

A STUDY TO ASSESS THE EFFECTIVENESS OF SELF INSTRUCTIONAL MODEL (SIM) REGARDING HOME CARE AMONG PATIENT WITH DIABETES.

Dr. Rajendra Prasad Sharma*

**Associate Professor, Mahatma Gandhi Nursing College, Sitapur, Jaipur, India.*

ABSTRACT

Diabetes is a global problem. It is one of the most prevailing non communicable diseases, uncontrolled diabetic due to lack of knowledge and non compliance of drugs. Diet and exercise at home has led to much complication like blindness, renal problem, cardiovascular problem, gangrene amputation, dental problem and ulcer of foot. Due to lack of knowledge of patient with diabetes regarding home care there is frequent hospitalization that affects the quality of life. Diabetes mellitus is one of the important non- communicable diseases. It is a major public health problem that is approaching epidemic proportion globally. In both developed and developing nation especially type 2 diabetes. Type 1 diabetes is characterized by a lack of insulin production in the body. Type 2 result from the body in effective use of insulin. It comprises 90% of people with diabetes around the world and is largely the result of excess body weight and is physical inactivity.

Keywords: Insulin, Diabetic patient. Self-Instructional Model.

Introduction

Diabetes mellitus is one of the important non-communicable diseases. It is a major public health problem that is approaching epidemic proportion globally. In both developed and developing nations especially type 2 diabetes.

Type 1 diabetes is characterized by a lack of insulin production in the body. Type 2 results from the body's ineffective use of insulin. It comprises 90% of people with diabetes around the world and is largely the result of excess body weight and physical inactivity.

According to the International Diabetes Federation, India is home to over 61 million diabetes patients - an increase from 50.8 million last year. By 2030, India's diabetes burden is expected to cross the 100 million.

Background of the study

Diabetes is a global problem. It is one of the most prevailing non-communicable diseases, uncontrolled diabetes due to lack of knowledge and non-compliance of drugs. Diet and exercise at home has led to much complication like blindness, renal problem, cardiovascular problem, gangrene amputation, dental problem and ulcer of foot. Due to lack of knowledge of patients with diabetes regarding home care there is frequent hospitalization that affects the quality of life.

Diabetes education plays a major role in imparting knowledge about self-care at home and contributing to improving the quality of life.

The aim of the study to assess the effectiveness of self-instructional module regarding home care among patients with diabetes.

Objective of the study

1. To determine the knowledge of patients with diabetes regarding home care as measured by structured knowledge questionnaire.
2. To evaluate the effectiveness of self-instructional modules in terms of gain in knowledge score.
3. To assess the association between post-test knowledge and selected demographic variables.

Method

An evaluator approach with one group pre-test design was used for the study and the study was conducted at Mahatma Gandhi Hospital, Jaipur. The sample consisted of 50 patients with diabetes. The sample was selected using convenient sampling technique. Tools and self-instructional module (SIM) were validated by experts. SIM was administered on the same day after the pre-test and post-test was conducted on 7th day using the same tool.

Hypothesis

H01 : The mean post-test knowledge score of patients with diabetes regarding home care will be significantly higher than their mean pre-test knowledge score.

H02 : There will be no significant difference between the area-wise pre-test and post-test knowledge score of home care patients with diabetes at 0.05 levels.

H03 : There will be no significant association between knowledge and selected variables such as age, sex, education status, duration of illness, and exposure to mass media.

DATA ANALYSIS AND INTERPRETATION

Analysis is the process of organizing and synthesizing the data in a way that research questions can be answered and hypothesis tested. The purpose of analysis is to reduce the data into an intelligible and interpretable form, so that the relation of research problem can be studied and tested.

SECTION 1: SAMPLE CHARACTERISTIC

This section deals with the description of sample characteristics of patients with diabetes that are presented in frequency and percentage table 1.

Table 1: frequency and percentage distribution of subjects according to sample characteristics

	variable	Frequency (f)	Percentage (%)
1.	Age (in years)		
	a.up to 40 years	6	12
	b.41-50 years	22	44
	C.51-60 years	18	36
	d.above 60 years	4	8
2.	Gender		
	a.male	10	20
	b.female	40	80
3.	Education status		
	a.illiterate	5	10
	b.primary	23	46
	c.secondary	14	28
	d.graduate	8	16
4.	Marital status		
	a.single	2	4
	b.married	48	96
	c.windowed	-	-
	d.divorced	-	-
5.	Occupation		
	a.unemployed	2	4
	b.labourer/coolie	20	40
	c.technical	20	40
	d.professional	8	16
6.	Monthly income		
	a.below 10,000	2	4
	b.10.001-20000	15	30
	C.20,001-30.000	25	50
	d.above 30,000	8	16
7,	Exposure to mass media		
	a.newspaper/magazines/books	34	68
	b.Film/TV/Radio programme	40	80
	c.Internet (Email,web.blogs,mobile)	31	62
	d.Any other, specify.....		

Section 2: Clinical Performa:

This section deals with the description of clinical information of patient with diabetes and is explained in frequency and percentage.

Table 2: frequency and percentage distribution of subjects according to their clinical performa. N=50

	variable	Frequency (f)	Percentage (%)
1.	Dietary habits		
	vegetarian	9	18
	Non-vegetarian	41	82
2.	Exercise		
	Regular	10	20
	occasional	5	10
	Nil	35	70
3.	Age of acquiring diabetes		
	Up to 40 years	15	30
	41-50	19	38
	51-60	8	16
	Above 60 years	8	16
4.	Easy accessibility to hospital		
	yes	17	34
	No	33	66
5.	Family history of diabetes		
	yes	16	32
	No	34	68
6.	On insulin therapy		
	yes	38	76
	No	12	24
7.	Insulin injecting by self or others		
	Self	21	42
	others	29	58
8.	Use sharp equipment during your work/at home		
	yes	22	44
	No	28	56
9.	Testing urine for sugar at home regularly		
	yes	3	6
	No	47	94
10.	Use of diabetes bracelet while traveling		
	yes	-	-
	No	50	100
11.	Use of footwear inside the house		
	yes	2	4
	No	48	96

Section: 3 knowledge level of patient with diabetes on home care

Data collection 50 subject regarding questionnaire and was analyzed using descriptive statistics is presented.

Table 3: frequency and percentage distribution of subjects according to their pre-test and past-test knowledge score.

Knowledge score	Pre-test			Post-test		
	F	%	CF	F	%	CF
25-28	5	10	5	-	-	-
29-32	5	10	10	-	-	-
33-36	20	40	30	-	-	-
37-40	14	28	44	4	8	4
41-44	6	12	-	5	10	9
45-48	-	-	-	16	32	25
49-52	-	-	-	12	24	37
53-56	-	-	-	8	16	45
57-60	-	-	-	4	8	49
61-64	-	-	-	1	2	50

Total score=72

The data in the table 3 indicates that 40% of subjects' knowledge score ranged from 33-36 in score-test and 32 % and 24% of subjects' knowledge score between 45-84 and 49-52 .

Section: 4 significant differences means pre- test and post test knowledge score.

In order to find out the significant between pre-test and post -test knowledge paired 't' test was computed and is presented in table – 4. To test the statistical significance the following null hypothesis was stated

H01: There will be no significant difference the pre-test knowledge score and post- test knowledge score home care of patient with diabetes at 0.05 level.

Table 4: Mean, Mean differences, standard deviation difference and 't' value of pre-test and post test knowledge score.

variable	Mean Pre -test	Mean Post-test	Mean difference	SD difference	't'
Knowledge score	35.78	48.98	13.74	3.61	26.90

$T_{49} = 26.90, p < 0.05$

*significant

Data in table 4 show that the mean post – test knowledge score (x248.98) was higher the mean pre-test knowledge score(x1-35.78). the computed 't' value ($t_{49} = 26.90, p < 0.05$) is greater than the table value at 0.05 level ($t_{49} = 2.021$). Hence the null Hypothesis (H01) was rejected and the research hypothesis was rejected and the research hypothesis was accepted and it is inferred that there is significant difference between the mean pre-test and post-test knowledge scores.

Area- wise paired 't' showing the significant difference between the area – wise mean pre-test knowledge scores

To determine the significant difference in area-wise mean pre-test and post-test knowledge scores paired 't' test was computed on difference in the areas of home care of patients with diabetes and the following null hypothesis was stated .

H02 : there will be no significant difference between the area- wise pre-test and post-test knowledge score on home care of patient with diabetes at 0.05 level.

Table 5: area-wise paired 't' showing the significant difference between the area-wise mean pre-test and post-test knowledge score

Area	mean		Mean difference	SD	't' value
	Pre-test	Post-test			
Meaning of diabetes mellitus	0.96	1	0.04	0.28	0.14
Causes of diabetes mellitus	1.14	2	0.86	0.7	8.68*
Signs and symptoms	4.84	8.38	3.54	1.75	14.28*
Diet	8.92	11.42	2.5	1.75	14.28*
Drugs	4.92	6.18	1.26	1	8.85*
Exercise	6.42	8.36	1.94	0.97	14.58*
Foot care	4.06	5.65	1.54	1.07	10.14*
Complication and prevention	1.94	3.48	1.54	0.97	11.18*
Follow up	1.88	2.32	0.44	0.61	5.08*

$T_{49}=26.90.p<0.05$

*significant

Data in table 5 show that the area-wise mean post-test knowledge score in all areas was higher the mean pre-test knowledge score except in the area of meaning of meaning of diabetes mellitus. Hence the null hypothesis was rejected and research hypothesis was accepted in all areas except in the area of meaning of diabetes.

Association between knowledge levels and selected variables

To test the association between post-test knowledge score and selected variables the following hypothesis was stated:

H03: there will be no significant association between post-test score and selected variables such age, sex, of educational status, occupation, and exposure to mass media of patient with diabetes at 0.05 levels.

Chi-square value computed to test the hypothesis and is presented in table 6.

The data in table 6 show the chi square value computed between post test knowledge level and selected variables like age ($\chi^2=4.82$),sex($\chi^2=2.36$) were not significant at 0.05 level.

Chi square value computed between post test knowledge level and selected variables like education ($\chi^2=10.39$), occupation ($\chi^2=8.60$), and exposure to mass media ($\chi^2=9.40$), was significant at 0.05 level

Chi square value computed between post test knowledge level and selected variables like education ($\chi^2=10.39$), occupation ($\chi^2=8.60$), and exposure to mass media($\chi^2=9.40$), was significant at 0.05 level. It inferred at that there is significant association between knowledge on home care and exposure to mass media.

Table 6: association between knowledge level and selected variables

	Variable	Post test knowledge score		DF	X ²
		<mean	>mean		
1.	Age(yr)			3	4.82
	Up to 40yr.	1	5		
	41-50	13	9		
	51-60	10	8		
	>60	3	1		
2.	Sex			3	2.36
	Female	7	3		
	Male	20	20		
3.	Educational status			2	10.39*
	Illiterate	4	1		
	Primary	15	8		
	Secondary	7	7		
	Graduate	1	7		
4.	Occupation			3	8.60*
	Unemployed	2	9		
	Labourer/coolie	15	5		
	Technical	9	11		
	professional	2	6		
5.	Exposure to mass media			2	9.40*
	Expose to one mass media	10	1		
	Expose to two mass media	5	10		
	Expose to more than two mass media	12	12		

X² (df=1) = 3.84, p<0.05

X² (df=1) = 5.99, p<0.05

X² (df=1) = 7.82, p<0.05

*significant

Result

The mean post test knowledge score (X²=48.98) was higher than the mean pre test knowledge score (X₁=35.78) the mean post test scored ranged from 37-64 and that of pre test ranged from 25-44

The mean percentage actual gain was maximum in the area of "diet & drugs" (36.6% & 36.5%) and minimum in the area of "meaning of diabetes mellitus (4%)

The mean difference between post test and pre – test knowledge score was significant (t₄₉= 26.9) (t₄₉ = 2.021 at 0.05 level).

There was no significant association between knowledge of patients with diabetes regarding care and selected variables like age & sex (x²=4.82, 2.36) at 0.05 level of significant but there was significant association between educational status, occupation and exposure to mass media (x² = 10.39, 8.6, 9.40) at 0.05 level.

Interpretation and conclusion

Knowledge of patients with diabetes regarding home care was poor before the administration of self instructional module. SIM helped them to gain knowledge regarding home care, hence it is concluded that self-instructional module is effective in improving the knowledge of patients with diabetes regarding home care.

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