

Prevalence and Risk factors of Diabetes Mellitus in Jaffna District, Sri Lanka

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A community based cross sectional descriptive study was undertaken to determine the prevalence and risk factors for diabetes mellitus (DM) in people above 18 years of Jaffna District, Sri Lanka during the period of 2011 to 2012. Overnight fasting blood sample was obtained from 511 subjects to measure the fasting plasma glucose (FPG) using enzymatic colorimetric assay. Anthropometric measurements were recorded and interviewer administrated questionnaire was employed. Physical activity was assessed using International physical activity questionnaire. The prevalence of DM (FPG ≥ 7.0 mmol/L) was 16.4% (95% CI: 13.3-19.9) and it was 19.6% (14.6-25.4) in males and 13.9% (10.1-18.5) in females. Of the total diabetics, 27.4% was previously undiagnosed. The prevalence of pre-diabetes (FPG < 6.1 - 7.0 mmol/L) was 7.4%. Prevalence of dysglycemia (DM and pre-diabetes) was 23.9% (95% CI: 20.2-27.8). Prevalence of DM was higher among the smokers (26.3%) than the non-smokers (15.2%, $p=0.032$). Prevalence of DM was higher among inactive subjects (21.8%) compared with active ones (13.9%, $p=0.034$). In the final multivariable model adjusted for age, high waist hip ratio (WHR > 0.9 in male, > 0.85 in female) and central obesity (waist circumference for male ≥ 90 cm, female ≥ 80 cm), people with family history of DM were 3.5 times more likely to develop DM compared to the people without family history of DM (2.073-5.925). Likewise subjects with high WHR had 2 times DM risk than the normal subjects (1.205-3.644). Association of DM with the central obesity was marginally significant in the final adjusted model ($p=0.057$). Effects of age categories greater than 65, 50-64 and 35-49 years on DM were 12.6 (4.195-38.022), 7.3 (2.712-19.803) and 3.8 (1.387-10.820) higher compared to the age category 18-34 years respectively. It was concluded that 1 out of 4 people in Jaffna has either DM or pre-diabetes and the risk of developing DM is increased with age, positive family history of DM and high WHR.

Keywords Prevalence of Diabetes mellitus, Jaffna district