

## **“A Study to Assess the Effectiveness of Controlled Video Assisted Teaching Programme on Knowledge and Practice Regarding Home Care Management of Diabetes Mellitus among Diabetic Patients”**

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**Abstract:** The study was conducted to evaluate the effectiveness of controlled video assisted teaching programme on knowledge and practice regarding home care management of diabetes mellitus among diabetic patients. Pre experimental design was used for the study. Convenient sampling is done to select 100 samples from different areas of Bikaner town and nearby villages. Demographic data, structured knowledge questionnaire and practice check list was used to collect the data. A structured video that include both the instructional modules, videos of diabetes care and preventive managements was used to improve the knowledge and practice of diabetic patients. The collected data was analyzed in terms of objectives with differential and inferential statistics. Paired t-test is used to compute the effectiveness of video assisted teaching programme on knowledge and practice regarding home care management of diabetes mellitus among diabetic patients. The paired t-test value is 11.521 at  $p < 0.05$  level of significance. The mean pre-test score of knowledge increased from 5.13 to 15.94 in post-test and the mean pre-test score of practice is increased from 4.00 to 8.80. The chi-square test was used to find the association between pretest knowledge score and demographic variables. The study drawn to the conclusion that the video assisted teaching programme on knowledge and practice is effective in improving knowledge and practice of patients regarding home care management of diabetes mellitus. And there was no association between pretest knowledge score and demographic variables.

**Keywords:** Diabetes mellitus, Diabetic patients, nursing care, video assisted teaching programme

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### **I. Introduction**

Diabetes Mellitus is a chronic metabolic disorder characterized by an increased glucose level in blood. The most common etiology for this condition is pancreatic insufficiency. Pancreas is a major endocrine gland which secretes glucagon and insulin. The function of glucagon is to produce glucose and release it in to blood and insulin is functioned as control the blood glucose level. If any abnormality of pancreas initiates the glucose abnormality in blood and may cause Diabetes Mellitus. If pancreas is either not secreting or too little, or the body does not respond to the insulin cause Diabetes Mellitus. According to WHO 2014 statistics 422 million people are suffering from Diabetes mellitus. As per the Global Diabetic Community in India the numbers are too high compare with the world statistics, about 40 million people are the victims of these condition. In the urban areas of India, the prevalence rate is approximately 9% of the total population and 3% in the rural population.

The people at risk should be frequently screened and encouraged to follow a healthy life style, including a healthy diet, adequate exercise and weight control. Secondary prevention can be achieved by proper control of diabetes with the help of diet, physical activity, medications, life style modification and regular follow ups. The home care management of diabetes has an important role in prevention of diabetes mellitus.

Nurses have a key role in educating the society regarding all the health habits, life style and also the disease conditions. According to the current statistics Diabetes Mellitus is one of the major disease conditions in both the urban and rural community of India. The knowledge level of people related to Diabetes Mellitus is very poor in both Urban and rural area of Rajasthan, therefore we decided to prepare an easily acceptable Video Assisted Teaching Programme to the rural people.

## II. Problem statement

A study to assess the effectiveness of controlled video assisted teaching programme on knowledge and practice regarding home care management of diabetes mellitus among diabetic patients.

### 1.1. Objectives

The objectives of the study are;

- to assess the knowledge regarding the home care management of diabetes mellitus among diabetes patients.
- to assess the practice regarding the home care management of diabetes mellitus among diabetes patients.
- to assess the effectiveness of controlled video assisted teaching programme on knowledge and practice of home care management of diabetes mellitus among diabetes patients.
- to find the association between pre - test knowledge score of home care management of diabetes mellitus among diabetes patients with their demographic variables.

### 1.2 Hypothesis

**H<sub>0</sub>:** There will be no significant difference between pre and post test score.

**H<sub>1</sub>:** There will be significant difference between pre-test and post test score.

**H<sub>2</sub>:** There will be significant difference between knowledge score with selected demographic variables.

## III. Review of Literature

A study was conducted to assess the prevalence of diabetes mellitus and its risk factors among permanently settled tribal individuals in tribal and urban areas in Northern State of Sub-Himalayan Region of India. Population based cross-sectional study was done on 8000 individuals (tribal: 4000; urban: 4000) using cluster sampling technique. Samples were assessed using a case recording format including socioeconomic status, physical activity, diet, smoking and alcohol use, anthropometric measurement, blood pressure, fasting blood sample and oral glucose tolerance test. Study shows that the urban tribes had the prevalence of central obesity (59.0%), overweight (29.3%), stage 1 (22.8%) and stage 2 (5.3%) hypertension and DM (fasting: 7.8%; OGTT: 8.5%) was significantly higher than the tribal area tribes. The study concluded that urban environment showed a changing lifestyle and high prevalence of DM among tribal migrating urban tribes as compared to traditional tribes. [1]

A study was conducted to assess the effectiveness of structured teaching programme regarding self management in relations to prevention of complications of diabetes mellitus among diabetics. Quasi experimental design was used. 50 samples were selected using convenient sampling. Structured interview was used to collect data. Data was analyzed by means of descriptive and inferential statistics, paired and unpaired t test and F test. The comparison of the mean scores of pretest  $53.1 \pm 25.12$  and posttest  $75.68 \pm 25.28$  showed that there was significant ( $p < 0.05$ ) improvement in the subjects level of knowledge on self care management in relation to prevention of complication after introduction of structured teaching programme. [2]

A study was conducted to assess the effectiveness of Structured Teaching Programme on knowledge regarding management of type 2 diabetes mellitus among patients with type 2 diabetes mellitus attending diabetic OPD, RMMCH. A total of 50 patients with type 2 diabetes mellitus were selected by using convenience sampling technique. structured-interview questionnaire was used for data collection. Structured Teaching Programme was conducted by using power point teaching programme. The study revealed that 72% had inadequate knowledge and 28% had moderately adequate knowledge in the pretest. After STP 50% had moderately adequate knowledge and 50% had adequate knowledge. The paired t test was used to compute the effectiveness of structured teaching programme. It was found that knowledge level of the patients on management of Type 2 diabetes mellitus was statistically significant ( $P > 0.001$ ). This study concluded that STP on management of type 2 diabetes mellitus is effective in improving the knowledge of patients with type 2 diabetes mellitus. [3]

## IV. Methodology

### 4.1 Design

Pre experimental design was used for the study to evaluate the effectiveness of controlled video assisted teaching programme on knowledge and practice regarding home care management of diabetes mellitus among diabetic patients.

### 4.2 Sample and sampling technique

100 samples are selected using convenient sampling technique from different areas of Bikaner town and nearby villages.

### 4.3 Instrument

Tool included demographic performa, structured knowledge questionnaire with 25 questions and practice check list with 12 questions. A structured video that include both the instructional modules, videos of

diabetes care and preventive managements was used to improve the knowledge and practice of diabetic patients. Total knowledge score was 25 and practice score is 12. The knowledge has been subjectively divided into five categories based on the scores in the questionnaire.

- Very poor knowledge: (scores 0 – 5)
- Poor knowledge : (scores 6 – 10)
- Average knowledge : (scores 11 – 15)
- Good knowledge : (scores 16 – 20)
- Excellent knowledge: (scores 21 – 25)

The practice has been subjectively divided into four categories based on the scores in the questionnaire.

- Poor practice: (scores 0 – 3)
- Average practice: (scores 4 – 6)
- Good practice: (scores 7 – 9)
- Excellent practice: (scores 10 – 12)

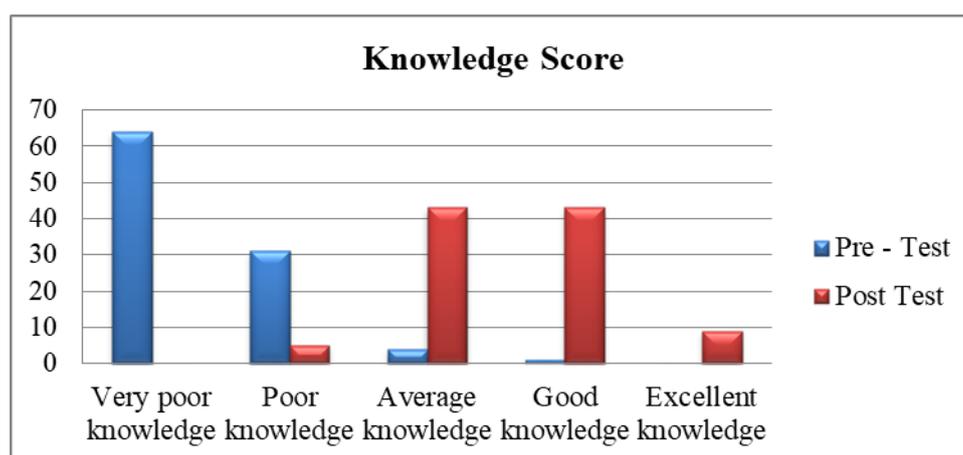
#### 4.3 Data Collection

An informed consent was obtained from the respondents indicating their willingness to participate in the study. Subjects who fulfilled the sampling criteria were taken from Bikaner town and nearby villages. After pre-test, structured video that include both the instructional modules, videos of diabetes care and preventive managements was shown and the researcher did a health teaching. Post- test was done after 7 days. The data collected in pre-test and post were analyzed using descriptive and inferential statistics and interpreted in terms of the objectives and hypothesis of the study.

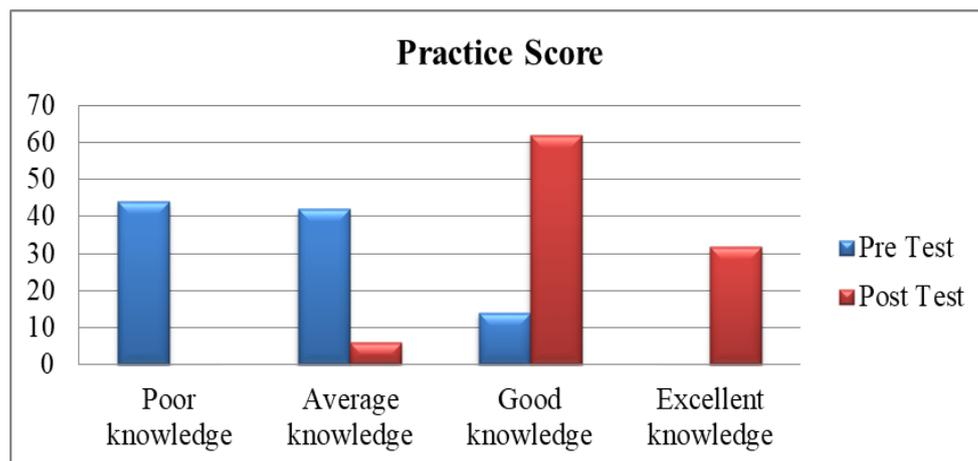
### V. Findings of the Study

The collected data was analysed in terms of objectives with help of differential and inferential statistics. The sample size was 100. The study findings shows that majority sample 63% belongs to the age group 61-70 yrs, 37% were male, 35% were illiterate, 35% were farmers, 27% were having an income in between 6000 – 10000 Rs, 81% were having family history of diabetes mellitus, the majority samples had no bad habits, 71% of samples have no previous knowledge regarding Diabetes Mellitus and 94% were married.

Paired t-test is used for analyzing the effectiveness of video assisted teaching programme on knowledge regarding home care management of diabetes mellitus among diabetic patients. The paired t-test value is 11.521 and is tested at  $p < 0.05$  level of significance. The mean pre-test score of knowledge increased from 5.13 to 15.94 in post-test and the mean pre-test score of practice is increased from 4.00 to 8.80. As there is significant difference in pretest and post-test knowledge score, the hypothesis  $H_0$  is rejected and  $H_1$  is accepted. Thus video assisted teaching programme on knowledge and practice is statistically significantly effective in improving knowledge and practice of patients regarding home care management of diabetes mellitus.



**Fig.1.** The pretest and post-test knowledge score regarding home care management of diabetes mellitus among diabetic patients.



**Fig.2.** The pretest and post-test practice score regarding home care management of diabetes mellitus among diabetic patients.

The association between pretest knowledge score and the socio-demographic variables were computed using the chi- square test. There was no significant association established between demographic variables with pre-test knowledge also practice regarding knowledge and practice of patients regarding home care management of diabetes mellitus therefore hypothesis  $H_2$  is rejected.

## VI. Conclusion

Diabetes education is the cornerstone of diabetes management, because diabetes self management requires knowledge of nutrition, exercise, medication and follow ups. Diabetes education allows incorporating knowledge into practice and making the necessary changes to improve the lifestyle. The assessment of knowledge and on practice on home care management of diabetes helps to understand the importance of inserting awareness regarding home care management of diabetes and motivate to participate in self care management of diabetes.

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