

Factors Associated with Type-2 Diabetes Mellitus in Jaffna Peninsula

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Abstract: Advancement of life entailed some negatives that threatened the very lives of the people, prone to some dangerous diseases and among them diabetes is becoming more serious and alarming in the world and Sri Lanka too has heavily caught up with this phenomenon. The main objective of this study was to identify the factors associated with type-2 diabetes mellitus in Jaffna peninsula according to the risk factors such as age, Body Mass Index (BMI), family history of diabetes, alcoholic dependency, work intensity, sleeping troubles in night and sleeping troubles in morning. The second objective was to investigate the relationship between the variables such as gender, education, economic status, smoking and hypertension and severity of diabetes. The sample included 101 patients who had type-2 diabetes mellitus. Samples were randomly chosen from the clinics in the Teaching Hospital, Jaffna. Factor analysis was conducted to identify the factors associated with type-2 diabetes mellitus and odds ratios, corresponding 95% confidence intervals and p-value were estimated to investigate the relationship between variables and severity of diabetes. The factor analysis results demonstrated that cluster of at least four variables such as age, alcohol dependency, sleeping troubles in night and sleeping troubles in morning which have identified as factor one explained 30.2% of the total variance among type-2 diabetes patients. Furthermore, in this study, the second factor, that is works intensity, explained 15.6% of the total variance and the third factor, that is BMI and family history, explained 14.8% of the total variance among type-2 diabetes patients. Furthermore, it was possible to form a new standard scale, based on linear combinations of diabetes indices and parameters, to measure the severity of diabetes. Based on the odds ratio results, it was concluded that primary educated patients, low and middle economic status patients compared to high economic status patients and smokers were significantly associated with severity of diabetes.

Keywords: Principal Component Analysis, Factor Analysis, Odds Ratio, Confidence interval