World Academy of Science, Engineering and Technology
International Journal of Mathematical and Computational Sciences
Vol:14, No:12, 2020

Diagnostic Contribution of the MMSE-2:EV in the Detection and Monitoring of the Cognitive Impairment: Case Studies

Authors : Cornelia-Eugenia Munteanu

Abstract : The goal of this paper is to present the diagnostic contribution that the screening instrument, Mini-Mental State Examination-2: Expanded Version (MMSE-2:EV), brings in detecting the cognitive impairment or in monitoring the progress of degenerative disorders. The diagnostic signification is underlined by the interpretation of the MMSE-2:EV scores, resulted from the test application to patients with mild and major neurocognitive disorders. The original MMSE is one of the most widely used screening tools for detecting the cognitive impairment, in clinical settings, but also in the field of neurocognitive research. Now, the practitioners and researchers are turning their attention to the MMSE-2. To enhance its clinical utility, the new instrument was enriched and reorganized in three versions (MMSE-2:BV, MMSE-2:SV and MMSE-2:EV), each with two forms: blue and red. The MMSE-2 was adapted and used successfully in Romania since 2013. The cases were selected from current practice, in order to cover vast and significant neurocognitive pathology: mild cognitive impairment, Alzheimer's disease, vascular dementia, mixed dementia, Parkinson's disease, conversion of the mild cognitive impairment into Alzheimer's disease. The MMSE-2:EV version was used: it was applied one month after the initial assessment, three months after the first reevaluation and then every six months, alternating the blue and red forms. Correlated with age and educational level, the raw scores were converted in T scores and then, with the mean and the standard deviation, the z scores were calculated. The differences of raw scores between the evaluations were analyzed from the point of view of statistic signification, in order to establish the progression in time of the disease. The results indicated that the psycho-diagnostic approach for the evaluation of the cognitive impairment with MMSE-2:EV is safe and the application interval is optimal. The alternation of the forms prevents the learning phenomenon. The diagnostic accuracy and efficient therapeutic conduct derive from the usage of the national test norms. In clinical settings with a large flux of patients, the application of the MMSE-2:EV is a safe and fast psycho-diagnostic solution. The clinicians can draw objective decisions and for the patients: it doesn't take too much time and energy, it doesn't bother them and it doesn't force them to travel frequently.

Keywords : MMSE-2, dementia, cognitive impairment, neuropsychology
Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development
Conference Location : Chicago, United States
Conference Dates : December 12-13, 2020