

Factor Structure, Clinical Cut off Point and Psychometric Properties Of 28- Items Version for General Health Questionnaire in Patients with Traumatic Brain Injury

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Abstract

Introduction: Traumatic brain injury (TBI) is a risk factor in creation of mental disorders. Therefore, psychometric study is necessary to provide a mental disorder screening tool in these patients.

Objective: To assess the factor structure, clinical cut-off point and psychometric properties of 28- Items version for General Health Questionnaire (GHQ-28) in patients with TBI.

Materials and Methods: In descriptive- longitudinal study, 238 patients (43 females and 195 males) were chosen by nonprobability and consecutive sampling method. Each of them completed modified version for GHQ-28. After 4 months pursuit 155 patients (65.1%) referred to a psychiatrist in order to determine the nature of mental disorder due to TBI, according to structured clinical interview based on DSM-IV diagnostic criteria. Data was analyzed by ROC curve, independent T tests, factor and discrimination analysis methods, Pearson's correlation, Cronbach's alpha coefficients and split half reliability (Spearman-Brown's and Guttman's).

Results: The results showed that cut off point, sensitivity, specificity and area under the curve was 16.5%, 62.2%, 60% and 0.66% respectively by using the conventional scoring method, for the Likert scoring method same values were 40.5%, 72.2%, 57.1% and 71.0 respectively. Reliability coefficients of mentioned questionnaire by Cronbach's alpha and split half reliability method, to conventional scoring method were 0.89, 0.76 and by Likert scoring method were 0.92, 0.81, respectively. According to factor analysis by oblique direct method, Four factors were extracted from the GHQ-28 which were named, social dysfunction, depression, physical symptoms, anxiety and insomnia respectively. The correlation coefficients among these questionnaire sub-scales and the total score founded level optimum were between 0.46-0.81 ($P < 0.0001$).

Conclusion: Factor analysis indicated that four major factors are the basis of Modified Version for GHQ-28 and psychometric properties implicated their capabilities for screening of mental disorders in patients with TBI.

Key words: Brain Injury/ Factor Analysis, Statistical/ Mass Screening/ Mental Disorders

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