

## Original Article

# DIABETES AWARENESS - KNOWLEDGE ATTITUDE AND PRACTICE OF DIABETIC PATIENTS IN A TERTIARY CARE SETTING

Ahmad R, Younis BB, Masood M and Noor W.

**Objective:** To assess the awareness of people regarding diabetes and their practices about the disease so that a comprehensive education program may be designed to give awareness to the diabetic patients and contribute towards reduction of the complications of the disease.

**Material & Methods:** A cross sectional study which included 714 patients with known type 2 diabetes conducted in Shalimar Hospital, Lahore. The technique used was non probability purposive sampling. A simple questionnaire was distributed in the diabetic clinic and a diabetic nurse filled the questionnaire by asking questions from the patients.

**Results:** Mean age was  $50.5 \pm 24.11$  years. There were 25.5% males and 74.5% females. A large number (37.2%) were uneducated and only 16.1% had education above grade 10. Regarding the economic status, 62.9% fell into grade 1 economic status and 12.9% in grade 4. In the study 64.1% of the patients thought that the disease had no cure. 84.8% of the patients were of the opinion that the disease and the medication would decrease with time. Only 35% patients knew that it may affect different organs of the body irreversibly. 69% of the patients did not walk at all.

**Conclusion:** In a tertiary setup in Lahore, one of the most prosperous cities of Pakistan, the awareness level is quite poor even amongst the people who are suffering from diabetes. The overall education level in our patient group is also very poor. If the awareness level of diabetic patients remains as it is today, many new faces of diabetic complications will unveil each year. There is a need for an effective disease management program in the country.

**Keywords:** Diabetes Mellitus, Health education, KAP, Awareness

## Introduction

The prevalence of diabetes has risen more rapidly in South Asia than in any other part of the world.<sup>1</sup> Its prevalence in Pakistan in the age group 20-79 years is 6.2 million<sup>2</sup> i.e. more than 10% of the population.

Pakistan has the 7<sup>th</sup> largest population of diabetes in the world and will take 4<sup>th</sup> place in year 2025. Deaths from diabetes alone are projected to increase by 51% over the next ten years.<sup>3</sup> According to Diabetic Association of Pakistan study into chronic complications involving 500 people with diabetes, retinopathies affected 43% of the people, nephropathy affected 20% and neuropathy affected 40% of the people.<sup>4</sup> The worldwide prevalence of diabetes has risen dramatically in the developing countries over the past two decades.<sup>5</sup> The economic burden of diabetes is extremely high for the governments and the individuals suffering from diabetes. There is an urgent need of effective disease management program in the country. Diabetes related complications may be prevented if good metabolic control is achieved.<sup>6-8</sup> Diabetic patients develop complications due to poor awareness regarding the disease and inadequate glycemic control.<sup>9</sup> A study done in Australia showed that

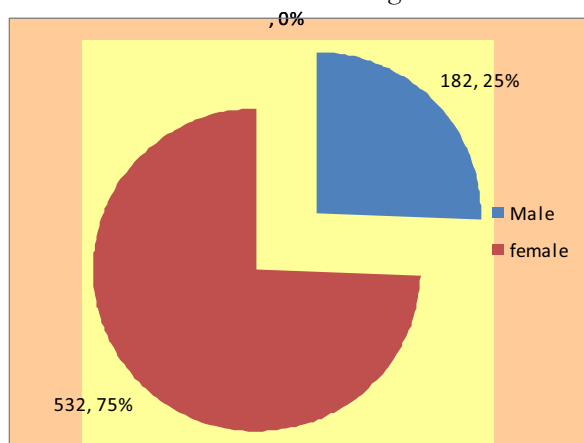
amongst immigrants with diabetes from developing countries, high proportions were unaware of their disease. Unawareness was associated with poorer control of diabetic retinopathy risk factors.<sup>10</sup> A study from India also showed that the majority of the patients are ignorant about their chronic disease. It was shown that even though 94.4% of diabetic patients knew that they had diabetes, still 52.7% of them stopped medication on their own.<sup>11</sup>

It is recommended by the American Diabetic Association and the American Academy of Ophthalmology that a dilated eye examination be performed on patients with diabetes mellitus during an initial assessment and at least annually thereafter. But the fact was one of every four surveyed patients with diabetes mellitus in west Virginia who did not receive an annual dilated eye examination was not aware of the need to do so.<sup>12</sup>

We did this study to investigate the awareness level and attitude of type 2 diabetes patients which may guide us to formulate a comprehensive awareness program which may be delivered in the hospital to all those who attend the hospital diabetic clinic and to make the people aware about the disease and its complications through the outreach programs.

### Material & Methods

This cross sectional study included 714 patients with known diabetes type 2. The technique used was non probability purposive sampling. A simple questionnaire was distributed in the diabetic clinic and a diabetic nurse filled the questionnaire by asking questions from the patients. All these patients attended the diabetic clinic of Shalimar Hospital, Lahore, a tertiary care teaching hospital attached to Shalimar Medical and Dental College.



**Fig-1:** Frequency distribution of gender.

### Results

More females than males attended the diabetic clinic. This may be due to obesity or because of a sedentary life style who have an increased risk of getting the disease.<sup>13</sup> A large number i.e. 37.2% had no education giving an idea about the literacy ratio in Lahore amongst the diabetic patient presenting at tertiary care. Certainly this is among the patient living in capital of most literate province of Pakistan. We may get an idea of the population literacy at the suburbs and small towns of Pakistan.<sup>14</sup> These figures of education status should be taken into account while preparing a national program of awareness for the diabetics. We divided the social categories from 1 to 4 status according to their asset possession. Social category 1 is among the highest presenting in the clinic. It might indicate a link between the disease and its poor control and economic/ social status.

The percentage of diabetics visiting the clinic for once or more than once in 1 month time was 90.8 % showing that either they were not controlled and needed to visit the clinic very frequently or they were not guided properly to keep the same medication if their blood sugar was controlled. Proper training and guidance may be very helpful for preservation of lot

of resources. The perception of the patients regarding their disease was also different. 16.1 % of the diabetic patients were of the idea that their disease could be completely cured and 19.6 % of the diabetics did not know whether it will be cured or not, meaning thereby that a total of 35.7 were completely ignorant about the nature and course of their disease.

Even more alarming fact which was revealed in our study was that , 84.8 % of the diabetic thinks that severity and medication for disease control will be decreased with time. When we asked about the occurrence and nature of the effects of the disease 15 % says no effects. 80.5 %

**Table-1:** Frequency distribution of education level of the subjects.

Education Level	Frequency	Percentage
No education	266	37.2
Primary	183	25.6
Matric	150	21.0
Beyond matric	115	16.1
Total	714	100.0

**Table-2:** Frequency distribution of social status of the subjects.

Social Status	Frequency	Percentage
House and vehicle owned (1)	450	62.9
Owned house and no vehicle (2)	121	16.9
Rented house and owned vehicle (3)	51	7.1
Rented house and no vehicle (4)	92	12.9
Total	714	100.0

were of the view that there are some effects but those were symptoms, in fact, what they were explaining like weakness and polyuria and body aches. Only 4.3 % of the diabetic patients have precise idea that it may effect different systems like eye, kidneys and heart. Only 30.9 % of the diabetic patient in our setting were involved in any physical activity or walk including once a week or thrice a week or daily.

### Discussion

Diabetes is one of the largest endemic in non-communicable, non-infectious disease. The morbidity, mortality and financial cost for treating diabetes and its complication is enormous. Practically it is out of scope for the developing countries like

**Table-3:** Frequency distribution of Q#1(How often do you consult with doctor?).

	Frequency	Percentage
Every month	549	90.8
After three months	43	6.0
After six months	12	1.7
After one year	10	1.4
Total	714	100.0

the individuals as well. The economic burden on the developed countries like US is also very high. Taking alone the diabetic foot complication, which is probably less common than other complication in this part of the world, the average cost of treating diabetic foot ulcers from UT G1 to G4 is enormous.<sup>15</sup> If taken into account all the other complications of diabetes, we may need to divert all our resources to cover the treatment cost of diabetes complication alone

**Table-4:** Frequency distribution of Q#2 (Do you think diabetes can be fully curable?).

	Frequency	Percentage
Yes	116	16.1
No	458	64.1
Don't know	140	19.6
Total	714	100.0

**Table-5:** Frequency distribution of Q#3 (Is medication and disease decreased with time?).

	Frequency	Percentage
Yes	605	84.8
No	109	15.2
Total	714	100.0

**Table-6:** Frequency distribution of Q # 4 (What do you know about complexity of diabetes, and does it have any effects on the organs).

	Frequency	Percentage
Has some effect	575	80.5
No effect	108	15.1
Involves more than one systems	31	4.3
Total	714	100.0

**Table-7:** Frequency distribution of Q#5 (Do you walk).

	Frequency	Percentage
Total	714	100.0
No	493	69.0
Yes	221	30.9
<b>If yes</b>		
Daily	204	
1 day a week	6	
3 day a week	11	

**Conclusion:**

Looking at our own cross sectional survey, which is done in the capital of most literate province of Pakistan and in a tertiary care hospital, we can observe, that the people who are suffering from this disease are poorly aware about the progressive and aggressive nature of diabetes .A very few are aware of precise complication that it can lead to. Most of the diabetic patients are not aware of the importance of the physical activity or at least not doing so.

What we shall plan or do to tame this disease? We think we need to save our resources and as well as our population either suffering from diabetes or who are potential diabetics.

Prevention is the answer. But how simple is that? Strategies at the primary, tertiary and national level needs to be designed to make the people in general and diabetics especially, aware of the course, complications prevention and treatment of this disease. However before planning and devising such awareness programmed we need to investigate the present prevailing awareness, attitudes and practices of diabetic population in different regions of Pakistan. We also need to know the socioeconomic and literacy level of different areas and customized strategies need to be adopted. Small and large cross sectional surveys are needed, and there after their Meta analyses to make the awareness programs successful.

*Department of Medicine  
Shalamar Hospital, Lahore*

[theesculapio@hotmail.com](mailto:theesculapio@hotmail.com)  
[www.sims.edu.pk/esculapio.html](http://www.sims.edu.pk/esculapio.html)

## References

1. Ghaffar A, Reddy KS, Singhi M. Burden of non-communicable diseases in South Asia. *BMJ* 2004; 328; 807-10.
2. International Diabetes Federation. *Diabetes Atlas, Executive summary*. 2nd Belgium IDF; 2003.
3. Basit, A, Williams R. World Diabetes Day. Promoting care in underserved communities : launching World Diabetes Day in Karachi. 2006; 51(2):46-7.
4. Shera AS, Jawad F, Maqsood A, Jamal S, Azfar M, Ahmed U. Prevalence of chronic complications and associated factors in type 2 diabetes. *J Pak Med Assoc* 2004; 54; 54-9.
5. Muninarayana C, Balachandra G, Hiremath SG, Iyengark, Anil NS. Prevalence and awareness regarding diabetes mellitus in rural Tamaka, Kolar. *Int J Diabetes Dev Countries* 2010 Jan; 30 (1); 18-21.
6. Effects of intensive blood-glucose control with metformin on complications in overweight patients in type 2 diabetes (UKPDS34). UK Prospective Diabetes Study Group *Lancet* 1998; 352; 837-53.
7. Intensive blood glucose control with sulphonylureas or insulin as compared with conventional treatments & risk of complication in patients with type 2 diabetes (UKPDS 33). United Kingdom Prospective Diabetes Study (UKDPS) Group *Lancet* 1998; 352; 837-53.
8. UKPDS 28: A randomized trial of efficacy of early addition of metformin in sulfonylurea-treated type 2 diabetics. UK prospective Diabetes study group. *Diabetic Care* .1998;21: 87-92.
9. Malathy R, Narmadha M, Ramesh S, Alvin JM, Dinesh BN. Effects of diabetes counseling program on knowledge attitude and practice among diabetic patients in Erode district of South India. *J Young Pharm.* 2011 Jan; 3 (1) 65-72.
10. Hueng OS, Tay WT, Tai ES, Wang JJ, Saw SM, Jeganathan VS et al. Lack of awareness amongst community patients with diabetes and diabetic retinopathy: The Singapur Malay eye study. *Ann Acad Med Singapore.* 2009 Dec; 38 (12): 1048-55.
11. Beniwal S, Sharma BB, Singh V. What we can say : Disease illiteracy. *J Assoc Physician India.* 2011 Jun; 59: 360-4.
12. Crosby MI, Shuman V. Physician role in eye care of patients with diabetes mellitus: are we doing what we need to? *J Am Osteopath Assoc.* 2011 Feb; 111 (2):97-101.
13. Younis BB, Ahmad R. Patient with diabetes mellitus and their management. A local scenario. *Ann of King Edward Medical Univ* 2010 Oct-Dec; 16 (4): 237-41.
14. Ulvi OS, Chaudhry 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 Nov; 59 (11):798-801.
15. Ali SM, Fareed A, Humail SM, Basit A, Ahedani MY, Fawwad A et al. The personal cost of diabetic foot disease in the developing world- A study from Pakistan. *Diabet Med.* 2008 Oct ;25(10):1231-3.