



A Study To Assess The Knowledge And Practice On Diabetic Diet Among People With Diabetes Mellitus (Type-2) Before And After Structured Teaching Program In Selected Villages, Andhra Pradesh.

**TIRUMALA REDDY MERIPOULEENA RESEARCH SCOLAR ,DR.GAJANDA WALA ,RESEARCH GUIDE.
HIMALAYAN UNIVERSITY , ARUNACHAL PRADESH.**

ABSTRACT

Diabetes has long been associated with sweetness in many countries. It is a group of disorders characterized by high blood glucose levels .Type 2 diabetes is initially managed through increased exercise and dietary modifications. Maintaining a healthy diet is crucial for managing diabetes, with a focus on controlling caloric intake, blood glucose levels, and normalizing lipids and blood pressure to prevent heart disease.in order to bring the awareness on diet a study was conducted to assess the knowledge and practice on diabetic diet among people with diabetes mellitus (type-2) before and after structured teaching program in selected villages, Andhra Pradesh.

OBJECTIVES : To compare the pre- and post-test levels of knowledge and practice of diabetic diet among people with diabetes mellitus (type-2) in the experimental group.

METHODOLOGY: A quasi-experimental study design was used, and 60 samples were selected using a non-probability convenient sampling technique to select samples based on the inclusion and exclusion criteria. Data was collected by using self-administered structured questionnaires.

RESULT: Data analyzed showed that the post-test mean knowledge score of 21.86 with a standard deviation of 2.987 in the experimental group was significantly higher than the post-test knowledge mean score of 8.8 with a standard deviation of 3.486 in the control group. The independent value was 16.325 which was significant at 0.05 level. Post-test practice mean of 27.7 with a standard deviation of 2.4 in the experimental group was significantly higher than the post-test practice mean score of 13.03 with a standard deviation of 2.65 in the control group. The independent 't' value was 23.66 which was significant at 0.05 level.

CONCLUSION: diabetes mellitus is the common problem in India, the patients must understand about the diabetic diet to be follow to control the risk factors of diabetes mellitus among the people .

Keywords: Structured Teaching Programme, Effects, diabetes mellitus (type-2) people , diabetic diet .

INTRODUCTION

Diabetes has long been associated with sweetness in many countries. It is a group of disorders characterized by high blood glucose levels. This metabolic disorder poses a significant threat in the 21st century and is widespread in both developed and developing countries. India has the highest number of diabetic patients in the world, with around 150 million people suffering from diabetes globally.

Type 2 diabetes is initially managed through increased exercise and dietary modifications. If blood glucose levels are not lowered adequately by these measures, medications such as metformin or insulin may be required. Maintaining a healthy diet is crucial for managing diabetes, with a focus on controlling caloric intake, blood glucose levels, and normalizing lipids and blood pressure to prevent heart disease.

A good diet for diabetes includes a balance of low-fat, high-protein, and complex carbohydrates such as whole grains and vegetables. It's important to consider the total number of calories consumed, with the typical diabetic diet consisting of approximately 60% of calories from carbohydrates, 12-15% from proteins, and 25-30% from fats. Customized diet plans should be based on individual factors like weight, height, sex, age, physical activity, and type of diabetes.

OBJECTIVES

1. To assess the knowledge and practice on diabetic diet among people with diabetes mellitus (type-2) before and after a structured teaching programme in experimental and control groups.
2. To compare the pre- and post-test levels of knowledge and practice of diabetic diet among people with diabetes mellitus (type-2) in the experimental group.
3. To compare the post-test level of knowledge and practice on diabetic diet among people with diabetes mellitus (type-2) between the experimental and control groups.
4. To find the association between post-test level of knowledge and practice on diabetic diet among people with diabetes mellitus (type-2) with their selected demographic variable in the experimental group.

HYPOTHESIS:

H1: There will be significant increase in post test knowledge and practice on diabetic diet among people with diabetes mellitus (type-2) in experimental group.

1. **H2:** There will be significant difference in post-test knowledge and practice on diabetic diet among people with diabetes mellitus (type-2) between experimental and control group.
2. **H3:** There will be significant association between post-test knowledge and practice on diabetic diet among people with diabetes mellitus (type-2) with their selected demographic variables in experimental group.

Conceptual framework

The present study was aimed to assess the effectiveness of structured teaching programme regarding diabetic diet.

The conceptual framework developed by the investigator for this study was based on the health promotion model proposed by Pender. Pender's model framework was designed to be a complimentary counterpart to models of health protection. Health promotion is directed at increasing a client's well-being.

MATERIALS AND METHODS

Research approach: Quantitative research approach.

Research design: Research design adopted for the present study was quasi-experimental, non equivalent pre test and post test control group design.

Setting of the study: Pedakakani and venigandla villages were selected for the study, Guntur district, Andhra Pradesh.

Sample and sampling technique: Sample size were 60. Experimental group were 30, Control group were 30 were Non-probability convenient sampling technique was used to select the samples.

Method of data collection: A structured knowledge questionnaire on diabetic diet on diabetes mellitus people

The tool was organized under the following sections:

SECTION-A: Demographic variables such as age, gender, religion, education, occupation, monthly income, type of family, food habits, history of taking medicine, information about diabetic diet, from whom they have taken information.

SECTION-B: Structured interview schedule was used to assess the knowledge on diabetic diet among people with diabetes mellitus (type-2) which consists of 30 multiple choice questions.

SECTION-C: Structured interview schedule was used to assess the practice on diabetic diet among people with diabetes mellitus (type-2) which consists of 20 ‘yes’, ‘no’ or ‘sometimes’ questions.

Data collection procedure: The data were collected in the following phases:

Phase I: In this phase, pre-test was conducted on a total of 60 respondents using a structured knowledge questionnaire regarding knowledge and practice regarding diabetic diet on diabetes mellitus on February Instructions were given on how to answer the questionnaire and the doubts clarified. Each respondent took 30 minutes to answer the questionnaire.

Phase II: In this phase, a Structured Teaching Programme regarding structured knowledge questionnaire regarding knowledge and practice regarding diabetic diet on diabetes mellitus was administered to the subjects after the completion of the pre-test. All the questions and queries that the subjects had were clarified.

Phase III: In this phase, post test was conducted on February ----- being the 7th day from the administration of the structured teaching programme using the same structured knowledge questionnaire.

Plan for data analysis:

The data were analyzed by using descriptive and inferential statistics. The data collected was organized, tabulated, and analyzed by using frequencies, percentage, mean and standard deviation. Paired ‘t’ test was used to evaluate the effectiveness of STP Association between the knowledge and practice with the selected demographic variables was analyzed by using chi-square test.

Validity:

The structured knowledge questionnaire for the present study was validated by subject experts in community health nursing personnel.

Reliability:The reliability of the test obtained was ‘0.88’ using test re-test method. Hence the tool was considered reliable for proceeding with the study.

Pilot study:

Pilot study was conducted on 6 diabetic people on ----

RESULTS :

Percentage distribution of people with diabetes mellitus (type -2) according to their demographic variables

Demographic variables of the study	Experimental group n=30		Control group n=30	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Gender				
Male	18	60%	15	50%
Female	12	40%	15	50%
Age in years				
30-40 years	9	30%	10	33.3%
41-50 years	12	40%	12	40%
51-60 years	9	30%	8	26.7%
Religion				
Hindu	12	40%	13	43.3%
Muslim	15	50%	11	36.7%
Christian	3	10%	6	20%
Other	0	0	0	0
Education				
Illiterate	9	30%	6	20%
Primary education	8	26.7%	8	26.7%
Secondary education	9	30%	8	26.7%
Intermediate	4	13.3%	6	20%
Graduation and above	0	0	2	6.6%
Occupation				
Daily wage	10	33.3%	5	16.7%
Private employee	8	26.7%	9	30%
Business	7	23.3%	9	30%
Government employee	0	0	1	3.3%
Unemployed or house wife	5	16.7%	6	20%
Family monthly income				
Less than Rs.5000/-	11	36.7%	9	30%
Rs.5001/-Rs.10,000/-	9	30%	12	40%
Rs.10,001/-Rs.15,000/-	9	30%	7	23.3%
Rs.15,001/- and above.	1	3.3%	2	6.7%
Type of family				
Nuclear family	16	53.3%	16	53.3%
Joint family	14	46.7%	14	46.7%
Food habits				
Vegetarian	4	13.3%	6	20%
Non vegetarian	26	86.7%	24	80%
History of taking medications				
Yes	19	63.3%	18	60%
No	8	26.7%	8	26.7%
Duration of illness				
Below 1 year	8	26.7%	9	30%
1-2 years	10	33.3%	10	33.3%
3-4 years	6	20%	7	23.3%
4 years above	6	20%	4	13.4%
Information received				
Yes	30	100%	30	100%
No	0	0	0	0

Assess the pre and post-test level of knowledge and practice on diabetic diet among people with diabetes mellitus (type-2) in experimental and control groups.

Level of knowledge	Experimental group n=30				Control group n=30			
	Pre test		Post test		Pre test		Post test	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Inadequate knowledge (0 - 33.3%)	25	83.3%	22	73.3%	22	73.3%	19	63.3%
Moderately adequate knowledge (33.4-66.6%)	5	16.7%	0	0	8	26.7%	11	36.7%
Adequate knowledge (66.7% - 100%)	0	0	9	30%	0	0	11	36.7%
Total	30	100%	21	70%	30	100%	30	100%

Table showed that in the pre-test 25(83.3%) had inadequate knowledge, 5(16.7%) had moderately adequate knowledge in the experimental group, whereas in the control group 22(73.3%) had inadequate knowledge,

8(26.7%) had moderately adequate knowledge. Whereas in the post-test 9(30%) had moderately adequate knowledge and 21(70%) were adequate knowledge in experimental group, whereas in the control group 19(63.3%) had inadequate knowledge, 11(26.7%) had moderately adequate knowledge

Level of practice	Experimental group n=30				Control group n=30			
	Pre test		Post test		Pre test		Post test	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Inadequate practice (0 - 33.3%)	21	70%	0	0	18	60%	22	73.3%
Moderately adequate practice (33.4- 66.6%)	9	30%	7	23.3%	12	40%	8	26.7%
Adequate practice (66.7-100%)	0	0	23	76.7%	0	0	0	0
Total	30	100%	30	100%	30	100%	30	100%

Table showed that in the pre-test 21(70%) had inadequate practice and 9(30%) had moderately adequate practice in the experimental group, whereas in the control group, 18 (60%) had inadequate practice and 12(40%) had moderately adequate practice. Whereas in the post-test 7(23.3%) had moderately adequate practice and 23(76.7%) had adequate practice in the experimental group, whereas in the control group, 22(73.3%) had inadequate practice and 8(26.7%) had moderately adequate practice.

Comparison of pre and post-test level of knowledge and practice on diabetic diet among people with diabetes mellitus (type-2) in experimental group

Experimental group	Mean	Standard deviation	Paired 't' value	Table value
Pre test	6.67	2.27	24.3	2.045
Post test	21.86	2.987		

Above table showed that mean post test score of knowledge 21.86 with standard deviation of 2.987 was significantly higher than mean pre test score of knowledge of 6.67 with a standard deviation of 2.27. The paired 't' value was 24.3 which was significant at 0.05 level.

Mean Standard Deviation and paired 't' value of pre-test and post-test level of practice on diabetic diet in the experimental group.

n=30

Experimental group	Mean	Standard deviation	Paired 't' value	Table value
Pre test	12.6	2.25	32.04	2.045
Post test	27.7	2.4		

df = 29

p < 0.05

Table showed that the mean post-test score of practice 27.7 with a standard deviation of 2.4

was significantly higher than the mean pre-test score of practice 12.6 with a standard deviation of 2.25. The paired 't' value 32.04 which was significant at 0.05 level.

Mean, Standard Deviation, and independent 't' value of post-test level of knowledge on diabetic diet between experimental and control group.

Group	Mean	Standard deviation	Independent 't' value	Table value
Experimental	21.86	2.987	16.325	2.000
Control	8.8	3.486		

Table showed that the post-test mean knowledge score of 21.86 with a standard deviation of 2.987 in the experimental group was significantly higher than the post-test knowledge mean score of 8.8 with a standard deviation of 3.486 in the control group. The independent 't' value was 16.325 which was significant at 0.05 level.

Mean, Standard Deviation, and independent 't' value of post-test level of practice on diabetic between experimental and control groups.

n=60

Group	Mean	Standard deviation	Independent 't' value	Table value
Experimental	27.7	2.4	23.66	2.000
Control	13.03	2.65		

The second objective was to assess the knowledge and practice of a diabetic diet among people with diabetes mellitus (type-2) before and after the structured teaching programme in the experimental and control group.

Data analyzed showed that in the pre-test 25(83.3%) had inadequate knowledge, 5(16.7%) had moderately adequate knowledge in experimental group, whereas in the control group 22(73.3%) had inadequate knowledge, 8(26.7%) had moderately adequate knowledge.

In the pre-test 21(70%) had inadequate practice and 9(30%) had moderately adequate practice in the experimental group, whereas in the control group, 18 (60%) had inadequate practice and 12(40%) had moderately adequate practice.

In the post-test 9(30%) had moderately adequate knowledge and 21(70%) had adequate knowledge in experimental group, whereas in the control group, 19(63.3%) had inadequate knowledge, and 11(26.7%) had moderately adequate knowledge.

In the post-test 7(23.3%) had moderately adequate practice and 23(76.7%) had adequate practice in the experimental group, whereas in the control group, 22(73.3%) had inadequate practice and 8(26.7%) had moderately adequate practice.

CONCLUSION:

The study was conducted to assess the effectiveness of a structured teaching programme on a diabetic diet among people with diabetes mellitus (type-2). The paired 't' value for the knowledge and practice were 24.3, 32.04 respectively and the independent 't' value for the knowledge and practice were 16.325, 23.66 respectively which was significant at 0.05 level.

So the structured teaching program on diabetic diet was an effective method to increase the level of knowledge and practice among people with diabetes mellitus (type-2).

RECOMMENDATIONS

1. A Similar study can be conducted with larger sample size may help to draw more definite conclusions and make generalization .
2. A self - instructional module on diabetic diet on diabetes mellitus can be prepared to educate the clients.
3. A Similar study can be conducted on the other domains such as practice and attitude .

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