

海外短期研修概要

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【出張期間】 2005年5月20日～27日

【学会名】 ICN 23rd Quadrennial Congress, 2005 Taipei, Taiwan

【発表者名】 M. Oshima, K. Abe, F. Arai, Y.S. Leibowitz

【発表論文名】 Guardians' preferences for medical care at schools for physically handicapped children in Japan

【趣 旨】 Objective: This study examines guardians' preferences for their children who require medical attention at schools for the physically handicapped.

Methods: Questionnaires sent to 155 physically handicapped children's guardians who lived in a prefecture of the Kyushu district in Japan. Self-made questionnaires were mailed during period from February, 2004 to March, 2004. This study was analyzed by descriptive statistics. Results: 62(40%) guardians answered out of 155. Handicapped children's guardians expressed preferences for their children's primary care giver at school in the following order; Registered Nurse (RN) 22 (35.5%), Homeroom Teacher 15 (24.2%), School Nurse 14 (22.6%), Physician 8 (12.9%). The guardians prefer to have the children cared for by RNs. Conclusion: Current Japanese physically handicapped children's schools do not have enough RNs to meet their children's medical needs. Guardians expressed a high preference for RNs to provide medical care needs at schools for physically handicapped children. The reason why they chose RNs as the primary caregivers was that RNs have special training and skills to take care of children's medical needs, such as suction and medication administration.

【出張期間】 平成17年10月29日～11月2日

【学会名】 4th World Confederation for Physical Therapy Association - Asia Western Pacific Region Congress and the 9th Asian Confederation for Physical Therapy Congress

【発表者名】 Hiroaki Morita, Hideki Sato and Yasushi Hukuwatari

【発表論文名】 BIDIRECTIONAL CAUSAL RELATIONSHIP BETWEEN DEPRESSION AND EXERCISE IN RETIRED MEN — ANALYSIS BY STRUCTURAL EQUATION MODEL

【趣 旨】 Purpose: The present study was performed to clarify the strength of

the influence of the causal relationship between depression and exercise in both directions in retired men. Methods: Investigations of depression and exercise were conducted in 655 men over 55 years old (mean,  $61.8 \pm 2.5$ ) who had retired from companies or organizations in 7 areas of Japan. Structural Equation Model was used for analysis. Results: A bidirectional causal relationship was confirmed between depression and exercise in the old age group (65 years old or older). The causal coefficients from depression to exercise and from exercise to depression were 0.78 and 0.49, respectively. On the other hand, in the middle-aged group (less than 65 years old), although depression was shown to affect exercise (causal coefficient=0.30), there was no causal relationship in the opposite direction. Moreover, the influence of depression on exercise was stronger in the old age group than in the middle-aged group. Conclusions: In retired men, the alleviation of depression preceding the involvement in exercise may lead to the formation of exercise habits, such as walking and gym work-outs, and it was suggested that the degree of influence in the old age group is greater than that in the middle-aged group. On the other hand, although continuing exercise habits may be connected with mitigating depression in the old age group, there is no evidence that continuing exercise can improve depression in the middle-aged group.

【出張期間】平成17年10月29日～11月2日

【学会名】4th World Confederation for Physical Therapy Association - Asia Western Pacific Region Congress and the 9th Asian Confederation for Physical Therapy Congress

【発表者名】Hiroaki Morita, Tomoaki Shimada, Masahio Shionaka, Tohru Furui and Takayoshi Miyagawa

【発表論文名】ANALYSES OF BIDIRECTIONAL CAUSAL RELATION BETWEEN ADL AND PSYCHOLOGICAL FACTORS IN THE HOMEBOUND POSTSTROKE HEMIPLEGIC ELDERLY — ANALYSES BY STRUCTURAL EQUATION MODEL

【趣旨】Purpose: The present study was performed to analyze the bidirectional causal relationship between ADL and volition in the homebound poststroke hemiplegic elderly. Methods: Subjects were 167 poststroke survivors living at home who were 65 years old or older. Physical therapists visited the subjects' homes and measured ADL using the Functional Independence Measure (FIM). The subjects' mental states

were measured with the Shimane Medical University version Apathy Scale, consisting of a translation of Starkstein's Apathy Scale into Japanese, and Kim's scale of self-efficacy on health behavior. Structural Equation Modeling (SEM) was used for analysis. [Volition] and [ADL] were set as latent variables. The indicators of [Volition] were set to the observed variables, "Apathy Scale score," and "Self-efficacy scale score." The indicators of [ADL] were set to the observed variable, "FIM score." Moreover, the course of the bidirectional causal relationship was set up between [Volition] and [ADL]. Results: The rate of effective replies was 97.6% (163 subjects; 106 men, 57 women; mean age, 74.2 years). The causal coefficients from [Volition] to [ADL] and from [ADL] to [Volition] were - 0.46 and - 0.37, respectively, in standardized estimates as a result of SEM. Conclusions: In homebound poststroke hemiplegic elderly people, increasing the degree of ADL, improves factors associated with volition, such as self-efficacy and apathy. On the other hand, A possibility that improving the factors associated with volition in precedence will lead to the improvement of ADL is suggested.

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【発表者名】Hiroaki Morita, Hideki Sato and Yasushi Hukuwatari

【発表論文名】BIDIRECRIONAL CAUSAL RELATIONSHIP BETWEEN DEPRESSION AND EXERCISE IN RETIRED MEN-ANALYSIS BY STRUCTURAL EQUATION MODEL

【趣旨】 Purpose: The present study was performed to clarify the strength of the influence of the causal relationship between depression and exercise in both directions in retired men. Methods: Inverstigations of depression and exercise were conducted in 655 men over 55 years old (mean,  $61.8 \pm 2.5$ ) who had retired from companies or organizatioins in 7 areas of Japan. Structural Equation Model was used for analysis. Results: A bidirectional causal relationship was confirmed between depression and exercise in the old age group (65 years old or older). The causal coefficients from depression to exercise and from exercise to depression were 0.78 and 0.49, respectively. On the other hand, in the middle-aged group (less than 65 years old), although depression was shown to affect exercise (causal coefficient=0.30), there was no causal relationship in the

opposite direction. Moreover, the influence of depression on exercise was stronger in the old age group than in the middle-aged group. Conclusions: In retired men, the alleviation of depression preceding the involvement in exercise may lead to the formation of exercise habits, such as walking and gym work-outs, and it was suggested that the degree of influence in the old age group is greater than that in the middle-aged group. On the other hand, although continuing exercise habits may be connected with mitigating depression in the old age group, there is no evidence that continuing exercise can improve depression in the middle-aged group.

【出張期間】 2005年10月30日から11月1日

【学会名】 The 4th World Confederation for Physical Therapy-Asia Western Pacific Region & The 9th Asia Confederation for Physical Therapy Congress 2005,Korea,Seoul

【発表者名】 Hiroyasu Iwatsuki, San-Gun Lee and Yong-Kwan Kim

【発表論文名】 The relationship between supervisors' leadership behavior and determinants of organizational culture among physiotherapists-cross cultural study in Japan and Korea-

【趣 旨】 PRIMARY OBJECTIVE: An agreement has been entered into by and between Inje University and our department faculty in September, 2002 for the purpose of joint scientific research, exchange of teachers and students, and so forth. It is necessary to learn the actual situation of the state of society, economy, measures of medical and health welfare, etc. in Korea in order to increase the understanding of physiotherapists in Korea, and, further, it is necessary to learn the actual situation of the workplace of physiotherapists. METHODS AND PROCEDURES: A total 284 physiotherapists in Japan and a total 411 physiotherapists in Korea responded to the mail questionnaire designed to evaluate the actual state of their working groups. They were asked to respond to two instruments: a supervisors' leadership behavior scale (26 items) and an organizational culture scale (23 items). MAIN OUTCOME MEASURES: Factor analysis was carried out for two scales, and one-way layout analysis of variance by abstracted factor between items of basic attributes. RESULTS: 1) The supervisors' behavior was categorized into two types of leadership functions, namely, "P-behavior"(group maintenance oriented behavior), and "M-behavior "(task-oriented behavior), based on the PM leadership theory. 2) An

organization's culture in Japanese physiotherapists can be characterized by cooperation (factor 1), respect for people (factor 2), innovation (factor 3), and autonomy (factor 4). Those factors in Korean physiotherapists were characterized same as factor 1 and 2, but factor 3 was named stability. 3) Correlation coefficients between M-behavior and cooperation and respect for people in two country's physiotherapists were higher than those between P-behavior and other factors. CONCLUSION: These results suggest that organizational culture in two country's physiotherapists is the passive-defensive type, a major leadership role for supervisors is to assist subordinates in understanding the organization's culture.

【出張期間】 2005年10月30日から11月1日

【学会名】 The 4th World Confederation for Physical Therapy-Asia Western Pacific Region & The 9th Asia Confederation for Physical Therapy Congress 2005,Korea,Seoul

【発表者名】 Hiroyasu Iwatsuki, Ryutaro Maeno and Chikako Fujita

【発表論文名】 Home exercise for a stroke patient at home using a videophone

【趣旨】 PRIMARY OBJECTIVE: We developed the tele-rehabilitation system using a videophone over the last few years. In this study, we evaluated the effects of the tele-rehabilitation system for exercising affected arm and the upper part of the body in a stroke patient. RESEARCH DESIGN: Intervention study. METHODS AND PROCEDURES: A 67-year-old man with hemiplegia after stroke. Two videophones were utilized, one in the patient's house and the other in our university, connected through the ISDN. We asked the patient to exercise "Minnano no taisou" which was telecasted to NHK (Japan Broadcasting Corporation) once a day for three months. Twice a week, the patient could understand not only their movement but also realize his satisfaction and concern about continuing the exercise that he had to accomplish. The feedback can be derived from the patient's action, its outcome, and feedback from the supervision of the physiotherapist after the exercise. MAIN OUTCOME MEASURES: The motor performance in affected arm and the upper part of the body were evaluated using the checklists which we created and motion analysis using a digital camera. RESULTS: The therapy significantly improved the velocity of the movements in affected arm and the upper part of the body the exercise,

and the concern with but not the range of motion in affected arm. Furthermore, the patient was satisfied with getting a quality data of his motion, and learning a valuable guidance from an expert physiotherapist. CONCLUSIONS: These results suggested that this tele-rehabilitation system did not appear to adversely affect rehabilitation, and it seems that it was equal to the traditional therapy.

【出張期間】 2005年10月30日～11月2日

【学会名】 The 4th World Confederation for Physical Therapy - Asia Western Pacific Region and the 9th Asian Confederation for Physical Therapy Congress 2005, 韓国、ソウル市

【発表者名】 Takao Suzuki, Sangun Lee

【発表論文名】 Experimental Study on Effects of Percutaneous Electrical Stimulation on Disuse Muscle Atrophy in Rats.

【趣 旨】 Introduction: The effects of percutaneous electrical stimulation (ES) on rat disuse leg muscles (soleus and planteris muscles) after hindlimb suspension (HS) were studied histologically, histochemically, and morphometrically. Methods: Male Wistar rats at 8 weeks of age were assigned to four groups: control (CON), HS for 2 weeks (HS), HS plus 5 days a week ES (HS+5ES), and HS plus daily ES (HS+7ES). Serial paraffin or frozen sections of the muscles were cut with a microtome or cryostat at  $-20^{\circ}\text{C}$  and stained with a routine histological and histochemical methods. Approximately 200 - 300 muscle fibers from each muscle were stained with hematoxylin-eosin and their cross-sectional fiber areas were measured by a semiautomatic image analyzer, and were classified into either type I or II fibers with ATPase staining. Results and Discussion: The means of areas in each group were reduced to 57.5 (HS+7ES), 51.4 (HS+5ES), and 35.0% (HS) of that of CON in soleus muscle, and to 85.3 (HS+7ES), 84.9 (HS+5ES), and 80.2% (HS) of CON in plantaris, respectively (significant differences between each of the groups:  $p<0.0001$ ). These data show, 1) muscle atrophy by HS was more markedly observed in the soleus (type I, red muscle) than in the plantaris (type II, white muscle), 2) ES, as well as the direct electric stimulation against the muscle, can markedly attenuate the detrimental effects of HS on both muscles, and 3) the effects of ES are significantly greater in HS+7ES than those in HS+5ES. And also, ES prevented the transformation of muscle fiber type form I to II in soleus muscle.

【出張期間】平成17年10月30日～平成17年11月2日

【学会名】第4回世界理学療法連盟アジア・ウエスタンパシフィック地区学会・総会、第9回アジア理学療法連盟学会（ソウル、大韓民国）

【発表者名】Masashi MIURA, Takako SUGAWARA, Kozue MATSUDA

【発表論文名】SHORT-TERM EFFECTS OF THE ORTHOSIS TREATMENT FOR SHIN SPLINTS.

【趣 旨】 Summary of Background Data: Shin splint is chronic sport injury which appears to many athletes. When it becomes shin splints, it is not rare for the medical treatment to take several months and one year or more. Medical treatments for shin splints are therapeutic exercise, physical therapy, and insole.

**Purpose:** In this study, I devised a treatment method by orthosis by the different idea till now and inspected it about short-term effects.

**Methods:** The subjects were seven athletes (four boys and three girls) of high school students. The competition was sprinter, baseball, basketball, and fencing. A purpose of orthosis for shin splints suppresses the tibia medial border that is origin such as soleus, flexor digitorum longus, and it is to reduce pressure to periosteum. The measurements were performed before and after the practice of about 2 hours. We measured Walsh scale, pain scale by visual analog scale (VAS), range of motion (ROM) and muscular strength of ankle plantar flexion/dorsal flexion, medial longitudinal arch rate and leg heel angle. Furthermore, we measured 50m running and vertical jump.

**Results and Conclusions:** Walsh scale and VAS decreased by orthosis wearing. The medial longitudinal arch rate has improved by orthosis wearing. The ROM and the muscular strength of ankle, leg heel angle, 50m running and vertical jump did not vary with orthosis wearing. It was found that this orthosis was, reduced pain of the tibia medial border, not limited movement of ankle, not reduced performances.

【出張期間】30 October - 1 November 2005.

【学会名】WCPT-AWP & ACPT 2005

【発表者名】Sangun Lee, Takao Suzuki

【発表論文名】Effects on muscle tissue of frequencies of hydraulic exercise and electrical stimulation for prevention of progressive muscle disuse atrophy.

**【趣 旨】** Introduction: The preventive effects of application and frequency of hydraulic exercise (HE) and electrical stimulation (ES) on muscle disuse atrophy were studied in rats. Effects due to differences in frequency of the enforcements were examined histologically. Methods: Twelve male, 8-week old Wistar rats were allocated to a control group (C) and groups receiving hindlimb suspension (HS), HE 5 days a week (HE5), HE 7 days a week (HE7), ES 5 days a week (ES5), and ES 7 days a week (ES7). The muscles studied were the soleus and plantaris in three hindlimbs each. HE and ES were applied for two weeks, and paraffin embedded specimens (hematoxylin staining) and frozen specimens (ATPase staining) were prepared. Results: In the groups subjected to HE, cross-sectional muscle area of the soleus decreased in the order C > HE5 > HE7 > HS with significant differences between each of the groups ( $p < .0001$ ). The cross-sectional muscle area of the plantaris decreased in the order C > HE7 > HE5 > HS, with significant differences between the groups C and HS, HS and HE5, and HS and HE7 ( $p < .0001$ ). In the groups treated with ES, the cross-sectional area of the soleus decreased in the order C > SE7 > SE5 > S and that of the plantaris in the order C > SE7 > SE5 > S. Significant differences in both muscles were observed between all the groups ( $p < .0001$ ). Discussion: HE and ES were found to be highly effective in preventing the progression of muscle disuse atrophy. However, it was suggested that the degree of the preventive effect is not necessarily attributable to the frequency of stimulation and that other factors such as the method of stimulation of the muscle tissue and fatigue have to be taken into consideration.

**【出張期間】** 2005年12月14日(水)～2005年12月20日(火)

**【学会名】** The 2005 International Chemical Congress of Pacific Basin Societies (Honolulu, Hawaii, USA)

**【発表者名】** Kunihisa Iwai\* and Hajime Matsue

**【発表論文名】** XYZ-dish method for evaluation of antioxidative foods and phytochemicals.

**【趣 旨】** An emission of ultra weak chemiluminescence in the presence of active oxygen species (X), scavenging substances (Y) and mediators (Z) have been found by Yoshiki et al. as a XYZ-system. We thought that antioxidant activity could be quantified in the condition of constant concentrations of X and Z. After the investigation of several quantitative conditions, we established XYZ-dish method as an easy

assay applicable for antioxidant activity of various foods and phytochemicals. Hydrogen peroxide ( $H_2O_2$ ) as X factor, food samples or gallic acid (GA) as Y factor, and acetaldehyde ( $CH_3CHO$ ) as Z factor were used in this method. Measurement was performed as follows: reaction solution containing 441 mM  $H_2O_2$  and 1136 mM  $CH_3CHO$  was added into the sample in stainless steel dish. Chemiluminescence was generated by mix of X, Y and Z factors, and was detected immediately by a photomultiplier. XYZ-dish method could be adaptable for easy measurement of various kinds of food by homogenizing solid type of food and by comparison with GA as a standard antioxidant. Furthermore, we have evaluated the antioxidant activities of many foods and regional natural resources using this method as a first screening in order to search useful functions for preventing life-style related diseases. As a result, the strong antioxidant and physiological components have been found in *Viburnum dilatatum* fruit and *Ecklonia stolonifera*.

【出張期間】平成17年12月27日(火)～平成18年1月6日(金)

【研修者名】Noriko YAMADA

【研修場所】Regional Support Office for Eastern and Southern Africa JICA  
Nairobi, KENYA

【研修内容】Domestic Violence Prevention and Control

【趣 旨】Violence to women causes destructive outcomes, such as increment of HIV infected women and the orphans due to death of the HIV infected parents. The violence finally comes to be one of ground causes in deterioration of social service system.

There are various activities fighting against HIV/AIDS planned and conducted in line with national health policy of Kenya. These are prevention of HIV infection, strengthening capacity of Integrated Voluntary Counseling and Testing (VCT) services, uplifting curative service particularly with ART (Anti Retrovirus Treatment), improvement of health systems to cope up with emerging issues related to HIV/AIDS in the society, arrangement of social support specifically for social groups affected with HIV/AIDS issues including HIV carriers, AIDS patients, Orphans and other vulnerable children (OVC).

Emphasis is here going to the establishment of workable linkage among prevention of domestic violence and the care provision system to the victims including sexual transmitted infections (STIs) issues. Advocacy

is necessary based upon the above viewpoints in strengthening surveillance system on DV and sexual violence.

【出張期間】平成18年1月23日～1月28日

【学会名】The International Nursing Conference Prevention and management of Chronic Illness : International Perspectives

【発表者名】Akemi Fujita, Keiko Ishinabe, Yoshiko Leibowitz, Keiko Nakamura, Atsuyo Koyama, Mitsuko Hosokawa, Harumi Kadohama, Akemi Hirao and Megumi Mitsuya

【発表論文名】THE EFFECT OF INTERVENTION BY RESPIRATORY MANAGEMENT MODEL FOR HMV CLIENTS

【趣 旨】In Japan there are about 2800 clients with Home Mechanical Ventilation (HMV) at 1998. Sometimes the HMV clients can not cough or the cough too weak remove secretions than suctioning is necessary. But it is a great trouble for family caregivers to do suction many times a day. Japan Amyotrophic Lateral Sclerosis association requested to Ministry of Health, Labor and Welfare 2003 on December, permitted except family members to suction.

**PURPOSE:** To evaluate the effect of intervention full-trained nurses using respiratory management model in order to keep airway clearance for HMV clients.

**DESIGN:** intervention study

**METHODS:** Targeted were 5 HMV clients in community. We developed respiratory management model to keep airway clearance. And we trained visiting nurses to practice respiratory management model. Full-trained nurses provided care set of respiratory management model 4-6 for two weeks to 5 clients. Researchers observed nurses intervention and clients response. Before and after of intervention corrected data from nursing records and interview and questionnaire.

**RESULTS:** The results were obtained as follows, (1) Times of suctioning decreased. (2) Added Lung sounds; Wheezes and Rubs became a few. (3) Clients and family slept well. (4) Clients and family presented satisfaction.

**CONCLUSION:** Nurses intervention using respiratory management model is effective for HMV clients to keep airway clearance, and for family caregivers to reduce care burden and anxiety.