



Original Article

Knowledge About Various Aspects of Diabetes Among Known Diabetic Patients attending Diabetic Clinic at Pakistan Institute of Medical Sciences Hospital, Islamabad

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ARTICLE INFO

Key Words:

Diabetes knowledge, diabetes awareness, diabetic complications, cause of diabetes, diabetes prevention

How to Cite:

Hameed, S. ., Qasim, M. ., Arshad Jamil, M., Hanif, Y. ., Maqsood Butt, A. . ., Mahmood ul Hassan, S. ., & Qasim, S. . (2022). Knowledge About Various Aspects of Diabetes Among Known Diabetic Patients Attending Diabetic Clinic at Pakistan Institute of Medical Sciences Hospital, Islamabad: Knowledge About Various Aspects of Diabetes Among Known Diabetic Patients. *Pakistan Journal of Health Sciences*, 3(05).

<https://doi.org/10.54393/pjhs.v3i05.243>

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Received Date: 13th October, 2022

Acceptance Date: 21st October, 2022

Published Date: 31st October, 2022

ABSTRACT

Diabetes Mellitus (DM) knowledge of various aspects is critical for disease prevention, management, and control. Several studies, however, have consistently shown that the general population is unaware of diabetes. **Objective:** To assess Knowledge about various aspects of diabetes among known diabetic patients attending diabetic clinic at Pakistan Institute of Medical Sciences (PIMS) Hospital, Islamabad. **Methods:** During this descriptive cross-sectional study data were collected from 200 patients through a self-structured questionnaire. patient was questioned about their demographic information as well as their personal and diabetes-related history. Participants were asked to respond to each question in the questionnaire using their knowledge and understanding. Data were obtained in frequency and percentage to examine sociodemographic variables. **Results:** In the current study, more females, 108 (54 %) contributed in the study as opposed to males, 92 (46 %). Results showed that 170 (85%) of diabetic patients had type 2 diabetes, 24 (12.0 %) were suffering from type 1 diabetes, and 6 (3.0 %) had Gestational diabetes mellitus GDM. **Conclusions:** There was considerable knowledge about diabetes in known diabetic patients but still there is a dire need to increase knowledge and awareness regarding disease understandings, causes, complications, management, and its preventive measures.

INTRODUCTION

Diabetes mellitus is widely considered to be the most common and fatal chronic disease. It has afflicted humans for thousands of years and is still doing so at an exponential rate. It has now spread around the world, wreaking havoc on humanitarian, social, and economic systems [1]. Diabetes Mellitus (DM) is a chronic metabolic disease, and it can lead to increased morbidity and mortality globally [2]. Diabetes is characterized by high blood glucose levels and a

disruption in fat and protein metabolism. Because blood glucose cannot be metabolized in the cells due to a lack of insulin production by the pancreas or the cells' inability to properly use the insulin that is produced, blood glucose rises. Diabetes are of three types: type 1 diabetes, type 2 diabetes, and gestational diabetes. Type 1, in which the pancreas does not produce insulin; type 2, in which the body cells become resistant to the action of insulin, and

insulin production gradually decreases over time; and Gestational diabetes is a type of diabetes that develops during pregnancy and can lead to complications during labor and delivery, as well as an increased risk of type 2 diabetes in the mother and obesity in the infants [3]. Every 24 hours, 3,600 new cases diagnosed with diabetes round the world. 580 people die because of diabetes complications [4]. According to projections, Diabetes is expected to increase from 451 million people in 2017 to 693 million by 2045 worldwide. In addition, it is estimated that 49.7% of people with type 2 diabetes go undiagnosed. Diabetes will increase by 69 % in the adult population in developing countries between 2010 and 2030, compared to 20% in developed countries [5]. According to the World Health Organization (WHO), 12.9 million people in Pakistan (10 % of the population) have diabetes, 9.4 million have been diagnosed, and 3.5 million are undiagnosed [6]. Type 1 diabetes is most common in children, adolescents, and young adults. The exact cause or causes are unknown. Type 1 diabetes is thought to be caused by a combination of genetic susceptibility and environmental factors. Type 2 diabetes risk factors are better understood. Although there is a significant genetic component, most cases occur in the presence of risk factors such as age, overweight and obesity, and physical inactivity. Although smoking has been shown to increase the risk of diabetes, increased body fat is by far the most significant risk factor. A high sugar and fat intake, for example, has also been linked to an increased risk of type 2 diabetes. Gestational diabetes risk factors include not only family history, age, overweight and obesity, physical inactivity, but also excessive weight gain during pregnancy [3]. Uncontrolled diabetes causes complications in a variety of organs. Small and large blood vessel and nerve damage causes loss of vision and kidney function, strokes as well as heart attacks, and lower limb amputations. Diabetes causes disability and reduces life expectancy [3,7]. Prevention and treatment of diabetes mellitus involve a healthy diet, Physical exercise, not using tobacco and being a normal body weight. Regular routine checkup / examination & keeping positive attitudes [8]. Although the importance of educational programs in the prevention and control of diabetes is widely acknowledged [9]. Diabetes risk factors, management, and care are poorly understood in Pakistan. Nationally targeted public education programs should be implemented to increase understanding of diabetes prevention and treatment [10]. There is still a lack of awareness among the public and diabetics about existing interventions for the prevention and control of diabetes and its complications. So, keeping in view the significance of awareness of diabetes among patients with diabetes. This study was carried out to assess diabetic patients' knowledge regarding diabetes mellitus.

METHODS

The current descriptive cross-sectional study was conducted to assess the knowledge about various aspects of diabetes among known diabetic patients attending diabetic clinic at Pakistan Institute of Medical Sciences Hospital, Islamabad. During this cross-sectional study data was collected from 200 patients. According to the inclusion criteria, these patients were selected through a convenient sampling method. As per the sampling technique, selected participants were asked for the informed consent. The patients were referred to the Diabetic Clinic Outpatient Department (OPD) by the Endocrinology OPD at PIMS Hospital in Islamabad. Patients were chosen who were known to be diabetics due to their established diagnosis. Informed written consent was obtained from those patients who verbally agreed to become our study subjects on a voluntary basis, followed by written consent with their signature and date. As a data collection tool, a detailed self-structured questionnaire was used. After receiving the informed consent, the adopted survey questionnaire was distributed to the patients. The patient was questioned about their demographic information as well as their personal and diabetes-related history. Participants were asked to respond to each question in the questionnaire using their knowledge and understanding. The data were analyzed using SPSS software after the questionnaires have been collected. Data were obtained in frequency and percentage to examine sociodemographic variables.

RESULTS

In the current study, more females, 108 (54 %) contributed in the study as opposed to males, 92 (46 %) as shown in table 1. Diabetic patients aged 30 and up, i.e. 192 (96 %), presented in the Diabetic Clinic OPD, while only 8 (4 percent) of the patients younger than 30 were present. Results showed that 170 (85%) of diabetic patients had type 2 diabetes, 24 (12.0 %) were suffering from type 1 diabetes, and 6 (3.0 %) had Gestational diabetes mellitus GDM. According to the findings, patients with a family history of diabetes were more likely to have a parent with diabetes 87 (43.5 %), followed by siblings 47 (23.5 %), husband / wife 32 (16.0 %), relatives 24 (12.0 %), and children's 10 (5.0 %)

Demographic characteristics of study participants	Variable	Frequencies (n)(%)
Gender	Male	92(46%)
	Female	108(54%)
Age of the Study Participants	10-30 years	8(4.0%)
	30-50 years	95(47.5%)
	51 years & above	97(48.5%)
Type of Diabetes	Type 1	24(12.0%)
	Type 2	170(85.0%)
	GDM	6(3.0%)

Family History of Diabetes	Parents	87(43.5%)
	Siblings	47(23.5%)
	Husband / Wife	32(16.0%)
	Children	10(5.0%)
	Relatives	24(12.0%)

Table 1: Demographic Characteristics of the study participants According to figure 1, 71 out of 92 (77.17 %) of the males had more knowledge about diabetes than females i.e., 75 out of 108 (69.44 %).

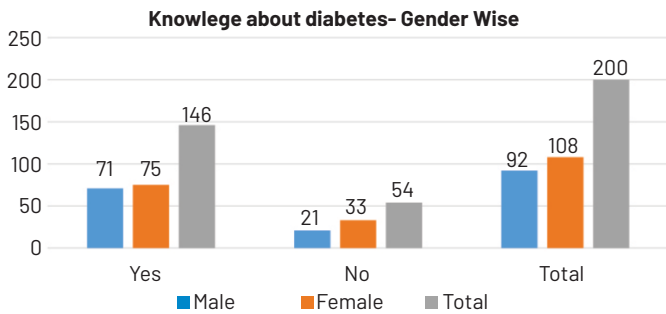


Figure 1: Knowledge about diabetes- Gender Wise Figure 2 shows that both genders 74 (37.0%) reported increased thirst as the major sign and symptom of diabetes, followed by frequent urination (19.5%) in males and increased hunger (17.0%) in females. In diabetic patients, increased sweating was found to be the least frequent sign and symptom in 19 (9.5%) cases, trailing only slow healing in 34 (17.0%).

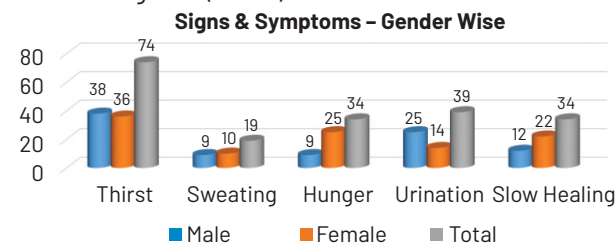


Figure 2: Sign and symptoms of diabetes- Gender Wise Table 2 shows that both genders of our study participants identified high sugar intake 61 (30.5%) as the primary cause of their diabetes, followed by family history 36 (18.0%), a lack of insulin 29 (14.5%), and failure to use insulin 8 (4.0 %).

Gender	Cause of Diabetes Reported					Total
	Family History	High Sugar Intake	Lack of Insulin	Failure to use Insulin	Others	
Male	12	33	15	4	28	92
Female	24	28	14	4	38	108
Total	36	61	29	8	66	200

Table 2: Cause of Diabetes - Gender Wise Figure 3 shows that the most successful diabetes management strategy was found to be Diet and Medication 99 (49.5%), which was followed by only Medication 40 (20.0%). Then Diet, Medication & Exercise 24 (12.0%), Diet and exercise 20 (10%).

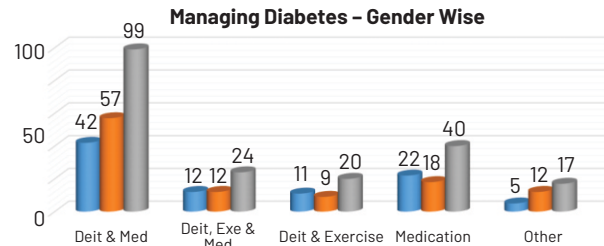


Figure 3: Managing diabetes- Gender Wise According to table 3, the most common complication reported by the participants is kidney failure 67 (33.5 %), followed by loss of vision 61 (30.5 %), heart failure 38 (19.0 %), amputation 18 (9.0 %), and poor wound healing 16 (8.0). Loss of vision was reported by males, the leading diabetes complication, accounting for 35 out of 92 (38.04 %), while females reported kidney failure as the leading complication i.e., 35 out of 108 (32.40%).

Gender	Complications Reported					Total
	Vision Loss	Poor Healing	Amputation	Kidneys Failure	Heart Failure	
Male	35	6	8	32	11	92
Female	26	10	10	35	27	108
Total	61	16	18	67	38	200

Table 3: Complications of Diabetes - Gender Wise According to table 4, eating less sugar was found to be the most efficient diabetes prevention measure by both genders, at 95 (47.5 %) followed by a healthy diet at 73 (36.5 %), physical exercise at 22 (11.0 %), and weight loss at 6 (3.0 %).

Gender	Preventive Measures					Total
	Healthy Diet	Eat Less Sugar	Physical Activity	Weight Loss	I don't know	
Male	37	41	10	2	2	92
Female	36	54	12	4	2	108
Total	73	95	22	6	4	200

Table 4: Preventing Diabetes - Gender Wise

DISCUSSION

The current study was a descriptive cross-sectional study to investigate the diabetes knowledge of known diabetic patients attending the diabetic clinic at PIMS Islamabad. The review of patients' diabetes knowledge in the hospital setting was an important aspect of this study. Pakistan is taking steps to raise awareness about the prevention and management of diabetes. In this study, we discovered that more females visited diabetic clinic OPD, so more females, 108 (54 %), became study participants as opposed to males, 92 (46 %). It was discovered that diabetic patients aged 30 and up, i.e. 192 (96 %), presented in the Diabetic Clinic OPD, while only 8 (4%) of the patients were younger than 30. We discovered 170 (85%) of these patients had type 2 diabetes, 24 (12.0 %) had type 1 diabetes, and 6 had GDM (3.0 %). According to prior global study estimates as well as Pakistani studies, type-2 diabetes was the most common form of diabetes in both males and females [11,12]. It was

discovered that patients with a family history of diabetes were more likely to have a parent with diabetes 87 (43.5 %), followed by siblings 47 (23.5 %), husband / wife 32 (16.0 %), relatives 24 (12.0 %), and children's 10 (5.0 %). According to a US study, family history is a major and important risk factor that should be included in public health approaches to diabetes prevention in the future [13]. A study conducted in Peshawar found that known diabetic patients had significant / satisfactory knowledge about their parents' diabetes history [14]. The good finding is that 146 (73.0 %) of the study participants understood what diabetes was. Only 54 people (27.0 %) had no idea about diabetes. Several studies in Pakistan, however, show that diabetic patients frequently lack diabetes knowledge [15]. A comparative study of the Indian and African populations revealed that Indians knew more about diabetes, its risks, and potential complications [16]. We also discovered that males, 71 out of 92 (77.17 %), knew more about diabetes than females, 75 out of 108 (69.44 %). A similar statement was made by a study conducted on British Pakistani Muslims, which discovered that women have comparatively less knowledge about diabetes [17]. We discovered that increased thirst 74 (37.0%) was reported as the main sign and symptom of diabetes by both genders, followed by excessive urination (19.5%) in males and increased hunger (17.0 %) in females. Increased Sweating was discovered to be the least common sign and symptom in diabetic patients 19 (9.5%), trailing only Slow Healing i-e 34 (17.0 %). We discovered that high sugar intake 66 (33.0%) is the leading cause of diabetes as reported by both genders of our study participants, followed by other causes 61 (30.5%), family history 36 (18.0%), lack of insulin 29 (14.5%) and failure to use insulin 8 (4.0 %). According to a study conducted in India, the most common diabetic complication reported by patients is vision loss [18]. We discovered that kidney failure was the most common complication reported by study participants, accounting for 67 (33.5 %), followed by loss of vision 61 (30.5 %), heart failure 38 (19.0 %), amputation 18 (9.0 %), and poor wound healing 16 (8.0). Males reported loss of vision as the leading diabetes complication, accounting for 35 out of 92 (38.04 %), while females reported kidney failure as the leading complication, accounting for 35 out of 108 (32.40%). Diet and Medication was found to be the most effective diabetes management method 99 (49.5%), followed by Only Medication 40 (20.0 %), Diet, Medication & Exercise 24 (12.0 %), and Only Diet as reported by 17 (8.5 %) of both genders. In this study, eating less sugar was found to be the most effective diabetes prevention measure among both genders, at 95 (47.5 %) followed by a healthy diet at 73 (36.5 %), physical exercise at 22 (11.0 %), and weight loss at 6 (3.0 %). According to an Indian study, one of the most popular

assumptions about preventing diabetes is to eat less sugar [19]. One of the best method to increase knowledge and understanding among diabetic patients is through education and counseling [20]. As a result, greater emphasis should be made on increasing the patient's knowledge of diabetes.

CONCLUSIONS

There was considerable knowledge about diabetes in known diabetic patients but still there is a dire need to increase knowledge and awareness regarding disease understandings, causes, complications, management, and its preventive measures. Diabetes being a complicated disease is easy to diagnose but difficult to treat while public health approaches can play an important role in the prevention and control of this life-threatening disease. Education is the key towards self-management of this life-threatening disease.

Conflicts of Interest

The authors declare no conflict of interest.

Source of Funding

The author(s) received no financial support for the research, authorship and/or publication of this article

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