



A study to assess the effectiveness of Structured teaching programme on knowledge and expressed practices regarding foot care management among OPD diabetic patients in IGMC and Hospital Shimla Himachal Pradesh

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ABSTRACT

Background: Diabetes is a chronic, metabolic disease characterized by elevated levels of blood glucose (or blood sugar), which leads over time to serious damage to the heart, blood vessels, eyes, kidneys and nerves. The aim of the study is to assess the effectiveness of Structured teaching programme on knowledge and expressed practices regarding foot care management among OPD diabetic patients in IGMC and Hospital Shimla Himachal Pradesh. The research approach adopted for the study was quantitative research approach with pre-experimental (one group pre-test post-test) research design. The present study was carried out among OPD diabetic patients of IGMC & Hospital, Shimla Himachal Pradesh. 60 samples was selected by using (non-probability) convenience sampling technique. The tool developed and used for data collection were structured knowledge questionnaire and checklist to assess the expressed practices regarding foot care management. Both descriptive and inferential statistics was used to analyses the data. In the pre-test knowledge score, it was found that majority of the subjects were belonged to moderately adequate knowledge category which is 81.70% and for expressed practices the majority of subject were belonged to moderately favorable practices category which is 63.30%. While in post-test knowledge score majority belonged to adequate category which is 91.70% and for expressed practices the majority belonged to favorable practices which is 91.70%. The pre-test mean score of knowledge was 17.65, standard deviation of knowledge 3.33, and the mean percentage of knowledge was 17.65% respectively. The post-test mean score of knowledge was 25.81, standard deviation of knowledge 2.11 and the mean percentage of knowledge was 25.81% respectively. Whereas the pre-test mean score of expressed practices was 14.53, standard deviation of expressed practices was 2.11, and mean percentage of expressed practices was 14.36%. The post-test mean percentage of expressed practices was 18.26 standard deviation of expressed practices was 1.44 and the mean percentage of expressed practices was 18.36% respectively. The difference in knowledge score mean percentage was 27.47% and the difference in expressed practices score mean percentage was 18.65%. The calculated 't' value is 25.0* depicted high statistical significance at $p < 0.01$ level for knowledge score and the calculated 't' value of 12.5* depicted high statistical significance at $p < 0.001$ level for expressed practices score. The results show that there is no significant association between the knowledge score level and expressed practices score with socio- demographic variable. After administering the Structure Teaching Programme, there was a significant improvement in the knowledge and expressed practices regarding foot care management. Hence the research hypothesis is accepted at 0.05 level of significance. The study concludes that Structured Teaching Programme (STP) showed its effectiveness on both the knowledge and expressed practices related to foot care management among OPD diabetic patients.

KEY WORDS: Effectiveness, Structure Teaching Programme (STP), Knowledge, expressed practices, foot care management.

1. INTRODUCTION:

The endocrine system has a far-reaching effect in the human body because of its link with the nervous system and immune system. Metabolism depends upon the availability of fuel, oxygen and the balance of anabolic against catabolic processes. Regulation of this balance is dynamic and is one function of the endocrine and neuroendocrine system. Metabolic process affects all cells of the body. The endocrine role is tied closely to metabolism, particularly the regulation of plasma glucose and for this liver play central role. **(Black, M. Joyce&Smeltzer, C. Suzanne)**

A serious health issue for diabetes patients is diabetic foot. Most diabetic foot patients in Himachal's upper hills are from rural areas and are of low socioeconomic status. With a mean age of 49.28 years, patients with diabetic foot ulcers ranged in age from 15 to 67 years. In total, 76% of patients were over 40 years old. **(Parmar, Singh Dr.Yashwant)**

According to rough estimates for 2018, 10.5% of the US population, or 34.2 million persons of all ages, has diabetes. 13.0% of all US adults, or 34.1 million adults 18 years of age or older, had diabetes. 7.3 million persons who were 18 years or older and who had laboratory evidence of diabetes did not know they had it or did not report it. This figure corresponds to 2.8% of US adults overall and 21.4% of US adults who are diabetic. With advancing age, the proportion of persons with diabetes rose, reaching 26.8% in the 65+ age group. **[National Diabetes Statistics Report, 2020]**

Following a notable percentage growth of 70% since 2000, diabetes has climbed among the top 10 causes of death. With an 80% increase since 2000, diabetes has also contributed to the top 10 list of increases in male fatalities. **[World Health Organisation]**

According to data, 25% of people with diabetes will develop a foot ulcer during their lifetime, and treating a diabetic foot ulcer will cost more than twice as much as treating any other chronic ulcer. **(Hurlow, J Jennifer,.Hamphreys, J Gavin., Bowling, L Frank., et al.)**

Foot ulcers are among the diabetic problems that are thought to be the easiest to avoid. Poor habits and lack of information are risk factors for diabetic foot ulcers. Amputation is less likely as a result of diabetic foot problems when there is good awareness and practise of diabetic foot care. **(Haq, UI Noman., Durrani, Palwasha.,Nasim, Aqeel., Riaz, Sohail)**

In a recent survey conducted in Chennai, approximately 25% of the population was ignorant about the existence of the diabetic illness. Only 40% of participants believed that diabetes prevalence was rising, and only 22% of people believed that diabetes could be prevented. According to India's National Urban Diabetes Survey, there is no gender difference in the standardised prevalence of diabetes and IGT, which are 12.4% and 14%, respectively. **(Tyagi, Singh Mr.Ramavatar.)**

The goal of the current study was to evaluate patients' knowledge about and expressed practices regarding diabetic foot care. The current study sought to determine the impact of a structured education programme on diabetic patients' knowledge and expressed practices related to managing their feet because no comparable research has been done in Shimla, Himachal Pradesh, the state's capital. By implementing a plan to increase patient understanding and by enhancing foot care procedures, the health system can prevent Diabetic Foot Ulcer and amputation.

2. METHODOLOGY:

2.1 Research approach

In this study, Quantitative research approach was used.

2.2 Research design

In this study, Pre experimental one group pre- test post- test design was used.

2.3 Study area

Study was conducted at IGMCH and Hospital Shimla, Himachal Pradesh.

2.4 Sample size

In this study the total sample size was 60 OPD Diabetic patients.

2.5 Sampling technique

Non probability convenient sampling technique was used for selecting the sample.

2.6 Tool

The structured knowledge questionnaire and expressed practices checklist was used to collect data from the diabetic patients .

The data collection tool consists of three sections:

Tools and Techniques of Data Collection

SECTION	TOOLS	TECHNIQUE
I	Demographic Variables	Paper and pencil technique
II	Structured Knowledge Questionnaire	Paper and pencil technique
III	Expressed Practices Checklist	Paper and pencil technique

2.7 Ethical consideration

The ethical approval was taken from Principal of Shivalik Institute of Nursing, Bhattakufer Shimla, Himachal Pradesh for conducting study.

The subjects for the study were selected on the basis of the inclusion and exclusion criteria, only the willing subjects were chosen for the study. The subjects or the subject's attendants were explained regarding the intervention and informed consent was taken. The confidentiality of the patients was maintained.

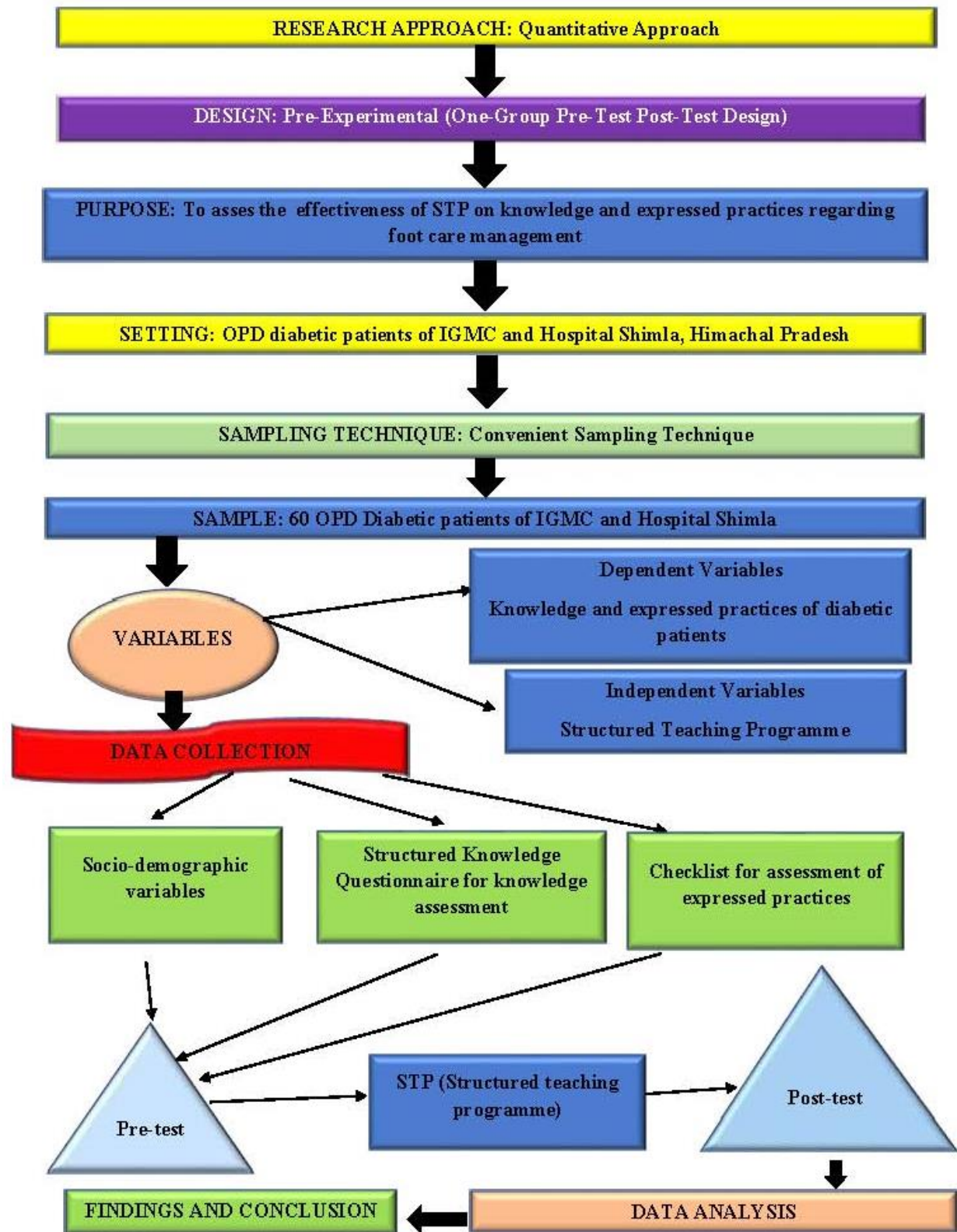


FIGURE NO:1 SCHEMETIC PRESENTATION OF RESEARCH METHEDOLOGY

2.8 Data collection

After obtaining administrative approval and permission was taken from MS (Medical Superintendent) of IGMC and Hospital Shimla, Himachal Pradesh and the final study was conducted.

- Self-introduction and introduction to the nature of the study was given to diabetic patients.
- Established the rapport with diabetic patients was done and purpose of study was explained
- The written consent was taken
- The structured questionnaire was administered
- The average time was taken to administered about 10-15 minutes
- Provide the structured teaching programme to the diabetic patients
- After 7 days the post test was taken.

3. RESULT:

3.1: Findings related to description of demographic variables among OPD Diabetic patients.

Table no. 1: Frequency and percentage distribution of OPD Diabetic patients based on demographic variables.

N=60

SOCIO-DEMOGRAPHIC VARIABLES	FREQUENCY (f)	PERCENTAGE (%)
Age		
20-40	09	15%
41-60	38	63.3%
61-80	10	16.6%
>80	03	5%
Gender		
Female	33	55%
Male	27	45%
Education		
No formal education	07	11.7%
Matriculation	17	28.3%
Higher secondary	12	20.0%
Graduate/ Diploma	16	26.7%
Above Graduate	08	08%
Occupation		
Homemaker	15	25%
Farmer	04	6.7%
Government employee	09	15%
Private job	18	30%
Businessman	06	10%
Unemployed	08	13%
Family Income per month (in Rs)		
<20,000 rupees	38	63.3%
21,000-30,000 rupees	07	11.7%
31,000-40,000 rupees	05	8.3%

>41,000 rupees	10	16.7%
Dietary Pattern		
Non-Vegetarian	22	36.7%
Vegetarian	32	53.3%
Eggetarian	06	10%
Family History of DM		
Yes	30	50%
No	30	50%
Duration of DM		
<5 years	29	48.3%
5-10 years	22	36.6%
11-15 years	03	05%
>15 years	06	10%
Source of information		
Books	01	1.7%
Internet	11	18.3%
Medical professional	47	78.3%
Others	01	1.7%
Substance Use		
Smoker	05	8.3%
Alcoholic	05	8.3%
Both A and B	06	10%
None	44	73.3%

Table 1 showed that the frequency and percentage distribution of Demographic Variables for knowledge and expressed practices regarding foot care management among OPD diabetic patients in IGMC and Hospital Shimla Himachal Pradesh.

With respect of age 09 patients (15%) were in the age group 20-40 years, 38 patients (63.3%) were in the age group of 41-60 years, 10 patients (16.6%) were in the age group 61-80 years and 03 patients (5%) were in the age group of above 80 years of age.

With respect of Gender 33 patients (55%) were female and 27 patients (45%) were Males.

With respect of Education table reveal that maximum patients are in group of matriculation with frequency of 17 (28.3%) out of 60.

With respect to Occupation 08 patients (13%) were unemployed, 06 patients (10%) were businessmen, 15 patients (25%) were homemaker, whereas 09 patients (15%) were government employed, 04 patients (6.7%) were farmer out of 60, 18 patients (30%) were private employee.

With respect of monthly income in Indian Rupees 38 people (63.3%) were earning less than 20,000 per month, 07 people (11.7%) were earning between 21,000- 30,000 whereas 05 people (8.3%) were earning between 31,000- 40,000 and 10 people (16.7%) were earning more than 40,000.

With respect of dietary pattern maximum patients are vegetarian 32 (53.3%). With respect of family history 30 (50%) patients have family history of diabetes mellites and 30 (50%) patients do not have.

With respect of duration of diabetes mellites maximum 29 patients (48.3%) were in the group of >5 years, 22 patients (36.6%) were in group of 5-10 years, 03 (05%) were in the group of 11-15 years, whereas 06 (10%) were belongs to >15 years.

With respect of that the main source of information was the health professional with 47 (78.3%) of people whereas the internet as source of information was the second main source with 11 (18.5%) of people.

With respect of substance use maximum patients that are 44 (73.3%) are not taking/use any kind of substance.

3.2: Frequency distribution of pre-test knowledge score and expressed practices regarding foot care management among OPD diabetic patients

TABLE-2

Frequency and percentage distribution of Pre-Test knowledge score related to foot care management

(N= 60)

Level of Knowledge	Level of Pre-Test Score and percentage (%)	Frequency (f)	Percentage (%)
Adequate knowledge	23-30 (>75%)	02	3.3%
Moderately adequate knowledge	15-22 (50-75%)	49	81.7%
Inadequate knowledge	0-14(50%)	09	15%

Maximum Score= 30, Minimum Score= 0

Table-2 revealed that 02 patients (3.3%) had adequate knowledge, 49 patients (81.7%) had Moderately adequate knowledge and 09 patients (15%) had inadequate knowledge related to foot care management.

TABLE-3

Frequency and percentage distribution of Pre-Test level of expressed practices.

(N=60)

Level of Expressed Practice	Level of Pre-Test Score and percentage (%)	Frequency (f)	Percentage (%)
Favourable practice	15-20 (>75%)	21	35%
Moderately favourable practice	10-15 (50-75%)	38	63.3%
Unfavourable practice	0-9 (50%)	01	1.7%

Maximum score = 20, Minimum score = 0

Table-3 showed that 21 patients (35%) had favourable practice, 38 patients (63.3%) had moderately favourable practice and 01 patient (1.7%) had unfavourable practice related to foot care management

3.3 Distribution of post-test knowledge score and expressed regarding foot care management among OPD diabetic patients

TABLE-4

Frequency and percentage distribution of Post-Test level of knowledge.

(N= 60)

Level of Knowledge	Level of pre-test Score and percentage (%)	Frequency (f)	Percentage (%)
Adequate knowledge	23-30 (>75%)	55	91.7%
Moderately adequate knowledge	15-22 (50-75%)	05	8.3%
Inadequate knowledge	0-14(50%)	-	-

Maximum Score= 30, Minimum Score= 0

Table-4 showed that 55 patients (91.7%) had adequate knowledge, 05 patients (8.3%) had Moderately adequate knowledge and no one was in inadequate knowledge related to foot care management.

TABLE-5

Frequency and Percentage Distribution of Post-Test level of expressed practices score.

(N=60)

Level of Expressed Practice	Level of post-test Score and percentage (%)	Frequency (f)	Percentage (%)
Favourable practice	15-20 (>75%)	58	(91.7%)
Moderately favourable practice	10-15 (50-75%)	02	(3.3%)
Unfavourable practice	0-9 (50%)	-	-

Maximum Score= 20, Minimum Score=0

Table-5 revealed that 58 patients (91.7%) had favourable practice, 02 patient (3.3%) had Moderately Favourable practice and no one was in unfavourable practice related to foot care management.

3.4 Frequency and Percentage wise distribution of comparison of Pre-Test and Post-Test score of OPD diabetic patients based on level of knowledge regarding foot care management.

Frequency and percentage distribution of pre-test and post-test score of OPD diabetic patients based on level of knowledge regarding foot care management.

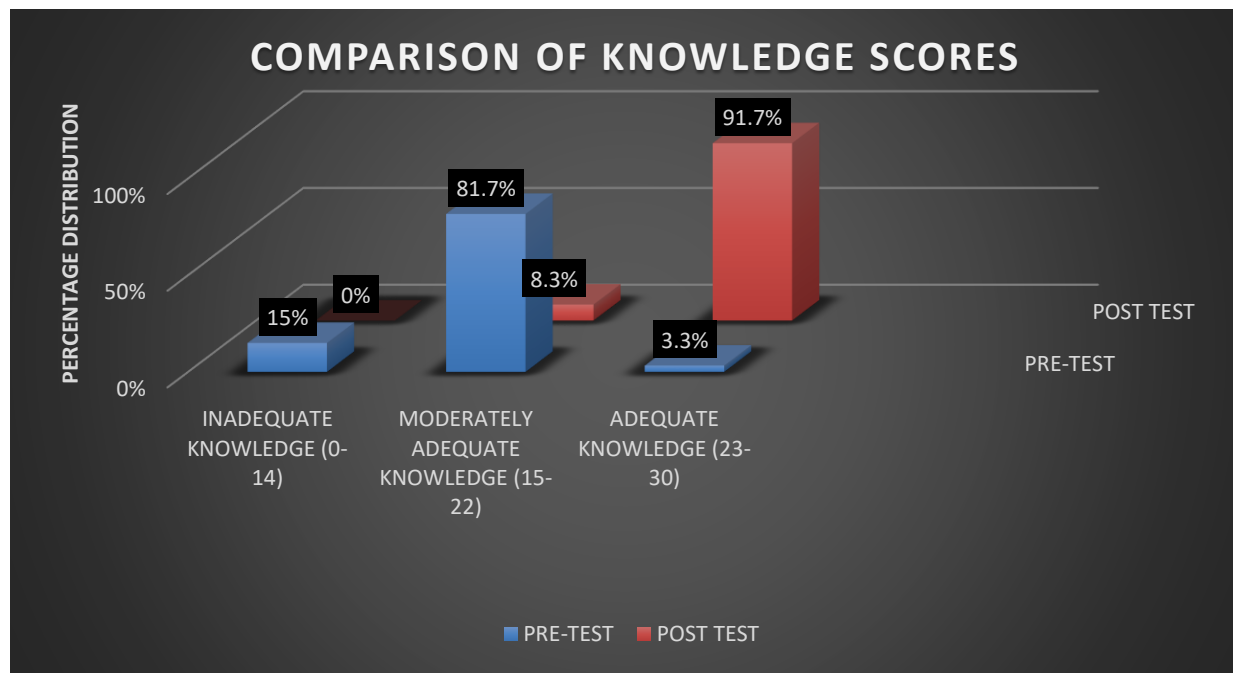


FIGURE 2: COMPARISON OF KNOWLEDGE SCORES

Figure showed that, in the pre-test 02 patients (3.3%) have adequate knowledge, 49 patients (81.7%) have moderately adequate knowledge, whereas 09 patients (15%) have inadequate knowledge. In post-test no one in inadequate knowledge, 05 people (8.3%) have moderately adequate knowledge, whereas 55 patients (91.7%) have adequate knowledge related to foot care management.

Frequency and percentage distribution of pre-test and post-test score of OPD diabetic patients based on level of expressed practices regarding foot care management.

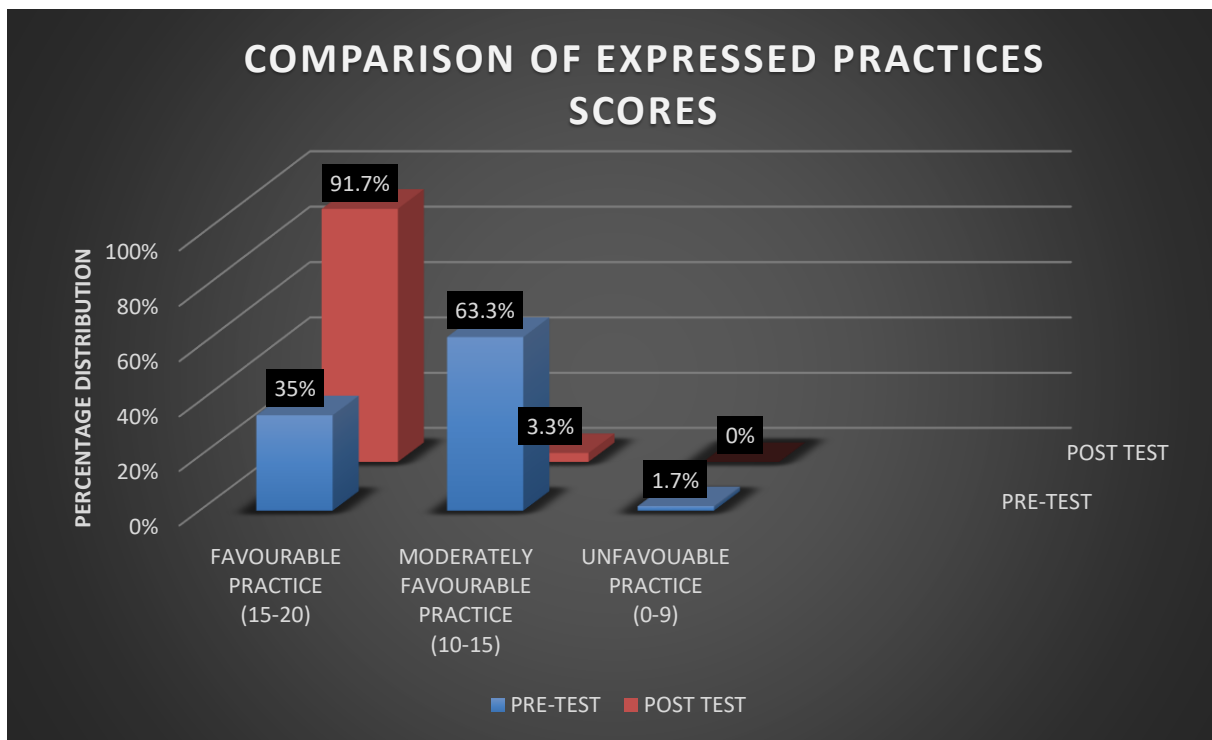


FIGURE 3: COMPARISON OF EXPRESSED PRACTICES SCORES

Figure revealed that, in the pre-test 21 patients (35%) have favourable practices, 38 patients (63.3%) have moderately favourable practices, whereas 01 patients (1.7%) have unfavourable practices. In post-test no one have unfavourable practice, 02 patient (3.3%) have moderately favourable practices, 58 patient (91.7%) have favourable practices related to foot care management.

3.5 Association between post-test level of knowledge and expressed practices among OPD diabetic patients with selected demographic variables.

Based on the objectives Chi-square test was used to find out the association of knowledge and expressed practices scores with selected socio demographic variables. No significant association found between the post-test knowledge and expressed practices score among OPD diabetic patients with their selected socio demographic variables. The calculated Chi-square values were less than the table value at the 0.05 level of significance.

4. DISCUSSION

In this study, the pre -test majority of diabetic patients belongs to moderately adequate category in terms of knowledge (81.7%) and in post-test majority of diabetic patients belongs to adequate category in terms of knowledge (91.7%). Earlier 9% diabetic patients belonged to inadequate knowledge category whereas after administration of structured teaching programme no diabetic patient belongs to inadequate knowledge category.

In pre- test majority of diabetic patients belongs to moderately favourable practice category in terms of expressed practices (63.3%) and in post- test majority of diabetic patients belongs to favourable practice category in terms of expressed practices (91%). Earlier 1% diabetic patient belonged to unfavourable practice category whereas

after administration of structure teaching programme 0% of diabetic patient belonged to unfavourable practice category.

5. CONCLUSION

The following conclusions were drawn from study findings:

- There was a significant difference in the mean pre- test and post- test knowledge scores among OPD Diabetic patients regarding foot care management. This indicates that it was necessary for the researcher to increase knowledge and practices among diabetic patients by giving information regarding foot care management.

6. LIMITATIONS

- Study was limited to 60 samples. It cannot be generalized to all.
- Study was limited to selected OPD diabetic patients.

7. RECOMMENDATIONS

Based on the result of the study following recommendation were made:

A similar study can be conducted with the help of video assisted teaching programme about foot care management.

2. A similar study can be done to evaluate the effectiveness of other strategies like information booklet, pamphlets and self-instructional module.
3. The study can be replicated on a large sample; thereby findings can be generalized for a population.
4. A similar study can be done replicated with a one group pre- test and post- test in comparison group design.
5. A similar group can be done replicated with two group i.e experimental group and control group design.

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