

Effectiveness of Telenursing on Diabetic Patients with Glucose Self-Monitoring among with General Population at Arakkonam GH

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ABSTRACT

BACKGROUND:-Diabetes is one of the most common debilitating diseases in the elderly requiring reasonable blood sugar control to prevent complications. Telenursing has been presented as a cost-effective method to control blood glucose levels. **AIM:-** The present study aims to assess the effect on telenursing on self glucose control among clients with type to diabetes mellitus at Saveetha medical college and hospital. **METHODS AND MATERIALS:-** A quantitative research design was used for the present study. A total 100 samples were collected using quota sampling technique. The demographic variable pretest and posttest level of complaints on self glucose monitoring was assessed using structured questionnaire, telenursing on glucose self monitoring and mangement was given among diabetes mellitus followed by that data was gathered and analyzed. **RESULTS:-** The results the study revealed that there is a significant association between the selected demographic variables and posttest level of diabetes mellitus at the level of $p < 0.01$. **CONCLUSION:** Thus, the present despites that factors associated with posttest level of diabetes mellitus among demographic variable.

KEYWORDS: *Self glucose telenursing, diabetes mellitus*

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INTRODUCTION

Diabetes mellitus is a metabolic disorder which is characterized by chronic hyperglycemia that affects metabolism of proteins, carbohydrates, and fats resulted from defects in insulin secretion, that shows drastic impact on others organs of the patients and may decrease his/her lifetime. [1] Diabetes is a major and growing problem in all age groups without any deviation from past ten decades. [2] This disease is the most common endocrine disease and more than 140 million people in the world suffer from it. The prevalence of diabetes in all countries, especially in the developing countries, is increasing proportionally with lifestyle changes so that it can be called the most important challenge of health care in the 21st century. [3] It is estimated that until 2030, about 366 million people in the world will be suffering from this disease without any change. [4] In Iran, based on the existing statistics, more than 2 million people suffer from diabetes and its associated complications. [5] Growing trend of aging, growth of technology, and

demographic changes, life style changes, lack of physical activity are the major reason for have turned diabetes into a global problem. [6] Educational program for diabetes patients have various methods to create awareness among the population, though some of the pandemic may interrupt such health education programmers. [7] One of the most efficient methods, which drastic effect on distance patients, enables continues care during nay pandemic, were caregiver provides real and correct information for the patients. [8] Nowadays, nurses use telenursing for all processes of nursing including assessment, planning, intervention, and evaluation the intervention provided through telephone, which further build therapeutic relationship of their nursing cares. [9] Telenursing includes all kinds of nursing care and services that can be provided from distance patients and includes a wide range of communication technologies such as phone, internet video clips and also through email to overcome the time and distance obstacles to provide

better nursing care. [10] Diabetes mellitus (DM) is a metabolic ailment regarded as by the hyperglycemia with the turbulences of the carbohydrate, fat and the protein metabolism that reasons deficiencies in insulin secretion, insulin action, or both. Insulin, the hormone formed by the beta cells of the pancreas is quintessential to make use of the glucose from the food disbursed as an electrical energy source. [11] Diabetes self-care activities are behaviors undertaken by people with or at risk of diabetes to successfully manage the disease on their own. Self-care management of diabetes is complex. [12] Gestational Diabetes mellitus is described as glucose intolerance of varying diploma with the onset at some point of the pregnancy that may also affect each the mother and baby. [13] The needs of diabetic patients are not only limited to adequate glycemic control but also correspond with preventing complications; disability limitation and rehabilitation. [14] Like telemedicine, telenursing is described as nursing offerings supplied via an digital platform. This consists of telenursing through the smartphone calls, video conferencing, and far flung tracking gadgets like Bluetooth-linked blood strain monitors. [15] Telenursing may be an possibility to offer a better high-satisfactory of care and to increase get right of entry to to the nursing care. Through telenursing, nurses can offer monitoring, education, follow-up, far off statistics series and interventions, ache management, own circle of relatives support, and multidisciplinary care in an revolutionary way. [16] Self-monitoring of blood glucose (SMBG) is an vital issue of current remedy for diabetes mellitus. SMBG has been advocated for humans with diabetes and their fitness care experts that allows you to acquire a selected degree of glycemic manage and to save you hypoglycemia. [17] Is an approach whereby people with diabetes measure their blood sugar (glycemia) themselves using a glycemic reader (glucose meter). Based on the reading, they can adjust or check the effect of their treatment (diet, exercise, insulin, antidiabetics, stress management). [18] Self-monitoring of blood glucose (SMBG) is an important aspect of treatment for all people with diabetes. It provides immediate feedback and data that enable people with diabetes to assess how their food choices, physical activity levels, and medications affect their blood glucose control. [19] Diabetes mellitus is one of the most prevalent non-communicable ailments in India. The acute and persistent complications of diabetes affect the physical, mental, and social well-being of the patients, thereby, placing a major burden on the fitness care system. Studies have proven that

enough self-care practices such as a dietary habit, exercise, medication and coping skills among the patients will facilitate top glycemic control and prevent complications. [20] Diabetes self-care activities are behaviors undertaken by people with or at risk of diabetes to successfully manage the disease on their own. Self-care management of diabetes is complex. It needs a multi-faceted approach which requires the patient to follow certain guidelines such as healthy eating, being physically active, regular monitoring of blood sugars, taking regular medications, good problem-solving skills, healthy coping skills and risk-reduction. Behaviours to achieve an optimum glycemic control, and prevent complications in future.

MATERIAL AND METHODS:

After obtaining an ethical clearance from the institutional ethical committee of saveetha institute of medical and technical science and formal permission letter obtained from the head of the saveetha medical college and hospital, present study was conducted. For the present study quantitative approach with pretest - posttest research design was adopted. The data were collected using a quota sampling technique sampling technique from 100 samples. The inclusion criteria for the study, participants, who are available during the study period and who are cooperative and who understand both Tamil and English. exclusion criteria for the study are, samples who not willing to participate in the study. The purpose of the study was explained by the investigator to each of the study participants and a written informed consent was obtained from them. the demographic and the level of blood glucose was collected from the samples using semi structured questionnaire. the data were analyzed by biostatistics. The sample characteristics were described using frequency and percentage. Chi- square was used to associate the level of blood glucose with their selected demographic variables.

RESULTS AND DISCUSSION:

SECTION A: Description of the demographic variables among the clients diabetes mellitus.

The result shows that maximum numbers of sample were falling in the age group of 31 to 40, maximum of their males, about 56% are Illiterate, 84% were non vegetarian, 64% were moderate workers, 58% were income under above 20,000, 61% were had hertiarty history of DM, 56% of the sample had history of diabetic mellitus above 6 years and 87% had regular follow up.

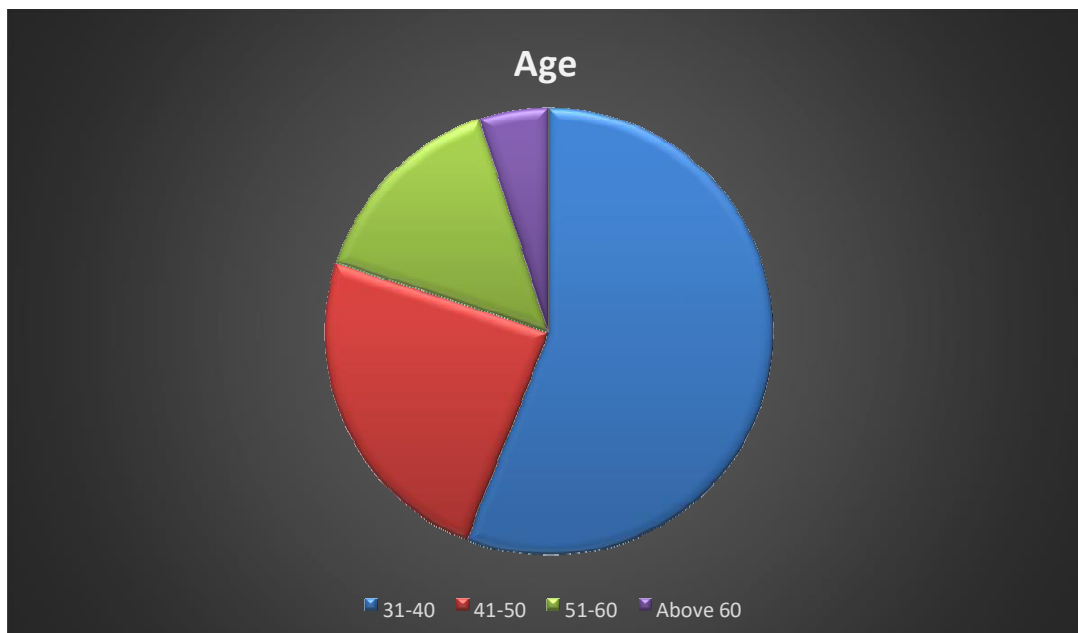


Figure 1: Frequency and percentage of the demographic variables among the clients diabetes mellitus

SECTION B: Assessment the pretest and posttest level of complaints on self glucose monitoring among the clients in arakkonam GH

Knowledge	Grade 1		Grade 2		Grade 3	
	No.	%	No.	%	No.	%
Pretest	12	12.0	36	36.0	52	52.0
Post Test	36	36.0	48	48.0	16	16.0

This table shows that maximum of the were grade 3 complaints in pretest, 36% were on grade 2 complaints, 12% were in grade 1 complaints.

This table also shows that maximum of them were in grade 2 complaints, in post test 16% were grade 3 complaints, 36% were of grade 1 complaints.

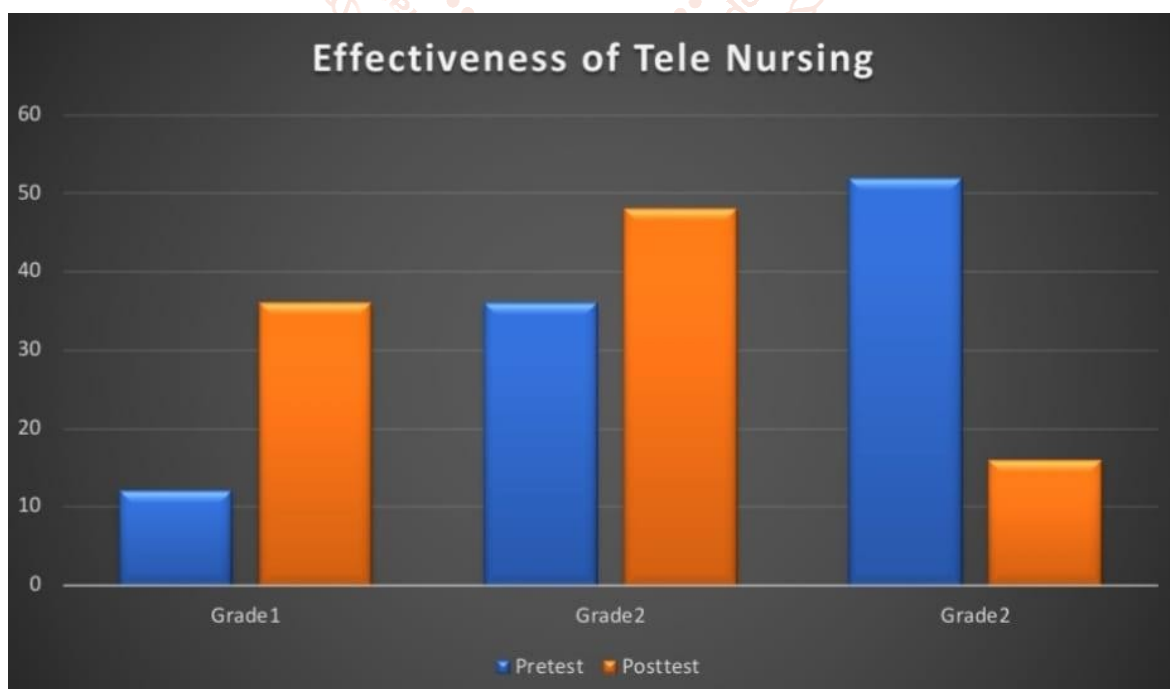


Figure 2: Frequency and percentage distribution of grades of complaints among clients with diabetes mellitus.

SECTION C: Effectiveness of telenursing among the diabetes mellitus demographic variables such as education shows significant association with post test level of compliance.

Table 3: Comparison of pretest and post test grades of complaints and random among clients with diabetes mellitus.

N = 100

Variables	Test	Mean	S. D	Paired 't' test Value
Knowledge	Pretest	7.72	2.43	t = 21.547 p = 0.0001 S***
	Post Test	17.85	2.29	

***p<0.001, S – Significant

This table shows that there is a significant difference between pre test and post test by intervention with tele nursing.

SECTION D: Association of post test level of complaints among the clients diabetes mellitus and their selected demographic variables

Table 4: Frequency and percentage distribution of level of compliance among diabetic client with their selected demographic variable.

N = 100

Demographic Variables	Grade1		Grade2		Grade3		Chi-Square Value
	No.	%	No.	%	No.	%	
Age (in years)							
31 – 40	12	12.0	25	25.0	4	4.0	$\chi^2=2.823$
41 – 50	19	19.0	15	15.0	8	8.0	d. f=3
51 – 60	12	12.0	6	6.0	2	2.0	p = 0.420
Above 60 years	3	3.0	2	2.0	2	2.0	N. S
Gender							$\chi^2=2.447$
Male	21	21.0	25	25.0	12	12.0	d. f=1
Female	15	15.0	23	23.0	4	4.0	p = 0.118 N. S
Education							$\chi^2=8.971$
Primary school	12	12.0	18	18.0	4	4.0	d. f=3
Higher secondary school	20	20.0	8	8.0	5	5.0	p = 0.030
Above high school	2	2.0	15	15.0	3	3.0	S*
Illiterate	2	2.0	7	7.0	4	4.0	
Food habits							$\chi^2=0.077$
Vegetarian	22	22.0	23	23.0	9	9.0	d. f=1
Non-vegetarian	14	14.0	25	25.0	7	7.0	p = 0.781 N. S
Occupation							$\chi^2=1.247$
Sedentary worker	19	19.0	24	24.0	4	4.0	d. f=3
Moderate worker	11	11.0	16	16.0	8	8.0	p = 0.742 N. S
Heavy worker	13	13.0	6	6.0	2	2.0	
Unemployed	3	3.0	2	2.0	2	2.0	
Family income							$\chi^2=6.188$
Below Rs. 5000	10	10.0	24	24.0	4	4.0	
Rs. 10,000 to 15,000	11	11.0	6	6.0	2	2.0	
Rs. 15,000 to 20,000	22	22.0	15	15.0	6	6.0	
Above Rs. 20,000	3	3.0	3	3.0	4	4.0	
Family history of DM							$\chi^2=3.947$
Gene	12	12.0	21	21.0	9	9.0	d. f=2
Inheritance	22	22.0	15	15.0	3	3.0	p = 0.139 N. S
No family history	2	2.0	7	7.0	4	4.0	

Duration of having Diabetes Mellitus							
1 to 2 years	12	12.0	8	8.0	5	5.0	$\chi^2=7.245$ d. f=3 p = 0.064 N. S
3 to 4 years	20	20.0	18	18.0	4	4.0	
4 to 6 years	2	2.0	15	15.0	3	3.0	
Above 6 years	2	2.0	7	7.0	4	4.0	
Follow-Up							
Regular	14	14.0	20	20.0	10	10.0	$\chi^2=3.038$ d. f=1 p = 0.081 N. S
Irregular	22	22.0	28	28.0	6	6.0	

*p<0.05, S – Significant, N. S – Not Significant

This above tables shows, demographic variables such as education shows significant association with post test level of complaints.

CONCLUSION:

From the results of the present study shows significant improvement for researcher. The present study assessed the effectiveness of telenursing on diabetic patients complaints with glucose self monitoring among with general population. The study findings revealed that there was a significant improvement in the level of complaints on self glucose monitoring after providing telenursing method intervention. Based on the findings it was evident that provision of such kind of telenursing method will motivate the patients with type 2 diabetes mellitus and help them to acquire knowledge on self management of type 2 diabetes mellitus. Therefore telenursing by health care professional is supportive method for patients and was very important to provide quality nursing care which helps to meet the needs of the patients for their well being.

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