

Knowledge and Awareness of Diabetes in Diabetic Patients: A Cross-Sectional Study

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ABSTRACT

Aim: To check for Knowledge and Awareness of Diabetes amongst Diabetic Patients.

Background: Diabetes mellitus is a common chronic disease with increasing prevalence worldwide; it leads to devastating human, social and economic impact. Poor patient knowledge of recommended diabetic self-care practices is a major barrier toward attainment of good glycemic control and prevention of diabetic complications.

Methodology: A Study was performed in 66 diabetic patients age 18 or above years both male and female. A structured questionnaire "Diabetes Knowledge Questionnaire" was filled by Diabetic patients and submitted questionnaire on Google form.

Results: The results showed that there is a statistically significant difference in knowledge on diabetes among different age groups, but there is no significant difference in knowledge among different gender and education level. Out of 66 respondents, (53.3%) knew that diabetes is actually a condition characterized by raised blood sugar. (46.7%) are unaware of cause of diabetes. (40%) were aware of hereditary significance of diabetes. (60%) of participants responded that diabetes can be cured. Age and education level of respondents were found to be predominant predictive factors on diabetes knowledge, whereas the gender of respondents did not affect findings of this study. Low level of knowledge of diabetes was a predictor of poor glycemic control but not medication adherence.

Conclusion: Knowledge and awareness of diabetes in patients having diabetes is found low. Future studies should explore low-cost health education interventions feasible in Indian

health care context for improving patient knowledge of diabetes. Better knowledge of diabetes can improve glycemic control and treatment satisfaction in patients.

Keywords: Diabetics, knowledge of diabetes, Diabetes and Disorders, Patient Diabetes knowledge Questionnaire.

1. INTRODUCTION

According to the International Diabetes Federation Diabetes Atlas, India already has 63 million people with diabetes. [1] Type 2 diabetes is a metabolic disorder, the effective management of which requires not only medication use but also active patient awareness with appropriate life-style modifications. Major problem with diabetes is that if it is poorly controlled it leads to increase in complications associated with diabetes. Diabetes increases the risk of various microvascular and macro vascular diseases such as coronary artery disease, stroke, blindness, kidney failure, and foot amputation leading to increased morbidity. [2-3] However, diabetes and its complications can be controlled and prevented by proper and effective management. There is evidence that good glycemic control may prevent diabetes-related complications. [4-5] However, in order to achieve good metabolic control, it is necessary to measure glycated hemoglobin (HbA1c) as well as assess awareness about diabetes among diabetes subjects. Poor diabetes knowledge has a negative impact on self-care behavior. [6] Though education of patients has very

important role in effective management of diabetes, there is a shortage of trained personnel in India to provide education about diabetes and its associated complications. [7] Thus, Formal assessment of knowledge about diabetes and its management of subjects with diabetes is a prerequisite. Diabetes is most common cause of non-traumatic lower limb amputations and cardiovascular diseases. Only a negligible percentage of patients and subjects knew that feet are affected in diabetes and diabetes affects heart. So, by assessing the knowledge about diabetes we get to know how much concern the diabetic population is about their health, and how much they are concern to prevent it by self-care and other interventions. To bring awareness of physiotherapy interventions which are useful to treat diabetes related problems this study was done.

Aim and Objective: To assess diabetes knowledge and awareness of Diabetes among Diabetic Patients by using Diabetes Knowledge Questionnaire (DKQ).

2. METHODOLOGY

A Study was performed in 66 diabetic patients age 18 or above years including both male and female. A structured questionnaire “Patients Diabetes Knowledge Questionnaire” was filled by Diabetic patients and submitted questionnaire on Google form and further Data analysis was done using Microsoft Excel.

2.1: Inclusion Criteria

1. Diabetic patients diagnosed with HbA1c levels (Glycated Hemoglobin)
2. Male or Female both having age 18 or above.
3. Patient on insulin or pills.
4. Patient suffering from diabetes since 1 or more years.

2.2: Exclusion Criteria

1. Illiterate participants.

2. Person not willing to participate.

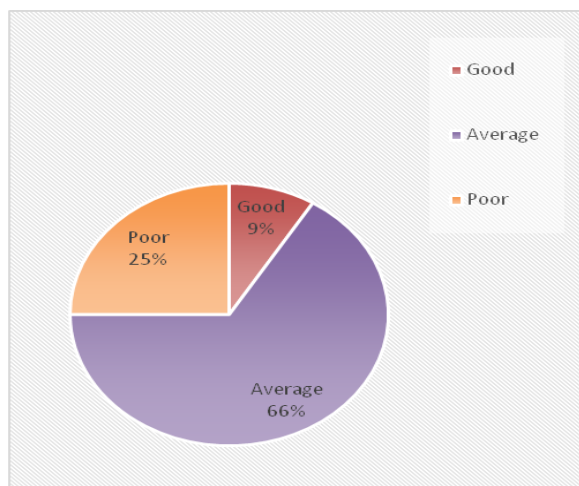
2.3: Outcome Measure: Diabetes Knowledge Questionnaire (DKQ) was used to assess the knowledge and awareness of diabetics. It was given by “Starr County”, having 0.86 a reliability. Diabetes knowledge was assessed with the 24-item version of the Diabetes Knowledge Questionnaire (DKQ-24) developed for use with people living with type 2 diabetes. The DKQ-24 is a read-aloud instrument designed to measure general diabetes knowledge. Participants' answers (yes/no/don't know) are recorded and marked as correct or incorrect. The total number of correct or incorrect scores is calculated, providing a total percentage score. It is a reliable and valid measure that is relatively easy to administer. The contents of this questionnaire were read to the participants in one-on-one interviews in their language of preference (English). This questionnaire is used in many researches and it is well validated. [8]

2.4: Procedure

Patients were randomly selected and all met the inclusion and exclusion criteria. Diabetic patients who are suffering from diabetes since a year or more, and those who are on insulin or pills were asked to fill up the **DIABETES KNOWLEDGE QUESTIONNAIRE** send through Google forms. Those patients who were illiterate were allowed to take help of their relatives to understand the questionnaire. Patients filled the questions according to their knowledge and awareness about diabetes and submitted on Google forms. The questionnaire took approximately 5-15 minutes to complete the interview. All these simple techniques allowed us to assess diabetes knowledge of diabetes subjects easily. Scores of DKQ were calculated for each participant. 1 Point was given for all the correct answer options for each question and no point for the incorrect answer and not knowing the answer. Total score was summed-up for diabetes knowledge score

for each subject with diabetes. To assess the level of diabetes knowledge scores were utilized. Maximum score was 24, scores ranging from 1-8 predicts Good knowledge, 9-16 as average and 17-24 as poor knowledge about diabetes. Data Analysis was done using Microsoft Excel.

3. RESULTS



(Graph 1): Knowledge and Awareness of Diabetes in Diabetic Patients

(Table 1): Sample distribution regarding sociodemographic Characteristics and Diabetic awareness.

Variables		No.
Percentage of respondents who successfully completed the study.		66 (92.5%)
Age year, mean: 60.6	Male n (%)	43 (60.5%)
	Female n (%)	23 (32%)
Diabetic since (Years)	1 -10 years n	10
	10-20 years n	32
	20 or above n	22
Level of Education	Illiterate/No response, n (%)	2 (2.82%)
	School, n (%)	28 (39.24%)
	Graduates n (%)	36 (50.45%)
Taking Medicines in form of:	Pills/Tablets	56 (78.48)
	Insulin	10 (14.01)
Any Other Disease:	No	31
	Hypertension	25
	Thyroid	5

DKQ mean score was 11.26 ± 4.64 points, which was average. Out of 66 respondents, 50.45%, $n=36$, who were graduates had satisfactory knowledge of diabetes. Remaining 39.24%, $n=28$ was

having adequate knowledge and awareness about diabetes. Only 2.82%, $n=2$ diabetics were illiterate who lack of knowledge about the disease. Age and education level of respondents were found to be predominant predictive factors on diabetes knowledge, whereas the gender of respondents did not affect findings of this study.

4. DISCUSSION

Formal assessment of diabetes knowledge of subjects with diabetes can be carried out by administering the DKQ in daily clinical practice with this simple DKQ either with written or oral evaluation. Process of identification of areas where patient's diabetes knowledge could be improved with diabetes education is easy with this DKQ. In this present study, there are many supporting criteria for achieving glycemic control, the most important thing was found to be adequate knowledge and understanding about diabetes among people with diabetes. Present study shows that majority of people have moderate diabetes knowledge, which might be acting as a supporting factor to achieve glycemic target goals. We also found that the majority of patients who were illiterate or with lower education level (up to school) had significantly lower DKQ score. Results of this study indicate that lower education level has an impact on diabetes knowledge. Though diabetes knowledge of patients have very important role in effective management of diabetes only 9% had satisfactory DKQ score in this study, which indicates that diabetes knowledge needs to be improved. For effective management of diabetes involving a physician, endocrinologist along with a Physiotherapist might achieve this objective of improving patient knowledge of diabetes when followed for longitudinally.

5. CONCLUSION

Knowledge and awareness of diabetes in patients having diabetes is found average. Future studies should explore low-cost health education interventions feasible in Indian health care context for improving

patient knowledge of diabetes. Better knowledge of diabetes can improve glycemic control and treatment satisfaction in patients.

Clinical Implication

By using this DKQ we as a physiotherapist can help achieve good knowledge and spread awareness about the harmful effect of the diabetes which may cause disorders like diabetic foot, cardiovascular disorders, many musculoskeletal problems, respiratory issues and much more amongst diabetic population. We can also aware them about the role of physiotherapy in diabetes.

Limitations

Sample size was not very adequate to provide the accurate score of knowledge and awareness of diabetes amongst diabetic patients. Equal numbers of participants were not included to correlate with the educated and uneducated group.

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