

## ORIGINAL ARTICLE

## Awareness About Role of Life Style In Controlling Diabetes Mellitus Among The Visitors In A Tertiary Level Hospital

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### Abstract:

*The cross-sectional descriptive study was done from December 2011 to February 2012 to determine the awareness about lifestyle in controlling diabetes mellitus among the visitors of a tertiary level hospital in Dhaka city. The data were collected by face to face interview using a structured questionnaire. The sample size was 306, which was selected randomly from visitors aged 21 years and above. The mean age of the respondents was 42.97 years, of them 53.60% were male and 46.40 % were female. 231 (75.49%) tested their blood for diabetes, of them 84.42% tested within one year; about 51(17%) respondents were diabetic. Of the diabetic 49.02% was suffering for 1-5 years, and 35.29% for more than 5 years; of the 51 diabetic respondents, 90.12% controlled diet, 88.23% did physical exercise, 72.95% took prescribed medicine and 70.55% took all the measures while 9.80% did nothing for management or control of diabetes. Of the respondents, 19.28% had family history of diabetes. Regarding risk factors for developing diabetes 77.45% mentioned excess intake of sweetmeat, 69.28% lack of exercise, 55.23% family history, 53.92% overweight, 49.02% overeating, and 39.54% mentioned about life style change; 46.73% of the respondents did exercise irregularly and 12.09% regularly; 25% of the total respondent controlled diet regularly and 26.47% occasionally; 86.80% opined excess intake of sweetmeat may increase diabetes and 50.00% said excess intake of all food may increase the diabetes. The study revealed that diabetes mellitus is a multi-factorial disease, since several risk factors appear to play contributory role in its prevalence in the community. Hence, a complex mix of interventions is required at multiple levels to reduce the morbidity and mortality associated with this condition.*

### Introduction :

The twentieth century revolution in health and the consequent demographic transition leads inevitably to major changes in the trends of different diseases. The epidemiological transition

leads in a major shift in the cause of death and disability from communicable diseases to non-communicable diseases. The resulting new epidemics of non-communicable diseases and injuries are challenging the cost and capacities of health system. Health policy makers in the early decades of the 21st century will face a double burden of diseases; firstly the emerging epidemics of non-communicable diseases and secondly some major infectious diseases which survived the 20th century- a part of unfinished health agenda<sup>1</sup>. In the developing countries where communicable diseases still pose serious threat to health of the people, the incidence of non-communicable diseases is also on

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the increase because of the rapid changes of life style and behavioral pattern of the people. Among the non-communicable diseases, diabetes is a major concern for the developed as well as the developing countries. Diabetes causes an enormous burden to people and economies worldwide.

The term diabetes mellitus describes a metabolic disorder of multiple aetiologies characterized by chronic hyperglycemia with disturbance of carbohydrate, fat and protein metabolism resulting from defects in insulin secretion or defects in insulin action or both<sup>2</sup>. Previously a disease of middle aged and elderly, type-II diabetes has recently escalated in all age groups and is now seen in younger age group including adolescents<sup>3</sup>. This means, that in developing countries, the majority of diabetic patients acquire the disease during the most productive period of their lives.

Currently the number of cases of diabetes worldwide is estimated to be 150 million. This number is predicted to be double by 2025 with huge number of cases being expected in China and South East Asia. In current estimates on the advice of local experts, the prevalence of diabetes in rural areas was assumed to be one quarter of that of urban areas for some developing countries like Bangladesh, Bhutan, India, Maldives, Nepal and Sri-Lanka<sup>3</sup>.

It is estimated that 20% of the current global diabetic population reside in South East Asia region. Estimated total cases of diabetes in Bangladesh was 3.2 million in the year 2000 and 11.1 million in 2030 that will be ranked as 7th in the world<sup>4</sup>.

The magnitude of diabetes in this country remains unknown due to lack of country wide survey. However several small scales studies on prevalence of diabetes, conducted by BIRDEM showed that the overall prevalence rate of diabetes is 5.6% and more than 96% of which are reported to have type-2 diabetes. An increasing trend of diabetes

registration in all the referral centers in Bangladesh has been reported in recent years. From diabetes registry of BIRDEM it has been found that the number of new patients registered were about 39 in 1956, which was increased to 15,296 in 1978. Total numbers of patients registered until April 1994 in the central registry of BIRDEM were 116,013 which had been increased to 321,000 until April 2006. Among the registered diabetics on an among the rural population and 11.2 among the city dwellers of Dhaka. If the trend continues to grow in this rate in the country where the growth rate is 1.48%, the problem of diabetes as a major public health problem should certainly alarm the health system of the country and should draw the attention of the health policy makers, planners and health workers at all levels<sup>10</sup>.

average 60% were male and 40% were female, 62% were from urban, 32% from rural and only 8% from semi urban areas<sup>5,6,7,8</sup>. Recent studies showed that crude prevalence of type 2 diabetes was 4.3%

The study was an attempt to assess necessary information about diabetes, its prevalence and relationship with suspected risk factors and awareness of the people about changing the life style to control diabetes.

#### **Materials and method :**

This cross sectional descriptive study was conducted among the visitors of inpatient and outpatient department of Holy Family Red Crescent Medical College Hospital from November 2011 to February 2012 to assess the level of awareness about role of life style in controlling diabetes mellitus. The sample size was 306. The data was collected from both male and female visitors of 21 years and above age group by face to face interview by using a pretested structured questionnaire. The data was processed and analyzed by using MS office 2007 of computer.

**Results :**

The age of the respondents was from 21 years and above of them 38.24% was from 41 to 50 years age group and the mean age was 42.97 years. Of the 306 respondents, 164 (53.60%) were male and 142 (46.40%) were female.

**Table -I :** Distribution of the respondents by their age

Age in years	Frequency	Percent
21-30	53	17.32
31-40	61	19.93
41-50	117	38.24
51-60	51	16.67
61-70	18	5.88
71 and above	6	1.96
Total	306	100.00

Table II shows that of the 306 respondents 231(75.49%) tested their blood for diabetes and 75(24.51%) did not test their blood for diabetes, of them 195(84.42%) tested their blood within one year and the remaining 23(15.58%) tested before one year.

**Table-II :** Distribution of the respondents based on their awareness for blood test diabetes

Tested blood	Frequency	Percent	Time of last checking	Frequency	Percent
Yes	231	75.49	Within 1 year	195	84.42
No	75	24.51	More than 1 year	36	15.58
Total	306	100%	Total	231	100%

**Table -III :** Distribution of the respondents regarding family history of diabetes

Family history of diabetes	Frequency	Percent
Yes	59	19.28
No	135	44.12
Not known	112	36.60
Total	306	100

Of the 306 respondents 59(19.28) had family history of diabetes, 135 (44.12%) had no family history and the rest 112(36.60%) did not know about the presence of their family history of diabetes.

**Table- IV :** Distribution of the respondents regarding their idea about risk factors

Risk factor	Frequency	Percent
Family history	169	55.23
Lack of exercise	212	69.28
Over weight	165	53.92
Over eating	150	49.02
Eating of excess sweetmeat	237	77.45
Life style change	121	39.54
Total	1034	Multiple answer

Table IV- shows that of the 306 respondents 137 (77.45%) mentioned excessive intake of sweetmeat, 212 (69.28%) lack of exercise, 169 (55.23%) family history, 165 (53.92%) over weight, 150 (49.02%) over eating and another 121 (39.54%) mentioned life style change as the risk factors of developing diabetes mellitus. Most of the respondents mentioned about more than one option.

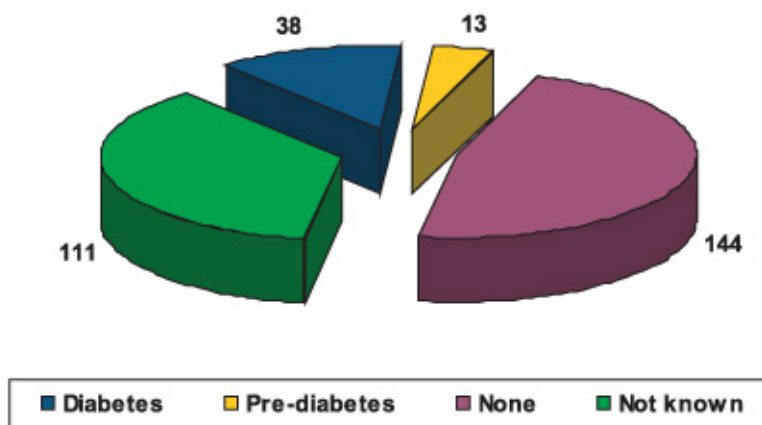
**Figure- 1 :** Distribution of the respondents whether they were suffering from diabetes (N=306)

Fig-1 shows that of the 306 respondents 38 (12.42%) were suffering from diabetes, 13 (4.25%) were pre diabetic and 144 (47.06%) were non diabetic while 111 (36.24%) did not know whether they were diabetic or not. For convenient in this study both diabetic and pre diabetics were considered as diabetic and non diabetic and those who did not tested for diabetes within one year were considered as non diabetic.

**Table -V :** Distribution of the diabetic respondents about measures taken for management of DM

Measures taken	Frequency	Percent
Physical exercise	45	88.23
Diet control	46	90.12
Prescribed medicine	37	72.55
All of the above	36	70.58
Did nothing	5	9.80
Total	169	

Table- V shows that of the 51 (38+13) diabetic person 45 (88.23%) used to do physical exercise, 46 (90.12%) controlled their diet, 37 (72.55%) took prescribed medication, 36 (70.58%) took all the above measures; where as 5 (9.80%) did nothing for control of their diabetes.

**Table -VI :** Distribution of the respondent's attitude in doing exercise

Practice of exercise	Frequency	Percent
Did exercise regularly	37	12.09
Did exercise irregularly	143	46.73
Did physical work	60	19.61
Did not do exercise	66	21.57
Total	306	100

Table- VI shows that of the 306 respondents 143 (46.73%) did exercise irregularly, 66 (21.57%) did not practice exercise, 60 (19.61) were engaged with physical work and only 37 (12.09) did exercise regularly.

**Figure 3 -** Distribution of the respondent's whether they controlled their diet N=306

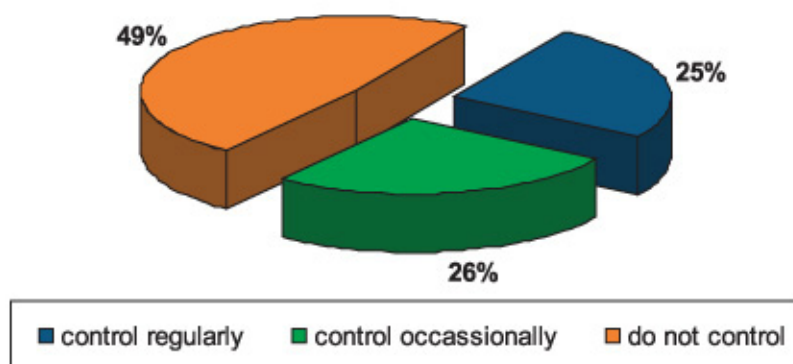


Figure- 3 shows 147 (48.04%) that of the respondent did not control their diet, 81 (26.47%) irregularly controlled the diet and only 78 (25.49%) used to control their diet regularly.

### Discussion :

The study was done to assess the awareness level of the respondents about controlling diabetes mellitus. As diabetes mellitus is a lifelong disorder, it is aimed at supporting people to live with diabetes with minimum or no risk of complications. Such an aim is achievable by achieving some specific targets of blood glucose, lipids and body weight by life style modification in addition to drug therapy. Life style modification has the potentiality to correct some factors which are not only proved as risk factors for developing diabetes but also to cause deterioration in blood glucose level of the

individual. The important issues of life style of a physical activity and exercise, food-care and footwear habit and involvement in self monitoring of blood glucose.

There was a survey in Azimpur colony of Dhaka city in 1992 in which 15.6% were obese, 19.8% had regular physical activity and 6.9% diabetic<sup>11</sup>. In our study the prevalence of diabetic is more, probably because the study was conducted in a tertiary level private hospital and also due to gradual increase incidence of diabetes.

In a study at Dhaka Cantonment Military Hospital, it was found that out of 100 military and 100 civil respondents 51.50% performed regular physical

exercise which is higher than regular exercise of our study, may be because of 100 military respondents<sup>12</sup>.

A study conducted by Hayes L et al. to see the patterns of physical activity and its relationship with risk markers of cardiovascular disease and diabetes in Indian, Pakistani, Bangladeshi and European adults in a UK population and showed that for an effective control and prevention of diabetes; 88% of Pakistanis, 87% of Bangladeshis and 71% of Indians did not meet the guidelines about life style as compared to 52% Europeans<sup>13</sup>. Their findings about Bangladesh correspond to the findings of present study.

A study was conducted on patients visiting the out-patient department or admitted in Fuji Foundation Hospital Rawalpindi, showed that regarding exercise, only 39% knew the benefits of regular exercise and only 26% tried to follow a regular exercise program<sup>14</sup>. In our study 69.28% knew about the benefits of exercise and 12.09% did regular exercise.

A Study conducted by Jacqueline Henry in Coastal Georgia of United States showed that lifestyle modification program helps people to reduce their risk for type-II diabetes by helping them learn about eating healthier, increasing physical activity and other behavior changes<sup>15</sup>. Another study was conducted at Diabetic clinics of Jinnah Postgraduate Medical and Kidney Centre of Karachi to see the awareness about life style modification of diabetic patient which showed that 43% were not taking regular treatment, 62% diabetes was not under control, 52% did not follow diet chart and 82% did not practice regular exercise<sup>16</sup>. In the present study the level of awareness was higher than the study of Karachi hospital.

In another study by Osman Salem et al. in rural Islamabad of Pakistan to assess the awareness level about diabetes mellitus and associated risk factors

on 300 adult and found that 43% were aware about diabetes mellitus, 73.7% had no regular exercise, and 85.3% did not have healthy eating habit and 14% were aware about risk factors while 22% were aware about complications of diabetes and 77% never gone for regular checkup<sup>17</sup>. In this study the awareness level is better than that study. A study on patients' health education and diabetic control in a developing country showed that 63.3% of the respondents were aware about obesity, 73.5% about physical inactivity and 78.7% family histories as risk factor of diabetes. Again majority of the patients were aware that healthy diet (94.9%), exercise (94.5%) and weight loss (87.4%) are beneficial in diabetes control<sup>18</sup>. The findings suggest better awareness level of life style than our study.

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