

Assessment of diabetes mellitus awareness among patients attending teaching hospitals of Rawalpindi and Islamabad, Pakistan

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Objective: To assess the awareness of diabetes mellitus (DM) among patients attending various teaching hospitals of Rawalpindi and Islamabad, Pakistan.

Methodology: A questionnaire based descriptive study conducted from 1st June to 31st August 2016 on 150 patients using convenient sampling.

Results: The following 'Yes' answers percentage were documented from respondents of the study: Any types of DM 38.8, increase in blood sugar 68.6, increase in urine sugar 61.1, healthy individual can have DM 73.6, can a newborn has DM 52.8, is DM treatable 85.7, Is DM curable 42.8, obesity leads to DM 88.8, excessive sugar intake

leads to DM 83.6, stress leads to DM 68.8, excessive fats intake leads to DM 58.7, +ve family history & developing DM 88, smoking leads to DM 39.2, DM causes heart attack 76.8, DM causes defects in vision 77.6, DM causes numbness 72.8, DM causes kidney diseases 72.8 and DM causes liver diseases 50.

Conclusions: Poor awareness about DM was noted among the respondents of the study. Aggressive awareness campaigns are needed for better adherence to treatment and avoidance of complications. (Rawal Med J 201;43:235-238).

Keywords: Diabetes mellitus, obesity, kidney disease.

INTRODUCTION

In Diabetes Mellitus (DM), increased levels of blood glucose above normal limit develop because of either absolute or relative deficiency of Insulin. It is a devastating disease, but it can be managed with well-planned diet, exercise, use of oral hypoglycemic agents and insulin. Training in self-management is integral to the control of diabetes.

Nearly one million deaths results from complications of DM among individuals under 60 years of age.¹ Pakistan is having high DM prevalence of 7.6% with more than 9.3 million individuals suffering from this disease.² Expected increase of diabetic patients would be 300 million by 2025.³ High prevalence is noted in men living in both urban and rural areas.^{4,5} In United States, several studies showed positive association of patient's disease knowledge and self-care to the treatment compliance.^{6,7} No age group, gender, economic class and geographic location is immune from DM.¹

Low DM awareness among these patients has been reported from Pakistan, Iran and Kenya.^{5,7,8} Lack of

awareness results in poor glycemetic control causing significant complications. Disease information in local language can help the patients to be aware of risk factors and motivate self-care.^{9,11} In Pakistan few studies conducted to assess awareness of DM and most of them were done in Karachi and Lahore. Hence, this study was carried out to assess knowledge about DM among the patients attending teaching hospitals of twin cities of Rawalpindi and Islamabad.

METHODOLOGY

This questionnaire based descriptive cross sectional study was conducted at Rawal Institute of Health Sciences (RIHS), Pakistan Institute of Medical Sciences (PIMS), Poly Clinic Hospital from Islamabad and Benazir Bhutto Hospital (BBH) from Rawalpindi from June 1 to August 31, 2016. Study was approved by RIHS ethical review board and Informed consent was obtained from each participant.

Diabetic patients having 5 years history of disease were included in the study. Non diabetic and

patients of other diseases were excluded. Sample Size of 150 participants using Systemic Random Sampling considering 10% refusal rate and 10% leaving study half way were calculated. A structured close ended questionnaire was used to assess knowledge.

RESULTS

Out of 125 patients, 66(52.8%) were male and 59(47.2%) were female. Most were married and

lived in urban area (Table 1). Significant number had graduate education (Table 2).

Table 1. Demographic statistics.

Gender	Number	Married	Un-married	Rural	Urban
Male	66 (52.8%)	62 (93.9%)	4 (6.06%)	20 (30.3%)	46 (69.69%)
Female	59 (47.2%)	56 (94.91%)	3 (5.08%)	14 (23.72%)	45 (76.27%)

Table 2. Educational status of patients.

Gender	Illiterate	Primary	Middle	Matric	Intermediate	Graduation
Male	5	3	6	10	6	35
Female	19	3	4	16	2	15

Table 3. Awareness level about diabetes mellitus.

Questions about Diabetes Mellitus	Responses of Diabetic Patients					
	Yes	%	No	%	Don't Know	%
Do you know types of Diabetes Mellitus	49	38.8	40	31.7	37	29.3
Main effect of Diabetes Mellitus						
DM, increase in blood sugar	81	68.6	21	17.6	17	14.2
DM, increase in Urine sugar	77	61.1	22	17.4	27	21.4
Healthy individual can have DM	92	73.6	18	14.4	15	12
Can a newborn has DM	66	52.8	34	27.2	25	20
Myths about diabetes						
Is DM treatable	108	85.7	13	10.3	5	3.9
Is DM curable	54	42.8	52	41.2	20	15.8
Healthy individual can have DM	92	73.6	18	14.4	15	12
Can a newborn has DM	66	52.8	34	27.2	25	20
Cause of Diabetes Mellitus						
Obesity lead to DM	111	88.8	3	2.4	11	8.8
Excessive Sugar intake lead to DM	103	83.6	16	12.9	5	4.0
Stress lead to DM	86	68.8	24	19.2	15	12
Excessive fats intake lead to DM	74	58.7	34	26.9	18	14.2
Positive family history of DM	110	88	8	6.4	7	5.6
Smoking leads to DM	49	39.2	44	35.2	32	25.6
Complications of Diabetes Mellitus						
DM cause Heart Attack	96	76.8	14	11.2	15	12
DM cause defects in Vision	97	77.6	12	9.6	16	12.8
DM cause Numbness	110	88	7	5.6	8	6.4
DM cause Kidney Diseases	91	72.8	18	14.4	16	12.8
DM cause Liver Diseases	63	50	35	27.7	28	22.2

Effects, myths, causes and complications as responded by participants are shown in Table 3. Most revealed relatively low awareness about disease.

DISCUSSION

Despite of the fact that in Pakistan there is large

diabetic population and ever increasing number of new cases, but most of the research work done shows that the diabetic population has low awareness about diabetes. Better DM knowledge was reported among male gender, higher education level and older age (>40 years) by a study from

Multan, Pakistan. Findings from our study are similar to this study, however, age groups used by them were only two: <40 years and >40 years, while in our study four age groups were considered with lowest being 35-50 years.

In a study from Sub-Saharan Africa, strong association was observed between DM knowledge and treatment compliance.¹³ In Ethiopia, a study to assess awareness of diabetic patients reported that 67% had good knowledge regarding causes and management of acute complications.¹⁰ Almost similar results are seen in our study, however, there is difference in the questionnaire.

A study from Dhaka, Bangladesh showed 19%, 68%, 13% respondents with poor, average and good knowledge, respectively; better awareness was noted among males and highly educated people.¹¹ It is generally observed that males have better knowledge regarding DM. This is in accordance with the findings of the studies from Northwest and South of Pakistan.^{15,16} However, in present study, females had better understanding of causes, complications, foot care and dietary modifications. Most patients with diabetes in developing countries are middle aged (35-50 years), this is against the common belief that diabetes is a disease of aged people. This exerts huge burden on physicians as they have large number of patients for lifelong management.¹²

In present study, the participants showed reasonable knowledge regarding foot care. This is similar to a study from South Africa.¹⁶ This may be due to predominant urban population, higher literacy level, and better exposure to diabetes health education programs. Urban population has better opportunities to gain knowledge about diabetes from various sources.¹³

Health education is a very important aspect of prevention programs but most of studies from Pakistan lack the assessment of provision of health education and its impact. One study from Quetta, Baluchistan showed that 77.11% respondents had no knowledge of diabetes and its complications.¹⁷ Similar study from biggest city of Pakistan, Karachi showed that most of diabetic patients had never received diabetes education.¹⁸ Similar studies conducted in various parts of Pakistan including

Capital city Islamabad have given similar findings.¹⁹⁻²²

Our study had the following limitations: reporting bias resulting in over-estimation of compliance, confounders like socio-economic status, availability of free medications, health education by health professionals and media may be present but not considered.

CONCLUSION

Poor awareness about DM was noted among the respondents of the study. Aggressive awareness campaigns are needed for better adherence to treatment and avoidance of complications.

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Conception and design: Nasim Ilyas, Kashif Rahim
Collection and assembly of data: Kashif Rahim
Analysis and interpretation of the data: Kashif Rahim, Zafar Latif
Drafting of the article: Nasim Ilyas

Critical revision of the article for important intellectual content:
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