

Global Developmental Delay and Its Association with Risk Factors: Validation by Structural Equation Modelling

Authors : Bavneet Kaur Sidhu, Manoj Tiwari

Abstract : Global Developmental Delay (GDD) is a common pediatric condition. Etiologies of GDD might, however, differ in developing countries. In the last decade, sporadic families are being reported in various countries. As to the author's best knowledge, many risk factors and their correlation with the prevalence of GDD have been studied but its statistical correlation has not been done. Thus we propose the present study by targeting the risk factor, prevalence and their statistical correlation with GDD. FMR1 gene was studied to confirm the disease and its penetrance. A complete questionnaire-based performance was designed for the statistical studies having a personal, past and present medical history along with their socio-economic status as well. Methods: We distributed the children's age in 4 different age groups having 5-year intervals and applied structural equation modeling (SEM) techniques, Spearman's rank correlation coefficient, Karl Pearson correlation coefficient, and chi-square test. Result: A total of 1100 families were enrolled for this study; among them, 330 were clinically and biologically confirmed (radiological studies) for the disease, 204 were males (61.8%), 126 were females (38.18%). We found that 27.87% were genetic and 72.12 were sporadic, out of 72.12 %, 43.277% cases from urban and 56.72% from the rural locality, the mothers' literacy rate was 32.12% and working women numbers were 41.21%. Conclusions: There is a significant association between mothers' age and GDD prevalence, which is also followed by mothers' literacy rate and mothers' occupation, whereas there was no association between fathers' age and GDD.

Keywords : global developmental delay, FMR1 gene, spearman' rank correlation coefficient, structural equation modeling

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