

ASSESS THE EFFECTIVENESS OF DIABETIC EDUCATION ON PATIENTS

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CHAPTER-1

Introduction

Making the decision to take charge of our standard of life is the key to wellbeing. Making the decision to live a healthy lifestyle is the first step. Anson (2012) claims that health is an emotional state marked by a tendency to uphold a number of core values in various facets of life, resulting in a high degree of joy and life satisfaction. High blood sugar levels are a symptom of diabetes mellitus and are caused by either insufficient pancreatic production of insulin or impaired cell response to generated insulin. The recognisable symptoms of polydipsia, polyuria, and polyphagia are brought on by high blood sugar.

When a person has diabetes, their blood sugar levels are increased, either as a consequence of their pancreas not producing enough insulin or as a result of other factors.

Diabetes, also called type 2 diabetes, is a group of metabolic diseases where a person has high blood sugar levels due to either insufficient pancreatic insulin synthesis or defective cell responsiveness to produced insulin. In the words of Metcalfe (2011), polydipsia, polyuria, and polyphagia are the classic signs and symptoms of high blood sugar.

The WHO predicts that by 2025, there would be 101 million adult diabetics in India, up from the current total of 61.3 million. (who)

Need for the Study

The silent disease known as diabetes mellitus is now acknowledged in practically every nation in the world as one of the biggest threats to public health. An autoimmune disorder ie. Diabetes is when the pancreas stops producing insulin. A hormone called insulin makes it possible for people to obtain energy from meals. It happens when the body's immune system targets and kills the beta cells, or insulin-producing cells, in the pancreas .

Self-care is essential to a patient's development of independence and self-esteem. Self-management of diabetes is challenging and necessitates a lot of work, talent, and understanding. The development of the skills and abilities required for diabetic self-care is assisted by the diabetes skill training. A broad range of self-care tasks are required of diabetic patients, including the administration of insulin, blood glucose monitoring, and dietary adherence.

Planning the exercise, which should be a part of diabetic care, should take the patient's interests and capabilities into account. Although regular exercise frequently reduces the requirement for

insulin and aids in the body's utilisation of food, it can also result in hypoglycemia during or after the activity.

Statement of the problem:

This study was based on Hospitals in Ahemdabad to check the impact of education on patients with diabetes mellitus' knowledge and practise of managing their condition on their own.

Hypothesis:

There has been a noticeable improvement in comprehension and knowledge of practise following the delivery of diabetic knowledge addressing patient self-aid management of diabetes mellitus. This looks at the knowledge and practising questionnaire findings. The process of providing the patient with the information, abilities, and skills necessary for self-aid in connection for the administration of insulin inj, glucose monitoring, diet, and complication recurrence is known as diabetic education.

Assumptions:

Self care techniques can be should at any time as fast as feasible to reduce difficulty of diabetes mellitus. Patient awareness influences practise.

CHAPTER -2

Review of literature

A critical stage in the creation of a research project is the review of the literature. It entails methodical location inspection and a review of textual sources that provide information on the study subject

A report that evaluates the data from the literature in relation to the chosen field of research. In order to obtain insight into the issue and organise it in a way that is clear and logical, a thorough assessment of the literature was conducted.

Literature Related to Diabetes Mellitus

The prevalence score will get increased as of 2030 as studies are been conducted. By 2030, there will be 366 million people worldwide who have diabetes, up from 171 million in 2000. Although women suffer the condition at a higher incidence than males, men are more likely to have diabetes.

Everywhere, diabetes is getting increasingly prevalent. Over the previous few years, India has grown the fastest. Diabetes mellitus, or "sugar diabetes," is the most common form of the disease. Diabetes mellitus affects 11.6% of urban and 2.4% of rural populations, it was vividly clear. In metropolitan populations, impaired glucose tolerance is also fairly prevalent. People under the age of 40 are more likely to have impaired glucose tolerance than diabetes. High familial aggregation, especially central adiposity, insulin resistance, and lifestyle modifications brought on by rapid urbanisation are all important risk factors for the high prevalence of diabetes. Numerous studies on the risk factors that contribute to the onset of diabetes mellitus have been undertaken by the Chennai-based Diabetes Research Centre.

A research was initiated in the Haryana region of Karnal to ascertain the recurrence of diabetes over a period of time. Many diabetic patients consisted of women and men, and the prevalence rate in the Karnal region is 10.20/100,000. According to the findings, male patients are more likely to have the condition than female patients, and urban people are more likely to have it than rural ones (Sanjay Karla, 2010).

Although diabetes normally kills slowly, it also shows a variety of signs and symptoms. Urination is increased, hyperglycemia, vision got blurred and weight was reduced, unexpected visual changes, sensations of numbness or tingling in the hands or feet, constant exhaustion, abnormally dry skin, sores that take a long time to cure, and more infections than usual are all symptoms of hypoglycemia.

The testing of oral glucose, with random plasma glucose, and casual plasma glucose testing are the three methods used to diagnose diabetes. When a person's last meal was at least eight hours ago, their blood glucose level is measured using fasting plasma glucose. Two hours after consuming a glucose-containing beverage, blood glucose is measured by routine plasma glucose testing. An A1c of 6.5% or above is referred to by the Nation's Diabetes Information Clearinghouse (2010).

Studies for Diabetic knowledge on Self-aid Management of Patients with Diabetes

- Michael found that, dietary advice only slightly increased self-reported intake of vegetables, fruits, fibre, and fats that are saturated. Additionally, he found that diet fibre intake was negatively connected with the chance of developing diabetes.
- The efficiency of a diet high in fibre made up entirely of natural foods in decreasing the level of sugar in the blood and the incidence of episodes of hypoglycemia in diabetic patients were the subjects of a research investigation conducted Lasorella et al. (2012) which shows that a high-fiber diet is more long-lasting than one that merely contains fibre, getting better glycemic management, and low the frequency of hypoglycemic episodes in diabetics.
- Nield says that anyone with diabetes, either type 1 or type 2, has to have a well-balanced diet. Find out the person's age, exercise level, and food preferences. Find out what they eat and how often they should eat it. According to the recommended dietary requirements, meals should contain between 55% and 60% of carbs, 15% and 20% of protein, no more than thirty percent of fat, and a variety of vitamins and minerals. Exercise reduces blood sugar by improving insulin utilisation and increasing the body's ability to absorb glucose (Susan, 2011).
- Between 30 and 50% of studies that examined the link within being physically active and diabetes is consistently discovered a beneficial relationship between inactivity and an increased risk of the condition. Manson and Spelsberg (2013) emphasised that regularly moderate or vigorous exercise combined with an inactive lifestyle, which is from thirty to fifty percent of studies that gazed at the link between physical movement and diabetes mellitus, is particularly important. Kids can stay healthy by playing games that require them to move about. Type 2 diabetic patients are given a treatment plan that gradually improves physical activity. He offered them tips on how to shed pounds while avoiding negative effects including neuropathy or micro vascular issues (Hattersley, 2012).
- Dasta (2014) conducted a study on the use of intense insulin therapy for critically ill patients. Thanks to the usage of insulin therapies, diabetes populations experience decreased morbidity as improved blood glucose levels. Monitoring is necessary frequently

to prevent hypoglycemia. In Riyadh, 160 diabetic patients participated in an interventional study to evaluate the efficiency of diabetic education.

Objectives :

- To evaluate the knowledge and self-aid management skills of diabetes patients.
- To inform people with diabetes mellitus on how they can manage their own care.
- To determine the effect of diabetes education on patients' understanding of and capacity to oversee their own care for diabetes.
- To compare the results expected with particular demographic data and knowledge of diabetes mellitus patients' self-care management.
- To correlate the results expected with particular demographic data and prior knowledge on how to manage diabetes mellitus patients' self-care.

CHAPTER - 3

Methodology

The systematic nature of research technique entails starting with the problem's initial identification and working towards its solution from the beginning. The methodology is made up of the processes and techniques utilised to carry out a study (Polit and Beck's theory, 2011).

Design for research

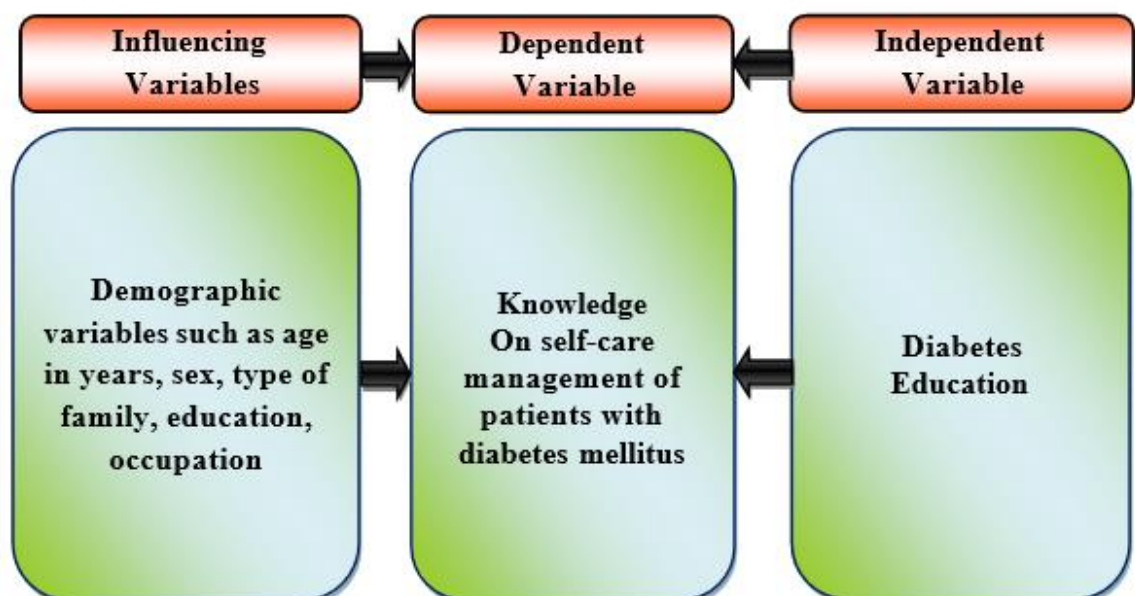
For this study,

Q1 - Pretest X - Diabetic instruction on individuals who have diabetes mellitus managing their own care

Q2 - Post-test Study Settings The study was carried out in Ahmedabad hospitals.

Variables Dependent variables included expertise and understanding on practise for managing a patient's diabetes mellitus on their own, whereas independent variables included diabetic education on this topic. Demographic factors including age, sex, relatives, education, occupation, etc. were the determining factors. (The figure demonstrated is been drawn by the study bearer i.e Sakshi Bohra)

(self)



Population

All of the patients who visited the hospital for a checkup and were identified as having diabetes mellitus throughout the four-week data collection period comprise the study's population..

Sample Size

The study uses a sample of 30 participants.

Selection of Samples

Criteria for Sample Selection Including Criteria

Patients must fall into the 30- to 70-year-old age range, be Boys and girls were taken for diabetes mellitus within a certain timeframe, and be able to understand Gujarati, Hindi, or English in order to be eligible for the study.

Other Criteria: Clients who have been receiving medication for a longer time; patients with serious complications from diabetes mellitus; patients whose hearing has been disturbed.

Description of the Tool

Doctors and patients were scheduled for an interview, and questions were posed to determine what the patient understood and what awareness needed to be raised.

1st Demographic Performance Criteria It contains sample size, age, sex, family type, educational background, occupation, income, information gathered, eating preferences, and diabetes type.

Knowledge Questionnaire, Section 2. It comprises of 25 multiple-choice questions to gauge diabetes mellitus patients' understanding in managing their own care. It covers nutrition, physical activity, self-administration of insulin, foot care, and relaxing techniques.

Questionnaire for Section 3: Knowledge of Practise It consists of 25 statements to gauge patient understanding of self-care practises such as food, exercise, insulin administration. Each statement is accompanied by two questions.

Data Collection Procedure

The hospital's management team gave formal approval for the study to be conducted, and it was done from March 6 to May 20, 2023. The samples were told the goal and length of the study in order to get their cooperation and receive their informed consent. Based on the selection criteria,

the sample was chosen. After gathering initial demographic information, a structured questionnaire was used to check the knowledge and practise of self-aid among diabetes. After the pre-test, a power point presentation was used to deliver the diabetic education.. A brochure was given out to all patients, both those who had participated and those who hadn't, at the conclusion of the session. The patients were urged to get their questions answered. The effectiveness of diabetic education in terms of patients with diabetes mellitus managing their own care was tested seven days later using the same questionnaire.

Data Analysis Plan

Statistics, were used to analyse the data. Comparative mechanism was used to pinpoint the differences and inferential statistics to establish the relationship.

CHAPTER – 4

DATA ANALYSIS AND INTERPRETATION

What will we get to know in this study that we conducted :

- Section I :** Information about people with diabetes is described.
- Section II :** What was the knowledge score of individuals with diabetes at pretest and posttest
- Section III :** Checking of the pretest and posttest knowledge on the practise score of diabetic patients.

SECTION - I

Table. 1 Demographic information about people with diabetes is described.

S. No.	FACTORS	Percentage (%)
1	Age	
	a) 30 ± 40	7
	b) 41 ± 50	33
	c) 51 ± 60	40
	d) 61 and above	20
2	Occupation	
	a) Agriculture	13
	b) Business	23
	c) Self employment	17
	d) Teacher	17
	e) Others	30
3	Income	
	a) ₹. 2000 ± 4000	43
	b) ₹. 4000 ± 6000	47
	c) ₹. 6001 ± 8000	7
	d) Above ₹. 8000	3

4	Types of diabetes mellitus		
	a) Insulin dependent		
	b) Non insulin dependent		40
			60

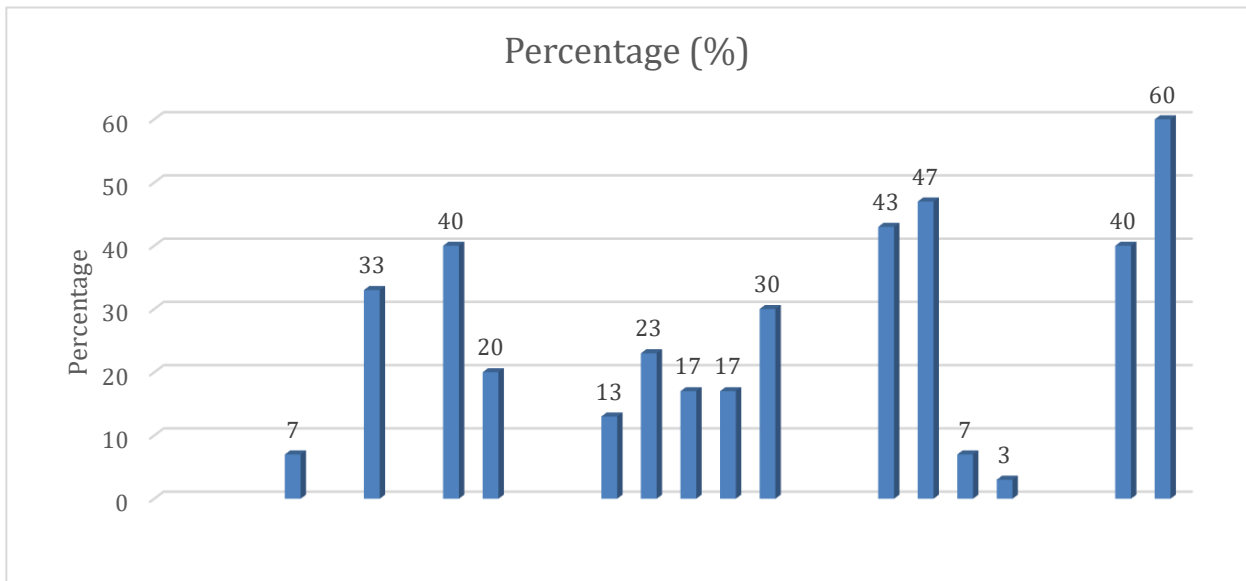


Table 1 the distribution of demographic variables

- Age range of 30 to 40, 7% were between 41 and 50, 33% were between 51 and 60, and 40% were between 61 and above.
- Profession, 4 (13%) were in agriculture, 7 (24%) were in business, 5 (17%) were independent contractors, 5 (17%) were teachers, and 9 (30%) were in other occupations.
- In terms of income, 13 (43%) made between ". 2001 and \$4,000, 14 (47%) between ". 4001 and \$6,000, 2 (7%) between ". 6000 and \$8,000, and 1 (3%) above ". 8000.
- Diabetes mellitus type , 12 (40%) and 18 (60%) patients had non-insulin-dependent diabetes mellitus.

SECTION - 2

Table. 2 Knowledge score for individuals with diabetes mellitus at pretest and posttest

s. no	Knowledge	Mean
1.	Pre test (before results)	20
2.	Post-test (after results)	35

Table no 2 tells us about the average knowledge score on practise questions was 20 in the pretest and 35 in the post test,. It demonstrates sizable difference between before- and after-test knowledge. Therefore, diabetic knowldge significantly enhances people with diabetes mellitus' understanding and practise.

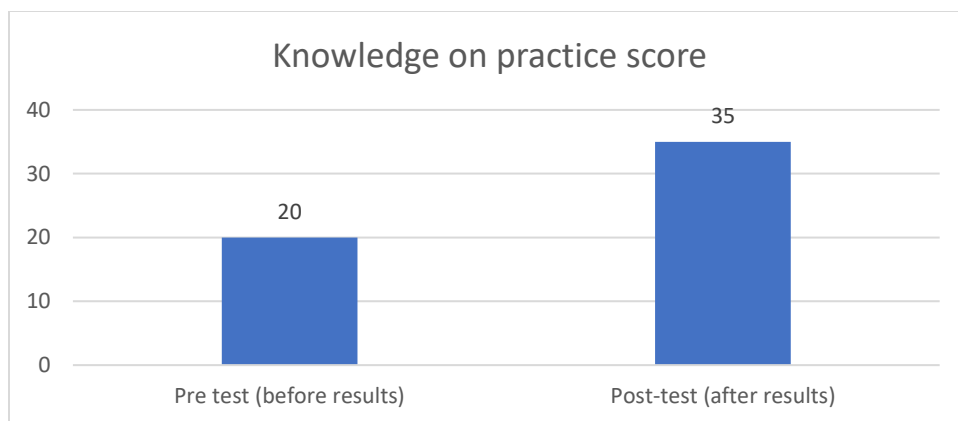


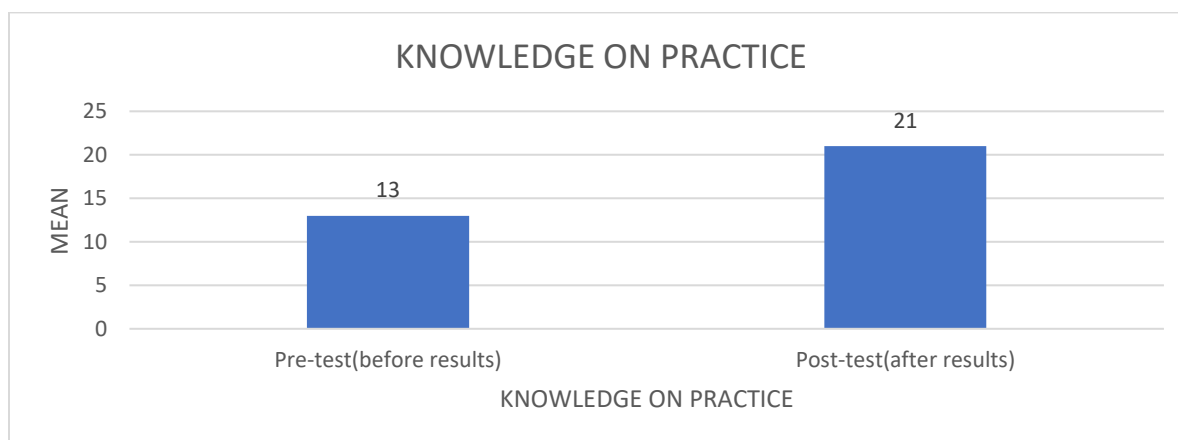
Fig4: **Comparison of Participants Knowledge Score Before and After the Test**

Section-3

This section will be based on the scoring of individuals after getting proper knowledge which was necessary for the self aid management.

S.NO	KNOWLEDGE ON PRACTICE	MEAN
1	Pre-test (before results)	13
2	Post-test (after results)	21

The above criteria shows the average knowledge after getting to know about the practice , it came to our study that there was an increase in the practice of diabetic management among individuals which significantly enhances the understanding and practice of diabetes mellitus.



CHAPTER - 5

Results and Discussion

This study, aims to evaluate how well diabetic patients with diabetes mellitus are taught information and knowledge-based skills. The outcomes of a significant study were discussed in light of the goals.

1. Objective was to evaluate individuals with diabetes mellitus in terms of their understanding and use of self-care management. The mean score on the knowledge pre-test was 13, while the mean score on the knowledge post-test was 21. The result on the posttest was 20, whereas the pretest score on the knowledge on practising was 35. Pretest and posttest findings show a definite difference. It implies that individuals with the condition lacked sufficient understanding and expertise on how they should handle their own care prior to acquiring diabetic education.
2. The second objective is to provide information on diabetes regarding patients' self-care management .Causes, medications, diet, exercise, and alternative remedies are all included in diabetic education. The participants actively discussed their ideas and responded to any queries.
3. The third objective was to evaluate how diabetes education affected individuals with diabetes mellitus who were in charge of their own care in terms of knowledge and behaviour.

Conclusion:

After participating in a diabetic education session, knowledge and information applied in practise have a substantial impact on managing diabetes mellitus. The knowledge and practise score after the test was greater than the score before the test. The developed hypothesis was accepted because diabetic education has a considerable impact on knowledge and practise among people with diabetes mellitus.

Recommendations:

- Long-term research for a sizable group can be done using a similar approach.
- Comparative research can involve two groups, such as an experimental and a control group.
- In a self-instructional module, comparative research is possible.
- Including family members in health care education
- You can instruct students on how to administer self-insulin injections using the demonstration technique.

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