

Effectiveness of Self - Care Management Training on Self - Efficacy among Patients with Type 2 Diabetes Mellitus

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Abstract: *The present study investigated the effectiveness of self - care management training on self - efficacy among patients with type 2 diabetes mellitus (T2DM) attending tertiary care hospital, Kottayam. A quantitative approach with quasi experimental pre test post test control group design was used for the study. The study was theoretically supported by Pender's health promotion model. A total of 64 patients, each 32 in control and experimental group, were selected for the study using non probability purposive sampling technique. The data were collected using socio personal and clinical data, DMSES (Diabetic Management Self Efficacy Scale) and MDQOL 17 (Modified Diabetes Quality Of Life 17). After pre test, the subjects in the control group received routine care and experimental group received self - care management training along with routine care. The self - care management training consisting of a teaching programme regarding general aspects of diabetes, hands on training on self - monitoring of blood sugar, safe insulin administration practices, foot care, eye care and oral care. The post test were conducted on 28th day. The results of the study revealed that self - care management training had significant effect on self - efficacy ($p < 0.01$) among patients with T2DM.*

Keywords: self - care management training, type 2 diabetes mellitus

1. Introduction

Type 2 diabetes mellitus (T2DM) is a metabolic disorder characterized by the relative deficiency of insulin production, decreased insulin action and increased insulin resistance. It is also known as non - insulin dependent diabetes or adult onset diabetes ¹.

T2DM is recognized as a serious public health concern with a considerable impact on human life and health expenditures. Diabetes affects individual functional capacities and quality of life in various aspects ²

In 2021, International diabetes federation estimate shows that the world wide incidence of diabetes is about 537 million adults. The total number of people living with diabetes is projected to rise to 643 million by 2030 and 783 million by 2045³.

In general people with T2DM have to deal with multiple tasks in order to treat and regulate their disease, especially to prevent complications. Blood sugar control, administration of insulin or taking oral hypoglycemic drugs, life style modification, physical exercise and dietary control are the daily behaviours and activities that the patients needs to plan and carry out to manage their disease⁴.

Majority of people with diabetes who have poor self - care management and neglect of self - care is a concern. Patients who neglected self - care, had much poorer metabolic control, showing that longer duration of diabetes, poor diet, insulin avoidance and negative attitude towards diabetes care are increased barriers to adherences.

In the absence of good self - efficacy, T2DM may lead to poor glycemic management which will ultimately result in

long term damage or failure of different organs especially in the eyes, kidneys, heart, nerves and blood vessels. So poor self - care management worsens the clinical parameters with poor glycemic control leading to undesirable patient outcome⁵.

These study evidences show that patients with T2DM require a good self - efficacy to manage their health related self - care needs and it will help to improve their quality of life.

2. Objectives

- 1) To assess the self - efficacy among patients with T2DM
- 2) To evaluate the effectiveness of self - care management training on self - efficacy among patients with T2DM

3. Materials and methods

Quantitative approach was adopted for the study. Research design selected for this study was quasi experimental pre test post test control group design. Non probability purposive sampling technique was used in this study. In this study sample consisted of 32 subjects in control and 32 subjects in experimental group who were patients with T2DM admitted in medical and surgical wards of Government Medical College Hospital, Kottayam.

Inclusion criteria of the present study Patients with T2DM who are; able to read, write and understand Malayalam and within the age group of 35 - 65years. Those who excluded from the study were Patients with T2DM who are; critically ill, with cognitive impairment, posted for amputation for diabetic foot ulcer and not taking any medicine for T2DM. Tools and technique used to collect the data in the present study were following: Socio personal and clinical data sheet,

Diabetic Management Self Efficacy Scale (DMSES) & Modified Diabetes Quality Of Life 17 (MDQOL 17).

Self - report technique will be used to collect the data

The patients in the control group were selected first and pre test was done on the first day of ward admission and post test was taken on day 28 (the first follow up). After completing data collection from the control group, the next 32 patients were taken as experimental group & pre test was done on the first day of admission. The self - care management training was implemented to experimental group in 4 consecutive days. At the time of hospital stay both the control and experimental group got routine care. After discharge the adherence was ensured through telephone to motivate the patients to follow the self - care strategies. Post test was taken out on day 28 (the first follow up) with the same tools. The obtained data was tabulated and analysed using descriptive and inferential statistics.

4. Results

4.1 Socio personal data patients with T2DM

Among 64 patients 46.9% patients in the control group and 65.6% patients in the experimental group belonged to the age group of 56 - 65 years. The data showed that most of patients in the control group (68.8%) and experimental group (56.2%) were males. Most of the patients in the control group (59.4%) and experimental group (62.5%) were

having primary education. The data pointed that more than half of patients in the control group (62.5%) and experimental group (65.6%) were unemployed. Majority of patients in the control group (75%) and experimental group (65.6%) were married. Most of patients in the control group (68.8%) and experimental group (62.5%) were belongs to BPL category. Majority of patients in the control group (87.5%) and experimental group (78.1%) were taking non vegetarian diet. In this study majority of patients in the control group (62.5%) and experimental group (59.4%) were having family history of T2DM.

4.2 Clinical data of patients with T2DM

The clinical data pointed out that majority of patients in the control group (78.1%) and experimental group (62.5%) were having T2DM more than 5 years. In the subjects most of patients in the control group (62.5%) and experimental group (46.9%) were taking insulin as method of treatment. The data showed that majority of patients in the control group (68.8%) and experimental group (71.9%) were does not have any diabetes related complication. Most of the patients in the control group (50%) and experimental group (59.4%) were having normal BMI status. More than half of the patients in the control group (59.4%) and experimental group (68.8%) were having FBS range more than 140 mg /dl. Near half of subjects in the control group (34.4%) and experimental group (31.2%) were having hypertension.

4.3 Self - efficacy among patients with T2DM

Table 1: Frequency distribution and percentage of patients with T2DM in control group and experimental group based on self - efficacy (n =64)

Level of self - efficacy	Control group (n=32)		Experimental group (n=32)		df	χ ²	p
	f	%	f	%			
Level of self - efficacy					2	4.48	0.10
Poor (0 - 49)	10	31.20	16	50.00			
Moderate (50 - 69)	19	59.40	16	50.00			
Good (70 - 100)	3	9.40	0.00	0			

Data in the table 1 shows that 59.4 % of patients in the control group and 50 % patients in the experimental group have moderate self - efficacy during pretest. Chi square value shows that there is no statistically significant difference between control group and experimental groups, and hence both groups were homogenous in terms self - efficacy.

4.4 Effectiveness of self - care management training on self - efficacy among patients with T2DM

H₀₁: There is no significant difference in the self - efficacy among patients with T2DM between control group and experimental group.

Table 2: Median and IQR of post test scores of self - efficacy among patients with T2DM between control and experimental groups (n=64)

Self - efficacy	Control group (32)		Experimental group (32)	
	Median	IQR	Median	IQR
Pretest	53.00	14.00	50.00	8.00
Post test	52.00	15.00	84.50	9.00

Table 3: Mean rank, sum of ranks and U value of self - efficacy among patients with T2DM in control group and experimental group (n = 64)

Self - efficacy				
Group	Mean rank	Sum of ranks	U	p
Control (3)	17.03	545.00	17.00	0.00
Experimental (3)	47.97	1535.00		

The table 3 shows that the mean rank of post test scores of self - efficacy among patients with type 2 DM in control group and experimental group was 17.03 and 47.97 respectively. The obtained U value is significant at 0.05 level. So, the null hypothesis was rejected. Hence the intervention was effective in improving self - efficacy among patients with T2DM.

5. Conclusion

Self -care management training was effective in improving self - efficacy among patients with T2DM. The study concluded that adding more attention to self - care management practice in diabetes patients along with routine

care enhances their self - efficacy which will improve the total wellbeing and it will reflect in the level of quality of life.

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