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◆RESEARCH ARTICLES

Analysis of subjective evaluation in occupations of the elderly:

A study based on the flow model

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The purpose of this study was to analyze the subjective evaluation of the elderly regarding their occupation in occupational therapy using the flow model. The subjects were twenty-seven elderly who regularly used day care with Rehabilitation Service. After assigning appropriate activities to the elderly, “challenge level” and “skill level” were confirmed upon implementation of the activities. As a result, there were various perceptions by the elderly on “challenge level” and “skill level”, and “challenge level” and “skill level” were unbalanced in many cases. Therefore, evaluating the balance between “challenge level” and “skill level” for the activity captures one aspect of subjective evaluation that should be considered in order to provide a suitable activity for the elderly. Additionally, we considered that this method leads to the promotion of cooperation among the elderly in occupational therapy practice.

Key words: Occupation, Elderly, Day care with Rehabilitation Service, Flow

A literature review of the therapeutic relationship in occupational therapy for clients with brain tumors

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The purpose of this study was to examine the therapeutic relationship between the clients with brain tumors and occupational therapists. Japanese articles on occupational therapy for the brain tumors were searched, and six original articles and eight proceedings were selected. The episodes regarding therapeutic relationships were extracted and classified according to the components of occupational engagement and therapeutic strategies which had been conceptualized in the Model of Human Occupation. As a result, it was revealed that the occupational therapists supported the clients with brain tumors to be able to recognize their own abilities, be aware of limitations, and express their feelings. Moreover, the therapeutic strategy of occupational therapists made an intervention plan for clients to engage in the occupations in supportive conditions. It is suggested that the therapeutic relationship according to the stage of cancer treatment produces good conditions of occupational participation of clients with brain tumors.

Key words: Brain tumor, Therapeutic relationship, Literature review

Characteristic influences of motor function on children's drawing and writing legibility and handwriting motion

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This paper investigated the characteristics of motor function that influence both the drawing characteristics and the handwriting motion of clumsy children, as well as

discussed the legibility of their writings. Thus, we clarified the relationship between the characteristics of the results of a drawing task and handwriting motion during the task. To evaluate the handwriting skill of the participants, a drawing task utilizing a 2-cm-per-side triangle on a pen tablet computer was employed. For most of the clumsy children, the drawings were not accurate, the elapsed time for completing the task varied widely among the three trials, and the pattern of the handwriting motion was different from that of healthy children. There were some clumsy children whose drawings were accurate but whose pattern of handwriting motion was different from that of healthy children. This results suggest that evaluating handwriting problems of children by only the result of their drawings could fail to identify clumsy children who have a problem in their handwriting motion. We considered that the posture during handwriting largely influenced both the accuracy of drawing and the legibility of writing since most clumsy children had the different patterns of handwriting motions.

Key words: Developmental disabilities, Drawing, Motion, Physical function, Writing

Predicting the use of public transportation of patients discharged from a recovery rehabilitation unit

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The objective of this research was to prognosticate whether or not patients discharged from recovery rehabilitation units could use public transportation based on their abilities in the hospital. Follow-up investigations after discharge from a recovery rehabilitation unit were performed by telephone to determine if participants could use a train and bus. Retrospective investigations retrieved activities of daily living, physical function, and cognitive function from the hospital database at the time of their hospital admission and discharge. Eighty-three patients participated in the study, and the variables for the prognostication of using a train were age and motor items of functional independence at admission. Variables for using the bus were age and functional balance at admission. At discharge, those for using bus and train were only

functional balance scale. These results can be used to identify patients who require early practice using public transportation, which will lead to rationalization of the practice.

Key words: Recovery rehabilitation unit, Public transportation, Prognostication

Validity of a simple upper extremity three-dimensional motion analysis system with two digital still cameras in analyzing reaching movements

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Introduction: This study investigated the validity of a three-dimensional motion analysis system in analyzing upper limb reaching movements using two digital still cameras.

Methods: Eight healthy subjects participated in this study, and their reaching movements were simultaneously analyzed using two digital still cameras and a conventional three-dimensional motion analysis system. The joint angles of the shoulder, elbow, hip, and the distance of reach were calculated at reach onset, one second after reach onset, and at maximum reach. The data were analyzed using the Pearson's product-moment correlation and Student's t-test.

Results: The detected angle of the joints through the dual camera and the three-dimensional motion analysis system were significantly correlated with the shoulder ($r=0.90-0.99$), elbow ($r=0.97-0.99$), hip ($r=0.85-0.99$) and distance of the reach ($r=0.96$). The mean error of joint angles was 3.5° . The mean error of the reach distance was 1.0 cm. Conclusion: We demonstrated the validity of a three-dimensional motion analysis system for the analysis of upper limb reaching movements, using two digital still cameras. This system may be useful for clinical application.

Key words: Motion analysis, Motor function, Evaluation

Reliability and validity of Self-efficacy Assessment for Parents of children with Selective eating disorder (SAPS)

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Children with Developmental Disorders, such as Autism Spectrum Disorder, often experience selective eating in early childhood, resulting in difficulties in parenting. Those parents tend to have lower self-efficacy. It is important to understand parents' self-efficacy in order to expand children's repertoire. In this study, we developed a 12-item Self-efficacy Assessment for Parents of children with Selective eating (hereafter SAPS) and investigated its validity and reliability. We used a factor analysis and calculated the cumulative contribution ratio to determine the validity of the SAPS. The factor analysis revealed the following three factors: 1) Basic attitude in eating, 2) Factors of likes and dislikes, and 3) Correspondence to selective-eating. The cumulative contribution ratio of these three factors was 64.2%. Cronbach α 's values and the interclass correlation coefficient were analyzed to evaluate the reliability of SAPS. Cronbach α 's values were 0.64 to 0.86. The interclass correlation coefficient was more than 0.68 in 11-items upon re-examination. Our results indicate that SAPS has high validity and reliability. This study suggests that SAPS is an easy and quick assessment tool to determine the self-efficacy of parents of children with selective eating.

Key words: Selective-eating, Family support, Self-efficacy

A retrospective study of occupational therapy for hematological cancer patients

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We conducted a retrospective study based on medical records to clarify the clinical characteristics of hematological cancer patients and the clinical aspects of occupational therapy (OT) interventions. We collected sociodemographic and medical data from 47 hematological cancer patients in our hospital, including medical information, aim of OT, OT programs, performance status, and activities of daily living (ADL) ability. We found that the OT was required to support ADL, take into consideration discharge from the hospital, as well as prevent decreases in physical, cognitive, and psychological function of older patients with diminished ADL abilities. Patients treated in aseptic rooms unexpectedly presented with, and maintained better ADL ability and performance status during the OT program compared with patients in general wards. The findings revealed that the OT programs were possibly influenced not only by patients' general conditions but also by patients' potential physical ability. We suggest that OT interventions are useful to patients in the early stages of the disease while their general condition is good.

Key words: Hematological cancer, Occupational therapy, ADL

◆PRACTICAL REPORTS

The efficacy of short opponens splint for thumb carpometacarpal joint osteoarthritis

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Forty-seven hands of forty two patients who had thumb carpometacarpal joint osteoarthritis were investigated about the efficacy of short opponens splints. The mean follow-up periods of the study were every 5 months in which the investigators evaluated pain, the rate of wearing splint, the upper extremity function for the activity of daily life using Hand 20 and Patient-Rated Wrist Evaluation (PRWE), and the cases which required surgical intervention. More than half of the patients experienced pain

relief and wore the splint for six-month periods. Hand 20 and PRWE score were decreased, suggesting pain relief and improved activities of daily living. More than 70% of the patients experienced pain relief, whereas a few patients at Eaton's stage 3 and 4 felt increased pain. Although the effectiveness of short opponens splint for carpometacarpal osteoarthritis was limited in a few cases, it can be an appropriate initial treatment for all stages.

Key words: Thumb carpometacarpal joint osteoarthritis, Splint, Conservative treatment

An approach to improving a student's social interaction skills

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A student and a teacher of an occupational therapy department evaluated the problems of the student's social interaction and clarified the outcome of intervention by the Evaluation of Social Interaction (ESI). Before the intervention, the student hardly talked in group work with her classmates and the ESI measure was 0.6 logit, which was below the criterion-referenced competence cutoff of 1.0 logit. She consulted with the teacher about plans for improving her social interaction for 30 minutes once a week over 5 weeks. She and the teacher modified the physical and social environment and the way to perform group work. As a result of the intervention, she could participate in group work and express her opinion and experience. The ESI measure was improved to 1.1 logit. ESI contributed to making plans to enhance her social interaction skills and to indicate the outcome of the intervention objectively.

Key words: Occupational therapy students, Education, Communication, Social skills, ESI

Positive effects of early postoperative rehabilitation after volar locking plate fixation

with a pronator quadrates sparing approach for intraarticular distal radius comminuted fractures

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The surgical approach in volar locking plate fixation for intraarticular distal radius fractures has been changed from a pronator quadrates (PQ) muscle cutting to a sparing approach. In the PQ-cutting group, supination was inhibited by splinting for 2 weeks after operation. However, range of motion exercises were started with no limitation from the next day after operation in the PQ-sparing group. The mean value of pronation was significantly larger and VAS score significantly smaller in the PQ-sparing group at 2 months post-op compared with the PQ-cutting group. Furthermore, the mean QuickDASH score in the PQ-sparing group was significantly smaller than the PQ-cutting group after 1 and 2 months. It is suggested that the PQ muscle sparing approach is safe and effective in VLP fixation of the distal radius.

Key words: Functions of upper extremities, Hand therapy, Quick Disabilities of the Arm, Shoulder and Hand Score (DASH)

◆SHORT REPORTS

Rates and predictive factors of Post-Stroke Depression in a recovery rehabilitation unit

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This study was to investigated the relationship between depression syndrome

and activities of daily living (ADL). The subjects consisted of 21 patients with cerebrovascular disease. Depression syndrome was evaluated using the WHO-Five well-being index (WHO-5). ADL, cognitive function, and hemiplegia were evaluated using the Functional Independence Measure (FIM), Revised Hasegawa's Dementia Scale (HDS-R), and Brunnstrom Recovery Stage (BRS), respectively. First, the simple tabulation of WHO-5 was analyzed. Second, the coefficient of correlations between FIM (lower items) and WHO-5 was calculated. Finally, FIM (lower items) were set as the dependent variable, and WHO-5 values were considered explanatory variables. Following this, multiple linear regression analysis (stepwise method) was performed. Our results suggest that self-care has an influence on depressive syndrome.

Key words: Depression, ADL, Recovery unit