ABSTRACT

OBJECTIVE: To find out the frequency of Diabetic Patients with their demographic profile, and to assess the awareness of Diabetes Mellitus and associated risk factors and complications in Diabetic Patients visiting Rawal General and Dental Hospital, Islamabad.

STUDY DESIGN: A Descriptive Cross-Sectional Study.

PLACE AND DURATION: Conducted at Medicine Department OPD, at Rawal Institute of Health Sciences, Islamabad, over a period of six months, from 15 May 2016 to 15 Nov 2016.

METHODOLOGY: After interviewing the respondents, data was collected from both genders on a structured close ended questionnaire. The frequency of diabetic patients and their demographic profile, frequency of awareness regarding different parameters of diabetes mellitus, along with the associated risk factors and complications were assessed.

RESULTS: Total respondents were 125, which comprised of almost the same proportion of both genders (Majority of the patients were married (94.4 %), were belonging to urban areas (72.8%) and literate (80.8%) with good knowledge regarding diabetes mellitus. It was noted that patients had sufficient awareness with regards to: types of diabetes (38.4%); effects of diabetes like increase in blood sugar level (65.6%), increase in urine sugar (60.8%); diabetes is curable (43.2%); risk factors of diabetes like obesity (88.8%), stress (68.8%), positive family history (88%), smoking (39.2%); and complications of diabetes like heart attack (76.8%), vision defects (77.6%), numbness of limbs (88%), kidney diseases (72.8%) and liver diseases (49.6%).

CONCLUSION: The respondents had sufficient knowledge and awareness about diabetes mellitus and its associated factors due to higher educational level.

KEY WORDS: Diabetes Mellitus, Frequency, demographic profile, Awareness, Associated factors, Complications, Risk Factors.

INTRODUCTION

Diabetes mellitus is one of the major metabolic ailments that results from either decreased insulin production by pancreas or decreased sensitivity of body cells against insulin, ultimately body going into constant hyperglycemic state and glycosuria. Worldwide prevalence of diabetes mellitus is alarming. A total 387 million people with prevalence rate of 8.3 are living with diabetes. According to an estimate, one in every 12 persons is a diagnosed case of diabetes whereas one in two persons don't know that they are living with diabetes. A total of 4.9 million of deaths were reported in 2014 due to diabetes.

Pakistan has 11.77% prevalence of diabetes mellitus. It is slightly more in males (11.20%) as compared to females (9.19%). Prevalence in urban areas is 14.81% whereas that in rural areas is 10.34%. Prevention is better than cure, best describes the awareness and management attitude of an individual towards a disease. The self-care practices coupled with the knowledge of illness, result in better management of disease. Awareness about diabetes, associates complications, medications observance, dietary planning and modifications in life-style can result in decrease likelihood of adverse events within all age diabetic population. Research work published earlier has indicated that, in Pakistan, adequate awareness is not present in the masses regarding diabetes, proper medications use, modifications in life style, changes in the dietary plans, myths inhabited with insulin and other related educational programs. Risk factors for diabetes mellitus are another important consideration that is determined by several factors such as ethnicity, family history of diabetes, and gestational diabetes history, increase in age, obesity, unhealthy diet, smoking and...
physical inactivity increase the chances of developing it; within this, obesity and lack of physical activities contribute more towards diabetes mellitus.5,12-14

This study was conducted with the objective to find out the frequency and demographic profile, assess the awareness of different parameters of Diabetes Mellitus, and associated risk factors and complications in Diabetic Patients visiting Rawal General and Dental Hospital, Islamabad.

**METHODOLOGY**

This descriptive cross-sectional study was carried on 125 diabetic patients visiting Medicine Department OPD at Rawal General and Dental Hospital, Islamabad. Data was collected over a period of six months from 15 May 2016 to 15 Nov 2016 by the non-probability convenience sampling method from both genders. Prior permission was taken from the ethical review board of the Institute before collecting data. Informed consent was taken from the study subjects and confidentiality of the patients was assured.

A pilot study was conducted on 20 respondents that resulted in a structured close ended questionnaire comprising of four different parts. First part contained the demographic profile of the respondents such as gender, marital status, educational status and the population setting. The second part comprised of questions about the awareness of diabetes mellitus such as types of diabetes, if diabetes increases in blood sugar level only, if it increases in urine sugar level, can an individual with normal health have diabetes, can a new born have diabetes, if diabetes is treatable, if diabetes is curable. The third part recorded the awareness of risk factors that may cause diabetes mellitus such as obesity, excessive sugar intake, stress, excessive fat intake, positive family history, smoking. The last part was about awareness about complications due to diabetes mellitus such as heart attack, cataract & defects in vision, numbness of hands

**RESULTS**

Out of one hundred twenty-five respondents included in the study; there were almost same proportion of both genders (male n=66, 52.8%) and females (n=59, 47.2 %). Most of the patients were married (n=118, 94.4 %) and were belonging to urban areas (n=91, 72.8%). Majority of the patients were literate (n=101, 80.8%); Out of which primary (n=6, 4.8%), middle (n=10, 8%), matric (n=26, 20.8%), inter (n=9, 7.2%), graduate (n=33, 26.4%) and post-graduate (n=17, 13.6%) were having good knowledge regarding diabetes mellitus.

It was noted that patients had sufficient knowledge and awareness with regards different parameters of awareness of diabetes mellitus such a; types of diabetes (n=48, 38.4%); effects of diabetes like increase in blood sugar level (n=82, 65.6%), increase in urine sugar (n=76, 60.8%); questions like healthy individual can have diabetes (n=92, 73.6% ), new born can have diabetes (n=66, 52.8%), diabetes is treatable (n=107, 85.6%), diabetes is curable (n=54, 43.2%) (Table -I) risk factors of diabetes like obesity (n=111, 88.8%), excessive sugar intake (n=103, 82.4%), stress (n=86, 68.8%), fat intake (n=74, 59.2%), positive family history (n=110, 88 %), smoking (n=49, 39.2%) (Table – II); and complications of diabetes like heart attack (n=96, 76.8%), vision defects (n=97, 77.6%), numbness of limbs (n=110, 88%), kidney diseases (n=91, 72.8%) and liver diseases (n=62, 49.6 %)(Table-III).

| TABLE I: FREQUENCY OF AWARENESS ABOUT DIFFERENT PARAMETERS OF DIABETES MELLITUS (N=125) |
|-----------------------------------------------|------------|------------|-------------|
| Awareness Factors of Diabetes Mellitus | Yes | No | Don’t Know |
| Are there any types of Diabetes Mellitus | 48 (38.4%) | 40 (32%) | 37 (29.6%) |
| Is Diabetes Mellitus increase in blood sugar levels only | 82 (65.6%) | 23 (18.4%) | 20 (16%) |
| Is Diabetes Mellitus Increase in Urine sugar levels only | 76 (60.8%) | 22 (17.6%) | 27 (21.6%) |
| Can an Individual with normal health and body weight have Diabetes Mellitus | 92 (73.6%) | 18 (14.4%) | 15 (12%) |
| Can a newborn have Diabetes Mellitus | 66 (52.8%) | 34 (27.2%) | 25 (20%) |
| Is Diabetes Mellitus treatable | 107 (85.6%) | 13 (10.4%) | 5 (4%) |
| Is Diabetes Mellitus curable | 54 (43.2%) | 51 (40.8%) | 20 (16%) |

| TABLE II: FREQUENCY OF AWARENESS ABOUT RISK FACTORS OF DIABETES MELLITUS (N=125) |
|-----------------------------------------------|------------|------------|-------------|
| Risk Factors leading to Diabetes Mellitus | Yes | No | Don’t Know |
| Obesity | 111 (88.8%) | 3 (2.4%) | 11 (8.8%) |
| Excessive sugar intake | 103 (82.4%) | 16 (12.8%) | 6 (4.8%) |
| Stress | 86 (68.8%) | 24 (19.2%) | 15 (12%) |
| Intake of excessive fat | 74 (59.2%) | 34 (27.2%) | 17 (13.6%) |
| Smoking | 49 (39.2%) | 44 (35.2%) | 32 (25.6%) |
| Family history | 110 (88%) | 8 (6.4%) | 7 (5.6%) |
TABLE III: FREQUENCY OF AWARENESS ABOUT COMPLICATIONS OF DIABETES MELLITUS (N=125)

<table>
<thead>
<tr>
<th>Complications of Diabetes</th>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Attack</td>
<td>96 (76.8%)</td>
<td>14 (11.2%)</td>
<td>15 (12%)</td>
</tr>
<tr>
<td>Cataract and defects in Vision</td>
<td>97 (77.6%)</td>
<td>12 (9.6%)</td>
<td>16 (12.8%)</td>
</tr>
<tr>
<td>Numbness of hands and feet</td>
<td>110 (88%)</td>
<td>7 (5.6%)</td>
<td>8 (6.4%)</td>
</tr>
<tr>
<td>Kidney diseases</td>
<td>91 (72.8%)</td>
<td>18 (14.4%)</td>
<td>16 (12.8%)</td>
</tr>
</tbody>
</table>

DISCUSSION

Significant variance regarding diabetes in males and females is found across countries due to diversities in biology, culture, lifestyle, environment, and socioeconomic status due to predisposition, development, and clinical presentation. It was found in various studies that prevalence of diabetes is more in males as compared to females. However, other studies indicated more prevalence in women. In this study, it was found that prevalence was higher in males as compared to females. In other studies conducted in Pakistan, it was found that most of the study population was married, similar to findings of our study. The population setting (urban/rural) varied in these studies. However, majority of the respondents in our study were from urban setting.

A three year survey was conducted in Chennai concluded that people having more awareness manage themselves better and they had prolonged the time period for acquisitions of complications and with decreased number of diabetic case associated with complications.

Higher prevalence of diabetes in some studies was attributed to poor awareness among the patients. However, this is contradictory to findings of other studies carried out in Pakistan. This study depicted that the respondents had adequate knowledge regarding diabetes mellitus and its associated factors.

One of cause of for higher complications in diabetes is patient’s negligence, which also is reflective of poor health education. A study was conducted to know about health education’s prophecy among diabetics and to get acknowledged about the health care services regarding health education. During the study information about the causation was also imparted to the patients. If we evaluate the scenario related to the prevalence of complications among Diabetics, the situation is very much alarming and needs timely intervention of the complications, but before that health education regarding the disease prevention and causation is a must.

The distressing condition in the country is very alarming but still there are very scarce specialized diabetic hospitals and Government has assigned very inadequate resources for health sector. Family physicians are usually not modernized with current supervision and control of diabetes and have inadequate time to guide patients for lifestyle alteration. People being more educated and aware tend to have decreased number of complications and risks for diabetes mellitus.

As compared to urban areas, rural areas lack adequate knowledge, so it is recommended that there should be public awareness about Diabetes Mellitus among the masses. In this study, majority of the respondents belonged to urban area having better education and knowledge. This lead to more focused and timely disease management.

It is revealed in a survey that, those with close monitoring of blood sugar levels and regular treatment, have lower risks for the complications. In the present study, as there was significant awareness regarding complications, the patients tend to have lesser disease related problems. As risk for Diabetes is increasing, general population should be made target for health education about Diabetes Mellitus and other diseases.

In Pakistan the existing health care system demands that attention should be given for the combined efforts between diabetic patients, healthcare specialists, and health care providers and the strategy makers. Early diagnosis and prompt treatment of Diabetes Mellitus decreases the risk of the severe complications, and introducing suitable supervision of the condition, allowing diabetic people to live through the Impending Epidemic of Diabetes Mellitus in our country. In Pakistan there are many problems and contests for Health Care Providers. The goal of incorporating diabetes into primary health care program is to launch screening techniques for observing, regulating and detecting the communal difficulties of diabetic patients.

CONCLUSION

It was found that respondents had sufficient knowledge and awareness about diabetes mellitus and its associated factors due to higher educational level.

RECOMMENDATIONS

a. Aggressive awareness campaigns are needed for better adherence to treatment and avoidance of complications.

b. There should be awareness programmers carried out at Government level regarding Diabetes Mellitus, projected to general population through electronic media.

c. Patient awareness may be enhanced at mass level with collaboration of those pharmaceuticals, which are promoting Diabetic prevention brands.

d. Booklets regarding general Information of Diabetes Mellitus should be distributed at every medical center level which are Basic Health Unit, Rural Health Centre, Tehsil Head Quarter, and District Health Quarters.

Contribution of Authors

Hassan U: Conceived idea and designed methodology, Data collection and compilation, Manuscript writing.

Khurshid A: Literature review, Data interpretation.

Niaz WA: Statistical analysis, Critical review and final approval.
REFERENCES


