

# **Hong Kong Neuropsychological Association**

c/o Clinical Psychology Unit, Children's Habilitation Institute, The Duchess of Kent Children's Hospital at Sandy Bay, 12 Sandy Bay Road, Hong Kong.

心理學會 Tel.: 2974-0351

Fax: 2974-0366



# Chairperson: Ms. Sonia Chang Vice-Chairperson: Dr. Mei-Chun Cheung Treasurer: Ms. Connie Leung

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### About Hong Kong Neuropsychological Association (HKNA)

The HKNA was established in October 1998. It aims to promote the advancement of knowledge, to encourage and facilitate clinical and theoretical research in neuropsychology in Hong Kong, and to promote and facilitate communication with relevant professional organizations within the local community, mainland and overseas. The activities of the Association include publication of newsletter. organization of interest/discussion groups, arranging seminars/workshops run by local and overseas speakers, and conducting research. Interested parties please fill in application form which can be obtained from downloaded the Association or at www.hkna.org/assets/HKNAform.pdf. For further information about the Association, please visit our website at www.hkna.org.

Dr. Patrick Li Dr. David Salmon Prof. Virginia Wong

Edited by Ms. Sophia Sze



Seminar on "Applications of Clinical Neuropsychology to Various Medical Disorders: Research and Assessment" by Dr. Elizabeth Kozora

### [21<sup>st</sup> May 2005]

We had the honor to invite Dr. Elizabeth Kozora for a half-day seminar on "Applications of Clinical Neuropsychology to Various Medical Disorders: Research and Assessment" at the Queen Elizabeth Hospital. Dr. Kozora is currently the Associate Professor at the National Jewish Medical and Research Centre and the University of Colorado School of Medicine, Denver, Colorado. Her research is primarily in the area of neuropsychiatric systemic lupus erythematosus (NPSLE) and cognitive functioning of patients undergoing bypass surgery.

In the seminar, Dr. Kozora had reviewed on previous studies and shared some of her recent research findings on the cognitive function in NPSLE. It was found that the cognitive profile of patients with NPSLE remained inconclusive given that their percentage of cognitive impairment varied substantially from less than 30% to over 80% across various studies. Finally, Dr. Kozora gave a brief overview on some possible assessment batteries for various common brain disorders. The audience, including clinicians from the medical and clinical psychology fields, had raised many interesting questions and exchanged valuable ideas throughout the seminar.







The HKNA has recently established an Outstanding Research Award to recognize individuals who demonstrate research excellence in the field of Neuropsychology. One Outstanding Student Research Award and one Outstanding Scientist Research Award of HKD\$1000 each in cash, together with a souvenir pledge will be granted annually starting from next year. HKNA members can nominate or submit application for the award. Applicants for the award in 2006 are required to submit their finished manuscripts in APA format on / before 30<sup>th</sup> September, 2005. Results will be announced in next March. Please browse the HKNA website for further details and enquiry.





Given the increasing popularity of some locally developed neuropsychological assessment instruments, HKNA and Institute of Neuroplasticity are going to co-organize two professional training workshops on the clinical application of the Dementia Rating Scale (Cantonese Version) and the Hong Kong List Learning Test. Professor Agnes Chan, who has developed and published the two assessment tools, will be the speaker of both workshops. Training in each workshop will focus on theory, basic administration, scoring, results interpretation and profile analysis of various brain disorders. Each workshop topic will be held on two separate days, two sessions per day. The registration fee will be \$1500 for 4 sessions (i.e., 2 whole days) of the same workshop and \$500 for each single session. Special 20% off discount on registration fee will be offered to all HKNA members. Certificate will be granted to those who have attended all four sessions of the same workshop. Further details about the workshops will be updated in the HKNA website.





# The Chinese Version of the Dysexecutive Questionnaire [Professor Raymond Chan -- Professor of Department of Psychology, Sun Yat-Sen University, Guangzhou]

Self-reported questionnaire plays a very important role in understanding the underlying mechanism of cognitive impairment in clinical practice. The Dysexecutive Questionnaire (DEX)<sup>1</sup> is one of the theory-based questionnaires specifically designed to capture the everyday life complaints of dysexecutive behaviors. The questions sample four broad areas of likely changes that described by Stuss and Benson.<sup>2,3</sup> These are: emotional or personality changes, motivational changes, behavioral changes and cognitive changes. Each item is scored on a 5-point Likert scale, ranging from never to very often, with higher score indicating higher frequency of dysexecutive behaviour in everyday life. The DEX comes in 2 versions, one is completed by the participant and the other by the significant others.

Preliminary study<sup>4</sup> indicated that a 5-factor solution was derived from a group of 93 healthy Hong Kong Chinese, using the Chinese version of DEX. These factors are very similar to previous original study, namely (1) inhibition, (2) intentionality, (3) knowing-doing dissociation, (4) in-resistance, and (5) social-regulation. Construct validity of this factor solution was established by the significant correlations among the derived factors and tests of different components of executive function, which suggests that the Chinese version of DEX has impressive construct validity. These also provide empirical evidence that non-clinical sample may encounter similar dysexecutive behaviors in daily life.

Our laboratory is now undergoing a series of studies using this questionnaire to study the fractionation of executive function in patients with brain injury, focal frontal lesions, and schizophrenia. We also hope that the DEX may apply to a wider range of clinical samples such as Alzheimer's disease, mild cognitive impairment, and even normal cognitive aging population in the near future.

#### References

- Wilson, B.A., Alderman, N., Burgess, P.W., Emslie, H. & Evans, J.J. (1996). *Behavioural Assessment of the Dysexecutive Syndrome* (*BADS*). Bury St. Edmunds, UK: Thames Valley Test Company.
- Stuss, D. T., & Benson, D. F. (1984). Neuropsychological studies of the frontal lobes. *Psychological Bulletin*, 95, 3-28.
- 3. Stuss, D. T., & Benson, D. F. (1986). *The Frontal Lobes*. New York: Raven Press.
- 4. Chan, R.C.K. (2001). Dysexecutive symptoms among a non-clinical sample: A study with the use of the Dysexecutive Questionnaire. *British Journal of Psychology*, *92*, 551-565.

### Quality of Life in Patients with Epilepsy and Effectiveness of Cognitive-Behavioral Intervention [Dr. Alma Au -- Clinical Psychologist at Queen Elizabeth Hospital, Hong Kong]

Epilepsy is both a diagnosis of brain disorder and a social label. The traditional care of patients with epilepsy tends to focus on seizure control and drug treatment. However, there is increasing concern that treatment needs to take into account the multi-dimensional needs of the patient. Two studies have been conducted jointly by the Clinical Psychology Service and the Department of Medicine at Queen Elizabeth Hospital on psychosocial aspects in epilepsy.

The main purpose of the first study<sup>1</sup> was to explore and delineate the relationships between biomedical and psychosocial predictors and the health-related quality of life outcomes of Chinese patients in Hong Kong. The biomedical variables included seizure frequency and the number of years since diagnosis. The psychosocial variables included locus of control, social support, and mood. The Quality of Life in Epilepsy Scale was used as the outcome measure. Correlation and hierarchical regression techniques were used. Results showed that psychosocial variables did make a significantly independent contribution to the prediction of the quality of life of patients with epilepsy. Furthermore, results suggested that mood could act as a mediator between seizure characteristics and psychosocial factors, on the one hand, and quality of life, on the other. The statistically significant relationship between their health locus of control and satisfaction with social support confirmed the importance of the influence of the subjective sense of mastery of condition on quality of life. The clinical implication was discussed in the context of developing psychological interventions in increasing the self-efficacy and resourcefulness of the patients, which formed the basis of our second study.

A subjective sense of a lack of mastery/control constitutes a common theme in the experience in many patients with epilepsy and has been implicated as an etiologic factor in the development of psychosocial problems in epilepsy. Cognitive-behavioral interventions emphasizing the mediating role of thoughts and self-control appear to be particularly relevant for patients with epilepsy because anxiety and depression are their most common problems. Despite its apparent importance, very little systematic research has been published on the effectiveness of psychological treatment of epilepsy. The purpose of the second study<sup>2</sup> was to conduct a seminal outcome evaluation of psychological intervention for adult patients in Hong Kong. Using a waitlist control group, the treatment program focused particularly on cognitive restructuring and seizure control. Results indicated significant gains by the treatment group in overall quality of life and self-efficacy. In particular, marked improvements were noted for measures of emotional well-being and stress management. Findings from the study reinforce the need for a comprehensive approach in treating the needs of patients with epilepsy.

#### References

- 1. Au A., Li P., Chan J., Lui C., Ng, P., Kwok A. & Leung P. (2002). Predicting the quality of life in Hong Kong Chinese adults with epilepsy. *Epilepsy & Behavior*, *3*, 350-57.
- 2. Au A., Chan F., Li K., Leung P., Li P., & Chan J. (2003). Cognitive-behavioral group treatment program for adults with epilepsy in Hong Kong. *Epilepsy & Behavior*, *4*, 441-46.

### Impact of Unidentified Bright Objects on Cognitive Function of Children with Neurofibromatosis 1 [Ms. Connie Leung -- Clinical Psychologist at The Duchess of Kent Children's Hospital at Sandy Bay, Hong Kong]

Neurofibromatosis 1 is one of the more common conditions seen in the pediatric neurology outpatient clinic. The impact of magnetic resonance imaging (MRI)-identified  $T_2$ -weighted hyperintensities (unidentified bright objects) on the cognitive function of children with neurofibromatosis 1 is controversial. The presence of unidentified bright objects has been reported by several studies to be associated with impairment of cognitive function <sup>e.g., 1</sup>, whereas others have reported no such correlation<sup>e.g., 2</sup>. In our study, 32 right-handed children with neurofibromatosis 1 (22 boys, 10 girls) aged between 5 and 16 years were recruited for magnetic resonance imaging examinations and neuropsychologic evaluation<sup>3</sup>. Statistical analysis was performed to evaluate the significance of the hyperintensities. Twenty-four children had unidentified bright objects, whereas eight children did not. As assessed by the Hong Kong Wechsler Intelligence Scales for Children, the former group showed a lower mean IQ (Mean = 94.63, SD = 16.55) compared with the latter one (Mean = 100, SD = 14.74). It was discovered that unidentified bright objects in the thalamus, globus pallidus, and middle cerebellar peduncles and the laterality of the lesions had an impact on cognitive function.

Children with thalamic unidentified bright objects were found to be associated with lower intellectual function (Full-Scale IQ = 88.17) than those without thalamic lesions (Full-Scale IQ = 100.65, p = .031). Interestingly, it was found that a larger size of thalamic unidentified bright objects was significantly associated with a better cognitive profile (including general intellectual functioning, visual and verbal memory), which would probably indicate that regression of lesions was associated with higher cell turnover and neuronal loss, leading to deterioration in cognitive function. As compared to the extensive impact of thalamic lesions on children's cognitive function, left globus pallidus hyperintensities were more specifically associated with a lower sensorimotor score. Regarding the impact of lesions in the dominant versus non-dominant hemisphere on language ability, we found that more involved lesion sites on the dominant hemisphere was associated with significantly impaired verbal function relative to their nonverbal function, whereas children with equal number of unidentified bright objects in both hemispheres did not demonstrate such verbal-nonverbal discrepancy.

To further determine the impact of unidentified bright objects on cognitive function, it is necessary to further examine the relationship between changes in cognitive profile and the evolution of these lesions with longitudinal studies.

#### References

- X. Moore, B. D., Stopis, J. M., Schomer, D., et al. (1996). Neuropsychological significance of areas of high signal intensity on brain MRIs of children with neurofibromatosis. *Neurology*, 46, 1660-1668.
- 2. Legius, E, Desceemaeker, M. J., Steyaert, J., et al. (1995). Neurofibromatosis type 1 in childhood: Correlation of MRI findings with intelligence. *Journal of Neurology, Neurosurgery and Psychiatry, 59*, 638-640.
- Goh, W. H. S., Khong, P. L., Leung, C. S. Y., & Wong, V. C. N. (2004). T<sub>2</sub>-weighted hyperintensities (unidentified bright objects) in children with neurofibromatosis 1: Their impact on cognitive function. *Journal of Child Neurology*, 19, 853-858. Cognitive-behavioral group treatment program for adults with epilepsy in Hong Kong. *Epilepsy & Behavior*, 4, 441-46.