DOI: https://doi.org/10.53350/pjmhs211592302

ORIGINAL ARTICLE

Is lack of patient knowledge a cause of poorly controlled diabetes mellitus?

MUHAMMAD AHMAD TAHIR CHOWDHRY[1], NAUMAN ISMAT BUTT[2], HIBA SHAKEEL[3], MEHRUN NISA FATIMA GONDAL[4], HAMDAH SAEED[5], HAMZA TAHIR[6]
[1]MO, RHC Kharrianwala , Sheikhupura
[2]Senior Registrar Medicine, Chaudhary Muhammad Akram Teaching and Research Hospital, Azra Naheed Medical College, Lahore
[3]SHO, Sh. Zayed Hospital, Lahore
[4,5,6]HO Services Hospital, Lahore
Correspondence to Dr. Muhammad Ahmad Tahir, Email: Ahmed_t47@hotmail.com, Tel. 0322-4424345

ABSTRACT

Background: Diabetes is a chronic debilitating disease. A large percentage of Pakistani population suffers from this disease and its consequences. Awareness regarding the disease and its management is poor.
Aim: To evaluate the awareness of diabetic patients presenting at Services Hospital regarding diabetes.
Study design: Observational cross-sectional case-series study.
Settings & duration: Department of medicine Services hospital, Lahore, from 01-07-2020 to 31-12- 2020.
Methodology: We interviewed 100 diabetic patients who presented to the OPD/ER of the hospital. All the participants were selected randomly. A simple questionnaire was used to record the demographic details of the patients as well as their response to a series of 13 questions. The knowledge of the participants was taken to be good if they were able to answer at least 8 or more of the questions correctly. **Results:** Overall, a total of 100 adults were interviewed. The median age of the study population was 52.06 years with standard deviation of 13.49 years. There were 46 females and 54 males. Only 30% of the patients had sufficient knowledge regarding the disease and its complications. When stratification was done there was no significant association with any variable.
Conclusion: There is a lack of knowledge among the diabetes regarding their disease. Even education from doctors is not helpful in this regard. Once patients are aware of the disease and its complications the glycemic control improves markedly.
Keywords: Diabetes Mellitus, Poor Control, Patient Knowledge

INTRODUCTION

Diabetes mellitus is a chronic debilitating disease. It affects people irrespective of age or socioeconomic status.[1]Almost 7.5% of the population of Pakistan suffers from the condition. Upto 300 million are expected to be affected by 2025.[2] Mortality due to diabetes in Pakistan is very high. More than 88,000 deaths due to diabetic complications were reported in 2010[3]. This problem poses a significant challenge to the healthcare system as well as the economy especially of an under developed country like ours. Most of those affected are those who belong to in their productive life phase. The complications can lead to disability not just for the individual but also weakens the society by taking away productive members. Poorly controlled diabetes mellitus can cause damage to the eyes, kidneys, nerves, heart and brain.[4] The main reason for this extensive disease burden is poor understanding of the condition and resultant deaths due to poor blood glucose level control, blood pressure complications, hyperlipidemia and other complications.[5] Multiple studies have shown that awareness among diabetics regarding diabetes is poor.[6] This lack of knowledge can lead to poor outcome for the patients as they are unaware as to how to optimize their health and avoid potential complications[7].

We carried out this study to evaluate the awareness of patients presenting to us in the OPD regarding their knowledge of diabetes.

Received on 07-04-2021
Accepted on 22-08-2021

METHODOLOGY

This observational cross-sectional case-series study was conducted in the Department of Medicine Services hospital, Lahore from 1st July, 2020 to 31st December, 2020. Sample Technique used non-probability consecutive sampling. The sample size was 100 patients with Diabetes Mellitus.
Data Collection Procedure: We interviewed 100 diabetic patients who presented to the hospital. Study was carried out from 1st July, 2020 to 31st December, 2020. All the participants were selected randomly. Consent for inclusion was taken from all the patients. A simple questionnaire was used to record the demographic details of the patients as well as their response to a series of 13 questions. The knowledge of the participants was taken to be good if they were able to answer at least 8 or more of the questions correctly.
Data analysis: Filled questionnaires were reviewed for completeness and accuracy before data entry. Data were doubled entered in SPSS version 21 for analysis. Awareness of the different aspects of DM was estimated using summary statistics. In addition, we assessed the effect of independent (exposure) variables on awareness of DM. All tests were conducted at an alpha level of 5% and hence, any p-value of less than 0.05 was considered as a significant association. Results are presented in tables.

RESULTS

A total of 100 adults provided consent and were interviewed. The median age of the study population was 52.06 years with standard deviation of 13.49 years. The

socio-demographic characteristics are presented in Table 1. There was a slight male predominance. When awareness of patients was checked it was found that the results were shockingly low. Only 30% of the patients had sufficient knowledge regarding the disease and its complications. The individual answers to the various asked questions and correctly replied answers are shown in Table 2.

Table 1: Demographic breakdown

Gender	
Male	54
Female	46
Age	
< 45 years	33
>45 years	67
Education	
Educated	51
Uneducated	49
Duration of disease	
<5 years	33
>5 years	67

Table 2: questions and responses

QN	DESCRIPTION	Awareness of participant regarding correct answer	
		Yes	No
1	Dietary modifications help in control of DM	43	57
2	Regular checking of BSR helps	46	54
3	Diabetes can run in family	60	40
4	It can be contagious	40	60
5	Increased risk with inactivity	36	64
6	Increased risk with obesity	42	58
7	Increased risk with age	42	56
8	Increases risk of hypertension	44	56
9	Increases risk of IHD	62	38
10	Increased risk of nephropathy	49	51
11	Increases risk of neuropathy	23	77
12	Increases risk of retinopathy	38	62
13	Increases risk of infection	36	64

Table 3: stratfication with regards to variables

	Poor Awareness	Good Awareness	p-value
Gender			
Female	32	14	1.000
Male	38	16	
By education level			
Educated	36	15	1.000
Uneducated	34	15	
Previous education by Physician regarding DM			
NO	21	4	0.1289
YES	49	26	
Duration of disease			
Less than 5 years	49	18	0.3596
More than 5 years	21	12	
Age of patient			
< 45	51	16	0.0669
>45	19	14	
Co-relation of BSR control with patient's awareness of diabetes			
Poor glycemic control	53	3	0.0001
Good glycemic control	17	27	

Stratification done showed no significant association with any variable, as shown in Table 3. Shockingly it seems that education from the physicians themselves was not a significant factor. This may be due to the fact that most of these patients were seen by general practitioners or doctors not specialized in the field of diabetes.

DISCUSSION

We carried out this study to evaluate the awareness of the diabetic patients regarding their own disease. On the basis of our results we concluded that the awareness of diabetic patients presenting to us regarding their disease was very low. Only 30 % patients had good knowledge regarding their disease. This has been documented by other researchers also especially in underdeveloped third world countries[8]. Although some other studies have identified some variables which have significant relationship, we found none of the variables which we looked at to be significant. Some researchers have documented that age and education level were significantly related to awareness of diabetes, however we failed to reach such results[9]. While other researchers found that duration of diabetes had a significant effect on the awareness regarding the disease. But such results were not duplicated by other authors and similarly we were unable to reach this conclusion.[10] Our results strongly suggest that if patients are aware of their disease, the control of diabetes is much better. Hence these patients are much more likely to avoid the associated complications and live a fulfilling life. Similar observation was also made by other researches who showed that patients with poor knowledge of their diseases were more likely to have poorly controlled blood sugar levels[11].

Surprisingly even though the majority of patients in our study had been in touch with a physician regarding their disease this did not have any significant impact on their awareness regarding it. This could be due to a number of reasons. Inappropriate method or language to communicate with the patients, large number of patients, hectic outpatient departments, lack of appropriately trained support staff and lack of awareness of updates could be some of the reasons. Similar conclusions were also drawn by Mohan et al[12] and Kapur et al[13] whereas Ishtiaq et al[14] showed that patients in touch with their physicians were more likely to have better diabetic control.

CONCLUSION

On the basis of our small study it is concluded that there is a lack of knowledge among the diabetes regarding their disease. Even education from doctors is not helpful in this regard. Once patients are aware of the disease and its complications the glycemic control should improve markedly.

Limitations: The main limitation of our study is that it is a single center small volume study.

Suggestions / recommendations: So, we recommend larger multicenter studies could be carried out to elaborate the results of our study. It is also highly recommended that specialized centers with designated and educated health personnel be established to manage diabetic patients.

Conflict of interest / disclosure: No conflict of interest is involved.

REFERENCES

1. International Diabetes Federation. The Diabetes Atlas. Fourth Edition. Brussels: International Diabetes Federation; 2010.
2. Alberti KG, Zimmet PZ. Definition, diagnosis and classification of diabetes mellitus and its complications. Part 1: diagnosis and classification of diabetes mellitus. Provisional report of a WHO consultation. Diabet Med. 1998;13:539–553.
3. Adil MM, Alam AY, Jaffery T. Knowledge of type 2 diabetic patients about their illness: pilot project. Pak Med Assoc.2005; 55:221-24.
4. Maina WK, Ndegwa ZM, Njenga EW. Knowledge attitude and practices related to diabetes among community members. The Pan African Medical Journal. 2010;7:2-7
5. Foma MA, Saidu Y, Omoleke SA, Jafali J. Awareness of diabetes mellitus among diabetic patients in the Gambia: a strong case for health education and promotion. BMC Public Health. 2013;13:1124. Published 2013 Dec 5. doi:10.1186/1471-2458-13-1124
6. Chutto MA, Qadri HR, Abro HA, Shaikh MA, Shaikh BA. Awareness of diabetes mellitus and its complications in diabetic patients. Medical Channel. 2009;15(4):3-6
7. Foma E. Awareness of diabetes mellitus among diabetic patients in the Gambia: a strong case for health education and promotion. BMC Public Health 2013 13:1124.
8. Muninarayana C, Hiremath G, Krishna I, Anil NS: Prevalence and awareness regarding diabetes mellitus in rural Tamaka, Kolar. Int J Diabetes Dev Ctries 2010, 30(1):18–21.
9. Aljoudi AS, Taha AZ. Knowledge of diabetes risk factors and preventive measures among attendees of a primary care center in eastern Saudi Arabia, Ann Saudi Med 2009; 29: 15-9.
10. Habib SS, Aslam M. Risk Factors, knowledge and health status in Diabetic patients. Saudi Med J 2003; 24: 1219-24.
11. Ulvi OS, Chaudhary RY, Ali T, Alvi RA, Khan MF, Khan M, et al: Investigating the awareness level about diabetes mellitus and associated factors in Tarlai (Rural Islamabad). J Pak Med Assoc 2009, 59:798–801.
12. Mohan D1, Raj D, Shanthirani CS, Datta M, Unwin NC, Kapur A, Mohan V. Awareness and knowledge of diabetes in Chennai--the Chennai Urban Rural Epidemiology Study. J Assoc Physicians India. 2005 Apr;53:283-7.
13. Kapur A, Influence of socio-economic factors on diabetes care. Int J Diab Dev Countries 2001;21:77-85.
14. Ishtiaq O. Recent advances in management of diabetes. RMJ. Year: 2018, Volume: 43, Issue: 1: 1-3.