KNOWLEDGE AND PRACTICE AMONG INSULIN SELF ADMINISTRATION OF PATIENTS ATTENDING OPD

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Abstract

This study aimed to assess the knowledge and practice of insulin self-administration (ISA) among patients with Diabetes Mellitus attending OPD at selected Hospital, in Calicut District. A quantitative, cross sectional descriptive design was chosen to conduct study with a sample of 60 diabetic patients administering insulin self, attending the Diabetic OPD who were selected using the convenience sampling technique. Knowledge and practice of Diabetic patients were assessed using the structured questionnaire. The finding of the study shows that 10% of the selected sample had adequate knowledge, 55% had moderate knowledge and 35% had inadequate knowledge on insulin self- administration (ISA) and with regards to practice, 55% of them were satisfactory and 33.33% were moderately satisfactory and 11.66% were unsatisfactory. There was significant association between knowledge and occupational status and also with regular insulin administration. There was significant association between practice with gender and previous knowledge regarding insulin self-administration. There was moderate positive correlation between knowledge and practice

Key words: Diabetes Mellitus, Insulin self-administration, Knowledge

INTRODUCTION

Diabetes mellitus is a group of metabolic diseases characterized by elevated levels of glucose in the blood (hyperglycaemia) resulting from defects in insulin secretion, insulin action, or both[1].

Insulin, a hormone produced by the pancreas controls the level of glucose in the blood by regulating the production and storage of glucose. In the diabetic state, the cells may stop responding to insulin or the pancreas may stop producing insulin entirely. This leads to hyperglycaemia, which may result in acute metabolic complications such as diabetic ketoacidosis (DKA) and hyperglycaemic hyperosmolar non ketotic syndrome (HHNS). Long-term effects of hyperglycaemia contribute to macro vascular complications (coronary artery disease, cerebrovascular disease, and peripheral vascular disease), chronic micro vascular complications (kidney and eye disease), and neuropathic complications[2].

Intensive insulin therapy is essential in maintenance of strict glycaemic control among insulin requiring patients with diabetes. However this presents a challenge in the face of the complexities associated with insulin use and also taking in to consideration the potential dangers associated with inappropriate use. Insufficient knowledge of insulin self-injection can result in preventable complication, adverse patient out come, less adherence to therapy and invariably poor glycaemic control[3].

Many insulin requiring diabetes patient possess poor knowledge of insulin use are conversant with some important terms such as ketoacidosis, insulin reaction hypoglycaemia. Research findings showed that type 1 diabetes patients had average knowledge and less favourable attitude among type 1 diabetes toward insulin self-administration but there is still there is a gap on knowledge and attitude of type 1 diabetes patients on insulin therapy[4].

In Aster MIMS Hospital, majority of patients attending diabetic OPD are on insulin therapy. In clinical setting the investigators have come across a number of patients with complications of insulin therapy like abscesses, hypoglycaemia etc. This incidence of complications is attributed to the fact that lack of proper knowledge and practice is prevalent among patients receiving home administered insulin therapy. These factors have provoked the investigators to conduct a study to identify knowledge and practice of insulin therapy and identify the common mistake and problems.

With this view, the present study was carried out to assess the knowledge levels of diabetic patients on diabetes and ISA; to evaluate their practice skills of ISA; to determine the association of knowledge and practice with selected demographic variables and relation of its findings; to scrutinize the most common incorrect and correct procedures in the ISA technique and to establish the professional responsibility in providing instructions on how to self- administer insulin.

Objectives:

1. To assess the knowledge and practice regarding insulin self-administration (ISA) among patients with diabetes mellitus

2. To determine the relationship between knowledge and practice regarding insulin self- administration (ISA) among patients with diabetes mellitus

3. To determine the association between knowledge regarding insulin self-administration among patients with diabetes mellitus with their background variables.

4. To determine the association between practice regarding insulin self-administration among patients with diabetes mellitus with their background variables.

MATERIALS AND METHOD:

A cross sectional descriptive design with quantitative research approach was considered to be the most appropriate to achieve the set objectives. The study was conducted in the Diabetic Outpatient departments, Aster Mims Hospital, Calicut, and Kerala. The target population was patients with Diabetes Mellitus with Insulin self- administration. The accessible population include patients with Diabetes Mellitus with Insulin self-administration visiting the Diabetic OPDs, Aster Mims Hospital. 60 patients diagnosed with Diabetes Mellitus and administering insulin self and who fulfilled the sampling criteria were included in the study. The sampling technique adopted for this study was non probability convenience sampling. The investigator prepared a structured questionnaire consisting of 43 questions. The questions were focused on assessing the knowledge (23 questions) and practice (20 questions) pertaining to Insulin self-administration.

RESULT

The percentage distribution of the patients with Diabetes Mellitus administering insulin self-according to their demographic variables. It reveals that 41.66% of them were between the age group of more than 65 years, 21.66% between the age group of 45-54 years, 30% between the age group of 55-64 years and 6.66% were under 45 years of age. Regarding gender, 56.66% were males and 43.34% were females. With related to religion, 70% of them were belonging to Hindu, 21.66% belongs to Islam and 8.33% belongs to Christian. With regard to marital status, 98.33% of them were married and 1.66% of them were divorced. Regarding education, 6.66% was illiterate, 31.66% had primary education, 48.33% had high school education and 13.33% were graduates. With regard to occupation, 11.66% worked in government sector, 23.33% belong to private sector, 20% working as daily wages, 31.66% were unemployed and 13.33% were retired.

The frequency and percentage distribution of clinical variables among patients with Diabetes Mellitus administering insulin self. With regard to diagnosis as diabetic, 83.33% were diagnosed more than 3years, 13.33% were diagnosed for 2 to 3 years and 3.33% were diagnosed less than one year. Regarding the duration of insulin therapy, 76.66% were using for more than one year, 15% were using for 6 months to one year, 6.66% were using for 1 to 6 months and 1.66% for less than one month.

With related to type of insulin using, 45% were using human mixtard, 21.66% were using others, 20% were using human actrapid and 13.33% were using human insulin. Regarding the type of device used for injecting insulin, 60% were using insulin syringe, 38.33% were using pen insulin and 1.06% were using others.

With related to family history of diabetes, 75% had the history and 25% not. With regard to co-morbidities, 28.33% had none, 26.66% had vision disorders, 18.33% had heart disease, 20% had kidney disease, 8.33% had foot ulcers and 3.33% had nerve disorders.

Regarding the problems associated with injection, 51.66% had none, 18.33% need to regulate the dose of insulin frequently, 16.66% had frequent attack of increased or decreased blood glucose level, 8.33% had pain or swelling at the site and 5% had abscess formation at one site of injection.

With related to taking insulin at regular time, 91.66% were taking in time and 8.33% not. With regard to exercise, 41.66% do it regularly and 58.33% not.

Regarding the reading of articles or attending classes on diabetes, 46.66% were not all attending or reading articles, 27% rarely do attend and 8.33% often attend. With related to sources of information regarding diabetes on insulin use, 28.33% get information from other sources, 25% get from television and 25% not interested to get information. 18.33% get information from books/periodicals and 8.33% from internet.

Table 1. Distribution of knowledge among patients with Diabetes Mellitus administering insulin self. (N=60)

Variables	n	%
Adequate knowledge	6	10%
Moderate knowledge	3	55%
Poor knowledge	2	35%

Table 1 shows the frequency and percentage distribution of knowledge among patients with Diabetes Mellitus administering insulin self. 10% of patients had adequate knowledge, 55% had moderate knowledge and 35% had poor knowledge.

Table 2. Distribution of practice among patients with Diabetes Mellitus administering insulin self. (N=60)

Variables	n	%
Satisfactory	33	55%
Moderately satisfactory	20	33.33%
Unsatisfactory	7	11.66%

Table 2 shows that practice of 55% of patients were found to be satisfactory, 33.33% were moderately satisfactory and 11.66% were unsatisfactory.

The association of selected back ground variables with knowledge among patients with diabetes mellitus administering insulin self showed that there was a significant association between knowledge with occupational status and with regular insulin administration.

The association of selected demographic variables with practice among patients with diabetes mellitus administering insulin self showed that there was a significant association between practice with gender and with previous knowledge regarding diabetes.

There was moderately positive correlation between knowledge and practice regarding insulin self-administration.

DISCUSSION

The present study findings states that 10% of patients had adequate knowledge, 55% had moderate knowledge and 35% had poor knowledge regarding the administration of insulin. With respect to practice,

55% of patients were found to be satisfactory, 33.33% were moderately satisfactory and 11.66% were unsatisfactory. There was significant association between knowledge with occupational status and with regular insulin administration. There was significant association between practice with gender and with previous knowledge regarding insulin self- administration. There was moderate positive correlation between knowledge and practice regarding insulin self-administration.

Conclusion

The present study revealed that majority of the patients had only moderate knowledge and their practices were found to be satisfactory. Nurses caring the patients with Diabetes on insulin therapy should take initiative in educating the patients on administering insulin in hospital settings.

Acknowledgement:

Conflict Of Interest:

The authors declare no conflict of interest.

Reference

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