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◆RESEARCH ARTICLES

**The influence of Model of Human Occupation in education: Using the Occupational Self-Assessment, second version**

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We hypothesized the effectiveness of the Model of Human Occupation (MOHO) in education, through comparing the medicine model education and MOHO education (the control group and the experimental group, respectively). Both groups filled out the Occupational Self-Assessment, second version (OSA-II) before and after the lectures to determine the rate of satisfaction. Comparison of both experimental and control groups showed a significant increase in volition ( $p=.005$ ) in the MOHO group. The results indicate that the volition of OT students who learned through MOHO increased and suggests the importance of incorporating MOHO into to school curricula, while also facilitating the acceleration of student identity.

Key words: Model of Human Occupation, Occupational education, Occupational Self-Assessment version 2, Occupational therapist vocational school, Identity

**Development of a Japanese version of the Interaction with Disabled Persons Scale for healthcare students: A study of validity and reliability using the Rasch Measurement Model**

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The purpose of this study was to develop the Japanese version of the Interaction with Disabled Persons Scale (IDP-J), which assesses the effect of motivation and emotions on individuals' attitudes toward disabled persons, and to examine its reliability and validity. In this study, a new method called the "dual panel methodologies" was used for translation from English to Japanese. We researched the attitudes of the healthcare students (n=168) toward disabled persons using the completed IDP-J. Next, the IDP-J was analyzed using the Rasch Measurement Model (n=120). The results showed that the structure of the rating scale was appropriate. The degree of difficulty of the test items varied widely throughout the estimated ability levels of the subjects, and this indicates that this scale could fully assess the ability of the subjects to answer the items. Moreover, the results of the fit statistics showed the internal validity of the scale. Item separation reliability was high. However, internal consistency and person separation reliability were not sufficient.

Key words: Interaction with Disabled Persons Scale, Healthcare student, Dual Panel Methodologies, Rasch Measurement Model

### **The relationship between the IADL abilities of young healthy adults with and without simulated physical limitations**

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This study sought to determine whether there is a relationship between the instrumental activities of daily living (IADL) abilities of young healthy adults with and without simulated physical limitations. The Assessment of Motor and Process Skills was used to measure IADL abilities. The results of this study showed that IADL motor abilities showed no significant correlation between those with and without simulated physical limitations, but IADL process abilities showed a mid-level correlation between those with and without simulated physical limitations ( $r=0.50$ ,  $p<0.001$ ). This study indicates that if young adults with disabilities have high IADL abilities, young healthy

adults also can have higher IADL abilities. The IADL abilities obtained from young adults without disabilities are useful to predict the IADL abilities in young adults with disabilities. This finding is useful in setting goals.

Key words: Physical limitations, IADL, AMPS, Wellness, Young adults

### **Abilities of occupational therapy students required by clinical education supervisors: Using a content analysis**

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The purpose of this study was to clarify the abilities of occupational therapy students required by clinical education supervisors. A total of 86 fieldwork evaluations during the students' senior year in 2009 and 2011 in an occupational therapist training school in Kagoshima were analyzed. The descriptive contents were qualitatively and inductively categorized using a content analysis created by Berelson, B., and the frequencies of appearance, which were included in each category and subcategory, were calculated for each recording unit. As a result of the analysis, four categories and 24 subcategories were extracted. From the frequencies of appearance by the recording unit, it was clear that the clinical education supervisor mostly required competence in the category of "Appropriate concern with patients and their families" (frequency of appearance: 12.5%) for occupational therapy students.

Key words: Clinical education, Occupational therapy student, Qualitative research, Content analysis

**Relationship between the activities of daily living and hemiplegia, balance, and attention deficit in patients with acute cerebral infarction: Research targeting patients with slight consciousness disorder and cognitive impairment**

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We explored the relationship between activities of daily living (ADL) and motor function, balance ability, and attention in 24 patients with slight consciousness disorder and cognitive impairment during the first week following the onset of cerebral infarction. Main outcome measures were Brunnstrom Recovery Stage (BRS), Berg Balance Scale (BBS), Clinical Assessment for Attention (CAT), and the Barthel Index (BI). We used Spearman's rank correlational analysis. Our analysis showed significant correlations between BI and BRS for shoulder and elbow ( $r=0.752$ ,  $p<0.001$ ), BI and BRS for hand ( $r=0.532$ ,  $p=0.007$ ), BI and BRS for trunk and lower limbs ( $r=0.703$ ,  $p<0.001$ ), and BI and BBS ( $r=0.898$ ,  $p<0.001$ ). Although all patients had attention deficit, the results showed an insignificant correlation between BI and CAT. These findings suggest that the relationship between ADL and programs for attention deficit is of low importance when the patients lack obvious consciousness disorder and cognitive impairment during the first week following the onset of cerebral infarction. It is necessary for us to investigate the relationship between ADL, IADL and attention deficit after the second week.

Key words: Cerebral infarction, ADL, Hemiplegia, Balance, Attention

#### ◆PRACTICAL REPORTS

#### **Development of a new assistive eating device for a patient with cervical spinal cord injuries**

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We developed a new assistive eating device to support self-feeding by an elderly patient with a level C6A cervical spinal cord injury. Given that his fingers were too weak to grip anything, the use of a universal cuff to aid his self-feeding was attempted. He could not manipulate cutlery successfully using the universal cuff with his forearm in a pronated position, as he had insufficient control to either pronate his forearm or abduct his shoulder. However, he could eat when he used cutlery with his forearm in the neutral position. This was because the position enabled him to eat using mainly elbow flexion rather than forearm pronation and shoulder abduction. Therefore, we developed a new assistive eating device that enabled holding cutlery in the neutral forearm position. The grip used was similar to that of the normal grip when using a spoon. This allowed him to finally self-feed successfully using the new assistive eating device because the device could be adjusted to the patient's ability and residual function. We believe that this assistive eating device can enable self-feeding in other patients with similar limitations.

Key words: Eating activity, Cervical spinal cord injury, Assistive devices, Range of motion

### **Effects of task-specific training on upper extremity dysfunction in chronic hemiplegia after stroke**

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A pilot study was conducted about the effects of task-specific training (TST) on upper extremity dysfunction in patients who suffered from chronic strokes. Based on results from the Fugl-Meyer Assessment, STEF and Motor Activity Log, patients' conditions

significantly improved after the intervention. TST may improve upper-extremity function, including the use of paralyzed hands of persons who suffered from chronic strokes.

Key words: Stroke, Chronic term, Upper-extremity function, Task-specific training, Integrated volitional control electrical stimulation

### **The effect of a knockdown chair on the awareness of a body's position and physical strength: A case study on the design of a rehabilitation chair**

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The purpose of this study was to design a knockdown chair, and examine influence of the chair on a person with left hemiplegia due to cerebral arterial disease. A two-round study was conducted: (1) the construction of a prototype based on physical research, and (2) the verification that the subject could use the prototype to assist QOL. The process of building the chair revealed difficulties due to the difficulty of maintaining awareness of both the body's strength and its position. Thus, it is necessary to reconsider the parts of the chair, the construction process, and the motivation of the user. Recognition of the body's position and physical strength may have an effect on the success of the design. The design of the chair will be improved and its appropriateness reconfirmed.

Key words: Home, Chair, Design, Recognition of body's position, Physical strength awareness

### **How can Japanese occupational therapists cooperate on Chinese rehabilitation?**

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Rehabilitation science is developing in China. Recently the elderly in China are rapidly increasing. In order to investigate how Japanese therapists can cooperate with Chinese rehabilitation and with rehabilitation therapists, we surveyed the opinions of Chinese therapists by questionnaire. In investigating Chinese therapists on their willingness to participate in Japanese style lectures. 96.7% replied a desire to do so, while most showed a willingness to pay 300-600 CNY (5,400-10,800JPY) for such lectures. These results suggest that there are possibilities for Japanese therapists to hold Japanese style lectures in China.

Key words: International cooperation, Lecture, Japan Overseas Cooperation Volunteers, China

### **Practical report on parent training by pediatricians: Pilot study for practice by the occupational therapist**

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While examining early support for children with developmental disabilities and their parents in the community, I had the opportunity to participate in training parents in the use of child support technology. The training of parents in this area in university clinics is usually done by pediatricians. However, this time, occupational therapists attached to the university joined the training in support positions, and were involved with sensory and motor development. Through the training, I felt growing feelings of self-esteem by parents. Parents were satisfied with results of the peer counseling and empowerment. Therefore, this paper discusses how occupational therapists can facilitate parent training in the community.

Key words: Developmental support, Developmental disabilities, Specialized therapy, Community life support