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Original Research Article

Study of awareness of insulin usage in diabetics attending NRI Medical College and General Hospital

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ABSTRACT

Background: India had 69.2 million diabetic patients. Insulin is an important part of diabetes treatment, but one-third of patients fail to take their insulin as prescribed, and many adults intentionally skip their doses. Since, diabetes treatment continues for lifetime, there is a need to assess the knowledge and understanding of patients in relation to their disease process and its management.
Methods: A cross sectional, observational, knowledge and attitude survey were carried on patients with type II diabetes mellitus who are taking insulin therapy and attended medicine diabetes OPD in tertiary care Hospital during the period of April 2017 to Dec 2017. 200 diabetic patients' ≥18 years of age who were willing to respond to the study questionnaire were interviewed.
Results: Total of 200 study participants were interviewed using structured questionnaires, almost 75 (37.5%) of the respondents were age group of 41 - 50 years. 109 (54.5 %) male, 67 (33.5%)Hindus, 121 (60.5 %) married,79 (39.5%) were primary school, 120 (73.8%) were family history of diabetes, duration of treatment1-3 years 72 (31.5 %), 160 (63%) of the study subjects know about diabetes is high blood glucose, 119(59.5%)of subjects know complications of diabetes, 165(82.5%) were know about insulin used for diabetes, 115 (57.5%) of patients know other substitute for insulin, 94 (47%) of the study subjects have knowledge of complications of insulin therapy, 85 (42.5) were know different types of insulin preparations, 141 (70.5%) were know insulin is mandatory in some patients,159 (79.5%) were understood the route of administration of insulin.
Conclusions: The finding of present study showed that, diabetes patients had average knowledge and less favourable attitude among diabetic patients toward insulin therapy.

Keywords: Attitude, Diabetes mellitus, Insulin use, Knowledge

INTRODUCTION

Diabetes mellitus is a metabolic disorder with various etiological factors characterized by chronic hyperglycaemia due to disturbance of carbohydrate, fat and protein metabolism which resulted from either insufficient insulin secretion or resistance to the action of insulin or either both.[1,2] The population of India had 69.2 million diabetic patients (8.7%), second only to China, and this figure is likely to may increase substantially by feature.[3] People who are with diabetes may have increased risk of cardiovascular, peripheral vascular and cerebrovascular disease.[1,4] Many of these complications can be prevented with appropriate timely medical care.[5]

Diabetes education, with consequent improvements in knowledge, attitudes and skills, leads to better control of the disease, and is widely accepted to be an integral part of comprehensive diabetes care.[6–8] At the same time, it is important to note that if recommendations are to be effective, they must be sensitive to and relevant to the culture of the people expected to carry out.[9] A structured questionnaire was compiled adapting questions from

published studies and adding questions that were considered of value based on local beliefs and clinical observations.[10,11] Studies have been shown that improving of glycemic control reduces the rate of complications with evidence suggests that patients, who are knowledgeable about DM self-care, have better long term glycemic control.[12] So therefore indispensable' knowledge, attitudes and practices are adequate. Although the prevalence of DM is high among populations in the Middle East and Gulf countries, patients often lack the knowledge and skills to self-manage their condition.[13] The present study to detect assesses the knowledge, attitude and practice of diabetic patients who are taking insulin towards their management of disease.

METHODS

Study design

A cross sectional, observational, KAP (knowledge, attitude and practice) survey was carried out with treatment of type II diabetes mellitus patients with insulin. The study was conducted during the period of April 2017 to Dec 2017 after obtained the institutional ethical committee approval in outpatient department of tertiary care Hospital, NRI Medical College Hospital, Guntur, Andhra Pradesh, India.

Inclusion criteria

Adult diabetic patients ≥18 years of age, self-administering insulin and who were willing to respond to the study questionnaire were interviewed in a language they understood, and the questionnaire was accordingly filled by the investigator.

Exclusion criteria

Patients who were not physically or mentally able to conduct the interview. Written informed consent was obtained prior to interview. The questionnaire used for the survey has been used 200 among diabetic patients and has proven to be reliable. The questionnaire which was finalized by authors contained 12 of knowledge and attitude.

RESULTS

Total of 200 study participants were interviewed using structured questionnaires giving response rate of 90% From the total sample size population, almost 75 (37.5%) of the respondents were between the age group of 41-50 years followed by 31-40 years, 51-60 and above 60 years which were 67 (33.5 %) and 27 (13.5%) respectively. More than half 109 (54.5 %) of them were male. The majority 67 (33.5%) of the participants were Hindus followers. Nearly 121 (60.5 %) Subjects were married and 14 (7 %) were divorced. Regarding the educational status of study subjects, majority of them 79 (39.5%) was primary school (Table 1).

Table 1: Socio demographic characteristics of study.

Demographic data		Variables frequency (%)
Age in year	18 - 30	20(10)
	31 - 40	67(33.5)
	41 - 50	75(37.5)
	51 - 60	27(13.5)
	>60	11 (5.5)
Sex	Male	109 (54.5)
	Female	91 (45.5)
Religion	Muslim	35 (17.5)
	Christian	49 (24.5)
	Hindus	67 (33.5)
	Others	49 (24.5)
Marital Status	Married	121 (60.5)
	Single	45 (22.5)
	Divorced	14 (7.0)
	Widowed	20 (10)
Educational status	Illiterate	25 (12.5)
	Primary school	79 (39.5)
	Secondary school	69 (34.5)
	Higher education and above	27 (13.5)

Health Profile of Study Subjects Majority 120 (73.8%) of the study participant had no family history of diabetes. Concerning duration of drug treatment 72 (31.5%) of study participants were 1-3 years and 63 (31.5%), 63 (31.5) were 3-5, above 5 years duration of treatment (Table 2).

Table 2: Family history of DM and duration of insulin therapy.

Variables		Variables frequency (%)
Family history of DM	Yes	120 (60)
	No	80 (40)
Duration of insulin therapy	1 - 3yr	72 (36)
	3 - 5yr	63 (31.5)
	>5yr	65 (32.5)

Knowledge Regarding Insulin Self Administration More than half 160 (63%) of the study subjects know about diabetes is high blood glucose and majority of the participants know about insulin. Nearly two third 119 (59.5%) of study subject know complications of diabetes. About 165 (82.5%) of respondents got the information about insulin used for diabetes. The majority 115 (57.5%) of patients know other substitute for insulin. Nearly 94 (47%) of the study subjects have knowledge of complications of insulin therapy. 85 (42.5) Of respondents know about different types of insulin preparations. Majority 141 (70.5%) of participant were agreed that, the insulin is mandatory in some patients. 159(79.5%) Study subjects understood the route of administration of insulin. 195 (97.5) respondents will ask your physician/health care provider in case of a doubt regarding insulin use (Table 3).

Table 3: Data on knowledge regarding general information on DM patients.

Questionnaire	Correct answer	Wrong answer
	Frequency (%)	
Do you about diabetes	160(80)	40(20)
Do you know complications of diabetes	119(59.5)	81(40.5)
Do you know why insulin prescribed for diabetes	165(82.5)	35(17.5)
Do you know that insulin can cause harm	94(47)	106(53)
Do you know any other substitute for insulin	115(57.5)	85(42.5)
Are you aware that there are different types of insulin	105(52.5)	95(47.5)
Are you aware that insulin is mandatory in some patients	141(70.5)	59(29.5)
Are you confident about self-administration of insulin	71 (35.5)	129 (64.5)
Given the chance would you stop insulin	144 (72)	56(28)
Would you ask your physician/health care provider in case you have a doubt regarding insulin use	195(97.5)	5(2.5)
Do you know the route of administration of insulin	159(79.5)	41(20.5)
Do you know about cost about various insulin preparations	85(42.5)	115 (57.5)

DISCUSSION

The major finding in the study is the lack of awareness of diabetes among the diabetics. This study had demonstrated average level of knowledge regarding insulin therapy. The prevalence of knowledge was lower compared to studies done in India and Bangalore which was 68% and 86.7%.[14] This difference from the previous studies might be due to high illiteracy rate of study participants, lack of self insulin injection education facilities and low access of media and NGOs in awareness creation about insulin therapy.

Majority of diabetic patients (82%) awarded that the action of insulin is to lower glucose in the blood. This study was supported by similar study conducted in Bangalore (80%) The mean attitude score of the study subjects was participants had favourable attitude and study participants had unfavourable attitude. It was lower compared to study done in Bangalore, which was 81.7% had favourable attitude. 18.3% had most favourable attitude and none of them had unfavorable attitude.[15] Nearly 46% of the subjects had satisfactory idea about diabetes its signs and symptoms and complications in present study, while 51% subjects had satisfactory idea in patients of eastern India, whereas 60-77% had good idea in a study done on Bhilai steel plant workers.[16]

Majority of patients lack knowledge of different types of insulin and insulin delivery devices. Almost 90% of patients would stop insulin if given a chance. Majority of the patients checked their blood glucose levels infrequently (85%) which was regularly checked by majority of patients in study of eastern India. All the patients rotated the site of insulin injection and longer duration of insulin use was associated with confidence of self-administration of insulin. More than 70% of patients did not skip insulin doses nor meals after taking insulin which was satisfactory and similar to KAP study in eastern India.[17] The present study therefore, a need for increased effort towards developing and making widely available diabetes education programmes that focus on empowering the person with diabetes, not only providing them with information and skills, but also the ability to make decisions and take ownership of controlling their diabetes.

CONCLUSION

The finding of this study showed that diabetes patients had average knowledge and less favourable attitude among diabetes towards insulin therapy but there is still a gap on knowledge and attitude of diabetes patients on insulin therapy. Physician need to be educated about insulin therapy and some modern monitoring and practice aspects of diabetes.

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