



THE IMPACT OF SELF-CARE MANAGEMENT EDUCATION ON GLYCAEMIC CONTROL IN TYPE 2 DIABETES PATIENTS

Savita Nigam¹, Dr. Manisha Dwivedi²

¹Research Scholar, Department of Nursing, Shri Jagdishprasad Jhabarmal Tibrewala University, Rajasthan

²Research Supervisor, Department of Nursing, Shri Jagdishprasad Jhabarmal Tibrewala University, Rajasthan

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Abstract

Numerous studies have examined the effect of self-care management education on glycaemic control in individuals with Type 2 diabetes, underscoring the vital role that patient education plays in the management of this chronic illness. Patients are taught about appropriate food, exercise, medication adherence, blood glucose monitoring, and problem-solving techniques linked to diabetes treatment as part of self-care management education. Research has repeatedly demonstrated that patients who receive thorough instruction in self-care have better glycaemic control, as seen by lower HbA1c values, than those who do not. Better patient education, greater motivation, and the adoption of healthier lifestyles are all credited with this improvement. Support groups, ongoing follow-up, and individualized coaching are common components of successful education programs that assist patients in sticking to their self-care regimens over the long term. Furthermore, by giving patients more self-assurance in controlling their illness, these programs can empower them, lower their risk of complications from diabetes, and improve their general quality of life. In summary, education about self-care management is an essential part of diabetes therapy that greatly improves glycaemic control and improves the health of Type 2 diabetes patients.

Keywords: Self-Care, Management, Education, Glycaemic Control, Type 2. Diabetes, Patients HbA1c Levels

1. INTRODUCTION

Type 2 diabetes mellitus (T2DM) is a chronic metabolic condition characterized by decreased insulin production and insulin resistance, which can lead to hyperglycaemia. Its increasing prevalence and the considerable morbidity and mortality that go along with it make it a major global public health concern. To avoid or postpone consequences such cardiovascular diseases, neuropathy, nephropathy, and retinopathy, effective care of type 2 diabetes is essential. Glycaemic control is a crucial sign of how well diabetes treatment is working. It is commonly measured by taking glycated haemoglobin (HbA1c) levels.

1.1 Importance of Glycaemic Control

Preventing problems from diabetes requires maintaining good glycaemic control. The quality of life and expense of healthcare are greatly impacted by microvascular and macrovascular problems, which are connected to higher risks of poor glycaemic management. Therefore, glycaemic control-improving therapies are crucial for the management of type 2 diabetes.

1.2 Self-Care Management Education

Education on self-care management entails giving patients the abilities and information need to properly control their diabetes. This covers instruction in managing one's diet, exercising, taking medications as prescribed, checking one's blood sugar, and using problem-solving techniques. Providing patients with self-care education can result in better glycaemic control, better self-management techniques, and overall improved health outcomes.

1.3 Objectives of the study

1. To assess and improve the information provided to clients with type 2 diabetes mellitus regarding insulin infusion and glucose testing arrangements when providing self-care management education.
2. To determine whether self-care management education is feasible in order to help clients with type 2 diabetes advance their knowledge and skills.
3. To determine how client data, practice scores, and selected segment criteria relate to one another.

2. LITERATURE REVIEW

Abdulah et al. (2018) Patients diagnosed with type 2 diabetes mellitus were the subjects of an investigation conducted by to determine the effects of self-management education on glycaemic control. The research, which was published in Diabetes & Metabolic Syndrome: Clinical Research & Reviews, investigated a group of patients over a certain time period and evaluated the efficacy of structured teaching programs. Their findings demonstrated a

significant increase in glycemic control, as reflected by lower HbA1c levels among those who received self-management education in comparison to those who did not get such education. According to the findings of the study, it is essential to provide individualized educational interventions that cater to the specific requirements of each patient and incorporate tactics that are applicable to the management of diabetes. According to the findings of the authors, self-management education is an essential component of the comprehensive care that is provided to patients with type 2 diabetes. This education considerably improves the patients' capacity to maintain optimal glycaemic levels and overall health with diabetes.

Modarresi et.al (2020) investigated the connection between self-care management and glycaemic control in individuals who were diagnosed with type 2 diabetes. According to the findings of the study, there is a correlation between the self-management behaviours of patients and the glycaemic results of those patients. An active self-care management strategy, which includes regular blood glucose monitoring, adherence to dietary restrictions, and constant physical exercise, was found to have a strong correlation with improved glycaemic control, according to the findings of the researchers who analysed data from a sample of diabetes patients. According to the findings of the study, patients who were more conscientious about their self-care routines tended to have a level of control over their blood glucose levels that was more favourable. The findings highlighted the importance of offering patients continual support and education, as well as encouraging them to engage in activities that promote self-care, in order to assist them in achieving better control of their blood glucose levels.

Gathu et.al (2018) directed an examination concerning the effect that diabetes self-management education had on glycaemic control among patients with type 2 diabetes. The discoveries of this examination were distributed in the African Diary of Essential Medical care and Family Medication. Over this exploration, members partook in an organized instructing program that contained both individual and gathering meetings that zeroed in on different components of sugar management. As per the discoveries, the mediation bunch had a significant lessening in HbA1c levels when contrasted with the control bunch. This finding proposes that organized guidance enormously adds to the improvement of glycemic control. As indicated by the creators, these advantages can be connected to expanded patient figuring out, further developed self-management capacities, and improved inspiration to stick to treatment regimens. The discoveries of this study

demonstrated that there is significant proof to help the utilization of diabetes self-management education programs in clinical settings to work on understanding results.

Tharek et.al (2018) researched the connection between self-adequacy, self-care conduct, and glycaemic control among patients with type 2 diabetes who were getting essential care in Malaysia. As indicated by the discoveries of the review, more elevated levels of self-viability were found to have serious areas of strength for a with further developed self-care ways of behaving. These exercises included ordinary checking of blood glucose levels, adherence to medicine, and enhancements to generally way of life. Then again, these practices were connected to an improvement in glycaemic control. As per the discoveries of the review, upgrading patients' self-adequacy by furnishing them with specific education and help can extensively work on their ability to deal with their disease really. To help patient contribution and wellbeing results, the creators recommended presenting strategies that upgrade self-adequacy into diabetes education programs.

Al-Baha et.al (2019) did a review to examine the effect of a diabetes educational program on self-care and diabetes control among patients with type 2 diabetes. The discoveries of this study were distributed in Points Clinical Science. The motivation behind this study was to assess the consequences of an organized diabetes education program that was expected to work on patients' abilities to care for them as well as their capacity to control their blood glucose levels. During the educational program, various parts of diabetes care were examined, like the significance of following prescription regimens, keeping a sound eating routine, participating in actual activity, and ceaselessly observing blood glucose levels. After the meeting, the members' self-care rehearses showed an extensive improvement, and their HbA1c levels dropped essentially. The outcomes proposed that the intercession was effective. As per the discoveries of the review, complete diabetes education programs are important for empowering patients to assume responsibility for their condition, which eventually results in improved glycemic control and a diminished gamble of confusions. The writers stressed the significance of executing such projects on a broad scale to work on the results of diabetes control drives in various socioeconomics.

3. RESEARCH METHODOLOGY

🔗 Research Approach

To evaluate the effect of self-care management education on glycaemic control in patients with type 2 diabetes, an evaluative study approach was selected. With this method, the

efficacy of educational treatments in enhancing patients' glucose control and self-management abilities may be systematically assessed.

🔗 Research Design

Utilizing a one-bunch pre-and post-test, a semi exploratory examination configuration was applied. To learn assuming members' information and works on with respect to blood glucose checking and insulin infusion conveyance have changed, this plan involves assessing members both when the mediation.

🔗 Population

Customers with type 2 diabetes mellitus who need insulin injectable therapy made up the study's population. To improve their glycaemic control, these Gurugram, Haryana, clients require better self-management instruction.

🔗 Setting of the Study

In Gurugram, Haryana, where the study was carried out, almost 60% of the clientele over 40 had diabetes mellitus. Examining the effects of self-care management education on a sizable population of diabetic patients was made pertinent by the metropolitan setting.

🔗 Variables

The information and practices of clients with type 2 diabetes mellitus in regards to self-organization of insulin infusion and blood glucose observing were the reliant factors in this review. The self-care practices' showing filled in as the autonomous variable. Segment qualities included age, orientation, education, occupation, month to month pay, family structure, dietary patterns, and wellbeing data sources were instances of unessential factors.

🔗 Sample

Clients with type 2 diabetes mellitus who lived in Gurugram, Haryana, and needed insulin injection treatment made up the sample. To make sure they would benefit from the educational intervention, these customers were chosen to take part in the study based on particular inclusion criteria.

🔗 Sample Size

For this study, a total of 75 patients with type 2 diabetes were chosen. It was determined that this sample size would be adequate to offer significant insights into how self-care management education affects glycaemic control.

🔗 Sampling Technique

Purposive sampling technique was employed to select participants. This non-random sampling method allowed the researchers to specifically choose clients who met the inclusion criteria and were likely to benefit from the educational intervention.

❧ Inclusion Criteria

Male and female participants alike had to be at least 40 years old and have completed at least primary school. They had to be on insulin injectable therapy and have a confirmed diagnosis of type 2 diabetes mellitus. In order to monitor blood glucose, participants also had to be able and willing to buy a standardized glucometer.

❧ Description of the Tool

The research tool was created under the direction of experts and based on professional experiences. There were three portions to it: Demographic factors such age, gender, level of education, religion, occupation, monthly income, family kinds, types of hospital visits, and sources of health information were all included in Section A. A systematic knowledge questionnaire was incorporated in Section B to evaluate participants' knowledge of self-administration of insulin injection and blood glucose monitoring. A checklist to evaluate participants' use of these self-care practices was included in Section C.

❧ Data Collection

Before the trial began, each participant gave their informed consent. The practice checklist and structured knowledge questionnaire were used for the pre-test. A demonstration of self-administered insulin injection and blood glucose monitoring was given after the pre-test. The same instruments were used for a post-test seven days later to gauge improvements in knowledge and technique.

❧ Data Analysis

Descriptive and inferential statistics were used to the acquired data. The purpose of this analysis was to assess how well the self-care management education intervention improved participants' knowledge and behaviours, which in turn improved their glycaemic control.

4. RESULT AND DISCUSSION

The results were presented in a clear or visual format. Indeed, out of 75 clients with diabetes mellitus, 35 (46.7%) were women and 40 (53.3%) were men. 34 of them (45.3%) belonged to the 50–59 age group, while only 4 (5.3%) were 70 years of age or older. Regarding the clients' educational standing, eight (10.1%) were focused on receiving only the bare minimum of education, whereas eight (18%) were graduates. Twenty out of them, or 26.7%, were housewives. The majority, 61, or 81.3%, were pursuing care at a private clinic (Table 1).

Table 1: Demographic Characteristics of Study Participants

S. No	Demographic Variables	Frequency	Percentage
1	Age in Years		
	40 – 49	22	29.3
	50 – 59	34	45.3
	60 – 69	15	20
	70 years & above	4	5.3
2	Gender		
	Male	40	53.3
	Female	35	46.7
3	Education		
	Primary school	8	10.7
	High School	12	16
	Higher secondary school	37	49.3
	Graduate & Others	18	24
4	Religion		
	Hindu	38	50.7
	Muslim	9	12
	Christian	28	37.3
	Others	0	0
5	Occupation		
	housewife	20	26.7
	Business/ Self-employed	18	24
	Government employee	7	9.3
	Private employee	30	40
6	Type of hospital visit		
	Government	14	18.7
	Private	61	81.3

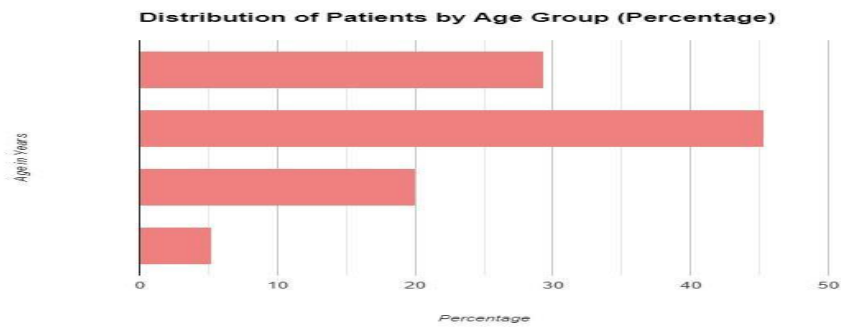


Figure 1: Patients Age Group

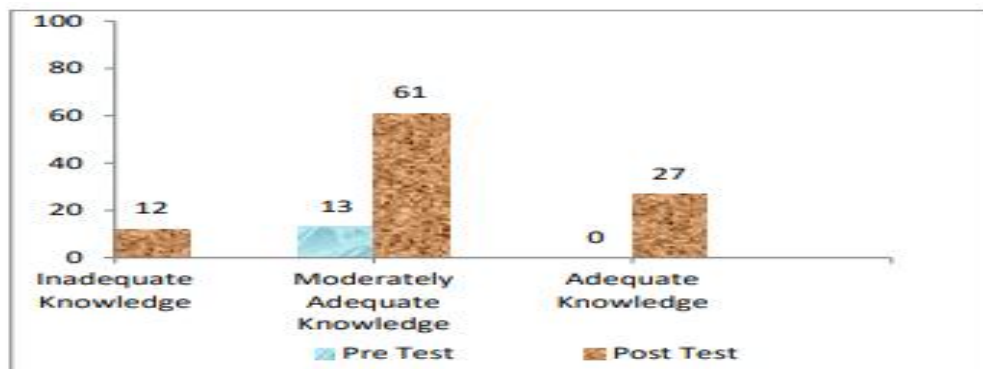


Figure 2: Knowledge Base for Assessing Blood Glucose in Patients with Diabetes Mellitus.

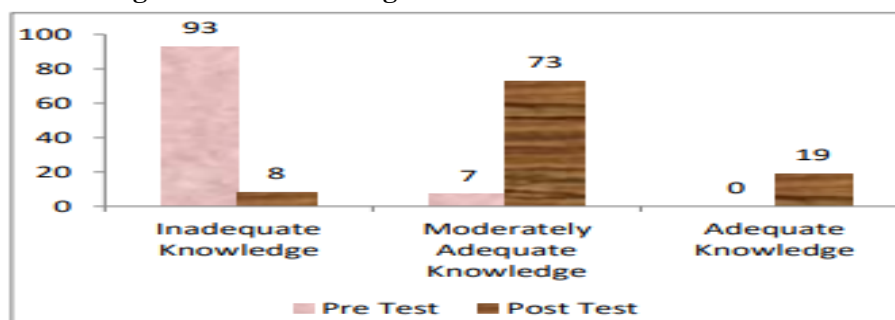


Figure 3: Knowledge Level about Clients with Diabetes Mellitus Self-Administered Insulin Injection

Table 2: Pre Post Test Results

Level of practice		Blood glucose assessment	Self-administration of insulin injection
Pre-test	poor	194	98
	satisfactory	0	33
	good	0	0
Post-test	poor	24	16
	satisfactory	0	14
	good	74	69

The study findings in table and graphical structures as it examined the impact of self-care management education on glycaemic control in patients with type 2 diabetes. Of the 75 members, 53.3% were men and 46.7% were women. Of the latter group, the majority (45.3%) were between the ages of 50 and 59, while a small percentage (5.3%) were 70 years of age or older. In terms of education, 10.7% had received necessary tutoring, and 24% had graduated. The majority of participants (81.3%) sought care from private medical facilities. The pre-test findings indicated a lack of knowledge in the areas of blood glucose monitoring (87%) and insulin infusion planning (93%), which essentially led to additional development in the post-test (12% and 8%, respectively). The review emphasizes how well-suited self-care management education is for enhancing knowledge and behaviors related to diabetes management, and it shows a strong correlation with segment criteria like age, education, and sources of wellbeing data. ($p < 0.005$).

5. CONCLUSION

Patients' information about diabetes should be improved desperately, as per the consequences of a concentrate on the impact of self-care management education on glycaemic control in patients with type 2 diabetes. Local area wellbeing centres are valuable scenes for spreading this information generally, and local area wellbeing attendants are fundamental in rousing and educating individuals. The review underscores that it is so pivotal to zero in mindfulness endeavours on empowering better lives and developing diabetes wellbeing programs by utilizing sweeping mass promoting. The foundation of specific diabetes facilities and data focuses may assume a significant part in outfitting patients with the vital information and capacities to deal with their illness sufficiently. Also, ceaseless help and heading for diabetes patients need the collaboration of healthcare specialists, including attendants, doctors, nutritionists, and other colleagues. By taking full advantage of these possibilities and assets, we can all cooperate to further develop wellbeing results and increase the expectation of living for the people who have diabetes.

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