

Original Article

KNOWLEDGE OF DIABETIC PATIENTS REGARDING DIABETES MELLITUS VISITING TERTIARY CARE HOSPITAL OF LAHORE

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Objective: The objectives of this study were to find out the knowledge regarding diabetes mellitus and to describe the sociodemographic and disease related characteristics of patients visiting the tertiary care hospital of Lahore.

Material and Methods: It was a cross sectional descriptive study conducted on 214 patients visiting diabetic center of Jinnah hospital Lahore. Patients fulfilling inclusion criteria were selected using consecutive sampling technique and their responses were filled in a pretested semi-structured questionnaire. Knowledge regarding risk factors, disease transmission, symptoms of diabetes, diagnostic test, complication and curability of the disease, glycemic control and symptoms of hypoglycemia was find out and was graded as 'good' if more than 70% of patients gave correct responses and 'poor' if less than 70% of patients gave correct response for each attribute. Data was entered, cleaned and analyzed using Epi Info 3.0.

Results: Regarding sociodemographic and disease related characteristics, about 170 (79.4%) patients were more than 40 years old and 108 (50.5%) respondents were female. About 154 (71.9%) respondents had total monthly family income less than 20,000 rupees. Out of 214 respondents, 198 (92.5%) had family history of diabetes, 124 (57.9%) respondents had been diagnosed with diabetes for more than 5 years while source of information for majority of the respondents (63.6%) was health personnel. Knowledge was good regarding only disease transmission while it was poor regarding 7 out of 8 disease factors i.e. risk factors, symptoms of disease, diagnostic test, complications, completecure, glycemic controls and symptoms of hypoglycemia.

Conclusions: It is concluded from this study that knowledge of diabetic patients are poor in majority of disease factors, Health educational interventions are needed for improving knowledge of patients regarding diabetes.

Keywords: Diabetes mellitus, knowledge, diabetic patients.

Introduction

Diabetes mellitus is a metabolic disorder of multiple etiology characterized by characterized by chronic hyperglycemia and associated with a spectrum of complications.¹ Globally an estimated 285 million people had diabetes with type 2 making about 90% of the cases.² It is estimated that by 2030 this number will almost double with greatest increase in prevalence expected to occur in Asia and Africa. The increase in incidence in developing countries follows the trend of urbanization and lifestyle changes.³ Prevalence of diabetes in Pakistan is high ranging from 7.6 to 11% and is responsible for a considerable morbidity with majority of the patients presenting to the hospital at a very later stage with several complications like cerebrovascular accidents, coronary artery disease, renal failure and micro-angiopathic complications.⁴ Control of diabetes is important to decrease the morbidity associated with the disease and its

complication. Health education can play a pivotal role in controlling diabetes, lack of awareness leads to many latent complications which presents at a very late stage. Patient's education, understanding and participation is vital since the complications of diabetes are far less common and less severe in people who have well-managed glycemic control through self management.⁵ Majority of the studies conducted in various countries so far to assess the knowledge of diabetic patients showed a very low rate of knowledge ranging from 27% to 75.21%.⁶⁻⁹ Various Studies were conducted in different regions of Pakistan at different chronological period which also showed similar trends in knowledge and no significant improvement was seen over time.¹⁰⁻¹¹ All studies suggested a need of better health educational interventions to improve the knowledge of diabetic patients.

Since diabetes is a major problem in Pakistan, this study was conducted to assess the knowledge of diabetic patients visiting diabetic clinic of a tertiary

Care hospital. It will give an idea about the concepts of these patients regarding various important aspects of diabetes which have a direct impact on their self care activities. There is little published data regarding the assessment of level of knowledge of diabetics about disease in Pakistan. Moreover a study was conducted previously in Jinnah hospital Lahore in 2009 in which the level of knowledge regarding foot care was assessed and came out to be very low i.e 29.3%.¹² This study was conducted to assess any improvement in these levels along with the knowledge on various other aspects of diabetes over time so that better educational interventions can be suggested to higher authorities for further improving the outcome.

Materials and Methods

It was a cross sectional descriptive study conducted on diabetic patients visiting diabetic center of Jinnah hospital which is the second largest tertiary care hospital in Punjab. It was conducted for one month in July 2012 and a total of 214 patients were included in the study by consecutive sampling. Registered diabetic patients above 15 years of age visited during the study period by applying consecutive sampling technique were included in the study however any patients with acute disease or distress and unwilling to participate were excluded from the study. Data was collected using a semi-structured pretested questionnaire which was developed to analyse the sociodemographic, disease related characteristics and various attributes regarding knowledge. Knowledge was assessed regarding risk factors of diabetes, diagnostic test, cure, signs and symptoms, disease transmission, glycemic control, complications and symptoms of hypoglycemia. Knowledge was graded as 'good' for each attribute if more than 70% of patients gave correct responses and 'poor' if less than 70% of patients gave correct response. Data was entered and analysis was done using Epi Info 3.0.

Results

The study was conducted on 214 patients attending diabetic clinic of Jinnah hospital lahore. Table 1 shows the sociodemographic and disease related characteristics of study subjects. Majority of the study subjects 170 (79.4%) were more than 40 years old while majority of the respondents 108 (50.5%) were female. Regarding educational status, half of the patients 108 (50.5%) were below matric while rest of the half 106 (49.5%) studied upto matric and above. About 124 (57.9%) patients were

unemployed and majority of the respondents 154 (71.9%) had total family monthly income less than 20,000 rupees. Family history of diabetes was present in 198 (92.5%) patients, about 154 (71.9%) patients were diagnosed through routine investigations while 60 (28.1%) were diagnosed incidentally. More than half of the patients 124 (57.9%) had been diagnosed more < 5 years ago while 90 (42.1%) were diagnosed

Table-1: Clinico-pathological data of 13 patients.

Characteristics	Age	Frequency	Percentage
<40 Years		44	20.6%
>40 Years		170	79.4%
Gender			
Male		106	49.5%
Female		108	50.5%
Education			
Below Matric		108	50.5%
Matric and Above		106	49.5%
Occupation			
Employed		90	42.1%
Unemployed		124	57.9%
Total Family Income			
Less than 20.000 PKR		154	71.9%
More than 20.000 PKR		60	28.1%
Family History of diabetes			
Yes		198	92.5%
No		16	7.5%
Mode of Diagnosis			
Routine investigation		154	71.9%
Incidental diagnosis		60	28.1%
Duration since diagnosed with diabetes			
Less than 5 years		90	42.1%
More than 5 years		124	57.9%
Duration of visits to diabetic center			
Less than 1 years		154	71.9%
More than 1 years		90	42.1%
Treatment from other sources			
Yes		78	36.4%
No		136	63.6%

Less than 5 years ago. About 136 (63.6%) patients had been coming to the diabetic center of JHL for more than 1 years, were not getting treatment from any other source and their main source of information regarding diabetes was health personnel while 78 (36.4%) got the information through friends, relatives and media.

Table 2 demonstrates the knowledge of respondents and its grading regarding risk factors, disease transmission, symptoms of diabetes, diagnostic test, complication and curability of the disease, glycemic control and symptoms of hypoglycemia. Regarding risk factor of diabetes, It was found that 122 (57%) gave correct responses while 92 (43%) believed that eating too much sugar was a risk factor for diabetes thus giving an incorrect response. Majority of the patients 199 (93%) knew that mechanical disease transmission is not possible but 15 (7%) gave wrong response that disease can be transmitted. Correct responses were given by 112 (52.3%) patients regarding the more accurate diagnostic test of diabetes while 102 (47.7%) gave wrong responses. About 202 (94.4%) patients gave wrong responses

regarding symptoms and complications of disease and knew only about polyuria and renal complications respectively while only 12 (15.6%) had a knowledge of atleast three symptoms and complications and were considered as correct response. About 184 (86%) patients said that diabetes is completely curable and 30 (14%) were of the opinion that diabetes is not a curable but a manageable disease thus their response was considered as correct. Regarding control of disease, only 7 (3.2%) considered that dietary modification, insulin and medication are important for the control of disease and gave correct response while majority 207 (96.8%) gave incorrect response and knew only about insulin and medication for the control of the disease. Regarding symptoms of hypoglycemia, all patients knew only about unconsciousness while nobody knew about blurring of vision, palpitations, sweating, irritability or slurring of speech. Thus overall, Knowledge was good only regarding disease transmission while knowledge regarding 7 out of 8 disease factors was poor i.e. risk factors, symptoms of disease, diagnostic test, complications, cure, glycemic controls and symptoms of hypoglycemia.

Table-1: Summary of Cases.

Disease factor	Knowledge regarding disease factors		Level of knowledge
	Correct response	Incorrect response	
Risk factor	122 (57%)	92(43%)	Poor
Disease transmission	199 (93%)	15 (94.4%)	Good
Symptoms of diabetes	12 (5.6%)	202 (94.4%)	Poor
More accurate diagnostic test	112 (52.3%)	102 (47.7%)	Poor
Complication of diabetes	12 (5.6%)	202 (94.4%)	Poor
Complete cure of disease	30 (14%)	184 (86%)	Poor
Control of disease	7 (3.2%)	207 (96.8%)	Poor
Symptoms of hypoglycemia	0 (0%)	214 (100%)	Poor

Discussion

Diabetes mellitus is considered one of the serious health problems worldwide affecting all human societies at various stages of development. It is increasingly being recognized as an important cause of morbidity in resource poor communities.

It was found in this study that majority of patients with diabetes were more than 40 years old and were female. These results are quite similar to two other studies conducted by Padma et. Al⁸ and Adil et. al¹³ in which study group also consisted of patients more than 40 years old and female. Murugesan et al noted in a study that Education and socioeconomic status

are the leading factors governing the patient's awareness of the disease and helps them for better management.¹⁴ However, it was noted in this study that almost half of the patients had education below matric and had monthly income less than 20,000 PKR. Similar findings were seen in other studies conducted in Pakistan in which majority patients were illiterate or had education below matric with average income of 15000 to 17000 PKR.^{11,15} An encouraging result of this study was that a large no of patients was getting treatment and health education primarily from health personnel. Remaining proportion was visiting hakeem, homeopath and

uacks for treatment while friends, relatives and media were their source of information. However the findings of study by Hoque and colleagues⁹ exhibited even a better scenario than our results with about 81.6% respondents reporting health personnel as main source of information showing a better health education system for diabetics in Bangladesh.

Diabetes has a multifactorial causation and genetics, obesity, family history are important risk factors of diabetes. It is neither transmittable nor it can be cured however it can be significantly controlled by proper diet, exercise and medication but the patients taking medication are always prone to hypoglycemia. Knowledge regarding these aspects is considered basic for a diabetic patient and assists them to manage the disease effectively.^{16,17} However it was noted in our study that majority of the patients were lacking the basic knowledge regarding risk factors, diagnostic test, symptoms, disease transmission and symptoms of hypoglycemia. Only 57% patients knew that the risk factors of diabetes include over weight and genetics while rest of the people considered eating too much sugar as a cause of diabetes. This level of knowledge regarding risk factors is better than another study conducted in tertiary care center in Kolkata in which only 34.4% people knew that diabetes could run in families.¹⁸ Similarly regarding symptoms majority of the patients 5.6% had poor knowledge and considered polyuria as the only symptom of diabetes. A similar study was conducted by maina and coworker in which 29% had knowledge about symptoms of diabetes while a study was conducted in Kolkata in which it was seen that 42.2% had knowledge of frequent urination as a symptom of diabetes.¹⁸ One important feature which was seen in these studies was that almost half of the patients in the study had educational status below secondary thus showing that literacy level of the patients is an important determinant of the knowledge regarding disease. Study has shown that Regular annual screening of diabetic patients for complications allows treatable complications to be identified at an early stage.¹⁹ However majority of the patients in our study only knew about renal complication while very few knew about other complications like cardiac, cerebrovascular and vision problems. This poses a serious threat to their health and increases the probability of these patients to develop these complications unknowingly and presenting with them at a later stage which becomes more difficult to treat. Similar finding were observed in other studies

conducted in Pakistan and India not only locally^{10,11,14} but also among the Pakistani and Indian population living in Glassgow, Nottingham and Coventry in which patients knew very little about the complications of diabetes.²⁰⁻²² This shows that the Pakistani population lacks the basic knowledge about several aspects of a highly hazardous disease which is causing a serious threat to their health.

Another important aspect which needs to be considered here as well is that this study was conducted in a tertiary care hospital so it reflects knowledge of diabetic patients who are already sensitized to self care and were attending a specialized unit which is imparting health education to the patients. However a study conducted at community level or primary level will give a more clear insight on knowledge of diabetic patients in general population who are not even attending specialized center for their disease.

Conclusion

It is concluded from the study that knowledge of the subjects visiting the diabetic centre was deficient regarding many aspects of the disease. This probably is due to lack of proper information system, non-availability of educational material and improper guidance. However, the factors responsible for this poor level of knowledge need to be further studied in detail in our population. Moreover, there is need for arranging large scale awareness programs for the general public and use media especially to spread the message which could change the attitude of our public in the future.

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