



## Nursing

# ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS INSULIN SELF-ADMINISTRATION AND ASSOCIATED FACTORS AMONG DIABETIC PATIENTS AT SELECTED HOSPITALS OF KASHMIR.

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**ABSTRACT**

Diabetes is a chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. A descriptive and cross-sectional study conducted on 60 diabetic mellitus patients from GMC Anantnag using non probability consecutive sampling technique. Data was collected using standardized tool (knowledge questionnaire, attitude scale, practice questionnaire and factors associated with knowledge) after proper permission. The data obtained was analyzed in terms of objectives of the study by descriptive and inferential statistics. Among 60 patients enrolled, 55% were male and 50% of the patients had no formal education. The overall patients' knowledge was 57.05%. Better knowledge was observed regarding storage of insulin (86.7%) and timing of insulin injection (83.3%), while knowledge on the angle of inclination during insulin administration (30%) and knowledge of massage after injection (35%) was low. Although, 23(38.3%) of the study patients had administered insulin themselves, only 18(30%) of the patients injected insulin appropriately at 45°. Frequent repetition of the injection site was practiced among 35(58.3%) patients and 50(83.3%) injected insulin before or immediately after food intake. Patient that answered 9–13(40%) correct responses from the 13 questions had good knowledge. Patient that answered 5–8 (46.7%) correct responses. Patient that answered 0–4 (13.3%) correct responses. Patient who answered 3 (68.7%) positive responses from 5 questions had favorable attitude. Practice was assessed by using 6 questions that explored participants' experience with insulin utilization. Patients admitted in GMC Anantnag have average knowledge regarding self-administration of insulin injection. Also, there is positive attitude of patients regarding self-administration of insulin injection. This study also revealed that there is no significant association between levels of knowledge with selected demographic variables such as gender, marital status, occupation and education.

**KEYWORDS :** Knowledge attitude and practice assessment; diabetes mellitus patients; self-administration of insulin inject

**INTRODUCTION**

Diabetes is an endocrine disorder, characterized by hyperglycemia that is, high blood sugar levels. This is caused due to a relative or absolute insulin deficiency, a hormone produced by the pancreas. Lack of insulin, either relative or absolute affects metabolism or breakdown of carbohydrates, proteins, fat, water and electrolytes leading to an accumulation of glucose in the blood. Diabetes mellitus is commonly divided into two main categories namely Type 1 diabetes and Type 2 diabetes. There are several alternative ways to administer insulin, such as jet injectors that deliver the drug as a thin stream directly into the skin. There are a number of pen-like devices and insulin-containing cartridges available that are simple to use, more accurate, and more practical. There are a number of innovative insulin administration methods being developed that could do away with the requirement for introduction with a needle. This includes insulin pumps, insulin inhalers. Preliminary studies have shown very promising results but they are not yet available in India.

**Objectives**

1. To assess the knowledge of patients regarding self-administration of insulin injection.
2. To assess the attitude of patients regarding self-administration of insulin injection.
3. To assess the practice of patients regarding self-administration of insulin injection.
4. To associate knowledge of diabetic patients with their selected socio demographic variables.

**METHODOLOGY**

The present study was conducted under the following headings:

**Research Approach:** the approach selected for present study was quantitative approach.

**Research Design:** The research design used for the present study was descriptive and cross-sectional in nature

**Variables Under Study:**

**Research Variables:** Knowledge, attitude and practice of diabetes mellitus patients regarding self-administration of insulin injection.

**Demographic Variables:**

- Age
- Gender
- Education of the participant
- Occupation of the participant
- Religion
- Marital status
- Monthly family income
- Duration since diagnosis of diabetes mellitus
- Actual number of years on insulin therapy
- Family history of diabetes

**Setting of the Study:** Setting of this particular study was ward and OPD of Government Medical College Anantnag.

**Population for the Study:** The target population for the present study includes the diabetes mellitus patients who were on insulin therapy and who were aged between 30-70 years and those who were admitted in the wards and attended OPD services in Government Medical College Anantnag.

**Sample and Sample Size:** 60 diabetes mellitus patients who were on insulin therapy were taken as study sample.

**Sampling Technique:** Non probability consecutive sampling technique was found to be appropriate for the present study.

**Data Collection Method:** Standard tool modified by investigator after permission from Beshir Bedru Nasir was used for data collection.

**Selection and Development of Tool:** The tool used for data collection was modified standard questionnaire.

**Knowledge Questionnaire:** This section contains 13 statements regarding self-administration of insulin injection. The participants had to say whether these statements were true or not and choose yes or no.

Knowledge	Good	Average	Poor
Score	9-13	5-8	0-4

**Attitude Scale:** This section contains 5 statements framed into a Likert type Attitude Scale that gives the attitude of diabetes mellitus patients regarding self-administration of insulin injection. Each attitude items are having 3 options i.e.; Agree, Disagree and Neutral.

The response for each item is measured as a 3-point scale as follows:

Agree	3
Neutral	2
Disagree	1

The maximum score is 15 and the minimum score is 3.

**Practice Questionnaire:** This section contains 6 statements regarding practice of self-administration of insulin injection. The participants had to choose yes or no.

**Factors Associated:** This section contains items seeking information about factors associated with knowledge of diabetic patients viz;

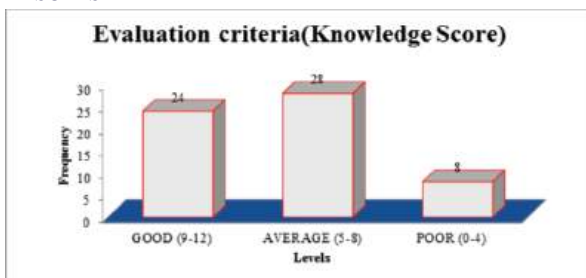
- Gender
- Marital status
- Occupation of the participant
- Education of the participant

**Data Collection Procedure:** - A written permission was obtained from Medical Superintendent and Head of General Medicine Government Medical College Anantnag and associated hospitals to conduct the study. The duration of data collection was 4 weeks from 8<sup>th</sup> July to 7<sup>th</sup> august 2022. The time of data collection was 2:00pm to 4:00pm

#### Plan for Data Analysis:

- Descriptive statistics
- Inferential statistics

## RESULTS



This figure reveals that majority 28 (46.7%) had average knowledge, followed by 24 (40%) respondents having good knowledge and only 8 (13.3%) of the patients having poor knowledge regarding self-administration of insulin injection.

Frequency and percentage distribution of attitude assessment variables.

Attitude assessment variables	Agree N (%)	Neutral N (%)	Disagree N (%)
Insulin causes other health problems	10 (16.7)	33 (55)	17 (28.3)
Insulin self-administration decreases blood glucose	53 (88.3)	6 (10)	1 (1.7)
Insulin self-administration is not tiresome	44 (73.4)	11 (18.3)	5 (8.3)
Insulin self-administration does not bring stigma	47 (78.4)	8 (13.3)	5 (8.3)
Insulin self-administration is beneficiary	52 (86.6)	7 (11.7)	1 (1.7)

Frequency and percentage distribution of attitude patients practice variables.

Attitude patients' practice variables	Yes N (%)	No N (%)
Can you inject yourself in correct position?	30 (50)	30 (50)
Do you inject yourself with needle at 45°?	27 (45)	33 (55)
Do you store insulin vials in refrigerator or cold place?	60 (100)	0 (0)
Do you frequently repeat injection sites?	60 (100)	0 (0)
Do you inject insulin before or immediately after food intake?	60 (100)	0 (0)
Do you inject insulin into abdomen, thigh, gluteus or deltoid?	60 (100)	0 (0)

Frequency and percentage distribution of Factors associated with knowledge.

## CONCLUSION

Present study was done to assess the knowledge, attitude and practice towards insulin self-administration and associated factors among diabetic patients at selected hospitals of Kashmir. Descriptive cross-sectional study was performed among 60 diabetic patients taken from GMC Anantnag using non probability consecutive sampling technique. The permission was taken from the concerned authority of the selected hospital.

Majority 28(46.7%) of the patients had average knowledge, while 24(40%) had good knowledge and 8(13.3%) had poor knowledge. Better knowledge was obtained regarding storage of insulin injection (86.7%) and timing of injection (83.3%). However, patients had relatively lower knowledge concerning the angle of inclination during insulin administration (30%), the impact of massage at site injection (35%), know about insulin (38.3%) and complications of insulin therapy (46.7%).

Majority 53(88.3%) of the study patients agreed with insulin self-administration decreases blood glucose, followed by 52(86.6%) were agree with insulin self-administration is beneficiary, 47(78.4%) were agree with insulin self-administration does not brings stigma, 44 (73.4%) were agree with insulin self-administration is not tire some, Whereas, only 10(16.7%) were agree with insulin causes other health problems.

Majority (100%) of the study participants injected insulin before or immediately after food intake, frequent repetition of injection site, inject insulin into abdomen, thigh, gluteus or deltoid and Store insulin vials in refrigerator, whereas only 45% of the study participants inject insulin with needle at 45°. The study shows that gender, marital status, occupation of the participants and educational status of the participants were associated with patient's knowledge. Patients who were male AOR=2.37,95% CI (0.599-9.4), unmarried AOR=0.234,95% CI (0.008-7.82), unemployed AOR= 0.139,95% CI (0.005-3.62) and private employee AOR= 0.076, 95% CI (0.003-1.99) had no significant association with knowledge, as every category p value is higher than 0.05 level of significant. The patients admitted in GMC Anantnag have average knowledge regarding self-administration of insulin injection. Also, there is positive attitude of patients regarding self-administration of insulin injection. This study also revealed that there is no significant association between levels of knowledge with selected demographic variables such as gender, marital status, occupation. The conclusion of the study also reveals that there should be more awareness regarding self-administration of insulin which can be achieved by counselling diabetic patients at each follow-up visit. Also, health care providers should educate patients on diabetes self-care management and angle of inclination during administration of injection.

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