Awareness about Diabetes Mellitus Amongst Diabetics

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Abstract

Background: To compare the level of awareness of diabetes mellitus, in diabetic patients visiting two different tertiary healthcare facilities.

Methods: In this cross-sectional study diabetic patients suffering from either type 2 or type 1 diabetes mellitus, between the ages of 16-80 years were included. Demographic data and knowledge of participants was recorded about various aspects of diabetes mellitus. T-test was applied to find out the difference of knowledge about diabetes between urban and rural population.

Results: Out of total of 246 patients, ranging from 16-80 years (54.50±10.89), 59.3% were females. A significant proportion of study participants (32%) attributed excessive intake of sweets for the causes of diabetes. Role of physical activity and exercise was acknowledged by 44.3% patients. Low cholesterol diet was reported to be protective for heart by 15.9%. Urban patients were more well versed with complications of diabetes mellitus.

Conclusion: The awareness about diabetes mellitus in majority of diabetic patients was inadequate. Urban population has better understanding of the disease as compared to rural population.

Key Words: Diabetes Mellitus, Awareness

Introduction

Diabetes mellitus is a chronic debilitating disease affecting people of all ages around the globe. It is a common problem of both rich and poor communities. The prevalence of diabetes mellitus in Pakistan is 7.6% and more than 9.3 million individuals between the ages of 20-79 years are suffering from this devastating disease. It is estimated that number of adults suffering from diabetes mellitus will increase to approximately 300 million by 2025. Significant gender differences has been reported, men living in both urban and rural areas have considerable diabetic preponderance over women. In Pakistan, mortality due to diabetes mellitus is very high. In 2010, there were 88,014 deaths due to diabetes and its complications. Mortality due to diabetes can be reduced with optimal control of blood glucose level, decreasing blood pressure, controlling dyslipidaemia and reducing the complications of diabetes mellitus.

Various studies conducted in Pakistan, Iran and Kenya revealed that awareness of diabetes mellitus among diabetic patients is low. Lack of awareness results in poor glycaemic control. Better sources of information help the patients to evaluate risk factors for diabetes mellitus and motivate them to take care of their disease.

Diabetes Mellitus is a devastating disease, but it can be managed with well planned diet, exercise, use of oral hypoglycemic agents, insulin and keeping inopt circulation in extremities. Training in self-management is integral to the control of diabetes. For proper management of diabetes, patients need to be aware of the nature of the disease, its risk factors, treatment and complications. Educational programmes related to diabetes help to train patient’s self-care information including food choices, changes in lifestyle and adapting appropriate foot care techniques. Health education, early detection and improved care help the patients to control blood sugar level and reduce co-morbidities and diabetic complications.

Patients and Methods

This cross-sectional comparative study was conducted at foundation clinic (for non-affording patients), Shifa College of Medicine. The study period was six months. Diabetic patients visiting the diabetic clinics of both hospitals were included. Patients suffering from either type 1 or type 2 diabetes mellitus, between the ages of 16-80 years were included in the study. Demographic data and knowledge of
participants was recorded about various aspects of diabetes mellitus. Student t-test was applied to find out the difference of knowledge about diabetes between urban and rural population and male and female. To develop the association between education of the patients and knowledge about diabetes chi-square test was applied. p < 0.05 taken as statistically significant.

Results
A total 246 patients participated in the study. Female preponderance was observed among the study participants. Majority of the patients (64%) were between 46-65 years (Table 1). Only 16% of the patients (n=40) had passed high school exam. Thirty two percent were of the view that the cause of diabetes is excessive intake of sweets (Table 2). A large number of patients (63%) were diagnosed ten years ago while 30% were coping with diabetes for the last 10-20 years.

Table 1: Diabetes Mellitus-Age Profile

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>No(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-45</td>
<td>55(23)</td>
</tr>
<tr>
<td>46-65</td>
<td>158 (64)</td>
</tr>
<tr>
<td>&gt;65</td>
<td>33(13)</td>
</tr>
</tbody>
</table>

Table 2: Risk factors of diabetes mellitus by education of respondents

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Literate</th>
<th>Illiterate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family history(%)</td>
<td>81.1</td>
<td>18.9</td>
</tr>
<tr>
<td>Intake of sweets (%)</td>
<td>87.5</td>
<td>12.5</td>
</tr>
<tr>
<td>Depression(%)</td>
<td>61.5</td>
<td>38.5</td>
</tr>
<tr>
<td>Overeating(%)</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>Lack of exercise(%)</td>
<td>60</td>
<td>40</td>
</tr>
</tbody>
</table>

Table 3: Awareness about complications of Diabetes Mellitus in urban and rural participants

<table>
<thead>
<tr>
<th>Complications</th>
<th>Urban</th>
<th>Rural</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac</td>
<td>67%</td>
<td>33%</td>
<td>0.03*</td>
</tr>
<tr>
<td>Renal</td>
<td>72%</td>
<td>28%</td>
<td>0.001**</td>
</tr>
<tr>
<td>Eye</td>
<td>71%</td>
<td>29%</td>
<td>0.000**</td>
</tr>
<tr>
<td>Neuropathy</td>
<td>64%</td>
<td>36%</td>
<td>0.000**</td>
</tr>
</tbody>
</table>

*Statistically Significant at p<0.05; **Statistically highly Significant at p<0.001

Urban were more well versed about complications of diabetes (Table 3). Almost half of the patients (51%) thought that blood tests for the diagnosis of diabetes are better than urine tests (16%). There were 54 patients (22%) having no idea regarding which investigation is better for the diagnosis of diabetes.

Table 4: Knowledge about foot care

<table>
<thead>
<tr>
<th>Sex</th>
<th>Daily cleanliness</th>
<th>Soft shoes</th>
<th>Don't walk barefooted</th>
<th>Adequate nail cutting</th>
<th>Closed shoes</th>
<th>Protection from wound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>38</td>
<td>32</td>
<td>73.7</td>
<td>15.8</td>
<td>33.3</td>
<td>31.8</td>
</tr>
<tr>
<td>Female</td>
<td>62</td>
<td>68</td>
<td>26.3</td>
<td>84.2</td>
<td>66.7</td>
<td>68.2</td>
</tr>
</tbody>
</table>

Females had better awareness of the issues related to foot care as compare to male participants (p = 0.021)(Table 4)

Discussion
Present study highlights deficiency in patients’ knowledge regarding the causes and complications of diabetes mellitus. Most patients with diabetes in developing countries are middle aged (45-64 years), this is against the common belief that diabetes is a disease of aged people. This exerts huge burden on physicians as they have to examine large number of patients and provide lifelong management. Middle aged patients suffering from diabetes mellitus pose enormous economic burden on the country’s resources.12

Main reason for lower level of knowledge is the educational status of the participants. This is consistent with the findings of a study conducted in Bangladesh which revealed that high literacy rate was related with better awareness of diabetes mellitus and its complications. Other contributory factors may be the socio economic status and non availability of the diabetic educational programmes. 13,14

It is generally observed that males have better knowledge regarding diabetes mellitus. This is in accordance with the findings of the studies conducted in Northwest and South of Pakistan.15, 16 Similar results were revealed by a study conducted in India by Gulabani et al.17 However, in present study females had better understanding of causes, complications, foot care and dietary modifications. In present study the participants showed reasonable knowledge regarding foot care. This is in accordance with the study done by Paul Rheeder.18 This may be due to predominant urban population, higher literacy level, and better exposure to diabetes health education programmes among the female population.

Urban population has better opportunities to gain knowledge about diabetes from various sources. Higher literacy level and health education by medical professionals are although related to each other but the
main difference was the education provided by the more expert health workers in urban territories.\textsuperscript{13} There is need to enable the patients to understand the causes, risk factors, symptoms, signs, complications and various treatment modalities through health education programmes

\textbf{Conclusion}

Diabetes Mellitus, being a disease affecting a huge strata of society, needs to have more awareness among patients.

\textbf{References}