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◆RESEARCH ARTICLES

Variations in oxygenated hemoglobin levels in healthy individuals when performing rock-paper-scissors pairing tasks

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This study examined variations in oxygenated hemoglobin levels in healthy individuals when performing rock-paper-scissors pairing tasks (win, draw, and lose), using near-infrared spectroscopy in the frontal pole, dorsolateral region of the frontal lobe, and anteroventral region of the parietal lobe. Measurements were performed, adopting a single event-related design, while visually presenting task patterns for oral responses. The oxygenated hemoglobin levels markedly increased in the left and right frontal poles and left dorsolateral region of the frontal lobe in “lose” compared to “win” and “draw”. On comparison between “win” and “draw”, no significant differences were observed in any region. These results confirm that the task pattern “lose” activates the left and right frontal poles and left dorsolateral region of the frontal lobe, which is responsible for the implementation of rock-paper-scissors pairing tasks, more markedly than “win” and “draw”.

Key words: Near-infrared spectroscopy, Working memory, Rock-paper-scissors pairing tasks

Studies on the professional roles of occupational therapists in a rehabilitation ward during the recovery phase:

A survey of occupational therapists

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The purpose of the study is to clarify the relevance of practice and self-image of occupational therapists (OT). Method: A questionnaire was used with OTs that are registered with the recovery phase rehabilitation ward association in a hospital in the Hokuriku region. The questionnaire consisted of 25 items, and were collected anonymously. This study was performed with the approval of the Kanazawa University medical ethics review committee. Results: Of the 26 facilities which were requested to participate, 20 agreed, and 100 of the 158 OTs to whom the questionnaires were sent completed the questionnaire. 31 of the subjects were male and 69 were female, and 53% of the respondents had less than 5 years' experience. 48% of the patients had cerebrovascular disease and 41% suffered from motor disorders. The items in which OTs had a low self-image of their professional role were articulation & swallowing, lower limbs, and medication management. The items in which there were few roles for the OTs were articulation & swallowing, medication management, and finance management. Degree of alignment of OT practice with self-image the OT's professional roles was high in 20 items ($K \geq 0.81$): skilled movement, upper limbs, articulation & swallowing, trunk, lower limbs, physical endurance, cognition, psychology, eating, grooming, dressing, bathing, toileting, bed activity, transfer, ambulation, wheelchair, cooking and cleaning, outdoor locomotion, bridging the gap between Capability-ADL and Performance-ADL, medication management, life rhythm management, and value/interest/custom/role. The low degree of alignment in the remaining 2 items (reinstatement, finance management) may be due to the small number of patients who were influenced by them.

Key words: Recovery phase rehabilitation, Occupational therapy, Role

Relationships among social adjustment states, IADL, and the employment readiness of persons with depression

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This study clarified the relationships among social functioning (social adjustment state), IADL, employment readiness, and depressive symptoms in persons with depression and evaluated the factors that predict social adjustment state. Thirty-nine outpatients with depression participated in the study. The survey contents were related to information regarding FAI, SASS-J, employment readiness, and BDI-II. The results of multiple regression analysis for the variables SASS-J, depressive symptoms, and IADL predicted the social adjustment state of patients with depression. “Depressive symptoms” and IADL were evaluated as factors related to “interest and curiosity.” Furthermore, “depressive symptoms” were related to “self-awareness.” Factors predicting “inter-personal relationships” were not evaluated, although they were strongly correlated ($r_s=0.82$) with the total score of social adjustment state. Employment readiness was strongly correlated with depressive symptoms and “self-awareness.” Thus, to improve the employment readiness of persons with depression, improvement of “depressive symptoms” and “self-awareness” is crucial.

Key words: Depression, Social adjustment state, IADL, Employment readiness

Relationship between Weight Bearing Rate on the affected limb and activities of daily living ability in a stroke patient

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We investigated cut-off values of the paralyzed-side weight bearing rate (WBR) in stroke patients as indexes of the degree of independence in activities of daily living (ADL). We used a simple regression analysis to select the ADL abilities associated with

the paralyzed-side WBR. Cut-off values for independence in ADL ability in relation to the paralyzed-side WBR were calculated by using a receiver operating characteristic curve. The study participants were 36 stroke patients. The paralyzed-side WBR was associated with toileting ability ($r^2 = 0.45$, $OR = 1.13$) and stair-climbing ability ($r^2 = 0.45$, $OR = 1.16$). The WBR cut-off value for toileting ability was 58.1%, whereas that for stair-climbing ability was 76.9%. In assessments of toileting and stair-climbing abilities, patients whose paralyzed-side WBRs are less than the cut-off values can be considered to be at decreased risk for fear of falling in an appropriate surrounding environment. In addition, patients who have not sufficiently accepted their disabilities can be given occupational therapy to help them reach the cutoff values needed for independence at a later date.

Key words: Stroke, Weight-bearing, ADL, Lower extremity

**Outcomes of school visits by occupational therapists in special needs education:
How do teachers understand occupational therapists?**

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The objective of this study is to examine the outcome of OTs' school visits by measuring how and how much the regular class teachers understand OTs' roles. Drawing on 17 pieces of literature on special support education, a 42-item questionnaire was created. The regular class teachers in the city filled out the questionnaires and were divided into three groups: teachers who had received OTs' visits and direct support (Group A), teachers who had received OTs' visits but never

received direct support from OTs (Group B), teachers who had never received OTs' visits (Group C). The results indicate that Group A showed a deeper understanding of OTs than Group C. Group B and Group A showed equal deep understanding. The degree of understanding of OTs among the three groups suggests a positive outcome of OTs' school visits for special support education.

Key words: Special needs education, Regular classrooms, Cooperation, Occupational therapy, Outcome

Qualitative study on “occupation” in patients lacking personal expression in family interactions

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This qualitative study investigated occupations or activities that include occupational characteristics in patients who have difficulty expressing themselves through the involvement between patients and their family and friends (“surrounding people”). We conceptualized their occupations or activities. Method: The study included eight documentary books written about patients who could not express themselves due to severe cognitive impairment. Descriptions of patients' responses, and interpretations by the surrounding people were extracted and qualitatively analyzed. Results: Almost no activities could be regarded as an “occupation”, while there were activities that could be regarded as activities including occupational characteristics. The activities have the following characteristics of circulatory interaction between the patients and the surrounding people: non-verbal communication about emotion, demands, excluding emotion and demands, and role activities involving existence. In addition, these circulatory interactions could help promoting the patients' “occupation”. Conclusion: We suggest that patients can be treated through “occupation” by

considering the circulatory interaction with their surrounding people.

Key words: Occupation, Impairment of consciousness, Family, Circulatory interaction

The relationship between severity of motor paralysis and risk of post stroke depression

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The purpose of this study is to investigate the relationship between the severity of motor paralysis and Post Stroke Depression (PSD). The subjects were 83 stroke patients hospitalized in convalescent wards. PSD was measured by Self-rating Depression Scale (SDS) and motor paralysis was measured by Brunnstrom recovery stage (Br. stage) of upper extremities, fingers and lower extremities. The subjects were divided into four groups: PSD (+) with severe motor paralysis; PSD (+) with mild motor paralysis; PSD (-) with severe motor paralysis; and PSD (-) with mild motor paralysis. The cutoff point of severe and mild motor paralysis of upper extremities and fingers was IV (Br. stage). The PSD incidence in Br. stage V or more was about 40% whereas the PSD incidence of Br. stage IV or less was more than 80%. The results suggest that the PSD develops easily in patients with Br. stage IV or less of upper extremities and fingers. The occupational therapist must pay attention to the PSD of these patients when giving effective exercise.

Key words: Stroke, Depression, Occupational therapy, Motor paralysis, Post stroke depression

Problems affecting improvement of home return rates and activities of daily living (ADL) in stroke patients adopting the community cooperation clinical pathway

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This study confirms the prevailing status and examines problems in the improvement of outcomes of patients with stroke using the community cooperation clinical pathway in collaboration with acute and recovery care hospitals. 180 stroke patients participated in the pathway. Before confirmation of their status, correlations between the home return rates and mean age, or severity of sequela were analyzed; significant correlations were observed between these factors. Therefore, it was necessary to take into account differences of mean age and severity of sequela between groups in the comparison. The home return rate in the local area was 52.8% among all subjects. This result was the lowest reported; however, the mean age of the subjects was the highest, at 75.3 years. Analysis of the change in levels of independence in performing activities of daily living (ADL) revealed significant improvements on all five ADL items among subjects: those in the subgroups with severe and moderate sequela, but not the mild group, which was already at high independence levels during their acute treatment period. However, the degree of change in independence levels for each of the ADL items varied greatly, suggesting that examination of individual factors influencing their improvement is warranted in the future.

Key words: Stroke, Home return, ADL

Correlation between occupational performance and catastrophizing pain among patients after total knee arthroplasty:

A pilot study

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Pain catastrophizing has been reported to affect chronic pain after total knee arthroplasty (TKA). This study aimed to determine the correlations among postoperative pain catastrophizing, pain, and occupational performance. Forty two patients who underwent TKA were assessed for pain catastrophizing with the pain catastrophizing scale (PCS), for pain with the Numerical Rating Scale (NRS), and for occupational performance with the Canadian Occupational Performance Measure (COPM). Spearman's rank correlation coefficient test and regression analysis were used to analyze the data. There were a significant correlation between PCS, NRS, and COPM. These data suggest that it is important to assess the COPM of patients who underwent TKA.

Key words: TKA, COPM, Pain catastrophizing, Pain

◆PRACTICAL REPORTS

Cognitive-oriented group rehabilitation for clumsy children with autism spectrum disorder and their parents:

A practical report

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We performed cognitive-oriented group rehabilitation for clumsy children with Autism Spectrum Disorder for three months which included parental participation. This group was named “Shimahachi Challenge Group”, and included four children and their families. The children selected a poor motor skill which they wanted to improve as the task, thought “How do I practice to improve this skill?” and planned their strategy together with the practitioners and their families. All children enjoyed the group activities, developed feelings of friendship, and improved their motor skills. In one family, the parent-child relationship also improved after this program. Further research is required to determine whether this group rehabilitation has a positive effect on not only improving children's motor skills but also fostering a collaborative relationship between parents and children.

Key words: Autism spectrum disorder, Clumsiness, Developmental coordination disorder

Improved QOL by recognizing strengths through a psychiatric multidisciplinary home-visit nursing service:

A case of chronic schizophrenia

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A multidisciplinary team of a psychiatric home-visit nursing service provided mental health support for Ms. A with chronic schizophrenia. As a result of the support, Ms. A's strengths were identified, leading to an improved QOL. The support consisted of 1) knowing each other, 2) organizing what the patient used to do, does now, and wants to do, and 3) sharing occupations of her daily life. The results imply that the occupational therapist's role through psychiatric home-visit nursing service is listening carefully to the client and trying to explore the meaningful occupations in one's daily life.

Key words: Psychiatric home-visit nursing service, Meaningful occupation, Multidisciplinary team, Schizophrenia

Students obtaining awareness and knowledge through managing a community health salon

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This report considers the awareness and knowledge that students gained through managing a health salon for community-dwelling elderly. Subjects were 24 third-year occupational therapy students (21.1±0.7 years of age). The survey was conducted after 11 months of health salon management experience. Of the students, 95.8% felt positively about their involvement in the health salons. Open-ended questions revealed positive and negative aspects of managing a health salon, including "exchanges with elderly people" and "understanding preparation and management,"

and “planning and preparation” and “behavior in the health salon,” respectively. Overall, student management of a health salon can be considered a useful part of undergraduate education in increasing both students’ awareness of preventive care and their experience in planning community activities, both of which are skills that are required of community-based occupational therapy.

Key words: Community-based occupational therapy, Elderly people, Community support, Health salon

Using Pool Activity Level (PAL) in occupational therapy intervention for a person with severe dementia in the recovery phase at a rehabilitation ward

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Pool Activity Level (PAL) is a tool which supports occupational therapy intervention for clients with dementia. At the first step of the PAL, clients’ occupations are chosen with a reference to life history. Next, the abilities of the client with dementia are classified by observations of daily life with a PAL checklist. Finally, the PAL instrument leads to the idea of assistive method to perform their occupations. Therefore, there is a high possibility that the PAL could be useful for occupational therapy. This case report describes how an occupational therapist supported an occupation for an inpatient with severe dementia and continued it at home after discharge. Through this case the PAL seems to assist choice and adoption of occupations, and indicates that even a patient with severe dementia could have a meaningful occupation.

Key words: Dementia, Pool activity level, Recovery rehabilitation unit, Meaningful occupation