the rewarding image of the womb interior and asked to describe how the amphibious age should have been established to gain the rewarding image in the womb. Her reply set off a series of changes in the image of the preceding generation, the image of her rearers, and even the image of herself to the rewarding image. Specifically, commenting on the new image of the amphibious age, Mrs. A said, "With plenty of water and food available, I feel relaxed and there is no need to fight with my associates." On the new image of the womb interior, Mrs. A commented, "Mom and dad look dignified and little things don't seem to faze them." The image of the womb interior in the client's fetal period had changed to an ideal image. And finally, regarding her own self-image, Mrs. A said, "I always feel at ease. I even feel a bit adventurous."

The work of "internalization of the problems" is finally taken up. Asked if there was anything in common between her self-image in the amphibious age and her self image in the present age, Mrs. A replied, "I don't live in a good neighborhood," and at the present, "I haven't chosen the job or the workplace I genuinely want." She then added, "First, I'll act, then worry about what might happen, and I'll choose the line of work that best suits me." If Mrs. A follows these steps, she will become "a kind of person who has self-confidence and dignity," the initial goal of her transfiguration.

After Mrs. A formed the image of her rebirth following the change in the image of her rearers, REI was introduced. It was immediately after the formation of the rewarding image by the intervention of the newly introduced REI that the incidence of anti-tumor genes *RB* and *p53* increased in the white cells of Mrs. A's peripheral blood.

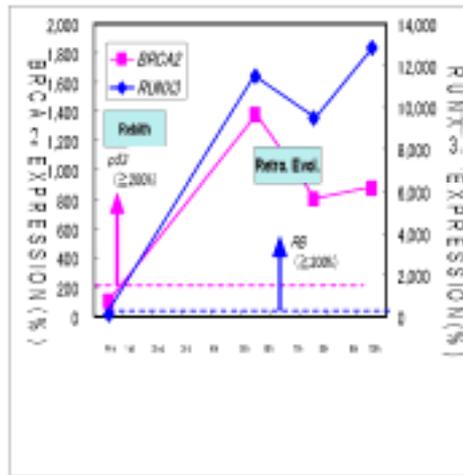
While a detailed explanation of the anti-tumor will be given later, Figure 3 below shows the results of Mrs. A's anti-tumor genetic expression test (RT-PCR).

Figure 3-1 Mrs. A's *p53* and *RB* turned on by the SAT Imagery Therapy



Mrs. A's anti-tumor gene (*p53, RB*)

Figure 1-2 Mrs. A's BRCA2 and RUNX3 turned on by the SAT Imagery Therapy



Mrs. A's anti-tumor gene (*BRCA2, RUNX3*)

2.3. Memory information before humans became humans

Before continuing with this discussion, it may be a good idea to examine the phenomenon of “past information” in greater detail. Stored information taken up in the SAT imagery therapy has wider and deeper implications than the conventional notion of past information.

Past information is divided into two types of information: explicit and implicit. Explicit information is the past memory information that people have accumulated since around the age of three when they first began talking. This type of information is preserved for 2-3 years as a group of episodes in the hippocampus of the limbic system. After that, only the memory information deemed important is stored in the cerebral cortex.

The latter or implicit information is the information people accumulate in their fetal and infant stages, considerably before they reached the age of three. Some of its contents are stored in the “amygdaloid” as somatic sensation information (ache, pain, etc.) and also as emotional information (fear, sadness, etc.), which responds to certain stimulating signals (e.g., sound, expression, action, temperature, humidity, space and sense of equilibrium). Moreover, included in the implicit information is also the record of DNA information, which records the evolutionary process from amino acids to human beings. Furthermore, a human being is basically a complex configuration of atoms composed of as many as 10^{29} of atoms. The frequency pattern of each individual atom or elementary particle can be regarded as a kind of implicit information.

It is mainly the implicit memory information that is used in the SAT imagery therapy. Specifically, information accumulated during the embryonic and fetal periods – which is said to recapitulate evolution – and information transmitted inter-generationally among ancestors are used, not to mention the information accumulated in the infant period. The information used in SAT imagery therapy is not limited to these two types of memory information. The information used in SAT imagery therapy also includes inter-biologically transmitted information accumulated in the process of pre-human evolution, starting with the age of primates and other animals of the class of Mammalia, Aves and Reptiles, Amphibians, fishes, invertebrata, unicellular organisms like amebas, primitive life like bacteria, organic substances, and even cosmic particles.

Heavy elements – oxygen, carbon, nitrogen, and iron from which the human body is made – were not born in the solar system. They are believed to have come into existence during the supernova that occurred in the universe in distant past. After the cosmic explosion that, according to the big bang theory, marks the origin of the universe, the elemental particles that comprise the atom – proton, nucleus and electron – were created, followed by the creation of light elements like hydrogen and helium. Next, a fixed star was born with hydrogen burning inside. The resultant nuclear fusion of hydrogen atoms led to the creation of helium. The explosion of huge fixed stars eight to thirty times larger than the sun but existing only several hundred millions of years created heavy metals like iron. The earth itself is made up of two large celestial bodies and a countless number of planetesimals that came into existence as a result of a supernova explosion.

Water molecules make up about 70 percent of human body and the oxygen atom from which a water molecule is made is one of the elements emitted into outer space by the force of a supernova explosion. A photograph of atoms shows that each individual oxygen atom has a distinctive shape, which gives form to an electron cloud. Each atom has its own unique frequency pattern. As noted earlier, the human body is made up of 10^{29} of atoms, and each atom transmits the memory information of evolution as quantum from which an element is formed.

According to a study that earned NASA a Nobel Prize in 2006, the universe was created around 13.7 billion years ago, give or take two hundred million years. The earth was created 4.6 billion years ago, so there is nothing mysterious about the fact that the particle information accumulated since the genesis of the universe should be recorded in the human body as a pattern of frequency. The implicit information used in the SAT imagery therapy includes past information that has been transmitted since the age of cosmic particles by the two nucleobases “A & T” and “G & C” and by DNA, a biopolymer in which the two nucleobases are bonded by hydrogen.

A person weighing 60 kilograms, for instance, is made of approximately 60 trillion cells, and each cell carries some 3 billion pieces of DNA information, of which only about 5-10 percent of the DNA information is related to the formation of arms, legs, internal organs and skin. It is said that the remaining 90% or more is the record of the evolutionary information listed below.

- Evolutionary information of amino acid to human beings
- Life-saving information called instinct
- Information concerning viruses and bacteria that have been assimilated or selected in the evolutionary process
- Information concerning poor physical condition or illness together with their treatment experienced in the evolutionary process
- Direction of evolution.

Comparing the history of evolution to the stream of a river reveals that once the river is contaminated with wastewater from factories, it is impossible to stem the contamination regardless how hard efforts are made to clean up the water mid- and downstream,. The same is true when people come down with mental and physical problems. Unless the problems are solved by going back to their root, it is almost impossible to solve the problems in the lower reaches of the river.

Each individual has information about his own illness. Incorporated into this genetic information is a mechanism that activates genes of illness and those of health. In many cases, the event which triggered this mechanism occurred in the early evolutionary ages of amebas and organic substances or even the age of cosmic particles before living creature came to the earth. People are apt to doubt any claim that the problems rooted in the course of evolution may be solved by “simply relying on the function of images.” However, just as imagining munching a lemon will make one secrete saliva, images are able to bring changes to all organisms including the genetic

expression of the body. In cerebrophysiology, it is a known fact that the cerebrum is influenced, regardless of the amount of information, by images, be they real or illusory. Just as images of past nightmares affect the person who had them for the rest of his life, illusory images may also affect the person having them if they are stored in his memory, and possibly affect even the descendants through his behaviors.

It is impossible to confirm whether or not information about a past event is based on actual experience. However, if the client himself has a sense of reality and confidence in that past information, it will have a powerful impact on his real life. Especially, in case of cancer patients, as many cases have demonstrated, it is impossible to eradicate the cause of cancer unless the problem of aversive information in the past evolutionary age restored by regressive hypnosis is solved.

Interestingly, there are certain common images between aversive memory information and rewarding memory information in each age of evolution including the age of womb interior. Human beings are apt to forget that although they have developed an advanced civilization, what human beings as organisms ultimately wish is to be in a situation where everybody is happy and is able to live safely without anxiety, as indicated below This is a situation where, being, surrounded by reliable associates and family, we can get a real feeling of the value of living. What cancer patients lack is precisely this sense of security and reassurance? In fact, tumor suppressor genes start manifesting themselves when a person develops self-images such as “My life is worth living,” and “I love my family and other people, and they love me, too.”

Figure 5. Aversive self-image script at each stage of evolution

Self-image at the stage of human beings	- Disputes all around Unable to help each other
Self-image at the stage of Mammals	- Invaders from outside Unable to help each other among associates
Self-image at the stage of Aves and Reptiles	- Predators around Unable to help each other among associates
Self-image at the stage of Amphibia	- Shortage of food Disputes with associates Dried up field
Self-image at the stage of fish	- Predators around Living in dangerous area
Self-image at the stage of Invertebrate	- Predators around Living in dangerous area
Self-image at the stage of unicellular organisms	- Cold around Shortage of oxygen Living alone
Self-image at the stage of nano-organisms	- Living where there is no light Unable to move around

Figure 6. Rewarding self-image script at each stage of evolution

Self-image at the stage of human beings	- Help each other Enjoy the life
Self-image at the stage of Mammals	- Live in groups and help each other
Self-image at the stage of Aves and Reptiles	- Live in groups and help each other
Self-image at the stage of Amphibia	- Surrounded by a lot of green

		Endowed with rich food
		Live in peace with associates
		Reside at the waterside
Self-image at the stage of fish	-	Live in groups and reside in safe area
Self-image at the stage of Invertebrate	-	Good surroundings
		Live in groups and reside in safe area
Self-image at the stage of unicellular organisms	-	Receive the blessing of the sun
		Endowed with enough oxygen
		Live in groups with associates
Self-image at the stage of nano-organism	-	Move around guarded by plasma and starlight

As shown above, the rewarding image in the age of cosmic particles apparently brings a sense of security with the self-image of free motion guarded by plasma and starlight. However, some say they are afraid of stars. They have information that shows them being drawn into such confusion as being struck by a star. Such individuals are encouraged to turn the clock by 13.7 billion years back to the time of the big bang and to recreate a universe where they can feel safe.

2.4 Micro-oscillation moves genes

All molecules of water, which comprise 70 percent of the human body, have plus and minus magnetic poles. These opposite poles cause water molecules to attract and repel each other, and thereby produce vibration. Anesthetics like xenon work by stopping this vibration of water molecules. Any changes in human feelings and sensations may trigger a change in the frequency of protein and water molecules. Placed under general anesthesia, a patient loses all sensation and feelings. This is because when a patient is under anesthesia the water molecules inside his body are attracted to each other, thus causing the molecules to cease vibrating.

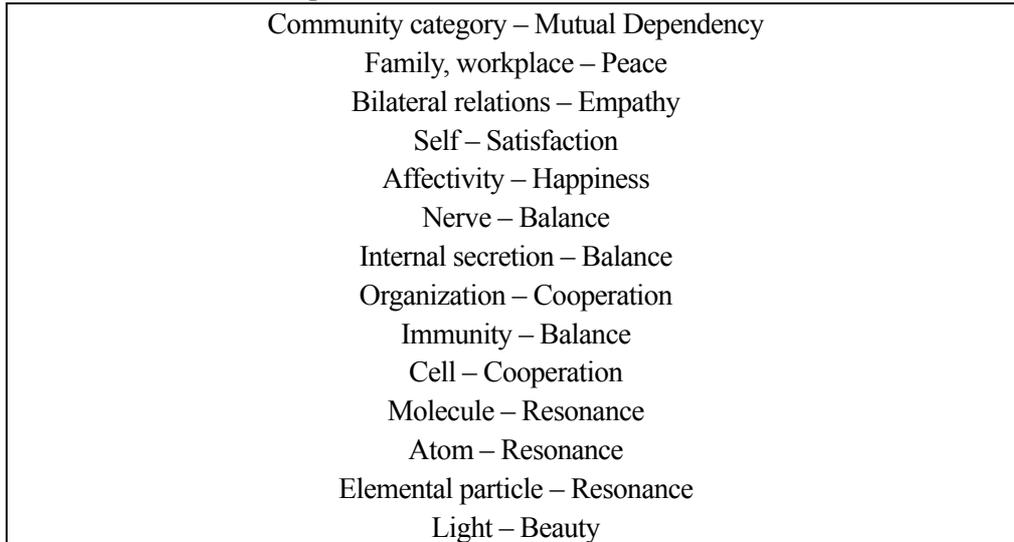
Generally speaking, determining the presence of a medical disorder is the only way to know whether a person is healthy or not. If a person is regarded as a form of energetic substance, then it can be said that information about his health is transmitted from all levels. For instance, if a husband and wife are having a marital issue, there should be a negative vibration observed at the level of molecules.

In SAT imagery therapy, the goal is to activate the client's tumor-suppressing genes by focusing attention on the vibration signal at the molecular level and promoting the transfiguration of the client's feelings and sensations.

Feelings and sensations human beings have are expressed in their eyes, faces, voices and bodily movements. What causes such emotional and physical reactions are the vibration signals that are observed at the molecular level. If these are positive signals, the client's face will look happy. By contrast, if the signals are negative, the client will have a resigned look or a look of anger on his face.

These vibration signals have been handed down through quanta, animals and generations. Many cancer patients have fearful, penetrating eyesight. Such an expression is probably not unique to the present generation but may also be an expression that their parents, grandparents, and even further down their family tree had. There is no other way for cancer patients to change their facial expression than to go back to the age of quanta and molecules using the REI. Unless patients change the information in the cosmic age, they cannot restore the energy balance necessary to become healthy.

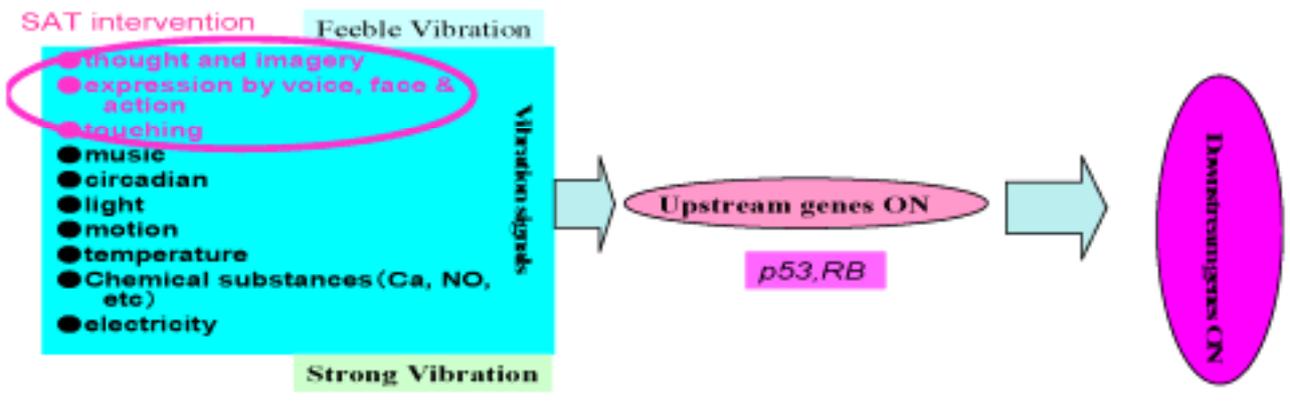
Figure 7. Levels of health information



It is this author’s hypothesis that genes, as high molecular substances, are activated by resonating with vibrations of atoms and molecules; they do not respond to strong stimuli like anti-tumor agents, which are believed to cause vibration signals. Instead, genes seem to be activated by extremely feeble vibrations.

How can such feeble vibrations be produced? Again it is the author’s hypothesis that genes can be activated with thought, image and even skin contact. According to research conducted by this author et al, there are three forms of love, which the author calls the “basic demands: “I want to be loved by people,” “I want to love myself,” and “I want to love people.” When one’s thought, image or skin contact become attached to the three forms of love, a vibration is produced in concert with each of these forms of love. And this vibration functions as information to activate genes. If one entertains a rewarding thought and image like “I am loved,” this seems to turn the rewarding thought and image into a feeble vibration that activates health-related genes. On the other hand, if one harbors an aversive thought and image like “I’m not worth living,” this seems to turn the aversive thought and image into an aversive vibration that activate disease-related genes. As shown in Figure 6 below, rewarding feeble vibrations that activate health-related genes, including anti-tumor genes, have high and spacious amplitude. Expressed in sensory terms, they are “warm” and “fluffy” vibrations. On the other hand ,aversive vibrations that activate disease-related genes have low amplitude. They are tense and acrimonious. It may be that cancer genes are activated by “panic signals” and “anger signals, which have intense amplitude.

Figure 6 Resonance of vibration signals to express DNA



Those with the stress temperament mentioned above seem to have the genes that make them sensitive to tense and acrimonious vibrations. Not only are they sensitive, they themselves constantly send out tense and acrimonious vibration signals. One can easily read these signals in the expression on their faces and in their eyes.

3. Genes of Love

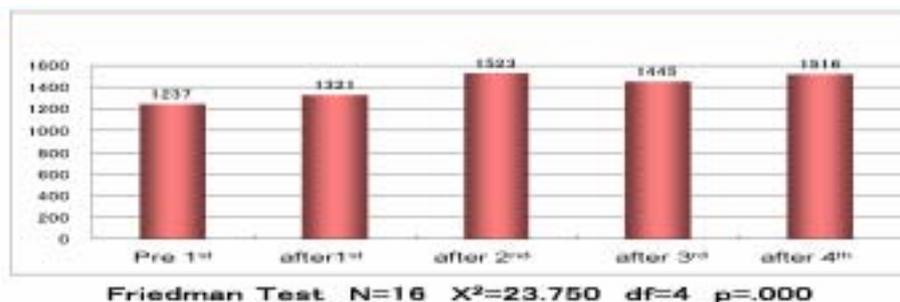
3.1 When a tumor suppressor gene manifests itself

From the viewpoint of physiology, those with stress temperament always stretch their sympathetic nerves. Tense sympathetic nerves increase the number of neutrophils in white blood cells. A high neutrophil count causes overproduction of active oxygen. Overabundance of active oxygen damages tissue cells and DNA and is apt to cause abnormal growth of cancerous cells. The human immune system is supported by the well-balanced ratio of approximately 6 to 4 between neutrophils and lymphocytes (Abo, 1997). But if the proportion of neutrophils exceeds 70 percent, the immunizing strength of lymphocytes, which play a vital role in causing cancerous cells to die, will fall below 1500/ μl . As a result, lymphocytes will no longer be able to suppress the abnormal growth of cancer (Abo, 1997).

Anywhere from 2,000 to over 3,000 cancer cells are born and die one after another in the human body every day. Cancerous genes regenerate epithelial cells of tissues and are not necessarily malignant in and of themselves. When these epithelia-generating genes are damaged and no longer able to carry out their normal function, their immunizing strength declines and they lose their capacity to stop the abnormal growth of cancerous cells, which is a very serious situation. It is the lymphocytes, including the NK cells and killer T cells, which destroy these malignant cancer cells. If the state of sympathicotonia last for a long time, the ratio and actual number of lymphocytes decline. Sympthiocotonia also carries with it the risk of leaving the growth of cancerous genes unchecked.

In the SAT imagery therapy, the treatment for cancer patients aims to enhance both their “immune defense force” and “genetic defense force” by utilizing biofeedback with the data from their blood tests. With regard to the immune defense force, the targets are 2000/ μl for the number of lymphocytes in a white blood cell and 35 to 41 percent for the ratio of lymphocytes, and 30 to 70 percent for the ratio of the activated NK cells.

Figure 7. Changes in the average number per dl of lymphocytes in serums of cancer patients after an SAT intervention



In a recent study using knockout mice (i.e., mice in which a particular gene has been artificially destroyed and made dysfunctional), it is reported that genes were rendered cancerous by making ‘*p53*’ and ‘*RB*’ dysfunctional (Morgenbesser et al., 1994). In the SAT therapy, genetic defense force is used as an indicator when the four cancer suppressor genes – the two genes plus ‘*BRCA2*’ and ‘*RUNX3*’ – are turned on. (The moment the amount of messenger RNA more than doubles is regarded as the baseline for judging manifestation of genetic defense force). The goal of SAT therapy, for the time being, is to lower the tumor marker, but its ultimate goal is to cause the

disappearance, contraction or cessation of the progress of cancer in an X-ray examination, an echo graphic investigation, or a tissue test.

Figure 8. RB, 53 stems growth of cancer (Morgenbesser et al.. 1994)

	<i>p53 normal</i>	<i>p53 abnormal</i>
<i>RB normal</i>	<i>Stem growth</i>	<i>Stem growth</i>
<i>RB abnormal</i>	<i>Apoptosis</i>	<i>Make cancerous</i>

In the SAT imagery therapy for cancer patients, the four cancer suppressor genes are used as indicators of genetic defense force. This author calls them “Genes of Love,” for they manifest themselves in response to satisfaction with the said three types of demands for love. From the cases treated thus far, as introduced below, a certain amount of regularity has been found between tumor suppressor genes and love consciousness.

BRCA 2 is turned on when the demand for being love by others is fulfilled. This is the “Passive Love Gene” that is closely related to breast, ovarian and other cancers peculiar to women. It has a tendency to manifest itself when one becomes firmly convinced that one is loved by those whom one cherishes.

RB is turned on when the demand for self-love is fulfilled. It is related to all types of cancer, but especially to the cancer of eyes and pancreas. This is the “Self-Love Gene that manifests itself in those who love themselves as they are oblivious to how others may judge them. *RB* manifests itself when one starts having self-confident.

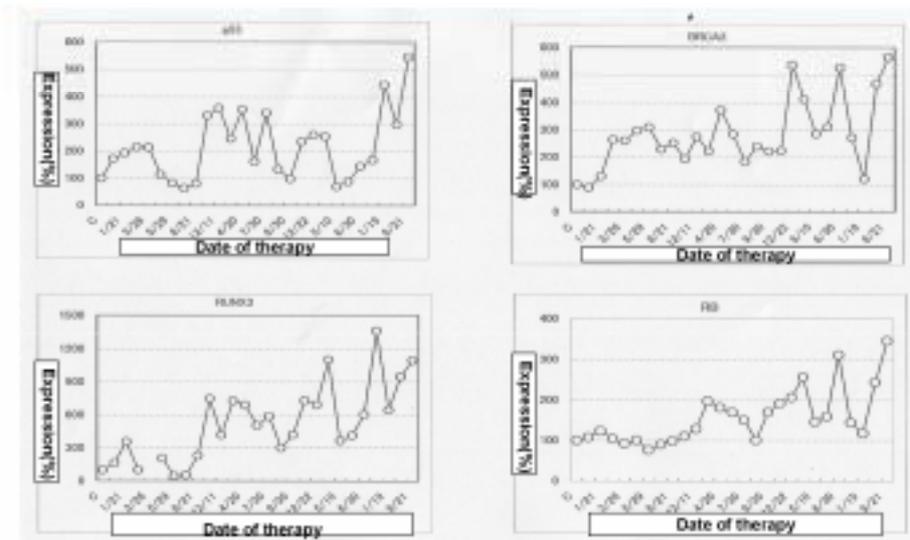
p53 is turned on when the demand for loving others is fulfilled. This is the “Positive-Love Gene” that stops the division of cancer cells and suppresses the generation of new blood veins that leads to cancer cells. *p53* shows a tendency to manifest itself when one forgives and loves one’s rearers, spouse and children.

RUNX3 is turned on when the prospects are bright for loving oneself and loving others. This is the “Love-Coherence Gene” that is related to cancers of the stomach, duodenum and other digestive organs. *RUNX3* has a tendency to manifest itself when the prospects are bright for loving oneself and loving others, but in some cases, it turns on and off repeatedly as prospects often depend on objective factors.

Cancer patients often say, “It is important to have a sense of gratitude.” Perhaps having a sense of gratitude and revering others helps fulfill their wish to be loved. As long as one continues to demand others love them saying, “Please do as I say” and “Please accept me,” one cannot hope to be loved in the way one expects. On the other hand, by just being grateful for the very existence of one’s partner and adoring his or her personality, the partner will also begin to love one unconditionally. This is how love seems to work.

When the demand for being loved is fulfilled, it becomes easier to turn on the tumor suppressor gene *BRCA2*. *BRCA2* is a gene that is related to breast cancer and uterine cancer. Thus this author calls it “Passive Love Gene.” In terms of fulfillment-of-the-demand principle, when the demand for affection is fulfilled, the demand for self-reliance grows. At this point, one will be able to start living a satisfactory life, enjoying oneself just the way one is, regardless what others may say, and as a result, it becomes easier for *RB* to turn on. Since loving oneself makes it easier for *RB* to manifest itself, the author names this “Self-Love Gene.” When one learns to love oneself, the desire to love others starts to grow, thus making it easier for *p53* (Positive Love Gene) to turn on. Furthermore, if the prospect for loving oneself and loving others is good, it will become easier for *RUX3* (Love Coherence Gen) to turn on.

Figure 9. Tracing the expression of tumor suppressor genes of a breast cancer female patient by SAT therapy intervention for 4 years



3.2 Retrospective Evolution Imagery Therapy

Forming a rerearing image in which one is loved by the rearer and lives trying to satisfy oneself by fulfilling one's affection-seeking demands and self-reliance demands enables one to reach a state in which one is able to enjoy one's true self. Then *BRCA2* starts activating and *RB* follows suit, but no further development is observed. *p53*, the positive love gene, and *RUNX3*, the love coherence gene, do not readily express themselves. Studies have shown that in such cases, one who holds aversive images of pre-human ages cannot be healed by merely changing those memory images.

The aforementioned Retrospective Evolution Imagery (REI) was developed as a new method for effectively treating such cases as well. In REI therapy, one's image is taken back to the ancient, pre-human ages such as the age of monkeys and other animals of the class of Mammalia, Aves and Reptilia, Amphibia, fish, invertebrata, unicellular organisms like amebas, primitive life like bacteria, organic substances, and even cosmic particles. One's negative image memory is then changed to a positive one. As a result, the demand for loving others, to say nothing of the demand to be loved, is fulfilled, at which time the rate of expression of all four types of tumor suppressor genes is also increased.

Figure 10. Expression(%) of *p53* genes of cancer patients receiving SAT imagery therapy

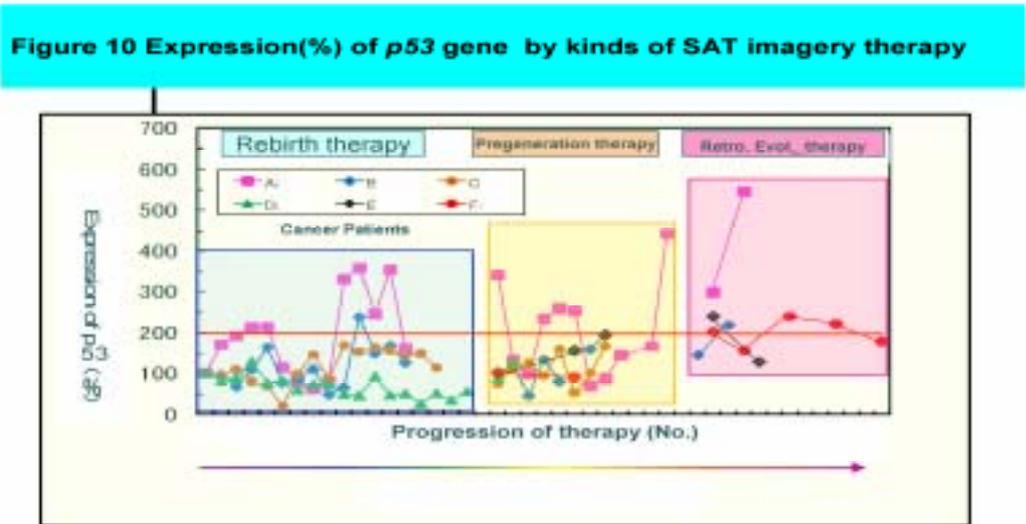
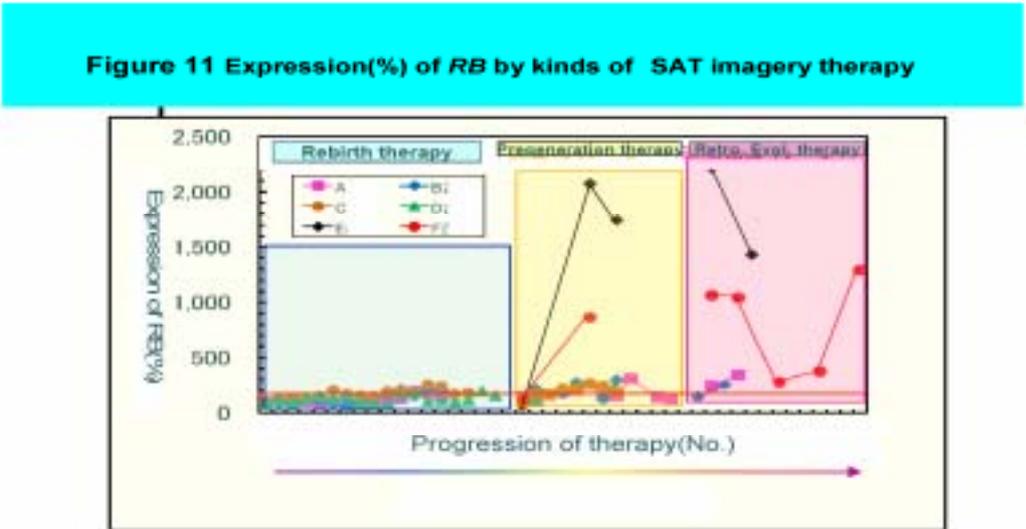


Figure 11. Expression(%) of *RB* genes of cancer patients receiving SAT imagery therapy



As is shown in Figure 10, 11, in the rebirth imaging therapy, sometimes it takes more than one year for *p53* and *RB* genes to express themselves. However, in the RE imagery therapy, *p53* and *RB* genes express themselves immediately after the first intervention.

Many patients resign themselves to the notion that cancer is fatal saying, “We have a family history of cancer.” These patients are convinced that they are destined to die from cancer because many in their family line over generations to say nothing of parents, siblings and relatives died from cancer. The effect of the therapy will be limited if the change is made in the memory image of only a few generations including their parents and grandparents. Perhaps deep down they are desperately resigned to the whims of the old genes that they have succeeded from primitive human beings. Even in such cases, the ratio of expression of tumor suppressor genes will be dramatically increased if they change the process of evolution before the age of human beings or the memory

information image of molecules and atoms, which triggered the creation of DNA itself in the first place.

Another case of RE imagery therapy (in addition to the case of patient A) drawn from the files of SAT imagery therapy is taken up below. In this case, by changing the aversive memory information image from the biological age, the client became aware of the feeling of resignation that had dominated her, and was therefore able to change the way she lives.

Counselor: If you were asked to recall the aversive sensation of the womb interior that you experienced, what sort of problems comes to your mind and from what age? (When the counselor asks the client to recall the aversive images of the womb interior and say the names of the ages as they appear in her mind, the images of the interior of the womb naturally become visible)

Client: I can see myself in the blue ocean. I'm a shellfish.

Counselor: So you are a shellfish in the blue ocean. Is there any enemy?

Client: Yes, there is. It feels like I'm being attack by a starfish. It's really scary.

Counselor: In the age of amebas, you had an image of being with associates, didn't you? The sun is shining, and there's plenty of oxygen in the air (prior to this, the clients recalls the ameba age). Imagine that tribe evolving into shellfish. What happens to the shellfish?

Client: Before, they went on their separate ways, but now they coexist as friends.

Counselor: When the shellfish coexist as friends, what happens to the image of the womb interior?

Client: The image is calm. It feels good.

Counselor: Are there any similarities between the problems in the shellfish age and those you are face with now? If yes, what are they? Please tell me what flashes in your mind.

Client: The reason I became a shellfish was to protect myself from foreign enemies. Through successive generations, I gradually grew a protective shell around my body. Although I protected myself this way, I was nearly devoured by a starfish. I was bitterly disappointed. All the work I had put in was for naught. I think that that bitter sense of failure is what brought about today's resignation. "Oh, to heck with it. Who cares?"

As discussed earlier, the human body (about 60 kilograms in weight) consists of approximately 60 trillion cells. This simply means that beings are organisms that cannot live alone. The image of a loner, for any family in the process of evolution, is always an aversive one, even at the level of molecules, atoms, and an atomic nucleus. If one has an image of fighting among one's associates, however many there may be, the image of the cells that make up one's body will also show them fighting among themselves. This is exactly the same image as the one for cancer itself.

As was introduced earlier, the conditions of ideal environment differ from one stage of evolution to another. It may safely be said that to have associates, and to live amicably with them, has been the indispensable condition for protecting life in any age. The memory information of an age when this condition was not fulfilled is what makes one's present self-image negative and what keeps undermining one's health.

3.3 Imperturbable relationship of *Amor fati*

In case not only of cancer but also of illness in general, it seems that not being able to establish a good relationship with an *Amor fati* partner plays a crucial role in life. The relationship of *Amor fait*, in a word, is one in which two people hand-in-hand overcome difficulties. In such a relationship, one never forsakes one's partner under any circumstance, and even puts one's life on line to save one's partner. The partner of *Amor fati* is not necessarily limited to one's family such as one's mother or spouse, but in certain cases includes one's friends and mentors. If one is unable to establish amicable relationship with such a partner, then the stress caused by this situation will, in

the long run, trigger obstacles to one's life and spirit.

Many cancer patients become obsessed when they are unable to establish a good relationship with a partner of *Amor fati*. Many cases have been observed where cancer suppressor genes were expressed as a result of successfully establishing a good relationship with a partner of *Amor fati*, or where, although the patient died of cancer, his soul was saved so that at least his quality of life was significantly improved.

In many cases, cancer patients have deep suspicion of people around them. Some of them have given up loving others as well as being loved by others. They are unable to build a relationship of *Amor fati* though they long for such a relationship. Despite the fact it treats images of pre-human ages, treatment of even these patients has produced impressive results with the application of the RE imagery therapy. The suppressor genes *p53*, which are activated by loving others, are usually very difficult to activate in cases involving patients with deep suspicion of other people. With the intervention of the images acquired in the RE imagery therapy, however, the rate of *p53* expression, which up to now has never been raised, is dramatically raised.

Human beings are creatures that seek to find the meaning of life from the time they are born to the time they die. The relationship of *Amor fati* may be the relationship that proves that one came into this world as a human being. This is why at times human beings will even risk their life to develop such a relationship.

Many people, when diagnosed with cancer, explode in anger against the unfair fate claiming, "Why in the world should I...?" Having seen so many cancer patients, this author is convinced more than ever that cancer is a disease that pushes them to achieve self growth. Since it is the patient himself who desires to achieve self growth, to the patient cancer is a test that he himself invited. Of course, at first, most patients are reluctant to accept such an outrageous argument, but gradually they learn the joy of being loved and become aware of the pricelessness of loving oneself and loving others, and as they attain personal development, many even insist in earnest that they are pleased to have developed cancer.

One patient described his feelings about cancer as follows:

When I think about it now, I was lucky to have experienced becoming a cancer patient and then encountering the SAT imagery therapy. Through these experiences, I think I've changed in the following way:

In the past, I always tensed up when I was with anyone. And if it lasted long, I tended to become tired. Otherwise, I wanted to be with other people. Nowadays, I have a sense that I'm more connected with people and things, and therefore, I can feel myself relaxed even when I'm with others for a long time.

In the past, I used to spend all my time just for myself. I seldom ever spent any time helping others. Also, I rarely ever visited anyone in the hospital. Nowadays, I often visit hospitals to help others, and I often share time with my old parents at their home. Somebody once said, "You become strong when you work for other people." The converse can also be said, "You become weak when you work only for yourself." My ideal is to become strong and gentle.

I want to be smiling always. To tell you the truth, I actually like smiling and I enjoy being jolly. In the past, little things used to cloud my mind. Nowadays, I've learned to change my mind as soon as I feel myself falling into a dark mood. I feel now that with proper training I'll be able to control my mind by myself. If I can keep living with this positive attitude, I believe I'll be able to cut off all ties with cancer. Even if I can't always be so positive, I'm satisfied with this life of mine.

We often hear people say, “Once you have removed the cause of cancer surgically, somatically you will no longer have anything to worry about.” The present author does not support this view. Even if one recovers from cancer in one’s youth, if one does not change one’s way of thinking and continues to be under the same stress that triggered the disease in one’s youth, cancer may express itself again in the form of cardiovascular and other diseases when one gets older and grows feeble. “Live and let live” is my motto. As the saying goes, “You die as you live.”

O.K.’ing oneself will have a positive effect on those around one. Living cheerfully, without hang-ups may have a good effect on one’s family, friends, acquaintances, communities, and even the world at large. Individual human beings may be but a spec in the vast universe, but it is this author’s belief that one can make a big difference for those around one just by living a life that is true to one’s genuine self.

Bibliography

Abo, T. (1997) *Future Immunology*. Tokyo: *Intermedica* .

Comings, D.E. et al. (2000) A multivariate analysis of 59 candidate genes in personality traits: the temperament and character inventory, *Clin. Genet* 58: 375-385.

Kobayashi, K., Hashimoto, S., Hayashi, T., Sakamoto, S., Hori, M., Obitsu, R., Murakami, K., and Munakata, T. (2006). Treatment for Inter-generationally Transferred Feelings of Cancer Patients Using Seasonal Changes of Immune Data as a Clue : Stress Image Shown as Somatic Symptoms in the Blood Data in the Key State of Summer Season. *Journal of Health Counseling*: 12:37-45.

Li, Q.L., Ito, K. et al. (2002). Causal relationship between the loss of RUNX3 expression and gastric cancer. *Cell* 109, 113-124.

Maeda, T., and Munakata, T. (2005). The study from the viewpoints of behavioral science on self-care behavior and psychological factors of patients in the telemedical period following the excision of stomach. *The Clinical Nursing* 31(7): 1120-1126.

Maeda, T., Hashimoto, S., and Munakata, T. (2006). Trial Invention of the SAT Therapy to Cancer Patients. *The Cancer Nursing* 10(5): 4536-459.

Maeda, T., Onuoha, F.N., and Munakata, T. (2006) The Effect of Postoperative Symptom Experience, and Personality and Psychosocial Factors on Depression Among Postgastrectomy Patients in Japan. *Gastroenterology Nursing*, 29 (6): 437-444.

Morgenbesser, D., B. O. Williams, T. Jacks & R. A. DePinho (1994) p53- Dependent Ooptosis Produced by Rb-deficiency in the Developing Mouse Lens. *Nature* 371(1): 72-74.

Munakata, T., Kobayashi, K., Hashimoto, S., Maeda, T., Hatsuya, T., Kadoi, S., Ohkubo, Y., Mochida, M., Hayashi, T., Obitsu, R., Shouji, S., & Murakami, K. (2004). A Case of Breast Cancer Patient Whose Activation of Tumor Suppressor Genes and Immune Strength were Raised by Intervention of SAT Imagery Therapy. *Journal of Health Counseling*: 10:61-68.

- Munakata, T. (2005) *SAT Imagery Therapy - Therapy of Love to Save the Family with the Patient of Cancer and Depression*. Tokyo: Shufu to Seikatu Sha.
- Munakata, T. (2005) SAT Therapy. R. Obitsu (Ed.), *Encyclopedia of Home Care for Cancer* Tokyo: Futami Shobou, pp142-145.
- Munakata, T. (2004). In T. Munakata (Ed.), Practical Methods Health Counseling Based on the SAT. *Counseling Treatment and Health*. Tokyo: Kaneko Shobou, 2004, pp3-25.
- Munakata, T., Kobayashi, K., Hashimoto, S., Maeda, T., Hatsuya, T., Shouji, S., Obitsu, R., Mochida, M., Hayashi, T., & Murakami, K. (2004). Expression of Tumor Suppressor Genes by the SAT Imagery Therapy. T. Munakata (Ed.), *Counseling Treatment and Health*. Tokyo: Kaneko Shobo, pp57-71.
- Munakata, T. (2006). The Concept of Image Script Integrating EBM and NBM. *Journal of Health Counseling*: 12:9-18.
- Munakata, T. (2006). *SAT Therapy*. Tokyo: Kaneko Shobou.
- Munakata, T. & K. Kobayasi (2007). *SAT Therapy Expressing Anti-tumor Genes*. Tokyo: Sinjyu Sha, 2007.
- Munakata, T., K. Tanaka, and Y. Kobayashi (2007). Building Collaborative Human Relationships by Taking Advantage of SAT Temperament Coaching. *Journal of Health Counseling*. 13: 1-12.
- Van den Bergh, B. R. H., & Marcoen, A. (2004). High antenatal maternal anxiety is related to ADHD symptoms, externalizing problems, and anxiety in 8 and 9-year olds. *Child Development*, 75(4), 1085-1097.
- Comings, D. E., Gade-Andavolu, R. et al. (2000). A multivariate analysis of 59 candidate genes in personality traits: the temperament and character inventory, *Clinical Genetics* 58, 375-385.
- Temoshok, L., & Dreher, H. (1992). *The Type C Connection: The Behavioral Links to Cancer and your health*, Random House.

Keynote Speech IV

**Perspective of Ethical Education Focusing on
Integrative Medicine and Comprehensive Environmental Education**

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I am very honored to be here and to have this opportunity to deliver a keynote speech. The day before yesterday, we had a chance to visit Ayuthaya and Vihāra, Wat Pha Baht Nampoo. When we visited Ayuthaya, I felt privileged in my existence as a human being, surrounded by life and the environment. However, when we visited Vihāra, I felt how small a thing human existence is. I was greatly shocked, but at that time, I realized that life and death are the same thing. From now on, I felt, we should never forget to think about the meaning of life and death, and that we should strive to shape our lives so that we live in a beautiful way.

[*Powerpoint Slide 1*] Now, I would like to begin today's keynote speech; Perspective of Ethical Education Focusing on Integrative Medicine and Comprehensive Environmental Education.

[*Powerpoint Slide 2*] First, these are the themes in the order in which I intend to refer to them. Second, after introducing today's speech, I would like to talk about the relationship between life and environment. Third, I will speak about ethical education for integrative medicine. Fourth, I will focus on ethical education for comprehensive environmental education. Fifth, I will present some case studies connected with comprehensive environmental education and integrative medicine, and finally, we will consider the perspective of ethical education, that is, common guidelines for creating a healthy life and a sound environment. This is the order in which I would like to deliver today's speech.

I. Introduction

(1) Life and environment share the same roots

[*Powerpoint Slide 3*] Our supposition is that life and environment share the same roots. Let us assume that life is the positive of a photograph. Usually we can see only the positive of a photo, but without the negative, we cannot print out the photo. In brief, if we intend to make our lives rich on the positive side, we also need the negative side to support the positive. We need both sides, the positive and the negative, or life and environment, at the same time. In this sense life and environment share the same roots.

It is often said that the 21st century is the Environment Century. However, the 21st century is not only the Environment Century but also the Life Century. We, therefore, need to integrate life and environment in a way that goes beyond a mere dualistic division. I would like to show a new paradigm later, but as we are modern people who usually stand on the viewpoint of formal logic, the two sides of the phenomenon probably seem contradictory. We unconsciously try to explain the phenomenon by way of the analytical method that is representative of reductionism from the view of formal logic. However, in the real dynamic world, and from the holistic viewpoint of a system theory, there is no contradiction here. For instance, life and death, in terms of the formal logic of dualism, are

contradictory to each other. We tend to make efforts to avoid death because of our attachment to life. However, from the viewpoint of life's system, they are complementary to each other. We need both sides at the same time.

(2) From “Sense of Wonder” to “Ethical Education”

[*Powerpoint Slide 4*] I will now shift my focus to ethical education. First of all, what is the origin of ethical education? We can probably say that it originated from a sense of wonder at the experience of life.

Rachel Carson left us with some very important words regarding human sense that support the fundamental norms of ethical education. We, as living beings, were born from the sea, as you know. The sea is characterized by rhythm and repetition on the seashore, in accordance with the earth's movement. Also the seashore marks the border between sea and land. The seashore is the great cradle of our lives. It is the place where life transferred from sea to land. This border is not linear but rather some kind of area where every life is born. After coming to shore, animals and plants came to be born on the land, as we humans were too. **When we try to know and recognize the systematic phenomena in the world like the relationship between life and death, original human experience in nature, which nurtures a sense of wonder grasping a whole phenomenon, would be a sustainable gauge for fundamental norms of ethical education.**

[*Powerpoint Slide 5*] I would now like to show you some pictures; here are some pictures of beautiful swans, *Burning morning*. We can also see a picture of two swans in a harsh winter environment. These wonderful pictures were taken by a cancer patient. He was told he had terminal cancer and had only three months to live. After he received the news, he began to take pictures of swans, the number of which reached around 30,000 pictures. He had to face the reality of his impending death, but at the same time, he gained a special ability to look back on his own life. This juxtaposition of life and death afforded him an excellent insight into a new and brilliant world. This type of insight can serve as a measure by which one can assess the true value of one's life.

To see wild animals and plants in national parks when we travel to other countries gives us a chance to enjoy a personal experience of nature. The picture on the right side is of a famous wild tree called Yakusugi, Jomon cedar, in Yakushima island, Japan which is one of the world heritage sites. When I went there for the first time, I learned that this Jomon cedar is believed to be more than 7000 years old. At that time, I experienced a strong awareness of the spirit of the cedar. The picture on the right was taken 10 years later. Again, I was overwhelmed. For me, this was a very significant personal experience of nature. This awe-inspiring feeling from the tree certainly stimulated me to feel a sense of wonder which we could think of as some kind of ethical education or ethical sentiment. This is something we do well to keep in mind, as we pursue our research into bioethics and environmental ethics.

[*Powerpoint Slide 6*] We can show the fundamental principle of environmental ethics by using a diagram consisted of three axes with natural, social & mind environment and four angles with identities of ecosystems, individuals, genes and molecules/atoms. This diagram shows the axioms of identity for environmental ethics. The Axioms represent the identity to preserve the same existing condition, that is to say, healthy life and sound environment. The first axiom means that the identity of the ecological system should be preserved as it is. The second axiom is to retain the identity of individuals. On this point, we are against organ transportation as a rule. The third axiom represents the notion that the identity of genes as well as the fourth axiom of molecules/atoms should be preserved. These axioms are the fundamental framework of environmental ethics as theorem.

Accordingly, we come to understand that bioethics and environmental ethics share the same roots. Let

us take an example. If GE varieties of corn spread out into the eco-system, we have no way to deal with them because, due to our insufficient knowledge, we cannot imagine what will happen. This is a case of environmental ethics. Concerning bioethics, on the other hand, if we continue to eat GE corn, it might destroy our health for the same reason that so many insects are dying. Thus we can understand that identity of genes, in this case, has the same ethical root as environmental ethics and bioethics.

In conclusion, our own personal experience of nature can encourage us to acquire feelings of respect for life, and empathy with the environment. This can lead environmental education in the same direction for the solution of environmental problems.

[*Powerpoint Slide 7*] Now, we have to cast a light on the destruction of the environment. Here are some pictures concerning forms of pollution which have caused disease. This is a rash caused by direct contact with agricultural chemicals. This is a deformed monkey baby at Awaji Island Monkey Center in Hyogo Prefecture, Japan. Its deformation was supposedly caused by eating food with residual agricultural chemicals. This appears to have affected a growth hormone, the mechanism of which is similar to the endocrine disruptor that affects the immune system of living beings. These three pictures show the results of food that has been polluted by agricultural chemicals.

[*VTR: Deformed monkeys*] Next, I would like you to watch a VTR of research on deformed monkeys. For more than 25 years, we have engaged in research on deformation in monkeys. The research shown in this VTR took place in 1998.

Awaji Island is located in the south of Hyogo Prefecture in Japan. Whenever we have an international conference in Japan, I take guest speakers and participants to Awaji Monkey Center and observe deformed monkeys. This visit to the Monkey Center enables participants to deepen their thoughts on environmental problems before the actual conference begins.

Here is one of those deformed monkeys. The residual agricultural chemicals on food caused deformity in its fingers and toes. So strongly can hormone imbalance take effect that you may occasionally come across monkeys with nine fingers on one foot, but mostly the growth hormone stops early so that they may be born with short or twisted fingers and often no hand at all.

This is a newborn baby which is two months old. This was taken by a student of mine and their editing records is a kind of practice of the environmental education for them. This baby monkey is named Fumiko (who was hung by a chair bar and crying in the VTR). In this case, Fumiko was lucky enough to be helped by her mother but in the wild jungle or forest she would probably have died. One of my students named her Fumiko. At first I didn't know the reason for the choice of name but one year later, I discovered it. My first name is Fumiaki, so the student named her Fumiko after me. I felt quite honored by this and since then, whenever I go to the Awaji Monkey Center, my custom on arrival has been to go straight up to Fumiko and inquire after her health.

II. Relationship between Life and Environment

(1) Haeckel's word: Ontogeny recapitulates phylogeny

[*Powerpoint Slide 8*] Next, we want to observe the relationship between life and environment. You know the physiologist, E. H. Haeckel. His word "Ontogeny recapitulates phylogeny" is very famous. In the dimension of time, the human in the womb experiences a history of life which has gone on repeating itself for four million years. At the beginning, the fetus in the mother's womb has a fishlike face.

He or she is at first a fertilized egg and then becomes an embryo before impregnation. This embryo is in its fifth week after impregnation. Then in the eighth week each hand and foot starts to form. And then, the fetus begins to take on a more recognizably human form. And then, by the 23rd week the fetus will look exactly like a complete human being, but during this process we have repeatedly experienced a transition from fish to amphibian, to reptile, to animal and finally to human. So the history of human life is condensed in our body. In this way, it can be said that humans are connected with all lives in the ecosystem.

(2) All lives on the earth: connected with each other by ecological system

[*Powerpoint Slide 8*] Next, we have to think about the dimension of space. Before going onto the subject, we need to make two axes: one of time and one of space. The axis of time is necessary when we recognize and acknowledge some factor in the time dimension. The axis of space is also necessary as we need to know where it happened in the space dimension. So whenever we think and recognize an object we need space and time axes. Life is connected closely with time and also environment is connected closely with space. Here we have to know the formation of space that is a framework of a construction of environment. All lives on the earth are connected to each other by ecological systems related to various levels of the environment. The structure of things that exist on earth are all connected with each other.

[*Powerpoint Slide 9*] This is the Colorado river seen from a high altitude. Of course, this is the shape of the river. This belongs to the outer world. The picture in the middle is the wing of a dragonfly and the vein of a leaf. These belong to the surface world. And next is the inner world. This is the nerve tissue of a stomach. Please pay attention to the resemblance in structure of the figures. They are almost identical so that on the axis of space we also come to know they are all connected with each other. This is very significant.

(3) Comprehensive and integrative education

[*Powerpoint Slide 10*] And then, we need to know how to recognize and how to analyze the formation of things. Accordingly, we need a new system theory. This must be holistic in nature. So, a holistic and systematic viewpoint is required. For this, we can probably obtain some suggestions from the system theory, because the ecosystem itself is a kind of system. The self-organization theory is offered by Ilya Prigogine and by Francisco Varela among others.

Anyway, what may we suppose to be the contents of a theory of self-organization? This is the shape of a wave on the surface of water. Thus, water forms some kind of structure when it moves. The middle picture shows self-organization by chemical reaction. When something happens and reacts, each process makes some kind of stable structure. Prigogine explains this by dissipative construction theory. Also if we try to destroy a virus by breaking it up into parts, in a short time the parts will reconstruct themselves. This is how a virus reconstructs. This is a typical result of self-organization.

III. Ethical Education for Integrative Medicine

(1) Is it true that wholeness consists of parts?

[*Powerpoint Slide 11*] Aristotle, “Wholeness cannot be composed of the total of each of its parts by reductionism”

This explanation requires some technical language but, because a detailed explanation would take a lot of time and become complicated, I will try to use only some important keywords to explain this system theory. If we rely upon dualism, we need to the use vocabulary of the analytical method of reductionism. By this method, everything could be divided into parts, which means that things would

have no contact with each other. In other words, if we analyze a whole thing into divided parts, we can understand what each part is. But try putting them back together to form a whole and it doesn't work as it was. Such reductionism is a one-sided approach, which is especially favored by modern science. The reductionism is related to dualism, nomism, atomism, mechanism, objectivism, universalism and linear causation.

But we have moved from these terms to others i.e. those of holism. It is the holistic way of thinking which is needed for understanding living ecosystems. This involves terms such as holism, conceptualism, subjectivism, particularism, and circular causation. But we cannot stop here because these words are only the antithesis and even if we converted from thesis to the antithesis. We would need to synthesize it. Therefore, we need an integrated, collective framework of systematic theory from a holistic viewpoint. That is the synthesis which enables us to afford a holistic viewpoint.

(2) Regarding life: Life is supported by one whole system [Powerpoint Slide 12]

Usually from the viewpoint of reductionism we make use of communication, or logical communication and linguistic communication but there is a limit to emotional communication. So we need a feeling of communion in order to grasp wholeness. We need a feeling of communion embracing the whole environment and atmosphere, if we try to understand wholeness embedded in the ecosystem. And then we can identify ourselves with the whole of life and the environment. This is the reason why we need the holistic terminology.

Take the life system, for example. The life system is composed of, as you know, cell, tissue, organ and individual. Let's consider a relationship between these elements. The smallest one is the cell. Compared with tissue, the cell is a part while tissue is a whole. Next, take the relationship between tissue and organ. In this case, tissue is a part and the organ is a whole. So there is this very complicated relationship between them because tissue is, on one hand, a part and, at the same time, a whole. From the viewpoint of formal logic it is, of course, contradictory if I say a whole is equal to a part. However, the mechanism of a system or real world is moving in a systematic way. As far as a relationship between cell/tissue and tissue/organ is concerned, we can say a whole is a part at the same time. So we have to find a new logic to express this in a way that is unambiguous. This can be expressed through organizing system theory.

(3) As far as medicine is concerned [Powerpoint Slide 13]

We have to know the face of the coin and at the same time the back of the coin beyond dualism. René Descartes is well-known for drawing the world's attention to the problem of mind and body. And the issues he raised still pose a problem in modern times.

If we are doctors, whenever we meet a patient, we divide the relationship between the patient and doctor. That is paternalism. But if we stand on the same position and communicate by informed consent, the patient and doctor are on the equal terms, which means we are identified with each other.

Ethical education for integrative medicine should go beyond dualism.

The western way of thinking is based on logic. It is focused on seeking only one truth for our own happiness in the outer world. That is the Western way of thinking. And Eastern way of thinking is based on a feeling or sentiment of empathy with others. It is focused on seeking happiness through inner contentment.

In the holistic viewpoint, a paradigm shift from logical communication to feeling communion is required. We need not only logical communication but also empathetic communion.

This is a sample of what I experienced during my visit to Canada. This person is a healer, Aida John. She has the healing power to help Canadian first nations people towards a state of health which goes beyond patient and healer.

IV. Ethical Education for Comprehensive Environmental Education

(1) Comprehensive environmental education: Various subjects such as science, social studies, languages, mathematics, etc.; also various fields such as school education, social education and lifelong education

[*Powerpoint Slide 14*] People here are probably most familiar with integrative medicine, but I really want to show you what we are doing in environmental education. I would like to tell you about some field activities in comprehensive environmental education. Environmental education is not one subject but a comprehensive field. So there are various themes or complex themes. It is implemented not only in school education but also in social education and lifelong education. In school education planting rice from seeds is sometimes practiced and participants enjoy celebrating the harvest festival. But, also, instructor-training and teacher-training are very important.

[*VTR: Field activity on environmental education at Konan University*] I will now show you some environmental education activities at Konan University. This is a VTR of rice planting, teaching how to plant rice. This is the traditional way of Japanese agriculture. We do not use modern machines. After growing the rice, we gather the harvest and hold a harvest festival at the end of the class.

(2) Regarding the environment: Environment is one ecological system in the dimension of thousands of years and Only One Earth

[*Powerpoint Slide 15*] In the space dimension we depend on the Only One Earth. Earth is a scale of space for environmental education basically and the scale of time just like the Jōmon cedar lives for thousands of years. That is the span of time. These scales are limited within visible understanding. We usually live within the ordinary visible world, so this is the basic dimension of space and time for environmental education.

(3) As far as the environment is concerned [*Powerpoint Slide 16*]

1) From a complex “comprehensive” method to a systematized “integrative” one: the pedagogy of environmental education

As far as environment is concerned, a paradigm shift from a complex comprehensive to a systematized integrative one i.e.: the pedagogy of environmental education is necessary for us. Of course, the temporary environmental education is comprehensive. That is okay. But contents can be so unsystematized that they sometimes become vague.

Accordingly, we don't know which way to go and what to do. So we need some kind of system theory to integrate comprehensive contents into an integrated system. We have to establish a pedagogy of environmental education or philosophy of environmental education.

2) Environmental ethics show the direction to a sustainable future by solving environmental problems.

As for the solving of environmental problems, we have to take a hard look at real destruction. And this is the kind of destruction or pollution you have in Thailand. And here I will show some images from our field trip in Thailand and describe what we learned.

[*VTR: Field trip in Thailand*] This is the Environmental Education Center in Phranakhon Rajabhat University. This person is Dr. Joan Webb. At this time, Dr. Webb came here from Australia and I took my students from Konan University to Phranakhon. There were also some Thai teachers. All together we had the same class for environmental education. Another meaning of “comprehensive” in this context is “interdisciplinary”. Then Drs. Sriwat, Chinatat, Webb, Laddawan and I altogether taught the

students.

And after that we went on an eco-tour to Doi Inthanon National Park, where my students and other students had many personal and meaningful experiences. The national park is a very beautiful place. This is a nature trail in the forest for protection. There were so many teachers whose talking students enjoyed very much because each person had their own original ideas. Afterwards we had discussions on how to integrate their ideas. This is a sunbird, mangrove forest, and the beach. You know, a lot of animals and other life forms live in mangrove forests, which means mangrove forests are rich in biodiversity. However, recently mangrove forests are facing destruction because of the lucrative market in shrimp aquacultivation and so on.

After the eco-tour we tried to develop an international network by using the TV-net meeting system. This was the first time that we connected Phranakhon Rajabhat University with Konan University. This April we regularly held contact sessions between Thailand and Japan through teleconferencing in the classroom. Perhaps you can see a demonstration in the satellite symposium tomorrow. We are going to connect Akashi Kaikyo National Government Park, the Ministry of Land, Infrastructure, Transport and Tourism with Phranakhon Rajabhat University here. That will be something to really look forward to.

V. Case Studies of Comprehensive Environmental Education and Integrative Medicine

I usually divide the concepts of environment into three categories. One is Nature, the second Society and the third Mind. Whenever we discuss environmental problems we become confused as the topic begins to get complicated. So I think we need to make a distinction of categories between Nature, Society and Mind.

(1) Natural environment: Alternative ecoforestry in Canada = healthy nature [Powerpoint Slide 17]

This is Ms. Wilkinson who is the owner of ecoforestry. She is praying just before cutting down a large tree. We were able to participate in this workshop with not only the students but also with the general public. Before the woodcutter cut down this large tree, Ms. Wilkinson said “We will cut you down and kill you. But I will make your life eternal because we will use you to make house flooring or a table or a piece of furniture, then you will be reborn eternally.” And she asked the participants to pray for the tree. While praying for the big tree, one of my students began to cry, because we humans have only seventy or eighty years of life but the tree has a life of hundreds or thousands of years. There even seems to be something arrogant about humans chopping down trees. So this episode is one personal experience of nature. Whenever I relate this experience, even now, I feel a shiver and hear once more the sound of the tree as it falls down.

[VTR: Field Course in the University of Victoria, Canada] This is a field course I went on when I visited the University of Victoria. Prof. Nancy J. Turner and I ran the field course class together. The University of Victoria has a beautiful campus. This building is the School of Environmental Studies. On the first day and last day, we had lectures and between those days we went on a field trip and visited five tribes of Canadian First Nations and learned a lot about their traditional culture and lifestyle.

This is Hat Creek Valley, which is a very beautiful place. Prof. Nancy, do you remember? (-Prof. Nancy said: Of course.) She knows a lot about the wisdom of the First Nations. There they made Indian ice cream from soapberry. While making it, they talked joyfully about their daily life, a lifestyle which we “modern” people have forgotten. This is the leader of the Skeetchestn band, Mr. Ron Ignace who has worked hard to preserve his own language, his mother language. This is a destruction of wilderness, which was the work of a multinational corporation. This is Dr. Mary Thomas. She is a

healer and very wise woman. We talked with her about some problems experienced by her tribe members who had gotten into trouble because of poverty, drugs, drinking and so on.

(2) Social environment: Minamata disease in Japan = healthy human society

[*Powerpoint Slide 18*] We went to Minamata City twice. This was taken in 1986. I will tell you about the situation in Minamata City at that time.

[*VTR: Field research to Minamata City, Kumamoto Prefecture*] Now Minamata disease has almost been overcome but problems still remain. This was taken in 1988. It was the second time we visited. This is sludge polluted by mercury. If it rains heavily it surely overflows. This is the Chisso (nitrogen) Minamata Factory. This chemical destroys the nerves of the brain. This is called Hachiman pool. At first, the factory emitted its waste water to one side of the factory and Minamata disease suspiciously broke out. Then the factory turned to the other side. In the end pollution spread. This is Hyakken harbor.

This man is a patient who was already contaminated while he was still in his mother's womb. Another patient, she suffered from Minamata disease when she was one year old. As a result, she lost all perception of temperature. During the winter she makes Japanese paper. But if somebody does not stop her, her body temperature will become so low that she will faint. Her speaking is like this.

(3) Environment of the mind: Sand play Therapy = healthy heart/healthy emotions: These are all related to integrative medicine. [*Powerpoint Slide 19*]

I often use to examine the mind environment using sandplay therapy. This is a boy who suffers from enuresis. This slide was taken at the first session. The patient used hibernation as his theme. This is a symptom of too much intervention on his mother's part when caring for him. This second one is "under construction". The meaning of the hibernation is that his mother is very strict and whenever he wants to do anything, she says, "don't do it!" or "stop it!" or "be serious!" and things like that. His energy cannot be properly released from his mind and body. Therefore, his energy is suppressed in the mind just like energy going down in the sand. There are so many big animals lying down and even in the sand they are lying down to sleep. In this way, his energy is suppressed inside the body. This is the second session when he made considerable progress and his condition became much better than it had been earlier.

One world in the sand box is divided into two areas. In such a case, we can see there the outer world and the inner world, in other words, the conscious and unconscious world. Statistically, we can see that this right area is the outer world and the left side is the inner world. The lower right side is usually home and the upper right side is society. The upper left side shows the inner world and the lower side, the physical world.

In the "under construction" there is a truck and a patrol car as well as some other things. The upper left corner is the ego area. He seems to have put himself into a cage. And also here in the bottom left corner, there is a lot of food, so he can get the food and acquire energy by eating vegetables or apples or some other things. And in this home corner in the outer world, there is a church to pray for his illness.

His mother is very strong at home. By obedience to his mother he should be a good boy or pretend to be a good boy. We can look into his inner world via the sandplay world. This last picture is the work of his mother. This is my home, I am very happy because of my family. She said "Here I am, this biggest doll. And these are all my family," even though her husband is small and everything must be focused on the center for her position.

VI. Perspective of Ethical Education: Common guidelines for creating a healthy and sound life/environment [Powerpoint Slide 20]

(1) Regarding life and environment: Integrative approach in the systematic viewpoint of holism

Sound environment produces healthy life. Accordingly, an integrative approach in the systematic viewpoint of holism is required.

(2) We need integrative guidelines

1) Examples of guidelines

The contents of life and environment should be within the guidelines of a flexible integrative framework.

2) International declaration on human environment 1972, as all of you know: This shows the relationship of interaction between humans and environment.

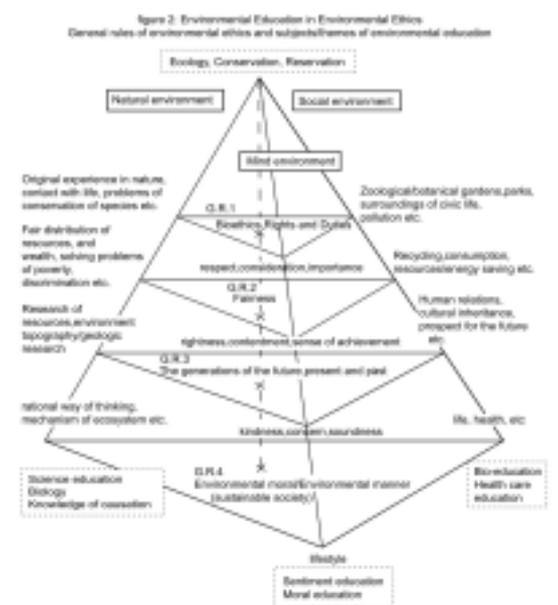
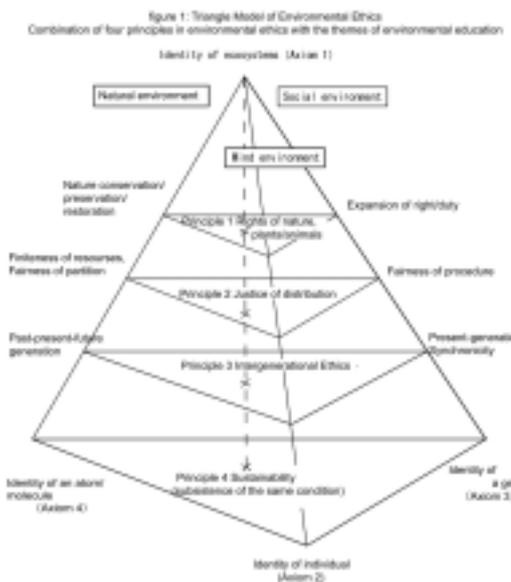
3) Recently the Japanese government set up the Japanese law for "Enhancing Motivation on Environmental Conservation and Promoting of Environmental Education" 2003: This is a legal framework for environmental education in Japan.

4) Earth Charter

This shows the complete framework and I will just show you the keywords as follows.

1. Respect and Care for the Community of Life
2. Ecological Integrity
3. Social and Economic Justice
4. Democracy, Nonviolence, and Peace

Also United Nations declared 2005-2014 the United Nations Decade of Education for Sustainable Development (UNDESD). This will become a future framework for environmental education. We can refer to these frameworks in making the integrative guidelines for environmental education based on environmental ethics. [figure 1, 2]



(3) Expanding approaches of a network for medicine and environment

[Powerpoint Slide 21] As regards e-Learning, I regularly use e-Learning in my class. Perhaps you can experience the demonstration at the satellite symposium tomorrow. Also this will be a demonstration of how to make use of high technology. This is sent from Konan University to Phranakhon Rajabhat University.

You can see Drs. Siriwat and Chinatat are here. And that's me. This time I connected the Ministry of Land, Infrastructure, Transport and Tourism with Phranakhon Rajabhat University. And, we use used three stations simultaneously. One was Konan, the second Phranakhon Rajabhat University, and the third was the Ministry. And each participating station gave us a lecture or information. This is a very interesting trial and I held it from the April to July this year. It was very successful.

[*Powerpoint Slide 22*] We held the international conference many times to expand a network for medicine and environment. This is Siriwat sensei and Nancy sensei. We held the international conference “Environmental Ethics and Environmental Education in 1998”. This was held at Peking University in 1999. And another international conference was held here in Thailand in 2000.

[*Powerpoint Slide 23*] And also this was held in Konan University, the 4th international conference. The title was international symposium “Establishing Guidelines for Environmental Education based on Environmental Ethics”. This was just last January and at my keynote speech I talked about the Asia-Pacific Network for Global Change Research (APN).

Today, we are going to have a satellite symposium collaborated by APN CAPaBLE project “Common Material for Environmental Educational in the Asia-Pacific Region: Establishing International Guidelines for Environmental Educational II”. In this project team, Prof. Azizan from the University of Malaya, in Malaysia will be coordinator for this satellite symposium.

VII. Conclusion – Epiloge-

[*Powerpoint Slide24*] In conclusion, two days ago, we visited Ayuthaya as I mentioned at the beginning of my speech. I took this picture. This beautiful heritage site was almost dreamlike. But all the participants and I were shocked looking at the serious images of death when we visited Vihāra. The following phrase is written in the Vihāra museum and, to close my speech, I would like quote a section from it. With these words, I will end my talk.

“The spirits of those who have died here teach us how to think about our life today and in the future. We understand that life is all around us. But sometimes we forget that we are connected to all of life.”

Thank you very much for your kind attention.

Powerpoint Slide 1

Keynote speech IV
(19th, August 2006)

Perspective of Ethical Education Focusing on Integrative Medicine and Comprehensive Environmental Education

Fumiaki Taniguchi
Director
General Institute for the Environment
Koman University, Japan

Powerpoint Slide 2

I. Introduction
(1) Life and Environment have the same root.
(2) From 'Sense of Wonder' to 'Ethical Education' regarding Life and Environment

II. Relationship between Life and Environment
(1) Heraclitus's word
(2) All lives on the earth
(3) Comprehensive and integrative education

III. Ethical Education for integrative medicine
(1) Is it true that wholeness consists of parts?
(2) Regarding life
(3) As far as medicine is concerned ---

IV. Ethical Education for Comprehensive Environmental Education
(1) Comprehensive environmental education
(2) Regarding environment
(3) As far as environment is concerned ---

V. Case Studies of Comprehensive Environmental Education and Integrative Medicine
(1) Natural environment
(2) Social environment
(3) Environment of the Mind

VI. Perspective of Ethical Education:
Common guidelines for creating healthy and sound life / environment
(1) Regarding life and environment
(2) Integrative guidelines
(3) Expanding approaches of network for medicine and environment

Powerpoint Slide 3

I. Introduction
(1) Life and Environment have the same root.
1) Life and Environment are the face and the back of the same coin.
- Life: positive (photo), Environment: negative: both are very important to humans.



2) 21st century is not only the Environment century but also the Life century
- Integration of Life and Environment is needed.

3) Seemingly contradict phenomena from the viewpoint of formal logic
- however, in real dynamic world: not a contradiction
from a holistic viewpoint of systems theory

an) Life - Death
from formal logic of dualism: contradictory to each other
from life-system viewpoint: complementary to each other

Powerpoint Slide 4

(2) From 'Sense of Wonder' to 'Ethical Education' regarding Life and Environment

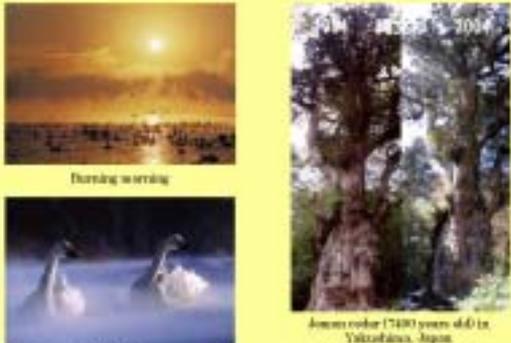
1) Sense of Wonder (R. Carson): ground of human recognition and norm



Life goes up from sea to land

Powerpoint Slide 5

Original experience by Sense of Wonder



Burning warning
never writer
Jomon cedar (1400 years old) in Yakushima, Japan (left: 1994, right: 2004)

Original experience in nature at young age to form a core of environmental measure and respect for life, which is original education for environmental ethics and bioethics

Powerpoint Slide 6

2) Fundamental principle of environmental ethics: Axioms of Identity - ecological system, individual, genes and molecule/atom to preserve sustainable life and environment



Powerpoint Slide 7

3) Bioethics and environmental ethics:
 Ethical education for medicine and environment
 - respect for life and sympathy with environment

A rash caused by agricultural chemicals
 Deform of baby monkey, 2000
 at Sengai Monkey Center in Japan because of remains of agricultural chemicals
 Environmental damage

[VTR]: Research of deformed monkey, 1998

Powerpoint Slide 8

II. Relationship between Life and Environment
 (1) Haeckel's word:
 - Relating to time (life) Humans experience the histories of life repeated fish, reptile, animal and human

Sperm and egg
 Embryo (7th weeks after insemination)
 8 weeks
 11 weeks
 23 weeks
 Change of hands and feet

Powerpoint Slide 9

(2) All lives on the earth: connected with each other by ecological system
 - Relating to space various levels of environment)
 The structures of existing things on earth are all akin to each other, ex) structures of river(outside), vein (surface) and nerve (inside)

Colorado river seen from high altitude
 Veins of a dragonfly and a leaf
 Nerve tissue of a stomach

Powerpoint Slide 10

(3) Comprehensive and integrative education

- Holistic and systematic viewpoint is required
- Systems theory: self-organizing theory auto-process

Structure of wave
 Self-organization by chemical reaction (Dissipative construction)
 Reconstruction of virus particles

Powerpoint Slide 11

III. Ethical Education for integrative medicine

(1) Is it true that wholeness consists of parts? :

- Aristotle, "Wholeness can not be composed of the total of each its parts by the reductionism"
 - by analytical method, reductionism, everything is divided into parts and become to have no contact with each other even if we construct again
- Reductionism
 - related with dualism/monism, atomism/mechanism, objectivism, universalism and linear causation (Thesis)
 ↓
 needed conversation of the reductionism
 - holism, conceptualism, subjectivism, particularism, circular causation (Antithesis)
- Beyond these modern dogmatism
 - postulated flexible frame work of systematic theory from holistic viewpoint (Synthesis)

Powerpoint Slide 12

(2) Regarding life:

- Life is supported by one whole system
 - feeling communion, not linguistic communication
 ↓
 - identification with life, not divided life/environment
- Relationship between parts and a whole
 - Life system cell - tissue - organ - Individual
 part ↔ whole
 part ↔ whole
 part ↔ whole
 part ↔ whole

- If we assert whole = part, it is contradictory by formal logic, but from the viewpoint of life system it is not contradictory but systematically functional

Powerpoint Slide 13

(3) As far as medicine is concerned,

- 1) We need to know the other face of the coin, or the back of the coin:
beyond dualism of mind and body
- problems of mind and body since R. Descartes
- 2) Ethical education for integrative medicine:
beyond dualism of Eastern and Western medicine
- Western way of thinking: logical, seeking for only one truth
Eastern way of thinking: feeling or sentimental, seeking for inner contentment of happiness
- 3) From logical communication to feeling communion
- We need not only logical communication
but also sentimental communication



Phak medicine
Iku Adu (Doctor)

Powerpoint Slide 14

IV. Ethical Education for Comprehensive Environmental Education

(1) Comprehensive environmental education
- Complex theories and various fields
in school education, social education and life-long education



School education: planting rice



Harvest festival: making rice cakes



Instructor training



Teacher training

[VTR] Environmental Education at Kwan University in the field

Powerpoint Slide 15

(2) Regarding environment:
-Environment is one ecological system, or Only One Earth.



Only One Earth
(space - document work)



Japan cedar (1894 left, 2004 right)
Same - diameter (100cm) and year

Powerpoint Slide 16

(3) As far as environment is concerned,

- 1) From a complex "comprehensive" method to a systematized "integrative" one: pedagogy of environmental education
- 2) Environmental ethics to lead a direction to sustainable future: solution of environmental problems



Appearance of shoring (2002)



Destruction of mangrove forest (2002)

[VTR] Field trip in Thailand (eco-tour 2005)

Powerpoint Slide 17

V. Case Studies of Comprehensive Environmental Education and Integrative Medicine

(1) Natural environment: An alternative eco-forestry in Canada



Ms. Wilkinson's pray before cutting (1997)



Cut the tree



Using cut trees by horses



Large tree, hollow

[VTR] Field course of University Victoria (2003)

Powerpoint Slide 18

(2) Social environment: Minamata disease in Japan - health human society



The factory of Chisso Minamata (1960)



A patient of prenatal Minamata disease (2000-2001)



A patient of Minamata disease (1984)



Participating with a patient of Minamata disease (1986)

[VTR] Research of Minamata disease (1985)

Powerpoint Slide 19

(3) Environment of the mind: Sand-play Therapy
- healthy heart / healthy emotions

Case of anxiety (and autism) 1st session
Theme: liberation

2nd session
Theme: under construction

From the side 2nd session

His mother's work
Theme: my future

Powerpoint Slide 20

VI. Perspective of Ethical Education: Common guidelines for creating a healthy and sound life / environment

(1) Regarding life and environment:
- Integrative approach from the systematic viewpoint of holism

(2) Integrative guideline:

- 1) The contents of integrated life/environment should be within the flexible normative framework as guidelines
- 2) International "Declaration of Human Environment (1972)"
- Relationship of interaction between humans and environment
- 3) Japanese "Law for Enhancing Motivation on Environmental Conservation and Promoting of Environmental Education (2003)"
- Frame work of environmental education in Japan
- 4) Earth Charter
- Respect and care for the community of life, Ecological integrity, Social and economic justice, Democracy, nonviolence, and peace

Powerpoint Slide 21

(3) Expanding approaches of network for medicine and environment - e-Learning:

cf.) Satellite Symposium II B-2
How to Introduce Environmental Education in National Government Parks: Demonstration of Environmental Education Using On-line TV-net Meeting System between Japan and Thailand
- Regular International Conference regarding life and environment

Connect between Keio University and Phraekhon University every two weeks

Connected with Ministry of Land, Infrastructure and Transport, Keio University and Phraekhon University on real time on 27th May, 2009

Powerpoint Slide 22

Environmental Ethics and Environmental Education: The Issues on Technology and Human Nature (Keio University, 1996)

The First International Symposium of the Society International Exchange for Environmental Education between Japan and China (Shanghai University, 2008)

International Congress on Environmental Ethics and Environmental Education in Thailand (Hajitak Institute, Phraekhon, 2009)

The Fourth International Congress to Integrate Approaches to Health (Keio University, 2011)

Powerpoint Slide 23

International Congress between Japan and Thailand (Keio University, 2004)

Establishing Guidelines for Environmental Education Based on Environmental Ethics (Keio University, 2006)

cf.) Satellite Symposium II B-1
Common Materials for Environmental Education in the Asia-Pacific Region: Establishing International Guidelines for Environmental Education (II)

Powerpoint Slide 24

17, August, 2006

Vihara

Ayutthaya

EPILOGUE

Life Museum

The Spirit of those who have died here needs us here to think about our life today and in the future.

We understand that life is all around us.

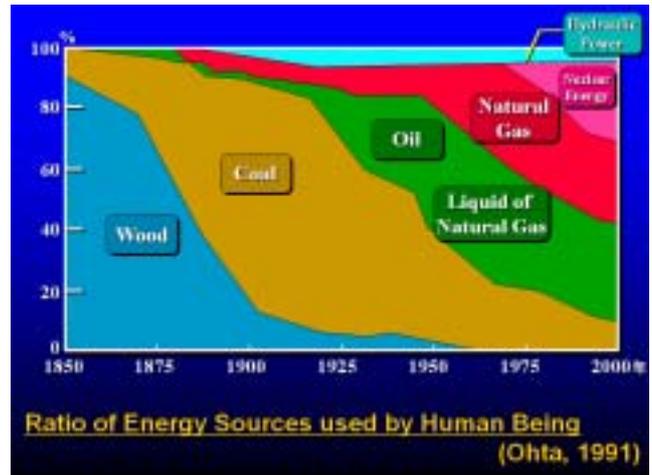
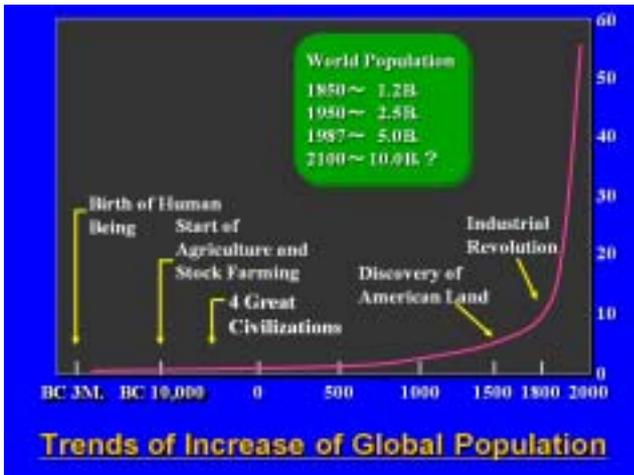
But sometimes we forget that we are connected to all of life.

.....

Symposium

International Promotion on Integrative Medicine and Comprehensive Studies of CAM

Kazuhiko ATSUMI, MD. Ph. D.
Professor Emeritus, Tokyo University
President, Japanese Society for Integrative Medicine



International Institute for Applied System Analysis (IIASA) (Laxenburg, Austria)

Background

According to Population & Economy Growth in Developing Countries, Shortage of Global Resources will be Predicted.

Purpose

To Construct the Simulation Models Allocating Food, Water, Energy and Human Resources etc. in the Globe.

I have been working in IIASA for 6 weeks (Summer or Winter) in each year of 1972~1979, to Study Human Resource Model.

Real Situation in Asean Countries

- Population Growth is Rapid
- Economical Growth is Rapid
- Shortage of Energy is Enhancing
- Destruction of Natural Environment is Worsening
- Use of Rivers is Mutually Related for Drinking, Food Production, Transportation and Weather Regulation in each Countries
- Disasters of Typhoon, Earthquake, Tsunami occur Frequently

Asian Corporative Organization

Aiming for Sustainable Development of Asian Countries

- 1) To Distribute, To Allocate, To Preserve Food, Water, Energy etc.
- 2) To Understand each other, by Communication and Education to Exchange Information on Culture, Religions, Life style, Technologies Transfer etc.
- 3) To Consider, Common Currency, Common Language, Preserving the Independent Cultures

Asian Institute of Applied System Analysis (ASIA)

Proposed by Prof. Kazuhiko Atsumi, in Okinawa or Singapore in 1985, Supported by the Minister of Foreign Affair, Taro Nakayama

Proposed by Prof. Kazuhiko Atsumi, in the Asian Meeting in the Science Council Japan in 1995

Aiming to Construct an Asian Simulation Model to distribute Informations and to reflect on the Design on National Cooperative Policies on Food, Water, Energy etc. in each Countries in Asean and Asian Region

Medicine of Environment and Bioethics

Shokichi TANI
Director Emeritus
Komatsu Hospital, JAPAN

Summary of the Presentation:

I would like to present the short report of my experience on the clinical hospice practice for these 10 years, especially at the Komatsu Hospice.

I will discuss on the Global Environmental Medical Problems including Bio-Medical Ethics for terminally ill patients with cancer.

First of all, I must consider the Meaning of the Contamination.

So, I suggest that there are many Risk Factors for Human Existence on the earth from the view point of the environmental.

Considering Medical Risk Factors with cancer, I would like to point out, at first, several kinds of infectious diseases, for example, viral infections including AIDS, SARS, zoonological tropical diseases, one of which is represented as Malaria.

Next, I think, important subject is public nuisance on the earth due to human artificial and social products.

One of the causes for lung cancer and asbestosis is air pollution. Nowadays, in Japan, asbestos pollution become known as the cause of the lung cancer, called Asbestosis.

As Professor Taniguchi has suggested, most terrible public nuisance is several kinds of toxic micro-chemical substances such as dioxin which is suggested as one of the environmental hormone.

The causes of iatrogenic diseases were suggested as toxicological drug chemical poisoning.

Above all, my main theme is a health problems due to cancer diseases. I would like to indicate the recent mortality rate of cancer in Japan. Statistically, the recent general total death toll in Japan is 900,000 deaths per year in a 1.2 hundred million population. Within that range, 300,000 deaths are caused by several cancers. The statistics show that deaths by the lung cancer is 30,000 per year whose ratio of men to women is 3 to 1.

Next, I would like to show the present status of hospices in Japan. There are 160 authorized facilities; that is not sufficient for terminal cancer care.

Komatsu Hospital Hospice, where I work, established on April 1st in 2006. Of the recent actual results for these 4 months, total deaths was 27 cases with terminal advanced cancer. Surprisingly 9 cases died due to the terminally advanced lung cancer.

One of the difficult problems to doctors is about prolongation of life on hospice care. We, doctors at hospices, have difficulty to decide when to quit a treatment for supporting the terminally life.

This issue is a biomedical ethical problem. Another difficult subject is how to tell the patients with serious advanced cancer about their symptoms. The practice of the informed consent has not yet developed on the hospice program in Japan. I must recognize here that there are limitations in modern western medicine for advanced terminally developed cancer.

How can we correspond the Hospice care as Dr. Atsumi suggested.

From my view point of experience with hospice clinic, I would like to emphasize the importance of environmental problems. To learn about environmental problems can be the efficient education to

prevent cancers. Let me take one example; the no smoking movement. The no smoking campaign in Japan suggested by Prof. Yuko Takahashi is successful. Life style can make us healthy or unhealthy. Life environment also has a major influence on our health. This is why we call some diseases like cancers Life-style related diseases. Therefore, the promotion of change on daily life style for prevention of pulmonary cancer is very important for the improvement of bad habits. In this sense, environmental education can be preventive. Metabolic Syndrome is another big problem in Japan today.

Next important subject is prevention against immunological diseases. In Japan social situation of environmental risk factors has eliminated completely. Japan, generally speaking, has weakened the power of the natural healing response from the infectious diseases and has lost the ability to adapt to environmental risk factors.

We must review on the Darwinism here. According to his theory, we can say that immune response of human body is degenerative or deteriorated now, so the ability to adapt environmental risks has also been regressed.

Finally, my conclusion is as follows.

- 1) I pointed out the importance of education on health and environment.
- 2) I pointed out particular problems regarding integrative medicine and comprehensive Environmental Education, as suggested by Dr. Atsumi.

The greatest priority problem is prevention for terminally advanced cancer and significance of the hospice AIDS care, modeling in Thailand as WATPRABAHTNAMPOO AIDS Hospice.

My last message is that change of environmental bad life-style as Dr. Yonezo Nakagawa suggested is most important.



Symposium

Education on Health and Environment: Regarding Medicine of Environment and Bioethics

Dr. Shokichi TANI PhD.



Presentation

- Acknowledgment and the Purpose of this Symposium.
- Discussion on the **Global Environmental Medical Problems** including **Bio-Medical-Ethics** for terminally ill Patients with Cancer.



The Meaning of the Contamination

- Risk Factors for Human Existence.
- **Infectious diseases.**
Viral Infection.
A I D S S A R S Zoonoses(Ecology)
Malaria (tropical diseases)



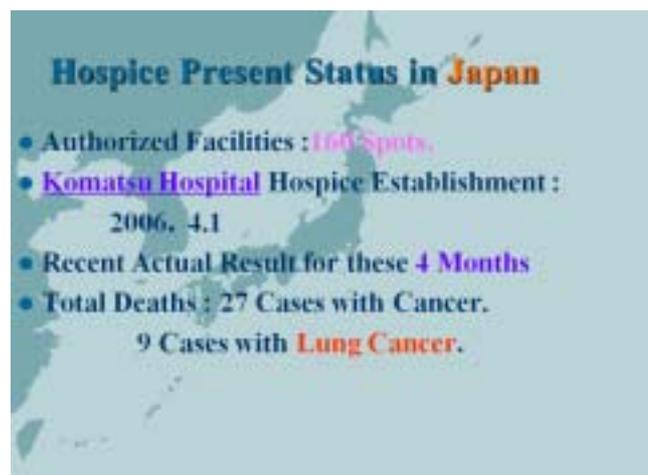
Public Nuisance

- Air Pollution (Lung Cancer).
(Asbestosis).
- Toxic Microchemical Substances.
(Dioxin)
- Drug Toxicologic Chemical Poisoning.
(HIV) (HCV)



Health Problems due to Cancer Diseases

- Mortality Rate of Cancer in **Japan.**
- Total Death Toll in **Japan.**
900 Thousand Deaths per Year
in **1.2 hundred** million population.
300 Thousand Deaths caused by Cancer.
30 Thousand Deaths by Lung Cancer.



Hospice Present Status in **Japan**

- Authorized Facilities : **160 Spots.**
- **Komatsu Hospital** Hospice Establishment :
2006. 4.1
- Recent Actual Result for these **4 Months**
- Total Deaths : 27 Cases with Cancer.
9 Cases with **Lung Cancer.**

Problems about Prolongation of Life

- **Bio-Medical-Ethical Problems.**
- How to tell the Bad News :
Serious Cancer.
- **Practice of Informed Consent in Japan.**
- Hospice Program in Japan.
- Limitation of Western Modern Medicine.

Environmental Medical Problem

- Education for Prevention of Cancer.
- **No Smoking Movement in Japan.**
- Promotion of Change in Daily Life Style.
- Bad Habit Diseases.
- Metabolic Syndrome.

Precaution Against Immunologic Diseases

- Natural Healing Response for Health.
- Adaptation to **Environmental Risk Factor.**
- Review of **Darwinism: Degeneration.**
- Atrophy on Human Body Response to Risk

Conclusion

- Suggestion for the Problem Concerning,
Education on **Health and Environment.**
- Special Problems Regarding Integrative
Medicine and Comprehensive Environmental
Education.
- Greatest Priority Problem:
Prevention for terminally ill Cancer
Significance of the Hospice AIDS Care.
- Change of **Environmental Bad Life Style.**

School Crisis Intervention in Japan

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Introduction

School Crises are defined as crises occurring in and out of schools. For examples, natural disaster (earthquake, volcanic eruption), crime, violence, terrorism, war, fire at school, traffic accident, diseases, suicide, other accidental events/diseases, or bullying. Macy et al. (2) classified school crises into two types; high-impact-low-incidence traumatic events and low-impact-high-incidence traumatic events. High-impact-low-incidence traumatic events consists attacks by intruders in school, natural disasters (earth quake, hurricanes etc), war, terrorism, or crime (murder etc) and low-impact-high-incidence traumatic events include serious diseases, death of friends, suicide attempts, bullying, traffic accidents etc. In Japanese school, about 200 to 300 students die per year (6)(Figure 1). In terms of crime in 2001, more than 40000 crimes have occurred in school, which are twice as many as those in 1995 (5)(Figure 2). From 2000 to 2003, the number of assaults or arson, the murder of assaults or fire setting are increasing in school but the number of murder or robber have not been increased(5) (Figure 3). Table 1 shows that this past decade we have experienced serious school crises due to intruders. As in such incidents many students in school witnessed the scene, school crisis intervention is critical.

Case reports

There are three cases with recent stabbing incidents at school by intruders (Table 2).

The first case occurred at Hino Elementary School, Kyoto, December 1999. The second Case was occurred in Ikeda. Elementary School attached Osaka University of Education, Osaka, June 2001. The third case was Neyagawa Chuo Elementary School, Osaka on February 2005.

Case 1: Hino incident, Dec 1999:

A man intruded into Hino elementary school, fatally stabbed a 7-year old boy. Kyoto Educational committee with a school counselor intervened in this incident. They did Psycho-education for teachers, assessment of children and counseling for children who witnessed the scene.

Case 2: Ikeda Incident, June 2001.

A man intruded into Ikeda elementary school and eight children were fatally stabbed and 15 teachers and children were injured by knife wounds. As many students have been chased by the criminal and/or witnessed the criminal or dead bodies, crisis intervention was critical. In the afternoon of June 8, 2001, the mental support team (MST) was organized and mental care for victims started instantly after this incident (4).

Case 3: Neyagawa incident, Feb 2005.

A 17-year boy intruded an elementary school and fatally stabbed a teacher and injured 2 more teachers. In this case, intervention was done by an educational committee. They did Psycho-education for teachers, assessment for children and teachers, and counseling for teachers and children.

1) Can we prevent mental disorder after school crises?

There are three types of prevention in public health theory. The first is primary prevention, which prevents school crises itself. The second is secondary prevention, which intervene into the school crises and stop the widening of the influence of school crises. The third is postvention, which is aftercare for victims. Committee and school counselors intervene. In terms of primary prevention, the school security system itself is most important. We have to construct school security systems. We have to increase awareness of crisis management for teachers and schools, periodical training for teachers about school crisis management, periodical training of emergency drill, preparedness of network and communication with local health authorities. In terms of school security systems, we are now trying to construct school security system using of IC-tag, GPS and mobile telephones.

2) School crisis intervention

When a school crisis occurred, the Japanese government has to dispatch a crisis response team. The school itself also has to organize a school crisis response team in school. In school, the leadership of the school principal is critical. School teachers must organize a school crisis team in their school. Task allocation of teachers and staffs must be done.

Teachers must prepare crisis management manuals, do training for crisis management intervention, establish information networks among guardians/parents and recognize external cooperative organizations/groups (Table 3).

3) Model of crisis intervention

There are two types of school crisis intervention models. One is a centralized model and the other one is a decentralized model. These two types of models have both merits and demerits. In the centralized model, experts in government must intervene and in the decentralized model or community based model, persons in community or teachers are trained and intervene.

4) Crisis response team (CRT):

Klein et al. (1) indicated three types of crisis response teams community team, school district team and school based team (Table 4). They advised 7 types of role of school crisis response team (Table 5). Out of these, we have three types of crisis response model in Japan, that is, educational committee model, mental health center model, and school based crisis response model. The first two are centralized models and the other is a decentralized model in Japan

A) Educational Committee (EC) model

Educational committee model is most popular. Public school (Kindergarten, primary, junior high, high school) but they do not cover private schools, national school and child care facilities. Also, this model is not a multidisciplinary model. Figure 4 shows the organization of CRT developed by Educational Committee (3).

B) Mental health center model

In contrast with the educational model, Mental Health model can cover all schools but mental health professionals do not familiar with school. And they can work with community members easily. This system is good for Long-term care.

C) Members of multidisciplinary model.

Multidisciplinary model has many merits for school intervention. In this model teachers, clinical psychologists, medical doctors, registered nurses, social workers, lawyer, volunteer etc can compose a team (Table).

5) Size of accident or disaster for school crisis intervention

Intervention team must be influenced by several factors. Firstly, size of incident is an important factor for crisis intervention. A small sized incident can be treated only by a school-based intervention team. But in the large sized incident intervention must be done by government or big-sized organization (Table).

6) Intervention period and organization

Intervention period is also very important factor for crisis intervention. I think the long-term intervention must be done by school based response team. In short term intervention, 3days to 2 weeks can be done by experts form outside of the school. Medium to long term intervention for 1 month to several years must be done by a school-based response team. It is necessary to use resources in school if long-term intervention is required.

7) School-based intervention

In case of disaster, the national government must dispatch crisis response team, which consists of mental health professionals, to schools or communities and begin to work on psychological intervention. This is a Japanese model of crisis response team (Figure 4). In this model, educational committees and clinical psychologists work together. The school itself prepares for crisis and tries to implant educational program of crises intervention such as stress management education program and begin training for crisis counseling. They begin to work with local mental health professionals.

8) Examples of intervention program

Firstly, mental health professionals give psychoeducation for teachers(Table 7, 8). And teachers understand what will happen after the disaster and trauma reaction. Secondly, mental health professionals do triage and select children who need psychological aid. Thirdly, teachers and mental health professionals work cooperatively to begin group work or teach children the method of breathing and relaxation program. Fourthly if the symptoms of children are serious, they will be referred to a local hospital or clinic. There is a very new school based CBT program for PTSD children. This program is called CBITS and 10 session group CBT program which is conducted in school. PSW or clinical psychologist is a facilitator. This program consists of relaxation, imaginal exposure, in vivo exposure, social problem solving. I addition, there is a program for parents and teachers. Stein et al. (2003) reported a first randomized control trial for PTSD children exposed to violence with this program and found that children taken this program improved from PTSD symptoms 7).

9) Conclusion

School crisis intervention in Japan was described.

School crisis intervention organization is nessessary.

Specialists must be fostered at the Government, community and school levels.

References

- 1) Kline M, Schonfeld DJ, Lichtenstein R: Benefits and challenges of school-based crisis response teams. *J Sch Health* 65:7:245-249, 1995
- 2) Macy RD: Community-based trauma response for youth. *New Dir Youth Dev Summer*:98:29-49, 2003
- 3) Ministry of Education homepage: <http://www.mext.go.jp/>
- 4) Motomura N, Iwakiri M, Takino Y, Y Shimomura, Ishibaashi M: School crisis intervention in the Ikeda incident: Organization and activity of the mental support team. *Psychiatry and clinical neuroscience*, 57, 239-240, 2003.
- 5) National Police Agency homepage: <http://www.npa.go.jp>
- 6) National Stadium and School Health Center for Japan, 1998.
- 7) Stein BD, Jaycox LH, Kataoka SH, Wong M, Tu W, Elliott MN, Fink A: A mental health intervention for schoolchildren exposed to violence. *JAMA* Aug:290:5:603-611, 2003

Figure 1: Fatal cases for school crisis in Japan



Figure 2: Trend of Criminal Cases at School

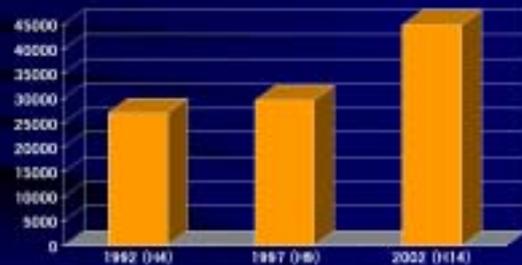


Figure 3: Number of heinous crime cases at school

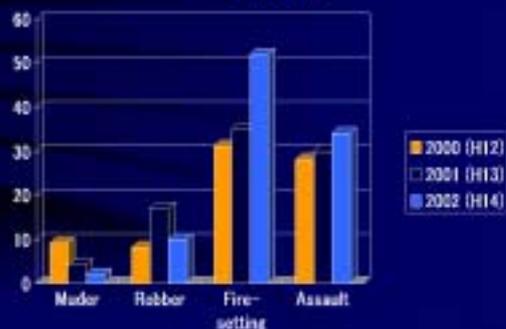


Table 1: Crime in Japanese school

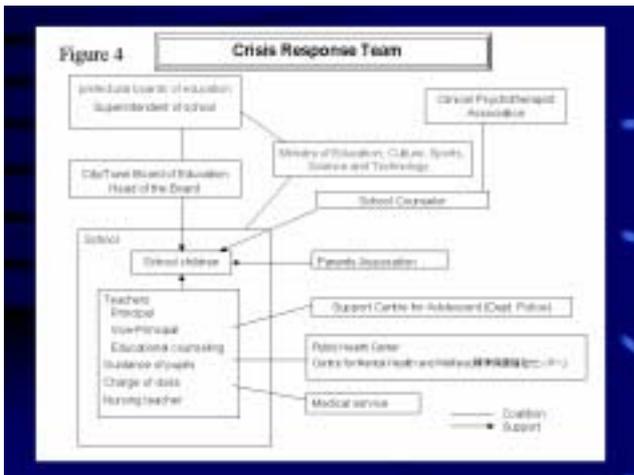
- 1999, Dec; Kyoto primary school, stab fatally 7 year-old
- 2000, Jan; Wakayama, primary school, stab 7-year old boy
- 2001, June; Osaka, primary school, stabbed fatally 8 children, injured 15
- 2003, Dec; Kyoto, primary school, stabbed 7 year-old boys
- 2004, June; Nagasaki, primary school, stabbed 12 year-old girl
- 2004, Nov; Nara, primary school, 6 year-old boy, kidnapped, killed
- 2005, Feb; Osaka, primary school, 1 teacher killed, 2 injured
- 2006, Feb; Shiga, two kindergarten children, killed

Table 2: Recent stabbing incidents at school by intruder

- 1) Case at HINO Elementary School, Kyoto, December 1999
- 2) Case of IKEDA Elementary School of Osaka University of Education, Osaka, June 2001
- 3) Case of NEYAGAWA Chuo Elementary School, Osaka, February 2005

Table 3: Response to school crisis

- Government:
Dispatch of **Crisis Response Team (CRT)** (Short period)
- School:
Leadership of school principal
School Crisis Team
Task allocation of teachers, staffs
Preparedness of crisis management manual
Training of crisis management intervention
- Establishment of information network among guardians/parents
- Understanding of external cooperative organizations/groups



- Table 4: Crisis response team in school, community and district**
- **Community team:** teachers, mental health professionals, policeman, lawyers
 - **School district team:** teachers from several school
 - **School based team:** teachers from one school

- Table 5: Role of school crisis team (Schonfeld, 1992)**
- chair
 - vice chair
 - media
 - communication
 - staff
 - counseling
 - mass management

- Table 6: Crisis management at school**
- Increasing awareness of crisis management for teachers and schools
 - Periodical training for teachers about school crisis management
 - Development of practical implementation manual for crisis management
 - Set-up of crisis management team at school
 - Periodical training of emergency drill
 - Preparedness of network and communication with local health authorities

- Table 7: Content of school crisis intervention 1**
- **Assist to school management:** Advise to teachers, negotiate with educational committee, communicate with media etc
 - **Care for victims:** children, parents, teachers
 - **Logistics for intervention:** meal, budget, recordings, etc

- Table 8: Content of School crisis intervention 2**
- Psycho-education for teachers and parents
 - How to respond interview from TV or newspaper
 - Psychological assessment of children
 - Psychological assessment of teachers
 - Introduction of medical facilities
 - Care for children, parents and teachers

Reconnecting Youth to Traditional Knowledge for Health and Well-being: Examples from British Columbia

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Introduction

One of the main problems in perpetuating traditional knowledge systems – including knowledge about the environment, health and nutrition – is the separation of young people and older people in modern society. Indigenous peoples and others who have lived for long periods of time on the land, deriving their sustenance from local resources, have developed complex systems of knowledge, practice and belief that help them to survive and sustain their resources over many generations (Berkes 1999; Turner et al. 2000; Turner and Berkes 2006). Formerly, when these peoples were engaged in food production activities within their traditional territories, entire families would be together for long periods of time. Children and youth participated fully in all aspects of food harvesting and preparation (Figure 1), and during this time, they learned easily and naturally from their parents, grandparents and other older community members about traditional medicines, healthy lifestyles, and other important information for survival and well-being. Elders of today remember spending long periods of time with their grandparents, and they credit these elders with teaching them both knowledge and values that are still with them today (Figure 2).



Figure 1



Figure 2

A good example of traditional learning experiences is the recollections of Secwepemc elder, the late Dr. Mary Thomas of Salmon Arm. She passed away on July 30, 2007, after having received many honors, including three honorary doctorate degrees from different universities, as well as the National Aboriginal Achievement Award for her lifetime work on environmental issues and promoting her traditional language and culture. Mary remembered spending many happy days with her two grandmothers and other relatives, travelling up into the mountains, digging wild root vegetables, picking berries, harvesting Indian-hemp for cordage making, and learning all of the cultural traditions and environmental and conservation knowledge of her people.

On a trip up to Mount Revelstoke in 1997, we recorded her words on video, reflecting her perspectives on life and the environment:

This place brings back memories. When you're a little girl, and families were still intact and still practiced a lot of the natural way – our people survived many, many years. And this place reminds me of when I was a little girl and we used to come up here. Children were brought up to be so close to Mother Nature, to appreciate it, what you're seeing here now. I can remember as a little girl running, hopping, skipping, jumping through all these beautiful flowers – I think that's one of the happy memories I that have. And we did take part in the gathering of food. When the food, especially the [wild] potatoes – that was one of the diets through the winter, and they had to collect a lot of that. What they did was they collected the avalanche lily [*Erythronium grandiflorum*] and spring beauty [*Claytonia lanceolata*], *scwicw* and *sqwaqwinna*, down in the bottom. When that was completely finished then our people came up to the plateaux. They hunted up here, they picked huckleberries, they gathered more avalanche lilies and spring beauty roots, and those were brought down to the valley and stored for the winter. And not only that – you can tell the difference in the air.

The children were taught to respect Mother Nature and to appreciate it, and when you breathe in this cool air and you can imagine yourself sleeping out here in open air – we just had a little lean-to, and you're breathing in this beautiful mountain air. And when you're breathing, even now you can smell the air has that *melanllp* [subalpine fir, *Abies lasiocarpa*] smell, from the beautiful boughs, the trees.... And every time you smell that beautiful smell of Mother Nature's creation, you appreciate it, you love it, you're a part of it – you become a part of it. So I think those are the happy memories I can really appreciate today, because we very seldom come to these areas where there's a lot of beautiful flowers yet. Hopefully we can preserve and maintain this for the generations to come.

From these times, Mary learned many practices and approaches that helped her to survive and keep healthy. Out on the lands and waters of their home places, indigenous children heard the stories and teachings of their elders, and learned to express gratitude to the Creator, never to waste food or other resources, how to share with others, and how to participate in meaningful ways in the great dance of life. Mary recalled that her mother, Christine Allen, even when she was nearly 100 years old, never neglected to say,

“*Kwukstsámcw, Kwukstámcw, Kwukstsámcw!*” [“Thank you, thank you, thank you!”] whenever she was given a handful of wild berries or some salmon. This kind of lesson – to show appreciation and gratitude for all that nature offers, is never forgotten by those who have a chance hear it. Mary also learned to thank the trees and to give an offering of tobacco to the birch tree (*Betula papyrifera*) that provided bark for a basket, or to the red-osier dogwood bush (*Cornus sericea*) that provided a poultice medicine from its inner bark. She talked about valuing baskets and other things that people made with their own hands:

It is very important to remember that we may not use these things anymore, but the thing to remember out of it is the philosophy of our culture. . . . If you have a picking basket and you made it with your hands, you treasure it – you don't leave it laying around for kids to kick around for a football. You took it and you washed it and hung it up for the next year. Now today what our young people do is they take ice cream buckets, mass-produced plastic stuff; finish picking berries, the thing is sitting around, kids kicking it around for a football – so we're contributing to pollution.

At every opportunity, Mary taught her children the skills and the values of her cultural traditions, and even in her passing, her grandchildren and great grandchildren are fortunate to be able to draw on this legacy (Figure 3) (Thomas 2001).



Figure 3



Figure 4

However, in many other cases, these critically important ties and lines of communication between youth and elders have been disconnected. As a consequence, many children and youth of indigenous communities in British Columbia do not recognize the food of their ancestors (Turner and Turner 2007), and do not know the plants that were formerly important medicines for healing and spiritual well-being. There are many reasons for this loss of knowledge. Primarily, for several generations, children in many communities have been taken away from their homes and families, and required to attend residential schools and participate in formal education for most of the year. As well, the adults are engaged in large part in wage jobs and indoor activities. Modern technologies, including television and computers, have also detracted from the close connection across generations that existed in the past. As one Gwich'in woman, Alestine Andre, put it, "The core of our traditional teachings and learning is severed.... The family is not together any more; the parents or grandparents are sitting in their living room watching television and the children or grandchildren are playing Nintendo or other video games in their own rooms." (Andre et al. 2003).

Globalization and materialism trends that come with mass media and advertizing are also taking their toll and replacing traditional values with more modern ones: desires for more "trendy" clothing, electronic equipment, cars and trucks, and manufactured gadgets and toys. Young people are also losing their knowledge of and taste for their traditional food. As pointed out by Gitga'at elder Helen Clifton, the youth of today like to eat fast food, fried potatoes, Kraft macaroni dinner, ichiban noodles and processed, marketed food (Turner and Clifton 2006) (Figure 4).

All of the elders agree that their traditional cultural knowledge and values are important, and that, given the circumstances of today, it is necessary to find other ways to reconnect indigenous children and youth to their cultural traditions and their elders' teachings, particularly in relation to health and nutrition (Barkley Sound Working Group 2004; Thompson 2004; Chipps-Sawyer 2007; Turner et al. in press a).

There are many approaches to helping to reconnect the vital links to the elders' knowledge for young indigenous people. Here, I briefly present two case examples of how this reconnection can occur, and how we can use current technologies and the formal education curricula to help preserve this important knowledge for healthy living.

The Nuxalk Food and Nutrition Program

This program was first initiated in the early 1980s, to document the traditional food of the Nuxalk Indigenous People of the central coast of British Columbia, and to educate the youth and young adults about the value of traditional food and good nutrition as part of a healthy lifestyle. This project was

revisited in 2006-7 as part of the Global Health and Nutrition Project, overseen by the Centre for Indigenous Peoples' Nutrition and Environment at McGill University (Kuhnlein et al. 2007; Turner et al. in press b). Bella Coola, the home community of the Nuxalk, is situated at the mouth of the Bella Coola River within a steep-sided scenic valley on the central coast of British Columbia. The Nuxalk have occupied their traditional territory for thousands of years, living from the wealth of their lands, rivers and ocean. Over centuries, they developed a deep and complex base of knowledge and skills to enable them to harvest and process their food efficiently, effectively and sustainably, generation after generation. However, as with many indigenous communities, the traditional food system of the Nuxalk became eroded – especially over the past 50 or 60 years – and their diet became less healthy. It is within this context of concern for dietary change and its effects on health that the current Program was established.

Approximately 72 species of plants and animals contributed to the traditional Nuxalk food system, including 13 kinds of fish, 8 kinds of shellfish, 30 species of berries, 7 root vegetables, three kinds of inner bark from trees, and 12 kinds of wild greens. A good example of a food no longer used, but which was “rediscovered” during the Nuxalk program is *k'ls*, the sweet inner bark and cambium tissues of the black cottonwood tree (*Populus balsamifera* ssp. *trichocarpa*). Knowledge about this food and others was re-taught to young people as part of an overall education and intervention program to apply regained knowledge to enhance the health of Nuxalk community members. Demonstrations, feasts, films, and published posters and handbooks were all part of this program. Interviews conducted before and after the education intervention demonstrated that there was an increase in the numbers of families using all categories of traditional food, and that the average quantities of traditional food used by families per year increased significantly. Sockeye salmon, fish eggs and wild berries were particularly notable for the increased number of families and increasing quantities being used following the implementation of the program. As a result, nutritional status for retinol and carotene, and folic acid, was improved for all ages of Nuxalk, and the number of teens with low serum ferritin (iron status) was significantly reduced (Kuhnlein and Moody 1989; Kuhnlein 1992; Kuhnlein and Burgess 1997; Turner et al. in press b).

Keys to success of this program included: a local steering committee of elders and band council members; employment of local nutrition assistants; activities based at the local Health Centre, including a demonstration garden of traditional food plants; teaching of younger people how to harvest and prepare local food, with elders as the teachers; incorporating activities to promote traditional food in the local schools; providing printed materials about the Nuxalk food systems for each household, and education on how to improve lifestyle and use marketed food more effectively and economically. Resource materials included a traditional recipe book and a *Nuxalk Food and Nutrition Handbook* (Nuxalk Food and Nutrition Program Staff 1984). First produced in 1984, these books are still in use in the Nuxalk community and are in demand by other communities as well. Today, the young adults of the past are the current community leaders and they are active participants in the education of the children and youth, not only about the value of traditional food, but about how to harvest and process it, and the protocols for sharing and using this food in good ways.

The Gitga'at Plant Project

The second is the Gitga'at Plant Project, with the Tsimshian community of Hartley Bay on the north coast of British Columbia. In this project students (Figure 5) undertook research on plants as part of their school curriculum, contributing in part to the Ministry of Education's requirements for research, social studies, communication, and biology. Facilitated by the teachers (Cam and Eva Ann Hill and others) and the principal (Ernie Hill Jr.), who are members of the Gitga'at community), and guided by Master's student and science teacher Judy Thompson (Edosdi, a member of the Tahltan Nation), as part of this work, they interviewed Gitga'at elders about the environmental and cultural values of their local plants. As Cam and Eva Ann Hill noted in a letter supporting the project:

You would think that growing up in such an isolated First Nations community, such as Hartley

Bay ...that our youth would be more in-tune with their natural surroundings. This is, however, not the case in certain areas such as botany. The knowledge of plants within Hartley Bay, lies with our elderly people. ...not too many children are aware of what plants surround us and how they benefit our lifestyle.



Figure 5



Figure 6

The students learned about many different plants, from blueberries (*Vaccinium ovalifolium*) used for food, to devil's club (*Oplopanax horridum*), an important medicinal plant. At gatherings hosted for the elders, they gave oral presentations on their findings, sharing with each other and with the elders about what they had learned. The students then wrote reports about their plants, and these were published in a book, together with more detailed knowledge of a wide range of culturally important plants (Turner and Thompson 2005) (Figure 6).

The response from the entire community was extremely positive. The project helped to bring the elders and other knowledgeable community members together with the children and youth, reinforcing the importance of sharing, supporting and helping one another, as well as conveying the important information on the Gitga'at names, language, stories and cultural knowledge about plants and the environment. At the same time, the students were learning and practicing their oral and written communication skills, and were given new perspectives and appreciation for the elders in their own families and in the community. The project also enhanced the level of self confidence and self esteem in the students, in keeping with the knew understandings and skills they had acquired. For example, one youth who had learned about devil's club and how to harvest it properly, then became the designated harvester of this medicine for the elders, since they knew he understood the protocols of its appropriate harvesting.

Following the completion of the project, the elders expressed a desire for more "hands-on" learning with the young people, and as a consequence, two of the young women went out with elders Archie Dundas and his sister Elizabeth Dundas to learn how to harvest *ksiiw* (the edible inner bark of silver fir, *Abies amabilis*), and false hellebore (*Veratrum viride*) another important spiritual medicine. They were able to videotape the harvesting and processing of these plants, and thus, their learning continued to a new level (Figure 7). Some of the responses of the young people, asked what they learned from the project include:

- "...that plants are important and we should respect them."
- "... that plants are not just plants, they are there to help us survive for anything."

- “... all the different plants and some trees and the names of them.”
- “It is nice that we are learning about different plants... I learned that you could use other plants as medicine and other different things.”
- “...we learned about a lot of other plants from two of our interviewees. The information was interesting to know, it really tickled my toes!”
- “This is such a great experience for me. I’m really enjoying this and since we’re doing blueberries, it’s all good, they’re so yummy too. Some things we found out about blueberries were so amazing. I never ever knew they can be used as a medicine. I just really like this whole plant project.”

This project was seen as a key to maintaining the community’s resilience in the face of change, and providing lessons for flexibility, innovation, strength and resourcefulness. It helped to train the next generation of leaders in teamwork, accepting responsibility, and other traits required: self reliance, respect, appreciation, humour and generosity. Participating in the project was a source of pleasure for the elders, and the parents of the students appreciated the project, noting that their children enjoyed the work, and were more industrious in completing their homework. The teachers found that the students’ work habits improved overall, and the students themselves enjoyed it so much that they wanted to continue the project, working with and learning about other aspects of their cultural traditions (Thompson 2005; Turner et al. in press a).



Figure 7

Conclusion

The Nuxalk Food and Nutrition Programme and the Gitga’at Plant Project are only two of many different initiatives that are taking place in British Columbia, Canada, and around the world that help children reconnect with their cultural traditions, language and their local foods and healing plants, as a means of improving their overall health and well being. Another example from British Columbia is the *tl’aaya’as* Project, at Ahousaht, a Nuu-chah-nulth community on the west coast of Vancouver Island. This project was initiated by graduate student Jen Pukonen, of the School of Environmental Studies, University of Victoria, under the guidance of Hereditary Chief Umeek (Dr. Richard Atleo), the community and elected Chief and Council of Ahousaht, and the Raincoast Education Society (see Pukonen 2007). The term *tl’aaya’as* means “growing in, on and out of the earth.” Jen, together with a number of Ahousaht youth hired through the project funds, and students at the Ahousaht school have recreated a traditional wild root garden in their village, growing the edible roots called *tlicy’upmapt*

(Pacific silverweed, *Potentilla pacifica*), *kuuxwapühmapt* (northern riceroot, *Fritillaria camschatcensis*) and *'a'üic'uqmapt* (springbank clover, *Trifolium wormskjoldii*), all once eaten in quantity by the Nuu-chah-nulth and other coastal peoples. The project is giving young people, and even the adults in the community, the opportunity to learn about their traditional foods and how they were maintained and conserved by their ancestors, as well as learning about gardening and good nutrition.

Each of these projects provides lessons and models that can be applied in other situations, both in British Columbia and elsewhere. It is only through such projects applied at a range of scales with active participation by community members of all ages that this important knowledge can be restored and renewed, to the benefit of future generations.

Acknowledgements

I would like to thank Professor Fumiaki Taniguchi, and Professor Dr. Tsunetsugu Munakata, for the opportunity to present this paper at the 5th International Conference of Health Behavioral Science in Bangkok in the Symposium on Integration of Health & Environmental Education. I am grateful to all of the conference organizers and participants. I acknowledge with sincere thanks all of the indigenous community members and especially the elders and cultural specialists, who have kept their knowledge alive and have participated in the ongoing teaching of young people so that they will be better prepared to meet the future.

References cited

- Andre, Alestine, Ruth Welsh and Nancy J. Turner. 2003. Looking After Our Elders: Healthcare and Well-being of the Elderly from the Perspective of Gwich'in and Other First Nations of Canada. Chapter 19, Pp. 287-300, In: *Alternative Medicine and the Elderly*, edited by E. Paul Cherniack. Springer-Verlag, MD, Bronx, New York.
- Barkley Sound Working Group. 2004. *Nuu-chah-nulth Phrase Book and Dictionary. Barkley Sound Dialect*, edited by Maggie Paquet. Huu-ay-aht, Ucluelet, Uchucklesaht, and Toquaht First Nations, Bamfield, British Columbia.
- Berkes, Fikret. 1999. *Sacred Ecology, Traditional Ecological Knowledge and Resource Management*. Taylor & Francis, Philadelphia, Pennsylvania.
- Chippis-Sawyer, Allis-Pakki. 2007. *Standing on the Edge of Yesterday. A Dilemma of Oral Knowledge Survival in a West Coast Family*. Unpublished doctoral dissertation, Faculty of Education, University of Victoria, British Columbia.
- Kuhnlein, H.V. 1992. Change in the use of traditional food by the Nuxalk Native people of British Columbia. In: Pelto, G.H., Vargas, L.A. (Eds.), *Perspectives on Dietary Change. Studies in Nutrition and Society. Special Issue, Ecology of Food and Nutrition* 27(3-4): 259-282.
- Kuhnlein, Harriet, Bill Erasmus, Hilary Creed-Kanashiro, Lois Englberger, Chinwe Okeke, Nancy Turner, Lindsay Allen and Lalita Bhattacharjee. 2006. Indigenous Peoples' Food Systems For Health: Finding Interventions that Work. *Public Health Nutrition* 9(8): 1013-1019.
- Kuhnlein, H.V. and Burgess, S. 1997. Improved retinol, carotene, ferritin and folate status in Nuxalk teens and adults following a health promotion program. *Food and Nutrition Bulletin* 18(2): 202-210.
- Kuhnlein, H.V. and Moody, S.A. 1989. Evaluation of the Nuxalk Food and Nutrition Program: Traditional food use by a Native Indian group in Canada. *Journal of Nutritional Education* 21(3): 127-132.
- Nuxalk Food and Nutrition Program Staff. 1984. *Nuxalk Food and Nutrition Handbook: a practical guide to family foods and nutrition using native foods*. Malibu Printing, Richmond, British Columbia.

- Pukonen, Jen. 2007. *Nuu-chah-nulth Roots. Nuuchaanulh Mulhmumc*. A poster on the tl'aaya'as project. Ahousaht, British Columbia.
- Thomas, Mary. 2001. *The Wisdom of Dr. Mary Thomas*. Lansdowne Lectures, University of Victoria, Victoria, British Columbia.
- Thompson, Judith C. (Edosdi). 2004. *Gitga'at Plant Project: The Intergenerational Transmission of Gitga'at Plant Knowledge and Wisdom Using School Science Curricula*. Unpublished Master's Thesis, School of Environmental Studies, University of Victoria, British Columbia.
- Turner, Nancy J. and Fikret Berkes, editors. 2006). *Developing Resource Management and Conservation, Human Ecology* (Special Issue on Learning Conservation) 34(4): 475-478.
- Turner, Nancy J. and Helen Clifton. 2006. "The Forest and the Seaweed": Gitga'at Seaweed, Traditional Ecological Knowledge and Community Survival. Pp 153-178 in: *Eating and Healing. Traditional Food as Medicine*, edited by Andrea Pieroni and Lisa L. Price. Haworth Press, New York.
- Turner, Nancy J., Marianne B. Ignace and Ronald Ignace. 2000. Traditional Ecological Knowledge and Wisdom of Aboriginal Peoples in British Columbia. *Ecological Applications*, 10 (5), 1275-1287 (Special Issue on Traditional ecological knowledge, ecosystem science, and environmental management), edited by J. Ford and D. R. Martinez.
- Turner, N. J. and Thompson, Judith C., editors. 2006. *Plants of the Gitga'at People*. 'Nwana'a lax Yuup. Gitga'at Nation, Hartley Bay, BC, Coasts Under Stress Research Project (R. Ommer, P.I.), and Cortex Consulting, Victoria, British Columbia.
- Turner, Nancy J. and Katherine L. Turner. 2007. "Rich in food": Traditional food systems, erosion and renewal in Northwestern North America. *Indian Journal of Traditional Knowledge* (special issue on Ethnic Foods) 6(1): 57-68.
- Turner, Nancy J., Anne Marshall, Judith C. Thompson (Edosdi), Robin June Hood, Cameron Hill, and Eva-Ann Hill. In press, 2007. "Ebb and Flow": Transmitting Environmental Knowledge in a Contemporary Aboriginal Community. Chapter 3 in *Making and Moving Knowledge*, edited by J. Lutz and B. Neis. McGill-Queen's University Press, Montreal, Quebec.
- Turner, Nancy J., Thelma Harvey, Sandy Burgess, and Harriet V. Kuhnlein. In press b. *The Nuxalk Food and Nutrition Program, Coastal British Columbia, Canada: 1981-2006*. *CINE Global Nutrition and Health Project*, FAO, Rome, Italy.

Figures:

- Figure 1. Nlka'pmx woman and girl digging roots, Botanie Valley, British Columbia. Photo by John Davidson, 1915.
- Figure 2. Chief Adam Dick, Kwaxsistala, who remembers learning from his grandfather and other elders when he was a child. Photo by Robert D. Turner, 2006.
- Figure 3. Dr. Mary Thomas (1918-2007), Secwepemc elder and plant specialist, teaching her granddaughters how to make a cat-tail mat.
- Figure 4. Helen Clifton teaches her granddaughter Jenelle how to pound dried halibut *wooks*, for winter storage.
- Figure 5. Students participants in the Gitga'at Plant Project. Left to right, back row: Krystal Dundas, Stephanie Hill, Karl Fisher, Tristan Reece, Chelsey Reece, Marisa Robinson; Left to right, front row: Erin Bolton, Cheryl Reece, Ashley Sandy.
- Figure 6. Cover of *Plants of the Gitga'at People* book.
- Figure 7. Ashley Sandy and Kayla Wilson videotape Gitga'at elder Elizabeth Dundas talking about false hellebore medicine.

5th International Conference
of Health Behavioral Science - Phranakhon
Rajabhat University Bangkok, Thailand
(Symposium on Health and Environmental
Education, August 19, 2006)

Reconnecting Youth to Traditional Knowledge for Health and Well-being: Examples from British Columbia



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With special thanks to...



- Dr. Preang Kitratporn, President of Phranakhon Rajabhat Univ., Professors Siriwat Soondarotok and Chinatat Nagashinha, Dr. Tsunetsugu Munakata and Professor Fumiaki Taniguchi, and all the other organizers of the 5th ICHBS
- Aboriginal cultural specialists and elders of First Nations in Canada. Especially those of the Nuxalk and Gitga'at Nations.
- Coasts Under Stress Research Project (Rosemary Ommert, Project Director) (SSHRC and NSERC) and Nuxalk Food and Nutrition Program (Harriet Kuhnlein, Project Director and Nuxalk Nation)

A major problem...

- Separation of young people/learners from older people/teachers in modern society; without this connection, children cannot learn what their elders know and have experienced.



Formerly...

- Entire families spent time together out on the lands and waters, working together, participating, telling and listening to stories, and learning about good food, keeping well, and treating sickness



Woman and child digging roots at
Botanic Valley, ca. 1915 (John
Davidson)

Learning from grandparents...

- Elders of today remember spending long periods of time with their grandparents, and they credit these elders with teaching them both knowledge and values that are still with them today.



Chief Adam Dick, 2006

“Kwukstsámcw, Kwukstámcw, Kwukstsámcw!”

- Thank you, thank you, thank you!
- The importance of showing appreciation and respect to everything you get or use... (e.g. Mary Thomas' mother, Christine Allen)



Cycle of traditional teaching and learning is broken



- Wage jobs
- Requirements for attending schools
- Television
- Computers
- Different values
- globalization

Many children today do not know that these berries are edible.

Alestine Andre (Gwich'in, from northern Canada)



- "The core of our traditional teachings and learning is severed.... The family is not together any more; the parents or grandparents are sitting in their living room watching television and the children or grandchildren are playing Nintendo or other video games in their own rooms."

How can we help to reconnect the vital links to knowledge?



Children drying seaweed at Esol

- Two Case examples:**
- Nuxalk Food and Nutrition Program
 - Gitga'at Plant Project



Nuxalk Food and Nutrition Program, 1980-2006

Nuxalk Nation, Bella Coola, British Columbia



Nuxalk Nation, Bella Coola, B.C.

Nuxalk Traditional Food System

Fish	13 kinds
Shellfish	8
Berries	29
Roots	7
Tree barks	3
Green/Vegetables	12



Total: 72 Species

Berries of the Nuxalk territory:
thimbleberries, red huckleberries, wild
raspberry, gray blueberry



Labrador tea, or Hudson Bay tea (*Ledum
groenlandicum*)
pu7yaas (still used for tea)



**Seaweed & salmon eggs; herring
eggs on kelp**



**Activities: taking Elders and Younger
people out to harvest traditional food**



Harvesting cottonwood tree cambium

K'ls - Inner bark and
cambium tissue of
trees: **ak'wixya-llp** -
black cottonwood
(*Populus
balsamifera* ssp.
trichocarpa)



Nuxalk Fishing Nets



Sockeye BBQ





Traditional Food Use by Families

Interviews before and after the education intervention demonstrated:

- Increased numbers of families using all categories of traditional food
- Significantly increased average quantities of traditional food used by families/year

Examples of Increased Use of Traditional Nuxalk Food

Sockeye	T1	79 % of families, 61 lb/yr
	T2	90 % 195 lb/yr
Fish Roe	T1	7% 27 lb/yr
	T2	76% 72 lb/yr
Wild Berries	T1	56% 41 lb/yr
	T2	87% 48 lb/yr

Nutrition Evaluations Before and After Education Program Showed:

Improved for all ages:

status for retinol and carotene

Folic Acid status (rbc folate)

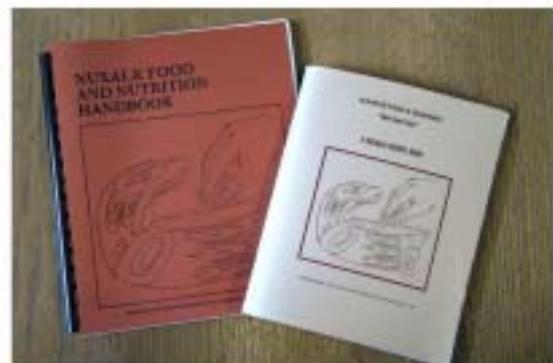
Improved for teens:

The % of teens with low serum ferritin (iron status)

Kuhnlein and Moody, J Nutr Ed 1988; Kuhnlein Ecol Fd Nutr 1992; Kuhnlein and Burgess, 1997

EDUCATION ACTIVITIES STRESSED:

- 1) Local steering committee of elders, and band council
- 2) Employment of local nutrition assistants
- 3) Activities based in the local Health Center - garden
- 4) Teaching younger people how to harvest and prepare the local food, using elders as teachers
- 5) Incorporating activities in the local schools
- 6) Printed materials provided about the Nuxalk food system for each home
- 7) Improving lifestyle, and better use of market (purchased food)



Community Resource Books

The importance of passing on traditional knowledge about food and culture

Spring salmon caught from driftnet on Bella Coola River, July 23, 2006



Edward Moody with his son Brandon

The Gitga'at Plant Project

- bringing community members together with children and youth, reinforcing the importance of sharing, supporting and helping one another



Colleen Robinson and her daughter Miris Dases working with seaweed



Hartley Bay, British Columbia



The plant project ...

- students learn from culturally knowledgeable people about plants, and the environment
- appreciating language, stories, songs and other aspects of cultural heritage
- Students share what they have learned with others
- learning and practicing oral and written communication skills
- appreciating and relating to the elders in their own family and community



GITGA'AT PLANT PROJECT: Letter from Cam and Eva Ann Hill, the teachers

- "You would think that growing up in such an isolated First Nations community, such as Hartley Bay ... that our youth would be more in-tune with their natural surroundings. This is, however, not the case in certain areas such as botany. The knowledge of plants within Hartley Bay, lies with our elderly people. ... not too many children are aware of what plants surround us and how they benefit our lifestyle."



Tiffany (grade 9) and Erenden (grade 7)

2006-03

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The Students of Hartley Bay ...



Gitga'at/Hartley Bay School Plant Project: a collaboration



- Learning about research
- Learning about plants and environment
- Learning about culture, language
- Gaining skills, understanding, respect, self esteem
- Learning about plants from elders



Ashley learns from Archie Dundas how to harvest kwiw



Archie digs false hellebore; Ashley films, Elizabeth watches



Ashley, Kayla, Elizabeth



Christopher harvests devil's club medicine for Helen; Ashley learns her plants

What did you learn ...? (students)



- RB. "That plants are important and we should respect them."
- KD. "I learned that plants are not just plants, they are there to help us survive for anything."
- TW. "I learned all the different plants and some trees and the names of them."
- KW. "It is nice that we are learning about different plants... I learned that you could use other plants as medicine and other different things."

What we learned:

- "... we learned about a lot of other plants from two of our interviewees. The information was interesting to know, it really tickled my toes!"
- This is such a great experience for me. I'm really enjoying this and since we're doing blueberries, it's all good, they're so yummy too. Some things we found out about blueberries were so amazing. I never ever knew they can be used as a medicine. I just really like this whole plant project.



From the past, into the future...



- a key to maintaining a community's resilience in the face of change.
- lessons for flexibility, innovation, strength and resourcefulness,
- in leadership, teamwork, accepting responsibility, self reliance, respect, appreciation, humour and generosity

Students' work included in a book, printed for everyone in the community



The plant project



- Made the elders happy
- The parents liked it
- The teachers said the students did better in all their work
- The students enjoyed it so much they wanted to keep working on it

Thank you!



Comprehensive Environmental Education Focusing on Sustainable Agriculture and Traditional Culture

Siriwat SOONDAROTOK¹ Chinatat NAGASHINHA²
1 Director 2 Vice-director
Environmental Education Center
Phranakhon Rajabhat University, THAILAND

Agriculture is the most important occupation in Thailand. More than 80 percent of Thai people are connected to agriculture or industries on agricultural products. Thailand was reported to be the biggest rice, Para rubber and black tiger prawn exporter in the world. Total agricultural products of Thailand were enough to feed 250 millions people which were 4 times of Thai population.

There were evidences for agriculture in the northeast of Thailand for more than 5000 years ago. Agriculture had been developed along with Thai history. The most important crop is rice which is the staple food of Thai people. Thailand exported rice from the kingdom since Ayudhya period (400 years ago). In 1995, rice production in Thailand was more than 22 million tons. The area for growing rice expected to be more than half of agricultural area in the country. After world war two Thailand started to increase more kinds of plant for export such as Para rubber, corn and cassava. Para rubber was introduced to Thailand in 1901 and became one of the most important export products. Livestock production in Thailand also changed dramatically in the last 30 years. From backyard farming in the late 50s became agro-industries in the present time especially chicken and pig production. Thailand is the biggest exporter for chicken to Japan.

Thai farmers started black tiger prawn farming about twenty years ago and became the biggest exporter in the world.

The increase of agricultural practice in Thailand happened due to the changed from self sufficient to business farming. Instead of growing rice for family consumption and sell the surplus, the farmer now sell all the products to the market and to overseas market after that. The increasing had a big impact to Thai environment. Farm land was not enough for the farmers due to the increase of population. Farmers needed more land for production and started deforestation. Forest area of Thailand decreased from 34 percent down to 25 percent in 2006. Deforestation caused the lost of species of plants and animals and also the ability to catch up water of the soil. Mud slide happened at least twice in the last decade due to the lack of forest to hold the water. Not only the lost of forest itself but deforestation also caused of the drought in Thailand. There is no water shed area to hold storm water and let all the water ran to rivers and ocean. In the summer time there is not enough water in the reservoir for farming and farmers have to depend on rainfall which is uncertain.

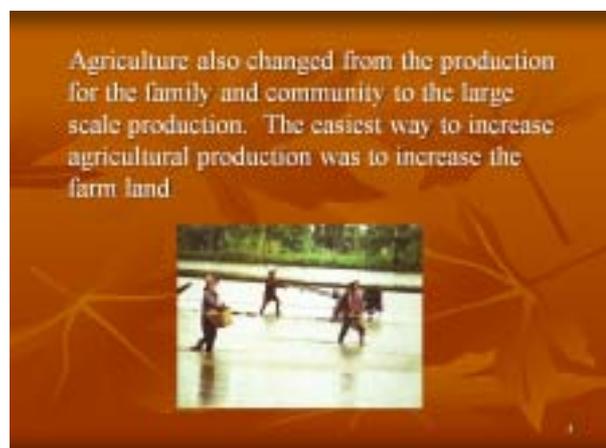
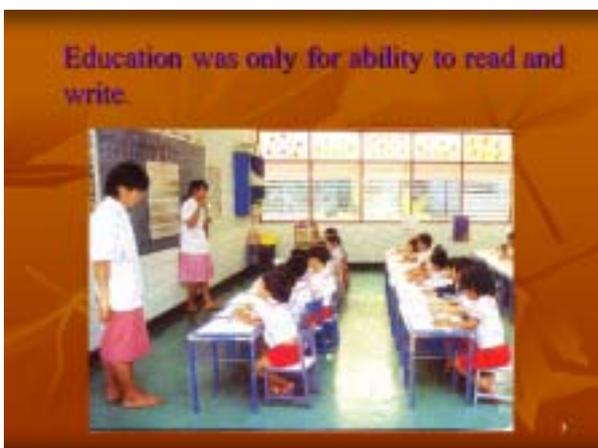
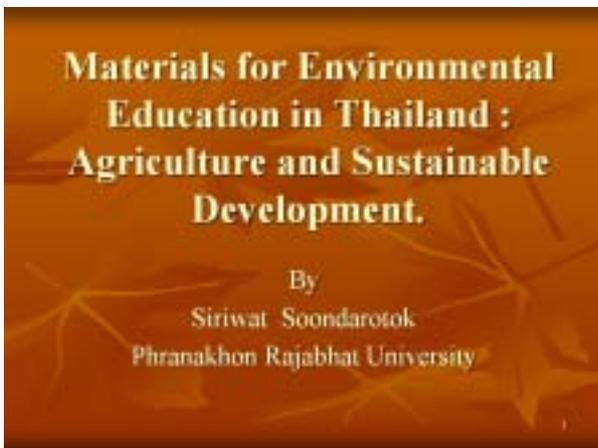
Agriculture practices also affected environment. The green revolution in Thailand after WWII increased the use of chemical fertilizers, insecticides and chemicals for weed and pest control. Lots of farmers were lack of knowledge and misused of these chemicals. The over used of chemicals caused the pollution of water with dangerous chemicals. A research reported that in the north where farmers grow oranges and used a lot of chemical people who lived in the area were sick due to those chemical. Plants and vegetables were also polluted with chemicals and not safe for the consumers. The government now has a regulation to spot check on agriculture products in the market to solve the problem. In the middle part of Thailand farmers started shrimp farming not only fresh water shrimp but also salt water shrimp. The use of salt water for farming affected another farmer who grew rice in the area because salt damage another crops.

One of the most important problems in agriculture is that most of the farmers who are more than

60 % of population are poor. Most of the farmers are small farmer with a small piece of land. They do not have high education, normally from 4-6 years in primary school. This is the most difficult problem for government to solve. The government is working on strategies to help farmers. The first thing to do is trying to increase the productivity both quantity and quality. The government is supporting researches and development and also appropriate technology to help the farmers. Secondly, they try to change from produce low value products to value added products. The quality has to be improved and focused on post-harvest technology. Thirdly, the standard of production has to be improved. Food safety had been an issue to be interested in the last 2 years. Fourthly, the farmers' standard of living has to be improved. The government is trying to find farmland for farmers and help them to get enough income. Lastly, the government sectors involved must increase the efficiency and be able to work for the farmers effectively. These strategies had started for few years already but it is still too early to see the results.

Not only the government but also the king is trying to help Thai farmers. His Majesty the king announced the new theory of farming for Thai farmers to follow. In this theory, water is the most important thing and there must be a reservoir in every farm. Farmer have to do integrated farming not depend on only one crop. Livestock also take part in the farm for protein supplement and recycle the agriculture products. The first few year farmers should be self sufficient and be able to sell the surplus products later. Lots of farmers follow the new theory and succeed with better standard of living.

In conclusion, agriculture is one of the most important things in Thailand. Thailand is one of the biggest exporter agriculture products but farmers are still poor. The agricultural practices also caused problems due to the lack of knowledge. Many environmental problems in Thailand were caused by wrong practices in agriculture. The government is trying to solve the problems and export Thai agricultural products to the world. His Majesty the king used his new theory of farming to help Thai farmers to increase their standard of living.



Deforestation was happened and Thailand lost the forest form 60% of the country in 1960 to 25% in 2005.



The next things that happened were the introduction of agricultural technologies. Chemicals such as herbicides, insecticides and chemical fertilizers were widely used in order to increase production.



Both deforestation and the use of chemicals caused more problems as follow :

Firstly, the ecological balanced was lost and affected the weathers and also the epidemic of pests and weeds.

Secondly, the quality of life was decreased because of Chemicals residue in food which caused serious diseases such as cancer.

Thirdly, the social stress was in creased because the need of people had been changed from food to money.

Thailand started the developing of industries and people from agricultural sector moved to industries. The moving of workforce increased the use of machinery and that also affected the cost of production as petrol prices were changed dramatically.



The alien labors were imported to replace Thai labor and caused many social problems. The number of alien labors in Thailand was estimated as more than two millions.



To solve the mentioned problems, the procedures involve various agencies as follows :

Aliens

1. Ministry of Labor and Social Welfares tackles the problems by provides health insurance and other necessary welfares and . in the mean time, registers all aliens every year in order to prevent increasing in number of alien labors.

11

2. Immigration Department strengthens their performances of monitoring and arresting illegal aliens in cooperation with the Office of the National Police.

3. Thai private sectors invest their business on agriculture, industry and fishery, in cooperation with neighboring countries like Laos, Cambodia and Myanmar in order to prevent the problem of increasing in number of alien labors in Thailand.

11

Prevention and solutions to the problems by utilization of Environmental process cover both in the school system and outside the school system.

13

Environmental Education was an integrated in sciences and social science subject focus in things around the student.

14

Environmental Education Centre :- Phranakhon Rajabhat University.

In order to solve environmental problems, awareness of these problems must be created among people from all walks of life, starting from their early childhood throughout their entire lives. Heightened awareness can be achieved through the process of environmental education.

15

So Phranakhon Rajabhat University established the Environmental Education Centre as the centre for studying, researching and developing teaching methodologies to form the awareness for environmental conservation in every member of society, and to disseminate the knowledge resulting from the centre's work to personnel in teaching institutions and government and private sector bodies involved in caring for wildlife and all other aspects of nature.

16

In 2002 – 2004, the department of education had a project to increase the strength of environmental education in school and prepared workshops for teachers focused in classroom and outdoor activities such as sensory awareness, skills, problem solving, recording data, analysis and solving of community environmental problems as follow.

17

Water detective project was to training student to learn about the animals in waters and use those animals as index for quality of water.

18

Ecological system in the paddy field was a project to study about the rice and living thing in the paddy field.

19

The study of ecological system in the forest, urban study and also wildlife.



20

Moreover, a network of environmental education was set up and it was working in concert among the ministry of education, the ministry of environment and natural resources and a private sector.

21

Unfortunately, environmental education is not a popular topic for students because most of the students interested in the occupation that can guarantee a high income such as medicine, engineering and architect. Environmental education is just another subject in class for the student to finish.

22

Traditional Knowledge and Intellectual Property Rights: Problems, Prospects and Issues

Manoj L. SHRESTHA
Professor
Konan University

In this presentation the speaker will attempt to focus on traditional knowledge from the perspective of Convention on Biological Diversity (CBD). The convention emphasizes every country's sovereign right to exploit their own biological resources pursuant to their environmental policies, as well as responsibility to conserve their biodiversity and use their biological resources in a sustainable fashion. It also ensures that every country should make sure activities within their jurisdiction or control to do not cause damage to the biodiversity of other states or of areas beyond the limits of national jurisdiction.

The speaker will highlight the following points:

- (1) CBD and Protection of Biological Resources
- (2) Sovereign Rights of States over their Natural Resources
- (3) Traditional Knowledge of Indigenous Community and contemporary intellectual property related issues.

Environmental Protection from the Perspective of Convention on Biological Diversity (CBD): with reference to Access to Benefit Sharing (ABS) of Biological Resources

The 5th International Conference of Health Behavioral Science, Pranakhon Rajabhat University Bangkok, Thailand
August 17-21, 2006

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Crucial Issue on Environmental Education in 21st Century

- Education on biodiversity
- Main issues are: lost of biodiversity
- Therefore, protection, development and usage of biodiversity is crucial
- Significant step is Convention and Biological Diversity (CBD)
- Access and Benefit Sharing (ABS) of biological resources

Do you know that everyday we lost 150 species of plant varieties!

- According to Tarey Dobson, we have 14 million known plants ("Loss of biodiversity: An Environmental Policy Perspective", *N.C. J. Int'l & Com.Reg.* Vol. 17, 1992 p.279.)
- 50 million to 300 million still unknown plants
- In last 2 decades we have lost 10 million plants

Do you also know that....after all 80% of modern plant-based medicines are used for the same purpose for which native people discovered their use (Farsworth, 1981. The correlation between claims of local communities and the evidence from modern pharmacological science was more than 85% in the studies pursued in a part of Nigeria(Iwu, 1999)

It is not only therefore, importance of traditional knowledge, but need for it

- Chinese right holders held about 45 % of all herbal-based patents in 1996, followed by the Japanese and Russian with 22 % and 16.5% respectively

US spent US dollar 15.5 billion for drugs derived from plants

- In 1990 alone US spent 15.5. Billion for extraction of plants for new drug development

What is Biological Diversity?

- It refers to the variability among living organism from all sources including inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes

The Value of Biological diversity

- Plays a critical Role in meeting human needs
- Direct Benefits-food, medicine (one of the great source of integrative medicine), energy, new genetic stock, etc
- Indirect Benefits-maintains ecological processes, regulate climate, recycle carbon, oxygen and nitrogen, mitigate pollution and prevent erosion

Convention on Biological Diversity (CBD)

- First Drafted through UNCED at Rio in June 1992
- Ratified by 150 countries
- CBD came into force on 29th December 1999

Crucial Elements in the CBD

- Fair and equitable sharing of research and benefits from genetic resources and its sustainable use
- Access to and transfer of technology (Article 16)
- Source country participation in Biotechnology Research Program (Article 19(10))
- Sovereign right of nation (resources knowledge)

Interests & Concerns Arising on the Use of the Biodiversity

- Economic Return
- Advent of cutting edge Sciences in Biotechnology
- Highly profitable products from the biological resources
- Bioprospecting initiated by transnational corporations, universities and scientific institutions

Prerequisite for Access to Benefit Sharing (ABS)

- Prior Informed Consent (PIC) and Material Transfer Agreement (MTA) is prerequisite for maintaining the **CBD SPIRIT**
Eventually success or failure in achieving the objective of CBD depends on legislation/policy and visionary management of biodiversity like in Costa Rica

Japan Biodiversity Initiative for Asia/Pacific (a proposal)

- Viability of project development between Japan and Asia Pacific Nations for natural product development based on plant genetic resources, bioprospecting for new drug development aiming food ,water & energy security and development of basic health care
- *Cooperation and benefit sharing module between the Government, Academia, Industry and Civil Society* (INGOs) within & beyond the national territory focusing policy development for the *usage, development and protection of biodiversity* as a precious national resource

Japan's Role Imperative

- Japan Bio industry Association (JBA) has made a Guidelines on Access to Genetic Resources (For Users in Japan)
- International Institute for Advanced Studies (Kyoto) organizing international symposium on August 22 (JBA, Konan University, University of Tokyo (Former Scientist from NIH, USA), Kyushu University, Department of Plant Resources (Nepal).
- Aiming to make effective and efficient models (varieties) for minimizing transaction cost, Copymart Model created by Professor Kitagawa Zentaro, Emeritus of Kyoto University) maximizing research contracts between the parties in the region for conservation and sustainable use of biodiversity

Madagascar's Rosy Periwinkle Plant Case

- Eli Lilly developed medicine (Vincristine) for curing leukemia with 60 percent effective treatment rate earned approximately 2000 million US dollars, but no benefit sharing with the community That provided resource(plant) and Knowledge for new drug development

Thank you very much for your attention!

Satellite Symposium I

Forum A-1

Practical Study on Behavioral Modification

Coordinator

Prof. Dr. Mitsuki NIREGI

Forum B-1

Common Materials for Environmental Education in the Asia-Pacific Region:

Establishing International Guidelines for Environmental Education (II)

Coordinator

Prof. Azizan BAHARUDDIN

Prof. Fumiaki TANIGUCHI

Forum A-1: Practical Study on Behavioral Modification

Practical Study on Behavioral Modification

Coordinator

Prof. Dr. Mitsuki NIREGI

After a few of persons who feel bad physical condition in usual life are diagnosed as a cancer patient by the medical doctors in the hospital, some patients are shocked to hear the word of cancer and could not sleep well with anxiety and began the deficits in intellectual functioning. That sort of thing occurs very commonly. No one expect to become a patient but some persons have to be aware of the difficulty of their illness suddenly. Some elderly patients with cancer abandoned the medical treatment because of meaningless feeling and no reason for living. They need to make life's stories of themselves in order to act with serenity. The medical staffs have to take care of the special treatment to those patients to change the lifestyle of the patients.

The purpose of this symposium, Forum A-1 "Practical Study on Behavioral Modification", is to present a new methodology to modify patient's behavior in hospital and at home.

The first presenter of this symposium was Michiyo Oka who served as a professor in Gunma University in Japan. She reported the title of "Behavioral Modification in Chronic Illness Patients".

The second speaker was Sayuri Hashimoto who was an associate professor of Tsukuba University. She reported "Internet Based Remote Counseling to Support Physical Exercise Behavior in Elderly People".

The third speaker was Mitsuki Niregi who was Dean and Professor in Psychological Department of Rissho University. He reported "The Modification of Health-Related Quality of Life in Hospitals by Using Narrative Analysis"

The last speaker was Yuko Takahashi who is the president of the movement "Quit Smoking Marathon and a professor of Nara Women's University. She reported the title of "Participation in Marathon of Tobacco Abstinence"

After the presentations, 4 speakers and floor members discussed about the title of the Behavioral Modification.

Forum A-1: Practical Study on Behavioral Modification

BEHAVIORAL MODIFICATION IN CHRONIC ILLNESS PATIENTS

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In order to induce a chronic-disease patient's behavioral change successfully, it is necessary to consider various elements. The Chronic Care Model provides us with a clue for considering such elements.

The Chronic Care Model was developed by researchers from the MacColl Institute for Healthcare Innovation in Seattle, USA. This model provides an organizational approach to caring for people with chronic disease in a primary care setting. The model can be applied to a variety of chronic illnesses, health care settings and target populations.

The Chronic Care Model identifies the essential elements of a health care system that encourage high-quality chronic disease care. These elements are the community, the health system, self-management support, delivery system design, decision support and clinical information systems. The elements of good chronic illness care require productive clinical interactions between informed activated patients and prepared proactive practice teams. Support from the health system and the community is necessary to facilitate the productive interaction between patients and providers. The key elements required from them include: 1. Community Resources and Policies : Health system must take advantage of community-based programs that enhance chronic illness care. 2. Health Care Organization: Better care means not only identifying best practice, but creating policies and organizations that allow such practices to flourish.

Specific elements within health care organizations for proper chronic illness care include: 3. Self-management Support: Successful self-management programs rely on a collaborative process between patients and providers. 4. Delivery System Design: Effective chronic illness management requires more than simply adding interventions to an existing system focused on acute care. Basic changes in delivery system design are required for effective care management. 5. Decision Support: Practice teams require evidence-based protocols to guide their decisions about patient care. 6. Clinical Information Systems: Effective information system can measure the success of treatments across populations and deliver reminders about care for individuals.

Some organizations have adapted materials from the MacColl Institute ICIC Chronic Care Model to create simplified checklists for the core elements of the Chronic Care Model. At this symposium I am also going to introduce the participants to the checklists aiming at examining the possibility of their practical use.

References

The Improving Chronic Illness Care website. (n.d.). Retrieved May 28, 2006, from

<http://www.improvingchroniccare.org>

Wagner, E.H. (1998). Chronic disease management:: What will it take to improve care for chronic illness? *Effective Clinical Practice*, 1, 2-4.

National Diabetics Education Program(n.d.). *Determining Needs and Setting Priorities for Systems Change* Retrieved May 28, 2006, from

<http://www.betterdiabetescare.nih.gov/NEEDSchroniccaremodel.htm>

Forum A-1: Practical Study on Behavioral Modification

**Internet Based Remote Counseling to Support Physical
Exercise Behavior in Elderly People**

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ABSTRACT

In this study, the feasibility of a remotely conducted, preventive-counseling system for regularly exercising, healthy elderly-people, designed to prevent their exercise program from being interrupted was examined. Moreover, the necessity for preventing interruption to exercising by the elderly is discussed.

Evidence that physical exercises contribute to reducing perceived stress, to enhancing satisfaction with life and mental and physical health in elderly people has been reported. Results of studies conducted in our laboratory, similar to those quoted above, have also demonstrate that exercise does have positive mental and psychological effects. In one study that analyzed the exercise behavior of middle-aged and elderly people, we demonstrated that strong stress contributed to terminating exercise (Hashimoto et al. 1996 , 1998a , 1998b). Moreover, in a two-year longitudinal study, we established that exercise contributed to decreasing life stress. However, strong stress interrupted the exercise program, making it more difficult to use exercise as a stress-management technique (Suh, Hashimoto, Okutomi and Munakata 2000 , Munakata et al. 2000). Seemingly, there is a virtuous cycle in which exercise lessens life stress and improves life satisfaction and mental health of elderly people who exercise. There is also a vicious cycle: strong life stress interrupts exercise and makes stress reduction more difficult resulting in a cycle in which life satisfaction and mental health declines.

Our research showed that a high degree of life-stress has a negative mental health effect that may interrupt regular exercise. We used an internet based, remotely conducted, face to face, preventive counseling program using video monitors to reduce the source of life-stresses that interrupts regular exercise and evaluated the preventative effects of the program in elderly people.

NTSC Video signals were converted to the IP protocol and facial images were transmitted to a PC display using the exclusive optical network lines of JGN2. Participants were 22 elderly people in Hokkaido, Japan, who regularly played table tennis. A survey was conducted before the intervention in August 2003. IT remote counseling was conducted on two occasions for one hour on each occasion. A post intervention survey was conducted in February 2004 and a follow-up survey was conducted in March 2005.

Network quality was satisfactory with little data loss and high display quality.

Results indicated that self-esteem increased significantly, trait anxiety decreased significantly, cognition of emotional support by people other than family members had a tendency to increase, and source of stress had a tendency to decrease after the intervention. Follow-up results indicated that cognition of emotional support by family increased significantly, and interpersonal dependency decreased significantly compared to before the intervention.

These results suggest that face to face IT remote counseling using video monitors is useful to keep elderly people from feeling anxious and to make them confident to continue exercising regularly. Moreover, it has a stress management effect.

Keywords: IT remote counseling, elderly people, stress management, preventive interruptions regular exercise, intervention,

1. Introduction

1.1 Necessity for Internet Based Remote counseling

In the modern information society, networks are getting faster, costs are getting lower, and displays are getting clearer. As a result, anyone can utilize a delivery system for high-resolution animation in their daily lives. Moreover, in Japan, the “e-Japan plan” aims for an advanced information and communication network society in which various base points and each individual home will be connected by a high-speed network in the near future. Therefore, it is essential to develop different applications that are capable of efficiently using the network environment for receiving and transmitting various services from the home. It is especially important to support families with elderly people, people in need of care by using this network. As a result, people that are unable to go out of their homes will be capable of utilizing a variety of services from the home. As a case in point, it might be useful to teach stress management techniques to elderly people at home to prevent withdrawal and dementia using an Internet (IT) based remote counseling system.

In this study, the feasibility of a remotely conducted, preventive-counseling system for regularly exercising, healthy elderly-people, designed to prevent their exercise program from being interrupted was examined. Moreover, the necessity for preventing interruption to exercising by the elderly is discussed.

1.2 Psychological effect of exercise on elderly people

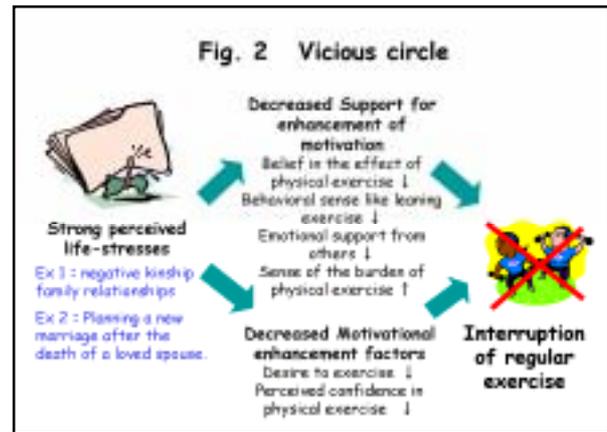
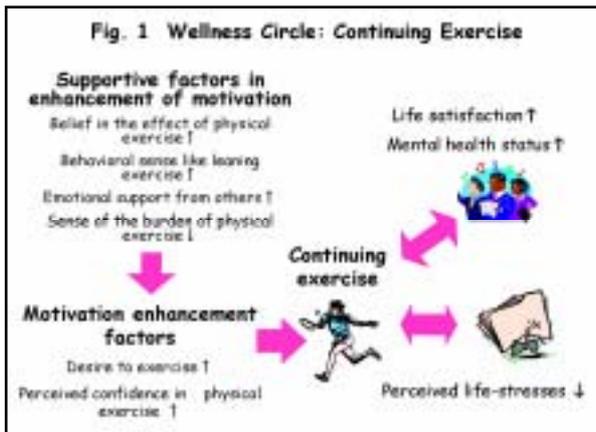
Evidence that physical exercises contribute to reducing perceived stress, to enhancing satisfaction with life and mental and physical health in elderly people has been reported.

Psychological effects of exercise, such as the runner’s high that refer to the eudemonia felt by marathon runners during running (Appenzeller, O. 1981), and improvements in self esteem resulting from increasing physical exercise (Ossip-Klein, D. J. et al. 1989) have been reported. Following 12 weeks hydrokinesiotherapy for healthy elderly people, anxiety, depression, anger, and tiredness decreased and vigor increased (Watanabe et al. 2001). A large number of other studies also support the contention that physical activities and recreation activities contribute to improving satisfaction and quality of life in the elderly. (Brown, B. A. & Frankel, B. G. 1993, Salokangas, R. K. et. al. 1997, Parker, M. D. 1996).

1.3 Psychological effect of stopping exercise on elderly people

There is evidence that only 12-22% of people who exercise in their spare time maintain the recommended level of exercise(Caspersen, C. J. et al. 1994). Another study has demonstrated that the dropout rate from exercise programs that were monitored was approximately 50% (Dishman, R. K. 1994, Brawely, L. R. & Rodger, W. M. 1993). What factors stop people from maintaining an exercise program, or prevent them from starting a new one? Griffin and McKenna (1998) has indicated that age related decline in health, as well as age related decline in the frequency of using transportation. The decline in body functions and disorders also obstruct physical activities (Husaini, B. A. & Moore, S. T. 1990). Apparently, exercise has positive physical effects and it is terminated by negative physical factors.

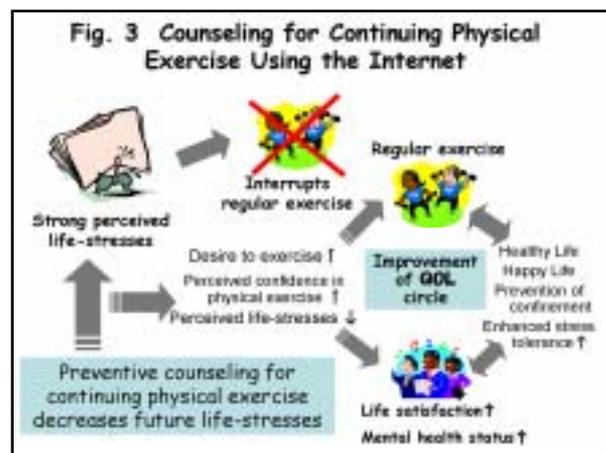
Results of studies conducted in our laboratory, similar to those quoted above, have also demonstrate that exercise does have positive mental and psychological effects. In one study that analyzed the exercise behavior of middle-aged and elderly people, we demonstrated that strong stress contributed to terminating exercise (Hashimoto et al. 1996 , 1998a , 1998b). Moreover, in a two-year longitudinal study, we established that exercise contributed to decreasing life stress. However, strong stress interrupted the exercise program, making it more difficult to use exercise as a stress-management technique(Suh, Hashimoto, Okutomi and Munakata 2000 ,Munakata et al. 2000). Seemingly, there is a virtuous cycle in which exercise lessens life stress and improves life satisfaction and mental health of elderly people who exercise (Figure 1). There is also a vicious cycle: strong life stress interrupts exercise and makes stress reduction more difficult resulting in a cycle in which life satisfaction and mental health declines (Figure 2).



1.4 Purpose of this study

We had previously conducted a pilot study using remote counseling intervention to prevent interruption to exercise over a short distance and confirmed the effectiveness, identified organizational and other problems and made improvements to the network environment, as well as to the intervention program (Hashimoto et al.2004). In the current study, preventive counseling intervention to avert interruption to exercise was offered to healthy people using remote counseling and image data over the Internet. This method was expected to be effective because it added visual information to telephone counseling that use only linguistic and auditory information. Stress resistance in elderly people is estimated to be about one third that of youth and young adults and their adaptability to new stressors is estimated to be below 50% compared to that of the other two age groups. Mortality due to suicide is highest in late elderly people around the world. Therefore, positive stress management intervention that increases stress tolerance and reduce the perception of stress sources is not only effective for continuing exercise, but also has the potential for preventing depressive disorders caused by chronic stress sources and negative life events.

In order to break the vicious cycle, a new preventive counseling method was developed (Figure 3). The purpose of this study was to examine an Internet based, remotely conducted, preventive counseling program, designed to reduce life-stresses (Figure 4) that interrupts regular exercise, and to evaluated the preventative effects of the program in elderly people.

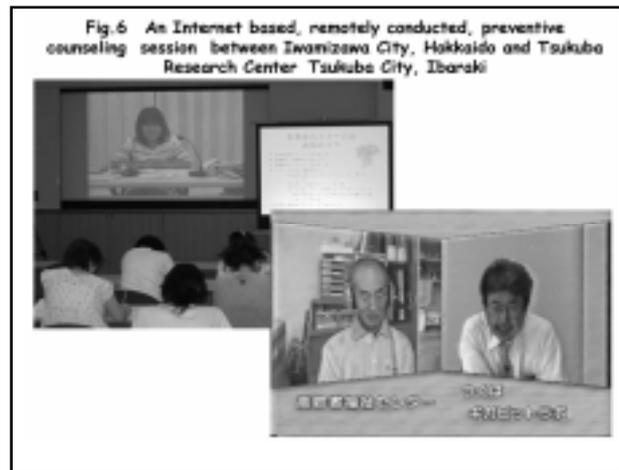
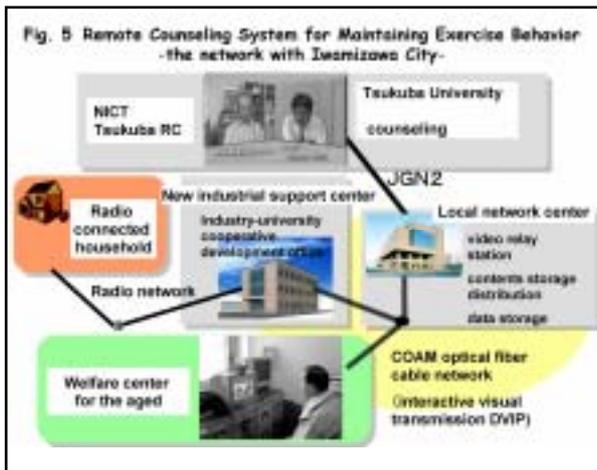


- Fig.4 Source of Stress in Elderly People who Exercise: Role of unsolved, past Problems**
- ★Being forbidden or restricted in desirable actions.
 - ★Unfulfilled accomplishment of goals.
 - ★Not understanding ideas and attitudes of young people.
 - ★Being treated like an old person.
 - ★Caring for a sick person.
 - ★Health conditions such as forgetfulness and worry about chronic disease, etc.
 - ★Restrictions in movement.
 - ★Inability to move well.

2. Method

2.1 Network environment

NTSC video signals were converted to IP protocol and then transmitted to a PC displays using the exclusive fiber lines of JGN2 (Figure 5, Figure 6).



2.2 Participants and survey

Participants were 22 elderly people in Iwamizawa City, Hokkaido, Japan, who regularly played table tennis (male, n=13, mean age 72.46 years, S.D.=4.07, range 67-80 years; females n=9, mean age 67.33 years, S.D.=2.78, range 63-71 years).

A survey was conducted before the intervention in August 2003. IT remote counseling was conducted from Tsukuba City, Ibaraki Prefecture, Japan, on two occasions for one hour on each occasion. A post intervention survey was conducted in February 2004, and a follow-up survey was conducted in March 2005.

This research program is authorized by the committee of University of Tsukuba and then conducted under the agreement of the clients after explained the aim of the program.

2.3 The Intervention program

The preventive counseling program was based on our unique Structured Association Technique (SAT), which is a structured counseling method that was developed by Tsunetsugu Munakata (1995, 1997). The SAT counseling program has the effect of changing behavioral traits with a low resilience to stress and a high buildup of stress. The program is also capable of reinforcing resilience to stress and reducing the buildup of stress.

2.4 Data Analysis

Analysis was conducted using SPSS ver.11.0 statistical software and nonparametric tests.

3. Results

Network quality was satisfactory with little data loss and high display quality.

IT remote counseling of one hour in each time was conducted from August 2003 to February 2004. Three times questionnaire surveys of nine scales related to resilience to stress and stress buildup were conducted in August 2003 and February 2004, and a follow-up survey in March 2005 to examine the medium and long-term effects. Analysis was nonparametric tests to compare pre- and post survey and pre- and follow-up survey.

Results indicated that after the intervention, self-esteem increased significantly ($z = -2.200$ $p = 0.028$), trait anxiety decreased significantly ($z = -2.569$ $p = 0.010$), cognition of emotional support by people other than family members had a tendency to increase ($z = -1.748$ $p = 0.081$), and source of stress had a tendency to decrease ($z = -1.939$ $p = 0.052$) (Figure 7). Follow-up results indicated that cognition of emotional support by family increased significantly ($z = -2.121$ $p = 0.034$), and interpersonal dependency decreased significantly ($z = -1.956$ $p = 0.050$) compare with before the intervention (Table 1).

Next we will show the results of the case study (Figure 8).

Fig. 7 Difference in average scale scores before and after the program

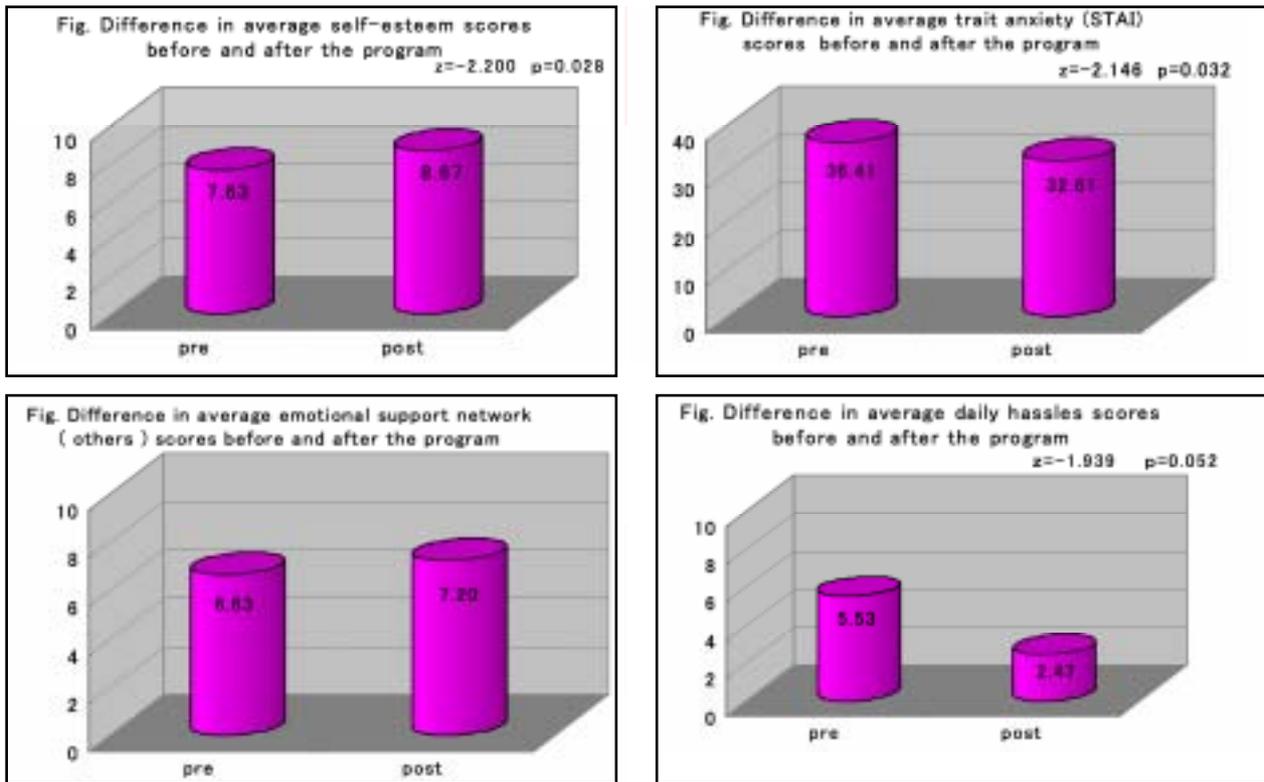


Table 1 The mean score by scale before and follow-up the IT based, remotely conducted, preventive counseling program

scale	mean score ± S.D.		Wilcoxon signed-ranks test (Zvalue)	
	pre	follow-up	Zvalue	p-value
Self-esteem	7.63 ± 2.06	7.73 ± 2.79	-0.791	p=0.429
Self-repression	7.78 ± 1.80	7.00 ± 2.10	-1.308	p=0.191
Emotional support network (family)	6.63 ± 2.31	6.79 ± 0.58	-2.121	p=0.034
Emotional support network (others)	6.63 ± 3.28	6.58 ± 3.37	-0.957	p=0.339
Problem-solving	9.21 ± 3.95	9.00 ± 2.62	-1.115	p=0.265
Interpersonal dependency	3.83 ± 2.28	3.29 ± 2.49	-1.858	p=0.060
Trait anxiety (STAI)	36.53 ± 5.41	36.13 ± 10.36	-0.581	p=0.575
Depression (SDS)	38.35 ± 8.41	34.13 ± 10.89	-1.424	p=0.154
Perceived confidence physical exercise	9.89 ± 2.91	11.13 ± 4.97	-0.045	p=0.984
Daily hassles	5.53 ± 5.59	3.07 ± 5.31	-0.704	p=0.482

4. Discussion

4.1 The Network Environment

Recently, telephone counseling has become considerably popular. We conducted a study to demonstrate the efficacy of using remote counseling intervention over the Internet with image data, which can transmit much more information than telephone counseling. In this study, transmission of linguistic, visual and auditory information during counseling was estimated to be good and similar to direct counseling. These results suggest that there is a large potential for using remote support from home. We are currently in the demonstrative research stage using an experimental network. In the future, public networks could be used for supportive counseling.

4.2 Remote support counseling to prevent interruption to exercise

Short-term effects of the remote support counseling system that we originally developed to prevent exercise from being interrupted are as follows. Our findings indicate that IT based remote counseling helps to decrease the source of stress and anxiety, and to increase self-esteem. It is suggested that IT based remote counseling is useful to keep elderly people from feeling anxious and to make them confident about continuing to exercise regularly.

It is suggested that the medium and long-term effects of remote support counseling are, increasing the cognition of emotional support by family, and reducing interpersonal dependency. It is suggested that these effects were observed because the counseling intervention reduced cognition of stress sources and anxiety, increased self-confidence, and reduced the participants' dependence on others, which lead to a decrease in interpersonal dependency and increased the cognition of being supported by surrounding people. Increasing the demand level on others increases stress. Therefore, it is possible that maintaining the demand on others at an optimal level and thereby increasing the cognition of emotional support from others lead to improvement in stress tolerance.

The change observed in this study, i.e., that psychological characteristics resulting in weak stress tolerance could be changed to those resulting in strong stress tolerance is indicative of the stress management effect of the intervention.

In the future, we intend to develop preventive counseling methods, broadening our horizon from prevention of exercise interruption to prevention of lifestyle-related disease.

5. Conclusion

We used an internet based, remotely conducted, face to face, preventive counseling program using video monitors to reduce the source of life-stresses that interrupts regular exercise and evaluated the preventative effects of the program in elderly people.

Network quality was satisfactory with little data loss and high display quality.

Results indicated that self-esteem increased significantly, trait anxiety decreased significantly, cognition of emotional support by people other than family members had a tendency to increase, and source of stress had a tendency to decrease after the intervention. Follow-up results indicated that cognition of emotional support by family increased significantly, and interpersonal dependency decreased significantly compared to before the

Fig. 8 Case : Mrs. T. a 65 years old Female

How confident are you about continuing exercise? 90%

Stress source: I had started playing ping-pong when I was 60, and I enjoy it very much. I also do mountain climbing and I am physically strong. I am growing about 50 kinds of vegetables in my field. I get irritated when my plans do not go well. I hope I can use 24 hours for myself, but I think it is impossible.

Traumatic emotion lying behind: Resignation

Key conditions: When I cannot live as I want and when I restrain myself for those around me.

The scene in the past related to the unsolved problems: When I was a child, my father was very strict. My mother had to work in the field, so children had to do all the housework. We were forbidden to speak during meal time.

Solving unsolved problems involves completing the image of the scene held within the person that was suddenly and inevitably stopped, and then starting the process of re-learning.

Solving unsolved problems: Trying to talk back to the father during meal times in the past by using role-playing and imaging the scene of a meal and talking about the day's happenings while eating with all the family. → I could not do this in my childhood, so I tried to make a home where anything can be discussed with each other.

The relation with the present: In the past, I restrained myself in front of my father. It is similar to the present conditions where I restrain myself for people around me.

Awareness: I noticed that I can endure anything because of my past experiences. I have never thought of my childhood or the past. The counseling made me notice the source of my problems, and I discovered the importance of speaking.

Changes in Scale Values for Mrs. T.

- Self-esteem 5⇒10
- Self-repression 9⇒10
- Emotional support network (family) 9⇒10
- Emotional support network (others) 7⇒10
- Problem-solving 7⇒10
- Trait anxiety 38⇒20
- Depression 30⇒20
- Perceived confidence in health management 12⇒20
- Perceived confidence in physical exercise 10⇒20
- Perceived confidence in dietary life 17⇒20
- Daily hassles 7⇒0

It is suggested that she did not have an opportunity of learning the skill of expressing her ideas because of her past home environment. She should learn assertion skills.

intervention.

These results suggest that face to face IT remote counseling using video monitors is useful to keep elderly people from feeling anxious and to make them confident to continue exercising regularly. Moreover, it has a stress management effect.

Our future aim is to conduct IT counseling using the transmission of tactile sensations in addition to video and auditory information.

This research program is supported by Grant-in-Aid for scientific Research from the Japan Ministry of Education, Culture, Sports, Science and Technology (2004-2005 Hashimoto Project : 16300219)

6. References

- Appenzeller, O.(1981)What makes us run? N Engl J Med, 305:578-580.
- Brawely, L. R. & Rodger, W. M. (1993) Social-psychological aspects of fitness promotion. In: Seraganian, P. ed. Exercise Psychology : The Influence Physical Exercise on Psychological Processes. A Wiley-Interscience Publication, John Wiley and Son Inc., New York, 254-298.
- Brown, B. A. & Frankel, B. G.(1993)Activity through the years : Leisure, leisure satisfaction, and life satisfaction. Social Sport J, 10:1-17.
- Caspersen, C. J., Merritt, R. K. & Stephens, T. (1994) International physical activity patterns: A methodological perspective. In R. K. Dishman (Ed.), Advances in exercise adherence. Champaign, IL: Human Kinetics Publishers, 73-110.
- Dishman, R. K. (1994) Biological psychology, exercise and stress. Quest, 64:28-59.
- Griffin, J. & McKenna, K. (1998) Influences on leisure and life satisfaction of elderly people. Phy Occup Ther Geriatr, 15:1-16.
- Hashimoto N. (2003) Chapter 2, Electro holography and active optics. In L. Vicari (Ed.), Optical applications of liquid crystals. Bristol and Philadelphia: Institute of Publishing, 62-117.
- Hashimoto S., Iwasaki Y., Munakata T. and Ezawa I. (1996) Psycho-social factor scales of physical exercise behavior. The Japanese Journal of Health Behavior Science,11:215-232 . (in Japanese)
- Hashimoto S., Iwasaki Y., Munakata T. and Ezawa I. (1998a) A study of physical exercise behavior among the middle aged and elderly in a health-gymnastics class. The Japanese Journal of Health Behavior Science,13:122-138 . (in Japanese)
- Hashimoto S., Iwasaki Y., Munakata T. and Ezawa I. (1998b) A study of continuous participation in the health gymnastic class among the middle aged and elderly females. The Japanese Journal of Health Education and promotion, 6 (1) :15-24 . (in Japanese)
- Hashimoto S. and Munakata T. (2004) Internet mendan niyoru koureisya kenkou undou koudou sien . Munakata T. (Ed.) "Health Counseling Care" Kaneko shobou : 195 - 219 . (in Japanese)
- Husaini, B. A. & Moore, S. T. (1990) Arthritis disability, depression, and life satisfaction among black people. Health Soc Work, 15:253-260.
- Mukanata, T. (1995). Behavior modification counseling technique, Iryo-Times-sha, Tokyo. (in Japanese)
- Munakata, T. (1997). SAT Counseling Method, Kouei-sha, Tokyo
- Munakata, T., Komori, M. & Hashimoto, S. (2000a). Health counseling text, Vol. I. (pp. 21-89, 95-181). Tokyo: Health Counseling Center International. 21-89 95-181 (2000a)**
- Munakata, T., Komori, M. & Hashimoto, S. (2000b). Health counseling text, Vol. II. Tokyo: Health Counseling Center International.
- Munakata, T. (2001). Science of mind recollection, communication, and conversion. Health Counseling, 3(6), 94-102.
- Munakata, T. (2001). Stop being a man (pp. 44-45). Tokyo: K.K. Wani-books.
- Munakata T., Suh S., Hashimoto S., Fujiyama H. and Okutomi Y. (2002) Undou to Seishinkenkou – Koureisya

kenkou Zousin Puroguramu Sankasya niokeru Seishinkenkou to Undoukeizokukoudou, Morihiko Okada Mitsuo Matsuda and Shinya Kuno(eds.), Koureisya no Seikatsukinouzousinhou, NAP Limited, Tokyo, 119-128. (in Japanese)

- Ossip-Klein, D. J., Doyne, E. J., Bowman, E. D., et. al.(1989) Effects of running or weight lifting on self-concept in clinically depressed women. *J Consult Clin Psychol*, 57:158-161.
- Parker, M. D. (1996) The relationship between time spent by older adults in leisure activities and life satisfaction. *Phys Occup Ther Geriatr*, 14:61-71.
- Salokangas, R. K., Joukamaa, M. & Mattila, V. (1991) On determinants of life satisfaction in later life middle age-Reports of the TURVA project. *Psyciatr Fenn*, 22:157-170.
- Suh S., Hashimoto S., Okutomi Y., & Munakata T.(2000) Exercise behavior and life stress in participants in community health promotion program for elderly and middle-aged. *The Japam Association of Mental Health Sociology*, 6, 44-56. (in Japanese)
- Watanabe E., Takesima N. and Nagahara M. et. al. (2001) Psychological and physiological effects of 12 weeks water exercise program in older adults: qualitative and quantitative analysis . *Japan J. Phys. Educ. Hlth. Sport Sci* , 46:353-364. (in Japanese)

Forum A-1: Practical Study on Behavioral Modification

The Modification of Health-Related QOL in Hospitals by Using Narrative Analysis

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1 Who tell stories? Nature and the world does not tell stories. People tell stories.

How do the persons tell their histories? They emphasize some parts and omit other parts. Narratives are representations. Interpretation is inevitable.

2 Therapists cannot access a patient's experience directly. The patients have a lot of the experiences in the same time. They got a feeling of hearing, smelling, touching and seeing. They can make a story in many contexts.

3 The patients cannot understand the reason to be in the hospital. The elderly patients sometimes cannot understand the reason why they have to stay in the hospital. They are looking for the real reason they fell sick. Meaning of sickness come from the representation of talking.

4 Narrative Analysis. A patient want to talk about himself. However the medical staff wants the patient to talk about the symptoms of illness. In personal narratives, it is important that the patient speaks his story, organized around consequential events.

5 Narrators indicate the styles of telling. The patients can make real phenomena in the stream of consciousness(For example, comedy, tragedy, romance, mystery).

6 Case of Mr. A, 78years old, confused

Mr. A, 78years old of male patient, had huge problems of several behaviors in hospital.

He fell down from a stepladder in his garden, broke his left leg and went to hospital. He wanted to go back home immediately, fell into a state of dimmed consciousness and looked for an opportunity of escape from the sick ward. A therapist asked him for a reason why he needed to go back home. He answered that he worried about the twelve potted plants of invaluable azalea. He needed to cut off branches of the small trees in this rainy season. The therapist arranged his wife to carry one potted plant to his bedside everyday, so he could finish pruning the twelve trees and come back to his sense.

7 Attending to experience. The therapist sees that the patient worries about daily hassles. The patient attended to context of experiences. The therapist isolated certain images. The patient occurred the meaning shift.

If we had an impression of a primary experience, we can attend that memory to remember and recollect the memory in the stream of consciousness. Next choice comes the telling, the performance of a personal narrative. Sometimes the patient meets the friend, and he speaks a story by connecting of attending. The third level of representation is transcribing the experience. The fourth level is analyzing of experience. The fifth level is reading. This theory is made by Catherine Kohler Rissman, sociologist of Boston University. Patients tell the meaning of life and context

Story telling explains the reason and purpose of experience: (1)What was done(action), (2)When and where it was done (scene), (3)Who did it (agent), (4)How he or she did it (agency) and (5)Why it was done (purpose).

8 A person got sick and became a patient. But why?

- (1) Suddenly sickness happened
- (2) A person to be acted as a patient
- (3) But why?
- (4) Medical staff explain the reasons why he gets sickness by using medical terms
- (5) But the patient needs the reason why the person get sickness in his whole life.

9 Patient is thinking about the meaning of the sickness in his life.

If a patient met a careful listener, the patient began talking about pieces of experience in his life. The first is not a perfect story, but if the listener could behave in good condition, the patient would tell a meaningful story of his whole life.

10 Mr. A find a real reason to fall in sickness. He got a reason why he fell sick.

He had been worked very hard for a long time and he needed to take a rest. His real reason to get sickness is that God gave him holidays. He is reassured in his mind and could become to be a real patient.

11 According to Habermas and Bluck, sub-categories for narrative analysis were extracted based on a framework of temporal, causal, and thematic coherence of narrative structure.

12 Ms. B, 72 years old of female patient had severe communication problems, three days after she broke her thighbone in a traffic accident. She did not understand where her address is and when she came to the hospital. She could not converse normally in a conversation with another person but the therapist could talk about a set topic. For instance, she could speak about two pet dogs. The therapist asked her husband about her daily life at home, and found that she liked classical music and movie soundtracks. The therapist could speak to her in the circumstance of listening to the music so that she heard with calmness and recover her presence of mind.

13 hen patient changes the destiny (1) Traffic accident, an earthquake, tsunami, many accidents happen suddenly. People's destinies were changed easily. People want to feel a coherent meaning when they meet a tragedy. New fate is integrated in their old life.

14 Ms. B found the new meaning in her hospitalization was the time to listen to music.

As a result, Ms. B had a chance for music therapy. She had a healing time in the bedroom of hospital. She made up her mind and got a voluntary job when she stayed in the hospital. It was a transition period while she stayed in the hospital. Patients want to talk about the changes their fate. If someone listened to patient's talking, they made a coherent story in their whole life including a sudden illness.

Forum B-1: Common Materials for Environmental Education in the Asia-Pacific Region

Common Materials for Environmental Education in the Asia-Pacific Region

(CAPaBLE Project of the Asia-Pacific Network for Global Change Research)

**Azizan BAHARUDDIN¹ Jariya BOONJAWAT²
Fumiaki TANIGUCHI³**

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Main Objectives of the Satellite Symposium: Establishing International Guidelines for Environmental Education (II)

Environmental Education is implemented as a major approach for sustainable development and is the interaction between the science community, policy-makers and those involved in the education sectors (primary, secondary & tertiary). In this sense, environmental education is an important approach to materialise one of APN (Asia-Pacific Network for Global Change Research)'s goals of linking science and policy.

The fundamental objectives of the project of Guidelines for Environmental Education Focusing on Environmental Ethics and Human Dimension of Global Change cooperated between Konan University, Japan and University of Malaya, Malaysia are:

- (1) To make full use of participating countries' experience & knowledge of global change research to formulate guidelines for environmental education & sustainable development.
- (2) To fill the existing gaps among teachers & other stakeholders involved, such as global change experts, decision-makers, etc., by developing methods/modules for environmental education that can be used as a basis for countries in Asia.

The project is planned for approximately two years from November, 2005 to December 2007, and will include two "sets" of international symposia and workshops the first in Kobe, Japan, and the second in Kuala Lumpur, Malaysia. These symposia and workshops will:

- (1) Share the experiences of participating countries in environmental education & sustainable development.
- (2) Discuss how to mobilise these experiences particularly, for this project, in the Asian context.
- (3) Discuss the potential roles of networks in the Asia-Pacific region with respect to environmental education and sustainable development and begin to formulate/develop guidelines for environmental education.
- (4) The outcomes of both sets of symposia and workshops will be used to formulate guidelines that can be used by countries in Asia to develop environmental education guidelines to suit the needs of their own countries.

Some of Outcomes of the Project

The outcomes of the projects will be:

- (1) To hold a symposium and workshops that will:
 - a) Elaborate the concept of environmental education that focuses on ethics and the human dimensions of global change.
 - b) Elaborate and identify the potential role of networks such as APN in the region.
 - c) Establish skeletal guidelines for environmental education that are flexible to suit the needs of countries in the Asian region.
- (2) To hold short courses/workshops and site visits in order to: develop Curriculum and Materials, and develop documentaries on DVD/CD-ROM.
- (3) To introduce curricula and models that can be used in mainstream education systems (curricula will be written in a way that will allow straightforward adaptation for the needs of individual countries).
- (4) To publish and disseminate information on environmental education and sustainable development that highlights the latest discoveries, techniques, technologies, and strategies for environmental sustainability.
- (5) To establish a network of resource persons for environmental education and sustainability.
- (6) To establish empowered communities who have increased awareness of their roles and contributions to environmental and sustainable issues.

Forum B-1: Common Materials for Environmental Education in the Asia-Pacific Region

**Common Materials for Environmental Education and Guidelines:
Public Awareness, Management and Biodiversity**

Manoj L. SHRESTHA
Professor
Konan University

When deciding the common materials and guidelines for environmental education the first and foremost task will be to identify each country's existing weaknesses, gaps, difficulties and other problems that threaten their ecology. The major causes should be analyzed and identified. The broad participation of all the stakeholders should be seriously considered. The following points are the main threats to environmental education. They are:

- (1) Low levels of public awareness and participation
- (2) Weak institutional, administrative, planning and management capacity
- (3) Inadequate data and information management
- (4) Lack of visionary policy and effective strategy for biodiversity conservation

The following principles should be taken into consideration while formulating environmental educational guidelines:

- (1) Highlighting each country's **ecosystems, species and biological resources** which are indigenous as well as endemic and which together will give each country its **DISTINCT** and **UNIQUE** ecological character, which is paramount in the protection and management of their biodiversity and environment as a whole.
- (2) The conservation of nature may sometimes result in adverse impacts on some communities and individuals. Such adverse effects need to be identified and minimized.
- (3) Meaningful public participation is not possible without genuine public information designed to educate and inform at all levels, as appropriate.

Forum B-1: Common Materials for Environmental Education in the Asia-Pacific Region

Environmental Education Materials: Some Examples from British Columbia, Canada

Nancy J. Turner
Distinguished Professor
School of Environmental Studies
University of Victoria

In British Columbia, environmental educators have developed a wide range of materials and strategies to support education programs relating to the environment, health and sustainability. These include web-based resources for access by teachers and students alike through the B.C. Ministry of Education, the Canadian Ministry of the Environment and other government agencies, such as B.C. Parks, and Ministry of Water, Land and Air Protection. These agencies, and associated organizations like *Eco Education BC*, have developed a series of posters and pamphlets, as well as print and audiovisual materials, available to teachers. Public and University Libraries also provide printed materials and audiovisual materials to be used in developing environmental education curricula. Some of these are intended to be part of formal school and university curricula, whereas others are intended for general informal use. Some complete curriculum packages for environmental education have been developed, but these can quickly become obsolete, and many are no longer available. There are also various television programs offered through The Knowledge Network and Public Television, including David Suzuki's *The Nature of Things*, *National Geographic* films, and other films on nature and wildlife that assist environmental educators. The Canada Film Board also offers many different films available for borrowing and showing in schools and universities.

As well as these "packaged" resources in print and film, there are also other, more novel venues available for environmental education. There is, for example, a university-run program to place weather stations in schools as a means of raising awareness of climate change. As well, there are several demonstration native plant gardens and ethnobotanical gardens in British Columbia that can serve as living museums for learning about human cultural relationships with plants. Many camps and outdoor education sites, including marine stations and centres, provide opportunities for students and teachers to learn about the environment and natural history first hand, either with guidance of the teacher, or with resource people trained in outdoor education. There are also some summer internship programs available to students in fisheries and other environmentally oriented government departments. School or university based projects on land stewardship, food production, and food preparation, such as re-enacting the traditional practice of pit-cooking root vegetables are further examples of participatory environmental education projects.

Some environmental education projects have themselves yielded booklets, videos and other materials that can then serve as models for projects in other places and other contexts. For example, the posters and booklet "Plants of the Gitga'at People" contain student reports that tell, from the students' perspective, about the wealth of plant life that indigenous people have relied upon for thousands of years. With modern technology, it is relatively easy to put together videos, posters and print materials as a classroom project, so that the students "learn by doing" in a group and interactive learning experience. The results of their work then form the foundation for further education programs.

There is much to be done in the area of environmental education in Canada. Many urban students, for example, are much more familiar with the various makes and types of cars and computers than they are with the local plants, animals and habitats. Many do not make environmentally responsible lifestyle choices, and many are simply unaware of the reliance we humans have on our environment.

Establishing International Guidelines for Environmental Education will be a positive and important step towards improvement of environmental education in Canada and around the world.

<p>5th International Conference of Health Behavioral Science (Satellite Symposium) <i>Coastal Materials for Environmental Education in the Asia-Pacific Region</i></p>  <h3>Environmental Education Materials: Some examples from British Columbia, Canada</h3>  <p>Nancy J. Turner School of Environmental Studies University of Victoria</p>	<h3>Acknowledgements...</h3>  <ul style="list-style-type: none"> • Dr. Preung Kitratporn, President of Pitsanulok Rajabhat Univ., Professors Sirivat Soondaretok and Chinnat Nagashirha, Dr. Tsunetsugu Mizukata and Professor Fumiaki Yamaguchi, and all the other organizers of the 5th ICHBS • Aboriginal cultural specialists and elders of First Nations in Canada. Especially those of the Nuxalk and Gitga'an Nations. • Coasts Under Stress Research Project (Rosemary Oomer, Project Director) (SSHRC and NSERC) and Nuxalk Food and Nutrition Program (Harriet Kuhnlein, Project Director and Nuxalk Nation)
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 <p>Changes in Education: not as much time outdoors...</p>	<h3>Environmental Education today</h3>  <ul style="list-style-type: none"> • Distancing from nature, less direct experience • More demands for education, less room for natural history and environmental studies • More "mechanical" lives: TV, computers, electronics, cars • Altered expectations of what constitutes a good life <p><i>Smokey the Bear; and real black bear on the road</i></p>
--	---

<h3>Environmental Education today, cont.</h3> <ul style="list-style-type: none"> • Need to change the ways we reach children and youth with environmental messages • Need to capture their attention and their emotions and empathy 	<h3>In British Columbia, a variety of "tools" to assist environmental educators</h3>  <ul style="list-style-type: none"> • Books and printed materials (e.g. posters) • Websites (government, NGO) • Videos, DVDs, Television programs • Gardens, field trips, science camps, nature centres...
---	---

Ethnobotanical gardens



Secwepemc Ethnobotanical garden, Kamloops

- Gardens that provide examples, and programs, to teach children and everyone about the importance of plants to human cultures
- Some provide "hands-on" experiences and tours....

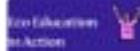
Websites: Eco Education



"Our mission is to foster the development of lifelong respect, understanding and care for the environment in young British Columbians by providing accessible province-wide educational resources and learning opportunities."

- Eco Education BC /o B.C. Conservation Foundation
206 - 17564 56A Avenue
urrey, BC V3S 1G3
home: (604) 576-1432 (x304)
ax: (604)576-1482
mail: eco_education@bcf.com
- <http://www.bcf.com/record/Alouxi/story.html>

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- Sponsored by:
- Environment Canada
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- BC Conservation Foundation

BC Ministry of Water, Land and Air Protection



- BC Ministry of Water, Land and Air Protection
- Water management
- Wildlife Branch
- BC Parks Branch
Environment Youth Team

BC Conservation Foundation

<http://www.bcf.com/>

- Eco Education BC



Holly Arntzen: linking music, nature and education

<http://www.hollyarntzen.ca/>





Social-Ecological Health...



East and West

- Learning from and honoring all cultural backgrounds; we all have much to share with each other, and a good education will enhance that.

Seven Collis-Suzuki, learning from Chief Adam Dick, about eelgrass; and about wildlife from Dr. McTaggart Cowen, 93 years old

Hands on, peer based education



- Judy Thompson (Edoodi), Tahltan First Nation, demonstrating how to make soapberry whip to indigenous students in classroom; part of traditional culture

Recognizing and using *both* traditional ecological knowledge and western scientific knowledge

- The marriage of academic and cultural stems, to the advantage of both
- Judy Thompson at her university graduation ceremony for her Master's degree, with her family



Principles of Environmental Education



- Direct Experience
- Responsible Action
- Complex systems interactivity
- Human actions have consequences and vice versa (virtuous and vicious cycles)
- Aesthetic appreciation of Environment
- Developing an Environmental Ethic

Thank you!



Forum B-1: Common Materials for Environmental Education in the Asia-Pacific Region

DISCUSSION REPORT

**Common Materials for Environmental Education in the Asia-Pacific Region:
Establishing International Guidelines for Environmental Education (II)**

Fumiaki TANIGUCHI

Satellite Symposium I: *Common Materials for Environmental Education in the Asia-Pacific Region*, coordinated by Prof. Azizan Baharuddin, of Malaya University, Malaysia, and Satellite Symposium II: *Demonstration of Environmental Education Using On-line TV net Meeting System Between Japan and Thailand*, coordinated by Professor Fumiaki Taniguchi of Konan University, Japan, were held on 19-20 August 2006 at the Phranakhon Grand View Hotel and Phranakhon Rajabhat University, in Bangkok.

These symposia, which were organized jointly by the Japan Academy for Health Behavioral Science, the International Association of Earth-Environment and Global-Citizen, and Phranakhon Rajabhat University, were attended by over 150 people from Canada, Japan, Malaysia, Nepal and Thailand.

The Symposia aimed to use the experience and knowledge on global change research from participating countries to formulate guidelines for environmental education and sustainable development. They also hoped to fill existing gaps among teachers and other stakeholders involved, such as global change experts, decision-makers, etc., by developing methods/modules for environmental education, to be used as a basis for countries in Asia.

During the symposia, there were several presentations given by experts in their field. Professor Manoj L. Shrestha of Konan University, Nepal, presented *Common Materials for Environmental Education and Guidelines: Public Awareness, Management and Biodiversity* and Professor Nancy J. Turner of University of Victoria, Canada gave a talk on *Environmental Education Materials: Some Examples from British Columbia, Canada*.

Dr. Jariya Boonjawat, Associate Professor of Chulalongkorn University, presented on *Environmental Education Materials Focusing on the Global Change Research* and then Dr. Songpol Sukkijbumroong, Professor of Phranakhon Rajabhat University, presented *A Case Study of Environmental Education Materials from the Capacity Building Aspects at the Environmental Education Center*.

The symposia resulted in the recognition of the real environment, particularly the indigenous environment, as a means to fill the various gaps among developed countries and developing countries, and also among experts, teachers and other stakeholders.

It was stressed that it is necessary to establish a fundamental framework that focuses on environmental ethics consisting of soft moral frameworks in the environmental context, beyond scientific dualism.

The need to establish flexible guidelines for environmental education applicable to all Asian countries was also emphasized. Lastly, it was realized that in order to acquire quick information on environmental education, an teleconference system between Japan, Malaysia and other countries concerned with the project must be set up.



Participants of the Satellite Symposium I: Common Materials For Environmental Education in the Asia-Pacific Region & II: Demonstration of Environmental Education Using On-line TV Net System

Satellite Symposium II

Forum A-2

Health Promotion and Developing Participation of the General Public

Coordinator

Prof. Tadaharu NAKAO

Forum B-2

How to Introduce Environmental Education in National Government Parks:

Demonstration of Environmental Education Using On-line TV-net

Meeting System between Japan and Thailand

Coordinator

Prof. Fumiaki TANIGUCHI

Forum A-2: Health Promotion and Developing Participation of the General Public

Health Promotion and Developing Participation of the General Public

Coordinator

Prof. Tadaharu NAKAO

"Health Promotion and Developing Participation of Citizenship" can be given to one of the most remarkable Health and Medical practices in recent years.

It will be some perspectives in other words, that locate the patients as citizens not only to the consumers of health and medical services, but within frameworks of service providers side. By using this sort of practices, we will be able to provide altered health and medical services to consumers and/or citizens based on their own needs.

We discussed how "Developing Participation of Citizenship" make therapeutic and preventive effects, and moreover "Health Promotion."

To discuss this theme, we provided some topics such as "HIV/AIDS" and "Health Planning". And to make this discussion more active and profound, we organized the panelists of scholars, researchers and NGO members in Thailand and Japan.

Keywords: participation of citizenship, advocacy, health behavior, health promotion, minorities, HIV/AIDS, boosting development in village, health planning, health promotion

Forum A-2: Health Promotion and Developing Participation of the General Public

Planning Health Promotion Programs with Resident Participation

Kazuhiko Fujisaki, MD*

***Gifu University School of Medicine, Medical Education Development Center**

Changing Health Policy Needs of Local Government

Prior to 1960, the common diseases in Japan were mainly infectious diseases. So, local governments had high needs to have clinics, hospitals and doctors in their communities. But after 1960, the common diseases in Japan began to change from acute infectious diseases to cancer and life-style related diseases. This changed local health needs from medical treatment to health promotion and prevention.

Mortality Rate & Medical Expenditure of Japan

A review of mortality rates by disease classification in 2003 shows cancer was the number one cause of death – about 30% died from cancer, 16% died from heart disease, 13% died from apoplexy. Just these three causes account for the cause of death of about 60% of the Japanese people who died that year.

Examining the financial costs of these diseases, an analysis of the percentage of medical treatment by disease classification in 2001 shows that one third of the national medical expenditure was used by patients with cancer and life-style related diseases – 9% was used for cancer, 4.8% was used for diabetes, 7.7% was used for hypertension and 3.1% was used for apoplexy. For both quality of life and for financial reasons, Japanese society cannot ignore the significant impacts on society of cancer and life-style related diseases.

National medical expenditures have been increasing year by year. Although, the Long-Term Care insurance system was started in 2000, local government continue to face an urgent need to develop new health promotion policies, because of the severe state of government finances.

Dilemma of Health Check Ups

The health check-up is representative of secondary prevention. Japanese society has been dependent upon health check-ups for disease prevention and certainly health check-ups played an important role in preventing tuberculosis. But, health check-ups embody an inherent theoretical dilemma.

If test sensitivity is raised to find patients at an early stage, false positive errors will increase. Then, those people who have received false positives may need to have advanced medical tests to determine their real health status. On the other hand, if the specificity of test is lowered to reduce the number of false positives, the number of false negative errors will increase. Then, many people who have actually do have a disease may pass through the test without the indicators of the disease being caught by a positive test result.

Finally, while regular health check-ups help to find patients at an early stage of disease, check-ups, in themselves, never make people healthier. So, secondary prevention without primary prevention, i.e. health promotion, is not ultimately effective.

Japanese Health Promotion Policy

The Japanese Ministry of Health and Welfare ran its first national health promotion movement from 1978 to 1987. The second national health promotion movement (called Active 80s) began in 1988

and ended in 1997. Despite the twenty years spent on these two movements, increasing numbers of people died from cancer and life-style related diseases, and more money was spent for their medical care.

So, the Japanese Ministry of Health, Labor and Welfare set a 2-year preparation time for developing new health promotion policies. The third national health promotion movement (called Healthy Japan 21st) begun in 2000 and will end in 2010.

Healthy Japan 21st Objective Measures

The most important feature of Healthy Japan 21st is that it has objective measures for health promotion (Figure 1).

OBJECTIVE		START	GOAL	INTERIM REPORT
Decrease of obese adults	male	24.3%	under 15%	29.4%
	female	25.2%	under 20%	26.4%
Decrease of salt uptake		13.5g/day	under 10g/day	12.0g/day
Increase of salt uptake		292g/day	over 350g/day	285g/day
Increase of pedometerical steps	male	8,202	over 9,200	7,676
	female	7,282	over 8,300	7,084
Increase of children without dental caries		59.5%	over 80%	67.5%

Figure1 Healthy Japan 21—Objective measures : example

For example, at the start of this 3rd movement, 24.3% of Japanese men and 25.2% of women were obese (measuring more than 25 on the Body Matrix Index). Healthy Japan 21st set objective targets for obesity at under 15% for men, and under 20% for women. Despite setting these objective targets, measures for obesity researched in the year 2005 revealed a decline in the health behavior status of Japanese people. In 2005, the percentage of Japanese obese adults increased to 29.4% of men and 26.4% of women.

Likewise, the targeted increase of vegetable consumption to more than 350g/day has not yet happened. Vegetable consumption decreased from 292g/day to 285g/day. The targeted increase of pedometerical steps to more than 9,200 steps/day for men and to more than 8,300 steps/day for women has also not happened yet. In fact, steps decreased from 8,202 steps/day to 7,676 steps/day for men and 7,282 steps/day to 7,084 steps/day for women.

However, objectives have been partially met for several measures. For the targeted decrease in salt consumption to less than 10g/day, a decreased from 13.5g/day to 12.0g/day was seen. For the targeted increase to 80% of children without dental caries, an increased from 59.5% to 67.5% was seen.

Approach Change

These difficulties in reaching the objectives of Healthy Japan 21st suggest the need for a change in the method of approach from a “High-risk Approach” to a “Population Approach” (Figure 2).

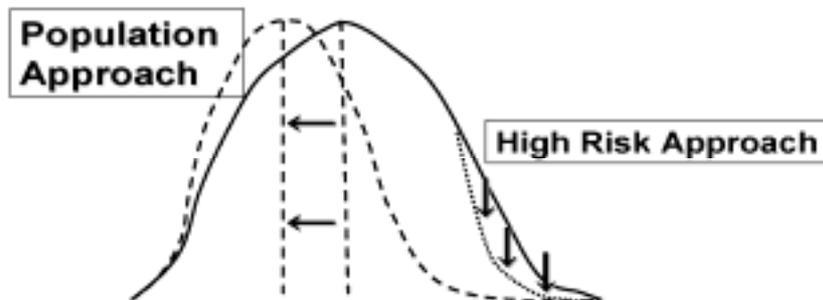


Figure2 Changing approach from a “High-risk Approach” to a “Population Approach”

The “High-risk Approach” is a method of checking the high-risk group and approaching them to help them to become lower risk. But, in this method only the high-risk group is approached. If the unhealthy behavior of the other people is left unaddressed, high-risk people will continue to be endlessly generated.

The “Population Approach” is a method designed to shift the entire population’s health behaviors in a healthier direction. If the entire population’s mean measure shifts in a healthier direction, there will be a consequent reduction in high-risk people within the population as well.

Resident Participation

But, the “Population Approach” is more difficult for municipalities. Even following the “High-risk Approach”, it is difficult to follow up completely on all the people who tested positive at their health check relying only on the municipal public health nurses. In an average city in Japan, there is just one public health nurse for every 4,000 healthy people. In the “Population Approach”, the number of the target population increases dramatically. So, resident participation is critical for the full achievement of the health promotion. The Ministry of Health, Labor and Welfare, following the law of health promotion, suggests municipalities make their own plans with resident participation.

Barriers to Resident Participation

Municipalities are not familiar with resident participation and as a result there are barriers to resident participation.

Barrier 1

Municipalities often believe that residents are overly compliant and are not able to make good decisions on their own. But, in fact, residents are people of wisdom and are able to discuss issues relating to their health in very productive ways.

Barrier 2

Municipalities often believe that residents are not able to discuss health issues on their own without the help of health professionals. But, in fact, residents display good leadership and good group dynamics by themselves.

Barrier 3

Once municipalities come to believe in the residents’ ability, they often leave everything to the residents. But, in fact, residents are not satisfied with this kind of situation and not able to achieve the health promotion without a fifty-fifty partnership of the municipalities.

Successfully Overcoming the Barriers

Some municipalities have successfully overcome these barriers and have made their own plans with resident participation. Also municipalities have created a system for resident participation to promote their health status. In our experience, residents displayed great leadership in planning their city’s health promotion programs in Town S, City Y, Town N, City Ku and City Ka.

For example, 800 people from a town with a population of 20,000 came to the health fair for the new health promotion program of Town S. And in the health fair these people called for other people to join the projects for health promotion.

Forum A-2: Health Promotion and Developing Participation of the General Public

HIV Risk Behaviors among Ethnic Minorities in Northern Thailand

Eiko KOBORI
Kyoto University
School of Public Health

During the end of 1980's to the middle of 1990's Thailand experienced high HIV prevalence especially among female sex workers (FSWs) and their male clients. Intensive prevention activities by the government and public sectors, however, successfully increased condom use among FSWs and their clients, and reduced male's use of brothels, contributing the evident decrease of the number of new HIV infections in the late 1990's. Although Thailand succeeded in reducing the prevalence of HIV among those high risk populations, HIV is now prevailing among general populations, including the youth and housewives. Ethnic minorities are one of those vulnerable general populations especially in upper northern Thailand, one of the epicenters of HIV infection in Southeast Asia.

Approximately 500,000 people belong to ten ethnic minorities that densely populate the mountainous areas in upper northern region. Although they have been left behind the social and economic development in the last three decades, as a consequence of historical, cultural, linguistic, and geographical barriers, including political reasons; reflecting the increasing involvement of their societies with Thai society, the HIV infection risk of the ethnic minorities has begun to be reported and studied.

In 2003 we conducted a cross-sectional questionnaire survey in two mountainous villages (developed and less developed) of the Karen, a major ethnic minority in Thailand. The results revealed that declining conservative traditional sexual behaviors, consisting of premarital and extramarital sex and sex with a FSW, were found associated with a mobile lifestyle between the village and the town, such as, occupational experience in town or convenient access to town. A history of sexually transmitted infections among males was associated with sex with a FSW.

We are now planning the next study for investigating HIV infection risk behaviors among migrated ethnic minorities in Chiang Mai City, the center of the economy in the region. The results of the study are expected to provide distinct evidence of the significance of health promotion in the population.

Forum A-2: Health Promotion and Developing Participation of the General Public

**Child-friendly School and Community-based Approach to
Solving the Problems of HIV/AIDS Affected Children**

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Background:

Developing the institutions of family and local community is a basic tactic for preventing the spread of HIV/AIDS and improving the care and treatment of people living with the disease. By the Year 2005, it is predicted that 380, 000 children in Thailand will have been orphaned by AIDS. The problems that children face as a result of HIV/AIDS include: poverty, discrimination and stigmatization; exclusion in school and educational activities (in & out of the classroom); learning difficulties; inadequate communication and interpersonal relationship skills; depression & low self esteem; feelings of helplessness and hopelessness; unresolved grief; and ostracism from the community and friendships. Additionally, economic pressures and the need to replace lost adult labor often forcibly exclude children from learning and development.

Current Approaches:

The “District-Based Projects” and “A school-community based approach for promoting health, psychosocial development, and resilience in children and youth affected by HIV/AIDS” project are community-based programs that are addressing these impacts. From these programs, community based strategies for solving the problems of children affected by HIV/AIDS have been developed. Such strategies include awareness raising for schools and communities on child rights, funding for HIV/AIDS infected and affected children, life skills and livelihood skills education for HIV affected children, and development of learning exchange networks and improved communication.

Conclusion:

Strategies to promote and advocate appropriate policies and measurement to local and National governments and decentralization to support multi - sector collaboration at the community level need to be developed.

Forum B-2: How to Introduce Environmental Education in National Government Parks

Environmental Education Activities in the National Parks of Thailand

Siriwat SOONDAROTOK
Director, Environmental Education Center
Phranakhon Rajabhat University, Thailand

The United States of America is the first country that proclaimed the Yellowstone as the first National Park of the World. Subsequently, various countries followed such footstep which leads to the proclamation of more than 1,392 National Parks world-wide. Thailand also proclaimed Khao Yai in Nakornratchasima province as the first National Park in the year 1962 and up until the year 2000, Thailand has already proclaimed 99 National Parks and, at present, 39 parks are in the process of proclamation. Among these total numbers, 21 parks are Marine National Parks and 3 Marine National Parks are in the process of proclamation. Every National Park in Thailand possesses an area of more than 10 square-kilometers which is based on the international principles of National Park's management.

The principal roles of the National Parks in Thailand are as follows :

1. Natural Conservation
National Parks must take the role of conservation of the area in order to sustain natural elements which includes flora and wildlife.
2. Tourism and recreation
National Parks are the places that possess attractive scenery so that they are suitable for tourism.
3. Research and finding
National Parks are suitable as natural museum or outdoor laboratory for general public, students and scientists to explore and conduct research without limitation. Meanwhile, general public can also explore the nature by conducting various activities such as bush-walking, bird-watching and butterfly-observation. At present, many National Parks have accommodated nature- trails for general public to walk and survey nature.

The arrangement of Environmental Education activities in the National Parks
Environmental Education activities are considerably unfamiliar to the National Parks in Thailand. The Department of National Parks, Wildlife and Flora therefore organises a series of workshops on Environmental Education to the personnel at management level of the National Parks, the nature interpretation officers and rangers of the National Parks. The afore mentioned workshops have been continuously organised from time to time with participation of the Environmental Education Center of the Phranakhon Rajabhat University. The activities are consisted of the followings:

1. Pre-excursion activities for the target groups who will be participating which includes students from primary and secondary schools and general public. The activities such as the practicing of using outdoor equipments and facilities, and the demonstration of survival in forest and bush land are also included.
2. Excursion activities which include bird-watching, butterfly observation, bush-walking, listening to

the sound of nature, sensory awareness, the art of nature, drawing, linguistic and poetry are provided for specific target groups at different levels of skills depending on the age and background of each particular target group.

3. Conclusion activities such as writing essays, explanation of feelings and experiences gained after completion of the activities which includes evaluation of each activity are carried out.

Moreover, there are also mini-museum, poster and exhibition being displayed inside the National Parks in order to strengthen knowledge of the visitors in terms of historical, geographical and geological findings in the area which includes the relationship between man and nature.

Even though Environmental Education is considerably a new science to the staffs of National Parks in Thailand, but the understanding and knowledge about this subject have gradually been developed for staffs and relevant personnel of the National Parks which include teachers, students and general public who reside nearby the parks. The ultimate aims of the activities are to build knowledge, understanding and awareness of those target groups on the importance of natural resources and the balance of an ecological system, not only to the Thai people, but also to the citizens of the world.

Forum B-2: How to Introduce Environmental Education in National Government Parks

Conservation and Utilization of “Satoyama” in the City Park

Shuji SUZUKI

Chief Officer

Ministry of Land, Infrastructure and Transport

Akashi-Kaikyo National Government Park

I. The Park System in Japan

1. The Park system in Japan

National Government (City) Park	National (Nature) Park
- Facilities affiliated with city planning - One of the Public facilities (as roads, etc.)	- In regions with beautiful landscapes of nature, designate districts to preserve nature.
- Buy up lands, usually. - Construct facilities (park-roads, playground, etc.), plant trees.	- Control actions which have bad effects on the nature (building, cutting trees, etc.) in designated districts.
Ministry of Land, Infrastructure and Transport	Ministry of Environment
National Government Park	National Park

2. National Government Parks in Japan

II. “Akashi-Kaikyo” National Government Park

1. Awaji area (opened to public) and Kobe area (under construction)

2. Akashi-Kaikyo National Government Park

III. Our Aim in Kobe Area

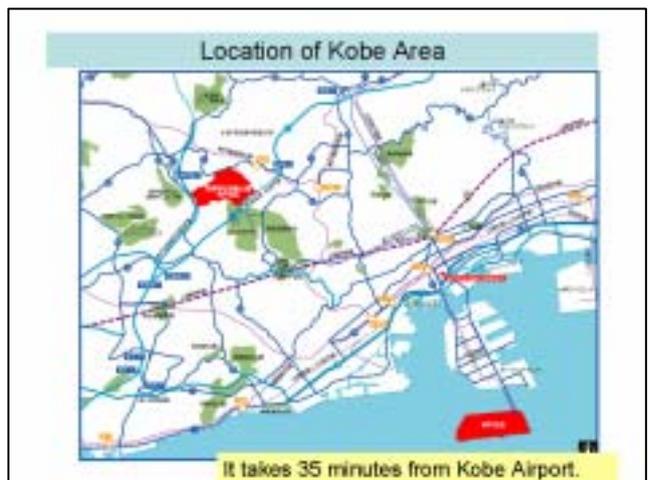
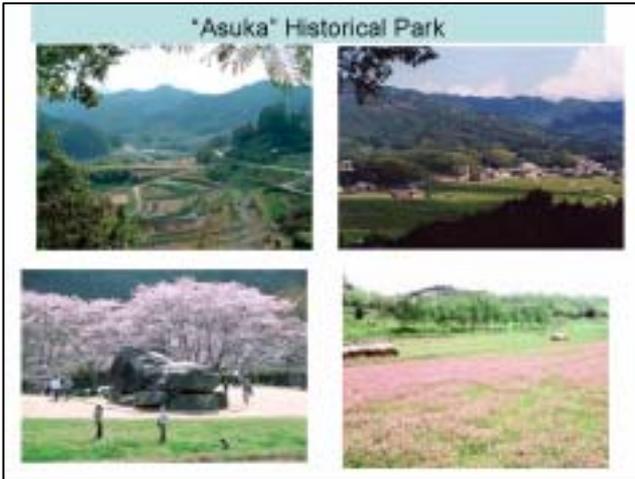
1. What is “Satoyama”?

2. Conservation and Utilization of “Satoyama”

IV. The Way to Construct, Maintain, and Manage the Park

We hope many people and civic groups participate in our project.

We will think about how to manage the Park first. We will construct required institutions gradually to manage the park.



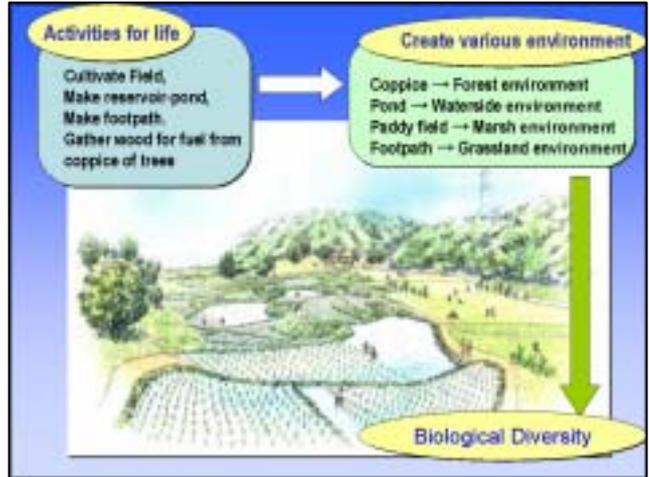
What is "SatoYama"

Sato(里) + Yama(山)

"Sato(里)": Village. Area where people live.
 Not urban area, Not wild nature area.
 Agriculture area, roughly.

"Yama(山)": Mountain. Forests, Nature

"Sato-Yama" is the place where there are forests, paddy-field, etc. which have been conserved while being concerned with life of people.



Planning 4-Zone in Kobe Area

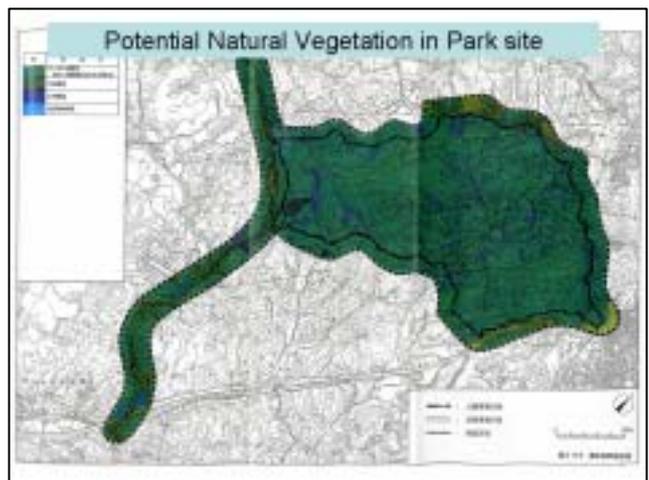
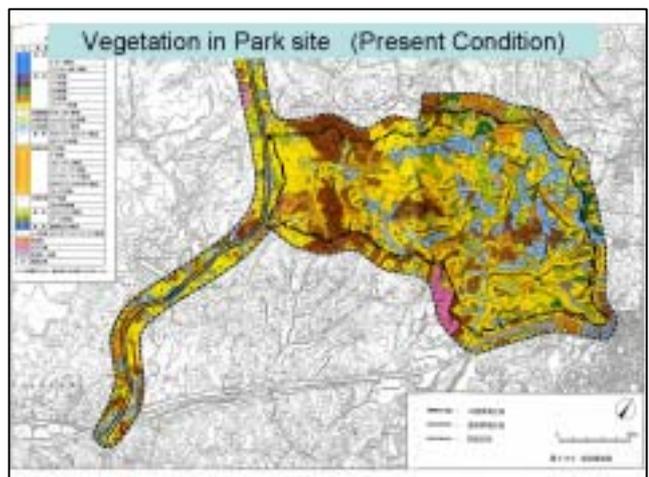
Central zone
 Picnic zone
 Nature Field for Environmental ed
 ucation, Recreational-activities in S
 atoyama

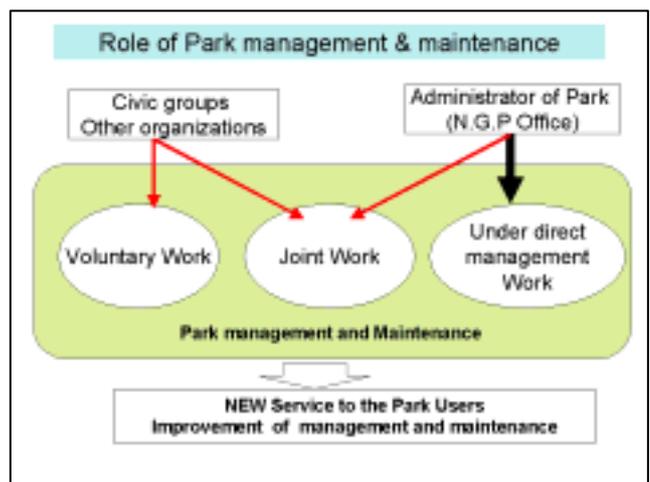
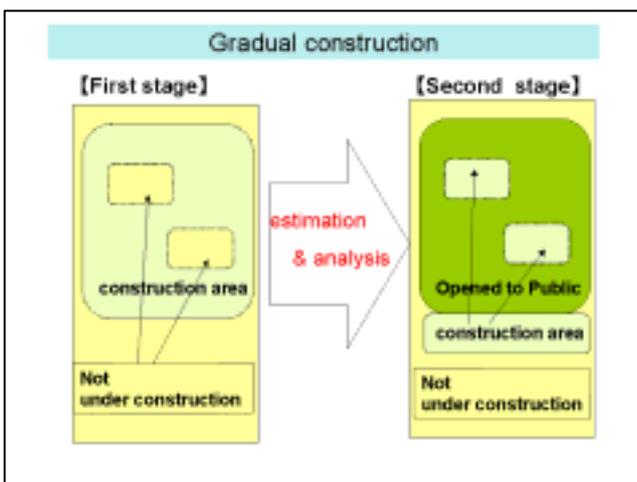
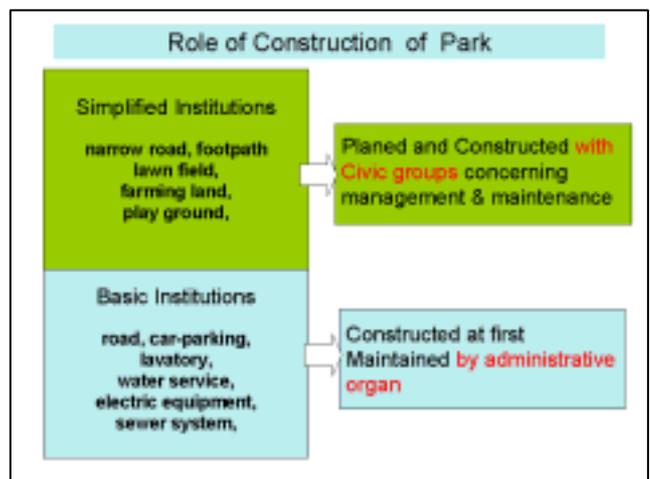
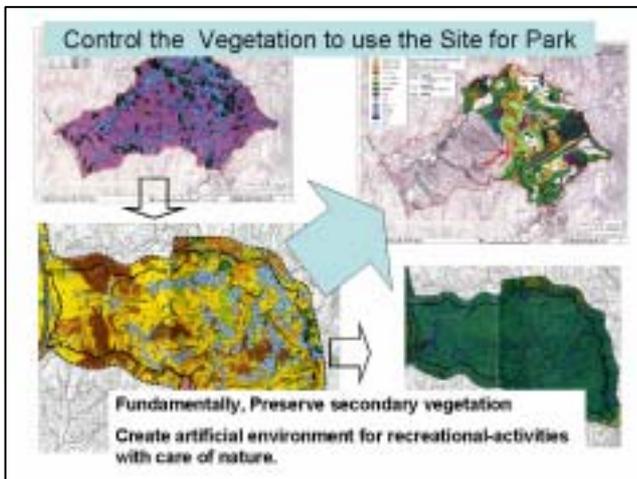
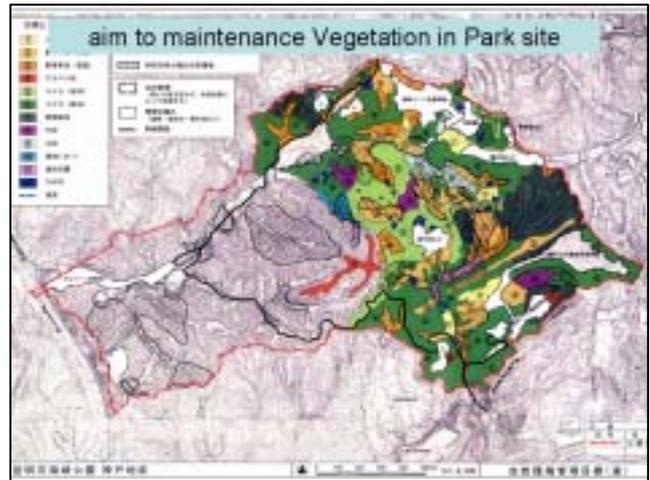
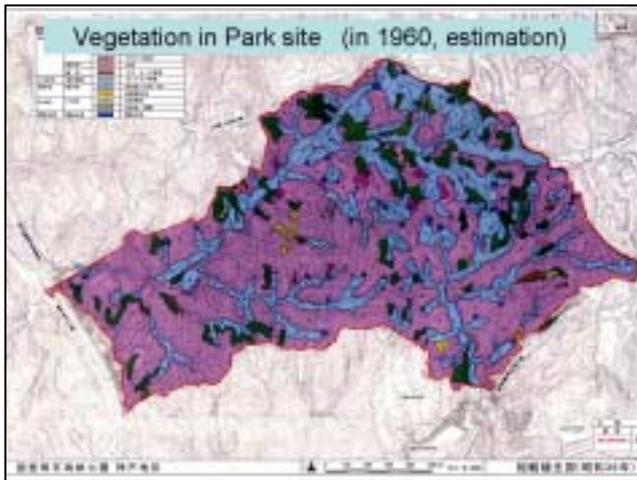
Terraces Paddy zone
 Enjoy Landscape of Terraces-Padd
 y field, Reservoir-Ponds, etc.
 Experience Village Life.

Forest Lodging zone
 Stay and Lodging in Forests

野原ゾーン
林間広場ゾーン

We conserve and bring up Satoyama which has been maintained by human work. And We hope many people enjoy recreational and educational activities in Satoyama environment.





How to realize the Park Management system

1. We seek and invite Activities by Civic Groups
 We plan Events concerning activities in Satoyama.
 We hope
 - Civic groups have fun through the activities,
 - Satoyama is conserved.
2. We prepare the place for discussion among the people concerning the Park.
3. We support Civic Groups which do pilot activities.
 I.e., Work cutting Bamboo-bush by Mental Disorors.



Discussion among the people concerning the Park



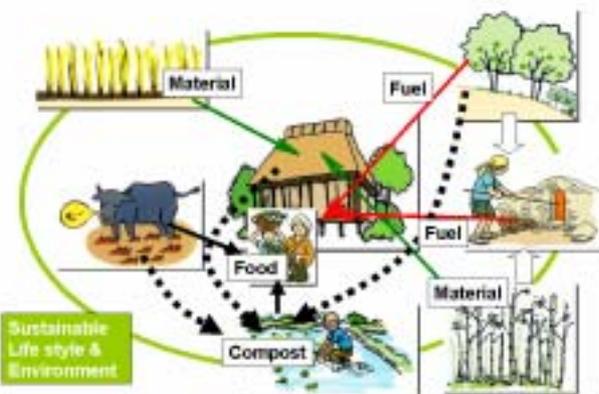
The discussion is held once a month regularly.
 Through these activities, they decide rules for activities in the park site.

The reappearance of Thatched-roof old house

We are building a thatched-roof old house as one of park institutions.
 This house will be opened as a rest-house for park users.
 We invited people to experience the work "making thatched-roof".

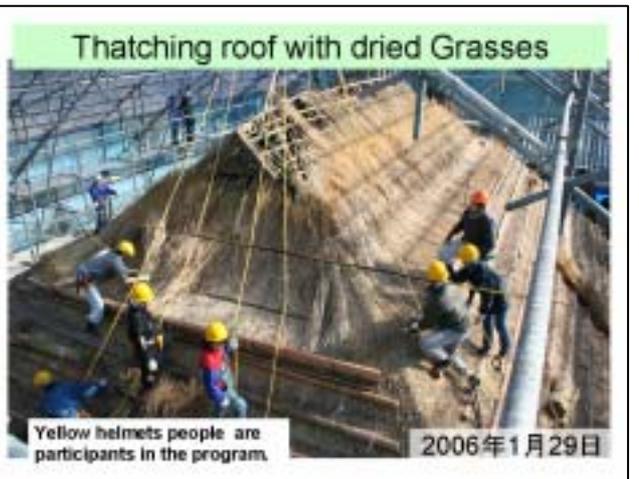
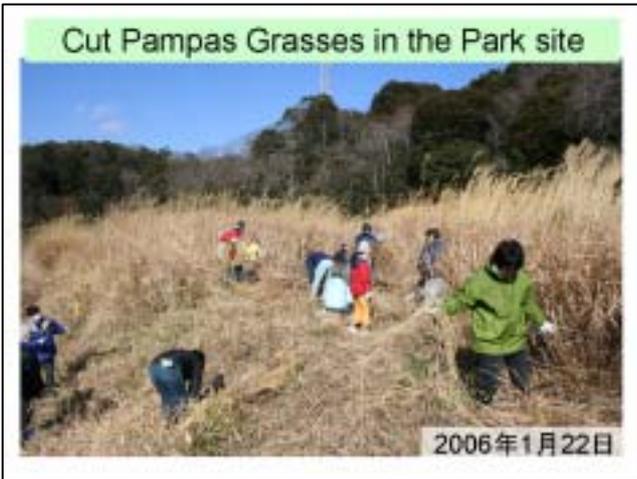


The Thatched-roof is the symbol of Circulation in life



The Program is the symbol of our "Park Concept"







<http://www.kokueiakashi.go.jp/>

あいな里山カレンダーは、
<http://hpcgi3.nifty.com/amano/sche28.cgi>

Workshops

Workshop A

Folk Medicine and Massage in Thailand

Moderator

Mr. Yoshizo NAKAZA

Workshop B

Activities of Environmental Education for Development of Nature Trail:

How to Improve Handbooks for Teachers and Students

Coordinator

Prof. Laddawan KANHASUWAN

Mr. Wacharin SANOASIANG

Workshop A: Folk Medicine and Massage in Thailand

Folk Medicine and Massage in Thailand

Moderator

Mr. Yoshizo NAKAZA

Introduction

The evolution of Thai traditional medicine has grown concurrent with Thai society since the pre-historical period. There are some historical evidences, i.g., the discovery of seeds and herbs such as beans, peppers and bitter cucumbers from Banchieng and other ancient cities. At the beginning of this historical period, early basic treatment would be done at ancient hospitals; Arokaya Sala was the place for the treatment and well-being of people with Thai traditional medicine. In the area of Indochina, the north-east, the north, the south, the west, and Khom Kingdom, details appeared in the inscriptions on ancient stones.

The development of herb and Thai traditional medicine began in the Sukhothai Period, and flourished in Ayutthaya and Rattanakosin Era 250 years ago, passing through a cycle of birth, maintenance, degeneration and then revival in the modern period. This history is a worthy cultural heritage and must be passed on to further generations. The collection of the background and whole knowledge of the body of Thai traditional medicine should be systematically revived and exhibited for dissemination to the public and interested people both in Thailand and overseas.

Wisdom based on Buddhism

Buddhism is involved with Thai traditional medicine in the concept of body, element and mind as a holistic model of life; birth, aging, illness, and death. Thai wisdom relieved suffering by paying respect to a supernatural power and holiness. Therefore, Si-Hing Buddha, Paisachkuruvaithunprapa Buddha as the Buddha of Medicine, and Seven-day Images of Buddha are auspicious, so that people are able to worship, meditate, and give blessings, fortune, happiness, well-being and health; to be free from misery and illness.

Evolution of Thai Traditional Medicine

There were many textbooks, experts, doctors of massage and doctors of herbal medicines. After the Myanmar destroyed the previous cosmopolitan Ayutthaya, the ancient wisdom continued to be cultivated until the Rattanakosin Era, when modern medicine originated. Modern pharmacies had been suffering from a lack of supply when the Second World War began; therefore, the King revived and promoted Thai traditional medicine to international standards.

Thai Traditional Massage

The theory of Thai massage genuinely reflects Thai wisdom. There are two types of Thai massage, such as the Royal massage applied to the royal family and high authorities, and Folk massage applied within the family. Thai people have never forgotten Thai wisdom, including Thai style exercises or Rue See Dat Ton; Yoga hermit practitioner, herbal hot compresses, and herbal steam baths. All these have enhanced good health for a long time.

Thai Massage Basics: An Ancient Art of Body Therapy for Healing, Health, and Transformation

Thai Massage is an interactive manipulation of the body using passive stretching and gentle pressure along energy lines. These movements help to

- adjust the skeletal structure
- increase flexibility
- relieve muscular and joint tension
- stimulate internal organs
- balance the body's energy system

The effect is uniquely relaxing as well as energizing. Receiving a Thai massage is a bit like doing Yoga without putting forth any effort while also getting acupuncture treatments!

Sessions typically last two hours, and are performed on a floor mat with the client dressed in comfortable loose clothing. Thai Massage uses two primary procedures - applying gentle pressure with the hands and feet, and a wide variety of passive stretching movements.

With these techniques, applied in a quietly meditative atmosphere, space is created in the musculoskeletal structure, the body begins to open and regain flexibility and ease of movement, while the mind gently returns to calm alertness. Tension and toxic material is released from the joints, muscles, and connective tissue. The energy body, as well as the internal organs, are stimulated by pressure on peripheral reflex points.

The work displays an inherent knowledge of the inner workings of the body, a knowledge that developed over centuries of practice. There is something in the essence of this work that appeals to a wide range of people on a core level; something that satisfies their physical and emotional needs and perhaps even assists in their spiritual needs.

Thai massage appeals to people and is effective because it treats the client with respect while encouraging them to let go of physical and emotional restrictions and to go beyond their present limitations. As a client once observed, it's a whole and total approach to wellness which allows one to feel in harmony with the rhythms of life.

This ancient therapy is beneficial for young or old, active or inactive, healthy or not so healthy. While each person will respond to this work in terms of their own experience and present state of health, it is well to remember that Thai Massage has been used for countless generations to treat degenerative conditions and promote wellness.

Thai Massage facilitates a sense of unity, wholeness, and balance. It creates a dynamic physical experience which integrates the body, mind, emotions and spirit.

Thai Massage assists the body's innate desire to return to optimum performance and optimum health, contributing to a sense of ease and well-being. One begins to sense the rightness of the inner Self, of Being, and of Life.



Workshop B: Activities of Environmental Education for Development of Nature Trail- How to Improve Handbooks for Teachers and Students

**Activities of Environmental Education for Development of Nature Trail:
How to Improve Handbooks for Teachers and Students**

Coordinator

Prof. Laddawan KANHASUWAN

Mr. Wacharin SANOASIANG



Oral Presentations

EATING BEHAVIOR, PSYCHOLOGICAL CHARACTERISTICS AND WEIGHT GAIN IN OBESE WOMEN

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Yamaguchi, Setsuko³ Lin, Crystal¹

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体重の増加と食行動および心理的特徴との関連

- 成人肥満女性における検討 -

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小幡真希¹ 山崎久美子² 高安陶子¹
やまくちせつこ³ りんちあき¹
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要 旨

この研究の目的は、成人肥満教室減量プログラム終了後の女性において、体重の増加と、食行動や心理的特徴との間に関連があるか否かを検討することであった。対象者は、BMI 値 25 以上の単純性肥満者で、減量プログラム 6 ヶ月コース終了者 60 名と参加待ちの未体験者 11 名、計 71 名の女性であった。抑制的摂食、情動的摂食、外発的摂食の 3 つの下位尺度をもつ日本版 DEBQ により食行動を、また日本版 GHQ-30 により精神的健康を測定し、プログラム終了者と未体験者との間に差があるか否かを検討した。また、プログラム終了者において、プログラム終了後に BMI が 1 以上増加した者と増加がみられなかった者との間にも尺度得点に差があるか否かを検討した。加えて、プログラム終了後の経過年数により、終了後 1 年以下の群、1 年から 3 年の群、3 年から 5 年の群の 3 群に分け、BMI 増加量とそれぞれの尺度得点との間に相関があるか否かを検討した。

結果として、プログラム終了者は未体験者に比べて抑制的摂食の得点が高いことが示された($t=2.79, p<0.01$)。またプログラム終了者において体重の増加がみられた者は、増加がみられなかった者に比べて抑制的摂食得点が有意に低く、外発的摂食得点および GHQ-30 得点が高いことが示され、さらに情動的摂食得点が高い傾向にあることが示された。加えて、プログラム終了後の経過年数による BMI 増加量との相関では、プログラム終了後 1 年から 3 年の群においてのみ、BMI 増加量と抑制的摂食得点($r=-0.44, p<0.05$)に負の相関がみられ、情動的摂食得点($r=0.56, p<0.01$)、外発的摂食得点($r=0.62, p<0.01$)、および GHQ-30 得点($r=0.44, p<0.05$)に正の相関が示された。

ABSTRACT

This study investigated the psychological characteristics between eating behavior and weight gain in obese women after completing the diet program. It was suggested that those who completed the diet program succeeded in restraining their eating behaviors. The results indicated that those who gained the weight after completing the program failed to restrain their meals, and that their eating behaviors tended to be greatly affected by outside stimuli such as appearance of food and also by their moods. Present study also suggested that the relationship between the increase in BMI and eating behaviors were only shown in those who

completing the program within 1- to 3-year ago. It was concluded that individual's eating behavior which was related to psychological characteristics would greatly affect one's weight gain and/or loss and also that monitoring eating behavior within 1- to 3-year after completing the diet program might be efficient for keeping their health.

Key words: eating behavior, Japanese-DEBQ, obese women, weight gain

INTRODUCTION

Obesity and overweight are a serious problem in these days. Almost all countries are experiencing an obesity epidemic. It is not restricted to industrialized societies; this increase is often faster in developing countries than in the developed world. In more affluent countries, obesity is not only common in the middle-aged, but is becoming increasingly prevalent among younger adults and children. The burden has been indicated as the direct costs, and it occupies a large portion in nation's total health care costs (WHO, 2003). In addition, obesity and overweight pose a major risk for chronic diseases, including type 2 diabetes, cardiovascular disease, hypertension and stroke, and certain forms of cancer.

Biological basis studies have investigated the factor of obese for a long time. The digestive and metabolic factors and the genetic factor related to obesity were revealed. But most researchers now agree that obesity is a complex problem that can involve metabolic, nutritional, genetic, sociological and psychological factors. Significant relationship between obesity due to overeating and eating behavior contributed by psychological factors including conscious restraints, emotional arousal and response of external stimuli were also studied (Ruderman, 1986).

Moreover, even though number of obese and overweight people take various diet programs associated with medical facilities, there still large increases throughout the world. There was an interesting survey by Consumer Reports (2002) that supplied information about a wide selection of dieters, both successful and unsuccessful. It was mentioned in the survey that most of the successful dieters lost weight on their own rather than with a formal weight loss program, and about 10 % of them sought advice from a psychologist or a nutritionist, rated this advice as very effective.

The purpose of this research is to investigate the relationship among the eating behavior, the psychological characteristics and weight gain in obese women after taking a diet program. It is said that dieters who reduced their weight are on the edge whether they keep it off or relapse. We explored their mental and physical states and changes without any treatment or intervention after completing the diet program. We approached those people from the perspective of the psychological characteristics and examined the differences and relationships among those eating behaviors, psychological characteristics and weight.

SUBJECTS

The subjects were 60 women who completed a 6-month diet program between 2000 and 2004 and also 11 women who did not experience the program. Then total subjects were 71 females and all approved the concept of this research and agreed to cooperate. The diet program was designed for obese adults to manage their health condition and to lose their weight. It was facilitated by medical doctors, nutritionists and physical trainers at the health-care center belonging to a medical facility. 60 Subjects who had completed the diet program didn't have any serious disease or complication, but had BMI scores of 25 or above. The program included lectures on obesity, cooking classes, physical trainings and individual sessions. The each mean and standard deviation of the subjects' age, height (cm), weight (kg), BMI and year were investigated (Table 1). This year shows the number of years that have past since completing the program.

Table 1 Means for age, height, weight, BMI and year

	Completed the program		Not experienced the program	
	mean	(SD)	mean	(SD)
Age	49.9	(12.4)	50.8	(12.2)
Height	155.5	(5.8)	153.3	(3.1)
Weight	62.9	(12.2)	69.7	(12.5)
BMI	25.9	(4.3)	29.7	(5.7)
Year	2.7	(1.6)		

MEASURES

All subjects were requested to complete two questionnaires. One of them was a Japanese version of the Dutch Eating Behavior Questionnaire (Imada, 1994), abbreviated as Japanese-DEBQ. This scale consists three subscales to assess restrained eating, emotional eating and external eating. It has 33 items with each answer rated from 5, the strongest tendency to 1, the weakest tendency. One of the subscales is restrained eating, which measures a tendency to restrain their eating behavior. Higher score in this subscale means that an individual tend to restrain his or her eating behavior. Emotional eating is scoring one’s tendency to elicit their eating behavior depending on a feeling or an emotion. As this score is higher, an individual’s tendency to elicit emotional eating behavior is stronger. External eating shows a tendency to be affected their eating behavior by outside stimuli such as appearance of food, time and also by their mood. Higher score means stronger tendency of external eating behavior in an individual (Van Strien et al., 1986).

The other questionnaire was a Japanese version of GHQ-30. It has six subscales, which are “General Illness”, “Somatic Symptoms”, “Sleep Disturbance”, “Social Dysfunction”, “Anxiety and Dysphoria”, “Suicidal Depression”. It consists 30 items and 4 scoring options. We use the GHQ-30 because we wanted to exclude those with any serious disease, complication or psychiatric symptom. In general, Japanese people have mean GHQ-30 scale of 3.28 (SD 2.95), whereas 15.03 (SD 6.43) in neurotic people (Nakagawa & Daibo, 1985).

RESULTS and DISCUSSION

The means and standard deviations for each eating behavior subscale in Japanese-DEBQ and the total GHQ-30 score were investigated. The means and standard deviations for each eating behavior subscale in Japanese-DEBQ and the total GHQ-30 score were investigated (Table 2).

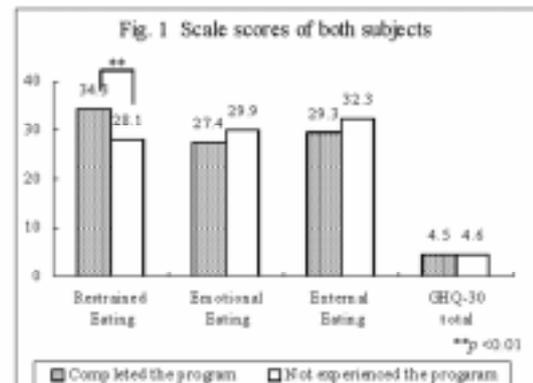
Next, we found the differences in Japanese-DEBQ between those who completed the program and who did not experienced (Fig 1). The former had a higher score for restrained eating ($t=2.79, p<.01$).

Table 2 Means for each scale

	Restrained Eating	Emotional Eating	External Eating	GHQ-30 total
mean	33.3	27.8	29.8	4.5
SD	7.0	10.4	6.6	4.4

Table 3 Means of gain weight

Group	Amount of gain weight	
	mean	(SD)
with weight gain	5.8	(2.9)
with no gain	0.3	(1.4)



We further separated the subjects who completed the program into two groups: 30 of them who gained BMI score(s) 1 or above and 30 of them who did not gain in BMI. The mean of gain weight was investigated (Table 3). When differences in both Japanese-DEBQ and GHQ-30 scores between those groups were evaluated (Fig 2), the former showed a lower restrained eating ($t=3.58, p<.01$) and a higher external eating ($t=2.34, p<.05$) and GHQ-30 ($t=2.20, p<.05$); furthermore a higher tendency for emotional eating ($t=1.86, p<.10$).

Next, the subjects who had completed the program were divided into three groups: those who completed the program less than a year ago ($N=12$); 1- to 3-year ago ($N=27$); 3- to 5-year ago ($N=21$). And focusing on a gain of BMI, we also investigated the relationships between the increase in BMI and the scores of Japanese-DEBQ and GHQ-30 depending on each group. Although any correlation could not be found in neither those who had completed the program less than a year ago (Table 4) nor those of 3- to 5-year ago (Table 6), subjects who had completed the program 1- to 3-year ago showed some correlations between the increase in BMI and each score (Table 5).

Subjects who completed the program 1- to 3-year ago had a low restrained eating score, high emotional and external eating scores and also high GHQ-30 score. This group showed statistically significant negative correlation between the gain in BMI and restrained eating($r= -0.44, p<.05$), and the positive correlation between the gain in BMI and emotional eating($r=0.56, p<.01$), external eating($r=0.62, p<.01$), and GHQ-30 total scores($r=0.44, p<.05$).

Table 4 Correlation of Group 1 (less than 1 year ago)

	Increase in BMI	Restrained Eating	Emotional Eating	External Eating	GHQ-30 total
Increase in BMI					
Restrained Eating					
Emotional Eating		-0.58*			
External Eating			0.78**		
GHQ-30 total		-0.68*			

* $p<0.05$ ** $p<0.01$

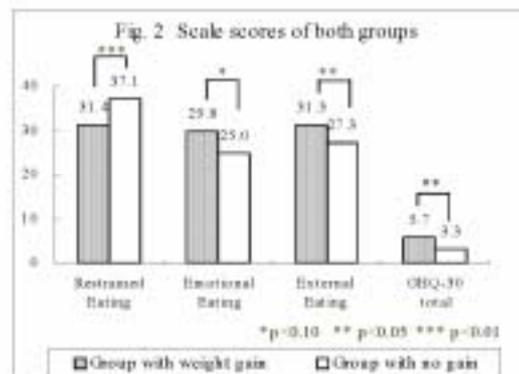


Table 5 Correlation of Group 2 (1- to 3-year ago)

	Increase in BMI	Restrained Eating	Emotional Eating	External Eating	GHQ-30 total
Increase in BMI					
Restrained Eating	-0.44*				
Emotional Eating	0.56**	-0.43*			
External Eating	0.62**	-0.45*	0.67**		
GHQ-30 total	0.44*		0.59**		

* $p<0.05$ ** $p<0.01$

Table 6 Correlation of Group 3 (3- to 5-year ago)

	Increase in BMI	Restrained Eating	Emotional Eating	External Eating	GHQ-30 total
Increase in BMI					
Restrained Eating					
Emotional Eating					
External Eating		-0.61**	0.55**		
GHQ-30 total		-0.60*	0.45*	0.48*	

* $p<0.05$ ** $p<0.01$

It is suggested that those who completed the program succeeded in restraining their eating behaviors than those who have not yet experienced it. The results indicated that those who gained the weight after completing the program failed to restrain their meals, and that their eating behaviors tended to be greatly affected by outside stimuli such as the appearance of the food and also by their moods. The results suggested that monitoring their own eating behavior and maintaining mental health within 1- to 3-year after completing the program may prevent them from gaining weight.

CONCLUSION

Individual's eating behavior which is related to psychological characteristics such as conscious restraints, emotional arousal and response of external stimuli would greatly affect one's weight gain and/or loss. Monitoring within 1- to 3-year after getting their weight management will be efficient to maintain their health.

REFERENCE

- Consumer Reports Union of U.S. (2002). The truth about dieting. *Consumer Reports*, 67 (6), 26-31.
- Imada, S. (1994). Psychological studies about eating behavior (3) : A Japanese version of the Dutch Eating Behavior Questionnaire (DEBQ). *Hirosima Shudai Ronshu*, 34(2), 281-291.
- Nakagawa, Y., & Daibo, I. (1985). The Handbook of Japanese version of GHQ, Tokyo: Nihon Bunka Kagakusha.
- Ruderman, A. J. (1986). Dietary restraint: A theoretical and empirical review. *Psychological Bulletin*, 99(2), 247-262.
- Van Strien, T., Frijters, J. E. R., Bergers, G. P. A., & Dfares, P. B. (1986). The Dutch Eating Behavior Questionnaire (DEBQ) for assessment of restrained, emotional, and external eating behavior. *International Journal of Eating Disorders*, 5, 296-315.
- World Health Organization. (2003). Diet, nutrition and the prevention of chronic diseases, *WHO Technical Report Series*, 916, 61-71.

THE RELATIONSHIP WITHIN FAMILY, SPOUSES, AND SIBLINGS IN TYPE A BEHAVIOR PATTERN: IN SPECIFIC TO JAPANESE UNIVERSITY STUDENTS

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日本的タイプ A 行動パターンにおける親子・配偶者・同胞間の関連

りんちあき
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要旨

タイプ A 行動パターン (Type A Behavior Pattern; TABP) に関するわが国の研究からは, 子の TABP 発達に, 両親の養育態度が影響すること (佐藤, 2002; 大芦, 2002) や, TABP に親子間の類似性があること (桜井, 1989; Yamasaki, 1994; 大芦・山崎, 2003) が報告されている。また, 欧米とは TABP の質的側面が異なることが論じられており (山崎勝之, 1995), 本研究では, わが国の質的側面を考慮して作成された尺度を用いて, TABP における親子・配偶者・同胞間の関連があるか否かを検討することを目的とした。

大学生とその両親及び同胞 1 名を対象とし, 親子間及, 配偶者間及び同胞間の関連を検討した。使用した尺度は, 日本的タイプ A 行動評定尺度 (Coronary-prone Type Scale for Japanese; CTS) であり, この尺度は, 敵意行動, 完璧主義, 日本的ワーカホリックの 3 因子から構成され, 各 10 項目, 合計 30 項目からなる (瀬戸・長谷川・坂野・上里, 1997)。

CTS 総得点において関連を検討したところ, 父親と母親, 男子と母親, 女子と父親及び母親において, 正の相関が認められた。また, 男女いずれも母親からの寄与が認められた。

本研究の結果から, TABP には, 親子間の関連がみられ, 子の TABP は母親の影響をより強く受けていることが示唆された。これは, 大芦・山崎 (2003) の先行研究と一部一致する結果であった。また, 配偶者間において, TABP の類似性が示唆され, その発現に, 配偶者の TABP が環境的要因として何らかの影響を及ぼしている可能性が推察された。なお, 同胞間では TABP 構成要素の一部において関連が示唆されたが, TABP の発達には, 年齢や同胞数, 出生順序等の要因も影響を及ぼすといわれ, 今後さらなる検討が必要であるだろう。

ABSTRACT

To investigate the relationship of Type A behavior pattern (TABP) within a family including parent-child, spouses and siblings by using the Coronary-prone Type Scale for Japanese (CTS). The subjects were university students, their parents and one of their siblings. Of the questionnaires sent, 165 letters were used to investigate the relationships within a family and spouses, and 170 letters were used to study the relationship within siblings. Positive correlations were found within families' TABP except that of between siblings. The findings also indicated that different sex in the students group had different correlations with parents group's subscales. Moreover, similarities in spouses' TABP were suggested. However, further research is needed to investigate the relationship between siblings' TABP.

Key words: Type A Behavior Pattern (TABP), Coronary-prone Type Scale, Japanese parent-child, Japanese spouses, Japanese siblings

INTRODUCTION

People's interests to achieve total health from both physiological and psychological perspectives have been increasing in past decades in Japan. With the development in the field of research to study relationships between physical problems and psychological conditions, numerous evidences were found that many diseases are caused not only by external stimulus but also by combinations of several psychological characteristics. Type A Behavior Pattern, abbreviated as TABP, is one of those diseases that are strongly related to an individual's psychological characteristics.

There have been various researches in Japan on the topic of TABP (Satoh, 2002; Oashi, 2002; Sakurai, 1989; Yamasaki, 1994; Oashi & Yamazaki, 2003). It is a common behavior pattern seen in patients with ischemic heart diseases, and thought to be the risk factors for the diseases. Those behaviors include, for example, intense achievement drives, a sense of time-urgency, aggressiveness, and impatience. Instead of ischemic heart diseases, it is often said that TABP is also known for the risk factor for coronary heart diseases (CHD) as well. Ischemic heart diseases are particular category in CHD; hence, this paper will use the former word to specifically point out the risk problem.

Results obtained from the researches in Japan revealed that biological and environmental factors such as individuals' background and society have influences on the development of personality and behavior characteristics. For example, it was suggested that parents' nurturing attitudes affect children's development of TABP (Satoh, 2002; Oashi, 2002), and that there are similarities within family (Sakurai, 1989; Yamasaki, 1994; Oashi & Yamazaki, 2003); however, the results are varied depending on subject's age.

In addition, many researches reported that TABP in western countries and that of in Japan do not have the same definition (Yamasaki, 1995). Japanese TABP in comparison with that of in western countries are characterized as lower competitiveness and hostility, higher sense of belongings to group, work-centered life, and Typus Melancholicus, which is one of the characteristics of depression. Hence, Seto et al. (1997) has created a new scale with three subscale factors; hostility, perfectionism, and workaholism, based on these characteristics specific to TABP in Japanese people.

The most used scales to assess TABP in both practice and researches are; Jenkins Activity Survey Type A scale (Jenkins, Zyzanski, & Rosenmen, 1979), also known as JAS, Bortner Type A scale (Bortner, 1969), and Framingham Type A scale (Heynes, Levine, & Scotch et al., 1978). All these scales reflect western definition of TABP, and thus they are not appropriate to assess TABP in Japanese society.

Therefore, the purpose of this research is to investigate the relationship of TABP within a family including parent-child, spouses, and siblings by using the Coronary-prone Type Scale for Japanese (CTS), which takes into consideration of TABP's qualitative side specific to Japanese people. The first part of the research investigated the relationships between parents and a child (a university student) and between spouses, and the second part investigated the relationship between a child (a university student) and his or her one sibling.

SUBJECTS

Subjects were university students, their both parents, and their siblings. A set of questionnaires were given to university students in six introductory psychology courses in several private and public universities in Japan. A set contained CTS for a child, a child's both parents and one sibling in an envelope. In addition, it also contained an information sheet that explained the main point of the set. Students were explained the procedure when the sets were given out, and told that they had a right to choose not to participate in this study. Of the questionnaires given out, 283 were returned with responses approving the research concept.

Subjects in the first part of the study were 165 families, including a university student and both parents. The details of these subjects are 67 males, 98 females and their both parents, 165 pairs of father and mother. Subjects in the second part of the study were 170 pairs, which made up of a university student and his or her one sibling. The details of their siblings are as follows; 48 older brothers, 37 older sisters, 47 younger brothers, and 39 younger sisters. These participants were further separated according to their sex: 41 of group A

consisted of male students and their male siblings; 51 of group B consisted of female students and their female siblings; 78 of group C consisted of siblings of different sex.

MEASURES

CTS by Seto et al. was used in this study. This scale consists of three subscales, which are hostility, perfectionism, and workaholism, with each factor having 10 determining questions, total of 30 questions. Each answer is rated from 6, the strongest tendency to 1, the weakest tendency. Moreover, the total scores of each three subscale make up CTS score. Among other many scales that can assess TABP, this research used CTS because the scales used in western countries do not appropriately evaluate the characteristics of Japanese TABP. On the other hand, CTS was designed to reflect the results from the most recent research on Japanese TABP. Moreover, the results suggested that CTS had high construct validity, reliability, and also a clinical validity.

RESULTS and DISCUSSION

The relationships between families’ TABP and spouses’ TABP were investigated using 165 sets of questionnaire returned from a child and both parents. Their CTS scores and three subscale scores were compared. CTS score is made up of the sum of three subscale scores, and three subscales are hostility, perfectionism, and workaholism.

As the table 1 shows, male university students had a higher CTS score than females did, and fathers had a higher score than mothers did. For the child group, the number was not significant enough to conclude any sex differences in the tendency for TABP; however, the result suggested that fathers have a higher tendency for TABP than mothers because the father group had significantly higher CTS score ($t = 6.17, p < .01$). Moreover, it was revealed that fathers more tend to become perfectionism and workaholism than mothers do, because the father group had higher scores for both subscales.

	Hostility	Perfectionism	Workaholism	Mean (SD)
Male	22.72 (7.58)	38.73 (8.42)	37.84 (7.81)	104.28 (14.59)
Female	26.19 (8.58)	37.30 (7.72)	38.03 (6.63)	101.52 (16.28)
Father	27.72 (9.65)	42.18 (7.99)	39.67 (8.76)	109.56 (15.29)
Mother	27.18 (8.30)	37.64 (6.97)	35.50 (8.40)	100.32 (15.26)

To further examine the relationships between families, we performed multiple regression analysis. In this analysis, the dependent variable was the children’s CTS score, and the independent variable was the parents’ CTS scores. Then, the results indicated that mother’s CTS score contributed for both males and females CTS scores (Male: $\beta = 0.295, p < .05, R^2 = 0.114$; Female: $\beta = 0.253, p < .05, R^2 = 0.100$). Then, we investigated parents’ influences as we looked at each subscale in CTS. Male children’s perfectionism was contributed by father’s perfectionism and mother’s hostility ($\beta = 0.444, p < .01; \beta = 0.247, p < .05, R^2 = 0.100$). Next, we performed the same thing on the female group. The result revealed that female children’s hostility was contributed by both parents’ hostility ($\beta = 0.220, p < .05, R^2 = 0.108$). Moreover, female children’s perfectionism was contributed by fathers’ perfectionism ($\beta = 0.225, p < .05, R^2 = 0.034$) while children’s workaholism was contributed by mothers’ perfectionism ($\beta = 0.299, p < .01, R^2 = 0.079$).

When the relationship between spouses’ TABP was examined, it was found that there were similarities. The results revealed a significant positive correlation in their CTS scores ($r = .208, p < .01$). Moreover, in the subscale scores, there were significant positive correlations in their hostility ($r = .250, p < .01$) and perfectionism ($r = .154, p < .05$). This indicates possibilities that if one is hostile or perfectionism, then the other may also become the same.

In the examination of relationships between children and their siblings, all A, B, and C group did not reveal any significant relationship when their each CTS score was compared. However, some relationships were observed in the comparison with each subscale score.

If both siblings are male, then a child's workaholism may have effects on male sibling's perfectionism. In group A, which includes male siblings, there was a significant positive correlation between the child group's workaholism and the sibling group's perfectionism ($t = .396, p < .05$) (table 2). When both siblings are female, then the results suggested that a child's workaholism may have effects on her sibling's both hostility and workaholism, because the analysis of group B revealed a significant positive correlation between a child group's workaholism and sibling group's both hostility ($t = .326, p < .01$) and workaholism ($t = .300, p < .01$) (table 3). Finally, if siblings contain male and female, then a child's hostility may affect sibling's tendency to become perfectionism. In group C, the siblings with different sex, there was a significant positive correlation between students' hostility and siblings' perfectionism ($t = .275, p < .01$) (table 4).

CONCLUSION

In the relationships within a family, mother's TABP greatly contributes for children's TABP, which partially matched with the results obtained in the research by Oashi and Yamazaki (2003). Furthermore, the results suggested the similarity of TABP in spouses. It has been discussed that several factors are necessary for the appearance of TABP, and one of them is spouses' TABP. Lastly, though our overall CTS scores among siblings did not reveal a significant correlation, when the three CTS factors were individually examined, some correlations existed. Thus, their age, number of siblings, and the birth-order may have influences, which may possibly be the topic for the future research.

REFERENCES

Bortner, R. W. (1969). A short rating scale as a potential measure of pattern A. *Journal of Chronic Diseases*. 22, 81-91.
 Haynes, S. G, Levine, S., Scotch, N., Feinleib, M., & Kannel, W. B. (1978). The relationship of psychosocial factors to coronary heart disease in the Framingham Study: I. Methods and risk factors. *American Journal of Epidemiology*. 107, 362-382.

Table 2 Correlation in group A (male and male)

siblings	Hostility	Perfectionism	Workaholism
students			
Hostility			
Perfectionism			
Workaholism		.396*	

* $p < 0.05$ ** $p < 0.01$

Table 3 Correlation in group B (female and female)

siblings	Hostility	Perfectionism	Workaholism
students			
Hostility			
Perfectionism			
Workaholism	.326**		.300**

* $p < 0.05$ ** $p < 0.01$

Table 4 Correlation in group C (different sex)

siblings	Hostility	Perfectionism	Workaholism
students			
Hostility		.275**	
Perfectionism			
Workaholism			

* $p < 0.05$ ** $p < 0.01$

- Jenkins, C. D., Zyzanski, S. J., & Rosenman, R. H. (1979). *Jenkins Activity Survey Manual*. The Psychological Corporation New York: Harcourt Brace Jovanovich.
- Oashi, O. (2002). The relationship between parents' child-rearing practices and type A behavior pattern in Japanese junior high school students. *Behavioral Research Science*. 41(2), 1-8.
- Oashi, O., & Yamazaki, K. (2003). Self-reported Type A behavior in university student's and their parents'. *Bulletin of the Faculty of Education, Chiba University*. 51, 23-26.
- Sakurai, S. (1989). The relation between type A behavior of mothers and that of their children. *Research Bulletin of Nara University of Education*. 25, 95-100.
- Satoh, S. (2002). A study of the relationships among Type A behavior pattern, self-esteem, and parents' nurturing attitude. *Doshisha University Jimbungaku studies in humanities*. 172, 1-15.
- Seto, M., Hasegawa, N., Sakano, Y., & Agari, I. (1997). Development of Coronary-prone Type Scale for Japanese (CTS). *Japanese Journal of Counseling Science*. 30, 199-206.
- Yamasaki, K. (1994). Similarities in Type A behavior between young children and their parents in Japan. *Psychological Reports*. 74(1), 347-350.
- Yamasaki, K. (1995). Development of Type A Characteristics as a Personality. *Japanese Psychological Review*. 38(1), 1-24.

EDUCATION AND HEALTH IN THAILAND

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The purpose of this study is to explain the three-path model of the relation between education and health in Thailand. The focus points are to answer these questions: Do the three-path model explains the association between education and health in Thailand? Do educated Thai people live healthier lifestyle?, Does a healthier lifestyle connect education to health in Thailand?, and Is there connection between education and health lifestyle for Thai people?

Introduction: Thailand is situated in the continental Southeast Asia and is part of the Indochina Peninsula, covering an area of about 514,000 square kilometers. The population of Thailand is 64,233,000 (2006); almost all residents (99.3%) are of Thai nationality and the rest are other nationalities such as Chinese, Myanmar and Lao. The Thai language is officially used for speaking and writing. Most of Thai people are Buddhists (94.2%). The education reform has been implemented to expeditiously provide 12-year basic education. The compulsory education is 9 years. Thai government subsidized education, making it free for students through kindergarten to grade 9.

Education in Thailand

The Constitution ensures the right of all Thai people to receive a quality, basic education for at least 12 years. The compulsory education is 9 years, together with tuition fee exemption for years 10-12. The Thai government subsidized education, making it free for students through 14 years (Kindergarten to grade 9).

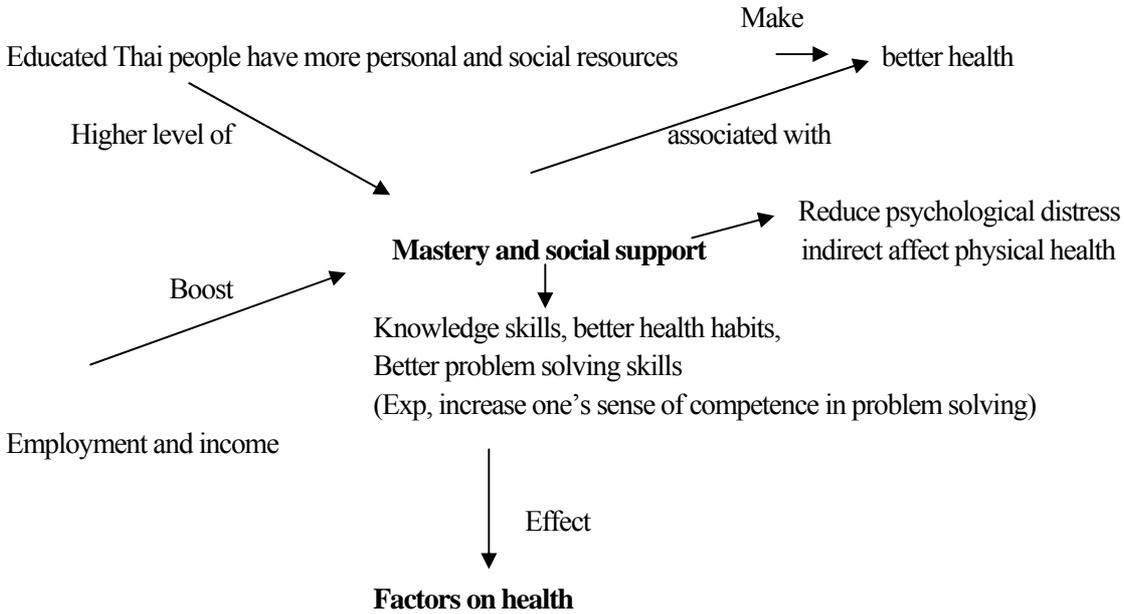
Health in Thailand

The concept of health is inclusive of a well-being of the public. Therefore, the state of being well is being physically, mentally, emotionally, socially and spiritually well. And the well being also signifies happiness and quality of life. Thailand's health and sustainable development policies stand on three pillars: 1) Holistic integration of health into the development process; 2) Preparation and implementation of a strategic road map for scaling up investment in health for economic development; and 3) Accordance of primary importance to health promotion, as the foundation of achieving and sustaining the good health of individuals, families, communities and society. At present, health problems among Thai youths include drug abuse, smoking, alcohol drinking, normal and deviated sexual behaviors, suicide, stress and emotional problems, injuries and accidents. The Ministry of Public Health is strengthening disease surveillance systems for detecting emerging infectious diseases such as SARS and Avian Influenza as an integral part of a more vital Thai health system.

The Three-Path Model : The Three-Path Model begins with education being positively associated with health, physical functioning, market position, personal/ social resources, and a healthier lifestyle (Hraba, Lorenz, Pechacova, and Liu, 1998:303). Educated people have more personal and social resources, make better health, higher level of mastery (knowledge skills, better health habits, better problem solving skills) and have social support (reduce psychological distress), including good employment and high income which can effect on health outcome.

Suwan and others (1997) found that the most common health promotion behaviors carried out in youths, housewives, and industrial workers were not smoking; not drinking; not using tranquilizer drugs; and not driving after drinking alcohol.

In summary, educated Thai people have healthier lifestyles such as not smoking/less likely to be smoker/or have quite, drinking only in moderation, exercising regularly, watching diet, and less likely to abuse alcohol.



The Impact of Income and Health: Poor health is associated with income. As a result of economic development, labor force for men is 71% and women are 53%. Market Position is dealing with economic stress (family's economic situation, place to live, car, cloth, food, medical care leisure and recreational activities), household income, and employment (job satisfaction, market position change, personal/social resources).

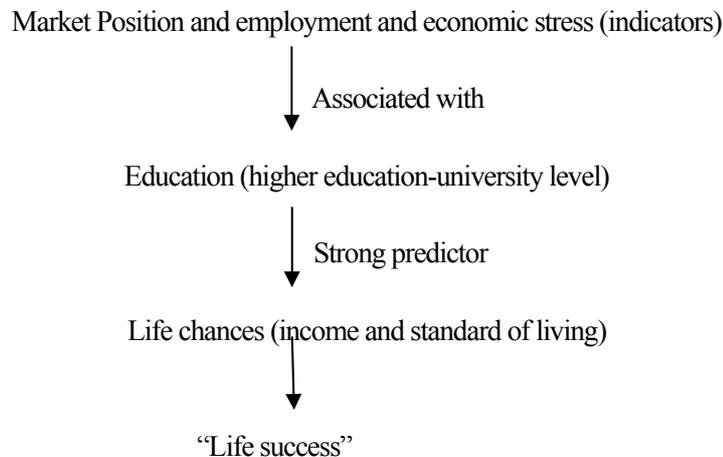
Market Position (objective indicators) effect on health, such as:

Not enough money for food, clothes, and shelter

Feel depressed, and hopeless

Incomes of educated workers is higher than the unskilled labour.

Other indicators of market position, including employment and economic stress were effected on health outcomes.

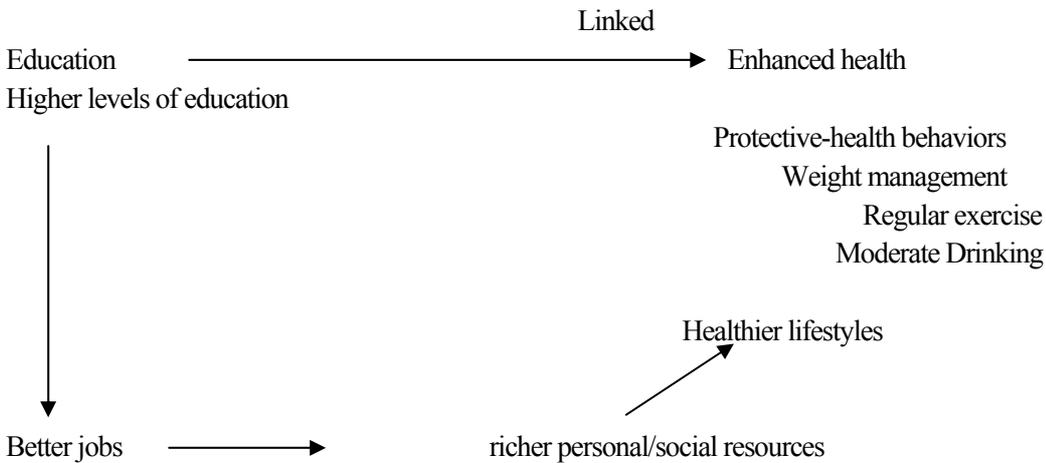


Education as the aspect of socioeconomic status important to health. Education provides skills and knowledge to help people deal with the stresses and life problems. Stressors, hardships, beliefs, and behaviors are socially structured; they link education-based inequality to health.

Education shapes work (employment) and economic condition (income).

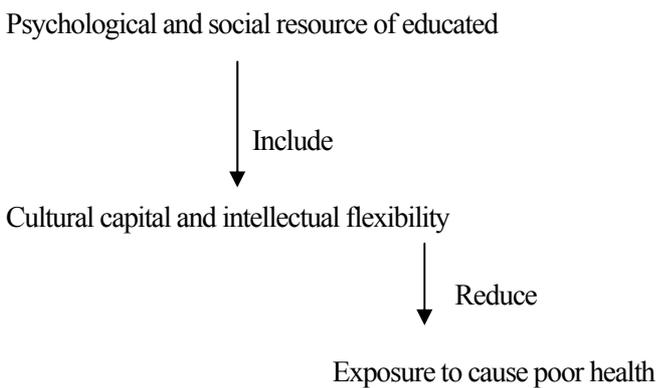
The relationship between education and health: When look closely the relationship between education, health, market position, personal resources and health lifestyle in Thailand, there are direct and indirect relationship. For direct relationship, education (higher levels of education) is linked to enhance health such as health lifestyle (eating properly, exercise, using seat belt, not smoking and drinking). Indirect relationship, psychological and social resource, and intellectual flexibility can also reduce exposure to cause poor health.

1) Direct relationship



(Comparative market position and health lifestyle of educated Thai people, income differences, wages of workers in education)

2) Indirect relationship



Social support is a sense of being cared for and loved, esteemed and valued as a person, and part of a network of communication and mutual obligation in which others can be counted on. Social support improves health through psychological and behavioral factors. It decreases depression, anxiety, and other psychological problems. The educated people have higher levels of social support than the less educated people. Unemployment and economic hardship decrease the sense of having a supportive spouse and increase domestic arguments.

Impact of Education for Health Outcomes: Knowledge and a good education were recognized as keys to living a happy life because they provided gateways out of mental strain and excessive physical labor (Paknawin-Mock, 2000:305). In addition, education by itself does not have a main effect on whether or not a person will regularly use vitamins & minerals. Education (at least 4-year college education) is negatively related to use of vitamins & minerals, the higher the education level, the lower the use of vitamins & minerals on a regular basis (Anantachoti, 2001:87-88).

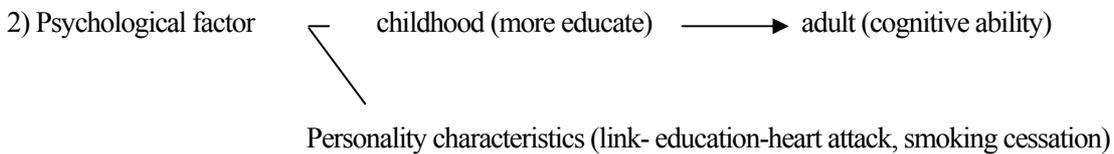
Healthy Thailand Indicator

Thailand set the mid decade goal for Healthy Thailand by the year 2015. There are Healthy Thailand Indicators with 5 categories: Exercise, Diet, Emotion, Disease Reduction, and Environment for children, youth, working people, and elderly. For youth, Healthy Thailand Indicators are exercise >50%, member of To Be No 1 >50%, emotion management skills >60%, rate of suicide <5/100,000, rate of repeat drug addict <30%, and Health Promotion Schools >30%.

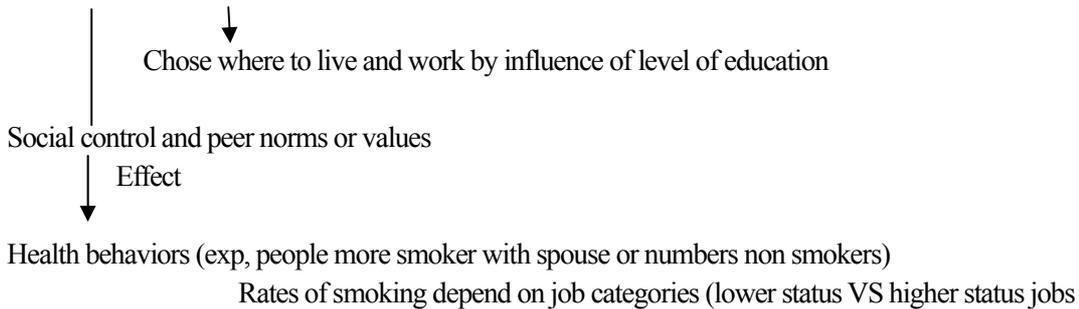
Physical functioning (health affected physical activities-walking, Climbing stairs, bending?)



Exp: (The relationship) Link between cigarette smoking and heart attack
Way to change smoking behavior (process of quitting smoking)



3) Social environment perspective and resources consequences of education



There are environmental factors that promote undesirable behaviors such as nightclubs, pubs, and snooker-clubs.

Two perspectives of education and health behavior are higher and lower levels of education.

Higher levels of education	Lower levels of education
Educated people	Less-educated people
“Buy” better health	Marry less-educated people
Higher incomes and wealth Psychologically fulfilling work Experience less economic hardship	Work in job require less education (environment)
Purchase more health insurance	More physically demanding
Access high-quality health care	Less autonomy and flexibility
Higher levels of health and physical functioning	Increase job-related boredom and stress
Lower levels of morbidity, mortality, and disability	Smoking (counter boredom and stress)
Fewer infectious diseases	
Survive longer when sick	
Longer life expectancies	

Conclusion: When Thailand defines Health as the state of physically, mentally, emotionally, socially, and spiritual well-being that is interrelated holistically. Therefore, to improve people’s health status, it is necessary to develop the entire system that is linked to several other elements, i.e. individual, environment (education, economic, social, political, physical, and biological) and health service system, including active participation of all sectors of Thai society. However, higher education had become a strong and positive predictor of income in Thailand.

This article can explain the three-path model of the relation between education and health in Thailand. The answers of these questions are described. The three-path model explains the association between education and health in Thailand as well. Educated Thai people live healthier lifestyle but not cover all of the health behaviors. A healthier lifestyle can connect education to health in Thailand, and there is the connection between education and health lifestyle for Thai people. Finally, Thai people are living longer and healthier lives supported by a progressive healthcare system.

References

Anantachoti, P. (2001, September). “Understanding dietary supplement use among Thai population,” Unpublished Dissertation (Doctor of Philosophy, University of Minnesota) UMI number 3020576.

Hraba, J., Lorenz, F. O., Pechacova, Z., and Liu, Q. (1998, December). “Education and health in the Czech Republic,” *Journal of Health and Social Behavior*. 39:295-316.

Paknawin-Mock, J. (2000, December). “Thai view of wellness: Sabaay, smoking and Buddhist health promotion,” Unpublished Dissertation (Doctor of Philosophy, University of California San Francisco) UMI number 9996537.

Suwan, Prapapen., and others. (1997). *The Study of Behaviors and Environment Conductive to Health Promoting Behaviors among Youths, Housewives and Workers in Thailand*. Nontaburi, Thailand: Health System Research Institute.

Self- Help Groups' Websites in Japan

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セルフヘルプ・グループにおけるホームページの活用

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要 旨

【目的】本研究では、セルフヘルプ・グループがホームページを通してどのようなメッセージを発信しようとしているのか、どのように活用しようとしているのかを明らかにすることを目的とした。

【方法】質問紙の自由記述は、「会のHPを開設したときにHPに期待したことは何ですか?」「会のHPを開設してどのような効果がありましたか?」「会のHPに今後どのような効果を期待していますか?」の3項目とした。また、ホームページの機能を分析するために16項目の尺度を作成した。

【結果】セルフヘルプ・グループのホームページの機能として、「コミュニケーションの活性化」「知識の共有・活用」「情報の提供」「知名度のアップ」と名づけた4因子を抽出した。ホームページの機能は、特徴ごとに7つのグループに分かれ、それぞれに違いがあった。共通するホームページのビジョンとして、「誰もが生きやすい社会づくりへの積極的な参加」と「QOL(生き方の質)のより一層の向上」の2つが挙げられた。

【考察】セルフヘルプ・グループはホームページを通して、ピアや医療従事者・ボランティアなどに留まらず、広く門戸を広げ、より多くの人への啓発を行うとともに、一人で悩んでいる人へも情報が届くよう発信し、共有・活用しあおうというメッセージを発信していた。だが、グループの特徴ごとに機能がかなり異なっていたことから、枠を超えてネットワークを築いていくことが、より多くの人への啓発につながると考えられた。また、セルフヘルプ・グループはホームページを通して、誰もが生きやすい社会づくりへの積極的な参加を試み、病気や障害など何らかの問題とともに生きる、生き方の質のより一層の向上を図ることに活用しようとしていた。病気や障害とともに生きる日々の生活の中から得た体験知は、医療や福祉の範囲に留まらず、誰もが生きやすいユニバーサル社会の実現に必要な知恵であることを示唆していた。

Abstract

The number of Internet users has steadily increased in recent years, and accordingly, in the field of health care, the self-help groups have opened their websites to transmit information across the Internet. The purpose of this study was to examine what functions do the websites of self-help groups in health care fields have, what kind of message is sent out via their websites and how do they intend to utilize their websites in the future.

In this study, four functions of the websites of the self-help groups were extracted; namely, "Activation of communication", "Sharing and utilization of experiential knowledge", "Provision of information" and "Improvement of social recognition". Functions of the websites by the self-help groups greatly differed according to the characteristics of the seven groups.

The self-help groups in health care fields wanted to make their experiential knowledge available to a lot of people and they hoped to have their websites used to further contribute to the improvement of social welfare. The visions for the self-help groups Internet community were "Active participation in an effort to realize a society friendly to everyone" and "Further improvement of QOL (quality of life)".

Keywords: Self-help group, Experiential knowledge, Internet community

I. Introduction

The number of Internet users has been increasing year by year in Japan, and it reached 85.29 million in 2005,¹⁾ which was equivalent to 66.8% of the whole population. Though the problem of the digital divide still exists, according to the survey of “The Utilization Ratio of the Internet by People with Disabilities” conducted in Tokyo in 2002, 45.6% of the respondents had experienced using the Internet.²⁾ Considering the ratio was 34.9% in 1999, it is clear that more and more disabled people are using the Internet. In these circumstances, the self-help groups in the medicine and health care field started to establish their websites and provide information across the Internet.^{3,4)}

The self-help groups are defined as “the groups for people who come together to deal with a shared concern or problem”.^{5,6,7)} Such groups exist all over the world; they are sometimes called mutual aid or support groups.

The main purpose of this study was to answer this question. What functions do the websites of self-help groups in health care fields have? We also asked these subsidiary research questions. 1. What kind of message is sent out via the self-help groups’ websites? 2. How do these self-help groups intend to utilize their websites in the futures?

II. Study Methods

The subject of this study was the self-help groups whose website URLs and mail addresses were on the list of “1000 Counseling Services and Patient Advocacy Groups to Help You in Your Illness”.³⁾ We sent our questionnaire attached with the letter explaining the purpose of this study to these self-help groups via e-mail.

We asked what kinds of functions they thought their websites had by means of 16 criteria. Each was evaluated on five grades from “Totally true” to “Totally false”. We also asked the respondents the following three open-ended questions: “1. What did you expect for your website when you established it ?, 2. What were the effects of your website ? and 3. What do you expect for your website for the future ?”.

III. Results

1. Sampling

We e-mailed our questionnaire to 367 self-help groups, which had websites. 78 of them answered, 11 rejected, and one group made a complaint. The valid response rate was 21.3%.

We categorized these 78 websites into seven groups according to their characteristics. As a result, there were 18 websites for sick people, 5 websites for disabled people, 12 websites for people with other illnesses (drug addicts or stuttering people etc.), and 20 websites for families, 6 websites were national associations or federations with nationwide branch offices, 13 websites for support groups mainly consisting of medical staff or volunteers (rather than patients or their families), and 4 were support organization websites for bone-marrow transplantation.

The collection rate of the samplings was low, so it was difficult to generalize the results. However, under the limited circumstances, we conducted statistical processing as much as possible.

2. Analysis of the Responses by KJ Method

(1) What did you expect for your website when you established it?

To the question of “What did you expect for your website when you established it?”, 185 expectations were sorted out from their responses, and they were categorized into 81 groups at the 2nd stage, 32 groups at the 3rd stage, nine groups at the 4th stage, and finally into three units. They were extracted “Utilization of the experiential of living with illness”, “Establishment of positive community” and “Positive use of the Internet”.

Findings: When they established their websites, the respondents mainly expected to utilize their experiential knowledge^{8,9)} of living with their illnesses or disabilities by sharing it with their peers. Moreover,

they hoped to approach the medical sector to use their knowledge for medical purposes, use the websites as social resources to promote social understanding about welfare, and encourage administration to enhance medical service and welfare. Furthermore, they also expected to promote communication with other groups, vitalize their activities and enlarge the scale of the groups. On the other hand, they were concerned that using the Internet might end in one-way communication without any useful interaction. However, they dared to use the Internet for the purpose of collecting, transmitting and sharing information.

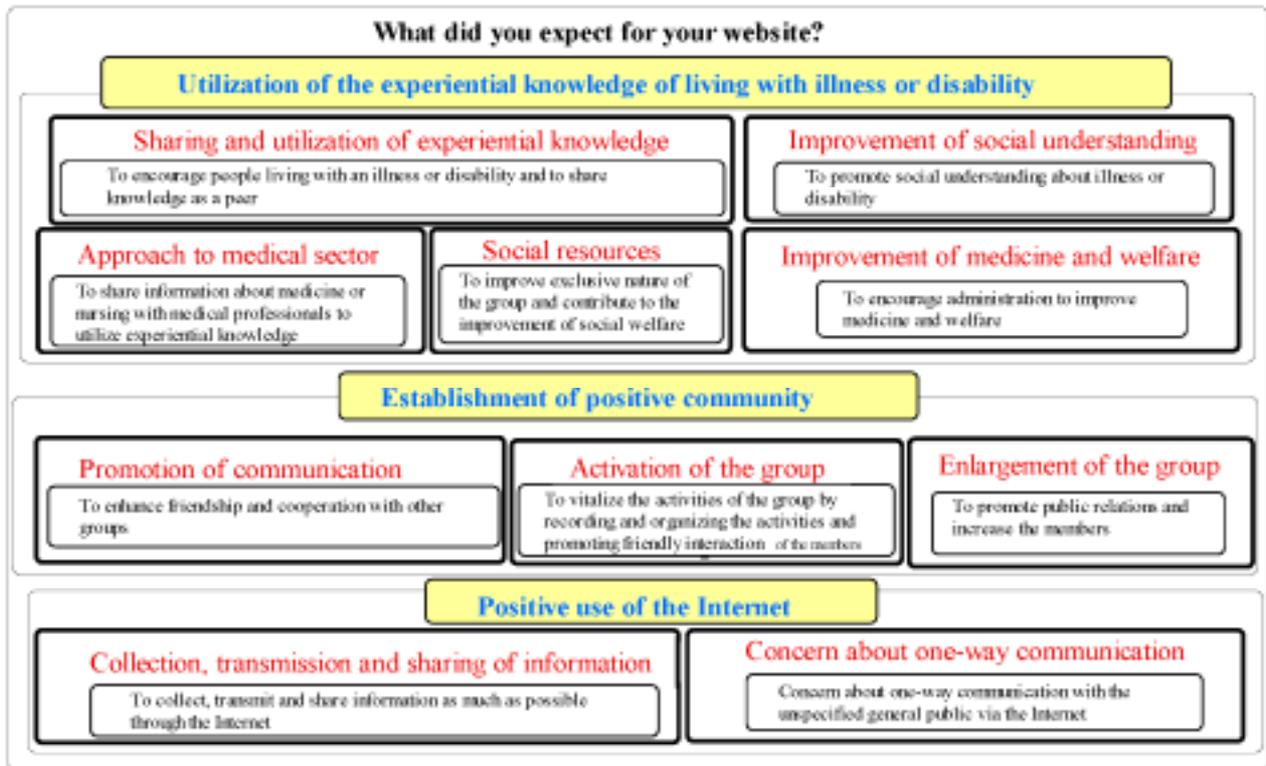


Figure 1. What did you expect for your website when you established it?

(2) What were the effects of your website?

To the question of “What were the effects of your website?”, 155 effects were sorted out from their responses, and they were categorized into 75 groups at the 2nd stage, 34 groups at the 3rd stage, 10 groups at the 4th stage, and finally into four units. They were extracted “Dissemination of experiential knowledge”, “Formation of a community by networking”, “Helper-therapy” and “Not yet known”.

Findings: The effects of the websites were summarized as the following. The purpose of the group was accurately understood, which resulted in enhancement of reliability of the group, acquisition of collaborators, and improvement of social understanding of the group. At the same time, their experiential knowledge was utilized in various fields including a case that one of the websites was adopted as the sub teaching material at a medical college. Furthermore, their communication network became nationwide, and they got many inquiries and applications for membership. The communication among the members was also enhanced by means of the mailing list etc., which led to favorable operation of the website. They counseled many people who could not talk about their troubles anywhere else. The counseling was not only their social mission of serving others but it also served as a helper-therapy¹⁰⁾ for the group members, which means that they could realize something unnoticed while counseling others. But, there were some groups that have not seen any effect because their websites have not had many visitors yet.

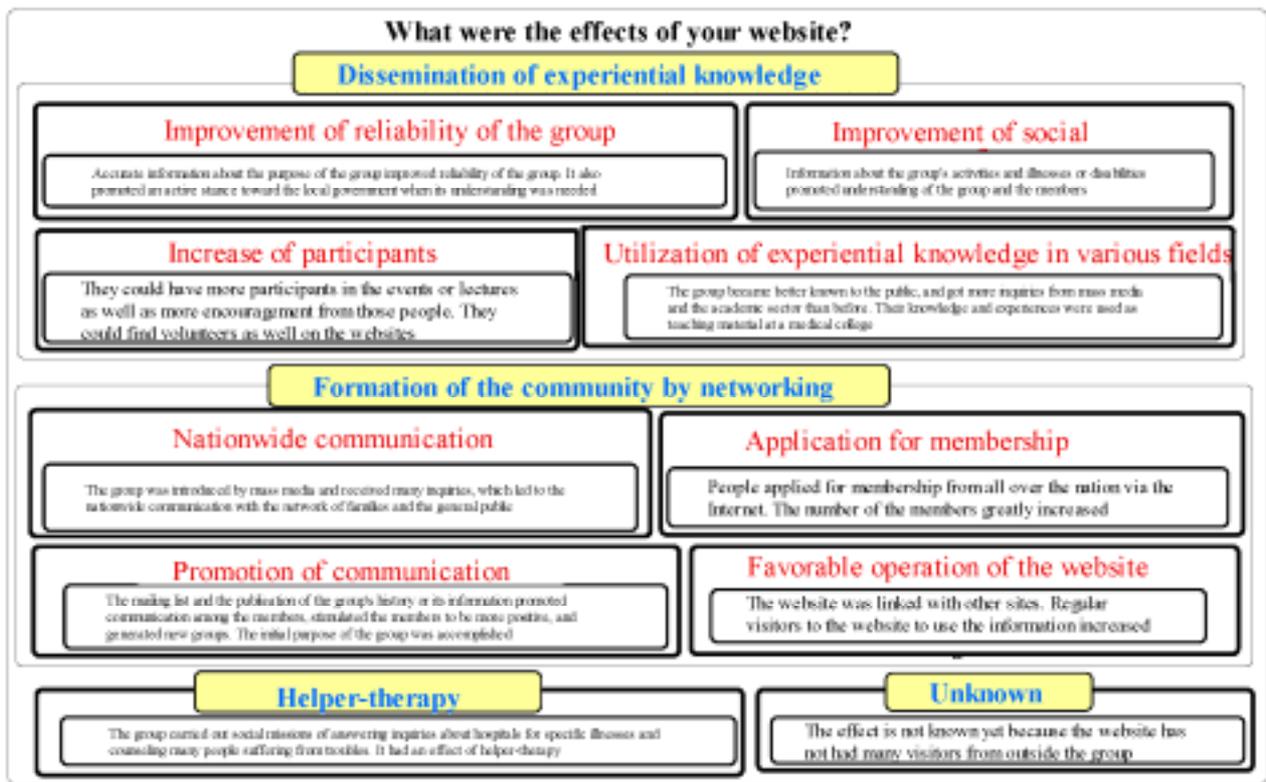


Figure 2. What were the effects of your website?

(3) What do you expect for your website for the future?

To the question of “What do you expect for your website for the future?”, 136 expectations were sorted out from their responses, and they were categorized into 71 groups at the 2nd stage, 28 groups at the 3rd stage, 10 groups at the 4th stage, and finally into three units. They were extracted “Active participation in realizing a society friendly to everyone”, “Further improvement of QOL”, and “Development of networking community”.

Findings: For the future, the respondents expected that the websites would transmit the latest and most accurate medical information for realizing a society where everyone could live comfortably. They also hoped to contribute to social welfare via the Internet as peers of the society. To be more precise, they hoped to disseminate the concept of self-help and promote peer counseling.¹¹⁾ They also wished to construct a wide network via the Internet,¹²⁾ and make the website a place for interaction of members and non-members in order to develop a community network. For the purposes above, they thought it important to maintain the safe and stable operation of the website and improve the website in cooperation with the members.

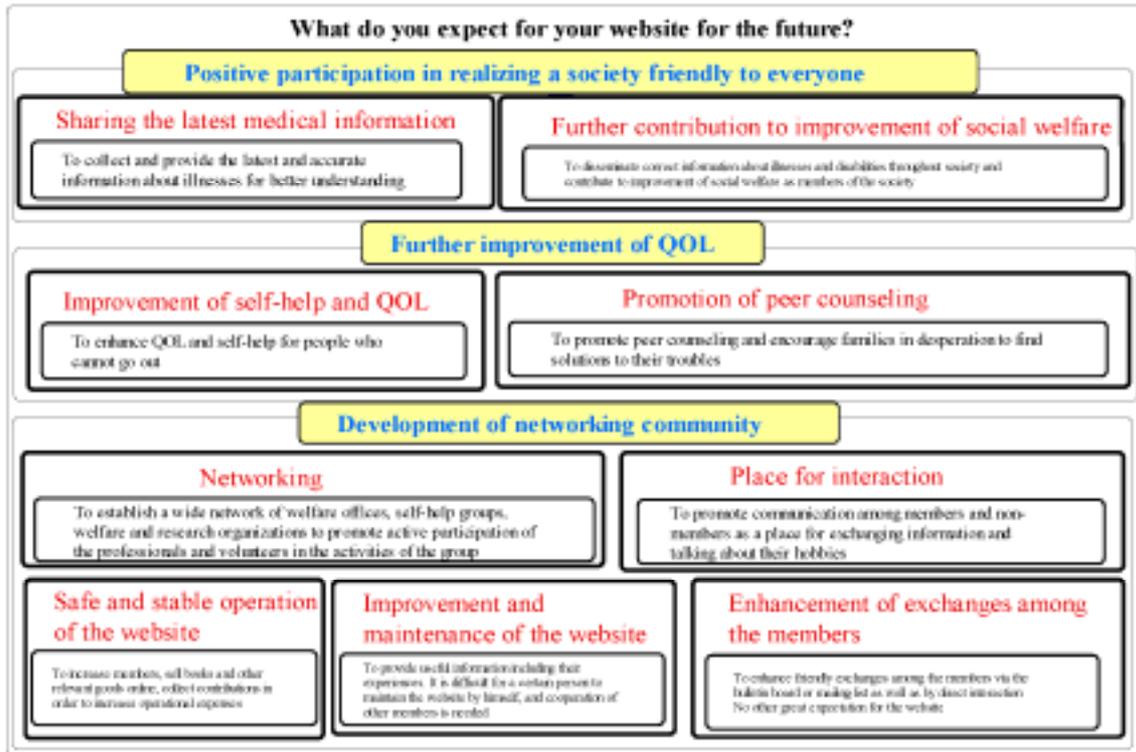


Figure 3. What do you expect for your website for the future?

3. Expected Functions of Self-Help Groups' Websites

The functions of the self-help groups' websites were examined by asking 16 questions, grading the responses, totaling the weighted scores, and extracting the factors by means of principal component analysis. The extracted factors were labeled: "Activation of communication", "Sharing and utilization of knowledge", "Provision of information", and "Improvement of social recognition". Coefficient Cronbach was 7.355 (n=78), and the accumulative contribution ratio after varimax rotation was 52.34.

The correlation between the functions of the websites of the self-help groups and the characteristics of the groups were examined. First, the websites were categorized into seven groups according to their characteristics; namely, "websites for sick people", "websites for disabled people", "websites for people with other illnesses (drug addicts or stuttering people etc.)", "websites for families", "websites for national associations or federations with nationwide branch offices", "websites for support groups mainly consisting of medical staff or volunteers", and "websites for support organizations for bone-marrow transplantation". Next, the averages and standard deviations of the scores of the factors of seven groups were calculated.

Findings: The factor of "Improvement of social recognition" showed the biggest difference among the seven groups. The support groups mainly consisting of medical staff or volunteers focused on this factor most of all the seven groups. The disabled people showed the least expectation for this factor. The second biggest difference was revealed in the factor of "Provision of information". The support organizations for bone-marrow transplantation placed the greatest importance on this factor. Again, the disabled people showed the least expectation for this factor. The factor of "Sharing and utilization of knowledge" was considered the most important by the groups of disabled people, which were followed by the groups of families. The scores for this factor were low among the support organizations for bone-marrow transplantation. "Activation of communication" was most emphasized for the groups of people with other illnesses (drug addicts or stuttering people etc.).

Table 1. Scores for Extracted Factors by Group

		Factor 1	Factor 2	Factor 3	Factor 4
Group name	Samples (n=78)	Improvement of social recognition	Provision of information	Sharing and utilization of knowledge	Activation of communication
Sick	18	-0.0423±0.87	0.0409±1.26	0.1095±1.26	0.0405±1.15
Disabled	5	-0.5965±1.14	-0.5546±1.15	0.2828±0.68	-0.3748±1.24
Other illnesses	12	0.1995±1.02	0.0924±0.90	-0.1220±0.58	0.1807±1.69
Families	20	-0.2413±0.90	0.1492±1.08	0.1508±1.11	0.0354±0.90
National associations	6	-0.0932±1.05	0.2280±0.46	0.0599±0.55	-0.0240±0.72
Support groups	13	0.5570±1.21	-.04006±0.90	-0.2816±1.05	-0.1185±0.97
Bone-marrow organizations	4	-0.1263±0.61	0.4460±1.51	-0.4086±1.41	-0.0123±1.33

Figure 4. Functions of self-help groups' Websites

	Improvement of social recognition	Provision of information	Sharing and utilization of knowledge	Activation of communication
Sick				
Disabled				
Other illnesses				
Families				
National associations				
Support groups				
Bone-marrow organizations				

IV. Discussion

The self help groups, via their websites, wanted to deliver their message beyond the boundaries of medical staff, volunteers or peers, and make available the experiential knowledge gained by people dealing with some problem to those who are in need of help. They wanted to increase the size of their Internet community,¹³⁾ and get their message to a lot of people. Their approach to sharing of experiential knowledge of peers, and making the most of this knowledge, is the main feature and strength of these self-help groups. This is the key to the further development of self-help group Internet communities.

Also, the self-help groups wanted to have their websites used in such a way that anyone could positively participate in a friendly and open society, and that would improve the QOL for people living with some illnesses or disabilities. However, the functions of the websites by the self-help groups greatly differed according to the characteristics of the groups. This means that it is essential to go beyond the boundaries of the group and build a network within the framework of “further contribution to improvement of social welfare”. Furthermore, it is possible that by networking beyond the boundaries of the group, new knowledge that would improve QOL could be created.

V. Conclusions

This study confirmed the four functions of the websites by the self-help groups: “Activation of communication”, “Sharing and utilization of knowledge”, “Provision of information”, and “Improvement of social recognition”. The functions of the websites by the self-help groups greatly differed according to the characteristics of the seven groups.

The visions for the self-help groups in health care fields Internet community were “Active participation in an effort to realize a society friendly to everyone” and “Further improvement of QOL”.

VI. Final Message

We have learned through this paper that it is important to go outside the range of the knowledge of expert, and study illnesses or disabilities from the perspective of those who have experiential knowledge from having received treatment and support.

VII. References

- 1) Ministry of Internal Affairs and Communications. *The Survey on the Use of Telecommunications*. 2006; http://www.soumu.go.jp/s-news/2006/060519_1.html
- 2) Ministry of Internal Affairs and Communications, Institute for Information and Communications Policy. *The Utilization Ratio of the Internet by People with Disabilities*. 2003; http://www2.nict.go.jp/ts/barrierfree/relate/statistics/hc_internet.html
- 3) Patients Network Editorial Board. *1000 Counseling Services and Patient Advocacy Groups to Help You in Your Illness*. Sanseido, 2001; 4-225, 230. (in Japan)
- 4) The Japanese Association of Disability and Difficulty. *IT and People with Disabilities*. 2002; 29 (4). (in Japan)
- 5) Katz, A.H. et.al. *SELF-HELP: Concepts and Applications*, Philadelphia, The Charles Press, 1992; 3-55.
- 6) Kubo, H. & Ishikawa, T. *Theories and Applications of Self-Help Groups: Practices in Japan*, Chuohoki Publishers, 1998; 2-17. (in Japan)
- 7) Oka, T. & Borkman, T. *The History, Concepts and Theories of Self-Help Groups: From an International Perspective*. OT Journal, 2000; 34 (7), 718-721. (in Japan)
- 8) Borkman, T. *Experiential Knowledge: A New Concept for the Analysis of Self-Help Groups*. Social Service Review, September, 1976; 445-456.
- 9) Borkman, T. *Understanding Self-Help/ Mutual Aid: Experiential Learning in the Commons*, New Brunswick, New Jersey, Rutgers University Press, 1999; 1-23.
- 10) Riessman, F. *The “Helper” Therapy Principle*. Social Work, 1965; April, 27-32.
- 11) Azumi, Y. & Nogami, A. *The Strategy of Peer Counseling*, Seieisha. 1999; 26-33. (in Japan)
- 12) Yamate, S. The Establishment of Welfare Society by Networking. *Anthology 2 of the Studies in Sociology and Social Welfare*, Aki Shobo, 1996; 29, 156-157. (in Japan)
- 13) Ishikawa, N. *The Strategy of an Internet Community*, Fukosha, 2001; 95. (in Japan)

A STRUCTURAL EQUATION MODEL ANALYSIS OF PSYCHOSOMATIC SUFFERINGS IN ADULT ASTHMA PATIENTS

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Background & Objective

The previous studies found that body image of asthma patients was more disturbed than that of non-asthmatics, and the disease specific Health-related Quality of Life of asthmatics was generally worse in the body image disturbance group than in the normal group.

The aim of this study was to disclose asthmatics' psychosomatic sufferings, which meant the body-mind problems, of adult asthma patients in the long-term management of this chronic disease. Using structural equation modeling, we tried to analyze the relations among sub-scores as structural sub-concepts of the Asthma specific Health-related Quality of Life (AS-HRQL) and the Body Image Disturbance (BID).

Methods

A cross-sectional survey was conducted by distributing a self-report questionnaire to adult asthma patients who were visiting primary physicians specializing in respiratory disease. The questionnaire was filled in anonymously, and the patient was free to make a final decision on returning the completed questionnaire.

BID and AS-HRQL levels were measured by using Body Image Assessment Tool-22 (BIAT-22) and Asthma Health Questionnaire-33 Japan (AHQ-33J), respectively. Somatosensory Amplification Scale (SSAS) was also used to measure Somatosensory Amplification (SSA); the individuals' somatosensory sensitivity indicator has been considered to indicate personal characteristics strongly related to BID.

Results

The survey was conducted in cooperation with eleven municipal hospitals with a bed capacity of 100 to 400, and a complete response was obtained from 367 patients (41.8% collected).

As a premise for analysis, all questionnaire items of three scales were examined. Considering conceptual relations among each variable and sub-scale variable, a basic model "that SSA influences AS-HRQL, AS-HRQL also influences BID" was hypothesized. Regarding the internal structure of AHQ-33J, three variables of "Daily activity", "Social activity", and "Economics" were compiled as a new latent variable of "Influence on daily living" for each structural concept. Then, a linear causal relationship was hypothesized as follows: "Asthma aggravating factors" - "Asthma symptoms" - "Influence on daily living" - "Influence on Emotion".

As a result, a path diagram in structural equation modeling with effective goodness of fit index was obtained, including six variables of AHQ-33J, one variable SSAS, and four variables of BIAT-22 ($\chi^2=78.265$, $df=36$, $p=0.000$, $GFI=0.964$, $AGFI=0.933$, $RMSEA=0.057$).

Conclusions

The final path diagram of this study confirmed the following regarding the relationship between QOL and the body image of asthma patients.

- (1) Body image of the asthma patient is defined, not by the degree of symptoms, but rather by obstacles and difficulties felt in everyday life which derive from the degree of symptoms. Emotional problems do not directly affect the body image of asthma patient.
- (2) Somatosensory sensitivity affects both QOL and body image of the asthma patient.
- (3) Higher somatosensory sensitivity leads to causes more aggravating factors which trigger an asthma attack, leading to increased obstacles and difficulties felt in everyday life.
- (4) Somatosensory sensitivity not only affects body image directly but also aggravates body image problems through increased obstacles and difficulties felt in everyday life.

An Investigation on the Applicability of Game Theory: An analysis of the decision making process between patients and nurses in a hospice setting

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Keywords Hospice, game theory, decision-making, patients and nurses relationship

ゲーム理論適用の試み
- ホスピスにおける患者と看護師間の意思決定過程の分析から -

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松原みゆき

要 旨

ホスピスで緩和ケアを受けている終末期がん患者とケアを提供している看護師との臨床現場では、患者は「残された時間をいかに生きるか」を、生活の質（QOL）を念頭におき意思決定し、一方、看護師は「患者のために何が出来るか、どうしなければならないか」を、限られた時間や労力の中で意思決定しなければならないことが多い。そこで本稿の目的は、他領域で応用の進んでいるゲーム理論を両者の意思決定場面に適用し、その有用性の検討を行った。

これまでに患者と看護師の関係にゲーム理論を適用した研究の文献は少ないが、看護における人間関係にゲーム理論を適用して分析することが可能であり、また有用と考えられた研究があった。次いでホスピスでの看護場面の観察・データ収集を行なった。看護場面を協力施設と患者・家族の了解を得てビデオ録画し、患者と看護師間の主体的意思決定ととらえた21場面を取り出し、研究者とスーパーバイズをする2名で検討した。

ここでは、患者と看護師が「プレイヤー」となり、両者が複数の選択可能な「戦略」を持ち、各々が1つの戦略を選択した時の各々の評価（満足度）を、「利得」と考え、患者の利得は本人のQOLの観点から設定すること、看護師の利得は看護師が患者のためによかれと思う観点から設定した。また、両者の戦略として相手の主張に自分の意見を一致させる「同調（C）」戦略と自分の主張をとおす「非同調（D）」戦略の二つを用いた。

患者4名と看護師8名を対象に、各々21場面を戦略と利得を示し利得行列表を作成し、円満ゲーム型、両性の闘いゲーム型、チキンゲーム型、ジレンマゲーム型の4つのゲーム型に分類し定式化した。その結果、患者と看護師が主体的に意思決定をする場面では、ゲーム理論を適用することで、問題の解決に示唆を得られた。

Introduction

There are multiple conflicts, dilemmas, and sources of distress for nurses caring for patients at the-end-of-life. The objective of this study was to investigate the applicability of game theory to nursing practice. Game theory was originally proposed for economic analysis and it has contributed to the successful analyses of various kinds of human behavior since then. In game theory the actor under analysis is called a “player”. The player chooses one of his or her available strategies to maximize their pay-offs, which represents the benefit or the degree of satisfaction. The pay-off is dependent on the choice of the other players.

The purpose of this research study was to analyze conflict situations between patients in hospice care and nurses performing their nursing care duties using the framework of game theory. The analyses included nursing care activities such as bathing service, meal service and putting on diapers. The analyses showed that failure of cooperation or conflicts sometimes took place between patients and nurses. We tried to show that the application of game theory is useful to help realize the most ideal state for both patients and nurses because game theory explicitly illustrates the conflicts of interest which are involved in the patient-nurse relationships.

The goal of this research can be accomplished in various ways, but a formal assessment of the end of life care in hospice provided valuable insights. This author was invited to conduct research into applicability

of game theory at a hospice in Hiroshima, Japan. Patient and nurse were videotaped in order to examine the failure of cooperation or game theory dilemmas which sometimes took place. Game theory can help nurses see the range of choices available. By having a clear vision of the limits of the game and the possible range of choices, nurses will then be in a better position to frame the choices when they present them to the patient.

The game theory framework

Game theory was originally formulated by von Neumann and Morgenstern in 1944 and proposed for the analysis of economic problems, and it has contributed to the successful analysis of human behavior since then (von Neumann and Morgenstern 1944). In game theory the actors under analysis are called players. The player chooses one of his/her available strategies to maximize his/her pay-offs, which represents his/her benefits or the degree of satisfaction. The pay-off is dependent on the choice of the other players. Some rules exist in the game and each player has some sort of knowledge about the basic rules of the game they face. The Nash equilibrium and Pareto optimality play important roles in game theory analysis. These two game theorists elaborated with mathematical precision the different types of games. Many typical situations are well studied in game theory, such as the “non-conflict” game, the “battle of the sexes” game, the “game of chicken”, and “prisoners’ dilemma” game. To illustrate how the theory can be applied in the field of nursing, one example is presented to show how game theory is applied in a particular medical context.

In every patient care situation nurses are accountable for assessing the potential benefits and potential harms of any intervention. Nurses are challenged to make decisions in complex sociological, cultural, technological, and legal/political contexts. Decisions are made based on probabilities because there are very few absolutes in healthcare. Therefore, every situation is unique and must be decided contextually.

Background of the model

The nurse has variety of different tasks in the hospice. The nurse's job can be characterized as both clinical assistant to the physician, and as providing basic support for the patients daily life needs. Because of this work load, nurses must often carry out job functions without the express authority of the physicians. In the context of this particular palliative care hospital, patients were granted a lot of freedom regarding many decisions.

We can analyze the game-like situation in the case of a patient with advanced cancer who is brought to the hospice (Matsubara, M. 2005b). For example, with the decision about using diapers, using game theory we can clearly see a 2x2 symmetry game which means that the participants could achieve a mutuality of interest (Matsubara, M. 2005a).

In our study, when patients and nurses choose the most desirable actions a special version of the Nash equilibrium is observed. We use Pareto optimality from game theory in order to chart the various game options for the plays. For example, one option is that one player is better off, and no harm comes to the others. Another possibility is where one player's become better off, but always at the expense of another. It is commonly accepts that outcomes that are not Pareto efficient are to be avoided. Even using Pareto optimality, it may be impossible for everyone to have a good outcome.

Table 1.Example of game theory

		Strategy of Nurse	
		C'(diaper)	D'(non-diaper)
Strategy of patients	C(diaper)	(4, 4)	(1, 5)
	D(non-diapers)	(5, 1)	(2, 2)

5 > 4 > 1 > 0, Nash equilibrium and Parate optimality(2, 2)

However, in the case of the diapers observed here, interests are opposed to each other: for example,

Patients may want to refuse diapers, but nurses strongly believe diapers should be worn because of the patient's incontinence. In the case, the result often becomes the most unfavorable, unless the participants discuss action choices in advance. For example, it might be very troublesome to make a decision the patient, and not only for the patient but also for the nurse. If so, it will be more convenient for them to leave the patient alone in the mean time by decision of "non-cooperation". A Nash equilibrium (Nash 1951) in this case is "non-cooperation-non-cooperation", which brings about the worst pay-off gain (2, 2) for the patient. There is only one way to avoid situations in which patients and nurses become trapped in a "prisoner's dilemma". This is to induce them to take appropriate action such as negotiation without selfishness of all the options in advance.

Furthermore, I will explain about the patterns in game theory: 1) the "non conflict" game, 2) the "battle of the sexes" game, 3) the "game of chicken", 4) the "prisoners' dilemma" game, (Harris 1969), (Oura 2004). These four game classifications could be used to correlate relationships between patients and nurses.

Methods

First, in this review article, methodological detail of the application of game theory to nursing is explained. There has been no previous application of game theory to nursing although there have been several analyses on conflict between patients and nurses where the application of game theory might well contribute to resolve conflicts. After giving a brief review of the history of game theory, the framework of game theory is explained. In game theory, each player is expected to choose a strategy to maximize his or her own pay-off. We then explained Nash equilibrium and Pareto optimality which play important roles in game theory.

We collected data through ethnographic research of actual nursing situations in a hospice. The data collection period was from July to September in 2004. A videotape recording was carried out in the patients' private rooms. A video tape recording of a nursing situation formed part of this ethnographic data. (To gain cooperation with the hospice, patients and families, permission was formally granted to do this research).

We chose twenty-one situations to evaluate the relationships between patients and nurses. Two people supervised the analysis of the data. Various typical situations well studied by game theory, such as the non-conflict game, the battle of the sexes, the game of chicken and the prisoners' dilemma is also described in the research.

The following are the categories used to judge situations: 1) a strategy set, 2) a utility set, 3) game theory patterns by classification, (Matsubara, N. 1997).

Ethical Consideration

The purpose and methods were explained to the Hospital Director, Director of Nursing and a member of nursing staff and their approval was obtained prior to study. This study was approved by the ethics committee of the Hospital. We were given a written explanation of the purpose and methods of the study and were assured of the anonymity of patients and nurses.

RESULTS

First, I examined the literature on game theory available from PUBMED from 1983 to 2005. There were six items: the use of vaccination (Bauch 2004), patients and physicians' relationships (Diamond 1986), (Sonnenberg 2005), the use of health economics/health policy literature (Dowd 2004), the use of evolutionary theory (Colman 2003). This literature does include some studies of the relationship between physicians and nurses (e.g., see Yasukawa's study of ER relationships, 2000), and also some of these studies have analyzed physician-patient relationships using game theory. I could not find, however, any literature related to the relationship between patients and nurses applying game theory.

In this study, to illustrate how the theory can be applied in nursing, one example is presented to show the steps of the application of game theory. The following four patients and eight nurses were identified (Table 2, Table 3). Patients ranged in age from 60 to 70 years, one woman and three men. All patients knew their

disease name, and they gave informed consent to their physicians about non-recovery from advanced cancer.

Table 2. Four patients were identified

Patient	A	B	C	D	total
Age	in the low sixties	in the late seventies	in the low sixties	in the late sixties	
Sex	Male	Male	Female	male	
Primary disease	lung cancer	prostate cancer	lung cancer	liver cancer	
Year they became sick	2001	1998	1994	2002	
Treatment methods	chemotherapy	operation, radiation, chemotherapy	operation, radiation, chemotherapy	operation, chemotherapy	
Length of a hospitalization in palliative care wards (days)	51	89	99	26	
Length of observation	3 weeks to 2 weeks before death	6 weeks to 1 weeks before death	10 weeks to 6 weeks before death	2 weeks to 1 weeks before death	
Recording times	2	10	6	3	21
Percent of recording times(%)	10	52	24	14	100
Total recording hours (minutes)	120	720	310	210	1360
Percent of total recording hours(%)	9	53	23	15	100

Table 3. Eight nurses were identified

nurses	Age	sex	license	times
E	30's	Female	Nurse	3
F	40's	Female	Nurse	4
G	30's	Female	Nurse	1
H	30's	Female	Nurse	3
I	30's	Female	Nurse	0
J	30's	Female	Nurse	5
K	50's	Female	Nurse	2
L	50's	Female	Assistant nurse	2
M	50's	Female	Assistant nurse	1
N	50's	Female	Assistant nurse	0
total (times)				21

To illustrate how the theory can be applied in nursing, we examined twenty-one situations analyzing decision making between patients and nurses in a hospice context. In addition, the twenty-one situations were divided into five sub-groups: checking vital signs, meals, bathing, diapers, treatment. There were a variety of conflicts in each of these situations, ranging from little to big. (Table 4).

Table 4. Situations and the type of games

situations type of games	checking vital signs	meals	bathing	diapers	treatment	total
non-conflict	6		2		1	9
battle of the sexes	1	1	1		2	5
game of chicken		1				1
prisoners' dilemma	2			4		6
total	9	2	3	4	3	21

We can easily imagine that people won't seek or want help from other people about going to the toilet, even from nurses. These conflicts are serious in a hospice which provides palliative care. It is important in a hospice to understand these conflicts; in the case of a hospice the main priority is to make patients as comfortable as possible in their last days.

For example, patients often insist upon using the toilet without assistance, however, nurses know that they should wear diapers. In one case, game theory helps us see how each player must negotiate to achieve their preferred outcomes. In one case, I observed a situation where Nurse L recommended a bath and Patient B could take one with assistance. Nurse L said to Patient B, "Mr. B, let's go to the bathroom, shall we?" Patient B made a reply to Nurse L's recommendation. "Do other patients go to take a bath with a nurse's help? It is absurd to have to take a bath all the time."

The choice in this situation was whether to have a bath with the nurse's assistance, or have the nurse give a sponge bath in the bed. The nurse strongly recommended a bath, but the patient was reluctant to do either. The basic conflict here is that the patient, though incontinent, doesn't really want a bath at all, contrary to the nursing staff's recommendations.

Then the nurse began to communicate her recommendation while simultaneously preparing for a bath even though the patient hadn't yet made a clear decision. The patient again asked, "Do other patients go to take a bath with assistance?" However, the nurse's actions had encouraged him to get ready for a bath, and finally the patient took a bath.

After the conversation, Patient B took a bath with assistance. In this situation, because Nurse L recommended taking a bath, he took her suggestion. In game theory, the "game of chicken" is similar to a contest where two cars drive towards each other to see which one will swerve or turn first; that person is the "chicken". In this case the patient and nurse had different goals and both were waiting to see who would "swerve" first.

In another case involving the use of a catheter for urination, I observed that Nurse J recommend it but Patient B didn't allow it to be inserted. Patients often insist upon using the toilet without assistance, even though nurses know that they should use a catheter.

To illustrate how a nurse recommends a bladder insertion catheter to patient B. We analyzed the patient's interaction with Nurse J in a hospice context using the model of the prisoner's dilemma from game theory. Patient B was continually incontinent and nurse J was always had to change sheets and bed clothes. For this reason, the nurse recommended the catheter to patient B. However, because the patient refused, the nurse did not utilize a catheter. Nurse J said to Patient B, "Mr. B, May I talk with you about...?" Patient B replied to Nurse J's talk by saying, "I refuse your offer." Nurse J used gentle words, but Patient B conveyed his idea to Nurse J, that he wouldn't accept inserting the catheter, even though the Nurse recommended it. Nurse J then said to Patient B, "Is it all right if I insert the catheter?" Patient B said to Nurse J, "I have in my mind a gradual step by step process." Nurse J said to Patient B, "I think it has already gotten to that stage."

After the conversation, Patient B still refused the catheter. In this situation, Nurse J recommended it

strongly and Patient B strongly refused it. In this case, Patient B was continually incontinent and Nurse J always had to change sheets and bed clothes. In terms of game theory, the outcome was a lose-lose situation.

Strategy set for patient B and nurse J (S_P, S_N). We can outline the above case using game theory notation for strategy, in this case for patient B and nurse J. Patient B's strategy choice Set = {Catheter insertion, or non-insertion}. Nurse J's strategy choice Set = {to recommend catheter, or not to recommend it}.

I assigned two utility points in the case where the patient does not want the catheter. I gave 10 utility points in the case where the nurse wants to recommend a catheter. As a result of a poor outcome in the game, the patient continued incontinence. This outcome is actually the worst for both participants. We give the notation D to indicate refusal of catheter insertion, and D' to indicate recommending the catheter in the chart below. The utility points resulting from this combination is (2, 2) according to game theory. The following illustrates nursing situations in terms of game theory (Table 5):

Table 5. Catheter insertion and prisoners' dilemma pay-off matrix

		Nurse J's strategy	
		C' (not to recommend catheter)	D' (to recommend catheter)
Patient B's strategy	C (insertion catheter)	(9,9)	(1,10)
	D (non insertion)	(10,1)	(2,2)

$10 > 9 > 1 > 0$, Nash equilibrium and Pareto optimality(2, 2)

As illustrated in the case of the catheterization, patients may want to refuse a catheter, but the nurse may feel that the catheter should be used. The outcome of this 'game' was the most unfavorable. (Table 6):

Table 6. Outcomes of prisoners' dilemma game

		Nurse J's strategy	
		C'(not to recommend catheter)	D'(to recommend catheter)
Patient B's strategy	C(insertion catheter)	(insertion catheter)	(insertion catheter)
	D(non insertion)	(non catheter)	(non catheter)

Discussion

The role of the nurse within the dilemma of clinical practice has matured and changed over the years. This article discusses the dilemma both patients and nurses have and how the nurse practicing end-of-life care with advanced cancer can apply the game theory analysis to clinical situations which may arise, especially in a hospice. The specific dilemmas are discussed.

As illustrated in the case of the catheterization, patients may want to refuse a catheter, but the nurse may feel that the catheter should be used. The outcome of this 'game' is the most unfavorable. There is no good resolution to the problem of the patient's incontinence in such a case.

This investigation serves to support the use of game theory for analyzing decision making between patients and nurses in a hospice context. It clearly shows the applicability of game theory to specific medical decision making contexts. The understanding of this dilemma from the point of view of game theory may enable one to then find a better solution with a favorable outcome.

Game theory, as outlined, is an appropriate means for helping nurses analyze difficult medical decisions. Nurses can thereby develop what we might call strategic thinking. There may be cases where the only outcome is lose-lose, however, game theory may be able to help avoid such outcomes wherever possible.

There has been no previous application of game theory to nursing although there have been several analysis of conflict between patients and nurses where the application of game theory might well contribute to resolving conflicts. Game theory can help nurses see the range of choices available. By having a clear vision of the limits of the game and the possible range of choices, nurses will then be in a better position to frame the choices when they present them to the patient.

Nurses' communication of choices must always be, of course, non-coercive. However, the nurse, as a medical professional is usually in a special position for medical decision making. Therefore, she or he might often want to advocate one particular choice. It is hoped that game theory will simply clarify the logic of the situation, thereby making communication more effective and efficient.

Conclusion

Nurses, in order to find the way out of these difficult situations need to be able to analyze the situation in a comprehensive way. Nurses can thereby develop what we might call strategic thinking. Game theory is therefore an appropriate means for helping nurse function in difficult medical decision making contexts.

It clearly shows the applicability of game theory in specific medical decision making contexts. The understanding of these kinds of dilemma from the point of view of game theory enables us to find better solutions with more favorable outcomes.

Acknowledgment

I would like to thank Masayuki Kakehashi, Norio Kouno, Senou Masaaki for helpful consultation and lengthy discussions regarding this work, and special thanks to Steve Rosen for his helpful comments. I was supported in this research by the Sasakawa Health Science Foundation.

Reference

- 1) Bauch C T. David J.D. Earn. (2004), *Vaccination and the theory of game*. PANS, 101(36), 13391-13394
- 2) Colman A M. (2003), *Cooperation, psychological game theory, and limitations of rationality in social interaction*, Behav Brain Sci. 26(2), 139-153
- 3) Diamond G A, Rozanski A, Steuer M. (1986), *Playing Doctor: Application of Game Theory to Medical Decision-making*. Journal of chronic diseases, 39 (9), 669-677
- 4) Dowd S B. (2004), *Applied Game Theory for the Hospital Manager*. The health care manager, 23(2), 156-161
- 5) Harris, R.J. (1969), *A Geometric Classification System for 2 × 2 Interval-Symmetric Games*. Behavioral Science, 12, 138-146
- 6) Matsubara Miyuki, Kakehashi Masayuki. (2005a), *Examination of the applicability of game theory to nursing*. Japanese Journal of Clinical Thanatology, 10(1), 1-7
- 7) Matsubara Miyuki, Kakehashi Masayuki. (2005b), *An analysis of cooperation and dilemma between patients and nurses in terminal care: An investigation on the applicability of game theory to nursing*. Japanese Journal of Clinical Thanatology, 10(1), 33-40
- 8) Matsubara Nozomu, (1997), *Quantitative Methods of Social Sciences*, University of Tokyo Press, 46
- 9) Nash, J. (1951), *Non-cooperative games*. The Annals of Mathematics, 54(2), 286-295
- 10) Oura Hirokuni, (2003), *Evolutionary Game Theoretical Approach for Order Problem*. Sociological Theory and Methods, 18(2), 133-152
- 11) Riggs J E. (2004), *Medical ethics, logic traps, and game theory: an illustrative tale of brain death*. Journal of Medical Ethics, 30, 359-361
- 12) Sonnenberg A. (2005), *Personal view: Victim blaming as a management strategy for the gastroenterologist-a game theoretical approach*. Aliment Phamacol Ther, 21(10), 1179-1184
- 13) von Neumann J, Morgenstern O. (1944), *Theory of Games and Economic Behavior*. Princeton University Press,
- 14) Yasukawa F. (2000), *Direction, Cooperation and Information in Medical Profession's Performance: Game Approach to Risk Management in Japanese Hospital*. PSAM5, 4, 2261-2267

Case Reports of Chiropractic: What is Chiropractic?

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ABSTRACT

Created in America in 1895, Chiropractics today has been established in America, Canada, France and over 70 other countries as a safe and effective healthcare approach.

At the focal point of Chiropractic care is the spine and spinal column. Our daily activities can have significant affects on our bodies. Misalignment of the spine caused by these activities can cause a number of health problems.

Misalignment of the spine can compress the spinal cord that runs through it, causing disruptions of our natural functions and weakening of the innate ability of our bodies to cure and strengthen themselves. This loss of body balance can lead to muscle and joint pain and stiffness and discomfort.

Chiropractics address these issues without resorting to surgery or drugs. Spinal misalignments are corrected manually by the Chiropractor gently and safely. This restoration of the function of the spinal cord restores the body balance and maximizes the inborn strength of our bodies to cure and strengthen themselves.

CASE I

Subject	T. H. (Age 26. Female)
Subjective symptom	Head ache. She had to take drugs to escape the headache. Neck problem. She couldn't extend her neck.
Chiropractic adjustment	Adjustment to cervical vertebrae and pelvic.
Result	She doesn't feel headache or neck-pain, and she doesn't use any drugs.

Development and Effectiveness of a Health Promotion Program Applying Gaming Simulation Technique

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Key words: health promotion program, health education, gaming, health locus of control

ゲーミング手法を取り入れた健康増進プログラムの開発と実践の効果

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近年、日本の高齢化率は21%を越え、さまざまな生活習慣病の患者も増えている。しかし一度身についた生活習慣を変えることは容易ではない。生活習慣は中年になって生活習慣病を発症してから改めるのではなく、若い時から健康的な生活習慣を身につけておく必要がある。ところが現実には20代の朝食欠食率や運動不足は他の年代を上回っており、彼らに若い頃から健康の維持と増進について考える機会を提供し実践的に教育することは、将来の生活習慣病予防の上でも重要であると考えられる。本研究は大学生を対象として、ゲーミングを取り入れた健康増進プログラムを実施し、比較対照群を用いて効果を検証した。ゲーミングを用いた教育は、参加者の動機づけや自律性を高める上で効果的であることが知られており、「健康日本21」の趣旨にもかなうと思われた。

研究参加者は男女大学生計118名(実験群77名、統制群41名)で、生活習慣自己診断シートを回答した後、その結果に基づき生活習慣改善の目標を各自で考えた。実験群は筆者らの開発による役割演技法を利用した「SING健康増進ゲーム」に参加し、ゲームの中で自らの目標を他者にも説得し勧める経験をした。

結果は「健康増進ゲーム」を取り入れた実験群の方が、健康増進のための目標の実行率が高かった。目標の実行を説明する変数は、実験群であることに加え、健康に配慮した生活をするという信念の強さ、健康的な生活を実行する困難さの認識が低いこと、主観的健康度の高さであった。また、実験群においてのみ、目標の実行率と継続への意欲との間に有意な関連が見出された。さらに実験群は主観的健康統制感にも変化が見られた。以上の結果より健康増進ゲームを用いたヘルスプロモーション教育が、生活習慣改善の実行、実施後の継続への意欲、健康統制感に対して肯定的な影響をもたらしたと言えよう。「健康増進ゲーム」は現地域域の糖尿病予防教室において、実践的な効果を検証中である。

Health problems and health promotion activities in Japan

Japan has one of the highest national life expectancies in the world, with an average life span of 78 years for men and 85 years for women. The number of people over age 65 has been increasing rapidly, and aged persons composed more than 21% of the population in 2005. The aging of Japan creates a serious social problem that is exacerbated by the increasing number of people with lifestyle-related diseases. In Japan, the obesity rate (BMI >25) is 27% for men and 21% for women. The number of people with diabetes was 6.9 million in 1997, and is estimated to rise to more than 10 million by 2010.

In 2000, the Japanese Ministry of Health, Labor and Welfare launched a health promotion project called Healthy Japan 21 for the purpose of raising the healthy life- expectancy in Japan. The fundamental principles of Healthy Japan 21 are: 1) emphasize primary prevention, 2) encourage people to promote their own health, 3) set clear goals and perform regular evaluations, and 4) cooperate with healthcare professionals and key personnel in schools, workplaces, and the local community. The goal of this project is not to teach people about healthy lifestyles but to encourage and support them so they can maintain healthy behaviors independently.

By the way, young adults are a particularly important group because so many of them follow an

unhealthy lifestyle. According to the results of the national health and nutrition survey conducted in 2002 and 2003, only 22% of men and 15% of women in their 20s exercised regularly, as compared to 29% of men and 24% of women of all ages. Nearly one third of men and a quarter of women in their 20s did not eat breakfast. Also, only 30% of men in their 20s avoided salty and fatty foods, whereas more than 50% of men in all ages avoided them.

If young adults continue neglecting to exercise and eating salty and fatty foods at irregular hours, many of them will develop lifestyle-related diseases by the time they reach their 40s. Therefore, it is crucial that young people be provided the opportunity to evaluate and reconsider their lifestyle as the first step in establishing a healthier one. Under Healthy Japan 21, schools have the responsibility to motivate students to make healthy choices and to give them the opportunity to follow through on such choices, but relatively few programs for college students are available. Since more than 50% of high school graduates go to college in Japan, a program geared to college students should reach a large proportion of people in their 20s.

Gaming as an educational tool

In the present study, we adapted a gaming strategy to the health promotion education program. Gaming is well suited to the fundamental principles of Healthy Japan 21 because it promotes motivation and encourages autonomous behavior. According to Takahashi (1997), educational methods involving gaming are more effective than traditional methods at keeping learners interested and motivated, sharpening students' understanding of the issue, conveying the real-world implications of the lesson, and encouraging learners to develop and explore solutions in depth. Gaming increases motivation because participants are more active and directly experience the simulated situation. Janis & King (1954) and Haraoka (1962) showed that active role playing not only promotes motivation but also changes the attitude of participants. Also, Kiesler & Sakumura (1966) found that once people commit themselves to a certain position in the game, they are better able to counter the opposing argument.

Sugiura (2003) designed a game for environmental education called Sugiura's Nattoku Game (SNG), which makes use of the effects of commitment in role playing. The rules and the procedure of SNG are as follows. First, each player proposes an environmentally conscious action, and discusses the idea with the other participants in small groups of 4 or 5. Then, the players are divided into two groups and assigned the role of persuader or persuaded (those who are persuaded). During a negotiation time, persuaders freely approach persuadeds to explain their ideas. When persuadeds accept the idea, they sign their name on a list carried by the persuader. The persuaders collect as many signatures as possible. The negotiation time lasts ten minutes. Then the players exchange roles, and the same procedure is repeated. After the game, there was a time for debriefing. Although the original SNG was designed as an environmental education game, it is applicable to other fields as a frame game.

Developing the SNG Health Promotion Game

Nishigaki & Sugiura (2005) reworked the SNG for the field of health education and first tested it on medical students, which was very successful. This new version was called "the SNG Health Promotion Game." In a further study, Nishigaki (2005a) tested the game on nursing college teachers and found that 88% of the participants participated actively in the game and were motivated to carry out the ideas for healthy living in their actual lives. There was a statistically significant correlation between expressed motivation and both active participation ($r=.40$, $p<.01$), and successful persuasion ($r=.37$, $p<.01$) in the game.

Next, Nishigaki (2005b) changed several rules of SNG and adapted it to the health promotion program. In this study, the participants were required to fill out a questionnaire on eating, drinking, and exercising habits before the game started instead of in small-group discussion. Based on the results of the questionnaire, all participants set themselves a target behavior to adopt. During the game, persuaders built an argument in support of their own target behavior and attempted to convince persuadeds of it. Roles were exchanged in the second half of the game. The participants were expected to be more motivated to adopt the

healthful habits if they had repeatedly tried to convince others during the game. Forty nursing college students played the game and were followed for two weeks after the end of the game. Nishigaki (2005b) found that the participants expressed motivation to live a healthier life, and maintained the same level of motivation through the end of the follow-up period. Nearly three quarters of the nursing students (73%) carried out the target behavior in their own lifestyles.

The effects of the SNG Health Promotion Game

Purpose

Based on these results, we conducted a controlled study to determine whether a program using the SNG Health Promotion Game could effectively promote behavioral change. Multivariate analysis was used to find variables that predicted behavioral change.

Methods

Study participants were the students of health psychology in a liberal arts college in western Japan. One class was assigned to the experimental group and the other to the control group. The study was conducted in November and December 2005.

The procedures of the study were as follows:

- 1) Participants studied lifestyle-related diseases as part of the class.
- 2) Participants filled out the lifestyle self-evaluation questionnaire and a pre-test questionnaire about health concerning beliefs and attitudes.
- 3) Based on the results of the lifestyle self-evaluation questionnaire, each participant chose healthful target behaviors to adopt. Members of the control group chose 2 target behaviors to adopt on their own (target behaviors 1 and 2).
- 4) Participants in the experimental group played the Health Promotion Game. In the game, participants argued a target behavior which they had chosen based on the results of the self-evaluation questionnaire.
- 5) After the game, members of the experimental group chose 2 target behaviors; the one for which they had persuaded (target behavior 1), and one of the target behaviors of whose value they had become convinced during the game (target behavior 2).
- 6) Participants in both groups tried to practice the 2 chosen target behaviors for a week, and kept record of their actual behavior.
- 7) Participants filled out the post-test questionnaire.

Measurements

All participants reported their age, sex, regular visits to physicians or not, medicine prescriptions, smoking habits, and body mass index. Their scores on the Japanese version of the Health Locus of Control Scale (JHLC) and their subjective health condition (1 to 10 points) were also recorded. The participants answered questions on their actual practices, beliefs, values, motivation, and perception of difficulty concerning health behaviors. Actual success at carrying out the target behaviors (0 to points for each target behavior), and motivation to continue to carry out the target behavior (5 point scale) were recorded.

Results

1) Descriptive statistics

The final number of participants was 118 (64 men and 54 women). Seventy seven were in the experimental group, and forty one were in the control group. Mean age of the participants was 20.7 (SD=1.46). The average score of the subjective health condition was 5.97 (SD=1.84). Nine point three percent of the participants were visiting physicians regularly and 11.0% were taking prescription medicines. Twenty two percent of the participants smoked. The average body mass index of the participants was 20.7 (SD=2.7). There was no statistical difference between the experimental group and the control group on these scores.

There was no significant difference in the average scores and standard deviations of actual practices, beliefs, values, motivation, and perceptions of difficulty for health behaviors between the experimental group and the control group. This confirms that the two groups were comparable.

2) Correlations among health concerning questions

As shown in Table 1, there were strong correlations among motivation, beliefs, and values of health concerning behaviors. Also, there was a significant correlation between achieving target behavior 1 and motivation to continue to practice target behavior 1 in the experimental group ($r=.35, p<.01$).

Table 1 Correlations among health concerning questions

	actual	values	motivations	beliefs	difficulties
actual	1	.13*	.23**	0.02	-.27**
values		1	.51**	.60**	0.02
motivations			1	.48**	-0.14
beliefs				1	-0.04
difficulties					1

p<.001 ** p<.01* n=118

3) Health Locus of Control

The average scores on 5 subscales of Health Locus of Control (JHLC) before and after the intervention are shown in Table 2. Before the intervention, there was no significant difference between the experimental and control groups. However, only in the experimental group, average scores of “professional” and “internal” became significantly higher after the intervention compared to the pre-test scores.

Table 2 The average scores of JHLC before and after the program

		internal	family	professional	chance	supernatural
Exp. Gr.	pre-test	24.4	21.7	19.7	16.9	12.9
	n=77 post-test	25.1	21.9	20.5	16.2	12.8
Cont. Gr.	pre-test	24.3	22	18.6	15.3	13.5
	n=44 post-test	23.6	21.6	18.1	14.8	12.4

4) Achievement of the target behaviors

The average score of the achievement of target behavior 1 was 9.22 (SD=3.16) for the experimental group and 6.59 (SD=1.84) for the control group. For target behavior 2, the average score was 9.53 (SD=3.35) for the experimental group, and 9.82(SD=2.87) for the control group. There was a statistically significant difference between the groups in target behavior 1 ($t=4.90(116), p<.0001$). For target behavior 2, no significant difference was found ($t=-0.481(116), ns$).

5) Multiple regression analysis

After removing participants who were taking prescription medicines, visiting hospitals on a regular basis, or both, we conducted a multiple linear regression analysis with the achievement of the target behavior as the dependent variable. Stepwise multiple regression analysis showed that participating in the experimental group ($\beta=.46, p<.001$), subjective health condition level ($\beta=.30, p<.001$), belief in the healthfulness of the target behavior ($\beta=.25, p<.001$), and perception of the difficulty of achieving target behaviors ($\beta=-.23, p<.001$), were all significantly associated with the target behavior 1 ($R=.610, \text{adjusted } R^2=.345$).

Discussion

The present study showed that a health promotion program involving the SNG Health Promotion Game is effective in changing health-related motivation and behaviors. First, participants’ Health Locus of Control changed after the game. Simply trying to practice target behaviors for a week did not affect the participants’

beliefs about the importance of individuals and health professionals in maintaining and improving health, but playing the Health Promotion Game did. Second, playing the game influenced the ability of the students to begin and maintain healthy behaviors. Playing the Health Promotion Game, a better subjective health condition, and stronger beliefs in the feasibility and importance of healthy behaviors positively predicted actual achievement of target behavior 1. In addition, participants who played the game and successfully adopted the target behavior tended to be more motivated to continue the behavior even after the study ended.

Although there was a significantly higher achievement of target behavior 1 in the experimental group, there was no difference in target behavior 2 between the groups. In previous studies, participants tended to choose more challenging behavior for target behavior 1, and easier behavior for target behavior 2. Such a pattern may explain why both the experimental and the control group did well on target behavior 2. Further study is needed to answer this question.

This study showed that the SNG Health Promotion Game could be applied successfully to the health education of college students. We are now investigating the applicability of the SNG Health Promotion Game to a diabetes prevention program. 40 patients with borderline diabetes participated in the diabetes prevention program in the local community. The program included not only the SNG, but also nutrition education, physical exercise, cooking, and a medical examination. The participants' average weight, BMI, and health locus of control scores have significantly changed after 6 months. The SNG Health Promotion Game is not yet finalized. We are continuously trying to improve the game and the program. Nonetheless, our results thus far suggest that the SNG Health Promotion Game can be an effective tool for health education and health promotion programs.

References

- Haraoka, K. (1962) 態度変容に関する研究 個人の積極的参加と意見変容 (*A study of attitude change: effects of active participation and opinion change*). 教育・社会心理学研究 (*Japanese Journal of Educational Social Psychology*), 3, 17-30.
- Janis, I. L. & King, B. T. (1954) The Influence of role playing on opinion change. *Journal of Abnormal and Social Psychology*, 49, 211-218.
- Kiesler, C.A. & Sakumura, J. (1966) A test of a model for commitment. *Journal of Personality and Social Psychology*, 3, 349-353.
- Nishigaki, E. (2005 a) 「健康増進ゲーム」が健康に関する態度と行動に及ぼす効果 (*Influence of the Health Promotion Game on the health related attitudes and behaviors*) 日本健康心理学会第 18 回大会論文集 (18th annual congress of Japanese Association of Health Psychology) p137.
- Nishigaki, E. (2005 b) 健康増進ゲームがコミュニケーションの気づきと健康増進の動機づけに及ぼす効果 (*Effects of the Health Promotion Game on the awareness and motivation for the health*) 日本社会心理学会 第 46 回大会論文集 (46th Annual congress of Japanese Association of Social Psychology), pp754-755.
- Nishigaki, E. & Sugiura, J. (2005) ヘルスコミュニケーションのための健康増進ゲームの開発と実践 (*Development and practice of the Health Promotion Game for health communication*) 日本心理学会第 69 回大会論文集 (69th Annual congress of Japanese Psychological Association) p228 .
- Sugiura, J. (2003) 環境教育ツールとしての説得納得ゲーム (*SNG as a tool for environmental education*) シミュレーション &ゲーミング (*Simulation and Gaming*), 13, 3-13 .
- Takahashi, K. (1997) 学習技法としてのシミュレーションゲーム (*Simulation game as a learning technique*) in Hirose, Y. (ed.) シミュレーション世界の社会心理学 ゲームで解く葛藤と共存 (*Social psychology in the simulated world*) pp191 - 204. ナカニシヤ出版.

An Analysis of an Exchange between a Nursing Student and her Teacher

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学生と教員のやりとりの分析

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本研究は、学生と教員がどのようなやりとりをしているのかを探るために、臨地実習でフィールドワークを行い、ペイトソンの手法を用いて両者のやりとりを分析した。

実習指導に関する学生と教員の語りから、学生は実習指導を教員が教えてくれるというコンテキストとしてとらえ、教員は実習指導を学生が自ら考えるというコンテキストとしてとらえることが示された。これらのコンテキストに基づいて、学生と教員のやりとりを‘刺激’、‘反応’、‘強化’で区切ると、学生と教員はやりとりをそれぞれ異なった構造として示すことが明らかになった。学生は自分が質問しても(刺激)、教員が質問に答えられない(反応)ので、質問を繰り返した(強化)。一方、教員は、学生に考えさせようとして説明するが(刺激)、学生が説明を聞かない(反応)ので、さらに説明を繰り返した(強化)。

2つの構造では、学生と教員の‘刺激’、‘反応’、‘強化’が一致することなく、それぞれ異なった‘刺激’、‘反応’、‘強化’であることが示された。しかも、これら2つの構造では、自分にとっての‘刺激’が、相手にとっては‘反応’になる可能性があることに学生も教員も気がつかず、両者はかみ合わないやりとりを続けた。

Keywords: exchange, context, narratives, clinical teaching, clinical practice

I. Introduction

Nursing students learn by interacting with their teachers during clinical practice. Although the importance of such an interaction has been repeatedly demonstrated by researchers^{1) 2) 3) 4) 5) 6)}, a method of analyzing student-teacher interactions has not yet been established.

Currently, there is descriptive data regarding the structure of student-teacher interactions. For example, Lynn⁷⁾ argues that the structure of student-teacher interaction has two components: continuum of student response to faculty and continuum of faculty behavior. This structure explicates teacher approach and student reaction. However, because data was only collected from the nursing student, the analysis was limited.

The following three points must be multilaterally examined in the analysis of student-teacher interactions, in order for a dynamic change in the interaction to be adequately described: 1) How did the student and teacher perceive the interaction? 2) What was the nature of the interaction? 3) How did the perceptions of the student and teacher change during the interaction? Because data to examine these questions does not currently exist, research is needed to investigate these three points.

Bateson describes a method of segmenting an interaction between two individuals by examining each individual's perception of the context⁸⁾. Data collection that consists of capturing the perceptions of both the student and teacher makes it possible to perform a multilateral analysis. The aim of this study was to utilize Bateson's methods to analyze student-teacher interactions.

II. Methods

1. Access procedures

To initiate the study, consent was obtained from the president of the junior college of nursing, the administrative president of the junior college, and the head nurse at the hospital. On the first day of the clinical practice, the purpose and methods of the study were explained to the teachers and students, and consent to participate in the study was obtained.

2. Setting

This study was conducted at a clinical practice in the hospital adjacent to the junior college of nursing, in which the students completed four weeks of instruction. The student took charge of one patient, and the teacher instructed the student during the assessment.

3. Data collection

Data was obtained over a four week period of fieldwork, which consisted of participant observation and interviews.

i. Participant observation

The researcher was introduced to the participants as an "interested graduate student in clinical practice" and acted as a passive participant⁹⁾. The researcher only spoke when directly addressed by the student or teacher.

The student-teacher exchange was tape-recorded with the participants' consent and was transcribed. Participant observation data of the exchange was also transcribed. Observations were expediently documented as field notes.

ii. Interviews

The participants completed individual semi-structured interviews lasting approximately 15-30 minutes. The interview questions inquired about student's and teacher's perceptions of clinical teaching interactions. The interviews were conducted in the school building, tape-recorded with participants' consent, and later transcribed.

iii. Data analysis

Bateson's methods were applied to the student-teacher exchange. Bateson perceives the exchange to be structured by the person's own perception of the context in which the interaction occurs at clinical practice. Two critical procedures consisted of the following: 1) The context of the exchange between students and teachers was distilled from the student and teacher narratives concerning "clinical teaching," and, 2) According to the student's and teacher's perceptions of context, the exchange of both was segmented into stimulation, reaction and reinforcement.

III. Results

This study analyzed a single exchange between a student and teacher that was emblematic of the divergent perceptions of clinical teaching held by the two participants. The key analysis involved "clinical teaching" narratives, which the student and teacher provided prior to the exchange. This was because such narratives were believed to form the context in which the exchange was segmented.

1. Narratives regarding "clinical teaching" prior to the student-teacher interaction

i. Student narrative

The student indicated that her feelings of doubt increased despite having questioned her teacher regarding these uncertainties. The student said, "When I ask a question and get an answer that makes me even more

confused, it embarrasses me. ‘Ari-jigoku’”.

The context of the exchange between the student and her teacher was distilled from the student’s narrative concerning "clinical teaching", as follows: “During clinical practice, students must learn to find the answers for themselves, but I also wanted some guidance from the teacher”.

ii. Teacher narrative

The teacher felt that the student’s nursing skills were limited because she had a weak grounding in the science of nursing. Her teacher stated, “She does not recognize that a good nurse must understand the reasons for making any decision. She is not interested in knowing the grounds on which she should base her decisions. I want to make her think about the grounds.”

The context of the exchange between the student and her teacher was distilled from the teacher’s narratives concerning "clinical teaching", as follows: “The purpose of clinical teaching is to instruct students to make decisions by themselves. I want to make the student think about grounds.”

2. The student-teacher interaction

The student was in charge of a feverish patient, and suggested to the teacher that the patient was either infected or at risk of infection. Seeking guidance, the student asked the teacher if the patient was infected. The teacher did not answer the question, but rather offered additional information to prompt the student to think about grounds. The teacher explained the patient’s blood data to the student so that she would think about the patient’s condition. Both white blood cell count and C-reactive protein (CRP) level are measures of inflammation.

Student: Is it an infection?

Teacher: What do you think? You can decide based on the patient’s condition. You can see that the patient has a fever.

S: Infection? Is the patient infected?

T: The white blood cell count has not fallen but the CRP level is up. The patient might have been infected in the past.

S: Is the patient infected?

T: The CRP level may have fallen by now. If the antibiotic works, the CRP concentration falls to normal.

The student continued to ask her teacher whether the patient was infected. The teacher continued to discuss the clinical evidence that could be used to judge whether an infection was present. Eventually, the student exclaimed, “I don’t understand. I don’t know what to do.”

When the exchange was analyzed using Bateson’s methods, which incorporated the comments made by both participants during their interviews, two very different perspectives emerged.

3. The interaction as perceived by each participant

The student and her teacher structured the exchange on the basis of mutually different contexts. According to their own perceptions of the context, the interaction can be segmented into different “stimulations”, “reactions” and “reinforcements”.

i. The interaction as perceived by the student

The student continued to question the teacher about the presence of infection without falling into ‘Ari-jigoku’. From the student’s contextual perspective, this exchange was segmented into “stimulation”, “reaction” and “reinforcement”. The exchange reflected the following structure:

- a) Stimulation: The student asked her teacher whether the patient was infected.
- b) Reaction: The teacher did not answer the question.

c) Reinforcement: The student repeated the question

ii. The interaction as perceived by the teacher

The teacher attempted to prompt the student to think about grounds. From the teacher’s contextual perspective, this exchange was also segmented into “stimulation”, “reaction” and “reinforcement”. The exchange reflected the following structure:

- a) Stimulation: The teacher explained the evidence that can be used to judge whether or not an infection is present.
- b) Reaction: The student repeated her question as if she had not heard the explanation.
- c) Reinforcement: The teacher reiterated and expanded the explanation.

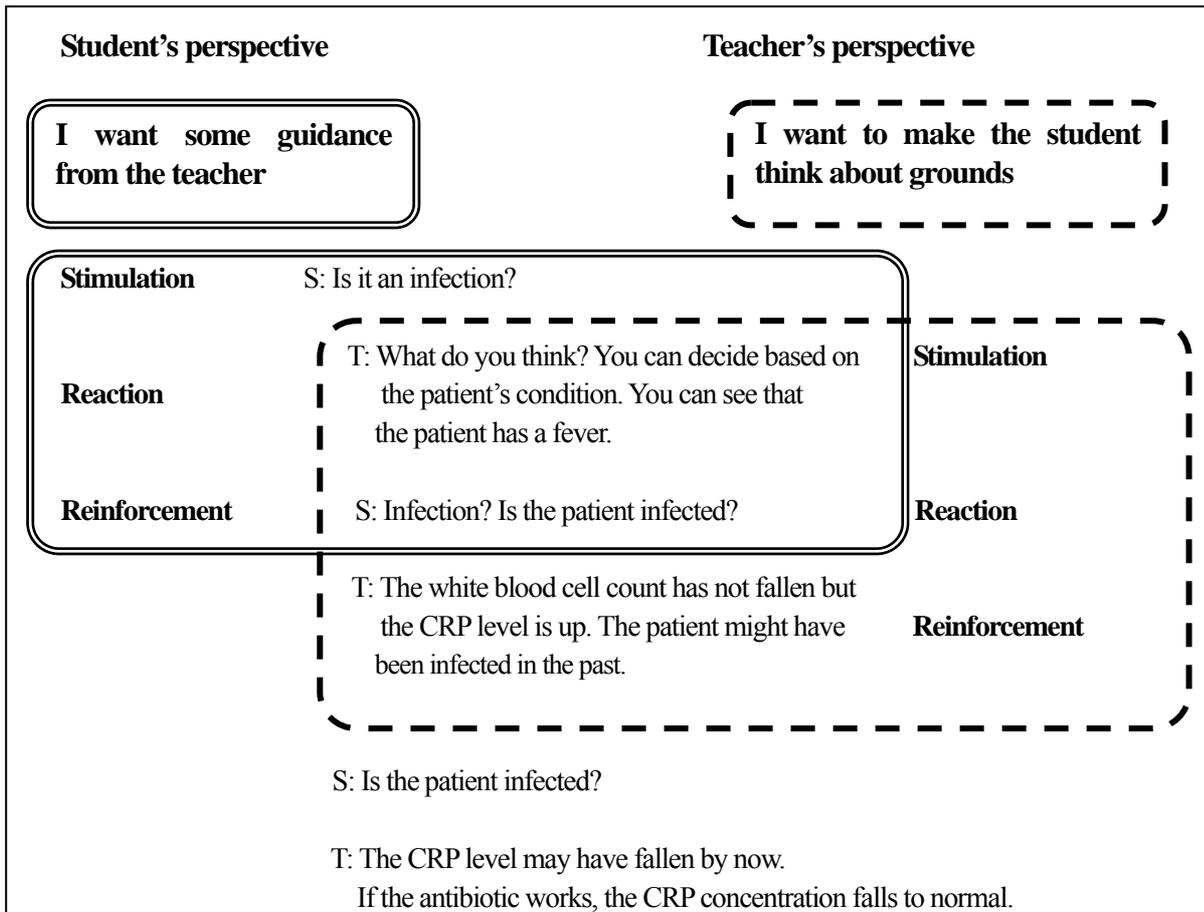


Fig. 1 The interaction as perceived by each participant

4. Narratives regarding "clinical teaching" after the student-teacher interaction

Miscommunications, such as the one described above, changed both the student’s and teacher’s narratives after the interaction had taken place.

i. Student narrative

After the exchange, the student stated, “It is not easy to question my teacher.” She mimed playing catch, and said, "There is no give-and-take." Furthermore, in the last stage of the clinical practice, the student did not ask her teacher any further questions. Rather, the student inquired to other students or the researcher.

The context of the exchange, according to both the student and teacher, was distilled from the student’s narrative concerning "clinical teaching" as follows: “During clinical practice, students must learn to find the answers for themselves. Even if I want some guidance, I do not ask the teacher.”

ii. Teacher narrative

After the exchange, the teacher stated, "The student does not listen to my explanations. She does not know what evidence she must consider in making a decision."

The context of the exchange was distilled from the teacher's narrative concerning "clinical teaching", as follows: "The purpose of 'clinical teaching' is to instruct students on how to make decisions by themselves. But the student doesn't listen to my explanation."

IV. Discussion

The purpose of this study was to utilize Bateson's method to analyze an interaction between a student and teacher during clinical practice. Bateson's method consisted of segmenting the interaction according to the context of the interaction for each participant. It was demonstrated that the exchange between both could be explicated by a structure consisting of "stimulation", "reaction" and "reinforcement". In the past, this structure could not be clarified when solely collecting data from the student.

Although student-teacher interactions are often analyzed utilizing the concept of caring¹⁰⁾¹¹⁾, there exists no previous methods to analyze the communication of both parties. Nonetheless, Bateson's method describes the interaction in terms of "stimulation", "reaction", and "reinforcement", offering an innovative analysis. As the student and teacher stimulated one another, each individual's reaction was perceived and reinforced by the other. Moreover, "stimulation" by the student and "stimulation" by the teacher did not accord. Both the student and teacher were unaware that they had segmented the exchange, thus, they continued to engage in ineffective communication.

The context did not significantly change after the interaction, which does not contradict Bateman's argument that, "In fact, the propositions which govern punctuation have the general characteristic of being self-validating.¹²⁾" Although the teacher insisted that the student did not hear her explanation, the teacher continued to think that the student wanted to be taught. Conversely, although the student never changed in her desire to learn, the student did not ask her teacher but rather other students and the researcher. These findings demonstrate that when analyzing an interaction of this nature, it is necessary to consider both the context in which the exchange occurs and the effect of the exchange on the context.

Bateson's method consists of two critical usages. One is the capability to analyze dyadic interaction. In this study, although the conversation between the student and teacher was analyzed during the interaction, Bateson's method could also allow an analysis of student-teacher behavior. Therefore, the strength of Bateson's method lies in its possibility to analyze various exchanges.

Another important practical application of Bateson's method is its usage as a tool for the teacher to better appreciate clinical teaching. The teacher becomes a threat to the student by the exchange between the student and the teacher¹³⁾. Therefore, when the teacher analyzes the exchange with the student, it requires them to reflect upon own clinical teaching methods. However, it is necessary to defend the welfare of students so that the analysis of the exchange will not become a threat.

V. Conclusion

This study analyzed an interaction between a student and teacher during clinical practice using Bateson's methods. Both the student and the teacher segmented the exchange in different contexts, as both developed divergent structures of 'stimulation', 'reaction', and 'reinforcement'. However, because the student and teacher were unaware of the differing structures, they continued to communicate poorly.

References

- 1) Shirley Wong: Nurse-teacher behaviors in the clinical field: Apparent effect on nursing student's learning, *Journal of advanced nursing*, 3, 369-372, 1978
- 2) Ann Windsor: Nursing student's perception of clinical experience, *Journal of Nursing Education*, 26(4), 150-154,

1987

- 3) Virginia Nehring: Nursing clinical teacher effectiveness inventory: a replication study of the characteristics of 'best' and 'worst' clinical teachers as perceived by nursing faculty and students, *Journal of advanced nursing*, 15, 934-940, 1990
- 4) Kathy Bergman, Terri Gaitskill: Faculty and student perceptions of effective clinical teachers: an extension study, *Journal of Professional Nursing*, 6(1), 33-44, 1990
- 5) Mariko Fusa: Teaching approaches when nursing student feel difficulties in nursing judgment during clinical Practicum, *Journal of Japan Academy of Nursing Science*, 19(2), 77-86, 1999
- 6) Violeta L. Nahas, Violet Nour, Muna AI- Nobani: Jordanian undergraduate nursing student's perceptions of effective clinical teachers, *Nurse Education Today*, 19, 639-648, 1999
- 7) Lynn E . Hanson, Marjorie J. Smith: Nursing student's perspectives: experience of caring and not-so-caring interactions with faculty, *Journal of Nursing Education*, 35(3), 105-112, 1996
- 8) Gregory Bateson, *The Logical Categories of Learning and Communication, Step to an Ecology of Mind*, 292-301, The University of Chicago Press, Chicago, 2000
- 9) James P. Spradley: *Doing participant observation, Participant observation*, Harcourt Brace Jovanovich College Publishers, 58-62, New York, 1980
- 10) Linda Hughes: Faculty-student interactions and the student-perceived climate for caring, *Advances in Nursing Science*, 14(3), 60-71, 1992
- 11) Sigridur Halldorsdottir: The essential structure of a caring and an uncaring encounter with a teacher: the perspective of the nursing student, Madeleine Leininger, Jean Watson, *The Caring Imperative in Education*, 95-108, National League for Nursing, New York , 1990
- 12) Gregory Bateson, *The Logical Categories of Learning and Communication, Step to an Ecology of Mind*, 301, The University of Chicago Press, Chicago, 2000
- 13) Kathleen D. Pagana: Stresses and threats reported by baccalaureate students in relation to an initial clinical experience, *Journal of Nursing Education*, 27(9), 418-424, 1988

THE RELATIONSHIPS BETWEEN JAPANESE WORKERS' SOCIAL SKILL, PERCEIVED EMOTIONAL SUPPORT, SELF- IMAGE AND MENTAL HEALTH

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企業従業員のソーシャルスキル効力感が情緒的支援認知と自己イメージ認知
および抑うつ・不安傾向に及ぼす影響 - 男女別同時分析を中心に -

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要旨

【研究背景】昨今、日本の企業従業員のメンタルヘルス改善対策として、ソーシャルスキルトレーニングが注目されている。本報では、企業従業員のソーシャルスキルの獲得が、良好な環境支援認知や良好な自己イメージ形成に影響し、これを介しストレス源認知の低下やうつや不安傾向を低下させる。」という因果モデルを構築し、共分散構造分析を用い検討した。【方法】調査対象：全国企業従業員 3040 名(有効回答数 3037 名、平均年齢 38.9 ± 11.8 歳)。調査期間：2005 年 4 ~ 11 月。調査項目：基本属性、不安傾向、抑うつ、自己抑制型行動特性、対人依存型行動特性、自己価値感、情緒的支援認知度、日常苛立事、ソーシャルスキル。分析方法：目的に記述した仮説モデルの性差を検証するために、ソーシャルスキル効力感()、良好な支援認知()、良好な自己イメージ認知()、ストレス源認知のし易さ()、抑うつ・不安傾向()を潜在変数とする共分散構造分析(多集団別同時分析)を行った。

【結果および考察】共分散構造分析の結果、モデルの適合度は良好であった。ソーシャルスキル効力感の高さは良好な支援認知、良好な自己イメージ認知に直接的に正の効果が、良好な支援認知は、直接的に抑うつ・不安傾向に影響は認められず、良好な自己イメージ認知を介し、抑うつ・不安傾向に負の影響が、またストレス源認知のし易さにも負の効果を認め、間接的に抑うつ・不安傾向に影響が認められた。男女別の同時分析では、良好な支援認知からストレス源認知のパス係数は、女性においてのみ有意であった。男女共、ソーシャルスキルの効力感 は支援認知を強めるが、直接抑うつや不安傾向を弱める規定因とならず、良好な人間関係の中で、良好な自己イメージ認知を形成を促し、または 直接的に良好な自己イメージを形成し、抑うつや不安傾向の低下に影響するという構造が明らかとなった。

1. Background

Recently in the work environment of Japanese business people drastic changes have been observed due to globalization of business, corporate restructuring and rapid technological innovations. An example of the changes is the increasing number of those working people who are mentally unbalanced. Statistically speaking, mental disorder occupies about 15% of the various medical reasons for workers' absence from work for more than a month¹⁾. Also phenomenal is the increase in the number of deaths from overwork and suicides. The number of suicides in Japan has increased from approximately 22,000 per year in 1988-1997 to over 30,000 per year since then²⁾. There are two types of approaches to the measures now taken in Japanese business scenes to cope with the mental health of workers³⁾. One is the approach to the work environment itself and the other is to the individual worker. The former is the efforts to decrease stressors in the job both quantitatively and qualitatively for alleviating the causes of stress, and to improve the work environment as a whole including various adjustments and redeployment of labor force. The latter, on the other hand, is to lead the workers to self-training for obtaining relaxation. In addition, the newly introduced social skills training attracts considerable attention.

According to the already available information on the relationship between social skills and the

process of causing responsive acts to stress, the more a person possesses social skills, the more easily he/she can receive supports from the people around⁴⁾. The more a person possesses social skills, the more easily he/she adds alternatives to the measures for coping with stress⁵⁾. According to the Lewinsohn's model of depression⁶⁾, the response-contingent positive reinforcement is a function of three factors as shown in the illustration. Those factors are, the number of events that are potentially reinforcing to the individual, the availability of these reinforcing events in the individual's environment, and the instrumental behavior necessary to obtain positive reinforcement from others, the so-called social skills. Of these three particularly emphasized is the last one, social skills. The depressives, tending to lack the requisite social skills, suffer from less frequency of obtaining positive reinforcement. Thus, it is said that they easily get depression.

In addition to the information obtained from numerous previous studies, we established a hypothetical causal model that formation of good self-image may depend on possession of social skills.

In this study, we have established another causal model. Namely Employees' feeling of social skills efficacy would influence development of good perception of support and good self-image, and through this, awareness of stress sources should go down and a tendency of depression and anxiety would decline.

Purpose of this study is verifying our hypothetical model. And the model has been verified by covariance structure analysis. In conducting the research, we, having applied the simultaneous analysis of multiple populations, took differences of gender into our consideration, and intended to obtain certain implications for supporting employee's mental health.



Fig 1. Hypothetical causal model

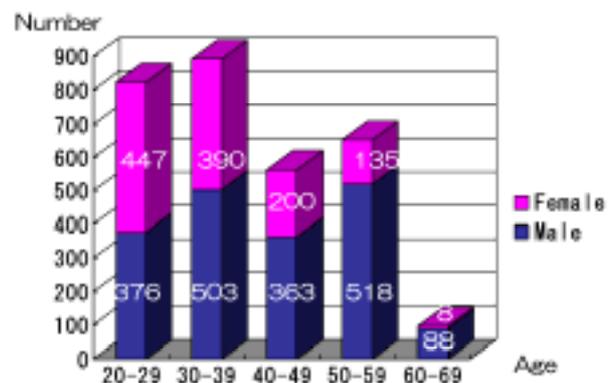


Fig 2. Composition of subjects by age

2.Methods & Subjects

Subjects

The research was conducted on 3040 employees working for industrial and financial corporations in Japan. The number of valid replies was 3037. Research period was from April to November 2005.

Assessment and analysis

The composition of subjects by age was shown as Fig.2. Table.1 shows the questionnaire items for participants in this research. And basic demographics data, those are Age ,Gender ,married or unmarried and occupation were asked

The term “social skills” is defined in various ways. On Munakata's theory of essential demands⁶⁾, we define it as follows: Social skills are the skills to fulfill a good balance among desires to love one's own self, to love others and to be loved by others. Thus we developed our own scale for measuring social skills in which social skills consist of two kinds of skills; one is for enhancing self-reliance and the other for displaying affection.

The skills for enhancing self-reliance are those skills ,1 to bring one's ability into full play, 2 to make better use of one's abilities in the relationships with the other people around and ,3 to solve worries and

problems in one's mind. And we assume that they are measured by the following five subordinate scales: (1) ability to express oneself frankly, (2) stress management, (3) self-counseling, (4) negotiating power and (5) presentation. The skills for displaying affection are the skills to draw out the ability of others in full, to communicate openly, and to understand and sympathize reciprocally. And they are measured by the following four subordinate scales: (1) counseling, (2) assertion, (3) trust in and support to others, and (4) acceptance of others.

Table1. Assessment Scales

Scale (Score range)	Development by	Measures
Anxiety Tendency (20-80)	Yoshiwa, Munakata (1997) ¹⁰⁾	Having Anxiety Tendency
Depression (20-80)	Yoshiwa, Munakata (1997) ¹⁰⁾	Depressive mode
Self-repression (0-20)	Munakata (1996) ¹¹⁾	The tendency to suppress one's feelings or thoughts so as to maintain pleasant relationships
Emotional Dependency (0-18)	Munakata (1996) ¹¹⁾	Degree of one's expectation to receive emotional
Self-esteem (0-10)	Munakata (1996) ¹¹⁾	The degree of self-satisfaction or self-regards
Perceived Emotional Support (From Family, Workplace, Others) (0-10)	Munakata (1996) ¹¹⁾	The degree of perception of emotional support from family, workplace and others
Daily hassles in general-R(0-16)	Yamamoto, Munakata (2005) ¹²⁾	The degree of awareness of stress sources in daily-life
Workplace Hassles-R (0-10)	Yamamoto, Munakata (2005) ¹²⁾	The degree of awareness of stress sources in daily-workplace
Social Skills (50-250)	Hashimoto, Higuchi (2004) ⁹⁾	This skills were defined that the skills to fulfill the good balance among desires to love one's own self, to love others and to be loved by others or enhancing self-reliance

Statistical analysis

Data were analyzed utilizing SPSS-ver11.0 and AMOS-ver4.0., we conducted both One-way ANOVA and covariance structure analysis.

3. Results

After classifying the whole subject into three groups by the points for the feelings of social skills efficacy, we made the comparison of mean points of each group by perceived emotional support scale. The higher the points for the feelings of social skills efficacy were, the significantly higher was the perceived emotional support scale either from family, work place or others.

Table 2. Psychological characteristics :Comparison according to Social skills Score

	Social Skill			F Value	P	post-hoc test
	Low(L)	Mid(M)	High(H)			
Perception of Emotional Support fom family	7.4±3.2	8.6±2.4	9.0±2.2	89.18	0.000	L<M<H
Perception of Emotional Support fom work place	4.5±3.4	5.9±3.4	7.0±3.1	140.91	0.000	L<M<H
Perception of Emotional Support fom others	6.1±3.8	7.5±3.4	8.3±2.9	109.56	0.000	L<M<H
Self Repression	10.7±3.4	9.8±3.1	9.2±3.2	37.98	0.000	L<M<H
Emotional dependency	5.3±2.9	4.0±2.4	3.4±2.3	138.91	0.000	L<M<H
Self-esteem	5.0±2.47	6.7±9.2	7.5±2.1	326.97	0.000	L<M<H
Daily hassles in general	6.6±3.5	6.2±3.4	5.4±3.5	33.00	0.000	L<M<H
Workplace Hassles	8.1±5.4	6.7±5.2	5.8±5.0	48.30	0.000	L<M<H
Anxiety Tendency	41.2±9.4	36.3±7.8	31.8±8.0	310.57	0.000	L<M<H
Depression	42.8±10.5	37.7±9.2	33.5±8.7	234.23	0.000	L<M<H

In the same manner, we made the comparison of mean points of each group by self-repression scale, emotional dependency scale and self-esteem scale. The higher the points for the feelings of social skills efficacy were, the significantly lower were the self-repression scale and the emotional dependency scale. While the higher the points for the feelings of social skills efficacy were, the significantly higher was the self-esteem. Also in the same manner, we made another comparison of the points for daily hassles in general and those in work places. The higher the points for the feelings of social skills efficacy were, the significantly lower were the both.

Another comparison was made in the same manner of the points for depression and anxiety tendency. The higher the points for the feelings of social skills efficacy were, the significantly lower were both tendencies. We established a hypothetical causal model of the relationships among the feelings of social skills efficacy, perceived emotional support, recognition of self-image and depression/anxiety tendencies, and then we verified it by covariance structure analysis.

The feelings of social skills efficacy is regarded as the latent variable of which the observed variable is social skills. Also, the perception of good support is regarded as the latent variables of which the observed variable are the perceived emotional support scale from family, work place and others. The perception of good self-image is regarded as the latent variable of which the observed variable are self-esteem scale, self-repression scale and emotional dependency scale. Also, the easy awareness of stress sources is regarded as the latent variable of which the observed variable are the daily hassles in general and those in the work place. Lastly, the depression/anxiety tendencies is regarded as the latent variable of which the observed variable are depression/anxiety tendencies.

Fig. 3 is the result of the analysis by the model with all the samples. Both explanatory ratio and fit measures were proven good. It was found out that the intensity of the feeling of social skills efficacy has a direct positive effect on both perception of good support and perception of good self-image.

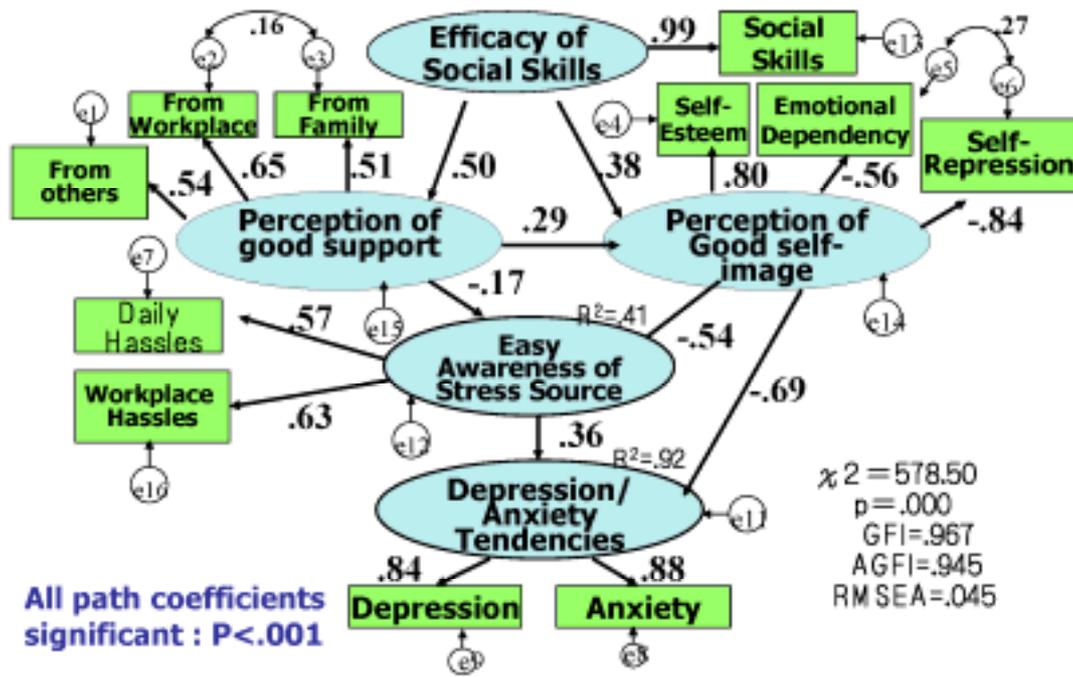


Fig.3 THE RELATIONSHIPS BETWEEN SOCIAL SKILLS, PERCEIVED EMOTIONAL SUPPORT, SELF- IMAGE AND MENTAL HEALTH

The perception of good support did not exert its influence directly on depression/anxiety tendencies, while it, through perception of good self-image, exerted a negative influence on depression/anxiety tendencies. Also, the easy awareness of stress sources was found to be influenced negatively by perception of good support. Further more, the perception of good support exerted an indirect influence on depression/anxiety tendencies. Out of these findings, we were able to confirm the flow of influences in the hypothetical model.

In the multi-group simultaneous analysis by gender, the path coefficient from perception of good support to the easy awareness of stress sources was significant only in cases of females, while in cases of males direct influence of perception of support was not found out on the perception of stress sources (Fig. 4,5).

Judging from the direct and indirect effects of the feelings of social skills efficacy on each latent variable, we were able to confirm the flow of influences in our hypothetical model. The path coefficient from the perception of good support to depression/anxiety tendencies was low and not significant. The assessment of the fit of the partially modified model was good. The coefficient of multiple determinations for depression/anxiety tendencies (R^2) was 0.93. So, we may safely say that the explanatory ratio of the model was good, too.

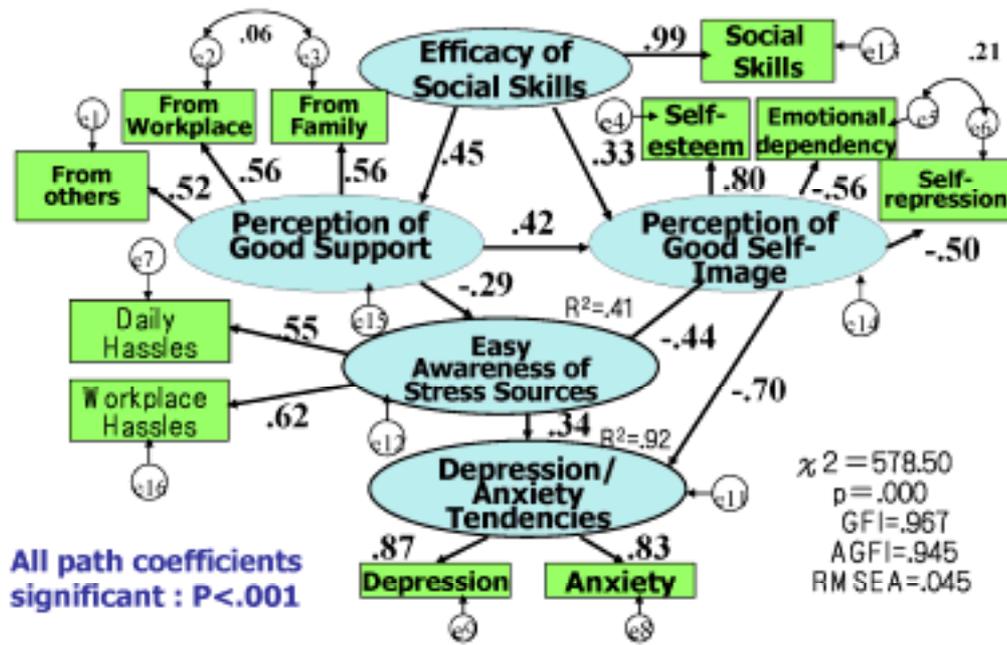


Fig.4 THE RELATIONSHIPS BETWEEN SOCIAL SKILLS, PERCEIVED EMOTIONAL SUPPORT, SELF- IMAGE AND MENTAL HEALTH **IN FEMALE**

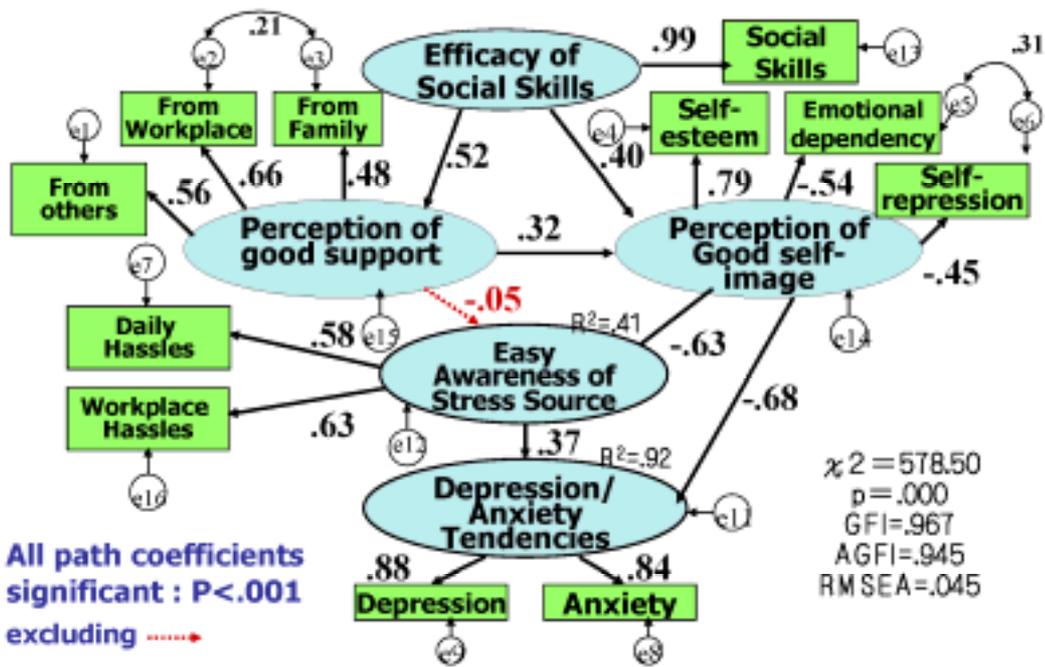


Fig.5 THE RELATIONSHIPS BETWEEN SOCIAL SKILLS, PERCEIVED EMOTIONAL SUPPORT, SELF- IMAGE AND MENTAL HEALTH **IN MALE**

4. Discussion

As a result, the following structure was made known to us. Namely, the acquisition of social skills helps lower the cognition of the stress sources and exert an influence on lowering depression/ anxiety tendencies either indirectly by exerting an influence on perception of support and the formation of good perceived self-image amid the good human relationships with the other people around, or directly by forming up good self-image.

We established a hypothetical causal model and verified it by covariance analysis. Our model was as

follows: “Business employee’s acquisition of social skills may accelerate the formation of good human relationships and positive self-image. Consequently, his/her perceived stress sources and depression/ anxiety tendencies may be reduced.” As one of cause of gender difference in this model , the woman tend to prefer to be in peer group than a man. Additionally, many previous studies show across many nations, cultures, ethnicities , female are twice as likely as male to experience depression⁷⁾. Women could be had a tendency to depend on the people around than men , and a feeling of emotional supports in women influence to mental health strongly than men.

5. Limits of the study

A conclusion of the present cross sectional study seems to suggest that the feeling of social skills efficacy does not always exert its influence on depression/anxiety tendencies. Accordingly, it is necessary to examine the causal relationships from the view point of a intervention study on the supports for enhancing their social skills.

6. Conclusion

Our findings are summarized as follows. Acquisition of social skills strengthens perceived supports, but it directly causes neither controlling of depression nor allaying of anxiety. Instead, it exerts an influence on controlling of depression and allaying of anxiety either indirectly by forming up perception of good self-image or directly by forming up the good self-image. In simultaneous analysis by gender, the path coefficient from perception of good support to easiness of perceived stress sources proved significant only in cases of females, but no influence was seen in cases of males. It seems to be suggested that acquisition of social skills may be an effective measure for improving mental health of business employees because it accelerates good human relationships and formation of positive self-image. When social skills training is conducted, the gender differences should be taken into consideration.

Reference

- 1) Fumio Kobayashi: Job stress and mental health in workers. *Nihon Roudou Kenkyuu Zassi (Japanese Journal of Labour Studies)*. 492, 2001.
- 2) Ishihara A : Suicide in Japan-the analysis of vital statistics. *J Mental Health* 49 (Suppl), 13-26, 2003.
- 3) Fumio Kobayashi: Occupational stress management in the post-industrialized countries outside Japan. *Jpn J psychosom Med.* 45:119-125, 2005.
- 4) Tanaka k, Kosugi S: The relationships between worker’s sociak skills, social support, and stress coping strategies, *Sangyou Stress Kenkyu (Job Stress Res.)* 10, 195-204, 2003
- 5) Cohen S Wills TA : Stress, social support, and the buffering hypothesis , *Psychological Bulletin* 98, 310-357, 1985
- 6) Lewinsohn PM., MacPhillamy DJ: The relationships between age and engagement in pleasant events. *J of Gerontology* 29. 290-294, 1974.
- 7) Nolen-Hoelsema S : Sex difference in depression. Stanford, CA, Stanford University Press, 1990.
- 8) Munakata, T: Structured Association Technique Therapy. Kaneko Shobou, Tokyo, 2006.
- 9) Noriko Higuchi, Sayuri Hashimoto: A study of the social skills measurement for students of helping professionals, *Jap. J of Health Behavioral Science* 19, 195-216, 2004.
- 10) Kazuhiro Yoshiwa, Tsunetsugu Munakata: Development of a mental health related scale for children *Mental health no Syakaigaku (Sociology of mental health)* 7:29-35, 1997
- 11) Tsunetsugu Munakata: Health and illness viewed from behavioral science, Medical Friend Co. Ltd Tokyo, 1996.
- 12) Minako Yamamoto, Jyunichi Yamamoto, Youichi Okutomi, Tsunetsugu Munakata : A study on simple standard scales for job a place of work stress check. *Mental health no Syakaigaku (Sociology of mental health)* 11.52-59, 2005.

Keywords: Social skills, Self-image, Perceived emotional support , Mental health , Japanese worker

Smoking Cessation Support With Nicotine Patches (2nd Report): Conducted through 1 years continual support

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Key words: smoking cessation support, nicotine supplement therapy, self-help approaches, smoking cessation efficacy, type of smoker

ニコチン貼付剤による禁煙支援(第2報) - 1年間の継続支援を通して -

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キーワード:禁煙支援・ニコチン補充療法・セルフヘルプアプローチ・禁煙エフィカシー・喫煙タイプ

要旨

ニコチン貼付剤を使用し継続的な支援を実施することにより、禁煙者の身体的心理的な変化を明らかにするとともに効果的な禁煙支援を検討することを目的とし、A社(小売業)の社員を対象に1年間のアンケート調査及び研究同意を得られた15名(男性)を対象に2005年2月から禁煙支援を実施した。対象者に対し面接を実施し、事前調査として喫煙状況、禁煙に対する考え方等を確認し禁煙前、6ヵ月後、1年後とアンケート調査を実施し、電話、メール、文書による禁煙支援を行なった。1年経過時点において、禁煙者 33.3%、減煙者 46.7%、喫煙者 20.0%であった。サンプル数が少なかつたため、禁煙者と再喫煙者で差が認められたのは、健康統制感のみであった($P<.05$)。しかし、明らかな差は認められなかったものの、たばこ役割度では再喫煙者が高値であった。今回の禁煙支援方法として、国際的に推奨されているニコチン補充療法とセルフヘルプ法を併用したアプローチを行ったが、1年後の禁煙率は33.3%と前述の通り先行研究の平均値と比べると高値であるが、決して十分であるとは言えない結果であった。先行研究より高値であったのは、支援方法として禁煙効果感や禁煙エフィカシーなどの心理的变化を追うことにより、自己へのフィードバック効果が得られたのではないかと推察される。ニコチン補充療法を併用することにより、ニコチン離脱症状を緩和し容易に禁煙に導くことができるがその反面、苦しい離脱症状を経験することなく禁煙可能であるが故に達成感に乏しく再喫煙しやすいのではないかと考えられる。画一的な禁煙支援では限界があり、より効果的な禁煙支援を行うためには、対象の認知行動パターンや喫煙タイプ、禁煙自信度等を考慮した上で支援方法を変更さらに細分化すべきであると考えられる。

I. Background and Aim

1. The significance of smoking cessation support

It is reported that through smoking cessation guidance carried out in Japan until present, that 6-27% of people trying to quit are successful when attempting individually whereas 16-50% are successful when attempting with group support. However the smoking cessation rate after excluding the results of quitting seminars stands at around 10-20%, which is very low indeed. However, it is possible that the smoking cessation rate will increase due to improved cessation guidance techniques hereafter. The advantage of smoking cessation guidance in comparison to other kinds of health education is that it is extremely easy to evaluate the results. Also, according to cost effectivity analysis carried out in America, smoking cessation guidance as an everyday treatment costs very little in comparison to the treatment of high blood pressure and other diseases. In other words, smoking cessation guidance is an extremely cost effective preventative medical action.

2. The present state of smoking cessation education

The following are five features of smoking cessation guidance trends in Europe and America. The first is the use of new behavioral science approaches such as methods of self-control. The second feature is

making the prevention of relapse a top priority. The third feature is the emergence of nicotine supplement therapy and the fourth is the importance placed on short-term intervention offered at regular health clinics. It is estimated that in America, every year doctors see at least 70% of all smokers. The fifth feature is the increased appreciation of the importance of self-help approaches which are cheap and convenient.

Smoking cessation support has come to Japan rather late in comparison to the West and research examining this and its effectivity has only begun in recent years. Moreover, the majority of research has only followed a 3-6 month period with the longest being for one year.

3. The purpose of this research

Smoking cessation support using nicotine supplement therapy and self-help methods was studied over a one-year period with the purpose of tracking the physical and psychological changes in the subjects and to evaluate such smoking cessation support.

II. Method

1. Investigation period

The study was carried out from January 2005-March 2006.

2. Subjects of investigation

15 male members of staff were recruited from Company A, in Japan, to take part in our trial to quit smoking using nicotine patches.

3. Method

An occupational doctor prescribed nicotine patches to the subjects and their smoking status and thoughts regarding quitting etc. were identified during a preliminary interview and questionnaire. Support was available at anytime via the company's mail network, email and by telephone. Questionnaires were administered after three months, six months and one year and comparisons made. The content of the questionnaire was as follows:

Quitting history (attempts at quitting, experiences using nicotine patches).

Smoking situation (degree of nicotine dependence, type of smoker).

Motivation regarding quitting smoking (health concerns, self-control and self-esteem etc.)

Daily life (support situation, level of contentment, stress relief etc.)

We used the revised edition (1991) of the questionnaire method developed by Fagerstrom et al to determine the level of nicotine dependence. To determine self-efficacy we used the universal self-efficacy scale (Sakano & Tojo, 1986) and to determine smoking cessation efficacy we used the smoking self-efficacy scale (Orihara, 2000). Levels of self-esteem were determined using the Rosenberg Scale (1965).

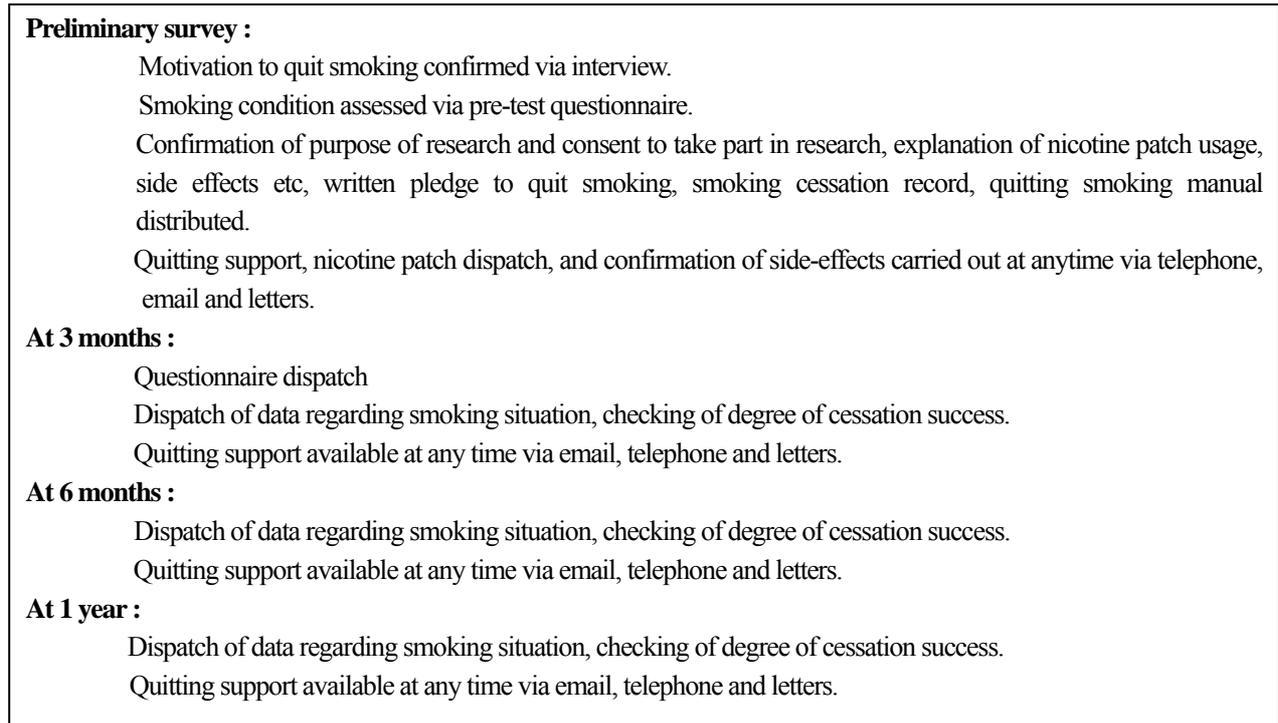


Fig. 1. Method of quitting support

4. Logical considerations

We explained the purpose and methods etc of the research to the subjects and obtained signed consent.

5. Method of analysis

SPSS13.0 for Windows was used to carry out statistical analysis. The chi-square test performs a confidence analysis. It required the mean and standard deviation for each scale evaluated, and via a t-test or one-way analysis of variance, it compared the data. Significance was set at the 5% two-sided level.

III. Results

1. Outline of subjects

The smoking rate amongst the employees of Company A was 33.8% of males (n = 518) and 7.1% of females.

(1) Attributes

Sex	Male 100%
Age	30s 33.3%, 40s 53.4%, 50s 13.3%
Spouse	With 80.0%, Without 20.0%

(2) Smoking situation

Nicotine dependency

Regarding the level of nicotine dependency, a majority of 53.3% were mixed, 40.0% smoked from habit and 6.7% were addicted. With regards to smoking type, the majority of 35.0% smoked when irritated, 25.0% smoked for pleasure, 15.0% smoked to relax and 10.0% smoked as a mood enhancer.

Smoking environment

A majority of 80% had smokers at their workplace, while 28.6% had smokers in their home. A majority of 86.7% answered that they had someone to support them in quitting smoking at home, and these were mostly family members.

Experiences in smoking cessation.

All subjects answered that they had tried quitting before, with almost half, 42.9%, answering that

they had quit once. The largest frequency was ten times. The longest period was seven years and the shortest five days. A majority of almost half at 46.2% had managed to quit for three to six months.

60% had experienced using nicotine patches before with 75% experiencing side effects such as rashes, itching and insomnia.

2. The process of smoking cessation

(1) Smoking status

After a period of a year, 33.3% of the participants had quit smoking, 46.7% had reduced their smoking and 20% were still smoking. The shortest usage of nicotine patches was for 10 days and the longest was 56 days with the average usage being 17 days. 80.0% experienced side effects from the nicotine patches with 90% of this figure being rashes and itching.

The results of the following table show that those who managed to quit smoking had the lowest nicotine dependency of the group.

Table 1. Those who quit, those who reduced smoking and those who remained smokers

	Age	Nicotine dependency level	No. of days usage of nicotine patches	Rate of incidence of side effects from nicotine patches
Quit	47.0	4.2	13.2	80.0
Reduced	39.7	4.5	12.8	85.7
Smokers	39.7	6.3	28.7	66.7

(2) The influence of psychological factors and environmental factors.

Those who had succeeded in quitting smoking showed a high tendency toward health regulation ($P < .05$). There was no difference seen regarding the other areas of social support, self-esteem, self-control, cessation efficacy and personal contentment.

The physical and psychological changes in the five participants who quit smoking were compared from before they quit to a year later. Two out of the five who quit smoking showed physical changes of increased weight, increased blood fat and blood sugar levels and increased blood pressure.

Comparisons were made during the course of the year to show the psychological changes of those who quit smoking (fig. 2.3). All of those who quit improved their quitting status after six months and one year with four out of five showing an increase in cessation effectivity and cessation efficacy.

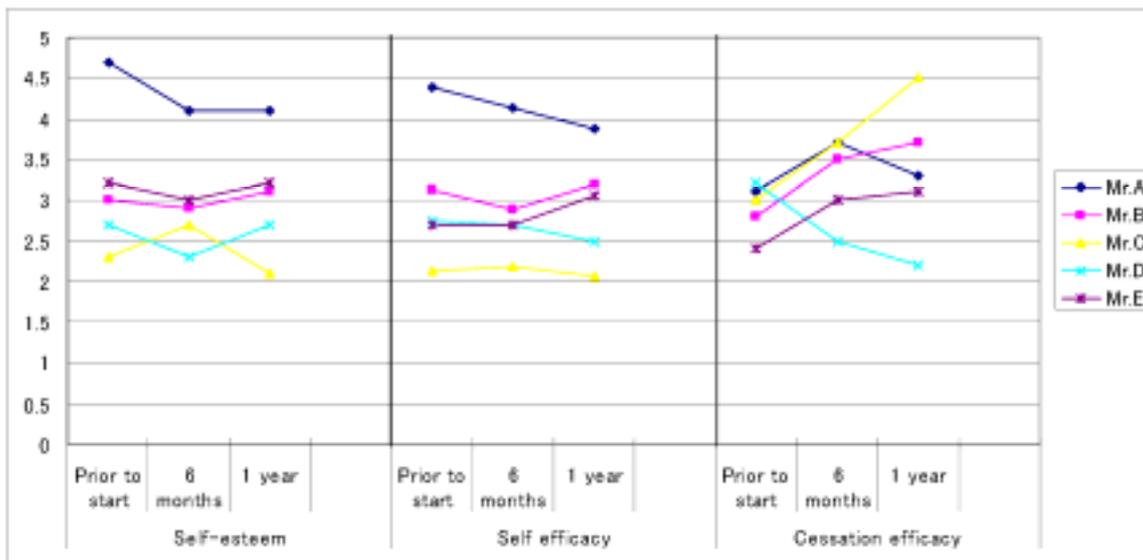


Fig. 2. Average figures for each participant who quit smoking

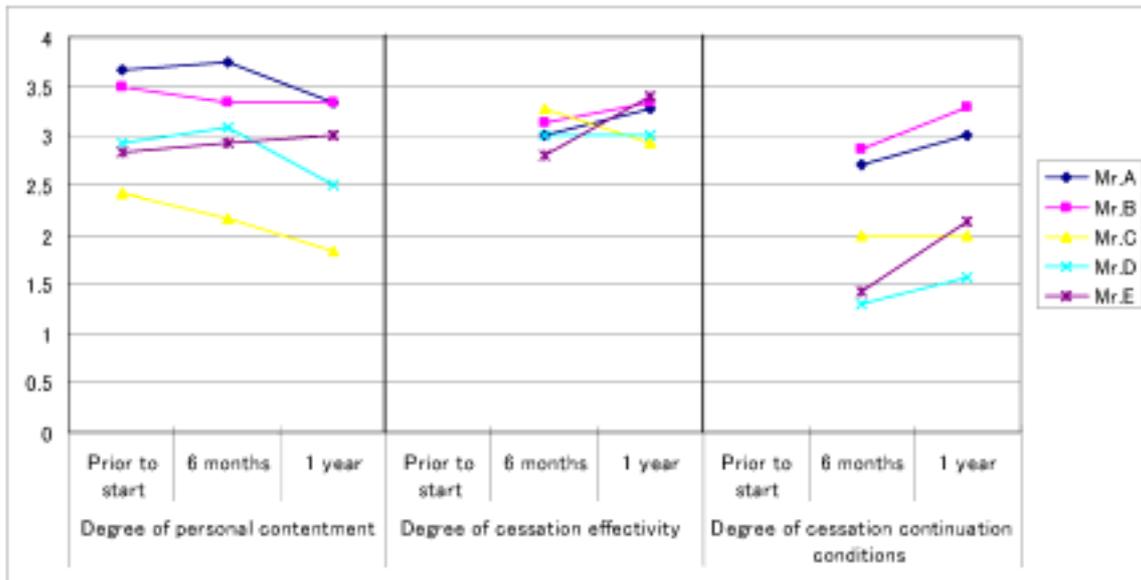


Fig. 3. Average figures for each participant who quit smoking

A comparison of physical and psychological changes of the ten participants who re-started smoking.

Looking at these results together it can be seen that many subjects had low HLC and cessation efficacy and that cessation efficacy and perceived cessation effectivity decreased during the course of the research. Comparisons were made over the course of the year to show more clearly the psychological changes in those who re-started smoking. (Fig. 4.5)

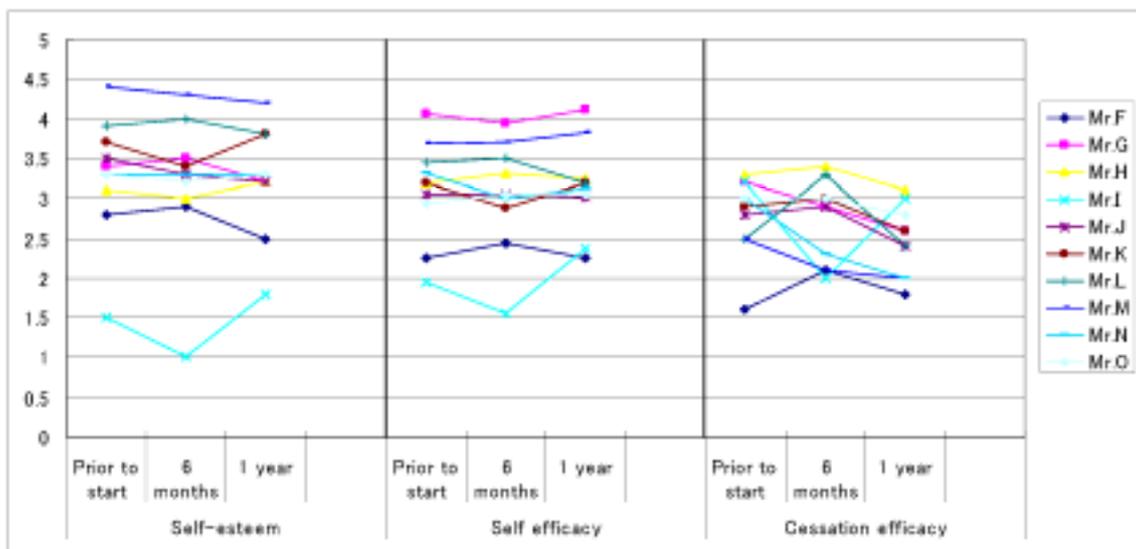


Fig. 4. Average values for those who re-started smoking.

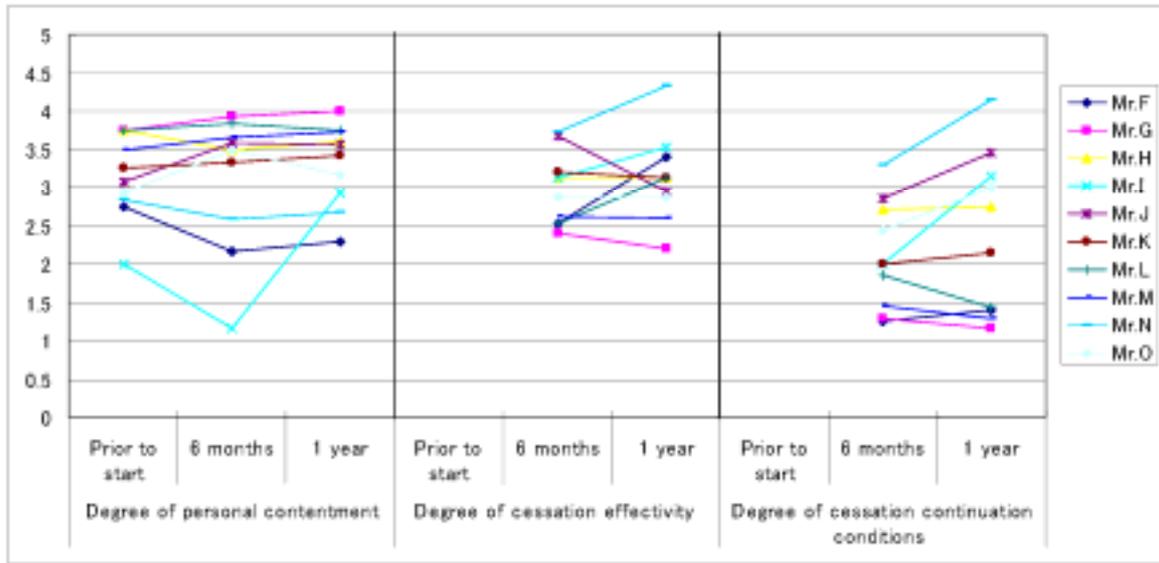


Fig. 5. Average values for those who re-started smoking.

During the course of the research, the psychological changes that could be seen were the level of continuation of smoking cessation amongst those who quit smoking ($P < .05$) and level of cessation efficacy amongst the non-smokers. ($P < .05$)

(3) Conditions prior to the start of research.

The smoking type, level of the role of smoking, perceived health regulation etc. was ascertained amongst the 15 participants (Table 4). Differences between the smokers and those who quit smoking were only seen in perceived health regulation ($P < .05$).

Table 2. Conditions prior to start of research

	Smoking type	Role of cigarettes	Nicotine dependency	HLC	Support	Type A	Self-confidence in the ability to quit
Mr. A	For pleasure	8.43	Habit	4.36	3.21	4.00	3.74
Mr. B	For pleasure	9.29	Mixed	3.56	4.14	2.92	4.00
Mr. C	When stressed	7.57	Habit	2.82	3.00	3.58	3.50
Mr. D	As a mood enhancer	8.14	Mixed	4.00	3.79	3.42	2.82
Mr. E	When stressed	9.14	Mixed	3.91	2.57	3.58	2.91
Mr. F	Addicted	9.57	Mixed	2.82	2.07	3.33	1.92
Mr. G	Addicted	8.14	Habit	2.82	3.07	2.83	3.32
Mr. H	To relax	7.57	Mixed	3.09	3.00	2.67	3.30
Mr. I	For pleasure	8.71	Mixed	2.73	3.50	3.75	3.31
Mr. J	When stressed	7.86	Habit	3.27	4.07	2.92	3.74
Mr. K	Addicted	11.29	Addicted	2.45	4.07	3.58	3.22
Mr. L	For pleasure	10.29	Habit	2.82	4.36	3.58	4.64
Mr. M	When stressed	9.57	Mixed	2.64	3.93	3.33	2.43
Mr. N	When stressed	7.86	Habit	3.18	4.00	3.67	2.62
Mr. O	To relax	11.43	Mixed	3.18	2.71	3.17	3.71

IV. Consideration

1. Comparing those who quit smoking and those who re-started.

As the sample number was very small, the only differences seen between those who quit smoking and those who re-started was in perceived health regulation ($P<.05$). However, even though there were no clear differences, the level of the role of cigarettes amongst those who restarted smoking was high.

2. Reasons for re-starting smoking

(1) Selection of methods of support

For this research the method of cessation support used was nicotine supplement therapy and self-help. The 33% quitting success rate after one year was high when compared to previous research stated earlier, but it cannot be said that these results are sufficient. This was due to the psychological changes relating to support methods which may show the effect of self-feedback. Nicotine patches relieve withdrawal symptoms which enables smoking cessation without experiencing severe discomfort. Therefore the sense of achievement is limited which could make it easier to re-start smoking. In order to carry out more effective cessation support, on top of taking into consideration the subjects' recognition behavior patterns, smoking type, level of self-confidence in quitting smoking etc. there must be a change in support methods.

(2) Nicotine patches

Side effects were seen in 12 of the 15 of those who used smoking cessation support during this research. The nicotine supplement course is intended for eight weeks use but none of the participants used it for the full eight weeks. This method of quitting uses a reduction of nicotine to TTS30 for four weeks, TTS20 for two weeks and TTS10 for two weeks but many stopped the course due to the side effects. The most common side effects were itching and redness and sleeping problems. The latter stopped when the patches were not worn during sleep but it was not possible to relieve the symptoms of redness and itching just by changing the location of the patch. As the average use of the patches was very short at 17 days it was difficult to establish a habit so it can be considered that many will re-start smoking immediately after use or within three months.

(3) Repeatedly quitting smoking

All the participants in this research had had experience in quitting before. The number of quitting attempts can cause a reduction in the level of self-confidence in smoking cessation which is linked to this vicious cycle of quitting and re-starting.

(4) The effectiveness of long-term support

After a year's continuous support two of those who re-started smoking have managed to quit again. With long-term support, motivation to try quitting again increases which is linked to an increase in the number of those who quit smoking for life. Rather than only giving support during the six month period when people are likely to re-start smoking, a few years of support is essential.

(5) The similarities between relapsed smokers.

The psychological factors shared by the re-lapsed smokers are low perceived health regulation ($P<.05$) and a decrease in cessation efficacy during the process of quitting ($P<.05$). High scores relating to the role of cigarettes, high nicotine dependency and a decrease in continuing of cessation during quitting, as well as a tendency toward low personal contentment which increases after smoking could be seen. The relapsed smokers tended to be addicted smokers and those who smoke to relieve negative feelings. Those who scored low regarding perceived health regulation found it difficult to take control of their own health therefore a strengthening of support from others is essential. A high score regarding the role of cigarettes and nicotine dependency means cigarettes are an essential everyday item. It is also vital to address stress-relieving strategies and to find a way to replace the role that cigarettes play in everyday life. A decrease in cessation efficacy and continuing in cessation during the quitting process can be considered a result of lack of effective support.

V. Conclusion

Through tracking the psychological and physical changes during the course of the study, it was almost impossible to increase cessation effectivity with standardized quitting support. In addition, the similar factors

amongst the relapsed smokers became clear. Close individual support for both those who have quit smoking and those who relapsed is vital. This research showed the progress over a one year period, As well as following the progress hereafter we would like to explore methods of effective smoking cessation support.

(This research was carried out with the support of the Aichi Health Promotion Foundation's medical research and health promotion activities grant.)

References

- Committee on smoking and health related problems 2002 *Smoking and health*. Hoken Dohjinsha Inc. pp. 324-333.
- Heatherton, T.F., Kozlowski, L.T., et al 1991 The Fagerstrom test for nicotine dependence : a revision of the Fagerstrom tolerance questionnaire. *British Journal of Addiction*, 86, 1119-1127.
- Nakamura, M., Masui, S., Oshima, A., 2000 *A manual for smoking cessation support*, Houken Corp.
- Orihara, S. 2000 Testing of the measurements of self efficacy relating to diet, smoking and exercise. *Journal of Education Society of Kokushikan University*, 18, 110-116.
- Rosenberg, M. 1965 *Society and adolescent self-image*. Princeton: Princeton University Press.
- Takahashi, Y. 1999 *A book on guidance in smoking cessation*. Hoken Dohjinsha Inc. pp. 147-151.
- Usuda, K., Konno, K., Kono, K., Tamashiro, H. 2002 Who's Framework Convention on Tobacco Control Potential Impact on Tobacco Control in Japan. *Japanese Journal of Public Health*, 236-245.
- Wallston, B.S., Wallston, K.A. 1978 Locus of Control and Health, A Review of the Literature. *Health Education Monographs*.
- WHO. 1999 *Tobacco Free Initiative Report by the Director-General*. WHA.

A Study on Environmental Education regarding Human Well-being and Environmental Health

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人間と環境の健康に関する環境教育の一考察

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ABSTRACT

The aim of this study is to establish a framework for environmental education for a sound sustainable society needs a more thorough review of the basic concepts of sustainability in terms of Human Well-being and Environmental Health.

Concepts of sustainability need the theoretical framework of environment education based on environmental ethics if considered ESD, because such education based on environmental ethics aims to establish public awareness and enhance motivation to promote environmental education. There are three points within this theoretical framework: (i) land ethics, (ii) intergenerational ethics and (iii) ecological ethics. These concepts suggest that sustainability based on a theoretical framework of environmental ethics of the ecosystem and the environment focusing on survival, landscape and biota, economy, society, morals, esthetics, harmony, and so on.

The concept of sustainability is located at the cross roads between bioethics and environmental ethics. Global bioethics, according to the definition which Van Rensselaer Potter proposed, has integrated "medical bioethics" with "ecological bioethics", which cannot be separated. Accordingly, bioethics and environment ethics have the same root from the viewpoint of global bioethics. Bioethics coincides with environmental ethics at the root, and also Human well-being coincides with Land Health as environmental health from the viewpoint of these concepts of sustainability.

Keywords: health, well-being, global bioethics, environmental ethics

I. INTRODUCTION

This study aims to try to define important key terms on human well-being, land health, environmental health and sustainability for constructing a theory or a pedagogy of environmental education. In other words, it aims to establish guidelines to implement environmental education in order to improve the serious situation of the environment in the present age.

Nowadays, we are faced with various problems regarding life and the environment due to the for reaching explosive development of science and technology. Take a look at the current environmental situations, serious environmental problems are spreading worldwide.

At the same time, as the environment has been destroyed and polluted, the health of human life also

faces serious hazards. Take global warming for example, which is causing the ozone depletion, desertification, the decrease of biodiversity in the natural environment. This in turn also effects the social and human environments in relation to poverty, public welfare, hygiene, economies. That also lead to policies on social and economical aspects, preservation of culture, public awareness and lifestyle of the sustainability. In fact, these natural, social, and human aspects are working systematically and mutually.

Now, we have realized environmental education is required for precautious resolution of these environmental problems. In 2003, the Ministry of Environment in Japan introduced the Law for Enhancing Motivation on Environmental Conservation and Promoting of Environmental Education, and the basic plan for this law has taken effect since 2004. Furthermore, from 2005 to 2014, the United Nations proposed the Decade of Education for Sustainable Development in order to solve these problems.

Although environmental education is seemingly being promoted within these framework, the theoretical concept and practical schema of environmental education are not sufficiently shared with us. It is important for the implementation of environmental education to tackle the current lack of a model programme with common measures and standards of evaluation, teaching methods, and so on. Therefore, we need to review the basic concepts of sustainability focusing on Human Well-being and Environmental Health. Firstly, I will point out the concepts of sustainability from the viewpoint of Human well-being, and secondly, that of sustainability from the viewpoint of Land Health quoted from Land Ethics by Aldo Leopold. Lastly, I will conclude that environmental education should integrate human well-being and environmental health.

II. CONCEPTS OF SUSTAINABILITY FROM THE VIEWPOINT OF HUMAN WELL-BEING

Global environmental problems are very serious and are affecting the entire planet. For example, the destruction of the “natural environment” includes global warming, acid rain, desertification, deforestation and a decrease in biodiversity, etc. The second aspect of the problems is the “social environment” where economic development has given birth to a moral dilemma between sustainability and development. One of the solutions is to make the economic system and policies harmonize with the environment. There is a third aspect of the problem which is the “mind environment”(Taniguchi, 1999) related to environmental ethics and environmental education. Mind environment interacts with the natural and social environment, and plays an important role in the improvement of our lifestyle toward a sustainable future. Therefore, it is necessary for human well-being to approach environmental issues by combing the natural, social and mind environmental aspects.

The World Health Organization defined health in 1948, as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. It suggests that well-being is achieved dynamically and systematically through an individual, community, society, land and environment by education from in the home and through life long experiences.

Human well-being is required to consider a holistic human from the viewpoint of the social and the mental or mind. It consists of the equilibrium of life system. On the other hand, the environmental health is maintained the balance of the ecosystem. Therefore, we should consider that health and well-being is not only important for humans on a personal level but also has an effect on the environment and healthy land.

III. CONCEPTS OF SUSTAINABILITY FROM THE VIEWPOINT OF LAND HEALTH

Concepts of sustainability need the theoretical framework of environment education based on environmental ethics if considered Education for Sustainable Development, because such education based on environmental ethics aims to establish public awareness and to improve motivation on life and the

environment. There are three points on this theoretical framework: (1) land ethics from the nature viewpoint, (2) ecological ethics from the systematic viewpoint and (3) intergenerational ethics from the generational viewpoint.

Firstly, A. Leopold proposed that land ethics should enlarge the framework of the community to the land, that is, the boundaries of the human community to the land, and introduce ethical standards for every life, saying “a thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise”(pp.224-225). This ethical framework helps to establish the right of nature. Furthermore, healthy land depends on the beauty and harmony of the biota.

Secondly, ecological ethics is important for the balance and harmony of the ecosystem, being based on the holistic relationships between life and environment.

Thirdly, intergenerational ethics is subject to the relationship and balance between the rights of existence and survival of the future generations and the obligation from the existing generation to the future generations, and at times, including the just distribution of resources.

These concepts suggest that sustainability based on a theoretical framework of environmental ethics implies totally the ecosystem and the environment including landscape/biota, esthetics, and harmony.

IV. CONCLUSION: SUSTAINABILITY REGARDING AN INTEGRATION OF HUMAN WELL-BEING AND ENVIRONMENTAL HEALTH

In conclusion, the concept of sustainability is located at the cross roads between bioethics and environmental ethics. Global bioethics, according to the definition, which Van Rensselaer Potter proposed in 1988, has integrated “medical bioethics” with “ecological bioethics”, which cannot be separated. He proposed his most important idea as follows, “Ecological bioethics must support the prevention of air and water pollution as well as the conservation of both renewable and nonrenewable resources. In essence, the issue is whether the quality of life concept is ethically similar to quality of the environment and whether the sanctity of life position has its counterpart in the sanctity of the dollar”(pp. 8-9). As we see above, the root of bioethics is the same as medical bioethics and ecological bioethics.

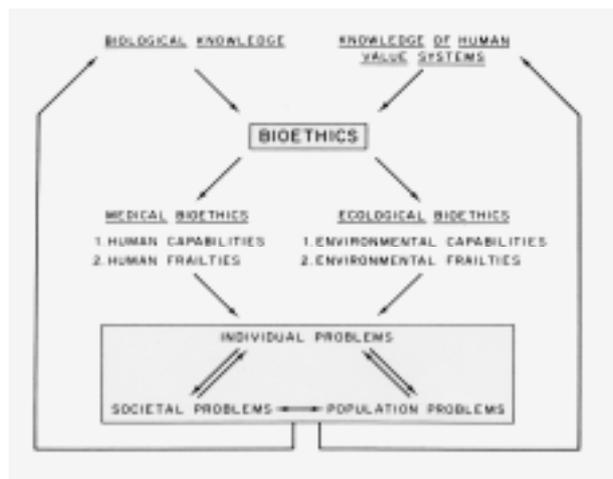


Fig.1-Bioethics as a system of morality based on two kinds of knowledge, and its fragmentation into two kinds of applications. (Van Rensselaer Potter, *Global Bioethics: Building on the Leopold Legacy*, Michigan: Michigan State University press, 1988, p.72)

Accordingly, bioethics and environment ethics have the same root from the viewpoint of global bioethics. Bioethics coincides with environmental ethics at root, and also Human well-being coincides with Land Health as environmental health from the viewpoint of these concepts of sustainability. Environmental education heighten an awareness of the lifestyles of Health and Sustainability, toward the eco-centric viewpoint from the anthropocentric viewpoint. For the education of human well-being and the healthy environment, it is important for us to become aware of the common sense, or the balance and integration of senses. Accordingly, it is an establishment of the human well-being based on the world view and the holistic view of life.

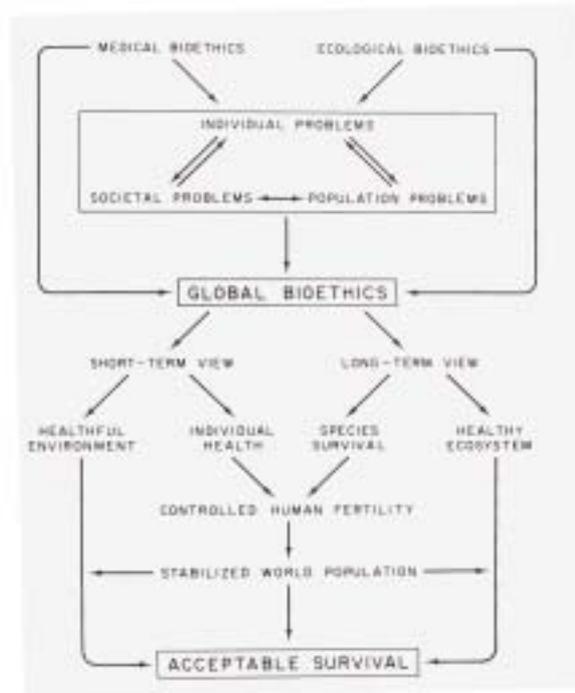


Fig.2-Global bioethics as a unification of medical bioethics and ecological bioethics.
 (Van Rensselaer Potter, *Global Bioethics: Building on the Leopold Legacy*,
 Michigan: Michigan State University press, 1988, p.76)

REFERENCES

- Aldo Leopold, *A Sand County Almanac: And Sketches Here and There*, Oxford University Press, 1949.
 Aldo Leopold, *Land Health*, Oxford University Press, 1999.
 Fumiaki Taniguchi, *Self-forming Structure of Nature & Man, and Human Recognition of Environment: Inquiring into the foundation of environmental ethics and environmental education*, The Journal of Konan University 110, 1999.
 Fumiaki Taniguchi, *Environmental Education in the 21st Century and Present Tasks of Japanese Environmental Education*, The Journal of Environmental Education: Special Issue, Japan Society of Environmental Education, 2003.
 Joseph R. Des Jardins, *Environmental Ethics: An Introduction to Environmental Philosophy*, Thomson Wadsworth, 2006.
 Van Rensselaer Potter, *Global Bioethics: Building on the Leopold Legacy*, Michigan State University Press, 1988.

Environment Education for Expressway Toll Collectors to Create the Realization on Suspended Particulate Impact

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The research consist of 4 objectives including comparison of suspended particulate quantity in ambient air between high traffic volume and low traffic volume expressway toll gate, suspended particulate trend by means of box model, relative comparison between suspended particulate and clinical signs, and developing a handbook for training expressway toll collectors on air pollution whose results are as follow;

Result of air samples analysis revealed that Suspended Particulate (TSP) and particulate Matter less than 10 micron (Pm-10) of highs traffic volume toll gate were $195.41 \mu\text{g}/\text{m}^3$ and $154.29 \mu\text{g}/\text{m}^3$, respectively. From these result, PM-10 was over the standard. However the results of low traffic Volume toll gate during the same period of time were under the standard, $151.08 \mu\text{g}/\text{m}^3$ and $77.16 \mu\text{g}/\text{m}^3$ respectively. Seasonal comparison of particulate matter during the two seasons found out that Values of mentioned air pollutants in summer were higher than rainy season. From the study of Suspended Particulate trend indicated from the year 2004-2007 amount of particulate matter will be increased as per the increasing of numbers of vehicle. In the year 2007, TSP of high traffic volume toll gate will be around $261.44 \mu\text{g}/\text{m}^3$ $\mu\text{g}/\text{m}^3$

The analysis of the relation between Particulate Matter and toll collectors' clinical signs found that, expressway toll collectors highs traffic volume toll gate have clinical signs higher than toll collectors in low traffic volume in the ratio of 62.10% 37.90%. Those 4 clinical signs are lung function test, allergy, Eosinophilia test and lung x-ray test. From the analysis between sexual of Expressway toll collectors clinical signs by (Chi-square) found that it was no related to all 4 clinical signs at the statistically significance of 95%. The comparison of all 4 clinical signs between high traffic volume and low traffic volume expressway toll collectors found that there was unrelated at the statistically significance of 95%. The analysis of working year between 3-5 years period showed no effect at the statistically significance of 95%

The evaluation for achievement test after comparison of air pollution training program in term of knowledge, understanding, skill, have been increased statistically at the significance of 95% ($t=5.84$), and I term of awareness and attitude have been increased statistically at the significance of 95% ($t=6.409$). Survey of the toll collectors opinion about the efficiently of air pollution handbook point out that it was regard with level of percentage very good 39% and good 60%

A Study of the Cross-curricular Environmental Education Based on Comparative Culture between New Zealand and Japan

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Nowadays, Japanese compulsory education system is pointed out (i) to enrich experiential and problem-solving learning, (ii) to create a “Period of Integrates Study”, and (iii) to upgrade moral education etc. Currently, schools are making efforts to improve “comprehensive leaning ability” based on the purposes and aims of the courses of study. This school system aims at cultivation of richness in mind, such as education for the responsibility for the home, the local community and social community. And also this education includes encouraging understanding of the value of human life and the environment.

Nakatsu Commercial High School at Nakatsu City in Gifu Prefecture in Japan is in educational cooperation with Edgewater College in New Zealand. 40 students that major in English go to New Zealand on a school trip every February owing to the sister schools. The purpose of the school trip is to develop the students’ practical communication abilities such as understanding information and the speaker’s intension, and expressing their own ideas as well as deepening the understanding of other culture.

In the first semester, students have learned a wide range of topics about New Zealand such as its history, culture, industry, Maori native culture, sports, nature, and the relationship between New Zealand and Japan. Through these topics, students have recognized the differences in Environmental Awareness in New Zealand and Japan in the national and individual level. Though the geographic environment in New Zealand is quite similar to that of Japan, their Environmental Awareness is much higher than ours. A student pointed out that there are no nuclear power plants in New Zealand while there are 17 nuclear power plants in Japan. They produce about 30 % of Japan’s electric power. In New Zealand, waterpower supplies about 70 % of the country’s electricity, while in Japan more than 50 % depends on the use of fuel. From these facts, most of students in New Zealand have much interest in the Environmental Awareness.

The aim of this report is to establish the teaching methods to encourage the students to become more aware of the world around them and gain a deeper understanding of sustainable development through examining the culture and the environment of New Zealand.

Prevention Measures of Dioxins:

Dioxins Pollution and Countermeasures

Sakingo IMAI

Professor

Hirosima Shudo University

Dioxins is the generic term for 75 types of isomers known as PCDDs (Polychlorinated dibenzo Dioxins) and 135 types of isomers known as PCDFs (Polychlorinated Dibenzo Furan). Co-PCBs (Coplanar Polychlorinated Biphenyl) are also similar to dioxins and consist of 12 types of isomers. 2, 3, 7, 8-TCDD (Tetrachlorinated Dibenzo Dioxin), one of the PCDDs, is the most toxic of all dioxins. Dioxin concentrations are expressed as the TEQ (Toxic Equivalency Quantities) by converting the amount of detected isomer into the 2, 3, 7, 8-TCDD.

From 1960s to the first half of the 1970s, pesticides (Chlorinated Organic Compounds) were the predominant source of dioxins. Organochlorine pesticides such as DDT (Dichloro Diphenyl Tetrachloroethane), 2, 4, 5-T (Trichloro Phenoxy Acetic acid) were used in large quantities around this time, and these included dioxins typified by PCDDs, which were spontaneously produced in the manufacturing stage.

The large-scattering of organochlorine pesticides and accidents involving such substances led to the release of dioxins into the environment, and these dioxins remained and accumulated in the environment over time. Moreover, because dioxins are fat-soluble substances, they become concentrated in living fat at extremely high factors in each stage of the food chain. Having said that, advanced nations have banned the manufacture and use of problematic organochlorine pesticides, so additional environmental loads from these sources are being mitigated.

Currently, about 90% of dioxins are said to originate from waste incineration facilities, while 70% of dioxin consumption into the human body is said to come through fish and shellfish. Thus, there are growing calls for standards pertaining to food including cow- milk, as well as the implementation of blood and breast milk inspections in order to investigate effects on the human body. Countries in Europe and America have already established standards for cow-milk, etc, and The Ministry of Health and Welfare has commenced work with a view to setting standards for foodstuffs in Japan too.

It was in these circumstances that the Government of Japan enforced the Low Concerning Special Measures against Dioxins in January 2000. This law lays down standards acting as basic guidelines (environmental standards for air, water quality, and soil, and emissions standards for waste gases and wastewater from waste incineration plants and other designated facilities), and prescribes regulations concerning waste disposal, fact-finding surveys of pollution conditions, and compilation of reduction plans, etc. Article 6 of the law prescribe a tolerable daily intake (TDI) and Environmental standards established in Article 7 of the same law are as follows.

Tolerable daily intake : 4 pg/kg/day, Atmospheric environment: 0.6pg TEQ/m³
Water environment :1.0pg TEQ /l, Soil: 1000pg/g

A Study of the Environmental Education Program Through No-tillage Rice Farming

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不耕起栽培のコメ作りを通じた環境教育プログラムの研究

天野雅夫（甲南病院看護専門学校）

要 旨

日本の食糧自給率はカロリーベースで約40%であり、小麦、大豆、砂糖などはそのほとんどが輸入に頼っている。つまり、私たちの体の半分以上が海外の農産物によってできているということである。こうした中、主食であるコメだけは保護政策により自給率100%を保っているが、実際にコメがどのようにしてつくられているかを知る人は少ない。そこで、コメづくりを不耕起栽培によって体験し、それを通して環境問題や日本の気候風土、そして圃場に生息する動植物を学ぶための環境教育プログラムについて以下の三つの視点から考察してみたい。

不耕起栽培では、耕さないために耕運機や人手を使わないので、エネルギーの消費も少ない（環境教育における「エネルギー教育の視点」）。また、春期の雑草は冬期湛水によって防ぎ、その後は耕さないことによって土中に眠る雑草の種子の発芽を抑え、除草作業を軽減する。さらに、耕さない硬い地面に根を張ることによるストレスでイネが野生化し、病害虫に強くなるので消毒や農薬も必要ないとされている（環境教育における「農薬と食の安全の視点」）。冬期湛水によって昆虫類は越冬しやすい環境をつくり、また不耕起農法の水田は農薬を使わないため、生物多様性が豊かである（環境教育における「生物多様性の視点」）。

不耕起農法の水田は、植物だけでなく動物も多様である。湛水した田んぼではカエルが産卵し、ドジョウ、カスミサンショウウオ、ヘビ類、トンボ類、ハチ類、チョウ類、そしてそれを餌とする、スズメやチドリ、アオサキ、キジなどの鳥類の他、イノシシ、シカ、サルなどの大型の哺乳類も含めて様々な生物が生息する。これは、農薬を使わないことによって食物連鎖が保たれていること、および冬期湛水によって昆虫などが越冬することができるためであるが、こうした動植物の観察のためにも、不耕起農法は最適である。本論ではこうした不耕起栽培の棚田での環境教育プログラムについて考察する。

The rate of food self-sufficiency is 40% on a calorie basis in Japan. Our wheat, soybean and sugar supplies rely entirely on imports. So, most of our bodies are nourished by imported agricultural produce. In contrast, rice production is still at 100% due to protection policy; rice is the chief staple of the Japanese diet and very important to Japanese people. Despite this, very few people know how to produce rice. In the environmental education program, we learn about Japan's endemic climate and the flora and fauna of the rice paddy. This paper is intended as an investigation of the environmental education program (EEP.) through no-tillage rice farming.

1. No-tillage rice farming with respect to the three viewpoints of EEP

At the present time, rice producers repeatedly cultivate the ground using a tractor, then heavily apply agrichemicals (weed-killer, pesticide and disinfectant). This is a passage from the agricultural guidebook, *Kokasyunzyu*, written during the Edo period (1707).

At the Edo period, in February, the Japanese farmer flood muddy water into the rice field, then roughly cultivate the soil and make a levee. In May, they cultivate the soil again, apply fertilizer (manure) plant rice and, for the first time, weed (ie, cut grass, mow). In June, they weed a second time, apply additional fertilizer and weed again a third time.

At the present time, they are rid of the task of weeding by using agrichemicals. They cannot afford to be

without the use of agrichemicals in farming. They disinfect seeds and apply weed-killer and insecticide in April; in May, they spray agrichemicals to prevent the rice stalks from falling over.

In other words, conventional farming in Japan today requires a lot of fuel and agrichemicals.

In contrast, there is no need for fuel in no-tillage rice farming. In accordance with the first viewpoint of EEP, energy education, no-tillage rice farming avoids the necessity for weeding because the seeds of undesired plants remain buried in the ground and cannot germinate. In addition, the rice grows strong because it undergoes some stress while growing in rigid soil. In accordance to the second viewpoint of EEP, food safety, the rice produced by no-tillage rice farming builds a resistance to garden pests, so there is no need to apply agrichemicals. Moreover, the non-tilled rice field's reservoir in wintertime inhibits the germination of undesired plants and provides a habitat for many living things, which is in accordance with the third viewpoint of EEP, protection of biodiversity.

1) Why does rice grow strong in no-tillage rice farming?

Nobuo IWAZAWA studied the problem of damage of crops from cold weather. In his research, he discovered that hand planting rice strengthened the rice, and in cold weather we can harvest rice without tillage. Also, rice grows strong due to the stress of growing through the rigid untilled soil. Mainly, Iwazawa goes back to the basic values in rice farming which were present thousands of year ago in the Nara period.

2) To create healthy rice in No-tillage rice farming

We plant rice seedlings that have developed a fourth or fifth leaf. We have to plant seedlings between old rice stumps because there are many rice stumps in a non-tilled rice field. Again, since there is no cultivation of the soil, the rice becomes healthy and strong. In conventional farming, rice is planted in high density because a large amount needs to be harvested. Conversely, we plant at a low density in no-tillage rice farming to make the stems thick and abundant. Such type of wild rice bears large and delicious fruit. Also, the soil that does not have straw blended into it does not generate methane gas. So, in no-tillage farming, the rice does not die by harmful gas in the autumn.

3) The effects of structural change in soil

In No-tillage rice farming, there is a lot of stumps and roots of rice. Though the soil is rigid, it is still permeable and also heat retentive. The layers of organic matter in the rice field give rise to a food chain and generate life. An algae, like a spirogyra, is one of the creatures on the non-tilled rice field; these creatures convert a lot of fertilizer in less than three years.

4) Consideration for Biodiversity

While no-tillage farming in combination with the reservoir in wintertime prevents the germination of weeds, these practices also create habitats for life. We find various creatures: earthworms, frogs, snails, snakes, vipers, turtles, dragonflies, wasps, bees, hornets and birds. These creatures are also useful educational material in the EEP.

5) Energy efficiency

No-tillage farming does not use a tractor or human effort to cultivate the soil. Currently, we use about a hundred thousand kilocalories a day per person in everyday life in Japan. In 1950, we only used ten thousand kilocalories a day per person. However, we cannot eat ten times as much food as we did fifty years ago. To my surprise, in a recent study, 35% of daily garbage is food leftovers. It is very important to evolve the lifestyle in Japan into a sustainable society. This issue is important for Japanese people and good educational material in the EEP.

2. The Negative Heritage of Agrichemicals

Garden pests have been the cause of large scale famines in many countries in the past. Under these circumstances, humans have tried to discover ways to terminate garden pests. One method in Japan was the event “mushioi” or “mushiokuri”, to remove the garden pests by fire or to stifle them by oil. In the latter case, whale oil, corza oil and other natural oils were used. Afterwards, they used agrichemicals like magnesium chloride, lime hydrate and so on. In addition, the use of petroleum oil (kerosene) increased during the Meiji period. At the end of the 1940s, synthetic agrichemicals like DDT and parathion became technically useful. By then, the way of agriculture had drastically changed. Now, the use of agrichemicals has become a necessity for breeding and growing plants. As a result, the negative heritage from using high volumes of agrichemicals in the past has put an enormous load on us today.

1) 50% of global agrichemical products are consumed in Japan

The agrichemical consumption, per square kilometer, is 1.5 tonnes in Japan. This amount is about six times higher than OECD member countries. Although rice farming in Japan uses only 1.6% of the world’s cultivated areas and 3.1% of the world’s annual harvest, Japan consumes 50% of the world’s total agrichemical products.

2) The use of agrichemicals against the chinch bug [stinkbug]

The spotted rice issue, cause by the chinch bug, serves as an example. If there is one spotted grain of rice amongst a thousand grains, the price of the rice comes down - and with it the farmer’s income. Hence, the farmer tends to use a lot of agrichemicals in their own fields. According to figures released by the Ministry of Agriculture in 2002, chinch bugs occur in areas totaling 486,278 ha, while areas that are sprayed with chemicals total 1,131,283 ha - 2.3 times the area that is actually infested. The chinch bug’s natural enemies become extinct as well, encouraging the success of the chinch bug. As a result of heavy agricultural use, biodiversity is cruelly destroyed.

3) Using agrichemicals starts in the rice nursery

At the present time, conventional farming makes weak seedlings that are not resistant to garden pests. Therefore, agrichemical use is increased to protect the rice seedling from these pests. There is a high priority on ‘appearance’ and ‘specifications’, abandoning the priorities of ‘safety’ and ‘taste’ in agricultural farm products. Conventional rice farming starts in the rice nursery. Rice seedlings usually grow up in a nursery box (23 inches long, 11 inches wide and 1 inches depth). This box method was triggered by the invention of the rice planting machine. In this sense, the creation of weak seedlings was caused the mechanization of rice farming. In the nursery, rice seedlings grow in high density in the box at temperatures near 32 degrees Celsius, which promotes the growth of various kinds of minor germs.

4) The relationship between agrichemicals and damage to health

Parathion, a synthetic agrichemical, came into common use in Japanese rice farming in 1945. This is an organic phosphorus compound like sarin, or nerve-gas; a deadly poison. The doctor Giryō Yanase advocates the “medicine of life”. He says, “if the farmer uses parathion in daily life, they will get into a heap of troubles. So I earnestly appeal: ‘Don’t use parathion’. My friend, a director of a local agricultural improvement and promotion centre, argues against my appeal because he believes in administrative guidance. He continues to work in the mist of parathion; now, he is dead of cancer at a young age”. This was sixteen years before Rachel Carson published *Silent Spring*. For twenty-five years, parathion was still used until 1971, when a law prohibiting its use came into effect. However, other agrichemicals made from the organic phosphorus compound (MEP) are used in conventional farming and elsewhere in Japan. An acceptable daily intake (ADI) of MEP is 0.005mg/kg in Japan. In contrast, the ADI in the USA is more strict, 0.0013/kg. Recent investigations have shown that there is a relationship between agrichemicals and damage to health; for

example, a narrowing of view, melancholy, pollen allergies, irritation and abnormal conduct etc. Although a large number of studies have been conducted regarding acute poisoning, little is known about the effect of chronic poisoning from exposure to agrichemicals.

3. The subject of the EEP

Under these circumstances in rice farming, we may consider the subject of the EEP to come under the following headings: 1) to learn the way of no-tillage rice farming; 2) to think about food safety in regards to agrichemicals; 3) to think about the energy issues in agriculture; and finally, 4) to learn about the flora and fauna of the rice field.

A bibliography

- 古島敏雄 『農書の時代』(農文協, 1980年)
Toshio Kojima (1980) Nosyo no jidai, Nobunkyo.
中橋 実 『がんばれコータ』(長征社, 1990年)
Minoru Nakahashi (1990) Ganbare kota, Tyosei-sya.
川口由一 『妙なる畑に立ちて』(野草社, 1990年)
Yuichi Kawaguchi (1990) Myonaru hatake ni tachite, Yaso-sya.
川口由一 『自然農から 農を超えて』(カタツムリ社, 1993年)
Yuichi Kawaguchi (1993) Shizenno kara no wo koete, Katatsumuri-sya.
岩澤信夫 『新しい不耕起イネづくり』(農文協, 1993年)
Nobuo Iwazawa (1993) Atarashii fukoki inetsukuri, Nobunkyo.
梁瀬義亮 『生命の医と生命の農を求めて』(地湧社, 1998年)
Giryō Yanase (1998) Seimei no i to seimei no no wo motomete, Jiyu-sya.
木本英照・岡武三郎・富久保男 『乾田不耕起直播栽培』(農文協, 1998年)
Hideaki Kimoto, Saburo Okatake, Yasuo Tomihisa (1998) Kanden fukoki jikamaki saibai, Nobunkyo.
長山淳哉 『母体汚染と胎児・乳児』(ニュートンプレス, 1998年)
Zynya Nagayama (1998) Botai osen to taiji nyuji, Newtonpress.
久慈 力 『除草剤の脅威』(新泉社, 1999年)
Tsutomu Kuji (1999) Zyosozai no kyoi, Shinsen-sya.
船瀬俊介 『環境ドラッグ』(築地書館, 1999年)
Syunsuke Funaba (1999) Kankyo drug, Chikuji-syokan.
稲場紀久雄 『環境ホルモンと経済社会』(法律文化社, 1999年)
Kikuo Inaba (1999) Kankyo hormone to keizai syakai, Horitsubunka-sya.
庄子貞雄 監修 『大潟村の新しい水田農法』(農文協, 2001年)
Sadao Syoji (2001) Ogamamura no atarashii suidennoho, Nobunkyo.
岩澤信夫 『不耕起でよみがえる』(創森社, 2003年)
Nobuo Iwazawa (2003) Fukoki de yomigaeru, Sorin-sya.
長谷川 熙 『新幹線に乗れない―農薬被曝列島』(築地書館, 2006年)

Environmental Learning Practice Based on a Kaleidoscope Model and Activities in Thailand

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We have developed environmental learning activities in the farm villages near the mountainside in Chichibu Tama Kai National Park till now. We founded "an adventure school for children" as an open lecture of Tokyo Gakugei University in Akiruno-shi, Tokyo in 1988 and moved a focal point to Otaki-mura, Saitama in 1991. We have also practiced environmental learning afterwards in Kosuge-mura, Yamanashi since 2001. In Japanese school, teachers educate children by an administrative and uniform way and are apt to pack children with impracticable knowledge, take initiative and the independence of their will away, so the traditional wisdom based on a community was not handed down to them. As a matter of course we have practiced such activities. Particularly in traditional wisdom brought up among communities, there is much wisdom to harmonize with nature well and about nature itself. It is because most people need a direct experience to teach them that such wisdom is being lost rapidly now.

Our activities are to find such local traditional wisdom and to revive it as new wisdom aiming at symbiosis with human beings and nature. In such a practice, we have developed a general frame of an environmental education program called a kaleidoscope model; (by Kimata). This model is very effective associating each environmental learning program mutually and constituting a flow of flexible learning, so we can arrange contents of wide environmental learning and evaluate them and make them clear. Our main practices based on this model are as follows;

1: Environmental learning camp for children

*Village festival camp

*Adventure school

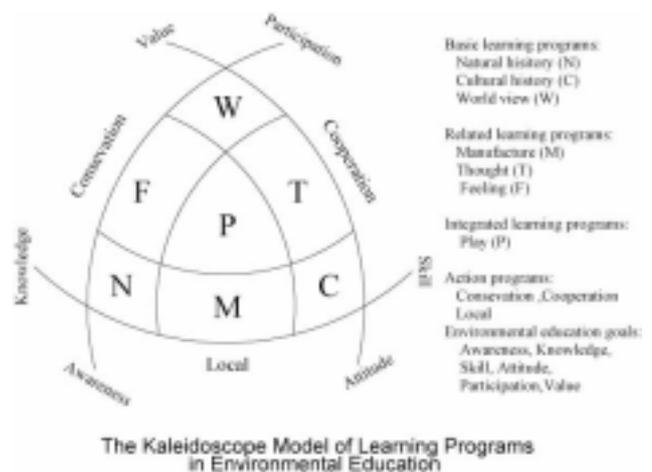
*Winter camp

2: Environmental learning for adult

*Mountain trail maintenance

*cooking preserved food and native district appetite

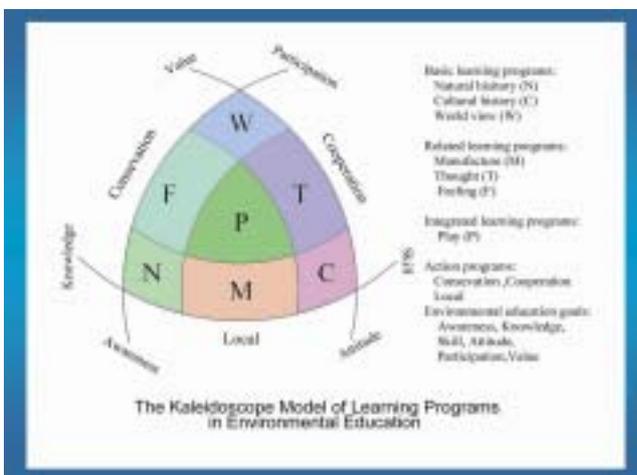
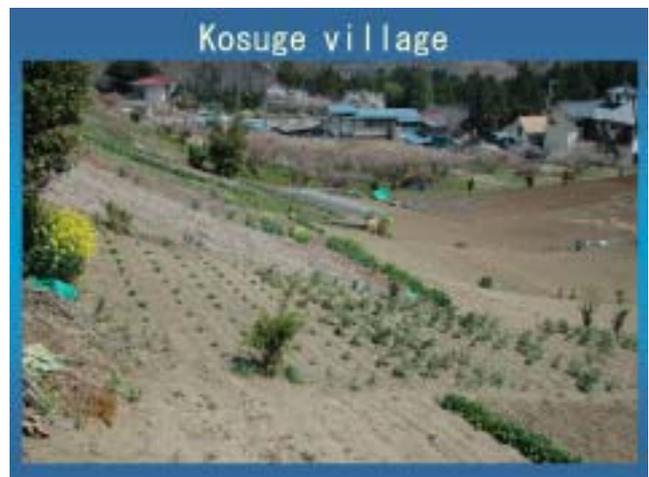
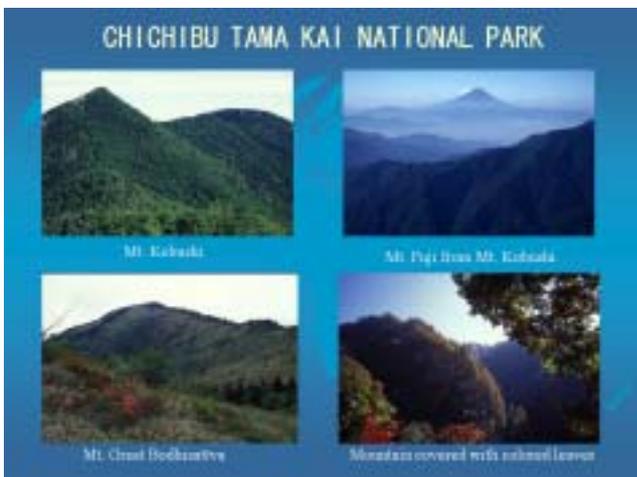
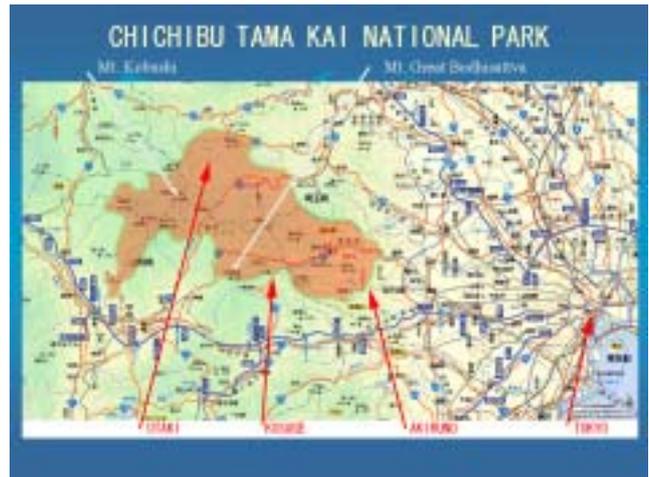
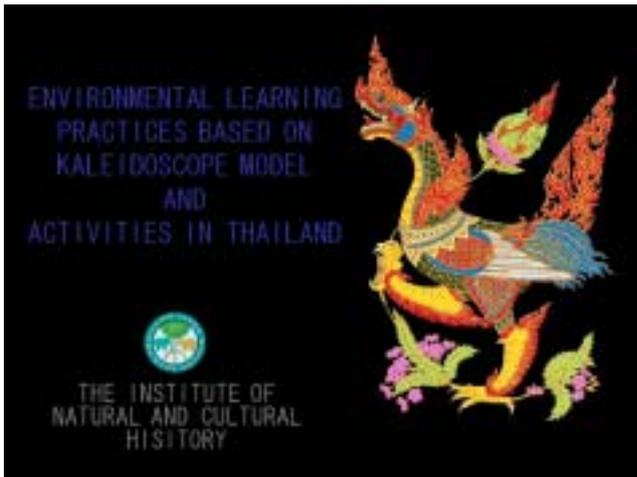
*Millet cultivation



In addition, we have been interested in nature and culture of other areas as well as those of Okinawa and Hokkaido including the culture of the Ainu race.

Therefore we have carried out an adventure school and investigation based on a way of thinking such as the above. Particularly since we formed a Thailand Japan nature club with the teachers of phranakhon Rajabhat University in Thailand in 1998, we have learned practices of environmental education and deepened interchange with each other. Together we developed learning teaching materials such as a puzzle and a sugoroku of hornbills, and mangrove cards.

Now we are planning a training lecture for the environmental learning leader called ELF (Environmental Learning Framework) based on conventional activity result, participating in the plan of the eco-museum named Japanese village in Kosuge-mura and pursuing the possibilities of area development of villages near the mountainside by an environmental education.



- ### Our activities
- 1: Environmental learning camp for children
 - Village festival camp
 - Adventure school
 - Winter camp
 - 2: Environmental learning for adult
 - Mountain trail maintenance
 - Cooking preserved food and native district appetite
 - Millet cultivation

Village festival camp

- Form 3 to 5 on May in 2005 (2 day 3rd)
- Third grader – twelfth grader, 20 people
- 30 staffs

A drum bath



Wood-splitting



Scared music and dancing



Making a fire



Grilling a landlocked salmon



fishing



Observation of emergence of a dragonfly



Spring festival in Kosuge-mura



Adventure school

- Form 2 to 7 on august in 2005 (5 day 6th)
- Third grader – twelfth grader, 20 people
- 25 staff

Climbing Mt. Great Bodhisattva



Cooking



Making soba noodles



Having a swim in a river



Spit-roasting of landlocked salmon



Habits observation of miller's thumb



Making specimen of insects



Winter camp

- Form 25 to 27 on December in 2005 (2 day 3rd)
- Third grader – twelfth grader, 10 people
- 25 staff

The making a skating rink



The open-air fire



The open-air fire



The making of dried persimmon



The making of dried persimmon



The making of pickled greens



Millet cultivation learning



A harvest of millet



A harvest of millets



The rice cake with serials making



Interchange party with villagers



The new cooking made from millets



This cooking is sold in a hot spring of Kosuge village

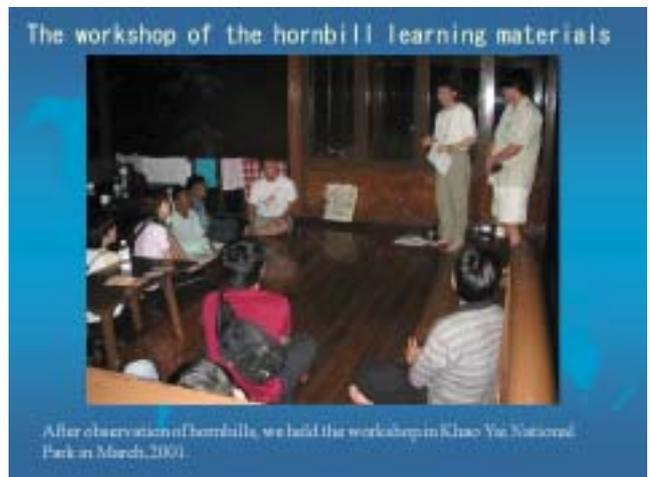
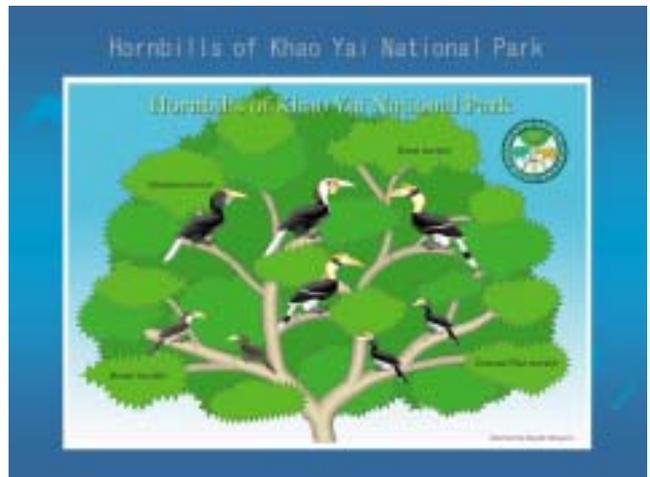
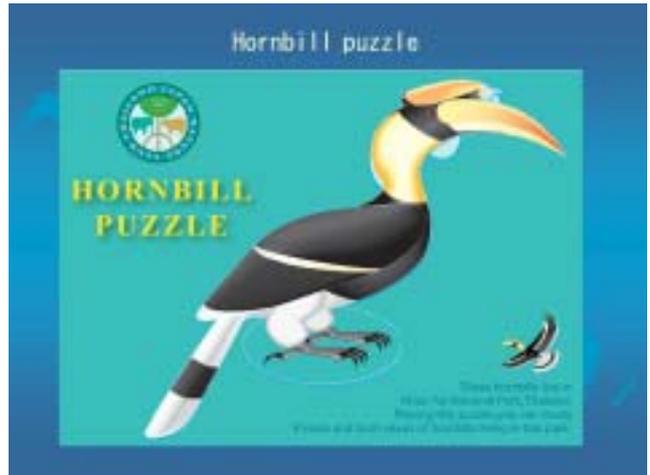
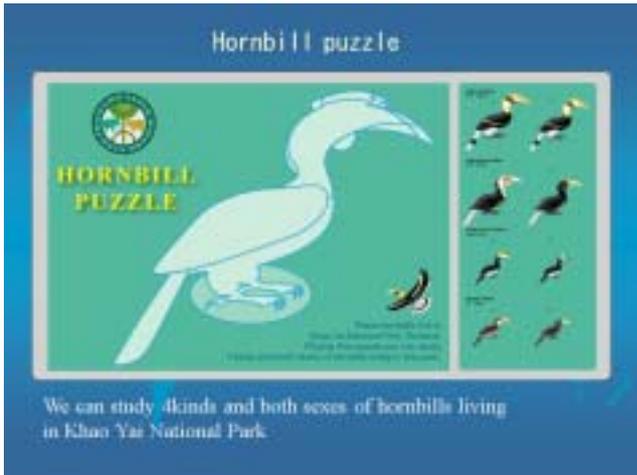
Learning materials made from our activities in Thailand

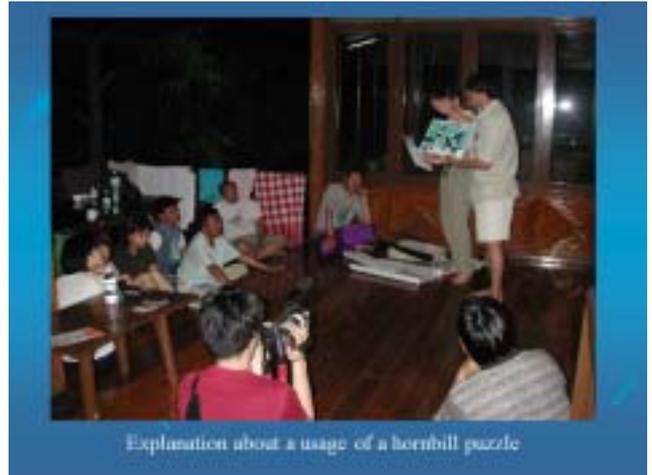
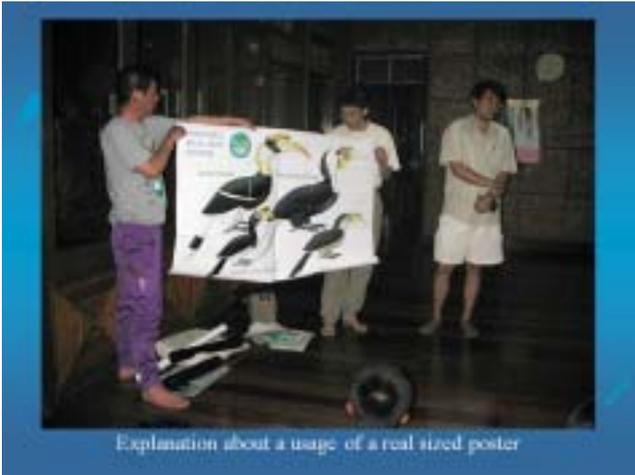
- Hornbill game
- Hornbill puzzle
- Hornbill real size poster
- Mangrove cards

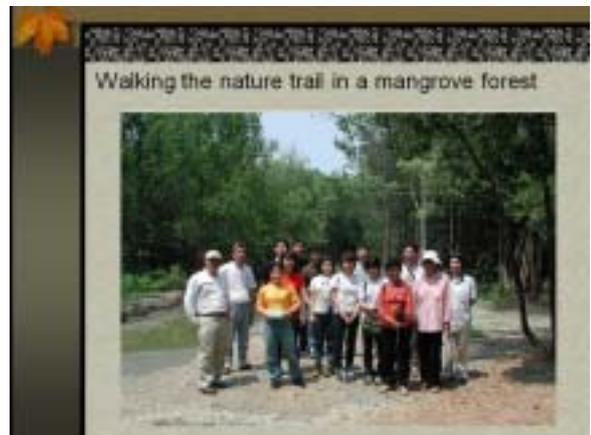
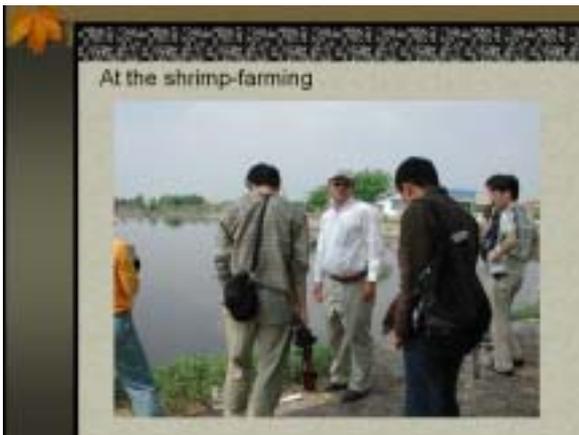
Hornbill game



We can learn the habits of a great hornbill by enjoying this game.







Management of Infectious Waste in Kasemrad Rattanatibeth General Hospital through Environmental Education Process

Natthakarn PALAKAWONG
Phranakhon Rajabhat University

This study is considered as the se-mi experimental research, aiming at proper management screening type and kind, determining quantities, sorting, and recommending the appropriate management guidelines for infectious waste of Kasemrad Rattanatibeth General Hospital. The study has been immersed in its environmental education process for nursing personnel by providing them the appropriate training manual. The target group is comprised of 30 people both from registered nurses and their assistants at the mentioned hospital. The assessment features have been performed in the particular factor concerning with understanding, skills, and attitude, towards the infectious waste by providing all of them both PRE and POST test questionnaires. Training has been conducted by using the training manual, developed by researcher. Evaluation on behavior in managing of the infectious waste has been done afterwards. It is revealed that the hypodermic-syringes, blade and grasses are the highest quantity among all infectious waste of Kasemrad Rattanatibeth Hospital (38.64%), plastic and gloves are next highest quantity (34.27%), then cotton clothes, bandages, cottons (20.8%), human tissues (5.4%), and paper in the least one (0.63%). The average amount of the infectious waste, occurred each day is 77.9 kilograms. The Admitted Patient Wards produced the infectious wastes approximately at 0.05 kilograms/day/person. The Non-admitted Patient Wards produced the infectious waste approximately 0.45 kilograms/day/bed.

It is also indicated that nursing personnel who passed the training program on environmental education entitled “the management of infectious waste in the hospital” are getting better understanding and convincing in its process. They gained the actual and practical knowledge and skill statistically with their attitude in the range of 0.5. Following the 1 month, post-training evaluation, it implies that the target groups’ behavior has improved on the proper infections waste management gradually.

ENVIRONMENTAL EDUCATION AT JAPANESE COMPANIES

Yoshitake ISHIGAMI
Osaka University of Commerce
4-1-10 Mikiriyasakaemati, Higashiosaka, Japan

I. Introduction

As you know, last February the Kyoto Protocol which was obliged to reduce carbon dioxide emissions in advanced nation took effect. The obligation to reduce carbon dioxide emissions in Japan is 6% by comparison with 1990, taking an average from 2008 to 2012. We think that as soon as companies gets over the critical situation after bursting of the bubble economy we confront with the difficult economical subject to survive.

Already Fritjof Capra and Gunter Pauli point out that “We believe that if the corporate world does not play an active role in redefining its own operations, moving toward sustainability, the world as a whole will never succeed in that task” (Steering Business Toward Sustainability, 1995). We think that the most important point of environmental problem should be coped with environmental problem and environmental education by companies.

II. The present condition of working on environmental education in Japanese company

According to “The survey of nature-friendly business behavior in 2004 year” by the Ministry of the Environment, Japan, the percentage of “regularly working on environmental education” for employers at the company is 53.5%, and the percentage of “irregularly working on environmental education” is 26.0%, accordingly the total of these is 79.5%. The various way of environmental education in Japanese company is practiced, studies for nature experience and e-learning program etc. Although Japanese companies practice environmental education, it is not enough.

III. The limitations and possibility of environmental education in Japanese company

Prof. Hironobu Nakamaru, Konan University, points out three issues for environmental education at the companies; training employees, contents of environmental education, necessity of environmental education. According to Prof. Fumiaki Taniguchi, Konan University, proposes that the environment is classified into three kinds of nature, society and mind. Polluted mind environment destroys “exterior environment” such as natural environment and social environment. Therefore, it is most important to educate to improve “interior environment” of mind

Moreover he points out that environmental education is a sort of education in value judgment, that is to say it is education of selection of multiple values, to think what value to live, select an essential value, acquire an ability to solve a problem.

It is essential for environmental education in company to create knowledge, and conquer all difficulties, formulate a new direction for companies.

IV. Case Study of SEIKO EPON CORPORION

We introduce SEIKO EPON CORPORION working on environmental problem and education as a progressive case. It has existed powerful leadership in an executive as management idea.

**Environmental Protection from the Perspective of Convention
on Biological Diversity (CBD): With Reference
to Access to Benefit Sharing (ABS) of Biological Resources**

Manoj L. SHRESTHA
Professor
Konan University

In this presentation the speaker will attempt to focus on the spirit of Convention on Biological Diversity (CBD) for environmental protection and sustainable development. The convention emphasizes every country's sovereign right to exploit their own biological resources pursuant to their environmental policies, as well as responsibility to conserve their biodiversity and use their biological resources in a sustainable fashion. It also ensures that every country should make sure activities within their jurisdiction or control do not cause damage to the biodiversity of other states or of areas beyond the limits of national jurisdiction.

The speaker will highlight the following points:

- (1) CBD and Protection of Biological Resources
- (2) Sovereign Rights of States over their Natural Resources
- (3) Traditional Knowledge and Indigenous Community
- (4) Protection of Folklore
- (5) Indigenous Community's Proprietary Knowledge and its Protection

Balancing the European Way with Asian Thinking

Paisal Suriyawongpaisal

Advisor, The President of PTT (PTT public company limited)

Advisor, The Asian studies Institution, Chulalongkorn University

This year, I am going to talk about “Balancing European thinking with Asian thinking”. (American is a part of European since it is European American who run the country.)

We lose our Asian identity and follow the European education, political and economic developments and, of course, we face the grave consequences ranging from global warming to individual health and morality problems. And we try to solve all these problems through European approaches using technology and science methodology. Explicitly, we failed and the problems deteriorate. Now, the global warming comes closer than all the Western scientists can anticipate. The icebergs in the North Pole liquefy as well as the glaciers in the top of the world’s great mountains. The weather pattern changes more aggressively and violently. For example, Japan and the US faced more vicious tornadoes and typhoons Europe encountered heat waves unseen in centuries. China met the most severe desert storms. In the nut shell, we all face with unseen natural catastrophes created by human beings who follow European philosophy in the name of scientific and technological progress.

In reality, we retreat to bury ourselves with our incomplete knowledge. We think we have the wisdom; actually, we possess only minimal knowledge. We still don’t understand ourselves completely. Therefore, how can we understand the nature which creates us, human being. Very unfortunately, we think that we can surpass nature and subdue it. Actually, we deceive ourselves and get loss.

For example, we build automobile and bring petroleum into use as the driving energy. Of course, we have some comfort but we encounter with several or more problems such as air pollution, green-house effect, traffic jam, road accidents that kill million of people every year not to mention 10 millions more of injuries and cripples and respiratory diseases. In China alone, more than 400,000 die every year due to air polluted illness.

China is the good example of a country that faces grave consequences due to its attachment of European development mode. Although China make a huge progress in material progress, its people have to pay enormous price in exchange for material progress. About a million Chinese die every year due to pollution born diseases. This figure does not include traffic accident which kill a million more Chinese. More than 40 millions Chinese have to relocate every year due to pollution issues. Approximately, the environmental problems cost around 10% of its GDP or more than 200 billion dollar a year. The amount does not include human death and sufferings.

We build high-rise buildings and huge shopping complexes to find out that they all add more problems and only, may be, resolve one problem. In one day these buildings and complexes consume more energy than the whole year of energy consumption of thousands villages. They also create air pollution, and huge trashes as well as traffic congestion. The expenditure of organizing an Olympic game for 20 days is more than enough to feed all the world hunger people or a billion people for a year.

Only by revitalize ancient Asian value and principle, such as seeking happiness from within or living in harmony with nature, we can save the world and our lives. Scientific and technological knowledge drive us away from nature since it leads us to seek happiness from outside or beyond ourselves. Yes, we innovate material mechanism or things to appease ourselves but we find only temporary happiness that creates inequilibrium in the human living space or in other word our world.

All the world’s great enlightened beings such as Lord Buddha, Lao Zi or Jesus were born in Asia or they are Asian. They teach us to seek happiness from within and live in harmony with nature. However, we ignore their teachings and follow the disastrous way of development or the European philosophy which emphasizes seeking happiness from outside and try to subdue nature with technological and scientific

know-how. After 200 years of European led development, the world heads to ruin or great catastrophe. We are destroying the world that God create. Unknowingly, we are in the process of killing ourselves. We think that we made a lot of material progress; the fact is we are retreating or in other word we are developing to the death end. European approach is bringing the whole or entire human beings to doom in the very near future. Many species have been wiping out by our material development and soon it will be our turn. We destroy our own home; we already wipe out many species.

If we still insist on following the European pattern which originated by some European philosophers who possessed only the knowledge and ignore the Asian way or the enlightened beings' wisdom, I strongly believe that we are heading to doom as predicted above.

At least, we have to balance the European mode of development with Asian thinking. Today, we lose our balance. We think like the European and act like them.

To sum up, European knowledge can't help us find the answer. Only Asian wisdom can lead us to the real progress and sustainable development. It is time to gradually remove our material attachments or European mode of development, education and entertainment.

Towards Realization of Sound Material-Cycle Campus at Konan University, Japan

**Taniguchi Office, Department of Human Sciences,
Faculty of Letters, Konan University**

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I. Introduction

- (1) Student meetings between Japan and China
- (2) Student meetings between Japan and Thailand
- (3) Support of International Conferences

II. Activities for Creation of Sustainable Campus at Konan University

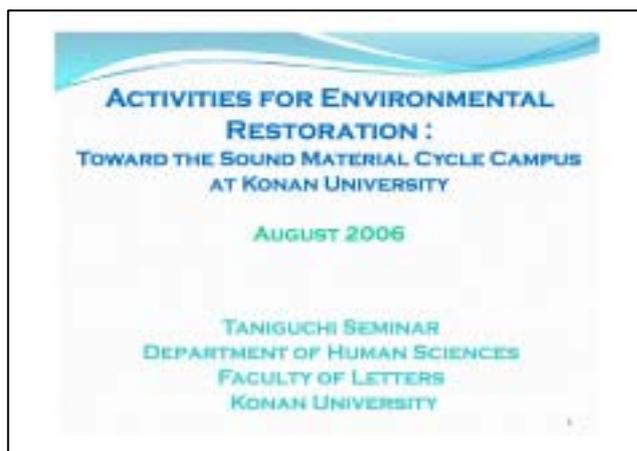
- (1) Promotion of 4R at our campus
- (2) Planting flowers
- (3) Support of environmental symposiums for enlightenment at Konan University

III. Activities in the Field

- (1) Activity of organic agriculture at Hirono Campus in Konan University
- (2) Research for deformed monkey at Awaji Monkey Center
- (3) Volunteer activities in Aina National Government Park in Kobe

IV. Main Activities in 2006

- (1) Experience of self-sufficient life at Hirono Campus in Konan University
- (2) KEMS's Certification of Kobe City
- (3) Support of the class "International Network for Environmental Education" by TV-net meeting system



2) STUDENT MEETINGS BETWEEN THAILAND AND THAILAND

INTERNATIONAL CONFERENCE ON ENVIRONMENTAL EDUCATION IN THAILAND (INTERNATIONAL CONFERENCE ON ENVIRONMENTAL EDUCATION IN THAILAND) (BANGKOK, THAILAND) (2019-2020) (BANGKOK, THAILAND)

INTERNATIONAL CONFERENCE ON ENVIRONMENTAL EDUCATION IN THAILAND (INTERNATIONAL CONFERENCE ON ENVIRONMENTAL EDUCATION IN THAILAND) (BANGKOK, THAILAND) (2019-2020) (BANGKOK, THAILAND)

3) SUPPORT OF INTERNATIONAL CONFERENCES

II. ACTIVITIES FOR THE CREATION OF A SUSTAINABLE CAMPUS AT KONAN UNIVERSITY

PROMOTION OF 4R (REDUCE, REUSE, REPAIR) ON CAMPUS ACTIVITIES

2) PLANTING FLOWERS AND MAINTAINING THE BIOTOPE ON CAMELUS

3) SUPPORT OF ENVIRONMENTAL SYMPOSIUMS FOR A SUSTAINABLE CAMPUS AT KONAN UNIVERSITY

ESTABLISHING THE ON-CAMPUS PARTNERSHIP FOR ENVIRONMENTAL RESTORATION

- DEPARTMENT OF STUDENT AFFAIRS
- DEPARTMENT OF FINANCE
- COOP AT KONAN UNIV.
- KANSAI MITSUBI CO. LTD.
- (CLEANING/SECURITY)
- MOORE ENGINEERING CO. LTD.
- (CLEANING/SECURITY)
- TOSHIKAWA LANDSCAPE CONSTRUCTION CO. LTD.
- STUDENTS

Products of the Symposium

III. Field Studies AT HIRONO FIELDS

1) ACTIVITIES OF ORGANIC AGRICULTURE AT KONAN FACULTY OF ENVIRONMENTAL EDUCATION

2) RESEARCH ON THE DEFORMED MONKEY AT AWAJI MONKEY CENTRE

30 VOLUNTEER ACTIVITIES IN AINA NATIONAL GOVERNMENT PARK IN FORMER

10 COMMUNITY BASED ACTIVITIES FOR THE RESTORATION OF "AINA VILLAGE"

III SUPPORT THE NOYLL RICE PRODUCTION
 (II) PRESERVATION OF TRADITIONAL CULTURE BY FACT-FINDING ON THE SPOT
 (IV) SUPPORT FOR THE ACTIVITIES OF AINA ECO-COLLEGE



Location map of Aina National Government Park
 Aina village

IV. KEY ACTIVITIES OF THE SEMINAR IN 2006

1) PRACTICE AND EXPERIENCE OF A SUBSISTENCE LIFESTYLE AT HIRONO FIELD

#SHELTER: BUILDING HOUSES MADE OF BAMBOOS AND STRAWS



-FOOD: SELF-SUPPORTED FOODS



-FIRE: MAKING A FIRE FOR COOKING



-RESEARCH ON WATER QUALITY



Filter for water quality

2) SUPPORT FOR THE E-LEARNING CLASS: INTERNATIONAL NETWORK FOR ENVIRONMENTAL EDUCATION USING THE TV-NET MEETING SYSTEM



Presenting class using the TV-net meeting system
 Presenting lesson plan, training for Ministry of the Environment, the government of Japan, and Korea (Korea)

Poster Presentations

The Characteristics of the Spousal Obligation to Care for One Another

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Yuko Kuramochi, Masami Hasebe⁵

1. Gifu College of Nursing
2. Saitama University.
3. National Women's Education Center.
4. Doctoral Program in Sociology, Sophia University.
5. Graduate School of Education (Master's Program), Saitama University.

夫婦間における介護義務感の特徴

原沢優子¹, 川元克秀², 飯島絵里³, 斎藤雅茂⁴, 倉持裕子, 長谷部雅美⁵

1. 岐阜県立看護大学
2. 埼玉大学
3. 独立行政法人国立女性教育会館
4. 上智大学大学院博士後期課程
5. 埼玉大学大学院博士前期課程

【要旨】

配偶者間介護は、一般社会において「老老介護」として取り上げられる悲哀あふれる側面のみではなく、先行研究から他の介護者に比べて在宅介護継続意欲が高いことや、認知症徴候が少ないことなど要介護者にとって有意義と考えられる結果が散見できる。しかし、日本において配偶者間介護を支える心理的側面を焦点にした先行研究は少ない。本報告では、配偶者間の介護義務感を焦点として調査結果を分析し、その特徴について検討した結果を述べる。

調査は、在宅介護を実施している主たる介護者 559 人を対象に質問紙法自記式により実施し、回収した調査用紙 305 票(54.6%)のうち、測定項目の半分以上に欠損項目のない 252 票(45.1%)を今回の分析対象とした。配偶者介護に対する義務感として、太田・甲斐(2002)が開発した老親扶養義務感尺度を参考に筆者らが独自に作成した 25 項目の質問を用いた。日常の介護行動については、虐待の種類としてあげられるネグレクト、身体・精神・性的虐待、金銭搾取に関する 16 項目について行動実態を質問した。分析には、SPSS ver.14 を用いた。

結果として、介護に関する義務感の特性の一つに性差がみられた。男性の方が女性に比べて配偶者を介護すべきであると考えている傾向が強く、理由として、お互いが安心できる存在であるといった精神面の理由を挙げたものが女性よりも多かった。また、男性介護者は、フォーマル・インフォーマルなサポートを受けずに夫婦だけで介護をしていくべきであるといった自己拘束的な義務感をもつ傾向が考えられた。

配偶者間介護者の場合、日常の介護行動がより要介護者にとって充足されたものになっている傾向が見られた。男性介護者は介護への義務感が強い一方で、女性介護者よりも家事援助などの介護行動が充足できていない現状があることが示唆された。

KEY WORDS spousal caregivers, spousal obligation, gender difference, behavior of care, elderly caregivers

INTRODUCTION

“Who do you want to be cared, when you become an elderly?” In Japan, the major answer of it was spouse (46.7%)¹⁾. Similarly, the major answer of a question “Who gives moral support to you?” was spouse (67.0%)¹⁾.

In Japan, actually, most of family caregivers of elderly were their children (daughter; 19.0%, son; 9.2%, daughter in law; 27.7%) and spousal caregivers were only 29.8%²⁾.

Spousal care, which occurs more frequently among elderly couples, has been labeled “old-old care” and is generally portrayed in a negative side. Although previous articles reported that spousal caregivers use public services more frequently than another caregivers³⁻⁴⁾, recent media reports indicate an increased number of forced double suicides that possibly resulted from a combination of “old-old care” with infrequent use of public services.

Some previous articles reported that spousal care results in many benefits for the recipient. For example,

spousal caregivers have strong will to continue care compared to other caregivers³⁾, care recipient take a breakfast more frequently⁵⁾ and fewer clinical signs of dementia⁶⁾. On the other hand, there was a previous article reported if one partner shows signs of depression, then another one will show signs of depression as well⁷⁾.

In summary, there are extremely different features in spousal care, that is to say, good tendency for physical aspect of care recipients and crisis situation in continuing spousal care. However, there are few researches that focused on the characteristics in spousal care.

This research aims to clarify the characteristics of spousal caregivers by providing more information on “spousal obligation” or the idea that spouses believe that they must take care of each other.

METHOD

Sample

The data presented and analyzed here come from the larger research project directed by Kawamoto K. under the sponsorship of the Saitama Prefectural Center for Promotion of Gender Equality. Data for this research were collected from 559 Japanese family caregivers. Participants were selected out of all individuals who visited the public office and were given questionnaire for the period of February from January in 2004. 305 subjects were returned (rate of collection=54.6%) by mail. In this study we used data on 252 (45.1%) subjects in which at least half of the measured items were present.

Measures

To assess spousal obligation, participants were administered a 25 question survey, which was developed by the researcher based on “Filial Obligation Scale” developed by Ohta and Kai in 2002⁸⁾. Participants responded using a 6-level format. In analysis, we assigned a score from 0-to-5 (0= Completely-disagree, 1= Quite-disagree, 2= Moderately-disagree, 3=Moderately-agree, 4=Quite-agree, 5= Completely-agree). Associated with daily behavior of care to their care recipient, participants were asked 16 questions and responded frequency of action using a 6-level format (0=Never occurred, 1=little, 2=not often, 3=Often, 4=More often, 5=Usual).

The data for this report was grouped by the relationship between the care recipient and their family caregivers (those were caring for parents or parents-in-law [=CCP], spouse caregivers [=SC], and others), and analyzed separately.

We used the Student’s t-test to analyze the data, using SPSSver.14.0J for Windows.

RESULTS

Attribute

The attribute of caregivers is shown in Table1. The majority of caregivers were females (75.0%) and spousal caregivers comprised 25.0% of the sample. The average age of care recipients was different by group; CCP group was caring more older people (84.5years) than SC group (74.7years). The average age of CCP group was 54.8, with a difference of approximately 20 years between those of spousal caregivers (72.7years). And the average age of spousal caregivers was about the same as care recipients’ average age.

Table 1. The data attribute

		CCP(N=177)	SC(N=63)	others(N=12)
sex	male	35(19.7%)	26(41.3%)	2(16.7%)
	female	142(80.3%)	37(58.7%)	10(83.3%)
average age		54.8(SD=±12)	72.7(SD=±7.5)	49.4SD=(±18.4)
care recipient's				
average age"		84.5(SD=±8.3)	74.7(SD=±8.0)	83.7(SD=±9.9)

Comparison of spousal obligation

The comparison of spousal obligation is shown in Table2. There was a statistically significant difference between males and females perceptions of spousal obligation, with males feeling more obligated than females to provide spousal care. In the situation of caregiving, males tended to think, “the couple should hold out by caring for each other”. On the other hand, females tended to think, “it would be better to rely on their children”. The spousal obligation of males was stronger than that of females. On the other hand, males stated that their reason for caregiving was not their positive intentions but rather an obligation to the relationship.

There was a statistically significant difference between females who provide spousal care and those who provide care to their patents. Females who provide spousal care said they have peace of mind by living with their frail spouse.

Additionally, those participants who were currently caring for their spouse felt significantly stronger about such an obligation when compared to those who were not currently caring for their spouse.

Furthermore, as questions 8, 10 and 17 illustrate, spousal caregivers not only felt a strong obligation to care for one another, but they also felt that such care must take place without the support of their children or other individuals. This sentiment was particularly strong among male spousal caregivers.

Daily behavior of care to care-recipient

The result of daily behavior of care to their care recipient is shown in Table3. There were evidence to suggest that daily care behavior were completed more often in cases of spousal caregiving, rather than filial caregivers.

When analyzing the differences between male and female caregivers, there was a statistically significant difference in behavior of care. Specifically, male caregivers often did not complete daily care behavior in relation to feeding, clothing, and bathing.

When analyzing female caregivers, those providing spousal care were significantly less likely to leave the care recipient alone, interrupt the care recipient during conversation or delay meals.

Table 2. Comparison of spousal obligation^{1,2)}

		female					
		male	female	CCP	SC	CCP	SC
1	The married couple should support economically each other	4.29	4.34	4.29	4.53	4.31	4.58
2	It's completely natural that the married couple support economically each other	4.16	4.24	4.18	4.47	*	4.24 4.50
3	Concerning economical matter, it's better to rely on the children	3.13	3.60	**	3.56	3.25	3.61 3.54
4	Concerning economical matter, the married couple should manage without their children's support	3.62	3.85		3.79	3.97	3.86 4.08
5	The married couple should care for one another if either one become to need care	4.25	4.11		4.08	4.35	4.11 4.19
6	It's completely natural that the married couple care for one another	4.19	3.91		3.87	4.31	** 3.86 4.17
7	Concerning care, it's better to rely on the children	2.23	2.30		2.34	2.15	2.37 2.00 *
8	Concerning care, the married couple should manage without their children's support	3.13	2.95		2.85	3.43	** 2.87 3.27
9	Concerning care, the married couple should manage by using social supports	3.47	3.60		3.51	3.77	3.58 3.68
10	Concerning care, the married couple should manage without any supports	2.49	1.92	**	1.78	2.81	*** 1.74 2.57 ***
11	It's the easiest to ask the partner to do trivial things	3.29	3.23		3.20	3.36	3.24 3.14
12	In the married couple, both of them should do housework when they become old	3.90	3.75		3.77	3.89	3.78 3.75
13	In the married couple, it's completely natural that one do housework if another one can't do it	3.66	3.39		3.34	3.92	*** 3.35 3.70
14	Concerning housework, it's better to rely on the children	2.80	2.94		3.06	2.50	** 3.04 2.56
15	Concerning housework, the married couple should manage without their children's support	2.97	2.96		2.94	3.00	2.95 2.97
16	Concerning housework, the married couple should manage by using social supports	3.19	3.21		3.21	3.13	3.27 2.86
17	Concerning housework, the married couple should manage without any supports	3.00	2.53	**	2.44	3.11	*** 2.35 3.08 **
18	Living together makes the married couple feel safe	4.05	4.05		3.96	4.31	* 3.99 4.35 *
19	In the married couple, even if one become to need care, living together makes them feel peaceful	4.13	3.86		3.81	4.25	** 3.79 4.16
20	Generally the married couple would like to support each other when either one need care	4.05	4.04		3.99	4.21	4.04 4.14
21	Generally the married couple would like to share difficulty of care	3.90	4.04		3.97	4.16	4.06 4.11
22	Generally the married couple feels peaceful if they are cared by not other persons but partner	4.02	3.89		3.83	4.27	** 3.84 4.30 *
23	Generally care by partner makes one feel easy rather than care by children	3.92	3.69		3.63	4.06	** 3.62 4.00
24	Generally care by children makes one easy rather than care by partner	2.92	3.24	*	3.18	3.15	3.24 3.27
25	Receiving care by children makes feel confidence rather than care by partner.	2.77	2.86		2.88	2.79	2.90 2.76

1) point allocation was 0 ~ 5, 0=completely disagree ~ 5=completely agree , 2) p-value; p<.05=*, p<.01=**, p<.001=***

Table 3. Daily behavior of care to care recipient¹⁾²⁾

		female	male	CCP	SC	female		CCP	SC	
						CCP	SC			
1	There are often times when the frail person is left alone.	2.81	3.19		3.06	2.46	**	2.96	2.30	*
2	There are times when I delay the frail person's meals to fit my own schedule.	1.78	2.53	***	2.07	1.66	*	1.92	1.28	**
3	There are times when I put off changing the frail person's dirty clothes.	1.22	1.86	***	1.45	1.19		1.31	0.94	
4	There are times when I put off the frail person's bath time to fit my own schedule.	1.04	1.67	**	1.24	1.02		1.09	0.91	
5	There are times when I forget to take precautions to prevent bedsores by turning the frail person's body	0.87	1.52	**	1.01	1.11		0.87	0.91	
6	When the frail person does not sleep, there are times when I administer many sleeping pills	0.38	0.70		0.37	0.63		0.34	0.41	
7	There are times when I lock the door so the frail person will not step out on his/her own	0.74	0.82		0.75	0.79		0.75	0.65	
8	There are times when I negate the frail person's opinions	1.89	1.96		1.93	1.86		1.90	1.83	
9	There are times when I show an irritated attitude to the frail person	2.47	2.32		2.41	2.54		2.43	2.64	
10	There are times when I cut the frail person's conversation short	2.18	2.19		2.30	1.93		2.31	1.81	*
11	There are times when I put off the frail person's requests	1.43	1.74		1.53	1.44		1.48	1.32	
12	There are times when I deal with the frail person as if they were a child	1.63	1.61		1.56	1.81		1.55	1.94	
13	There are times when I change the frail person's dirty nappy in front of other people without caring	0.39	0.57		0.43	0.40		0.38	0.39	
14	There are times when I forget to cover the frail person's body out of decency during bath time	0.93	1.23		1.04	0.85		1.02	0.62	
15	There are times when I clean up the frail person's things without their permission	0.84	1.02		0.96	0.63		0.92	0.59	
16	There are times when I stop the frail person from using their money as they like	0.69	0.95		0.76	0.73		0.69	0.73	

1) point allocation was 0 ~ 5, 0=never occurred ~ 5=usual, 2) p-value; p<.05=*, p<.01=**, p<.001=***

DISCUSSION

The Characteristics of the Spousal Obligation to Care for One Another

The reality of spousal care is that the caregivers, as well as the care recipients, are both over 70 years of age. Thus, it is truly a case of the elderly taking care of the elderly, or “old-old care”.

This research demonstrated that spousal obligation to provide care was stronger among males than females and this result was following to previous study⁹⁾. Also, as new findings, male caregivers felt that they were solely responsible for providing spousal care without the aid of children or other individuals. Remarkably, despite such strong feelings among male caregivers, few indicated that they take the situation (be a caregiver) willingly. In other words, although they did not express interest in providing care, they still perceived such an activity to be a spousal obligation.

In media coverage of forced double suicides, it is often claimed that male caregivers murder female care recipients and they tend to not take advantage of social care services. In light of this perspective, male caregivers' strong feelings of obligation to care for a spouse are not malicious, but such feelings lead to a crisis situations. Thus, it is necessary to develop a form of public assistance to deal with this issue.

The spousal obligation was related with their hope of peaceful life

Those providing spousal care often felt a strong sense of peace about living with their spouse, which could explain the hesitancy to leave such a responsibility to children or other individuals. Spousal obligation also appeared to be necessary for caregivers themselves to feel peace, which was true for both male and female caregivers.

However, we could not an enough examination about another factors concern with spousal obligation in this survey. Previous article said the influence of caregiver's respect to care recipient¹⁰⁾, it is one of the agenda to be examined in the future.

Daily behavior of care to care-recipient

In comparison to male caregivers, female caregivers were more likely to complete daily care activities. They were also less likely to leave the care recipient alone, delay meals, or cut them off in conversation. It was thought as a reason that in spousal care situations, there was less of an age difference between the caregiver and care recipient. Therefore, it was easier for the two individuals to get along.

In comparison to female caregivers, male caregivers often did not complete daily activities such as feeding and clothing. One explanation for this finding is that male caregivers of this particular generation are not well versed in housekeeping activities. Thus, it is necessary to develop and implement educational support programs for male caregivers, in order to help them perform such dire behavior of care and to continue caring.

CONCLUSION

The characteristics of the obligation to care for each other among family caregivers differed by gender and relationship with the caregiver. The spousal obligation for care of males was stronger than females. But it was not positive intentions and males tended to suppress the care recipient's activities. Females who care for their partner stated they feel more peaceful by living with their partner rather than female who care for their parents. And females who care for their parents tend to suppress the care recipient's behavior.

In conclusion, a strong spousal obligation is effective for both care recipient mental and physical side. However, male caregivers who has strong spousal obligation could lead to some crisis situations, public care supporter must be respect and loosen up their obligation for help themselves.

REFERENCES

- 1) "The Life and Awareness of elderly" The 5th international survey in 2002. Cabinet Office, Government of Japan
- 2) Survey of Household for Long-term Care in 2000. Ministry of Health, Labour and Welfare
- 3) Emiko Saito, Chiharu Kunisaki, Katsko Kanagawa: Positive Perceptions Encouraging Continued Caregiving at Home Family Caregivers. Japanese journal of public health, 48 (3), 180-189, 2001
- 4) Shumpei Takeda, Kikuko Watanabe, Tsugiko Kudo, Shigeru Saito: Discriminative analysis of dependent elderly between home care and institutionalized groups in Sendai. Japanese journal of public health, 41 (1), 3-11, 1994
- 5) Hidehiro Sugisawa: An analysis of the impact of living arrangements on health behavior among older adults. Japanese Journal of Gerontology, 15(1), 58-67, 1993
- 6) Arai A, Katsumata Y, Konno K, Tamashiro H: Sociodemographic factors associated with incidence of dementia among senior citizens of small town in Japan. Care Management Journals, 5 (3), 159-165, 2004
- 7) Fulz NH, Rahring Jenkins K, Ostbye T, Taylor DH Jr, Kabeto MU, Langa KM: The impact of own and spouse's urinary incontinence on depressive symptoms. Social science & medicine, 60 (11), 2537-48, 2005
- 8) Mio OHTA, Ichiro KAI: The Development of Filial Obligation Scale. Japanese Society for the Study of Social Welfare, 42 (2), 130-138, 2002
- 9) Wayne C.Seelbach, William J.Sauer: Filial Responsibility Expectations and Morale Among Aged Parents. The Gerontologist, 17 (6), 492-499, 1997
- 10) Nancy J. Finley, M. Diane Roberts, Benjamin F. Banahan: Motivators and Inhibitors of Attitudes of Filial Obligation Toward Aging Parents. The Gerontological Society of America, 28(1), 73-78, 1988

COMMUNITY-BASED HEALTH CARE FOR MENOPAUSAL WOMEN: A COMPARISON OF MENOPAUSAL SYMPTOMS AND QOL IN RURAL COMMUNITY AND IN URBAN COMMUNITY

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地域を基盤とした更年期女性のヘルスケアサービス
- 都市部と農村部における更年期症状の発現頻度とQOLの地域差 -

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【研究目的】加齢に伴い生じる更年期症状は中高年女性の健康課題の一つであるとともに、女性のQOLの低下につながる事が明らかにされている。更年期症状の発現には地域差や社会文化的要因の影響が指摘され、地域特性に応じた保健サービスの提供が必要となっている。本研究は、都市部と農村部における中高年女性の更年期症状の発現頻度とQOLの実態を明らかにし、今後のヘルスサービスの方向性を検討することを目的とした。

【研究方法】更年期症状の程度およびQOLについて自己記入式質問紙郵送調査を実施した。対象は北海道の農村部と都市部に居住する女性で、日本人の閉経年齢45～55歳に該当する256名とした。質問紙は更年期症状の把握に簡略式更年期指数、QOLの把握にはSF8を用いた。

【結果】対象者の内訳は農村部190名、都市部66名だった。有職者は農村部で96.8%、都市部では68.2%を占め、農村部は第一次産業従事者が83.8%を示した。三世帯同居をしている割合は農村部で75.3%、都市部では16.7%となった。

更年期症状の重症度について、医学的治療を必要とするレベルの症状を有している女性は、農村部で28.4%、都市部では22.8%で有意な地域差は認めなかった。症状別では、「不眠」と「肩こり」が農村部で有意に高かった。QOLは、「身体の痛み」に地域差を認め、身体的QOLスコアが農村部で有意に低かった。

【考察】更年期症状の重症度割合に地域差は認めなかったが、国内の発現頻度に比較して高く、本調査地域における保健サービスの必要性が示唆された。農村部での「不眠」や「肩こり」が有意に高いことや、身体的側面のQOLが低いことには、第一次産業従事による職業形態の影響や、多世帯同居による家族形態の差異による影響が考えられた。今後は職業形態や家族形態の特性を踏まえたヘルスサービスが求められていることが示唆された。

Key Words: Menopausal symptoms, Community, QOL,

INTRODUCTION

It has been reported that menopausal symptoms occur as a result of complicated interactions between physical changes and changes in psychosocial environments, with three factors—symptoms caused by reduced ovary functions, social and cultural environmental factors, and psychophysiology based on the character structure of individual women—being involved¹⁾. Menopausal symptoms are said to reduce the quality of life (QOL) of affected women²⁾ and are one of the common health issues among middle-aged and senior women.

Recent findings indicate that there are regional differences in the development of menopausal symptoms.

Kudo et al.³⁾ reported in a cohort study conducted in urban and rural areas in Japan that the incidence of hot flashes was higher in rural areas than in urban areas. Lock⁴⁾, an anthropologist who compared the situations in Canada and Japan, has been pointing out since the 1980s that sociocultural environments influence the occurrence of menopausal symptoms, and regional differences within Japan are now beginning to be revealed. A holistic approach, including physical, psychological and social aspects, has been proposed to improve menopausal symptoms. With this background, the provision of community-based healthcare services that focus on local characteristics is expected to increase in importance in the future. This study, by focusing on regional differences in menopausal symptoms, aimed to identify at a community level the occurrence of menopausal symptoms and the effects they have on the QOL in women.

OBJECTIVE

1. To identify the extent of women's menopausal symptoms in rural and in urban communities.
2. To identify women's QOL in rural and in urban communities.

METHODS

Design

Using Hokkaido, a prefecture in a cold region, as an example, the occurrence of menopausal symptoms and the QOL in women living in urban and rural communities were studied and their regional differences were examined.

Data collections

Self-administered questionnaires were mailed to subjects. Study areas were Hokkaido prefecture in Japan. Hokkaido has a population structure similar to the standard age distribution of Japan. As urban areas, a city in southeastern Hokkaido with a population of 1.8 million people and three adjacent cities with 0.1 million were chosen. As rural areas, five municipalities in eastern Hokkaido with populations ranging from 10,000 to 0.1 million were chosen.

The subjects were 500 urban women and 600 rural women aged 45-55, an age group on which the average menopausal age of Japanese women falls. The subjects were solicited and the questionnaires were delivered with the help of, for urban sampling, local women's groups and, for rural sampling, women's groups within professional organizations.

The study was conducted between December 2004 and March 2005.

Measurements

Identification of demographics

Questions covered age, marital status, the presence of offspring, whether subjects lived alone or not, whether they cared for family members at home or not, employment status and, where relevant, occupation. Those who had never married and those who had divorced were categorized as unmarried. Those living with their parents were categorized as living with others, and those living with a spouse and/or kids were categorized as not living with others. Those presently caring for family members at home were categorized as home caregivers. Those in paid employment were categorized as working. As for occupation, those working in primary industry including crop and dairy farming were categorized as agricultural workers.

Identification of the incidence of menopausal symptoms

The Simple Formula Menopause Index (SMI)⁵⁾ was used to identify the status of menopausal symptoms. The SMI consists of 10 symptoms: hot flash, sweating, cold hands and feet, breathlessness and palpitation, sleeping disorder, irritability, depression, headache/dizziness, fatigue, shoulder stiffness and limb pains. The subjects were asked to choose the degree of each symptom from none, mild, moderate and severe. Assessment was made on a 0-100 scale—0-25 points: No problem, 26-50 points: Self-care level, 51-70 points: Medical check level, 71-80 points: Medical consultation level, 81-100 points: Medical treatment level—where severity increases with score.

SMI is a questionnaire developed to treat menopause; therefore, it is useful in that it correlates with

estrogen levels⁵⁾. It was assumed that diverse symptoms would not sufficiently be identified in this study because communities, not medical institutions, were targeted; however, SMI was chosen in order to identify the severity distribution in women who do not receive medical care and because of its simplicity—only a small number of questions need to be asked.

Identification of QOL

The Japanese version of the SF8 questionnaire was used as a QOL index. It is a simplified version of the Japanese version of the SF36 questionnaire, which is widely used as a QOL assessment index, and consists of the following eight subscales: physical functioning, role physical, bodily pain, general health, vitality, social function, role emotional and mental health. The overall QOL can be assessed by two summary scores physical component summary and mental component summary-which were the summaries of the subscales. It has been reported that the Japanese versions of SF8 and SF36 are correlated with each other⁶⁾⁷⁾. The SF8 was used in this study to gain an overview of the QOL in the women and because of its limited number of questions, which puts fewer burdens on the subjects.

Data Analysis

It was difficult to know the age of the subjects in advance due to personal information protection issues; therefore, respondents aged 45-55, the menopause-age group, were extracted afterward.

To make regional comparisons of the occurrence of menopause symptoms, a chi-square test was performed on the SMI scores. For regional comparisons by each of the 10 symptoms, the samples were classified into two groups: groups with and without symptoms. Those corresponding to “none” in the SMI scale were assigned to the “no symptom group” and those corresponding to “mild,” “moderate” and “severe” were assigned to the “symptom group.” For QOL analysis, the SF8 scores of the urban and rural groups were compared. Because of the small sample size and non-normal distribution of the urban data, a Mann-Whitney U test, which is a nonparametric test, was used.

RESULTS

Demographics of menopausal women

Of the 1,100 women who received the questionnaire, 595 responded (response rate 54.1%). Among the respondents, the data of 256 respondents aged 45-55 were analyzed.

Table 1 shows that 190 (74.2%) respondents lived in rural communities and 66 (25.8%) lived in urban communities. The mean age was 50.13 ± 3.03 among the rural respondents and 50.82 ± 3.14 among the urban respondents. The employment rate was 96.8% in the rural group: of which 83.8% were engaged in agriculture; the rate was 68.2% in the urban group. The rate of those living with three families was 75.3% in the rural group and 16.7% in the urban group. Regional differences were found in “Children”, “Employment”, “Agriculture” and “Living with three families,” which were both higher in the rural group.

Table 1 Characteristics of menopausal women (Chi-square test)

	Rural		Urban		p-value
	Yes	No	Yes	No	
Married	182(95.8%)	8(4.2%)	61(92.9%)	5(7.1%)	n.s.
Children	183(96.3%)	7(3.7%)	56(84.8%)	10(15.2%)	p=0.01
Employment	184(96.8%)	6(3.2%)	45(68.2%)	21(31.8%)	p<.001
Agriculture(rural n=184,urban n=45)	154(83.8%)	30(16.2%)	6(13.3%)	39(86.7%)	p<.001
Lived together with three families	143(75.3%)	47(24.7%)	11(16.7%)	55(83.3%)	p<.001
Home caregiver	29(15.3%)	161(84.7%)	7(10.6%)	59(89.4%)	n.s.
	190(100%)		66(100%)		

Menopausal symptomatology

Severity distribution of menopausal symptoms

Table 2 shows the severity distribution of menopausal symptoms. The “No problem (0-25 points)” rate was 28.4% in the rural group and 34.2% in the urban group. The “Self-care level (26-50 points)” rate was 43.2% in the rural group and 34.8% in the urban group. The rate of those who require some kind of medical intervention (Medical check, medical consultation and medical treatment levels combined: 51-100 points) was 28.4% in the rural group and 22.8% in the urban group. A chi-square test did not find significant regional differences in the severity distribution.

Incidence distribution of the 10 menopause symptoms

Table 3 shows the incidence distribution of the 10 menopause symptoms. The rural results are as follows: stiff shoulders 88.4%, fatigue 88.4%, irritability 76.5%, depression 71.4%, cold hands and feet 73.2%, sleeping disorder 65.1%, sweating 59.0%, breathlessness and palpitation 56.3%, headache and dizziness 52.1% and hot flash 50.5%. The urban results are as follows: fatigue 81.8%, stiff shoulders 74.2%, irritability 69.7%, depression 65.2%, cold hands and feet 60.6%, sweating 57.6%, headache and dizziness 48.5%, hot flash 48.5%, sleeping disorder 45.5%, and breathlessness and palpitation 43.9%. Significant regional differences were found in two symptoms; sleeping disorder ($p=.008, df=1, \chi^2=7.23$) and stiff shoulders ($p=.009, df=1, \chi^2=7.63$) occurred more in the rural group than in the urban group.

Table 2 The level of menopausal symptoms

	Rural	Urban
0-25 points: No problem	54 (28.4%)	28 (42.4%)
26-50 points: Self-care level	82 (43.2%)	23 (34.8%)
51- 70 points: Medical check level	37 (19.5%)	10 (15.2%)
71-80 points: Medical consultation level	13 (6.8%)	4 (6.1%)
81-100 points: Medical treatment level	4 (2.1%)	1 (1.5%)
	190 (100%)	66 (100%)

Table 3 Incidence distribution of the 10 menopausal symptoms

(Chi-square test)

	Rural		Urban		p-value
	Yes	No	Yes	No	
Hot flash	96 (50.5%)	94 (49.5%)	32 (48.5%)	34 (51.5%)	n.s.
Sweating	112 (59.0%)	78 (41.0%)	38 (57.6%)	28 (42.4%)	n.s.
Cold hands and feet	139 (73.2%)	51 (26.8%)	40 (60.6%)	26 (39.4%)	n.s.
Breathlessness/palpitation	107 (56.3%)	83 (43.7%)	29 (43.9%)	37 (56.1%)	n.s.
Sleeping disorder	124 (65.1%)	66 (34.9%)	30 (45.5%)	36 (54.5%)	p = .008
Irritability	150 (76.5%)	40 (21.2%)	46 (69.7%)	20 (30.3%)	n.s.
Depression	136 (71.4%)	54 (28.6%)	43 (65.2%)	23 (34.8%)	n.s.
Headache/dizziness	99 (52.1%)	91 (47.9%)	32 (48.5%)	34 (51.5%)	n.s.
Fatigue	168 (88.4%)	22 (11.6%)	54 (81.8%)	12 (18.2%)	n.s.
Stiff shoulders	168 (88.4%)	22 (11.6%)	49 (74.2%)	17 (25.8%)	p = .009
	190 (74.2%)		66 (25.8%)		

Health-related quality of life

Table 4 shows the QOL of the women. Among the SF8 subclasses, significant regional differences were found in “bodily pain” ($p=.003$), showing lower QOL in the rural group in this subclass. No significant regional differences were found in other subclasses. As for the summary scores, significant regional differences were found in “physical component summary” ($p=.003$) with a lower QOL in the rural group, and no significant regional differences were found in “mental component summary.”

Table 4 Women's QOL

	(Mann-Whitney U test)		p-value
	Rural Mean ± SD	Urban Mean ± SD	
Physical functioning	48.08 ± 6.54	49.06 ± 5.68	n.s.
Role physical	47.00 ± 6.96	48.20 ± 6.72	n.s.
Bodily pain	45.72 ± 7.97	48.50 ± 8.46	p=.003
General health	46.65 ± 7.19	47.87 ± 7.71	n.s.
Vitality	49.27 ± 6.60	49.30 ± 7.13	n.s.
Social function	45.95 ± 8.90	47.54 ± 8.96	n.s.
Role emotional	48.86 ± 5.79	48.24 ± 7.08	n.s.
Mental health	47.93 ± 7.18	48.41 ± 5.83	n.s.
Physical component summary	45.42 ± 6.83	47.41 ± 6.75	p=.003
Mental component summary	48.30 ± 6.59	47.70 ± 6.25	n.s.

DISCUSSION

1. Occurrence of menopause symptoms

No significant differences in the overall severity of the symptoms were found between the urban and rural groups. However, the rates of those who require medical care (SMI score 51 or over) were 28.4% in the rural group and 22.8% in the urban group. Kudo et al.³⁾ reported in a large-scale study in other areas that the rate was 5-6% in both rural and urban communities. Therefore, the rate of severe menopause symptoms is higher in our study areas. While no regional differences were found in the severity of menopause symptoms, nearly 28% of women live with symptoms that require medical attention, suggesting the need for community-based measures.

Next, significant regional differences by symptom were found in sleeping disorder and stiff shoulders, with both showing higher occurrence rates in the rural group. With regard to the sleeping disorder symptom, it has been reported that the accumulation of small stresses in daily life, such as from work and human relations, is interrelated with early-stage sleeping disorder, and sleep is a mental health indicator⁸⁾. In our study, the rates of those engaged in agriculture and living with other families were significantly higher in rural communities, and it is possible that the work characteristics and family structures of rural communities are associated with the occurrence of the symptoms. It has been pointed out with regard to the lifestyle of farmers that the various roles women are expected to take, such as long working hours, management responsibilities and role sharing (if it is a family business) as well as household chores, concerns for child rearing and the caring of old parents, have placed great stresses on the women, creating high risk situations for depression⁹⁾. This is out of the scope of this study as we did not conduct differential analysis on depression. A possible reason for the high sleeping-disorder rate in the rural group is the influence of stress factors such as farm work characteristics, work-related stresses, and household role-sharing and family-member relations that result from multifamily living.

Stiff shoulders, another symptom in which significant regional differences were found, were a complaint of 74.2% of the women in the urban group, whereas most of the women in the rural group, 88.4%, had the symptom. While stiff shoulders are reported to be a unique menopausal symptom in Japanese women⁴⁾, the causes are not known. A possible reason for the high stiff-shoulder rate is the influence of social stress factors. Yip¹⁰⁾ reported that backache and stiff shoulders in middle-aged and elderly women are associated with housework and work-related stresses. It was therefore suggested as a causal factor that 80% of the rural subjects in our study had both professional and household roles. Another factor is the influence of work characteristics. Walker et al.¹¹⁾ pointed out that farmers have a high occurrence of symptoms such as stiff shoulders and backache and that the high stiff-shoulder rate, in particular, is associated with the type of

work they do. Farmers accounted for 88% of the subjects in their study; therefore, it was considered that the characteristics of their work, such as crop and dairy activities, were also related to the occurrence of the symptoms. In our study, it is difficult to tell whether a particular case of stiff shoulder is caused by menopause or work; however, considering the fact that stiff shoulders were the most common symptom in the rural communities, we believe it is a symptom in high need of healthcare and is a priority issue for the improvement of menopause-related problems.

While showing no regional differences, fatigue was common in both groups. It has been reported that Japanese women often complain of fatigue in addition to stiff shoulders as menopause symptoms⁴⁾. Lee points out that fatigue in women not only reduces their QOL but is also a high-risk factor for depression and may be a sign of other diseases, and should not be left untreated under the assumption that it is not a disease¹²⁾. Measures aimed to improve this symptom, which is extremely common in women, are necessary.

2. QOL

The SF8 score was low in bodily pain and social function in the rural group and in social function in the urban group. Fukuhara et al., using 1,000 subjects extracted from all Japanese aged 18-72 using the quarter sampling method in 2002, calculated national mean SF8 scores to examine SF8s rationality and reliability⁶⁾. They reported the following scores for the 40-49 age group: physical functioning: mean $51.68 \pm SD3.86$, role physical: mean $51.63 \pm SD3.87$, bodily pain: mean $51.99 \pm SD7.55$, general health: mean $50.89 \pm SD6.19$, vitality: mean $51.19 \pm SD5.73$, social function: mean $50.03 \pm SD6.63$, role emotional: mean $50.77 \pm SD5.70$ and mental health: mean $49.55 \pm SD6.37$. Compared with these figures, the QOL was generally low in our study. A study on menopausal Japanese women using the SF36 questionnaire¹³⁾ reported the rates of six subclasses were; role physical: mean $81.1 \pm SD33.1$, bodily pain: mean $74.9 \pm SD20.2$, vitality: mean $58.2 \pm SD18.6$, social function: mean $85.4 \pm SD18.9$ and role emotional: mean $82.4 \pm SD33.0$. The score in our study were lower than these, indicating generally low QOL in our case.

Satoh, in a study on local residents in the Kyushu region of Japan, reported that the QOL of the people surveyed was reduced as the severity of menopausal symptoms increased¹⁴⁾. Satoh, who used the WHO/QOL-26 questionnaire as a QOL index, reported that the QOL reduction was confirmed in all physical, psychological, social and environmental areas studied. Considering the high severity of menopausal symptoms and generally low QOL scores in our subjects, menopausal symptoms are believed to have affected their overall QOL.

Regional differences were found in bodily pain and physical component summary, with the QOL levels being lower in the rural group. In the rural communities, it seems that bodily pain has reduced the physical QOL. The low physical QOL in the rural communities is due to the high occurrence of stiff shoulders. This may be because nearly 80% of the rural women surveyed were engaged in agriculture, indicating the influence of the work type. Also, the multi-family living rate was 74% in the rural group; therefore, the influence of family structure and family relationships was suggested. Mishra et al had reported that work and family-related stress were associated physical and psychosomatic QOL in menopausal women¹⁵⁾. Ushiroyama points out that work-related matters, relationship with spouse, concerns for kids' future, and the home caring of and relationship with old parents, as stress factors in menopausal women, have significantly increased in the past seven years¹⁶⁾. It is expected that multi-family living in rural communities will increase stress factors related to parents, among household stress factors, affecting women's QOL more than in non-rural areas.

Regional differences in QOL were found only in the physical aspects of women. Sociocultural stress factors in menopausal women such as work type and family structure may be associated with this. In providing healthcare services in rural areas, the improvement of common symptoms such as stiff shoulders and sleeping disorder is believed to improve women's QOL. However, it is expected, in addition to the alleviation of pain and unpleasant feelings, that the need of care focusing on the stress factors derived from unique sociocultural circumstances of rural communities will become increasingly obvious during the course of dealing with physical symptoms.

CONCLUSION

While no regional differences were found in the severity distribution of the menopausal symptoms between the urban and rural communities, the occurrence rates were higher than in other studies, indicating the need of health services based on these study areas.

Stiff shoulders and sleeping disorder, among menopausal symptoms, were significantly higher in the rural communities. As for QOL, the bodily pain score was low in the rural group, showing the influence of physical aspects on QOL. Behind the regional differences in the symptoms and the QOL component is the fact that the rural communities have more farmers and multifamily households, indicating the influence of work type and family structure. There is a need for providing community-based healthcare services that consider local sociocultural circumstances.

REFERENCES

1. Research on the menopause in the 1990S, WHO Technical Report Series866, 1996.
2. J.E.Blunmel, Castero-Branco C,Binfa L,et al (2000):Quality of life after Menopause-A population Study,*Maturitus*,34,17-23.
3. Yoshiko Kudo,Shinichiro Fujiwaki,Setusuko Sato,et al.(2005):A comparative study on menopausal status and climacteric complains of Japanese women in urban and rural area by a cross-sectional community based survey, *Journal of Japan menopause society*,13(1),47-54.
4. Lock, M. (1987): A comparative study on menopausal symptoms and attitudes toward menopause in Japan and Canada, trans. Sakamoto, S., *The World of Obstetrics and Gynecology* ,29(6), 495-504.
5. Koyama, T. (1999): Diagnosis of menopausal disorders, *Obstetrical and Gynecological Therapy* 79, 29-31.
6. Fukuhara, S. and Suzukamo, Y. (2004) Manual for SF-8TM Japanese version, Institute for Health Outcomes & Process Evaluation research.
7. Fayers, P. M. et al. (2006): Quality of Life Assessment, Analysis and Interpretation (Translation supervised by Fukuhara, S. and Kazuma, K.), 17-18, Nakayama Shoten Co. Ltd.
8. Charles M.Morin,Sylvie Rodrigue, Hans Ivers(2003):Role of stress, arousal, and coping skills in primary insomnia, *Psychosomatic Medicine*,65,259-267.
9. Wilfreda E.Thurston, Heatber Jo Blundell-Gosselin, Sarah Rose(2003): Stress in male and female farmers-an ecological rather than an individual problem, *Canadian Journal of Rural Medicine*,8(4),247-254.
10. Yin-bing Yip,Suzanne C,Sieu-gaen Chan(2001):Socio-psychological stressors as risk factors for low back pain in Chinese middle-aged women, *Journal of Advance Nursing* ,36(3),409-416.
11. K.Walker-Bone,K.T.Palmer(2002): Musculoskeletal disorders in farmers and farm workers *Occupational Medicine*,52(8),441-450.
12. Kathryn A. Lee, Martha J.lentz, Daiana L.Taylor,et.al,(1994):Fatigue as a response to environmental demands in women's lives,*IMAGE*,26(2),149-154.
13. Nancy E. Avis, Marcia Ory, Karen A Matthews, et al. (2003): Health-related quality of life in multiethnic sample of middle-aged women-Study of women's health across the nation (SWAN), *MEDICAL CARE*, 41(11), 1262-1276.
14. **Tamami Satoh (2004): A study on quality of life of the menopausal women-the evaluation used the questionnaire of WHO/QOL-26, The Japan Red Cross Kyushu international college of nursing Intramural Report2, 34-42.**
15. Gita Mishra, Dianna Kuh(2006):Perceived change in quality of life during the menopause, *Social Science &Medicine*,62,93-102.
16. Takahisa Ushiroyama,Atsushi Ikeda,**Satoko** Higashino,et al. (2002):Analysis of sociocultural stress factors in perimenopausal women with ill-defined symptoms -Study of recent changes in stress factors-,*Journal of Japanese Society of Psychosomatic Obstetrics and Gynecology*, 7(1),64-69.

THE RELATIONSHIP BETWEEN THE NARCISSISTIC PERSONALITY TENDENCY AND PERFECTIONISM IN JAPANESE UNIVERSITY STUDENTS

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大学生の自己愛性パーソナリティ傾向と完全主義との関係

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要旨

精神科臨床の場に自己愛性パーソナリティ(以下NP)構造をもつ青年が多数現れるようになったことを考えると、一般の大学生の中にもNP傾向がみられる者が少なからず存在することが推察される。本研究では、一般大学生のNP傾向を測定し、NPDの臨床所見との整合性を考慮に入れて、再度因子分析(因子の命名)を行った。NP傾向が強い者は完全主義傾向が強いのではないかという仮説のもと、各因子間の相関関係を検討することを目的とした。

調査の趣旨に賛同・協力が得られた大学生265名(男性:135名,女性:130名)(平均年齢:20.22歳,SD 1.40)を対象に、「優越感・有能感」「注目・賞賛欲求」「自己主張性」の3尺度から成る自己愛人格目録短縮版(以下NPI-S)、および「完全でありたいという欲求:DP」「自分に高い目標を課す傾向:PS」「ミス(失敗)を過度に気にする傾向:CM」「自分の行動に漠然とした疑いをもつ傾向:D」の4尺度から成る新完全主義尺度(以下MSPS)を用いた。前者は30項目、後者は20項目であった。

結果は、NPI-S合計の平均得点は93.73点(SD 16.24)、そのうち、男性は96.38点(SD 14.68)、女性は90.98点(SD 17.34)であり、先行研究と一致して男性が有意に高かった。昨今の青年のNP傾向の増大が伺えた。NPI-SとMSPSとの相関関係を検討すると、NPI-S合計とMSPS合計の間には有意な正の相関が認められた($r=.490, p<.001$)。また、NPI-S合計とDP($r=.485, p<.001$)、PS($r=.514, p<.001$)に中程度の有意な正の相関が、NPI-S合計とCM($r=.215, p<.001$)、D($r=.233, p<.001$)に弱い有意な正の相関が認められた。因子分析(主因子法、バリマックス)を行ったところ、4因子が抽出され、臨床的妥当性を考慮に入れて、「過剰な賞賛・注目」「誇大性」「共感の欠如」「特別な人間」とそれぞれ命名した。これらの4因子は、MSPSの中のDPとPSとの間に有意な相関関係を認め、DSMや市橋の指摘を支持した。よってNPDに完璧主義が強く関与しており、本研究の結果からもNP傾向を測定する尺度にパーフェクトでありたいといった完全主義を測定する項目を追加する必要がある。

ABSTRACT

This study investigated the relationship between the narcissistic personality tendency and perfectionism. It was hypothesized that a positive relationship would be found between the two personality variables. Japanese university students were administered both the Narcissistic Personality Inventory-Short Version (NPI-S) and the Multidimensional Self-oriented Perfectionism Scale (MSPS). Scores on the Need for excessive admiration and attention, Grandiosity, Lack of empathy, and Sense of special-ness subscales correlated significantly with scores on the Desire for perfectionism and Personal standards subscales. Desire for perfectionism and Personal standards were thought to be related to depression and social withdrawal in patients with Narcissistic Personality Disorder (NPD). Therefore, items measure an individual's perfectionism should be added to the scale which evaluates one's narcissistic personality tendency.

Key words: narcissistic personality disorder (NPD), Narcissistic Personality Inventory-Short Version (NPI-S), perfectionism, Multidimensional Self-oriented Perfectionism Scale (MSPS), Japanese university students

INTRODUCTION

Many writings recently have been depicting our society as the “me generation” and calling this period “the age of narcissism”(Emmons,1981). Lasch (1979) described narcissism as “a broad social trend.” Raskin and Hall (1979) have constructed the Narcissistic Personality Inventory which will allow psychological investigation of the personality variable. The inventory was created because the NPD has been included in the revision of the diagnostic manual (DSM-III) that had being prepared by the American Psychiatric Association (APA). Its symptom in DSM-III include: 1) grandiose sense of one’s self-importance or uniqueness, 2) preoccupation with fantasies of unlimited success, power, brilliance, beauty, or ideal love, 3) exhibitionism, 4) cool indifference or marked feelings of rage, inferiority, shame, humiliation, or emptiness in response to criticism, indifference of others, or defeat , 5) at least two of the following characteristics disturbances in interpersonal relationships: (1)entitlement: expectation of special favors without assuming reciprocal responsibilities, (2) interpersonal exploitativeness, (3) relationships that characteristically alternate between the two extremes of over-idealization and devaluation, and (4) lack of empathy.

Due to the recent increase in numbers of adolescent patients with NPD in the clinical setting in Japan, it can be assumed that generally, there are a number of university students with NP tendency. Later, the NPD is defined by the following characteristics in the revision of the Diagnostic and Statistical Manual (DSM-IV-TR): 1) grandiose sense of one’s self-importance, 2) preoccupation with fantasies of unlimited success, power, brilliance, beauty, or ideal love, 3) believes to be “special” and unique and that can be understood only by other special people, 4) requires excessive admiration and attention, 5) unreasonable expectation of especially favorable treatment, 6) take advantage of others to achieve his or her own ends, 7) lack of empathy, 8) preoccupation with feeling of envy, 9) arrogant behavior or attitude. DSM-III diagnostic indication shows that patients with NPD believe in perfectionism (APA, 1994). Individuals with high NP tendency also have a strong tendency for perfectionism to maintain their own narcissism (Ichihashi, 1999).

In this research, we evaluated NP tendency in university students and performed factor analysis again as we carefully paid attention to the clinical findings of NPD. Based on the hypothesis that individuals with high NP tendency also have a strong tendency for perfectionism to maintain their own narcissism, the relationships between each factor were examined.

SUBJECTS

The subjects were 265 university students (135 males and 130 females) who have approved the concept of this study and agreed to cooperate; their mean age was 20.22 (SD 1.40).

METHOD

The scales used were the Narcissistic Personality Inventory-Short Version (NPI-S) (Oshio, 1999), which contains three subscales—“sense of superiority and competence (SC)” (for example; “I know that I am good because everyone keeps telling me so.”, “I have a natural talent for influencing people.”, and “I am more capable than other people.”) , “need for attention and praise (AP)” (for example; “I will never be satisfied until I get all that I deserve.”, “I expect a great deal from other people.”, and “I like to be the center of attention.”), and “self-assertion (SA)” (for example; “I have a strong will to power.”, “I am assertive.”, and “I like to take responsibility for making decisions.” —and the Multidimensional Self-oriented Perfectionism Scale (MSPS), which comprises four factors—“desire for perfectionism (DP)”, “personal standard (PS)”, “concern over mistakes (CM)”, and “doubting of actions (D)” (Sakurai & Ohtani, 1997). The former has 30 items in the ratings of 5 whereas the latter has 20 items in the ratings of 6. Our speculations are as follows; DP and PS subscales are characteristics of NPD whereas the CM and D subscales are characteristics of Obsessive-Compulsive Personality Disorder, additionally, DP and PS are thought to be related to depression

and social withdrawal in patients with NPD.

RESULTS and DISCUSSION

Of the mean total NPI-S score of 93.73 (SD 16.24), the mean score for male was 96.38 (SD 14.68) and that of female was 90.98 (SD 17.34) (Table 1). This result was the same as the previous research: the male was significantly higher. Considering that the mean in Oshio’s study (2002) was 90.35, the NP tendency in adult male has been increasing in these years.

When the relationships between NPI-S and MSPS was studied, a positive correlation was found ($r = .490, p < .001$). Additionally, a moderate positive correlation was found between total NPI-S and DP ($r = .485, p < .001$), and weak positive correlations between total NPI-S and CM ($r = .215, p < .001$) as well as total NPI-S and D ($r = .233, p < .001$) were found (Table 2).

Table 1 Means of NPI-S score

	total mean	SD
total	93.73	16.24
male	96.38	14.68
female	90.98	17.34

Table 2 Relationship between NPI-S and MSPS

	DP	PS	CM	D
Need for excessive admiration and attention	.382**	.316**	.288***	.296***
Grandiosity	.392***	.407***	.121*	.101
Lack of empathy	.321***	.444***	.070	.157*
Sense of special-ness	.277***	.233***	.081	.125*

* $p < .05$ ** $p < .01$ *** $p < .001$

Interitem correlations were computed, and the resulting correlation matrix was subjected to a principal components factor analysis. Varimax rotation was employed on the assumption that the various hypothetical factors should not necessarily be related to each other, since it is their combination which defines the diagnosis of NPD. The results of factor analysis of NPI-S are presented in Table 3. Four factors were extracted when factor analysis was conducted, and taking consideration of clinical validity, each factor was named as “a need for excessive admiration and attention”, “grandiosity”, “lack of empathy”, and “a sense of special-ness”. The internal consistencies of the each subscale (or factor) were assessed via Cronbach’s coefficient alpha (Cronbach, 1951). The coefficients obtained were .878, .908, .804, .753 for Factor 1 through 4, respectively, and these are quite satisfactory. These four factors support the DSM-IV diagnostic indication.

Table 3 Factor analysis of NPI-S

Factors (principal components, Varimax)	α
Need for excessive admiration and attention	.878
Grandiosity	.908
Lack of empathy	.804
Sense of special-ness	.753

Table 4 shows correlations between NPI-S (designed for clinical version) and MSPS. Scores on the Need for excessive admiration and attention, Grandiosity, Lack of empathy, and Sense of special-ness subscales correlated significantly with scores on the Desire for perfectionism and Personal standards subscales whereas scores on the Grandiosity, Lack of empathy, and Sense of special-ness subscales did not correlate with scores on the Concern over mistake and Doubting of actions subscales.

Table 4 Correlations between NPI-S (clinical version) and MSPS

	MSPS	DP	PS	CM	D
NPI-S	0.490 **	0.485 **	0.514 **	0.215 **	0.233 **

** $p < .001$

CONCLUSION

Factor analysis of the NPI-S considering the clinical findings revealed four meaningful factors. We named the newly-emerged factors in the scales of the clinical version. Where the distinction is between adaptive and pathological narcissism is important to say. Next, perfectionism is closely related to NPD; therefore, determining factors that measure an individual's perfectionism or the desire to be perfect should be added to the scale which evaluates one's NP tendency. Based on the results, it would be easier to spot a group of people who have a higher possibility to become NPD in youths.

REFERENCES

- American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders:DSM-III*. Washington,D.C.: Author.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders:DSM-IV*. Washington,D.C.: Author.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders: DSM-IV-TR*. Washington,D.C.: Author.
- Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297-334.
- Emmons, R.A. (1981). Relationship between narcissism and sensation seeking. *Psychological Reports*, 48, 247-250.
- Ichihashi, H. (1999). Obsessive-compulsive disorders and narcissistic personality disorders. *Japanese Journal of Psychiatric Treatment*, 14(8), 835-842.
- Lasch, C.L. (1979) *The culture of narcissism*. New York: Norton.
- Oshio, A. (1999). Narcissistic tendency and friendship in high school students. *The Japanese Journal of Personality*, 8(1), 1-11.
- Oshio,A. (2002). Is a narcissistic personality pathological?: A comparison of normal adolescents and psychiatric patients. *The Japanese Journal of Personality*, 11(1), 56-57.
- Raskin,R.T. & Calvin,S.H. (1979). A narcissistic personality inventory. *Psychological Reports*, 45, 590.
- Sakurai, S. & Ohtani, Y (1995). Relations of "self-oriented perfectionism" to depression and hopelessness. *The Japanese Journal of Psychology*, 68(3), 179-186.

A STUDY OF THE FACTORS AFFECTING THE END-OF-LIFE CARE BY CARE WORKERS IN NURSING HOME

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Key words: Nursing home, The end-of-life care, Care warker

特別養護老人ホームのケアワーカーの看取り介護に影響を与える要因に関する研究

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要約

本研究は、ケアワーカーの死生観と看取り介護に影響を与える要因について、分析することを目的とした。自記式郵送法で 250 人のケアワーカーを対象に質問紙を配布した。看取り介護に関する 22 の質問項目、および死生観に関する 60 項目の質問項目を含み、その関連要因について調査を行った。因子分析の結果、看取り介護は3つの下位尺度に、死生観は6つの下位尺度に分類できた。職場研修を受けたケアワーカーは、家族支援および入居者が死について話すことを助ける支援について、有意に高く実施していた。生活の質向上と家族支援については、看取り介護の経験者が有意に高く実施していた。死に対する不安が低いケアワーカーは、家族支援をより頻回に行い、死を受けていた。

Introduction

The number of nursing homes has been steadily increasing in Japan. In nursing homes, residences are with advanced dementia, and/or with physiological disorder. Naturally their decline is progressive. However there are no guidelines that can be applied to the end-of-life care for the elderly, especially in nursing homes. In consideration of life and death in a nursing home, it is important how care workers can provide optimal care to the end-of-life.

The purposes of this study were to clarify what philosophy of life and death, care workers have. Furthermore, what care work activities, for dying elderly, are provided by care workers, as well as analyzing the factors affecting the end-of-life care activities.

Method

We conducted a survey, with a self-evaluating questionnaire, which was handed to 250 care workers in special nursing homes. The questionnaire included 22 questions which were concerning the end-of-life care, and 60 questions which were concerning the philosophy of life and death.

Results and Discussion

The profile of participants was shown table1. The exploratory factor analysis about “end-of-life care” revealed three underlying factors, which we labeled “improve quality of life (QOL)”, “family support”, and

“support to help residents come to terms with their own death”(Table2). The exploratory factor analysis about “philosophy of life and death” revealed six underlying factors, which we labeled “positive thinking of death”, “anxiety concerning death”, “physical and spiritual death”, “thoughts concerning the corpse”, “the meaning of death”, and “ life beyond death”(Table3).

Most influential events to motivate care workers to think about death were shown table4. The care workers, who had on-the-job training concerning death, were significantly more apt to give “family support”, and “support to help residents come to terms with their own death” (Table5). The degree of “improving QOL”, and “family support” was significantly larger than of those who had the experience of giving end-of-life care. This study shows that care workers, whose level of anxiety concerning death was low, and their acceptance of physical death as the end of life was reasonable, more often provided family care activities.

Reference

Degner,L.F.,et.al. 1991 Critical nursing behaviors in care for the dying. *Cancer Nursing*, 14(5), 246-253.
 Rittman, M., et.al. 1997 Phenomenological study of nurses caring for dying patients. *Cancer Nursing*, 20(2), 115-119.
 Wong,P.T.P. et.al. 1997 Death attitudes Profile-Revised : A Multidimensional Measurement of Attitudes toward Death. Neimer(ed) *Death Anxiety Handbook*, 121-146.
 Zerwekh,J,V. 1995 A family caregiving model for hospice nursing, *The Hospice Journal*, 10(1), 27-44.

Table:1 Profile of participants

		no.	%
Sex	Male	59	24.5
	Female	175	72.6
	Missing data	1	2.9
Age	20 ~ 29 years old	98	42.8
	30 ~ 39 years old	64	27.9
	over 40 years old	67	34.3
Terms of employments	Full-time	149	61.8
	Part-time	51	21.2
	Missing data	41	17
Qualification	Care-giver	116	48.1
	Social-worker	11	0.45
	Helper	90	3.7
	Nurse	9	0.37
	Other	15	0.62
Family structure	Alone	32	13.3
	With family members	198	82.2
	Missing data	11	4.6
Experience of familial care until death	Experience	81	33.6
	Luck of experience	150	62.2
	Missing data	10	4.1
Experience of care until death at work	Experience	99	41.1
	Luck of experience	127	52.7
	Missing data	15	6.2
"Experience of illness or accidents, becoming aware of death"	Experience	50	20.7
	Luck of experience	182	75.5
	Missing data	9	3.7
"Experience of family member's illness or accident making them aware of death"	Have experience	125	51.9
	Have no experience	107	44.4
	Missing data	9	3.7
Discussion, concerning death	Yes	72	30
	No	161	66.8
	Missing data	8	3.3

Table:2 Factor Analysis of the end-of-care in nursing homes

(Maximum likelihood estimation, Promax rotated)

	Factor 1	Factor 2	Factor 3	h2
Factor 1 Improve quality of life (QOL)				
"I support the concept of making the most of individual residual functions"	0.664	0.02	-0.175	0.429
I take care of residents with respect for their own hope in life	0.611	0.272	-0.038	0.597
I observe predictable conditions with attention	0.603	-0.037	0.096	0.590
I explain conditions of residents to their families	0.601	-0.137	0.039	0.399
I respect resident's values and beliefs	0.564	-0.004	-0.037	0.338
I give first priority to resident's needs	0.552	0.03	-0.051	0.285
I take care of residents so they have enough sleep	0.552	-0.112	0.027	0.531
I work on the residents awareness of changes in season	0.540	0.033	-0.066	0.377
I create an atmosphere so residents can frankly ask questions	0.509	0.139	0.187	0.397
I support resident's hope, with respect	0.470	0.104	0.211	0.501
Factor 2 Family support				
I encourage families to participate in preparation for burial	-0.165	0.820	0.039	0.304
I suggest family members have a discussion concerning death	-0.144	0.701	0.119	0.396
I inform family members of bereaved family support groups	-0.037	0.693	-0.05	0.462
I inform family members of predictable conditions regarding residents in the nursing homes	0.079	0.678	-0.001	0.452
I take family's religions and emotions into consideration	0.046	0.634	-0.121	0.642
I ask families whether they have any questions regarding prior information	0.22	0.535	0.065	0.534
I inform families of present resident's conditions	0.235	0.523	-0.048	0.298
Factor 3 Support to help residents come to terms with their own death				
I talk with residents concerning death	-0.258	0.099	0.768	0.282
I put resident's affairs in order, and give advice regarding their future	0.065	0.001	0.747	0.356
I talk with residents regarding their anxiety and fear, concerning death	-0.22	0.166	0.716	0.434
I spend time with residents at their bedside	0.228	-0.173	0.620	0.470
I help residents and families to express their feelings	0.282	-0.159	0.612	0.583
Variance explained (%)	26.25	11.29	6.35	
Accumulated variance explained (%)	26.25	37.54	43.89	
Factor Correlation Matrix for Rotated Factors				
	1			
	0.325	1		
	0.345	0.51	1	
Cronbach's coefficient α				
	0.842	0.859	0.823	

Table:3 Factor Analysis of the philosophy of death

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	h2
Factor 1 Positive thinking concerning death							
To consider of death helps to reconsider life	0.735	-0.019	0.009	-0.011	0.051	0.496	0.410
To consider of death promotes maturity	0.708	0.024	-0.032	0.049	-0.017	-0.086	0.443
To meet dying residents' families helps individuals to think about life and death	0.631	0.094	0.069	-0.017	-0.057	-0.041	0.388
The necessity of education concerning death	0.601	-0.095	0.152	0.031	-0.005	-0.088	0.351
The necessity of preparation a hopeful death	0.56	-0.025	0.207	-0.005	0.053	0.073	0.319
The importance of experience for infant, prior to death of family members	0.419	0.004	0.061	-0.102	0.015	0.051	0.289
Factor 2 Anxiety concerning death							
Anxiety, when considering death	0.047	0.768	0.021	0.030	-0.044	-0.088	0.498
Anxiety, when considering the process of death	0.150	0.756	-0.099	-0.069	0.020	0.051	0.566
No fear of death	0.102	-0.612	-0.052	-0.046	-0.001	0.081	0.352
Becoming anxious when thinking about events and family after death	-0.087	0.545	0.081	0.073	0.064	0.226	0.444
Factor 3 Physical and spiritual death							
The importance of survival live even if one has a brain-dead condition	-0.062	0.016	0.754	0.024	-0.004	0.026	0.481
The importance of treatment even if one is left in a vegetable-like state	0.004	0.021	0.752	-0.099	0.097	0.085	0.459
Considering one who is still living after being left in a vegetable-like state	0.077	-0.125	0.652	0.123	-0.038	-0.006	0.451
The importance of life even if the individual is not be able to communicate	-0.029	0.169	0.531	-0.074	-0.135	-0.09	0.388
Factor 4 Consideration of the corpse							
I never injury my body, even as a specimen	0.020	0.016	0.1	0.853	0.106	-0.026	0.646
I never injury my body, even for an autopsy	-0.028	0.073	-0.047	0.792	-0.01	0.059	0.588
If I had a brain-dead condition, I would donate organs	0.020	0.018	0.072	-0.706	0.092	0.016	0.445
Factor 5 The meaning of death							
Death is the end of all	-0.096	0.049	0.072	-0.062	0.801	-0.053	0.511
Death is the conclusion of life	-0.001	-0.020	0.051	-0.067	0.697	-0.031	0.404
Death is releasing us from hardship in this world	0.131	-0.046	-0.161	0.059	0.586	0.114	0.372
Death is the end of existence	0.025	0.027	-0.030	0.082	0.570	-0.106	0.405
Factor 6 Life beyond death							
I believe there is life beyond death	0.000	0.043	-0.030	-0.043	0.100	0.773	0.563
I believe in existence of "spirit" and "curses"	-0.098	0.026	-0.054	-0.021	0.076	0.758	0.458
I think that a soul remains after death	0.121	-0.082	0.016	0.018	0.035	0.701	0.53
I believe in reincarnation	-0.007	-0.038	0.007	0.070	-0.100	0.607	0.413
Variance explained (%)	17.48	12.36	11.74	7.63	7.00	4.99	
Accumulated variance explained (%)	17.48	29.84	41.58	49.21	56.21	61.20	
Cronbach's coefficient α	0.767	0.808	0.768	0.758	0.678	0.768	

reversed scoring item

Table:4 Most influential events to motivate care workers to think about death

item	no.	%
Education concerning death	18	10.3
Experience of familial care to the end of life	39	22.4
Experience of care to the end of life, at work	24	13.8
Experience of awareness concerning death	17	9.8
Experience of awareness of family member's death	71	40.8
other	5	2.9
total	174	100.0

Table5: The factors affecting the end-of-life care by care workers

		Factor 1	Factor 2	Factor 3
Experience of on-the-job training	Yes	n.s	21.85(4.42)	16.77(4.03)
	No		19.58(4.91) t=2.22 *	15.04(3.90) t=2.09 *
Experience of supplementary education	Yes	n.s	n.s	16.52(4.29)
	No			15.05(3.94) t=1.86 +
Experience of care to the end of life	Yes	38.54(4.45)	20.91(4.77)	n.s
	No	37.22(4.91) t=1.88 +	19.65(4.87) t=1.78 +	
Discussion concerning death	Often	n.s	n.s	18.86(4.06)
	Sometimes			14.60(4.25) t=4.26 *
Anxiety concerning death (Second factor of "Philosophy of death scale")	High	n.s	20.92(4.63)	n.s
	Low		19.37(4.92) t=2.31 *	
Physical and spiritual death (Third factor of "Philosophy of death scale")	High	n.s	19.43(4.91)	n.s
	Low		20.70(4.72) t=1.86 +	
The meaning of death (Fifth factor of "Philosophy of death scale")	High	n.s	20.68(4.84)	n.s
	Low		19.48(4.76) t=1.79 +	

n.s : no significant, * p<.05, + p<0.1

THE CHARACTERISTICS OF THE PROCESS TO ACQUIRE THE SKILL OF ENDOTRACHEAL SUCTIONING IN EXPERT NURSES: NARRATIVE OF CLINICAL ENGINEERS OF RESPIRATORY THERAPY

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Purpose

The practice of endotracheal suctioning is a technology accompanied with pain, and the quality of caring is clear in the patient, according to the skill.

We reported the characteristics of experience of six expert nurses. The purpose of this study is to clarify the acquisition process of gaining the skill of endotracheal suctioning.

Sample

Six expert nurses, who were recommended by their head nurses, have at least 5 years of clinical experience, and they agreed with research cooperation.

They were clinical engineers of respiratory therapy.

Method

We interviewed, and recorded, how the suction had been acquired and how it had worked. Finally, we labeled the content of their narrative.

Ethics

When we (the researchers) explained complete debriefing and strict management of the data, we obtained the research cooperators' approval by documentation.

This research obtained the approval of the ethical committee of Osaka City University School of Nursing

Findings

There are six characteristics.

1. (There were frequent opportunities to gain experience with apparatus.)

2. (Practice experience compared with basic knowledge.)

3. (Experience of care in the case of a patient who has difficulty with the suction trial and error.)

We think that the expert nurse improves by acquiring skill in use of technology while reflecting on the experience of quality and the amount, and taking into consideration the assessment and the technology.

4. (It is considered that it is also important to have a challenging experience, as well as gaining sensitivity toward the patient.)

5. (Sensitivity toward ethical difficulties and personal opinions)

6. (Various teaching methods)

It has been understood that the expert nurses value sensitivity toward the patient, nursing care ethics, and is make up the effort to communicate this with other staff.

ASSOCIATION OF WORKLOAD PERCEPTION WITH ACUTE STRESS REACTIONS AND JOB STRESSORS

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OBJECTIVE

In the recent years, mental health of workers has become a vital issue. The purpose of this study is to identify the association of workload perception with acute stress reactions and job stressors .

METHODS

The subjects were 434 employees working for 9 enterprises in Hokkaido that had occupational health nurses. A self-administered questionnaire on workload perception, overtime work, and irregular working hours was mailed to the subjects in December, 2004. 347 responses were returned (response rate-80.0%). 327 valid responses (239 men; 88 women) were analyzed.

Acute stress reactions and job stressors were measured using the Japanese Version of the NIOSH General Job Stress Questionnaire. Depression, job satisfaction, and somatic complaints scales were used to measure acute reactions. Quantitative workload, cognitive demands, and intragroup conflict scales were used to measure job stressors. T-test was used to analyze differences between workload perception and the average scores for the acute stress reaction scales and job stressor scales. All analyses were performed using SPSS12. for Windows.

RESULTS

55.6% of men and 48.3% of women felt their mental workload to be heavy. However, only 10.9% of men and 4.5% of women felt their physical workload to be heavy. This difference could have resulted from the respondents' occupational categories, 53.5% being clerical workers, 24.5% - professionals and technicians, 11.3% - managers, and 10.7% belonging to other occupational categories. 39.1% of men and 27.3% of women reported excessive monthly overtime work. 29.4% of men and 11.4% of women reported numerous irregular working hours.

Mental workload perception had a significant difference with depression, somatic complaints and job satisfaction in men, and a significant difference with depression in women. These results suggest that employees, and especially men, who feel their mental workload to be heavy are likely to develop various acute stress reactions. In both men and women mental workload perception had significant differences with quantitative workload and cognitive demands. Physical workload perception had significant differences with quantitative workload and intragroup conflict in men, but no significant difference in women.

Excessive monthly overtime work. had significant differences with quantitative workload and cognitive demands in both men and women. Irregular working hours had significant differences with quantitative workload, cognitive demands, and job satisfaction in men, and with somatic complaints in women, thus indicating gender differences.

CONCLUSION

This study identified the association of mental workload perception with acute stress reactions and job stressors. As an issue that can be discussed easily and openly, workload perception provides important information on employees' mental health and should be used in developing measures for prevention and treatment of mental health problems.

AWARENESS OF NURSE STUDENTS ON “RELAXATION AND TOUCH”: CONCERNING “TOUCH ONESELF”

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Key words: relaxation, touch, awareness, touch-education program, nurse students

看護学生の「リラクゼーションとタッチ」演習での気づき - 「自己タッチ」について -

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キーワード：リラクゼーション、タッチ、気づき、タッチ教育プログラム、看護学生

要 旨

本研究で対象とした演習授業は、山崎らが開発した、リラクゼーションとタッチを用いたストレスマネジメントプログラム BMAP (Body and Mind Awareness Program) を改訂し、タッチ教育 (TEP; Touch Education Program) 試行の一環として、看護基礎教育 (短期大学 3 年課程) における 1 年次前期基礎看護学演習「生活援助論」の単元「睡眠・休息と活動」の演習「リラクゼーションとタッチ」として実施したものである。授業は、講義のあと「イメージによるゆるみ」「自己タッチ」「相互タッチ」の 3 つの実習として構成している。5 年間の演習を対象に、承諾を得た計 380 名 (94.3%) の学生の体験内容記述レポートの「自己タッチ」部分から 648 コードを抽出した。年度ごとに内容分析し、体験の意味や、授業としての安定性、意義について検討した。大カテゴリは 7 項目抽出でき、うち「リラックスに関連した気づき」「リラックスしていないことに関連した気づき」「その他の感覚変化に関連した気づき」の 3 項目が全年度に共通するカテゴリであった。「リラックスに関連した気づき」は、全年度で最もコード数が多く含まれたカテゴリであった (76.4%)。その小カテゴリには、あたたかさや気持ちよさに関するものが多くみられた。TEP における自己タッチは、あたたかさに関連する、身心両面からのリラックス感について、毎回安定した結果を得られていること、看護学生が、看護の「思いやり、いたわり」に通ずる手の働きを、自らの内に実感を伴って見出し、そのことが看護実践への動機付け補強につながっていると考えられること、という 2 点において有用であると考えた。今後「相互タッチ」の内容分析も進め、演習総体としての安定性や意義、方向性、さらに TEP としての有用性を検討する。

INTRODUCTION

In Japan, the medical treatment has progressed, but the humanistic nursing care with touching has become more difficult. Although many of medical treatment will become progress, we need to do nursing care with purposeful touch in the caring process among the client and the nurse.

In the basic nursing education, there was a current state in which the education concerning touch had not been necessarily enhanced (Vortherms, 1991; Snyder, 1994; Yamasaki, 2004). The researches of touch concerning the nursing education were slightly 9 research papers that retrieved from 1991 to 2002 in Japana Centra Revuo Medicina Web, and there were few papers of the nursing training in basic nursing (Yamasaki, 2004).

In this context, we developed and conducted the Touch-Education Program (TEP), during three years, from the first-year to the third-year, to the nurse students. We reported that the exercise called “Relaxation and Touch”(R&T) in the fundamental nursing curriculum to the first-year students seemed to glow up the motivation to nursing care for them, so some of them become positive to care the clients using touch, and some of the third-year students chose touch for the theme of their case studies(Yamasaki et al., 2001).

This study, we examined the first-year nurse students' recorded papers regarding “touch oneself” in R&T during 5 years, using content analysis.

PURPOSE

The purpose of this study was to know the usefulness and the meanings of the exercise named “touch oneself” in R&T, from the students’ records of their feelings and their thoughts concerning touch.

SUBJECTS

Among 403 nurse students enrolled in nursing college (3-year course), 380 (94.3%) students over 5 years attended this exercise and consented to participate of this research (Table 1).

Table 1 Number of participants each year

Academic year	Number of participants
199X	76
199Y	76
200X	79
200Y	72
200Z	77
total	380

METHODS

Outline of R&T

R&T exercise was developed and revised from BMAP; “the Body and Mind Awareness Program “(Yamasaki et al.; 1998). R&T, a part of a unit titled “Sleep, Rest and Activity”, was executed in the required subject, “Basic Health Care Nursing Technique”, of the fundamental nursing.

R&T consisted of four parts.

1. Lecture; Outline of stress and relaxation, and explanation of R&T
2. Relaxation called “Yurumi by imagery”
3. “Touch oneself” (Fig. 1)
4. “Touch each other”

The class time was 90 minutes. In this class, the students wrote down their own experiences and feelings on a recording paper, after the each exercise was finished.

Outline of “Touch Oneself”

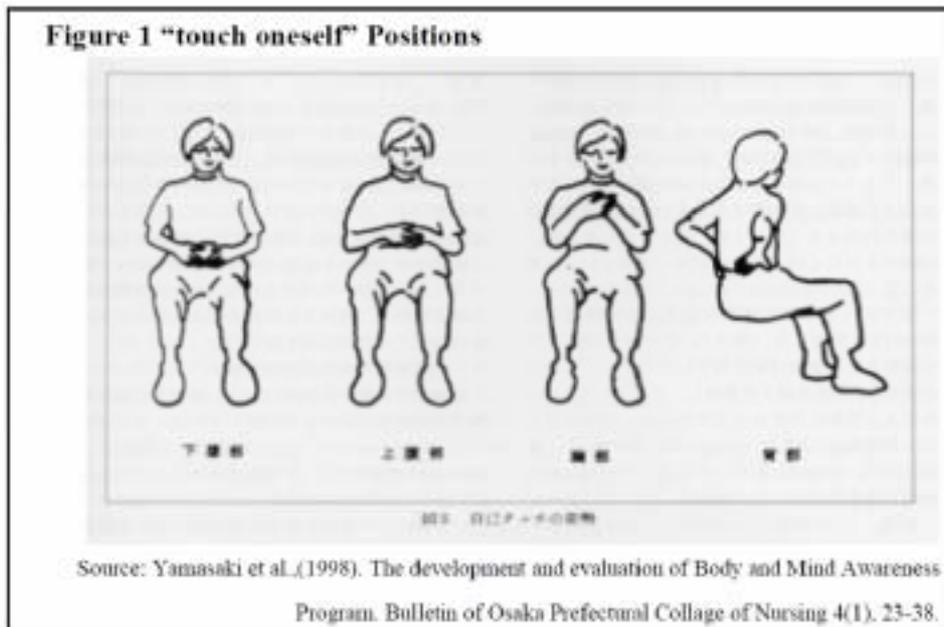
“Yurumi by imagery” is one of the inducement meditations. The instructor toke to the students who sit down on the chairs to relaxing and imaging light above themselves. “Yurumi by imagery” is one of the inducement meditations. The students sit on the chairs, and the nurse teacher, as the instructor, talks them to relax and imagine a light above them. First, the imagination lights shine on the head, and then the part is relaxed gently. The imagination lights flow from head to toes in the body and out of the body.

“Touch oneself” execute after the session of “Yurumi by imagery”, because their own body and mind become relaxed enough. The instructor talks to leads the students put their warm hands on their body part, then the warmth of their hands spreads to the inner body and all over. The practice is one of the inducement meditations, too. This method developed referring some of the Chinese Qigong style and so on. Both hands are put for about one minute in several places of the body (Fig. 1). Warmth extends naturally from the part where the hands are put internally, the whole body gets warm. It develops as a practice to obtain the relaxation feeling, and it introduces it (Y. Yamasaki et al., 1998).

Procedures of Content Analysis

After the exercise, we classified the sentences about “touch oneself”, and assigned each category a title. We analyzed the content of the participants written records. We analyzed the record of three years before, and applied the name to the categories (Yamasaki, 2001). In this study, the record of five years was newly examined while referring to the research. Moreover, one clinical psychologist advised about the classification for us. She has participated in this exercise once on a time, and is practicing relaxation to her client. The students were properly informed and gave their consent for participate in this class, which did not influence their grade, and they were free to participate at any time. In addition, after the evaluation of this subject,

students had explained the purpose of the study, the freedom of participation, and were given assurances about protection of their privacy.



RESULTS

Only one student was Non-responding for "touch oneself" in the first year as a whole. The mean character number for each person was 37.4. Total cord numbers were 648. The mean cord number for each year was 129.6. The numbers of cord for each year were 165 in the maximum year (the fifth year), and 96 in the minimum year (the first year). The mean cord number for each person was 1.77.

The numbers of subcategory for each year were 45 in the maximum year (the third year), and 29 in the minimum year (the second year).

There were seven major categories. There were three major categories; namely, "awareness of relaxation", "awareness of other changes of feelings", and "awareness of no relaxation" for every year (Fig. 2).

Major Category; "Awareness of Relaxation"

"Awareness of relaxation" had the highest number of cord numbers for each year. The average portion of "awareness of relaxation" responses was 76.4% (high = 85.4%, low = 70.0%).

Its subcategory numbers were also the greatest for all years. Many of the subcategories were strongly connected to a "warm" feeling, such as "warmth and peace of mind" or "warmth and clarity of mind". The feelings were explained not only by the body feelings of temperature but also by the good feeling or presence of mind.

Several subcategories suggested an altered-state, such as "another world" or "a state of nothingness".

Major Category; "Awareness of No Relaxation"

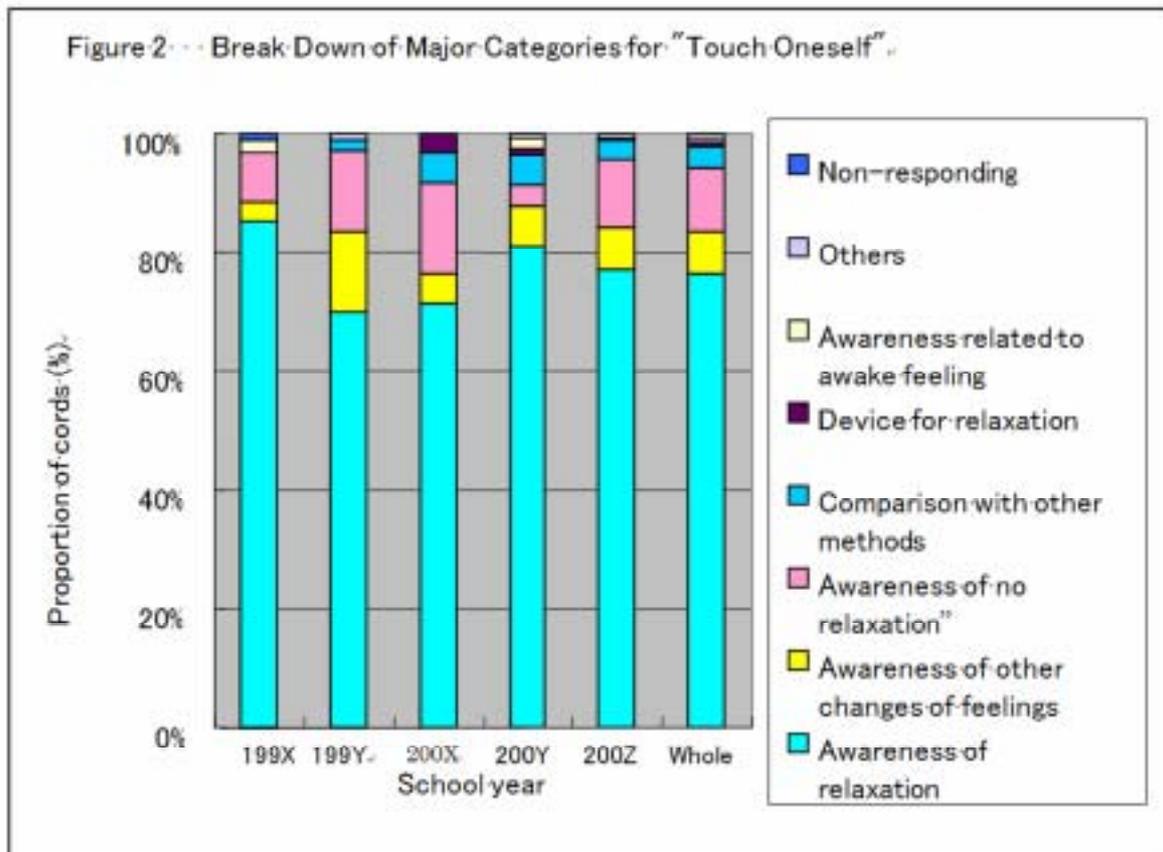
"Awareness of no relaxation" had the next highest number of cord numbers. The average portion of "awareness of no relaxation" responses was 11.0% (high = 15.5%, low = 3.4%).

Subcategories included, "feeling tired", "not understanding" and "being anxious".

Major Category; "Awareness of Other Changes in Feelings"

"Awareness of other changes in feelings" had the next highest number of cord numbers. The average portion of "awareness of other changes in feelings" responses was 7.1% (high = 13.6%, low = 3.1%).

Subcategories included items such as, "energy flows from my hands", "feeling more sensitive" and "no sensation of touch".



Other Major Categories

“Comparison with other methods” was for four years. The average portion of “comparison with other methods” responses was 3.2% (high = 5.2%, low = 0%). Most subcategories mean the comparison with “Yurumi by imagery”, and related to relaxation.

“Device for relaxation” was for two years. Some subcategories, such as "Device of the place put on the hands", mean some device that the students intentionally executed to relax more. “Awareness related to awake feeling” was for three years. Its subcategories contained “awoke” and “vigor went out”, etc. “Others” was for three years, and its subcategories were such as "Seemed to do usually" etc. The number of average codes was respectively 1% or less.

DISCUSSION

Stability as the Component of The Relaxation Exercises

In this exercise, "awareness of relaxation" was a major category with most numbers of codes in all year. It accounted about 80 percent for the number of all codes for. A lot of subcategories concerning "warmth" were included in this major category. Moreover, a lot of expressions that united the body and the mind were seen like “warmth and peace of mind” or “warmth and clarity of mind”, etc. Therefore, it is thought that "touch oneself" in TEP has the content that agrees with important essence in nursing interpersonal relationship.

Other large categories were composed of some subcategories that almost expressed the relaxation. This seemed because the students felt and expressed various ways about the relaxation feeling in this exercise.

From the above-mentioned, perhaps it can be said that “touch oneself” as one component of R&T will obtain an steady result in every time.

As for "awareness of no relaxation", there were a lot of numbers of codes in the second year. However, it was about 15% or less, and it can be called a low rate. There were various influencing conditions; the first relaxation exercise for the students, the position in the exercise, and the exercise in the group of tens of people, etc. Moreover, it is not to necessarily relax, when thinking as an education. It is thought that diverse

awareness is born from this exercise.

Reinforcing Motivation in Nursing Practice

Nurses have retained a commitment to the “hand” (Yamasaki, 2004). However, regarding what sort of work their own hands can do, not only students but many nurses also lack confidence. This is because the sensations of touching and of being touched are usually very different.

Touching oneself is not always associated with relaxation in the usual state of consciousness. When touching oneself, even if for the purpose of relieving stiff shoulders or a sore back, it can easily lead to sore hands despite the shoulders feeling somewhat better.

“Touch oneself” is a method of deepening relaxation by touching oneself. Not another’s hands, but the power of one’s own hands that is ordinarily never felt is realized. Touching oneself under relaxation first of all creates a physical and mental state in which the self is simultaneously touching and being touched, and relaxation further deepens. The subcategory “no sensation of touch” represents such a condition. In that condition, it can be said that one is first able to feel one’s own hand as a “soft and gentle feeling”.

This leads to student awareness of their own inherent work of the hands (Mead, 1956) which leads to compassion and compassionate as the deepest and broadest meaning of nursing, and potential to exercise it through varied assistance in the future. This also leads to confidence in one’s own ability in aiming to be a nurse.

Most nursing students enter school with their own motivation to practice nursing. But at the same time they have doubts about their own ability to be a nurse. It seems likely that touching oneself in the R&T exercise plays a role in reinforcing motivation in nursing practice. During 3 years of basic education, nursing students gradually incorporated touch into their own nursing practice, and in the process took it as a graduate research theme (Yamasaki, et al., 2001), which can be said to have strengthened their drive through confidence in the power of their own hands.

We believe “touch oneself” in TEP is beneficial to nursing students as it helps them to think about the meanings and the values of physical contact, and this may lead to them using the touching technique for their patients in the near future. In addition to the content being beneficial, the exercise can be conducted in a short time period and is useful even if only conducted once.

Future studies will seek to analyze the "touch each other" concept.

CONCLUSION

In analysis of “touch oneself” part of the records of 380 students who participated in R&T exercises at a fundamental nursing curriculum over 5 years, 7 major categories could be extracted, and it was considered useful from the following 2 points.

(i) Stable results are obtained each time regarding relaxed feeling in both body and mind in association with warmth.

(ii) Nursing students discover the work of the hand, which relates to kindness and compassion in nursing, by realizing it within themselves, which leads to reinforcement of their motivation in nursing practice.

ACKNOWLEDGEMENTS

We wish to acknowledge the participants, and Yuko Uehara, clinical psychologist of Osaka City University pediatrics department (at that time), who advised about the classification for us.

REFERENCES

- 1) Hirose, K., (1976) Tokusyuu Kango ni okeru "Te", Kango suru kokoro to sonote wo hagukumitutu, Kango 28(8), 4-9 (in Japanese).
- 2) Mead, M., (1956) Nursing-Primitive and civilized, American Journal of Nursing, August, 1001-1004.
- 3) Snyder, M., (1994) Independent nursing interventions and purposeful touch, Kangogakuzasshi, 58(7), 626-634
- 4) Vortherms, R. C. (1991) Clinically improving communication through touch, Journal of Gerontological Nursing, 17(5), 6-10
- 5) Yamasaki, Y., Yasumori, Y., Saeki, K., et al., (1998) Kangogakusei ni taisuru karada to kokoro no kiduki puroguramu no kaihatsu to hyouka[The development and evaluation of Body and Mind Awareness Program], Bulletin of Osaka Prefecture College of Nursing 4(1). 23-38 (in Japanese).
- 6) Yamasaki, Y., (2001) The present condition and meaning of caring touch in the fundamental nursing education, Japan Academy of Nursing Science Fourth International Research Conference Program and Abstract, 210
- 7) Yamasaki, Y., Yumiba N., Sato, T. et al., (2001) The Touch-Education Program in fundamental nursing training, Proceedings of the Fourth International Conference of Health Behavioral Science, 163-167

**A DEVELOPMENT OF SAFETY TRAINING PROGRAM FOR STAFFS ARE WORKING IN
GROUND MAINTENANCE WORKSHOP THAI AIRWAYS INTERNATIONAL PUBLIC
COMPANY LIMITED**

**Sanpong BOONROD
Phranakhon Rajabhat University**

This research has objectives to study the data effecting to the management of safety staff which working in ground maintenance workshop and analyses the results to development the Safety Training Program for staff which was working in ground maintenance workshop by the environmental education process. For the strengthen knowledge, understanding, skills, awareness, and to has a good attitude in management of safety. The results was following:

From the environmental surveys in term of temperature, intensity, and the sound level inside the 3 ground maintenance workshop and the data survey by the 140 peoples of the sampling groups staff using the questionnaires found the sampling groups has knowledge, understanding, and skills of safety in the middle levels. There has the awareness, the attitude in management of safety in a middle level.

The results from Safety Training Program for staff in management of safety by using the environmental education process which the sampling groups staff has 32 peoples found the passing safety training program staff has knowledge, understanding, skills of safety, awareness and the attitude in management of safety which has a high average than before training program.

THE USE OF ENVIRONMENTAL EDUCATION IN THE PREVENTION OF HUMAN CONTAMINATION

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The purpose of this research was to find out how much lead deposition on leaves around the heavy traffic area at Pitak ratthamnoon Monument. In Bangkok, after the promotion of unlead oil for vehicles in 1991, Lead was analyzed by using atomic absorption spectrophotometer (AA) to measure the concentration. The amount of lead on leaves was associated with the level of sampling height.

In this research, the leaves were samples at different height level i.e., <1.0 m and 1 to 2 m. The analytical results showed the minimum amount of lead on leaves were 0.332 ppm / 100 cm² at <1.0 m. and the maximum average value were 0.658 ppm/100 cm² at 1 to 2 m.

The result of the training indicated that the students, who have been trained through the developed environmental education practice, gain their awareness, knowledge, skills and attitudes towards the prevention of human contamination from hazardous heavy metals problem at statistical significance of 0.05 level.

A STUDY ON GROWTH OF ORNAMENTAL PLANTS USING COMPOST

Anuchar SATHIDPONG
Phranakhon Rajabhat University

The purpose of this research was to compare the growth of ornamental plants by using chemical fertilizer and mixed fertilizer (compost and chemical fertilizer) through compost mixed formula 1, 2 and 3. The experiment was set according to the Completely Randomized Design (CRD). The average or difference of treatment variable was compared by using Duncan's New Multiple Range Test (DMRT). The handbook and the related training on compost use was produced and given to twenty - five gardeners and employees of DhuraKijpundit University by means of environmental educational process.

The results of this study revealed that having planted Marigold and Davalliaceae for seventy - five and eighty days, compost mixed formula 1 helped Marigold to germinate average branches and flowers of 7.9 and 7.5 respectively. Compost mixed formula 2 helped Morigold to germinate average branches and flowers of 6.8 and 6.8, whereas compost mixed formula 3 helped Morigold to germinate average branches and flowers of 6.5 and 6.5 respectively, However, the difference numbers of those experiment plants showed no statistical significant difference at 0.05 level. Regarding to the chemical fertilizer, the side fertilizer. helped Morigold to germinate average branches and flowers of 8.0 and 7.5 respectively. It, therefore, was concluded that the compost mixed formula 1, 2, 3 and chemical fertilized produced a number of branches and flowers distinctively. However, having compared statically , it was revealed that there was no statistical significant difference at 0.05 level for the growth of Morigold that used the compost mixed formula 1 with chemical fertilizer and used only chemical fertilizer . the Finally, it should be pointed not herein that average numbers of the branches and flowers produced through the set experiments met the standards of the Department of the Agricultural extension.

From the result of planting Davalliaceae for eighty days, it was found that the compost mixed formula 1, 2, 3 and chemical fertilized affected the increment in terms of the numbers of branches, 32, 40 and 35 respectively. The compost mixed formula 3 produced 40 branches of the plant, but produced 35 branches if the chemical fertilized was used. However having compared statistically, it was found that there was no statistical significant difference at 0.05 level for Davalliaceae using the compost mixed formula 3 with chemical fertilizer and using only the chemical fertilizer.

Regarding to the evaluation result of the trained gardeners and employees using the developed training handbook made through pre-test and post-test, it was founded that the gardeners and employees, at passed the training course on the use of compost according to environmental educational process, developed their know ledge, understanding, skills and attitude as well as awareness of the use of chemical fertilizer and compost with a statistical significance of 0.05 level.

Appendixes

PROGRAMME

	Dates	Contents of Conference	
Day 0	Wednesday, 16 August	Dong Muang International Airport (Bangkok)	
Day 1	Thursday, 17 August	Excursion: Visit to Vihāra & Ayuthaya	
		07:00-07:30 Participant Registration at Phranakhon Grand View Hotel, Phranakhon Rajabhat University	
		07:30-10:30 Departure to Lopburi from Bangkok at 7:30 am	
		10:30-12:30 Visit to Vihāra (Wat Pha Baht Nampoo)	
		12:30-13:30 Lunch	
		13:30-15:30 Sightseeing in Ayutthaya	
		15:30-18:00 Leave for Bangkok – course over by 18:00 pm	
Day 2	Friday, 18 August	08:15-09:30 Participant Registration at Phranakhon Grand View Hotel	
		08:30 Set up displays of poster presentation	
		09:30-10:00 Opening Ceremony	
			Opening Address
			▪ Dr. Preang KITRATPORN, President, Phranakhon Rajabhat University, THAILAND
			▪ Prof. Dr. Tsunetsugu MUNAKATA, President, the 5 th International Conference of Health Behavioral Science, JAPAN / Executive, International Sociological Association
		10:00-11:00 Keynote Speech I	
			Dr. Kazuhiko ATSUMI, President, Japanese Society for Integrative Medicine / Professor Emeritus, Tokyo University, JAPAN
			“New Paradigm, Integrative Medicine: Towards Future Health Care System”
		11:00-12:00 Keynote Speech II	
			Dr. Nancy TURNER, University of Victoria, CANADA
	“Keeping Healthy: Traditional Medicine, Health and Well-being for Canadian First Nations”		
	12:00-13:30 Lunch		
	13:30-15:30 Oral and Poster Presentations		
	• A-1: Health Behavioral Science Session –Oral Presentation		
	• A-2: Health Behavioral Science Session –Oral Presentation		
	• B-1: Environmental Education Session – Oral Presentation		
	• B-2: Environmental Education Session – Oral Presentation		
	• Poster Presentations		
	15:30-16:30 Tea Break		
	16:30-17:30 Oral Presentations - continued		
	18:00-20:00 Welcome Party (Thai Traditional House)		
Day 3	Saturday, 19 August	09:00-10:00 Participant Registration at Phranakhon Grand View Hotel	
		10:00-11:00 Keynote Speech III	
			Prof. Dr. Tsunetsugu MUNAKATA, University of Tsukuba, JAPAN
		“Dependence and Autonomy in Integrative Health: Schema for Lifestyle Change”	
	11:00-12:00 Keynote Speech IV		
		Prof. Fumiaki TANIGUCHI, Konan University, JAPAN	
		“Perspective of Ethical Education Focusing on Integrative Medicine and	

	Comprehensive Environmental Education”
12:00-13:30	Lunch
13:30-16:00	Symposium Education on Health and Environment: Regarding Integrative Medicine and Comprehensive Environmental Education
	Coordinator: <ul style="list-style-type: none">• Prof. Kazuhiko FUJISAKI, Gifu University, JAPAN• Prof. Laddawan KANHASUWAN, Environmental Education Center specialists, Phranakhon Rahabhat University, THAILAND
	Panelists: <ul style="list-style-type: none">• Prof. Kazuhiko ATSUMI, Director, Japanese Association of Alternative, Complementary, Traditional Medicine, JAPAN “International Promotion on Integrative Medicine and Comprehensive Studies of CAM”• Dr. Shokichi TANI, Director, Komatsu Hospital, JAPAN “Medicine of Environment and Bioethics”• Prof. Naoyasu MOTOMURA, Osaka University of Education, JAPAN “School Crisis Intervention in Japan”• Dr. Nancy TURNER, University of Victoria, CANADA “Reconnecting Youth to Traditional Knowledge for Health and Well-being: Examples from British Columbia”• Prof. Siriwat SOONDAROTOK, Director, Environmental Education Center, Phranakhon Rajabhat University, THAILAND “Comprehensive Environmental Education Focusing on Sustainable Agriculture and Traditional Culture”• Prof. Manoj L. SHRESTHA, Konan University, NEPAL “Traditional Knowledge and Intellectual Property Rights: Problems, Prospects and Issues”
16:00-16:30	Tea Break
16:30-18:30	Satellite Symposium I Forum A-1: Practical Study on Behavioral Modification
	Coordinator: <ul style="list-style-type: none">• Prof. Dr. Tsunetsugu MUNAKATA, University of Tsukuba, JAPAN• Prof. Ben YANAI, Kansai University of Welfare Sciences, JAPAN
	Panelists: <ul style="list-style-type: none">• Prof. Michiyo OKA, Gunma University, JAPAN “Behavioral Modification in Chronic Illness Patients”• Dr. Sayuri HASHIMOTO, University of Tsukuba, JAPAN “Internet Based Remote Counseling to Support Physical Exercise Behavior in Elderly People”• Prof. Mitsuki NIREGI, Rissho University, JAPAN “The Modification of Health-Related Quality of Life in Hospitals by Using Narrative Analysis”• Prof. Yuko TAKAHASHI, Nara Women’s University, JAPAN “Participation in Marathon of Tobacco Abstinence”

Forum B-1: Common Materials for Environmental Education in the Asia-Pacific Region: Establishing International Guidelines for Environmental Education (II)

Coordinator:

- Prof. Azizan BAHARUDDIN, University of Malaya, MALAYSIA
- Prof. Fumiaki TANIGUCHI, University of Konan, JAPAN

Panelists:

- Prof. Jariya BOONJAWAT, Chulalongkorn University, THAILAND
"Common Materials for Environmental Education in the Asia-Pacific Region"
- Prof. Siriwat SOONDAROTOK, Director of Environmental Education Center, Phranakhon Rajabhat University, THAILAND
"Environmental Education Programmes in Thailand"
- Prof. Manoj L. SHRESTHA, Konan University, NEPAL
"Common Materials for Environmental Education and Guidelines: Public Awareness, Management and Biodiversity"
- Prof. Nancy J. TURNER, University of Victoria, CANADA
"Environmental Education Materials: Some examples from British Columbia, Canada"

Day 4	Sunday,	9:00-10:00	Participant Registration at Pharanakhon Grand View Hotel
	20 August	10:00-12:00	Satellite Symposium II

Forum A-2: Health Promotion and Developing Participation of the General Public

Coordinator:

- Prof. Tadaharu NAKAO, Yamanashi Gakuin University, JAPAN

Panelists:

- Prof. Kazuhiko FUJISAKI, Gifu University, JAPAN
"Planning Health Promotion Programs with Resident Participation"
- Dr. Eiko KOBORI, Kyoto University, JAPAN
"HIV Risk Behaviors among Ethnic Minorities in Northern Thailand"
- Mr. Kreangkrai CHAIMAUNGDEE, The Life Skills Development Foundation, THAILAND
"Child-Friendly School and Community-Based Approach to Solving the Problems of HIV/AIDS Affected Children"

Forum B-2: How to Introduce Environmental Education in National Government Parks: Demonstration of Environmental Education Using On-line TV-net Meeting System between Japan and Thailand

Coordinator:

- Prof. Fumiaki TANIGUCHI, Konan University, JAPAN
- Prof. Laddawan KANHASUWAN, Environmental Education Center specialists, Phranakhon Rajabhat University, THAILAND

Panelists:

- Dr. Siriwat SOONDAROTOK, Phranakhon Rajabhat University, THAILAND
- Dr. Chinatat NAGASHINHA, Phranakhon Rajabhat University, THAILAND
"Conservation of National Parks in Thailand"
- Mr. Shuji SUZUKI, Director, Aina National Government Park in Kobe,

	Ministry of Land, Infrastructure & Transport, JAPAN "Conservation and Utilization of <i>Satoyama</i> in the City Park"
12:30	Displays of posters taken down
12:00-13:30	Lunch
13:30-15:00	Workshops <ul style="list-style-type: none"> ▪ Workshop A: (Health Behavioral Science) Folk Medicine and Massage in Thailand ▪ Workshop B: (Environmental Education) Activities of Environmental Education for Development of Nature Trail: How to Improve Handbooks for Teachers and Students
15:00-15:30	Tea Break
15:30-17:00	Workshops
17:30-19:30	Closing Remarks & Farewell Party (Thai Traditional House)

Oral Presentations

A-1: Health Behavioral Science Session

Chair Tsumetsugu MUNAKATA **Co-chair** Pornsuk HUNNIRUN

13:30-14:00	A1-1: Eating Behavior, Psychological Characteristics and Weight Gain in Obese Women <i>Maki OBATA</i> ¹ <i>Kumiko YAMAZAKI</i> ² <i>Tohko TAKAYASU</i> ¹ <i>Setsuko YAMAGUCHI</i> ³ <i>Crystal LIN</i> ¹ ¹ Graduate School of Human Sciences, Waseda University ² Faculty of Human Sciences, Waseda University ³ Institute of Physical Fitness Sports Medicine and Rehabilitation, Aichi Medical University
14:00-14:30	A1-2: The Relationship within a Family, Spouses, and Siblings in Type A Behavior Pattern: in Specific to Japanese University Students <i>Crystal LIN</i> ¹ <i>Kumiko YAMAZAKI</i> ² <i>Makiko HASHIMOTO</i> ¹ ¹ Graduate School of Human Sciences, Waseda University ² Faculty of Human Sciences, Waseda University

Chair Tadaharu NAKAO **Co-chair** Kreangkrai CHAIMAUNGDEE

14:30-15:00	A1-3: Education and Health in Thailand <i>Pornsuk HUNNIRUN</i> <i>Srinakharinwirot University</i>
15:00-15:30	A1-4: Self-Help Groups' Websites in Japan <i>Nobuko AKIMOTO</i> <i>Japan Advanced Institute of Science and Technology</i>
15:30-16:30	Tea Break

Chair Shokichi TANI **Co-chair** Takayuki YOSHIOKA

16:30-17:00	A1-5: A Structural Equation Model Analysis of Psychosomatic Sufferings in Adult Asthma Patients <i>Kaoru FUJISAKI</i> ¹ <i>Kazuhiko FUJISAKI</i> ² ¹ Osaka University, Graduate School of Medicine ² Gifu University, School of Medicine
17:00-17:30	A1-6: An Investigation on the Applicability of Game Theory: an Analysis of the Decision Making Process between Patients and Nurses in a Hospice Setting <i>Miyuki MATSUBARA</i> <i>Kure University, Faculty of Nursing,</i>

A-2: Health Behavioral Science Session

Chair Kazuhiko FUJISAKI **Co-chair** Ben YANAI

13:30-14:00	A2-1: Case reports of Chiropractic: What is Chiropractic? <i>Katsuko MIZUSAWA</i>
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Konan University, Education and Research Center for Sport and Health Science

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- 14:00-14:30 **A2-2: Development and Effects of the Health Promotion Program Applying Gaming Simulation Technique**
Etsuyo NISHIGAKI
Wakayama Medical University, School of Medicine/ Kobe University, Graduate School of Cultural Studies and Human Science

Chair Akira NAKAGAWA Co-chair Yoshizo NAKAZA

- 14:30-15:00 **A2-3: Analysis of Exchange between a Student and her Teacher**
Ayumi FUJINO
Aichi Prefectural College of Nursing & Health

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- 15:00-15:30 **A2-4: The Relationships between Japanese Workers' Social Skill, Perceived Emotional Support, Self-Image and Mental Health**
Noriko HIGUCHI¹ Sayuri HASHIMOTO¹ Hirohiko HIGUCHI² Tsumetsugu MUNAKATA¹
¹ *Graduate School of Comprehensive Human Sciences, University of Tsukuba*
² *Higuchi Eye Clinic*

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- 15:30-16:30 **Tea Break**

Chair Mitsuki NIREGI Co-chair Yuko TAKAHASHI

- 16:30-17:00 **A2-5: Quitting Smoking with the Aid of Nicotine Patches(2nd Report): Intermittent Use over a One Year Period**
Mamiko KUROTANI¹ Miyo NAKADE²
¹ *Aichi Gakusen University* ² *Aichi Gakusen College*

B-1: Environmental Education Session

Chair Chinatat NAGASHINHA Co-chair Nancy J. TURNER

- 13:30-14:00 **B1-1: A Fundamental Study on Sustainability regarding Human Well-being and Environmental Health**
Riwa WATANABE
Osaka Institute of Technology

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- 14:00-14:30 **B1-2: Environment Education for Expressway Toll Collectors to Create the Realization on Suspended Particulate Impact**
Artom THONGPRASONG
Phranakhon Rajabhat University

Chair Nancy J. TURNER Co-chair Songpol SUKKIJBUMROONG

- 14:30-15:00 **B1-3: A Study of the Cross-curricular Environmental Education Based on Comparative Culture between New Zealand and Japan**
Eri WATANABE
Gifu Prefectural Nakatsu Commercial High School

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- 15:00-15:30 **B1-4: Prevention Measures of Dioxins: Dioxins Pollution and Counter Measures**
Sakingo IMAI
Hiroshima Shudo University, Faculty of Human Environmental Studies

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- 15:30-16:30 **Tea Break**

Chair Manoj L. SHRESTHA Co-chair Chaweewn HAEMNAK

- 16:30-17:00 **B1-5: A Study of Environmental Education Program on No-Tillage Rice Farming**
Masao AMANO
Konan Hospital College of Nursing

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- 17:00-17:30 **B1-6: Environmental Learning Practice Based on a Kaleidoscope Model and Activities in Thailand**
Kiyoshi NAKAGOMI¹ Takuo NAKAGOME²

B-2: Environmental Education Session

Chair Manoj L. SHRESTHA **Co-chair** Sakingo IMAI

13:30-14:00 **B2-1: Management of Infectious Waste in Kasemrad Rattanatibeth General Hospital through Environmental Education Process**

Natthakarn PALAKAWONG
Phranakhon Rajabhat University

14:00-14:30 **B2-2: Environmental Education at Japanese Companies**

Yoshitake ISHIGAMI
Osaka University of Commerce

Chair Laddawan KANHASUWAN **Co-chair:** Chinatat NAGASHINHA

14:30-15:00 **B2-3: Environmental Protection from the Perspective of Convention on Biological Diversity (CBD): with Reference to Access to Benefit Sharing (ABS) of Biological Resources**

Manoj L. SHRESTHA
Konan University

15:00-15:30 **B2-4: Morality Deteriorating Environment**

Paisal SURIYAWONGPAISAL
Advisor, PTT Public Co. limited

15:30-16:30 **Tea Break**

Chair Siriwat SOONDAROTOK **Co-chair** Fumiaki TANIGUCHI

16:30-17:00 **B2-5: Toward Realization of Sound Material-Cycle Campus at Konan University**

Shin SHIMIZU Erina USUI Mamiko KAMAE Mami MAEGAWA
Konan University, Department of Human Sciences, Faculty of Letters

17:00-17:30 **B2-6: Community Practice : Knowledge Management in a Community Environment Model of Waste Reduction and Separation**

Jittree POTHIMAMAKA
Phranakhon Rajabhat University

Poster Presentations

The Characteristics of the Spousal Obligation to Care for One Another

Yuko HARASAWA¹ Katsuhide KAWAMOTO² Eri IIJIMA³ Masasige SAITO⁴ Yuko KURAMOCHI
Masami HASEBE⁵

P-1 ¹Aichi Prefectural College of Nursing & Health ²Saitama University³ National Women's Education Center ⁴Doctoral Program in Sociology, Sophia University ⁵Graduate School of Education (Master's Program), Saitama University

Community-Based Health Care for Menopausal Women: A Comparison of Needs in Rural Community and in Urban Community

Akiko SHIMA¹ Sumiko TAKANAMI¹ Mariko KAWAHARADA¹

¹Department of Health Science, School of Medicine, Hokkaido University

The Relationship between the Narcissistic Personality Tendency and Perfectionism in Japanese University Students

Kumiko YAMAZAKI¹ Crystal LIN²

¹Faculty of Human Sciences, Waseda University ²Graduate School of Human Sciences, Waseda University

A Study of the Factors Affecting the End-of-Life Care by Care Workers in Nursing Home

Eiko CHIKAMORI¹ Kyoko ISHII¹ Maki YOKO² Kazuko NOMURA³

¹Osaka City University School of Nursing ²Nihon Fukushi University ³Junior College of Osaka

University of Health and Sports

P-5	The Characteristics of the Process to Acquire the Skill of Endotracheal Suctioning in Expert Nurses: Narrative of Clinical Engineers of Respiratory Therapy <i>Yumi YASUMORI¹ Akiko NAKAOKA² Yuko MAEDA²</i> <i>¹Hirosaki University ² Osaka City University</i>
P-6	Association of Workload Perception with Acute Stress Reactions and Job Stressors <i>Mariko KAWAHARADA¹ Akiko SHIMA¹ Izumi UEDA¹</i> <i>¹Hokkaido University</i>
P-7	Awareness of Nurse Students on “Relaxation and Touch”: Concerning “Touch Oneself” <i>Yuniko YAMASAKI¹ Tsuyako SATO²</i> <i>¹ Sonoda Women’s University ² Yamanashi University</i>
P-8	A Development of Safety Training Program for Staffs are Working in Ground Maintenance Workshop Thai Airways International Public Company Limited <i>Sanpong BOONROD</i> <i>Phranakhon Rajabhat University</i>
P-9	The Use of Environmental Education in the Prevention of Human Contamination <i>Adisak TEERAKAEW</i> <i>Phranakhon Rajabhat University</i>
P-10	A Study on Growth of Ornamental Plants Using Compost <i>Anuchar SATHIDPONG</i> <i>Phranakhon Rajabhat University</i>

TIMETABLE

	Friday, 18 August	Saturday, 19 August	Sunday, 20 August
08:00	Participant Registration		
08:30	8:30 Set up displays of poster presentations		
09:00	Participant Registration		Participant Registration
09:30	9:30-10:00: Opening Ceremony		
10:00	10:00-12:00: Keynote Speeches I/II	10:00-12:00: Keynote Speeches III/IV	10:00-12:00: Satellite Symposium A-2
10:30			10:00-12:00: Satellite Symposium B-2
11:00			
11:30			
12:00	Lunch	Lunch	Lunch
12:30			13:30 Displays of posters taken down
13:00			
13:30	13:30-15:30: Oral Presentation - A-1	13:30-15:30: Oral Presentation - B-1	13:30-15:00: Workshop A
14:00	13:30-15:30: Oral Presentation - A-2	13:30-15:30: Oral Presentation - B-2	13:30-15:00: Workshop B
14:30		13:30-16:00: Symposium Education on Health and Environment	Tea Break
15:00			
15:30	Tea Break	Tea Break	15:30-17:00: Workshop A
16:00			15:30-17:00: Workshop B
16:30	16:30-17:30: Oral Presentation	16:30-17:30: Oral Presentation	
17:00		16:30-18:30: Satellite Symposium A-1	
17:30		16:30-18:30: Satellite Symposium B-1	
18:00			17:30-19:30: Closing Remarks & Farewell Party @Thai Traditional House
18:30	18:00-20:00: Welcome Party @Thai Traditional House		
19:00			
19:30			

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