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RELATIONSHIP BETWEEN THE KOREAN DEMENTIA SCREENING QUESTIONNAIRE AND THE INFORMANT QUESTIONNAIRE ON COGNITIVE DECLINE IN THE ELDERLY



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Background: Converting scores between cognitive measurements would facilitate the longitudinal assessment of cognition in clinical practice and the comparison and synthesis of cognitive data in international, multicenter, or longitudinal studies. The primary aim of this study was to apply a simple and reliable method for converting scores from the Korean Dementia Screening Questionnaire (KDSQ) to those of the Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE). **Methods:** A total of 420 participants, with and without cognitive dysfunction, received both the KDSQ and the IQCODE in the same visit. The scores of both tools were calculated and equipercentile equating was used to create a method for converting the KDSQ to the IQCODE. **Results:** KDSQ scores were highly correlated with IQCODE scores (Pearson $r = 0.905$, $P < .01$). We developed scores for converting the KDSQ to the IQCODE using equipercentile equating and log-linear smoothing. We provide an easy-to-use table that enables the conversion of KDSQ scores to IQCODE scores. **Conclusions:** We delivered a simple and reliable method for converting of the KDSQ to the IQCODE. The conversion score tables reported here enable direct and easy comparison of these cognitive measurements in older adults.

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PERFORMANCE OF THE BAUM TEST FREQUENTLY USED AS PROJECTION PSYCHOLOGY WAS ASSOCIATED NOT WITH DEPRESSIVE STATE OR QOL BUT WITH COGNITIVE TEST FINDINGS IN ALZHEIMER DISEASE PATIENTS: THE OSAKI-TAJIRI PROJECT



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Background: The Baum test is frequently used method in projection psychology, which can assess personality disorder or psychological mal-condition of mentally ill patients. Previous studies reported that the test core was associated with depressive state for older adults. Since no previous findings were reported for cognitive aspects, we herein studied the relationship with other cognitive findings. **Methods:** The dataset of consecutive 282 outpatients with Alzheimer disease (AD) (NINCDS-ADRDA and DSM) was analyzed at the Osaki-Tajiri SKIP Center, including the Mini-Mental State examination (MMSE) and Cognitive Abilities Screening Instrument (CASI). For the assessment of depressive state and QOL, the Geriatric Depression Scale (GDS) and QOL-AD were performed, respectively. The findings of the Baum test was rated as 10 points according to the method of Koumi (2002). The patients were asked to draw a tree with fruits on the A4 paper. **Results:** There were significant positive, biologically meaningful Spearman correlations ($p < 0.05$) between the scores of Baum test and MMSE or CASI scores. For CASI domains, all but "Recent memory" and "Orientation" were associated. However, no remark-

able relations with the GDS or QOL-AD were noted. **Conclusions:** The results suggest that the Baum test can evaluate the cognitive functions rather than recent memory or orientation, which are typically damaged by Alzheimer disease (AD). Also, we previously reported a case who showed impaired Baum test score despite her normal copying ability. We consider that this free drawing test can compensate the other cognitive tests for assessing AD patients.

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DIFFUSION MODELING TO EVALUATE THE UTILITY OF COGSTATE IN DIFFERENTIATING NORMAL ELDERLY, MILD COGNITIVE IMPAIRMENT, AND PROBABLE ALZHEIMER'S DISEASE



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Background: Due to our aging population, the prevalence of Alzheimer's Disease (AD) has significantly increased, leading to critical issues for the nation's healthcare system. Methods to identify individuals' risk for cognitive change are essential. One approach is computer-based cognitive testing that allows structured testing that is easy to administer and score, can be used in local community centers or doctors' offices, and offers the ability for fine-grained measurement of performance (e.g., reaction times and accuracy). Diffusion modeling scoring procedures are under development to increase screening accuracy by including both reaction time and accuracy measures simultaneously. The Michigan Alzheimer's Disease Center (MADC) has been conducting research into the utility of diffusion modeling using computerized screening measures, including the CogState Battery. **Methods:** The current study used diffusion modeling to evaluate test performance from 215 older volunteers (144 healthy controls, 53 amnesic Mild Cognitive Impairment (MCI), and 18 probable AD participants) using two, forced-choice (yes/no) Cogstate subtests, representing learning (One Card Learning, OCL) and working memory (One Back, ONB). ROC curves were created to evaluate the sensitivity and specificity of using these indices to differentiate clinical diagnoses by consensus. **Results:** In standard calculations, OCL accuracy and ONB speed appear the most sensitive and specific measures to differentiate healthy participants from MCI (AUC = .72 each) and MCI from probable AD (AUC = .92 and .89, respectively). Diffusion modeling suggests that OCL Drift Rate (DR; reflecting cognitive processing efficiency), is the factor driving these findings (AUC = .72 and .92, respectively). In differentiating healthy controls from patients with probable AD using standard analyses, the variability in learning performance (AUC = .91) and working memory accuracy (AUC = .94) appear best at differentiating the groups, while diffusion modeling again suggests that learning drift rate differentiates these groups with superior accuracy (AUC = .97). Results are currently underway to evaluate whether diffusion modeling accuracy is superior to traditional analyses. **Conclusions:** Though overall learning and working memory can accurately differentiate healthy elderly, mild cognitive impairment, and probable Alzheimer's disease, learning efficiency measured with diffusion modeling highlights the importance of fine-grained analysis of cognitive test performance.