

Prevalence and Associated Factors of Prediabetes and Diabetes Mellitus in a Population Living in Kopay DS division of Jaffna District, Sri Lanka

V. Vinitharan, S. Amarasinghe, S. Balakumar[†] and V. Arasaratnam

Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka
[†]balakumarbiochem@gmail.com

Abstract: The aim of this study was to estimate the prevalence of prediabetes and diabetes mellitus among adults aged 20-69 years residing in Kopay Divisional Secretariat (DS) division of Jaffna district and to identify the associated risk factors. A total of 395 subjects aged 20-69 years were included in this study from 14 Grama servaga divisions of Kopay DS division. Height, weight and blood pressure measurements and overnight fasting blood samples were obtained from all subjects. Clinical data, details about lifestyle, socio demographic and socio economic factors were obtained using an interviewer administered questionnaire. A fasting blood glucose level of 100 to 125 mg/dl was considered as prediabetic condition. Those who have more than 125 mg/dl fasting blood glucose levels were considered as diabetics. Of the 420 subjects invited, only 395 were responded (94%). Of the total number of subjects, 33.9% were males. The overall prevalence of prediabetes was 12.91% (n=51). The prevalence of prediabetes in males (17.9%) was greater than in females (10.34%) (p<0.05). The occurrence of prediabetes was found to increase linearly with aged after 40 years. High blood pressure, lowered HDL cholesterol and hypertriglyceridemia were found in 23.5, 76.5 and 35.3% of the prediabetic population respectively. The percentage of overweight and obesity was 47.1% and elevated waist circumference was 39.2% of the prediabetic subjects. The overall prevalence of diabetes was 9.3% (n=37). Diabetes was almost equally distributed among males (8.2%) and females (9.9%) (p<0.05). Metabolic syndrome (unified criteria) was found in 70.3% of the diabetic subjects, reflecting its ability to act as a predictor of diabetes. High blood pressure, low HDL cholesterol and hypertriglyceridemia were found in 24.3, 94.6 and 35.1% of the diabetic population respectively. The percentage of overweight and obesity was 64.8% and elevated waist circumference was 54.1% of the diabetic subjects. Of all diabetic subjects 45.9% were previously undiagnosed. Metabolic syndrome was present in 32.2% (n=127) of general population. Among them 20.5% were diabetics, while 22% were prediabetics (p<0.05). Prevalence of prediabetes and metabolic syndrome was considerably high in this population. Lower than desirable level of HDL cholesterol is the most risk factor in this population. Preventive measures to reduce the future risks of diabetes should be promoted.

Keywords: Diabetes mellitus, Fasting blood sugar, HDL, Hypertriglyceridemia.