



PATIENT KNOWLEDGE OF DIABETES – IS THERE A NEED TO SPEND MORE TIME WITH THE PATIENT?

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ABSTRACT:

Incidence of diabetes mellitus is increasing throughout the globe, but the same can't be true regarding the knowledge regarding this disease. Lot of misconceptions regarding diabetes persists in the diabetic population. This questionnaire based study was conducted to quantify these misconceptions regarding this disease in diabetics. A total 345 type 2 diabetic patients visiting an endocrinologist in north India were given a questionnaire with 10 questions while waiting for the consultation. These 10 questions could be grouped into 3 groups, with respect to, the knowledge of increasing incidence of diabetes, lifestyle change in diabetes and insulin therapy in diabetes. Major misconceptions were found in the group of questions related to the insulin therapy followed by the questions related to lifestyle changes. Thus it is concluded that counselling, imparting disease knowledge and answering to the patient queries should also be given equal importance as the pharmacological therapy of diabetes.

Keywords: Diabetes Mellitus, Questionnaire, Disease Knowledge.

Introduction

Diabetes mellitus is very commonly encountered in clinical practice. Every fifth patient visiting a consulting physician is a diabetic and every seventh patient visiting a family physician is a diabetic. Keeping in view the alarming increase in the incidence and prevalence of diabetics in India, the World Health Organization (WHO) has declared India as the “Diabetic Capital” of the world.¹

There are lots of misconceptions in the mind of the patient regarding diabetes mellitus. As diabetes is a disease which can be well controlled if the patient takes good care of himself/herself, it is of utmost importance to educate the patient regarding basics of the disease. Studies have shown that increasing patient knowledge regarding disease and its complications has significant benefits with regard to patient compliance to treatment and to decreasing complications associated with the disease. This hold true for diabetes mellitus as well.²

In many cases diabetes mellitus is diagnosed by a family physician, when any co-morbidity is diagnosed, the patient is referred to a consulting physician. Upon development of complication, the patient is seen by the endocrinologist. So when a diabetic patient visits an endocrinologist, he/she has already visited two or three well qualified doctors before. Thus theoretically, patient visiting an endocrinologist should be well informed about the disease.

We conducted this study to quantify the diabetic patients knowledge about the disease, when he first consults an endocrinologist.

Methodology:

This study was conducted at a single tertiary care center of an endocrinologist in Lucknow. This study was based on a structured questionnaire (*Table 1*) which contained 10 questions testing the knowledge of the diabetic patient on diabetes mellitus. All the questions were in simple language which a patient understands and in local vernacular language i.e. Hindi. All the 10 questions were non descriptive multiple choice questions with 2 options which the patient had to

select (choice as tick √). This questionnaire was compulsory for the patient to answers all the 10 provided to 345 patients and it was not questions.

Table 1 : Questionnaire given to the diabetic patient (translated from Hindi to English)	
Question No.	Question with its Options
1	Are you aware that the incidence of diabetes mellitus in India is increasing? a) Yes b) No
2	Are you aware that diabetes mellitus can be well controlled by lifestyle changes? a) Yes b) No
3	In diabetes mellitus you need to follow certain restrictions on diet? a) Yes b) No
4	Without diet restrictions, the treatment of diabetes is not possible? a) Yes b) No
5	You should not eat full meals in diabetes? a) Yes b) No
6	Are you aware that diabetes is can cause heart/kidney/eyes/feet diseases? a) Yes b) No
7	If insulin is started for the treatment of diabetes mellitus, its treatment is lifelong? a) Yes b) No
8	Insulin therapy is the last option in the treatment of diabetes mellitus? a) Yes b) No
9	Body becomes habituated to taking insulin injections, once started? a) Yes b) No
10	Insulin injections are very painful? a) Yes b) No

The patient included in the study were type 2 diabetes mellitus patients, patients who were more than 18 years of age of either gender, patients who could follow, read and write Hindi. Patients who were illiterate were excluded from the study. Patients with psychological illness and patients with diabetic complications were also excluded from the study.

The demographic characteristics of the diabetic patients are mentioned in *Table 2*.

Table 2 : Demographic characteristics of the diabetic patients who were given the questionnaire	
Mean Age	54.3 Yrs
Males	209/345 (60.5%)
Females	136/345 (39.5%)
Patients who are locals from Lucknow	323
Patients who travelled to Lucknow for consultation	22

The analysis of the questionnaire was non-statistical with each question assessed on its merit. Analysis was carried out to determine the influence of gender on the knowledge after controlling other factors.

Results:

As it was non-mandatory to answer all the questions and some of the patients were selective in their answers. They answered many of the questions leaving some questions unanswered.

Q1: Are you aware that the incidence of diabetes mellitus in India is increasing (Figure 1)?

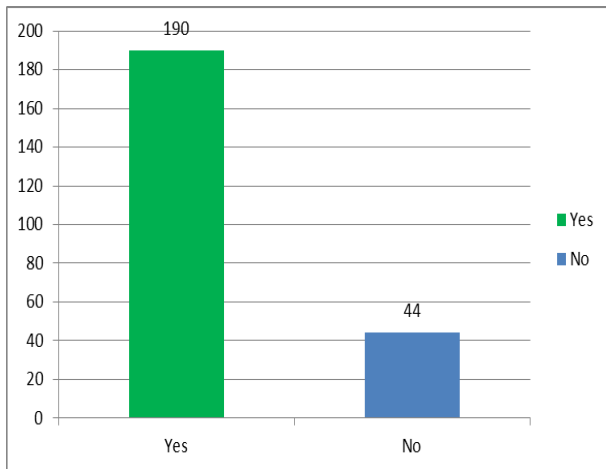


Figure 1: Are you aware that the incidence of diabetes mellitus in India is increasing

This question was answered by 234/349 patients and 81.19% of patients answered in affirmation for this question. There was no gender preponderance for this question.

Q2: Are you aware that diabetes mellitus can be well controlled by lifestyle changes (Figure 2)?

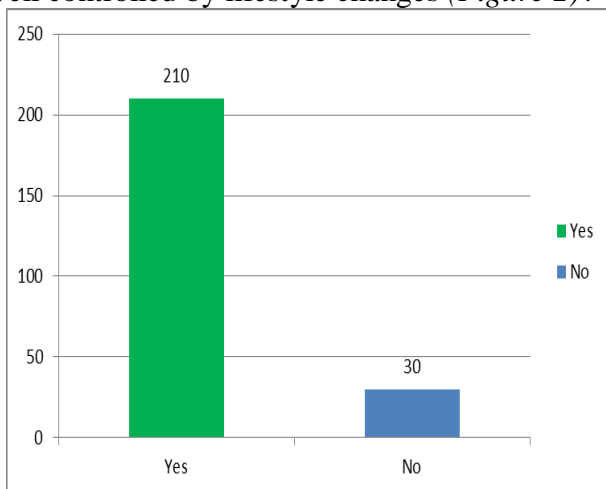


Figure 2: Are you aware that diabetes mellitus can be well controlled by lifestyle changes?

This question was answered by 240/349 patients and 87.50% of patients answered in affirmation for this question. There was no gender preponderance for this question.

Q3: In diabetes mellitus you need to follow certain restrictions on diet(Figure 3)?

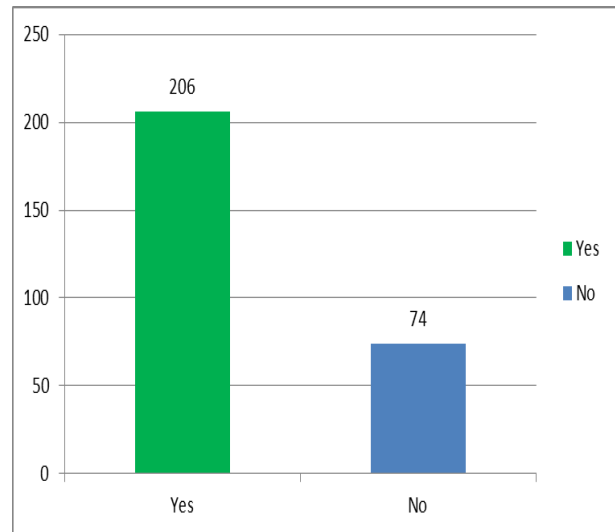


Figure 3: In diabetes mellitus you need to follow certain restrictions on diet?

This question was answered by 280/349 patients and 73.57% of patients answered in affirmation for this question. There was no gender preponderance for this question.

Q4: Without diet restrictions, the treatment of diabetes is not possible(Figure 4)?

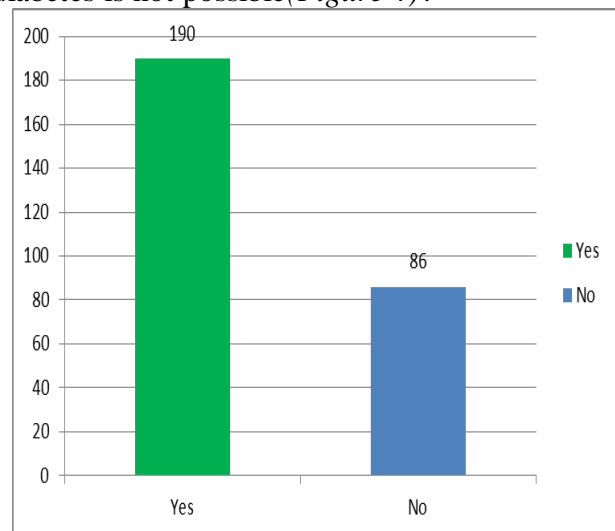


Figure 4: Without diet restrictions, the treatment of diabetes is not possible?

This question was answered by 276/349 patients and 71.42% of patients answered in affirmation

for this question. There was no gender preponderance for this question.

Q5: You should not eat full meals in diabetes(Figure 5)?

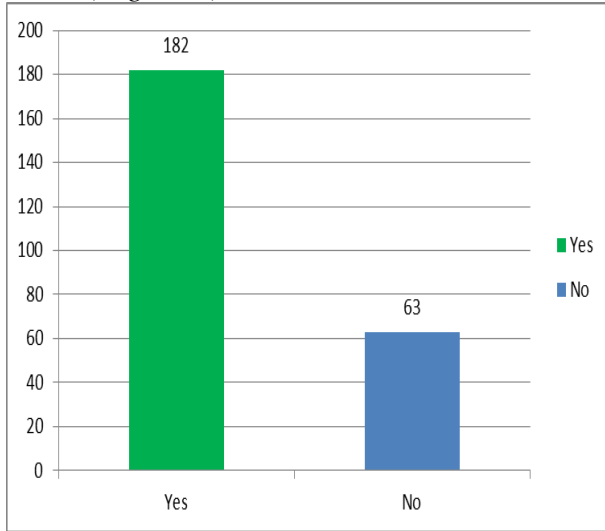


Figure 5: You should not eat full meals in diabetes?

This question was answered by 245/349 patients and 74.28% of patients answered in affirmation for this question. There was no gender preponderance for this question.

Q6: Are you aware that diabetes is can cause heart/kidney/eyes/feet diseases (Figure 6)?

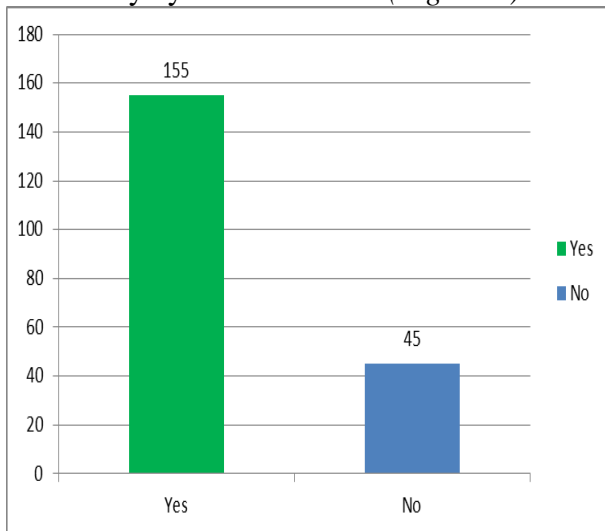


Figure 6: Are you aware that diabetes is can cause heart/kidney/eyes/feet diseases?

This question was answered by 200/349 patients and 77.50% of patients answered in affirmation for this question. There was no gender preponderance for this question.

Q7: If insulin is started for the treatment of diabetes mellitus, its treatment is lifelong(Figure 7)?

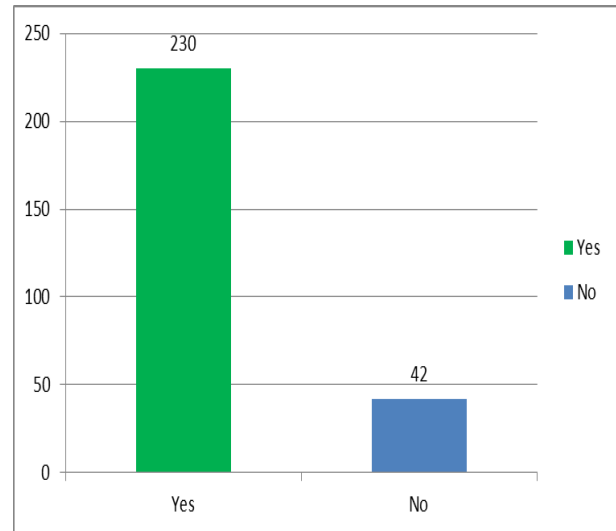


Figure 7: If insulin is started for the treatment of diabetes mellitus, its treatment is lifelong?

This question was answered by 272/349 patients and 84.55% of patients answered in affirmation for this question. There was no gender preponderance for this question.

Q8: Insulin therapy is the last option in the treatment of diabetes mellitus (Figure 8)?

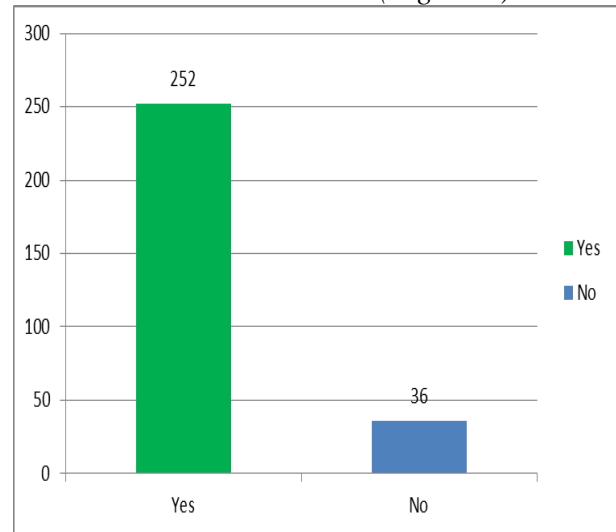


Figure 8: Insulin therapy is the last option in the treatment of diabetes mellitus?

This question was answered by 234/349 patients and 87.50% of patients answered in affirmation for this question. There was no gender preponderance for this question.

Q9: Body becomes habituated to taking insulin injections, once started(Figure 9)?

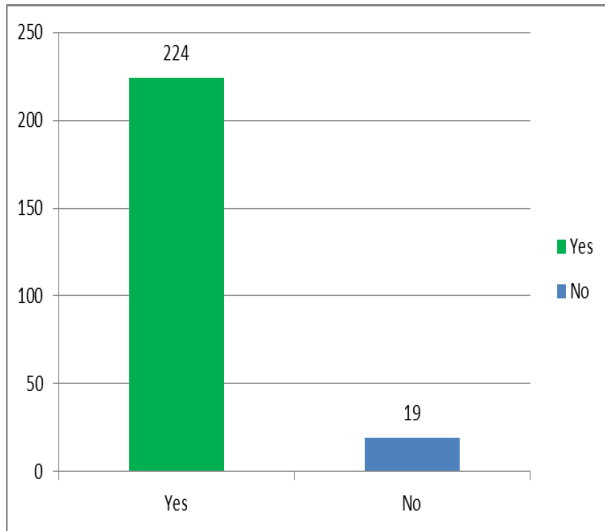


Figure 9: Body becomes habituated to taking insulin injections, once started?

This question was answered by 243/349 patients and 92.18% of patients answered in affirmation for this question. There was no gender preponderance for this question.

Q10: Insulin injections are very painful(Figure 10)?

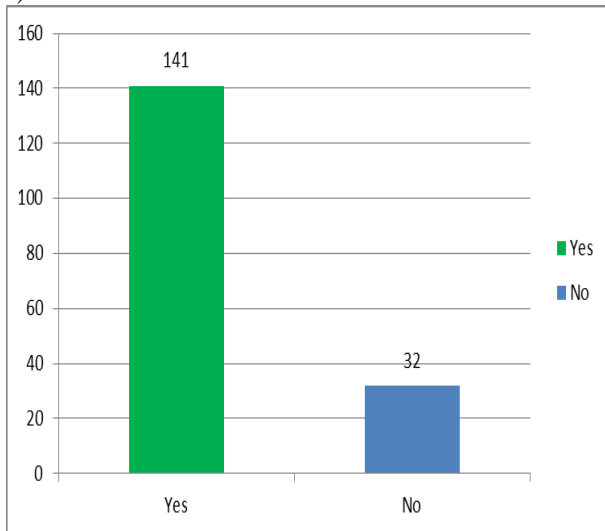


Figure 10: Insulin injections are very painful?

This question was answered by 173/349 patients and 81.50% of patients answered in affirmation for this question. There was gender preponderance for this question. Amongst the female population, 93.20% of the patients answered in affirmation.

Discussion:

The study questionnaire can be broadly classified into 3 parts – one wherein the general knowledge of incidence and prevalence of diabetes mellitus was tested (Q1); two where the importance lifestyle and diet in diabetes was assessed (Q2-6); and three where in the misconceptions of insulin were evaluated (Q7-10).

Though questionnaire based studies are common globally, in India such studies are not frequent. To the best of author knowledge, such questionnaire based study to quantify these 3 parameters was not conducted in Indian diabetic patients.

The knowledge for incidence of diabetes on an increase is largely present; nearly 20% of the patients are not aware of the same. It gives some confidence to the patient knowing that there are more like him and cautions him that his/her family members may suffer from diabetes in the future.

The next set of 5 questions which tested various lifestyle and diet changes required in diabetes was largely faltered. Though most of the study population accepted that diabetes is a lifestyle disease and changes in lifestyle are essential for proper treatment of this condition, about 13% of patients were unaware of the same. Knowledge about restrictions to be followed in diabetes was present but it was misunderstood to be diet restriction in most of the cases. Also in the question that one should avoid full meals in diabetes, it is clearly evident that these patients are ill informed about these restrictions. Complication of diabetes with regards to various afflictions and organ failure is largely present in 78% of the patients.

Major misinformation was demonstrated in the question pertaining to insulin therapy. Namely the questions wherein insulin being the last resort in the treatment of diabetes, insulin therapy being irreversible and pain with insulin injections wherein the misconceptions were present in about 80% of patients.

A similar questionnaire based study conducted on 101 diabetics in Ludhiana, Punjab has confirmed that patient knowledge about the treatment and

complications of diabetes is limited, especially with regard to preventive aspects. There is a definite need to empower patients with the knowledge required to help them obtain maximum benefit from their treatment for diabetes. But this study was largely based on the questions pertaining to regular blood glucose monitoring, inspection of feet, losing excessive weight and complications of diabetes.³

Vishwanathan et al⁴, conducted a study on the knowledge of diabetic subjects regarding foot problems and care of feet. They demonstrated that a low knowledge score was more common among women than in men. In a study conducted in Chandigarh, it was again shown that knowledge concerning the prevention of diabetes complications was partial amongst diabetics, with only 63.3% of the diabetics taking care of their feet through regular washing.⁵

A study from Singapore demonstrated that diabetes education had changed the practice among diabetics toward a more effective self-care.⁶

Limitation of this study could be illiterate patients were excluded. If they would have been included then there would be more degree of misconception which could be demonstrated from this study. Illiterate patients were excluded from the study as there would be requirement of an impartial witness to sign the questionnaire with the thumb impression of the patient. Other limitation of this study was that the questions in the questionnaire were either 'yes' or 'no' questions. The questions were deliberately kept brief as it was expected to complete the questionnaire before entering for consultation with the endocrinologist. If the questions would have been more descriptive some more misconceptions could have been extracted. Another limitation of this study was that all the questions were not obligatory to be answered, due to which the number of responses to the questions decreased. This was done as it was expected from the patient to answer only the questions which he/she feels comfortable in answering and not for sake of just answering.

Conclusion:

This study has brought to light many misconceptions regarding diabetes mellitus which the patient has. Many of these misconceptions could be cleared by the family physician or the consulting physician and such misconceptions should not reach the endocrinologist who is third in series to see the diabetic patient. Spending more time with the patient is one of the techniques of clearing such misconceptions. Due to paucity of time and many patients waiting in queue to consult the doctor, counselling is given the least importance. Considering the importance of counselling, authors of this study would like to advocate spending more time with the patient imparting disease knowledge. If the doctors have less time for counselling the patients, they should employ a qualified counsellor to do the same.

References:

1. Gupta V, Suri P. Diabetes in elderly patients. *JK Practitioner* 2002;91:258-9.
2. Heisler M, Pietee JD, Spencer M, Kieffer E, Vijan S. The relationship between knowledge of recent HbA1c values and diabetes care understanding and self-management. *Diabetes Care* 2005;28:816-22.
3. Gulabani, Michell, Mary John, and Rajesh Isaac. "Knowledge of diabetes, its treatment and complications amongst diabetic patients in a tertiary care hospital." *Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine* 33.3 (2008): 204.
4. Viswanathan V, Shobhana R, Snehalatha C, SeenaR, Ramachandran A. Need of education on foot care in diabetic patients in India. *J Assoc Physicians India* 1999;47:1083-5.
5. Kaur K, Singh MM, Kumar, Walia I, Knowledge and self-care practices of diabetics in a resettlement colony of Chandigarh. *Indian J Med Sci* 1998;52:341-7.
6. Tham KY, Ong JJ, Tan DK, How KY. How much do diabetic patients know about diabetes mellitus and its complications? *Ann Acad Med Singapore* 2004;33:503-9.