KNOWLEDGE IN DIABETIC PATIENTS ABOUT THE DISEASE AND ITS COMPLICATIONS

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Abstract:
OBJECTIVE To assess the knowledge of diabetic patients about their disease and its complications.
DESIGN Cross sectional study done in Diabetic patients attending outpatient Department of Diabetology, Coimbatore Medical College Hospital during the month of July 2011.
METHODS Known diabetic patients were included in the study irrespective of their duration of illness. All patients were given a prescribed proforma containing questions regarding diabetes, its complications and management. The parameters were tabulated and analysed using SPSS version 17.
RESULTS Out of 200 patients, 99 were males (49.5) and 101 were females (50.5). Of the patients 36 were between the age group of 30 to 40 yrs, 62 within 40 to 50 yrs, 67 within 50 to 60 yrs and 35 above the age of 60 yrs. Only 4 of the study population were aware that Diabetes is due to elevated blood sugar levels. With regard to complications, 22 were aware about eye problems, 20 about cardiac problems, 8 about stroke,

Keyword: Diabetes Mellitus, Complications, Knowledge, Education

INTRODUCTION
Diabetes is a metabolic disorder characterized by chronic hyperglycemia. The prevalence of Diabetes is increasing rapidly over the past few decades. It is an important cause of morbidity and mortality all over the world. In India, diabetes is on the verge of becoming a pandemic. The IDF estimates that the total number of diabetic subjects in India may rise to 69.9 million by the year 2025. Contrary to the previous concepts, Type 2 DM is now increasing in younger people, including children. Due to a long asymptomatic period and delay in diagnosis, in developing countries most of the people present with complications at the time of diagnosis itself. The global prevalence is increasing due to population growth, urbanisation, aging and increasing prevalence of obesity and physical inactivity. Various studies in India show the poor knowledge of Diabetic patients about their disease and its complications. Lack of education, poverty and late diagnosis may be the reason for this. Proper education
and awareness, earlier detection and improved care may reduce many complications and co-morbidities in the diabetic population. Improper communication and guidance could lead to poor compliance even in developed countries. For planning effective education programs, identification of vulnerable groups provides useful information.

MATERIALS AND METHODS

This cross-sectional observational study was performed in 200 diabetic patients attending outpatient Department of Diabetology, Coimbatore Medical College Hospital during the month of July 2011. All known diabetic patients were included in the study irrespective of their duration of illness. Purpose of the study was explained to the patients and informal consent was taken. All patients were evaluated through a questionnaire comprising 20 questions. The data collected was tabulated and analysed.

RESULTS

AGE AND SEX DISTRIBUTION

Out of the 200 patients 50.5% (101) were females and 49.5% (99) were males. Among them, 36 patients were within the age group of 30-40 yrs, 62 within 40-50 yrs, 67 within 50-60 yrs and 35 were within 60-70 yrs. The maximum numbers of patients were clustered between 40-60 yrs of age.
LITERACY AND SOCIOECONOMIC STATUS
Out of 200 patients more than 50% were poorly educated and from low socioeconomic status. Among them, the knowledge about diabetes mellitus and its complications was higher in patients with higher level of literacy and income. This study shows that there is no correlation between the duration of diabetes and the knowledge about the disease among the patients. The knowledge remains poor irrespective of the duration of the illness.

SYMPTOMS AND COMPLICATIONS
Only 20% of the study group were aware of the symptoms of diabetes. About the knowledge regarding the complications of diabetes, 20% were aware of cardiac problems, 22% about eye problems, 8% about stroke, 6% about peripheral neuropathy, 13% about the kidney problem, and 3.5% about infections and foot ulcer.

Table 5: KNOWLEDGE ABOUT LIFELONG MEDICATION
91.5% of the study population were unaware of the importance of diet control, exercise, and proper foot care in the management of diabetes. The percentage of study population who did not take medications regularly was 76.5%, which included patients who missed the drug once a week, twice a week or once a month. 82% of patients were aware that once antidiabetic drugs were started, they should be continued lifelong. Only 2.5% of the study populations were aware of the symptoms of hypoglycemia and its management.

DISCUSSION:
Diabetes Mellitus with increasing prevalence is a global burden posing a great risk for the resources of a country. The knowledge of Diabetes in a developing country like India is not upto the mark reflecting the low level of education imparted to the patients. The role of the physician does not end at just prescribing medications, but also educating the patients about the lifestyle modifications including diet and exercise. Only by educating the general population can we reduce the burden of diabetes through early diagnosis, treatment, and regular follow-up. The awareness of the disease among the study population was very low, with only 4% of them knowing that diabetes is due to increased blood sugar levels.
Very few, about 2.5% of them, were aware about hypoglycemia and its management. Unhealthy food habits and sedentary lifestyle are one of the main risk factors for the development of diabetes. In our study 47% were overweight and 23% obese. An alarming data was that 91.5% of the patients were not aware of the importance of diet control, exercise and proper foot care in the management of diabetes. This shows that the importance of nonpharmacological measures (diet, exercise and weight reduction) is also to be enforced in controlling diabetes. 41% were smokers and 39% were alcoholics.

With regard to the complications, the awareness level was poor as shown by 22% for eye problems, 20% for cardiac problems, 8% for stroke, 6% for peripheral neuropathy, 13% for renal problems and 3.5% for infections and foot ulcer. The above data is not satisfactory, highlighting on the fact that steps are to be taken to improve the awareness and knowledge about diabetes and its complications in the general population. Although a good number of patients (82%) were aware that drugs are to be taken lifelong, many did not adhere to the prescriptions, missing drugs regularly. Only with combined effort from every sector of the society, we can reduce the burden of the disease by better control, leading to a healthier lifestyle.

CONCLUSION
The study highlights the fact that the knowledge about diabetes and its complications are very poor among the population attending Government Hospital. Thus only by improving the standards of awareness level among the population, can we expect an improvement in the attitude and practice among the patients. Thus steps like mass campaigns, health education, and screening of the vulnerable population can definitely bring about a change in the attitude and practices among the patients for the better. Patients are to be educated in detail about the medications and knowledge is to be reinforced that drugs are to be taken regularly and for lifetime. The importance of other nonpharmacological measures is also to be taught. Management of diabetes is not complete with only prescription of medications. Knowledge about lifestyle modifications which include proper dietary habits and regular exercise are to be incorporated not only in diabetic patients but also in the general population.

In India, the maximum undiagnosed cases belong to the rural population hence screening programmes for diabetes should be initiated at the primary health care centres itself. Diabetes being an important cause of morbidity and mortality all over the globe, improvement in the knowledge can only bring about a change in the attitude and practice, thereby helping in better control of the disease and reducing the complications. Only a holistic approach involving the combined participation from the physician, nutritionist, social workers, NGOs and Government organisations can help in controlling the emerging diabetic pandemic and reducing the burden of the disease in the society.

BIBLIOGRAPHY


### Table: Awareness of Diabetes Complications

<table>
<thead>
<tr>
<th>Complications</th>
<th>Awareness %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac problems</td>
<td>20</td>
</tr>
<tr>
<td>Eye problems</td>
<td>22</td>
</tr>
<tr>
<td>Renal problems</td>
<td>13</td>
</tr>
<tr>
<td>Stroke</td>
<td>8</td>
</tr>
<tr>
<td>Peripheral Neuropathy</td>
<td>6</td>
</tr>
<tr>
<td>Infections and Foot ulcer</td>
<td>3.5</td>
</tr>
</tbody>
</table>
1. Diabetes is a condition in which the body contains:
   - a higher level of sugar in the blood than normal.
   - a lower level of sugar in the blood than normal.
   - I don't know

2. The major cause of diabetes is:
   - an increased availability of insulin in the body.
   - a decreased availability of insulin in the body.
   - I don't know

3. The symptom(s) of diabetes is/are:
   - increased frequency of urination.
   - increased thirst and hunger.
   - increased tiredness.
   - slow healing of wounds.
   - all the above
   - I don't know

4. Diabetes, if not treated:
   - can lead to eye problems.
   - can lead to kidney problems.
   - can lead to stroke
   - can lead to peripheral neuropathy
   - can lead to infections and foot ulcers.
   - can lead to heart problems.
   - all the above
   - I don't know

5. Awareness for screening of complications
   - yes
   - no

6. The most accurate method of monitoring diabetes is:
o checking blood glucose levels.
o checking urine sugar.
o I don't know

7. A diabetic patient should measure his or her blood pressure:
o yes o no

8. The lifestyle modification(s) required for diabetic patients is/are:
o weight reduction.
o stopping smoking.
o stopping alcohol intake.
o all the above
o I don't know

9. The important factors that help in controlling blood sugar are:
o a controlled and planned diet
o regular exercise
o medication
o all the above
o none

10. A regular exercise regimen will help in:
o increasing blood circulation.
o enhancing insulin action.
o I don't know

11. Do you exercise regularly?
o Yes o No

12. Are you following a controlled and planned diet?
o Yes o No

13. The well-balanced diet includes:
o green leafy vegetables.
o fiber-rich food.
o low sugar, oil, and fat.
o I don't know

14. For proper foot care, a diabetic patient:
o should inspect and wash the feet daily.
o should select the best possible footwear.
o should walk barefoot inside and outside the house.
o should not walk barefoot inside and outside the house.

15. Treatment of diabetes comprises:
o OHA/ Insulin
15. Blood transfusions:  
- taking more bitter vegetables.  
- I don’t know
16. Upon control of diabetes, the medicines:  
- can be stopped immediately.  
- can be stopped after one month.  
- should be continued for life.  
- I don’t know
17. Do you miss taking the doses of your diabetic medication?  
- Yes  
- No
18. Are you aware of blood sugar levels falling below normal when you are taking drugs?  
- Yes  
- No
19. How do you manage hypoglycemic symptoms?  
- by taking sugar  
- by taking medicines  
- by taking insulin  
- I don’t know
20. A diabetic patient should check his/her eyes regularly  
- yes  
- no