

Knowledge, attitude and practices regarding diabetes mellitus type 2 among people with diabetes visiting outpatient department of Taluka Hospital, Miro Khan, Sindh

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Abstract

A cross-sectional survey was carried out from March 2018 to November 2018 to assess the knowledge, attitude and practices about diabetes mellitus type 2 among people with diabetes visiting the outpatient department of Taluka Hospital, Miro Khan, Sindh. Data was collected by using a pre-tested questionnaire and analysed on statistical package for social sciences version 20. Almost all the participants knew that diabetes is marked by high blood glucose, 261 (68.0%) knew that sweating is a symptom of low blood glucose, 198 (51.6%) were aware that hypoglycaemia is more dangerous than hyperglycaemia, 310 (80.7%) knew that positive family history of diabetes is a predisposing factor for diabetes mellitus type 2, 196 (51.0%) thought that one should not avoid administration of insulin when needed, 131 (34.0%) used sugar substitutes in their diet whereas 153 (39.8%) used to exercise daily. Mass awareness programmes by the public sector and targeted counselling by healthcare providers are suggested as means for improving the practices of people with diabetes mellitus.

Keywords: Knowledge, Attitude, Diabetes Mellitus, Outpatients.

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Introduction

Diabetes is a group of metabolic diseases characterised by hyperglycaemia resulting from defects in insulin secretion, insulin action, or both. The pathogenic processes involved in the development of diabetes range from autoimmune destruction of the β -cells of the pancreas with resultant insulin deficiency to abnormalities in metabolism that result in resistance to insulin action.¹ Environmental factors together with genetic predisposition constitute major etiologic agents of diabetes mellitus.² In 2000, the global prevalence of diabetes mellitus was estimated to be 2.8% which was

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expected to rise to 4.4% in 2030. Moreover, the total number of people with diabetes was 171 million in 2000 which was expected to increase to 366 million in 2030.³ The World Health Organisation classifies diabetes mellitus into following main categories: type 1 diabetes mellitus, type 2 diabetes mellitus, hybrid forms of diabetes, other specific types such as due to genetic abnormalities, pancreatic diseases, endocrine disorders, drug or chemical-induced diabetes, infection related diabetes, etc. and hyperglycaemia first detected during pregnancy.⁴ The complications of uncontrolled diabetes mellitus include microvascular complications such as nephropathy, neuropathy and retinopathy; macrovascular complications such as atherosclerosis; and miscellaneous complications such as cardiomyopathy.⁵ However, knowledge regarding diabetes can assist people to better manage their condition.⁶ Successful management of diabetes mellitus can help the patients lead a proactive life and avoid complications. Such a management constitutes health education, dietary modification, exercise and changing harmful personal habits such as smoking. Meanwhile, oral hypoglycaemic drugs and insulin are medical measures to control diabetes mellitus.

Although a number of studies have been carried out earlier worldwide, assessing the knowledge, attitude and practices of individuals regarding diabetes mellitus type 2, to the best of our knowledge, relevant local data is limited. This study was, therefore, conducted to assess the knowledge, attitude and practices regarding diabetes mellitus type 2 among people with diabetes visiting outpatient department of Taluka Hospital, Miro Khan, Sindh.

Patients/Methods and Results

After taking ethical approval, a cross-sectional survey was carried out regarding patients' knowledge, attitude and practice from March 2018 to November 2018 in the outpatient department of Taluka Hospital, Miro Khan, District Qambar, Shahdadkot, a rural area of the province of Sindh. Using percentage frequency of the study outcome as 50% for maximum sample size estimation,

Table-1: Knowledge profile.

Variables (n=384)	n (%)
Diabetes mellitus is marked by high blood glucose	
Yes	379 (98.7)
No	5 (1.3)
Green vegetables should be taken in diabetes mellitus	
Yes	373 (97.1)
No	11 (2.9)
Unrefined wheat flour should be taken in diabetes	
Yes	273 (71.1)
No	111 (28.9)
Fish can be taken in diabetes	
Yes	290 (75.5)
No	94 (24.5)
Poultry meat can be taken in diabetes	
Yes	260 (67.7)
No	124 (32.3)
Sweets should be avoided in diabetes	
Yes	359 (93.5)
No	25 (6.5)
Non-diet soft drinks and alcoholic drinks should be avoided in diabetes	
Yes	319 (83.1)
No	65 (16.9)
Sweating is a symptom of low blood glucose	
Yes	261 (68.0)
No	123 (32.0)
Trembling is a symptom of low blood glucose	
Yes	307 (79.9)
No	77 (20.1)
Confusion is a symptom of low blood glucose	
Yes	274 (71.4)
No	110 (29.6)
Frequent urination is a symptom of high blood glucose	
Yes	353 (91.9)
No	31 (8.1)
Excessive hunger is a symptom of high blood glucose	
Yes	254 (66.1)
No	130 (33.9)

with 95% confidence interval and 5% precision, the required sample size was calculated to be 384 participants. Patients of both gender with known diabetes mellitus type 2 aged ≥ 30 years were included in the study. The lower age limit was set in accordance with recent relevant published literature.⁷⁻⁹ The patients were randomly selected from Out Patients Department using their OPD slip numbers as surrogate of a list achieved by the help of a random number table and then every fourth patient visiting the OPD was approached to check for eligibility. After taking verbal informed consent, the participants were interviewed by the principal investigator using a pre-tested structured questionnaire designed after a thorough literature review. For the purpose of interview, the questionnaire was first

Table-2: Attitude and practice profile.

Variables (n=384)	n (%)
Smoking is dangerous for a diabetic patient	
Yes	328 (85.4)
No	56 (14.6)
Diabetes mellitus can be cured with traditional medicine	
Yes	81 (21.1)
No	303 (78.9)
For management of diabetes insulin should be avoided as much as possible	
Yes	164 (42.7)
No	220 (57.3)
Feel depressed due to diabetes mellitus	
Yes	246 (64.1)
No	138 (35.9)
Checking weight regularly is important in management of diabetes mellitus	
Yes	238 (62.0)
No	146 (38.0)
Regularly avoiding sweet food is difficult	
Yes	246 (64.1)
No	138 (35.9)
Type of treatment taken to manage diabetes mellitus	
Oral hypoglycaemic	275 (71.6)
Insulin	99 (25.8)
Traditional medicine	10 (2.6)
Take medication regularly	
Yes	330 (85.9)
No	54 (14.1)
Use sugar substitutes instead of sugar in diet	
Yes	131 (34.1)
No	253 (65.9)
Do exercise daily	
Yes	153 (39.8)
No	231 (60.2)
Take breakfast regularly	
Yes	313 (81.5)
No	71 (18.5)
Visit doctor at least once every 6 months	
Yes	343 (89.3)
No	41 (10.7)
Get eyes examined at least once a year	
Yes	102 (26.6)
No	282 (73.4)

translated to the local language (Sindhi) and then translated back to English to check for harmony with the original version. It was first checked for face validity by asking the participants how relevant the questionnaire appeared to the study objective; and then for reliability by calculating Cronbach's alpha that was found to be 0.751, indicating an acceptable level of internal consistency. The questionnaire consisted of questions related to the demographic profile of the participants as well as questions related to their knowledge, attitude and practices regarding diabetes mellitus type 2. The data was analysed on statistical package for social sciences (SPSS)

version 20. Descriptive analysis was performed by generating frequencies and percentages for categorical and means and standard deviations for continuous variables. The study duration spanned over nine months.

The participants' response rate for the study was 100% with no refusals. The study results revealed that the mean age of the study participants was 44.3 ± 1.5 years, 196 (51.0%) of them were male, 217 (56.5%) Sindhi speaking, 136 (35.4%) illiterate, 103 (26.8%) had primary education and 122 (31.8%) were involved in self-business, while 165 (43.0%) were unemployed.

A majority of the participants, {214(55.7%)}, knew that being overweight was a risk factor for diabetes mellitus type 2, 261 (68.0%) were aware that sweating was a symptom of low blood glucose, 254 (66.1%) recognised excessive hunger to be a symptom of high blood glucose, while 198 (51.6%) knew that hypoglycaemia was a more dangerous condition than hyperglycaemia (Table-1).

Furthermore, positive family history of diabetes as a predisposing factor for diabetes mellitus type 2 was known to 310 (80.7%) of them. Regarding complications of diabetes mellitus, neuropathy or nerve damage was recognised by 343 (89.3%), kidney problems by 274 (71.4%), stroke by 216 (56.3%), diabetic foot by 349 (90.9%), whereas eye problems by 273 (71.1%). Combination of dietary modification, exercise and medical measures (oral hypoglycaemics or insulin) as a treatment of diabetes mellitus type 2 was known to 269 (70.1%) of them.

A majority of participants {196(51.0%)} thought that one shouldn't avoid administration of insulin when needed and {238(62.0%)} said that regular checking of body weight was of importance in the management of diabetes mellitus. A majority {245(64.1%)} of them also found it very hard to regularly avoid sweet foods. Furthermore, more than a third of them {131(34.1%)} used sugar substitutes in their diet and 153 (39.8%) used to exercise daily (Table-2).

Discussion

The study findings revealed that {379(98.7%)} of the study participants knew that diabetes mellitus is marked by high blood glucose. Likewise, Al-Maskari F et al, in 2013 reported that 69% of patients interviewed were aware that diabetes mellitus is marked by high blood glucose.¹⁰ Unlike these results though, Al Bimani Z.S. et al, in 2015 found only 38.7% while Ahmed M.U. et al, in 2016 reported only 28.8% of the patients to have this knowledge.^{11,12} A majority of the participants knew that sweets should be avoided in diabetes. Hussain R. et

al, in 2016 also found a majority of participants to be of the opinion that consuming sweets leads to diabetes mellitus.¹³ Sweating being a symptom of low blood glucose was known to {261(68.0%)} of the diabetic patients interviewed. Mohammadi S et al, in 2015 though reported this percentage to be 10% only.⁹ Moreover, {353(91.9%)} of the study participants knew that frequent urination is a symptom of high blood glucose. Likewise, Mohammadi S. et al, in 2015 found 81% whereas Al-Maskari F et al, in 2013 reported 89% of diabetic patients to be aware that frequent urination is a symptom of diabetes mellitus.^{9,10} A majority of participants knew about various risk factors of diabetes mellitus. Similarly, Saleh Fet al, in 2012 revealed that 81% of people were aware of the risk factors of diabetes.⁶ Unlike the study results, Shabnum S. and Sarwar H. in 2018 reported only 40% of the diabetic patients to know about the risk factors of diabetes.¹⁴ Furthermore, {307(79.9%)} of the participants were aware that trembling is a symptom of low blood glucose. Similarly, Al-Maskari F et al, in 2013, reported 93% of patients to be aware that frequent tiredness and weakness is a symptom of diabetes mellitus.¹⁰ Unlike these findings, though, Mohammadi S. et al, in 2015 found only 22% of the respondents to have such awareness.⁹ Moreover, {164(42.7%)} of the respondents were of the view that insulin should be avoided as much as possible for the management of diabetes mellitus. Mohammadi S. et al, in 2015 found 68% of the respondents to have such opinion.⁹ Furthermore, daily exercise was a routine of {153(39.8%)} of the patients interviewed in this study. Al Bimani Z.S. et al, in 2015, also found 38.7% of the patients performed daily exercise¹¹ though Ahmed M.U. et al, in 2016, found only 8.6% of the patients with diabetes exercising daily.¹² Also, more than a quarter of the patients interviewed got their eyes examined at least once a year, a finding in line with that of Mohammadi S. et al, in 2015⁹, though Ahmed M.U. et al, in 2016, reported only 10.0% of the patients interviewed to have their eyes examined every year.¹²

Conclusion

It can be concluded that overall most of the people with diabetes had good knowledge and positive attitude with regard to their illness, though many of their practices were questionable.

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Conflict of Interest: None.

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