

# Knowledge Regarding Complications of Diabetes Mellitus Among Diabetic People

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## ABSTRACT

**Aim:** This descriptive cross-sectional study was conducted to assess individual information about diabetes complications in patients with diabetes from questionnaires, and to find a relationship of this information to educational attainment and other sociodemographic profiles.

**Place and duration:** Medical Department of Sharif Medical College, Lahore from January 2021 to June 2021.

**Methods:** A total of 192 patients were enrolled in the study. People older than 16 years and who understand the query guidelines well were selected. All subjects answered the questionnaires given voluntarily and safely. The complete questionnaire was accessible in English language but was carefully translated to the official Pakistani language (Urdu). The enquiries were intended to evaluate how they knew about the diabetes mellitus complications and what those complications were. We use the SPSS 21.0 for data input and analysis. Chi-square test was applied for variables comparison.

**Results:** We institute in this study that 94 people (48.9%) knew that the major impediment of diabetes is heart disease when blood sugar was not properly controlled, trailed by kidney disease (10.4%), and hypertension (7.8%), Eye Disease (2.6%) and cerebrovascular disease 32(16.6%). Regrettably, responsiveness was found about the presence of peripheral neurological problems, diabetic foot disease and unexpected bereavement was found in 1(0.5%) case only. Each of the subjects were inquired if they were concerned about serious complications of diabetes.

**Conclusions:** There was statistical difference in any of the parameters (individual education, residence, monthly income, occupation, family history) depending on the degree of anxiety. The parameters were statistically significant. Further development of diabetes education programs, such as the use of the media and participation in national education programs, can improve the awareness of self-regulation of diabetes, which may decrease the mortality and morbidity of patients with diabetes.

**Keywords:** Diabetic complications, anxiety.

## INTRODUCTION

Diabetes mellitus (DM) seems to be a worldwide prevalent disease and a progressively serious disease of non-communicable variety that threatens both the non-affluent and the affluent society.<sup>1-2</sup> About 17 billion individuals globally have diabetes and this figure is estimated to two-fold by 2030, in line with current trends<sup>3-4</sup>. It will grow mainly in South Asia, wherever India has been stated as the hub of the diabetes mellitus. United Nations (UN) in 2007 resolution has approved to label diabetes as a major worldwide community well-being problem. The International Diabetes Federation (IDF) estimates that 3.9 to 5.8 million of people living in Pakistan have been suffered by diabetes since 2007, which will rise to 7.8 to 10 million of the population by 2025<sup>5-6</sup>. This boom in the incidence of diabetes will rank Pakistan in the uppermost ten countries according to the figure of diabetes affected people by 2025. During that time, eighty percent of all diabetics will have a lower socioeconomic status than the middle and rich population. The predictable diagnosis cost and lost productivity in medical examinations was \$174 billion in 2007 in the United States<sup>7-8</sup>. A greater financial burden means a greater complication rate because the incidence and prevalence of the disease are increasing worldwide, especially in underdeveloped countries. Because diabetes is a lifelong disease; With the right management, the individual life quality can be enhanced<sup>9-10</sup>.

Therefore, individual training is an essential part of diabetes self-management. Optimal treatment requires that the individual be conscious of the consequences and nature of the disease, extent of treatment, complications and risk factors.

## MATERIAL AND METHODS

This cross-sectional study of 192 diabetics was conducted on randomly selected outdoor diabetics at the Medicine Department of Sharif Medical College, Lahore For six months duration from January 2021 to June 2021. People older than 16 years and who understand the query guidelines well were selected. All subjects answered the questionnaires given voluntarily and safely. The complete questionnaire was accessible in English language but was carefully translated to the official Pakistani language (Urdu). The enquiries were intended to evaluate how they knew about the diabetes mellitus complications and what those complications were. They were too inquired about the most lethal complication of diabetes and if they truly apprehended about the problem or not. When the person was deeply apprehended, the reaction was documented as "yes" when the person had no worries at all; The response was documented as "no" and she felt anxious only when reminded during the daily activities. In addition to these questions, a range of answers was compiled for comparing the degree of anxiety with their demographic profile. The

entire survey was conducted in the existence of minimum 2 authors. We use the SPSS 21.0 for data input and analysis. Chi-square test was applied for variables comparison.

## RESULTS

A total of 192 people were surveyed. 44.96 ( $\pm 9.46$ ) years was the mean age ( $\pm$  SD) of the patients. 7.12 ( $\pm 5.56$ ) years was the mean duration of patient with DM ( $\pm$ SD).

Table 1: Association of the individual gender with the degree of apprehension for complications of diabetes mellitus

Sex	Level of apprehension for diabetic complications			Total
	Yes	No	Occasionally	
Male	25	24	12	61
Female	64	45	22	131
Total	89	69	34	192

Amongst the respondents, there was a majority of women 131 (68.23%) have preponderance, Table I. Major of the individuals live in cities 92 (47.9%), 115 (59.9%) have less education of Secondary School Certificate (SSC), higher Secondary school certificate (HSC) and SCC were 44 (22.92%) patients and 33 (17.2%) above the HSC level (Tables II and III).

Table 2: Association of the educational status with the degree of apprehension for diabetic complication.

	Level of apprehension for diabetic complications			Total
	Yes	No	Occasionally	
Below SSC	58	42	15	115
SSC and HSC	24	11	9	44
Above SSC & HSC	12	14	7	33
Total	94	67	31	192

Table 3: Association of the individual residence with the degree of apprehension for diabetic complication.

	Level of apprehension for diabetic complications			Total
	Yes	No	Occasionally	
Rural	24	34	11	69
Urban	68	31	24	123
Total	92	65	35	192

116 (60.4%) were housewives, service holders were 30 (15.3%), 14 (7.3%) business man and 32 (16.7%) have others professions. Individual monthly income <10000 Pakistani rupee of 72 (37.5%) participants, 10000-20000 PKR income was among 82 (42.7%) and above 20,000.00 income was among 38 (19.8%) (Table - IV).

Table 4: shows the income of the individuals

Monthly income (PKR)	Level of apprehension for diabetic complications			Total
	Yes	No	Occasionally	
Less than 10000	32	30	10	72
10000-20000	49	22	11	82
More than 20000	19	12	7	38
Total	100	64	28	184

149 patients (77.6%) received information about diabetes complications from doctors from the diabetes clinic, 8

(4.2%) from other doctors and 5 (2.6%) from other patients, 9 (4.7%) of family members and 18 (9.4%) heard from of radio, television, books, posters and meetings. Three patients (1.6%), however, did not recall the information on diabetes complications (Table 5).

Table 5: Incidence of the diabetes mellitus complication

Complications of diabetes mellitus	n	%age
Heart disease	94	48.9
Hypertension	15	7.8
Cerebrovascular disease	32	16.6
Renal disease	20	10.4
Diabetic foot complication	3	1.6
Sudden death	1	0.5
Neuropathy	5	2.6
Eye disease	5	2.6
Others	10	5.2
Not known	7	3.64
Total	192	100

## DISCUSSIONS

In this study, the frequency distribution of main diabetes complication that patients learned from various sources was cerebrovascular disease (16.6%), heart disease (48.9%), kidney disease (10.4%), and hypertension (7.8%), Eye Disease (2.6%). This study showed some similarities with other studies in which 54.2% of patients stated cardiovascular disease as a possible complication of diabetes<sup>9-10</sup>. This analysis also showed that only 149 (77.6%) of the study populace recognized that diabetes is a disorder that can lead to lifelong complications if left unchecked. Though, in other studies, the rates of organ damage in 100 diabetics were found to be 91 (91.1%) eyes, 65 (64.4%) hearts, 73 (72.3%) kidneys, 34 (33, 7%), feet 58 (57.4%) and spine 8 (7.9%). In our study, it is advisable to evaluate information about cardiovascular complications that were mainly obtained in a diabetes center<sup>11-12</sup>. It is widely believed that men learn more about healthy living than women. This finding has been confirmed by Nisar et al in Pakistan. Another study on diabetes awareness among patients in rural northwestern Pakistan found that a higher percentage of men understood the symptoms, signs and complications of diabetes better than women, and the gender difference was not significant when asked about proper nutrition<sup>13-14</sup>. Another study found that, in general, men are more aware of lifestyle changes such as diabetes, healthy eating, and regular exercise. Another found that the mean diabetes awareness score was higher in men than in women. In this analysis, we could not notice any significant modification between the sexes, possibly because the majority of the respondents were women<sup>15-16</sup>. It was found that high school qualified have significantly more information of the risk factors, complications and symptoms of diabetes. A Singapore study found that diabetes education has changed the practice among diabetics on self-sufficiency<sup>17-18</sup>. One study found that education plays an important part in the awareness of diabetics in maintaining normal blood glucose levels. These results are consistent with other studies. In Pakistan, there are few epidemiological studies that assess the level of knowledge and education of diabetics in both the diabetic and non-diabetic populations. A study in Pakistan showed that urban people are more competent than those living in rural

areas, and suggests that there is an urgent need for diabetes education in rural areas<sup>19-20</sup>. 52.2% of the rural African patient population had lower blood sugar awareness compared to 47.5% of urban Africans. This study found no significant differences in the understanding of diabetes complications amid urban and rural residents, possibly because both groups did not receive diabetes education<sup>21-22</sup>. High family income and diabetes mellitus family history were absolutely related with more information, but this is not consistent with the current study.

## CONCLUSION

In this study, significant relationship was found between the level of anxiety and gender, place of residence, education, monthly income and professional status. Therefore, this study may adequately reflect the overall scenario of the studied region. Most of these studies were housewives, mainly because they were from a low socioeconomic background, had a lower level of education, had homework, and therefore had little room to look for services in specialized corners, especially in the rural context of Pakistan. A comprehensive diabetes education program is urgently needed to overcome this scenario.

**Conflict of interest:** Nil

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