Socioeconomic Variables Responsible in Discriminating Diabetic and Non-Diabetic Adults in Bangladesh

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Abstract:

It was evident from different studies that adverse socioeconomic conditions were the source of prevalence of diabetes and more deaths due to type II diabetes. Female, urban resident, people of lower level of education, adult of age 40 year and above, person of higher income and expenditure, obese, habituated in taking restaurant food and can food, physically inactive person, person involved in sedentary activities, smoker, and hypertensive adult, etc. are at the risk of prevalence of diabetes. Most of the people of the above category are responsible for obesity and obese adults usually suffer from diabetes. These facts are true in all environments or in all socioeconomic conditions. Assuming these facts true, an attempt was made to identify the responsible variables for prevalence of diabetes among Bangladeshi adults. The identification of the variables was done in discriminating between diabetic and non-diabetic adults.

The data for the study were collected from 785 adult members of age 18 years and above of the families of 2 percent randomly selected students of American International University – Bangladesh during their academic activities. The selected students were trained to collect the data through pre-designed and pre-tested questionnaire. The collected information included different aspects of socioeconomic variables including the information on the prevalence of non-communicable diseases. Chi-square test was done to verify the significance of association of prevalence of diabetes and socioeconomic variable. The risk ratio for the prevalence of diabetes was calculated. Discriminant analysis was done to detect the responsible variable in discriminating between diabetic and non-diabetic adults.

Among the respondents the percentages of rural adults, females, married persons, adults of ages 45 years and above, persons educated up to primary level, housewives, persons having no income, adults not involved in physical labor, and overweight and obese adults were 13.4, 31.2, 49.8, 32.4, 9.2, 12.9, 51.3, 47.6, 86.4,respectively. The percentage of rural diabetic adults was 46.7 as against 43.5% urban diabetic adults. But urban and rural adults were almost had similar risk of prevalence of diabetes [R.R = 1.07]. Female diabetic adults (47.3%) were more compared to their male counterpart (42.4%). The chance of prevalence of diabetes among females was 12% more than the chance of males [R. R= 1.12].

The percentage of diabetic adults of ages 45 years and above was 55.5 as against 38.4% of adults of lower ages. With the increase in age there was increased rate of prevalence of diabetes by 44% [R.R.= 1.44]. Among married adults 50.6% were diabetic as against 37.3% diabetic single adults. Married adults were 1.36 times more exposed to diabetes [R.R.= 1.36[. Percentage of diabetic adults educated up to primary level was 56.9 against 42.6% diabetic adults of other levels of education. Lower educated people had 34 % more risk of facing the problem of diabetes [R.R.= 1.34]. Diabetic housewives (64.4%) were more in percentage than diabetic adults of other occupations (40.9). Prevalence of diabetes among housewives was 1.57 times more as it was in adults of other occupations [R.R.= 1.57].

The percentage of diabetic adults without any income was 47.9 compared to the percentage of diabetic adults (39.8%) of other levels of income. The chance of prevalence of diabetes in adults having no income was 1.20 times as it was in other adults [R.R.= 1.20]. Physical inactivity was noted among 47.6% adults and 48.4 % of them were diabetic patients. On the other hand, those who were doing any kind of physical work the percentage of diabetic adults among them was 39.9. Physical inactivity was the cause of 21% more chance of prevalence of diabetes [R.R.= 1.21]. Overweight and obese diabetic adults was 46.0% compared to the diabetic adults of other levels of obesity (30.8%). Overweight and obese adults were 49% more exposed to the problem of diabetes [R.R.= 1.49].

The percentage of smoker (15.9) diabetic adults was 39.2 but they were less exposed to the prevalence of diabetes compared to their counterpart [R. R= 0.87]. Lower proportion (0.422) of adults was habituated in taking restaurant food. Among them 42.2% were diabetic and they were less exposed to the problem of diabetes [R.R.=0.93]. Among the adults 54% were habituated in taking process food and 40.3% of them were diabetic patients. But they were less exposed to the problem of prevalence of diabetes [R.R.= 0.84]. The percentage of hypertensive adults were

15.3% [diastolic blood pressure ≥ 85 and systolic blood pressure ≥ 140] and 54.2% were diabetic patients. Hypertensive adults were at 1.29 times risk of prevalence of diabetes as in other adults [R.R.=1.29].

It was noted that the prevalence rates of diabetes were more in females, married persons, adults of lower level of education, housewives, adults having no income, physically inactive, obese adults, and hypertensive adults The most responsible variable for the prevalence was marital status followed by income, obesity, hypertension, age and physical inactivity. These variables discriminated between diabetic and non-diabetic adults.

Diabetes is non-curable disease. But it can be controlled under proper care and under regular medical treatment when it is detected. People should be advised to avoid sedentary entertainment and they should do some physical activity, if and when they get the chance. The following steps may be helpful.

(i) to halt the rise in diabetes people should participate in blood screening programs regularly and they should do some sorts of physical work and physical exercise, if and when they get the chance so that their body weight and blood pressure remain under control,

(ii) people should avoid sedentary entertainment and unhygienic activities and unhygienic food,

(iii) people should give up smoking habit, habit of taking fast food and high calorie salted food from restaurant, rather they should take home made food.

(iv) The health authority and urban and rural health workers can play a decisive role to implement the above suggested steps.

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