

A Study to Assess the Effectiveness of Self-Instructional Module on Knowledge Regarding Home Based Lifestyle Modification Among Person's with Type II Diabetes Mellitus in Selected Area at Salem.

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Abstract

Back ground of the study:

Type II diabetes mellitus develops through a continuum beginning with normoglycemia, progressing to prediabetes. Impaired fasting glucose tolerance and finally to overt diabetes. The progression of prediabetes overt type II diabetes mellitus can be slowly or reversed by lifestyle changes of medications that improve insulin sensitivity or reduce hepatic glucose production. A particularly concerning epidemiological trend is the rising incidence in adults. Type II diabetes mellitus is the leading causes of nontraumatic lower limb amputation, end stage renal disease and adult onset blindness, myocardial infarction, stroke and peripheral vascular disease. It accounts for 45-80% of deaths in type II diabetes mellitus.

Objectives

- To assess the level of knowledge regarding Home based care among person with type II diabetes mellitus.
- To assess the effectiveness of Self-Instructional module on knowledge regarding Home based care among person with type II diabetes mellitus.
- To assess the association between level of knowledge regarding Home based care among person with type II diabetes mellitus with their selected demographic variables.

Methodology:

The non experimental one group pre test and post test research design was selected for this study. A total of 30 adult with Type II diabetes mellitus selected by using convenient sampling technique. Individual consent both verbal and written was obtained from adult with Type II diabetes mellitus. The participant information sheet was provided and written consent was obtained from adult in diabetes mellitus.

Demographic variable was collected using interview schedule assessment of the pre test level of knowledge on the home care of the Type II diabetes mellitus among adult with the self-instructional knowledge questionnaire. After intervention, the structured teaching on home care of diabetes mellitus. Post test assessment level of knowledge on home care of diabetes mellitus among adult by self-structured knowledge questionnaire. The collected data were computerized and analyzed using SPSS version 25. The data was analyzed using descriptive statistics (distribution, mean, standard deviation) inferential statistics (paired t test and chi square value test)

Result:

The result shows in pretest, majority of client with Type II diabetes mellitus 15 (50%) inadequate level of knowledge, 12 (40%) moderate level of knowledge, 3 (10%) adequate level of knowledge. In posttest, majority of client with type II diabetes mellitus 2 (6.6%) inadequate level of knowledge, 8 (26.6%) moderate level of knowledge, 20 (66.6%) adequate level of knowledge.

Chi square was calculated to find out the association between post-test knowledge score of adults with their selected demographic variable regarding diabetes mellitus home based care. It revealed that there was no significant association ($p > 0.05$) found between post-test knowledge score of adults with their demographic variable like age, gender, religion, education, marital status, occupation, income, type of family, type of diet. There was significant association ($p > 0.05$) found between post-test knowledge score of adult with their demographic variable like lifestyle habits.

Conclusion:

The study concluded that self-instructional module was effective in improves the knowledge on home-based care among person with type II diabetes mellitus.

Keywords: Type II diabetes mellitus, Self Instructional module, home based care, lifestyle modification, knowledge.

I. INTRODUCTION

*“YOUR PANCREAS IS LAZY, NOT DEATH
 MAKE YOUR LIFESTYLE DO THE WORK”*

Type II Diabetes Mellitus:

Type II diabetes mellitus is a chronic, progressive metabolic disorder driven by a complex metabolic disorder interplay of genetic, biological, behavior and social factors. It is characterized by insulin resistance, which may be combined with relatively reduced insulin secretion from pancreatic B-cells, leading to resistant hyperglycemia. Type II diabetes mellitus is called as ‘young onset or early onset type II diabetes mellitus’. In 35-45 age group range falls in this high-risk category. Providing good lifestyle modification counseling is most important regarding diet, exercise, medication, weight management, behavior change and sleeping pattern. The epidemiological review highlights that poor diet, particularly the western pattern diet, sugar-sweetened drinks, saturated fat and unsaturated fat increase type II diabetes mellitus risk. In contrast, diet rich in polyunsaturated and monounsaturated fat decrease risk. It found that breaking up prolonged sitting with light walking every 30 minutes improves postprandial glucose, supporting the “24-hours physical activities”. Diabetes care demonstrated that a very low-carbohydrate diet produced greater reductions in HbA1c and medications requirements.

II. STATEMENT OF PROBLEM

A study to assess the effectiveness of Self-Instructional module on knowledge regarding home-based care and lifestyle modification among person's with Type II diabetes mellitus in selected rural area at Salem.

III. OBJECTIVES

- To assess the level of knowledge regarding Home based care among Person's with type II diabetes mellitus.
- To assess the effectiveness of Self-Instructional module on knowledge regarding Home based care among Person's with type II diabetes mellitus.
- To assess the association between level of knowledge regarding Home based care among Person's with type II diabetes mellitus with their selected demographic variable.

IV. MATERIALS AND METHODS

The research design used in this study is a Quantitative research approach. In this study, non-experimental one group pre and post-test research design was used.

The study was conducted in rural area Pannapatti in Salem District. Population included in this study comprised of type II diabetes mellitus client. The target population of this study is type II diabetes mellitus client. Sample size consists of 30 type II diabetes mellitus client in selected rural area pannapatti in Salem District. Demographic variables were collected. Pretest assessment of level of knowledge on home-based care and lifestyle modification among person with type II diabetes mellitus were assessed. The intervention strategy was implemented on the same day for 30 minutes using pamphlet which was prepared by the researcher after consulting with the specialist in community health nursing. The type II diabetes mellitus clients were participated with interest and they were alert and enthusiastic. After intervention, 7 days of interval, post test was conducted on the same clients using the same questionnaire and evaluated the effectiveness of self-instructional module on type II diabetes mellitus. The collected data were computerized and analyzed. The data was analyzed using descriptive statistics (distribution, mean, standard deviation) and inferential statistics (paired t test, and chi-square value test).

V. DESCRIPTION OF RESEARCH TOOL TECHNIQUE

The tool was developed and standardized from extensive review of literature, internet research and discussion with experts. The tool consists of two sections

Section I-

Demographic variable among person's with type II diabetes mellitus.

Section II-

Assessment of the level of knowledge on home-based care and lifestyle modification of type II diabetes mellitus.

Section – I

Part-A: Demographic Variables

It deals with the demographic variables of the subject that includes clients age, gender, religion, educational status, marital status, occupation, monthly income, lifestyle habits, types of family, types of diet.

Section – 2

Assessment of the Level of knowledge on home care and lifestyle modification among Person's with type II diabetes mellitus. It consists of Multiple Choice Questions which were prepared to assess the knowledge among clients with type II diabetes mellitus.

The questions were related to knowledge aspects of character of diabetes mellitus, random blood glucose level, fasting and postprandial blood glucose level, physical activity, exercise, sleep, weight, diet, lifestyle modification, foot care, complications. It contains 30 multiple choice questions. The scores given for diabetes mellitus client are as follows: The correct answer is 1 mark and the wrong answer is 0 mark.

Scoring And Interpretation

Level Of Knowledge

1. Inadequate knowledge 1-10

2. Moderately adequate knowledge 11-20

3. Adequate knowledge 21-30

Validity:

The validation was suggested with some specific modifications in the data collection tool. All their suggestions and valuable opinions were included in the study. The modification includes. Experts validate the clarity, relevance, comprehensiveness and appropriateness of the content. Based on their suggestions, a reframing of the tool was made. Valuable suggestions given by the experts were incorporated and the tool was modified and finalized.

VI. RESULT

Section –I

Table :4.1
Frequency and percentage distribution of level of knowledge in selected demographic variables among type II diabetes mellitus client

S.NO	DEMOGRAPHIC VARIABLES	NUMBER	PERCENTAGE
1.	Age		
	a. 35-45	26	86.6%
	b. 46-55	2	6.6%
	c. 56-65	-	-
	d. Above 65	2	6.6%
2.	Gender		
	a. male	24	80%
	b. female	6	20%
	c. transgender	-	-
3.	Religion		
	a. Hindu	24	80%
	b. Muslim	3	10%
	c. Christian	3	10%
	d. Others	-	-
4.	Education		
	a. no formal literature	3	10%
	b. primary education	25	83.3%
	c. higher secondary	2	6.6%
	d. graduate and above	-	-
5.	Marital status		
	a. unmarried	4	13.3%
	b. married	25	83.3%
	c. widow	1	3.3%
6.	Occupation		
	a. government job	1	3.3%
	b. private job	6	20%
	c. cooly	20	66.6%
	d. unemployment	3	10%
7.	Income		

	a. up to Rs.5000	17	56.6%
	b. 5001-10000	12	40%
	c. 10001-15000	1	3.3%
	d. Above 15000	-	-
8.	Lifestyle habits		
	a. Smoking	2	6.6%
	b. Alcoholism	2	6.6%
	c. Betel leaves	1	3.3%
	d. None of these above	25	83.3%
9.	Type of family		
	a. Single family	1	3.3%
	b. Nuclear family	24	80%
	c. Joint family	5	16.6%
	d. Extended family	-	-
10.	Types of diet		
	a. Vegetarian	2	6.6%
	b. Non-vegetarian	28	93.3%

This table shows that demographic variable of adult such as age, gender, religion, education, marital status, occupation, income, lifestyle habits, types of family, types of diet regarding home-based care and lifestyle modification.

Distribution of sample according to their age group shows that 86.6% belongs to 35-45 years, 6.6% belongs to 46-55 years, 0% belongs to 56-65, 6.6% belongs to above 65 years. Distribution of samples according to their religion status 80% belongs to Hindu, 10% belongs to Muslim 10% belongs to Christian, 0% belongs to others. Distribution of education status shows that 10% belongs to no formal literature, 83.3% belongs to primary education 6.6% belongs to higher secondary, 0% belong to graduate and above. Distribution of sample according to their marital status shows that 13.3% belongs to unmarried, 83.3% belongs to married, 3.3% belongs to widow. Distribution of sample according to their occupation shows that 3.3% belongs to government job, 20% belongs to private job, 66.6% belongs to cooly, 10% belongs to unemployment. Distribution of sample according to their income shows that 56.6% belongs to up to Rs.5000, 40% belongs to 5001-10000, 3.3% belongs to 10001-15000, 0%

belongs to above 15000. Distribution of sample according to their lifestyle habits shows that 6.6% belongs to smoking, 6.6% belongs to alcoholism, 3.3% belongs to betel leaves, 83.3% belongs to none of these above. Distribution of sample according to their types of family shows that 3.3% belongs to single, 80% belongs to nuclear family, 16.6% belongs to joint family, 0.5% belongs to extended family. Distribution of sample according to their type of diet shows that 6.6% belongs to vegetarian, 93.3% belongs to non-vegetarian.

Section-B

Asses the level of knowledge of adult person after self-instructional module on home-based care lifestyle modification among person with type-II diabetes mellitus

Frequency and percentage distribution of level of knowledge of post-test knowledge score among diabetes mellitus.

(No of sample :30)

TABLE :4.2
Assess the level of knowledge.

S/NO	LEVELS OF KNOWLEGE	RANGE OF MARKS	FREQUENCY (f)	PERCENTAGE
1	Inadequate knowledge	1-10	2	6.6%
2	Moderate knowledge	11-20	8	26.6%
3	Adequate knowledge	21-30	20	66.6%

The table shows that frequency and percentage distribution of post test, knowledge, score regarding type-II diabetes mellitus practice among adult person's shows that 6.6% has comes inadequate levels of knowledge 26.6% has moderate knowledge level 66.6% has comes in adequate levels of knowledge.

This shows that self-instructional module on home base care lifestyle modification among person with type-II diabetes mellitus has more effective.

Section –C

Assess the effectiveness of self-instructional module on type-II diabetes mellitus among adult person

TABLE:4.3
Paired 't' value of pretest and post-test knowledge score of adult persons

LEVELS	't' VALUE	DEGREE OF FREEDOM	TABLE VALUE	'P' VALUE	INFERENCE
knowledge	28.13	29	2.045	<0.05	Significant

This table shows that the paired 't' value was calculated to analyse the effectiveness between pre test and post test knowledge score of adults. the paired 't' value of knowledge was 28.13 which higher when compared with table value 2.045 at 8.69 of degree of freedom.

The self-instructional module on knowledge regarding home-based lifestyle modification among person's with type II diabetes mellitus was significantly effective.

TABLE: 4.4
Mean and standard deviation of pre-test and post-test knowledge scores of adult person's

LEVEL	MAXIMUM SCORE	MEAN	STANDARD DEVIATION
knowledge	30	-	-
Pre test	-	12.9	3.06
Post test	-	22.8	3.20

The table shows pre test and post test knowledge score of adult person's the pre test knowledge score means was 12.9 and standard deviation for the pre test knowledge score was 3.06 were as the post test knowledge score means was 22.8 and the standard deviation was 3.20. This result reveals the self-instructional module on type II diabetes mellitus

practice and significant effect in increasing the knowledge of adult person's.

Section –D

Association between post-test knowledge of score adult with the demographic variables.

TABLE: 4.4
Chi square value of association between post-test knowledge score of adults with their demographic variables.

DEMOGRAPHIC VARIABLES	X ²	Df	TABLE VALUE (0.05)	P-VALUE	RESULT
Age	2.31	4	9.49	>0.05	Not significant
Gender	0.63	2	5.99	>0.05	Not significant
Religion	1.97	4	9.49	>0.05	Not significant
Education	1.36	4	9.49	>0.05	Not significant
Marital status	2.98	4	9.49	>0.05	Not significant
Occupation	6.83	6	12.59	>0.05	Not significant
Income	6.57	4	9.49	>0.05	Not significant
Lifestyle habits	31.31	6	12.59	<0.05	Significant
Types of family	3.99	4	9.49	>0.05	Not significant
Types of diet	1.07	2	5.99	>0.05	Not significant

This table shows that chi square was calculated to find out the association between post test knowledge score of adults with their selected demographic variables regarding home care and life style modification of type II diabetes mellitus.

It revealed that was not significant association ($p > 0.05$) and significant association ($p < 0.05$) found between post test knowledge score of adults with their demographic variables like age, gender, religion, education, marital status, occupation, income, lifestyle habits, types of family, types of diet regarding home based care among person's with type II diabetes mellitus.

VII. CONCLUSION

The study concluded that self-instructional module was effective in improves the knowledge on home-based care among person with type II diabetes mellitus. The result shows in pretest, majority of client with Type II diabetes mellitus 15 (50%) inadequate level of knowledge, 12 (40%) moderate level of knowledge, 3 (10%) adequate level of knowledge. In posttest, majority of client with type II diabetes mellitus 2 (6.6%) inadequate level of knowledge, 8 (26.6%) moderate level of knowledge, 20 (66.6%) adequate level of knowledge.

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