

## **ASSESSMENT OF BACKGROUND KNOWLEDGE OF DIABETES MELLITUS IN DIABETIC PATIENTS**

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### **SUMMARY :**

The background knowledge of diabetes was assessed in 230 newly registered diabetic patients by a questionnaire. Patients with positive family history knew better about role of heredity, diet as a mode of therapy and also regarding the long-term complications of diabetes. Similarly, educational status improved background knowledge. The duration of diabetes improved the knowledge regarding the need for life-long treatment and possibility of eye complications. There was a uniform lack of answers on the role of exercise in the treatment of diabetes. The results of this study thus provides information about the areas in which stress should be given while evolving diabetes education programmes.

The success of treatment of diabetes largely depends on the effective motivation of patients. It is well known that education is the best way of motivation. Thus the role of patient education in the management of diabetes is now well recognised all over the world. There are a number of studies to show the beneficial effects of patient education in the treatment of diabetes<sup>1-5</sup>. Almost all studies were done in the developed countries. Organised patient education for diabetes is done only in very few centres in our country. The clinical load being high, it is difficult for physicians and paramedicals to spend enough time on patient education. Moreover, the low literacy and socio-economic status pose difficulties in the implementation of such programmes. Thus effective health education programmes should be evolved depending upon the population. This also includes general awareness about health in the given population. There have been no studies to assess the existing back-

ground knowledge of diabetes among our diabetic population. This study was taken up to evaluate the background knowledge of diabetes among the diabetic patients attending a large diabetes centre.

### **SUBJECTS AND METHODS :**

Two hundred and thirty consecutive newly registered NIDDM patients who were not previously exposed to any formal patient education were taken up for the study. Each patient was interviewed by a patient educator regarding important aspects of diabetes. The questions were straight forward and had no multiple choices for answers. This resulted in spontaneous answers which depended solely on their existing background knowledge. There were a set of expected answers according to which the responses were analysed.

The questions were :

1. What is diabetes?
2. What causes diabetes?

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Table 1.

**KNOWLEDGE OF DIABETES IN NIDDM SUBJECTS ACCORDING TO FAMILY HISTORY AND DURATION OF DIABETES**

Positive answers	Family History		Duration of Diabetes Mellitus		
	Present	Absent	Newly detected	< 5 yrs	> 5 yrs
	%	%	%	%	%
1. Disease of high blood sugar	31	22	19	28	31
2. On Causes of diabetes :					
Hereditary	37	10	19	22	31
Overweight	31	21	21	18	36
3. On Organs affected :					
Eyes	48	27	19	32	53
Kidneys	41	26	17	34	44
Nerves	8	3	2	5	11
4. On Treatment :					
Diet	60	42	38	52	58
Avoidance of sugar	68	59	60	63	67
Exercise	18	11	6	15	17
Life long treatment	43	33	23	38	49

3. What are the modes of treatment for diabetes?
4. How long should treatment for diabetes be taken?
5. What is the most important aspect of diet therapy?
6. What are the organs in the body that can get affected by long-term uncontrolled diabetes?

The answers were tabulated and analysed with respect to presence of family history of diabetes mellitus, literacy and duration of diabetes mellitus.

## RESULTS :

While there was a high percentage of answers on diet, there was a general lack of knowledge regarding role of exercise in diabetes as well as nerves being affected in diabetes.

The effect on family history of diabetes and duration of diabetes on the background knowledge is shown in Table 1.

There were higher percentage of correct answers regarding role of heredity in diabetes, diet as a mode of therapy and the answers of eyes and kidneys being affected in diabetes. The correct answers on other subjects did not differ. The duration of diabetes influenced only the knowledge regarding the need for life long treatment and the possibility of eyes being affected in diabetes. Educational status improved on all answers except the information regarding kidneys and nerves being affected (Table 2).

Table 3 shows the percentage of answers on more than one aspect of treatment of diabetes and on multiple organs being affected by diabetes. Only very few patients

**Table 2.**  
**KNOWLEDGE OF DIABETES ACCORDING TO EDUCATION STATUS**

Positive answers	Educational Status		
	<SSLC %	>SSLC %	>Graduate %
1. Disease of blood sugar	17	20	40
2. <b>On Causes of diabetes :</b>			
Hereditary	6	17	47
Overweight	14	20	42
3. <b>On Organs affected :</b>			
Eyes	25	45	46
Kidneys	15	36	53
Nerves	5	3	3
4. <b>On Treatment :</b>			
Diet	37	45	71
Avoidance of sugar	52	66	73
Exercise	6	8	28
Life long treatment	16	38	59

**Table 3.**  
**ANSWERS ON MULTIPLE FACTORS**

Positive answers	Percentage
<b>On Treatment</b>	
Diet	51
Diet + Exercise	13
Diet + Exercise + Drugs	7
<b>On Organs affected</b>	
Eyes	37.5
Kidneys	33.5
Nerves	5.5
Eyes + Kidneys	20.0
Eyes + Kidneys + Nerves	1.3

were aware of multiple complications of diabetes. While 51% mentioned about diet only 7% mentioned about diet, exercise and drugs. Similarly, while 37.5% and 33.5% mentioned about eyes and kidneys being affected in diabetes, only 1.3% mentioned that eyes and kidneys and nerves are affected in diabetes.

### **DISCUSSION:**

This paper present the results of study aimed to assess the background knowledge of newly registered NIDDM patients by simple questionnaire. All the questions were simple and were about elementary and fundamental aspects about diabetes. The design of the

questions and the execution of the study were aimed at obtaining spontaneous answers (no multiple choices were given for the answers). This ensured that the assessment was a true reflection of the subjects' background knowledge. Moreover the patients were not previously exposed to any formal diabetes education programme.

The higher percentage of correct answers from patients with high educational status was not surprising. The higher percentage of answers on many aspects of diabetes noted in patients with positive family history of diabetes shows the beneficial transmission of diabetes knowledge to the other family member. On the other hand, it was surprising that duration of diabetes did not improve the knowledge on many aspects of diabetes. This necessarily meant that a large proportion of diabetic patients do not receive essential information to look after their diabetes inspite of having diabetes for many years.

The other important aspect of the study is the identification of areas of knowledge of diabetes about which patient awareness is limited. This study showed that the percentage of positive answers on the role of exercise in the treatment of diabetes was very low. Similarly, very few knew that nerves could be affected by diabetes. The percentage of answers on combination of different modes of therapy and multiple complications was significantly low as shown in Table 3. This study thus provides information on aspects of diabetes where stress should be given during diabetes education.

Education programme should be tailor-made to the needs, skills, interests and existing knowledge of the patient. Busy practitioners may hesitate to add patient education to a heavy clinical load. Lack of enough time for education may make the patient dissatisfied and this may lead to poor compliance. Proper education can enhance the quality of

life of the diabetic. The evolution of an education process with respect to the patient's knowledge and the improvement in diabetic control is very important.

Number of studies have reported about the increase in knowledge regarding diabetes after formal education programmes<sup>1-5</sup>. Most of these studies were done in developed societies. There are many problems in education in a developing nation such as India. These include low literacy, different socio-economic states and different languages<sup>6</sup>. One study compared the effect these variables on the gain and relation of knowledge and did not find any significant difference related to these factors<sup>2</sup>.

This study highlights the importance of evolving proper diabetes education programmes among our diabetic populations for proper motivation and to achieve success in treatment of diabetes.

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