

ABSTRACT

An epidemiological study was carried out to determine the prevalence of NIDDM and to develop a screening tool to detect NIDDM in the community setting using a cross-sectional descriptive study design. The study area was Kalutara district in Sri Lanka. A stratified cluster sample of 3000 between the ages of 30 to 64 years was enrolled for the prevalence study. The participation rate was 95.5%.

Fasting plasma glucose levels were measured by Glucose Oxidase Method after a minimum of 10 hours of overnight fasting. Structured pre-coded interviewer administered questionnaire was used to collect information on socio-demographic variables, symptoms and risk factors of NIDDM. Anthropometric measurements height, weight, and waist circumference were measured using standard protocols. A screening tool was developed following the standard procedure in developing of a new instrument. Diabetes mellitus was defined as a fasting blood sugar level over 126mg/dl (7m.mol/L) or the subject was diagnosed as having diabetes.

All the symptoms and risk factors were dichotomized and logistic regression model used to select important symptoms and risk factors in predicting new cases. Regression coefficient was used to calculate a simple score by which an individual's probability of having undiagnosed diabetes can be predicted.

Mean age of the sample was 45.3 years (S.D. 9.76). There were 51.4% of females and 48.6% of males in the sample. Age standardised prevalence rate for NIDDM for both sexes were 10.3% (95% C.I. 6.92 – 13.07). For females crude prevalence rate was 10.2% and for males it was 9.3%.

Prevalence of IFG was 4.4% for males and 3.5% for females. Prevalence rate for Total Glucose Tolerance was (age adjusted) 14.02% indicating that NIDDM is highly prevalent in this District. Age was significantly associated with NIDDM status with a maximum prevalence in the age group of 50-54 years. Prevalence rate among females was a little higher than the males. Urban people had significantly higher crude prevalence rate of 14.7% than their rural counterparts. For each three known people with diabetes there were two persons with undiagnosed diabetes. BMI levels correlated with NIDDM in both sexes. Non-occupational physical activity level was significantly ($p < 0.001$) associated with NIDDM. Obesity was more prevalent among NIDDM people.

In the screening tool, important risk factors found were age more than 40 years, dryness of the mouth, constipation, presence of a family history of diabetes and nocturia. Screening tool was validated with the FPG value and the ROC analysis showed that the screening tool carries 53.3% sensitivity, 60.8% specificity and positive predictive value of 6%. It is concluded that a questionnaire based on symptoms and risk factors is not suitable to screen for diabetes in the field setting.