

**ASSESS THE EFFECTIVENESS OF VIDEO ASSISTED TEACHING PROGRAMME
ON KNOWLEDGE AND PRACTICE ABOUT FOOT CARE AMONG PATIENTS
WITH TYPE 2 DIABETES MELLITUS AT SELECTED HOSPITALS, ODISHA.**

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ABSTRACT

Diabetes is one of our most common and challenging health problems in the 21st century. The gravity of the problem is more serious in India and other developing countries when compared to that with developed countries. A study was conducted to assess the Effectiveness of Video Assisted Teaching Programme on knowledge and practice about foot care among patients with type 2 Diabetes Mellitus at selected Hospitals, Odisha. With the objectives to assess the existing knowledge & practice regarding foot care, to assess the effectiveness of Video Assisted teaching programme and to associate the pre-test knowledge & practice on foot care with selected demographic variables. A one group pretest-posttest design was used to conduct the study. Both male and female patients who were diagnosed have Type 2 Diabetes Mellitus and not having any complications during study period were the population. And the samples were selected by using Simple random sampling technique. The result of the study was the knowledge level about foot care management in pretest Twenty (40%) patients had inadequate knowledge, 24 (48%) of them had moderately adequate knowledge and six (12%) of them had adequate knowledge. In posttest 36(72%) patients had adequate knowledge and 14(28%) of them had moderately adequate knowledge. This result inferred that there was improvement in posttest knowledge level. The pretest mean knowledge score was 16.2 with a standard deviation of 4.65 and posttest mean knowledge score was 22.1 with a standard deviation of 2.65. Paired 't' test was applied to compare pre and posttest mean knowledge score. The result indicated that there is a statistically significant increase in posttest knowledge ($P < 0.001$). This finding indicated that video assisted teaching programme is effective. With regard to practice 27 (54%) patient's had inadequate practice and 23 (46%) patient's had moderately adequate practice in pretest. In posttest 31 (62%) patient's had adequate practice and 19 (38%) had moderately adequate practice. It shows that there was an improvement in the level of practice in posttest when compared with pretest practice score. The

mean practice score in pretest was 29.44 with a standard deviation of 3.45. In posttest the mean score was 40.32 with a standard deviation of 6.97. the t value of practice is 12.31 which shows effectiveness. The present study concludes that the knowledge & practice about foot care among patients with type 2 Diabetes Mellitus and found that the patients had inadequate knowledge, inadequate practice. The Video Assisted Teaching Programme was found to be effective in improving the knowledge & practice about foot care among patients with type 2 Diabetes Mellitus.

Keywords: Effectiveness, Video Assisted Teaching Programme, knowledge, practice, foot care, Diabetes Mellitus.

Introduction:

Diabetes is one of our most common and challenging health problems in the 21st century. The gravity of the problem is more serious in India and other developing countries when compared to that with developed countries.

Singh had reported that among population diagnosed as having diabetes mellitus, the prevalence of foot ulcers is 4%-10%. The annual population based incidence was 1.0%-4.1% and the lifetime incidence may be as high as 25%. The ulcers frequently become infected causing greater mobility problems and engender considerable financial costs.

Diabetes mellitus is a group of metabolic disorders characterized by elevated level of glucose in the blood resulting from defects in insulin secretion, insulin action or both. Insulin is a hormone produced by the pancreas, controls the level of glucose in the blood by regulating the production and storage of glucose. In the diabetic state, the cells may stop responding to insulin or the pancreas may stop producing insulin entirely. This leads to hyperglycemia, which may result in acute metabolic and hyperglycemic hyperosmolar non ketotic syndrome. Long term effects of hyperglycemia contribute to macro vascular complications like coronary artery disease, cerebrovascular disease and peripheral vascular disease. Chronic micro vascular complications lead to kidney, eye and neuropathic complications.

The American Podiatric Medical Association had reported that a diabetic foot ulcer is an open sore or wound that most commonly occurs on the bottom of the foot in approximately 15% of patients with diabetes among these 6% develop a foot ulcer will be hospitalized due to infection or other ulcer related complications.

Diabetes is the leading cause of non traumatic lower extremity amputations in the United States and approximately 14-24% of patients with diabetes who develop a foot ulcer

have an amputation. Research however had shown that the development of a foot ulcer is preventable.

Statement of the problem

A study to assess the Effectiveness of Video Assisted Teaching Programme on knowledge and practice about foot care among patients with type 2 Diabetes Mellitus attending Diabetic Clinic at selected Hospitals, Odisha.

Objectives

1. To assess the existing knowledge & practice regarding foot care among patient's with type 2 diabetes mellitus.
2. To assess the effectiveness of Video Assisted teaching programme regarding foot care among patient's with type 2 diabetes mellitus.
3. To associate the pre-test knowledge & practice on footcare with selected demographic variables.

Hypotheses

H1: There is significant increased level of knowledge among patients with type 2 Diabetes Mellitus regarding foot care after VATM.

H2: There is significant increased level of practice among patients with type 2 Diabetes Mellitus regarding foot care after VATM.

RESEARCH METHODOLOGY

Research Approach: Quantitative research approach

Research Design

The research design employed for this study was one group pretest-posttest design.

Setting: This study was conducted at different setting in odisha, Diabetic Clinic of SCB Medical College Hospital and Rudra Hospital from Cuttack.

Variables

Independent Variable

The Video assisted Teaching Programme on Foot Care

Dependent Variable

The knowledge & practice about Foot Care.

Population

A population is a well-defined set that has certain specified properties. In this study male and female patients who were diagnosed to have Type 2 Diabetes Mellitus and not having any complications during study period were the population.

Sampling Technique

Simple random sampling technique was used to select the patients for the study; five patients per day were selected.

Description of the tool

It consists of three sections. Section I Demographic variables.

Section II: Knowledge

The structured interview questionnaire was administered by the investigator. The knowledge questions consisted of 25 questions, correct answer was given a score of 1, and wrong answer was given a score of 0. The total score of 25 on knowledge was converted to 100%.

Level of Knowledge	Percentage
Inadequate knowledge	Below 50%
Moderately adequate knowledge	51 – 75%
Adequate knowledge	76% and above

Table 1 Criteria for Knowledge score

Section III: Practice

Check list was used to score practice level. The practice assessment questions consist of 10 items. Correct answer was given a score of 1, and wrong answer was given a score of 0. the total score was 10 on practice and it was converted to 100%.

Level of practice	Percentage
Inadequate practice	Below 50%
Moderately adequate practice	51 – 75%
Adequate practice	76% and above

Table 2 Criteria for practice score

Data collection procedure:

The main study was conducted for a period of four weeks from 30-12-23 to 26-01-24. Fifty patients with type 2 Diabetes Mellitus who met the inclusion criteria were selected using simple random sampling technique. Five patients per day were selected. The purpose of the

study was explained to the patients and informed written consent was obtained from each patient. The demographic data and clinical data were collected. Pretest was conducted using structured interview questionnaire & check list to assess the patient's knowledge & practice about foot care. It took 20-30 minutes.

After the protest the patients were gathered and seated comfortably and STP was given on knowledge about foot care management. It took 25-30 minutes, with 10 minutes allotment for discussion. The investigator informed the date and time of the post-testinterview schedule. After two weeks of Video assisted teaching programme post-test was conducted using the same questionnaire.

Results

Table 3 frequency and percentage of demographic variables

n=50

S.NO.	Variables	Frequency	Percentage
1.	Age		
	a. 31- 40 years	6	12%
	b. 41-50 years	11	22%
	c. 51-60 years	21	42%
	d. 61years & above	12	24%
2.	Gender		
	a. Male	28	56%
	b. Female	22	44%
3.	Residence		
	a. Urban	12	24%
	b. Semi urban	12	24%
	c. Rural	26	52%
4.	Religion		
	a. Hindu	42	84%
	b. Muslim	5	10%
	c. Christian	3	6%
5.	Education		
	a. Non literate	8	16%
	b. Primary school	20	40%
	c. middle school	10	20%
	d. higher secondary school	11	22%
	e. Graduate	1	2%

6.	Occupations a. Home maker b. Labourer c. Farmer d. Business e. Others	18 7 19 5 1	36% 14% 38% 10% 2%
7.	Family income (in RS) a. <1000 b. 1001-2000 c. 2001-3000 d. >3001	30 11 6 3	60% 22% 12% 6%
8.	Source of Information a. Health personnel b. Radio / T.V. / Newspaper c. Friends / Relatives	41 7 2	82% 14% 4%
9.	Duration of illness a. less than 2 years b. 2-5 years c. 6-10 years d. above 10 years	15 26 5 4	30% 52% 10% 8%
10.	Family History of D.M a. Yes b. No	16 34	32% 68%
	Relationship a. Father b. Mother c. Spouse d. Siblings	4 2 9 1	8% 4% 18% 2%
11	Fasting Blood sugar value a. 70-110 mg/dl b. 111-140 mg/dl c. above 140 mg/dl	3 9 38	6% 18% 76%
12	Habit of inspecting feet a. yes b. No	7 43	14% 86%
	Inspecting Duration a. Daily c. Monthly	6 1	12% 2%
13	Daily exercise a. Yes b. No	3 47	6% 94%

Table 3 The distribution of demographic variables and clinical variables of patients with Type2 Diabetes Mellitus. Regarding age 21 (42%) belonged to the age group of 51-60 years and 12 (24%) belonged to 61 years and above. Regarding, Gender Twenty eight (56%) were males, and 22(44%) were females. With regard to the domicile Twenty six (52%) are residing in rural area, Twelve (24%) were from semi urban, Twelve (24%) were from urban area.

Out of fifty patients Forty two (84%) were Hindus and five (10%) were Muslims three were (6%) were Christian. Regarding the educational status, Twenty patients 40% had primary education, 12(24%) had above higher secondary education, and 8(16%) patients were non literate. Based on the occupational status 19 (38%) of patients were farmers,18(36%) patients were homemakers,7(14%) patients were laborer, 5(10%) patients were business.

Out of fifty patients Thirty patients (60%) had income less than Rs 1000. Eleven patients(22%) had income between Rs.1001-2000,six(12%) had income betweenRs.2001-3000,three(6%) had income above Rs.3001.Among the sources of information Forty-one (82%) had information about Diabetes Mellitus from health personnel, two (4%) from relatives, seven (14%) from other sources like TV/Radio/Newspaper.

Regarding duration of illness Twenty-six (52%) patient had diabetes mellitus for a period of two to five years and 15 (30%) had less than two years. Among the family history of Diabetes Mellitus Thirty-four (68%) had no family history of diabetes mellitus and 16(32%) had family history of Diabetes Mellitus. Regarding the recent blood sugar level Thirty-eight (76%) of them had fasting blood sugar value more than 140mg/dl, Nine (18%) of them had between 111-140 mg/dl. Among the habit of inspecting feet Forty -three (86%) of them had no habit of inspecting their feet 7 (14%) of them had habit of inspecting feet.

TABLE 4: Distribution of knowledge level about foot care among patients with type 2 Diabetes Mellitus in pretest and posttest n=50

S.No.	Knowledge level	Pretest		Posttest	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1.	Inadequate knowledge	20	40	-	-
2.	Moderately adequate knowledge	24	48	14	28

3	Adequate knowledge	6	12	36	72
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Table 4 shows that the knowledge level about foot care management in pretest Twenty (40%) patients had inadequate knowledge, 24 (48%) of them had moderately adequate knowledge and six (12%) of them had adequate knowledge.

In posttest 36(72%) patients had adequate knowledge and 14(28%) of them had moderately adequate knowledge. This result inferred that there was improvement in posttest knowledge level.

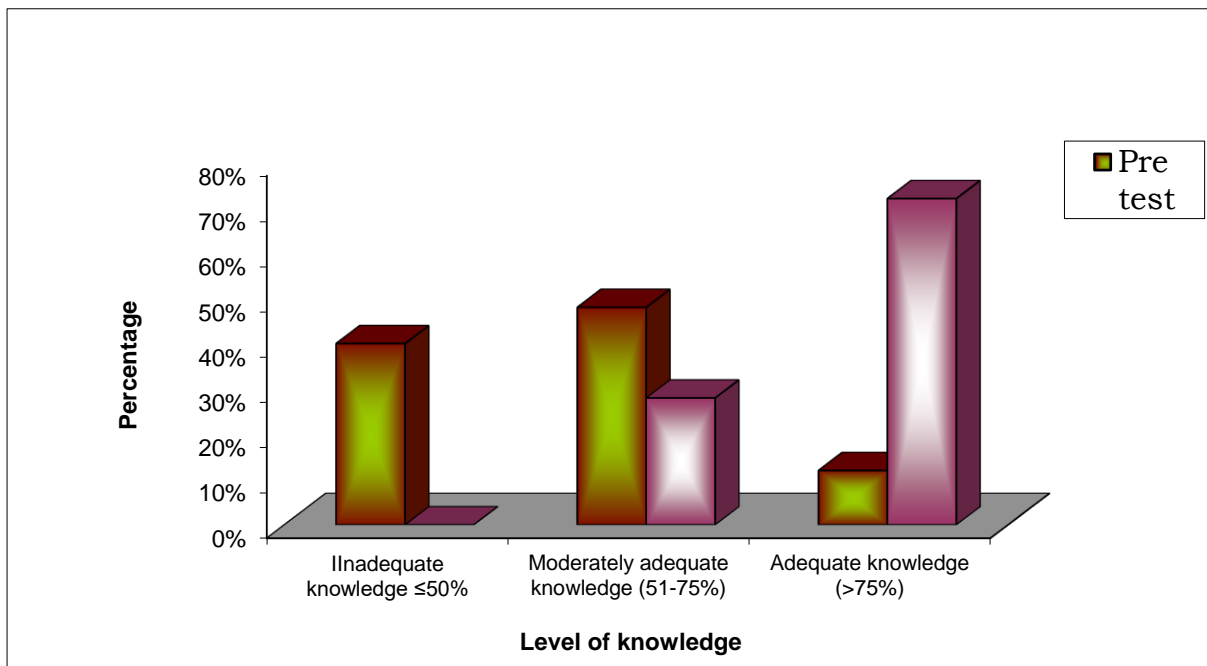


Fig.1. Distribution of level of knowledge about foot care management among patients with type 2 diabetes mellitus in pretest & posttest

Table 5: Comparison of mean and standard deviation of knowledge score of the patients about foot care between pretest and posttest n=50

S.No	Knowledge	Mean	SD	Paired 't' test	'P' value
1.	Pretest	16.2	4.65	12.29	<0.001 (S)
2.	Posttest	22	2.65		

S-significant

Table 5 shows the pretest mean knowledge score was 16.2 with a standard deviation of 4.65 and posttest mean knowledge score was 22.1 with a standard deviation of 2.65. Paired ‘t’ test was applied to compare pre and posttest mean knowledge score.

The result indicated that there is a statistically significant increase in posttest knowledge (P<0.001). This finding indicated that video assisted teaching programme is effective.

Table 6: Frequency distribution of level of practice score on foot care among patient’s with type 2 diabetes mellitus in pretest and posttest

n=50

S.No	Level of Practice	Pretest		Posttest	
		Frequency	%	Frequency	%
1.	Inadequate	27	54	-	-
2.	Moderately adequate	23	46	14	28
3.	Adequate	-	-	36	72
	Total	50	100	50	100

Table 6 shows that 27 (54%) patient’s had inadequate practice and 23 (46%) patient’s had moderately adequate practice in pretest.

In posttest 31 (62%) patient’s had adequate practice and 19 (38%) had moderately adequate practice. It shows that there was an improvement in the level of practice in posttest when compared with pretest practice score.

Table 7: Comparison of mean and standard deviation of practice score of the patient’s about foot care between pretest and posttest

n=50

Group	Mean	Standard deviation	‘t’ value	‘p’ value
Pretest	29.44	3.45	12.31	<0.01 (S)
Posttest	40.32	6.97		

S- Significant

Table 7 reveals that the mean practice score in pretest was 29.44 with a standard deviation of 3.45. In posttest the mean score was 40.32 with a standard deviation of 6.97. the t value of practice is 12.31 which shows effectiveness.

The chi square test result indicated that there is no statistically significant association between pretest knowledge with the selected demographic variables.

Discussion

The **first objective** was to assess the existing knowledge and practice level regarding foot care among patients with diabetes mellitus. The study results revealed that out of 50 patients 20(40%) had inadequate knowledge 24(48%) of them had moderately adequate knowledge and six (12%) of them had adequate knowledge. 27(54%) patients had inadequate practice and 23(46%) had moderately practice in pretest.

The **second objective** of the study was to assess the effectiveness of Video Assisted Teaching Programme on knowledge & practice about foot care among patients with type 2 Diabetes Mellitus. Pretest mean knowledge score was 16.2 with a standard deviation of 4.65 and posttest mean knowledge score was 22.1 with a standard deviation of 2.65. Paired 't' test was applied to compare pre and posttest mean knowledge score. The result indicated that there is a statistically significant increase in posttest knowledge ($P < 0.001$). Mean practice score in pretest was 7.36 with a standard deviation of 1.92. In posttest the mean score was 11.44 with a standard deviation of 1.55. The improvement was statistically tested by paired "t" test and the results were found to be significant ($P < 0.01$). It indicated that STP was effective to improve the practice level of the patient's. This finding indicated that Video Assisted Teaching Programme is effective.

The **third objective** of the study was to find the association between pretest knowledge about foot care management among patients with type 2 Diabetes Mellitus with selected demographic variables such as age, gender, domicile, education and occupation and clinical variables such as duration of illness, family history of Diabetes Mellitus and habit of inspecting feet. There are no statistically significant association between pretest knowledge & practice and age, gender, domicile, education, occupation, duration of illness and family history of Diabetes Mellitus.

Conclusion

The present study assessed the knowledge & practice about foot care among patients with type 2 Diabetes Mellitus and found that the patients had inadequate knowledge, inadequate practice. The Video Assisted Teaching Programme was found to be effective in improving the knowledge & practice about foot care among patients with type 2 Diabetes Mellitus.

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