

Designing a predictive model to determine the risk factors of mental disorders following traumatic brain injury

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Received February 13, 2012; Accepted January 2, 2012

Abstract:

Background: Organic brain damage can predispose individuals to mental disorders. This study aimed to design a predictive model to determine the risk factors of mental disorders following traumatic brain injury (TBI).

Materials and Methods: In this descriptive-longitudinal study, 238 patients (43 women and 195 men) with TBI referred to Poursina hospital (Rasht, Iran) were selected by the nonprobability and consecutive sampling from March to February 2010. Neurosurgical and psychological examinations were performed on all patients. After 4-month follow-up, 65.1% (155 cases) of the patients referred to a psychiatrist to determine the nature of mental disorder due to TBI using a structured clinical interview based on the DSM-IV diagnostic criteria. Data were analyzed using logistic regression.

Results: Findings showed that 117 post-injury cases (75.48%) of mental disorders were secondary to TBI. Logistic regression results indicated the severity of TBI (OR =3 .497, 95% CI 1.259-9.712) , presence of sub cranial

injury (OR = 2.834, 95% CI 1.022-7.857) and falling levels of general compatibility after trauma, as it was measured by the modified version for GHQ-28 (OR = 1.072, 95% CI 1.035-1.111), are associated with increased risk of mental disorders.

Conclusion: There is a close relationship between the development of post-TBI mental disorders and organic brain pathology (TBI severity and subcranial injury), but the role of the effective psychological factors such as the level of general compatibility post-trauma should not be neglected. Moreover, to predict those who have been considered to be at high risk of the mental disorders after TBI, the model presented in this study can be effective.

Keywords: Traumatic brain injury, Mental disorders, Risk factors, Predictive model