A PRE-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME THROUGH PAMPHLET IN TERMS OF KNOWLEDGE REGARDING FOOT CARE AMONG TYPE II DIABETIC PATIENTS ATTENDING OPD OF SELECTED HOSPITALS OF GANDHINAGAR DISTRICT, GUJARAT STATE

Ms. Bhoomikaben Shaileshbhai Patel, Research Scholar JJTU University, Junjunu Rajeshtan

Dr. Tulshi Shringi, HOD/Professor, Sri Aurobindo University, Indore (M.P.)

Dr. Roshani Gautam Associate Professor, Sri Aurobindo University, Indore (M.P.)

Abstract

Introduction:-

Diabetes mellitus is a chronic metabolic disorder characterized by elevated blood glucose levels, which can lead to various complications, including those affecting the feet. Type II diabetes, the most common form of the disease, is associated with neuropathy, peripheral vascular disease, and impaired wound healing, making foot care a critical aspect of diabetes management. Diabetic foot complications, including ulcers, infections, and amputations, remain a major cause of morbidity and disability among diabetic patients. Studies indicate that poor foot care practices, lack of awareness, and delayed medical intervention significantly contribute to the high incidence of foot-related complications. Regular foot examinations, proper hygiene, appropriate footwear, and patient education on foot care can reduce the risk of complications and improve the quality of life for diabetic patients. In outpatient departments (OPD) of hospitals, healthcare providers play a crucial role in educating and monitoring diabetic patients regarding proper foot care. Despite the availability of guidelines and preventive measures, many diabetic patients still suffer from foot-related issues due to inadequate self-care practices and lack of routine check-ups. This study aims to assess the knowledge, practices, and challenges related to foot care among Type II diabetic patients attending the OPD of selected hospitals. It also seeks to identify gaps in patient education and healthcare services to propose strategies for better diabetic foot care management.

Objective

- *To assess the knowledge regarding foot care among type II diabetic patients as measured by structured interview schedule.*
- *To find out association with pre test knowledge score & selected demographic variable.*
- *To find out the effectiveness of structured teaching programme through pamphlet regarding foot care among type II diabetic patients in terms of gain in knowledge.*

Methodology

Pre experimental research design (One group pretest, post-test design)

O_1 - *Pre-test*

X - Administration of structured teaching programme.

O_2 - *Post-test*

O1 ⟶ *X* ⟶ *O2*

Pre-test *structured teaching programme* *Post test*

Target Population-Type II diabetic patient, Accessible Population: Type II diabetic patients attending OPD of selected Hospitals of Gujarat, by Purposive sampling, 60 sample where taken.

MAJOR FINDINGS OF THE STUDY

- *The study findings showed a highly significant difference (t59=15.33 , p< 0.001) between mean pre-test Knowledge (8.53) and post test (16.76) Knowledge scores . The objective made by investigator that there is significant difference in Knowledge score after administration of structured teaching programme through pamphlet among diabetic patients at the level of p≤ 0.05 was accepted. Their knowledge and practices regarding foot care were assessed by a pre-tested questionnaire and classified as good, satisfactory and poor depending upon the score. Fifteen questions each were asked regarding knowledge and practices of foot care. Each question was assigned one mark. if score was more than 70% (11-15), it was regarded as good, if score was 50-70% (8-10) it was regarded as satisfactory and if score less than 50% (<8) it was regarded as poor both for knowledge and practice for foot care. The mean age of the respondents was 48 +/- 10.8 years. About 29.3% respondents had good knowledge, 40% had satisfactory knowledge and 30.7% had poor knowledge about foot care. Whereas only 14% respondents had good practices for foot care, 54% had satisfactory practices and 32% had poor practices. Education of the respondents had significant statistical association with knowledge (p-value<0.001) and practices (p-value <0.001) regarding foot care. Literacy has significant association with the knowledge and practices related to foot care in diabetic patients.*

Conclusions:

Conclusions drawn from present study was as follows- Educating the patient will help them to improve their knowledge regarding foot care, prevents future complication and leads to safe diabetes mellitus. Structured teaching programme through pamphlet is considered an effective education strategy to improve the awareness and knowledge of type II diabetic patient regarding foot care.

Key Point:

Type II diabetes is a chronic metabolic disorder with long-term complications, Outpatient Departments (OPD) in Foot Care Management,

Introduction:

Diabetic foot is one of the most incapacitating chronic complications resulting from poor disease management. It has a social and economic impact on families, health system, and society as a whole in both developing and developed countries. Every 30 seconds; a lower limb is lost as a consequence of diabetes. Worldwide, more than a million amputations are performed each year as a consequence of diabetes. Up to 85 percent of all amputations in people with diabetes are preceded by foot ulcers. A serious challenge for early diagnosis of diabetic patients at high risk of lower limb ulcers is inadequate foot care and foot self-examination. Studies have reported that, in patients diagnosed with diabetes who were admitted to hospitals, 10% to 19% of them had their feet examined after footwear and socks were taken off However, it is well-established that 85% of diabetic foot problems are preventable with specialized care. The investigator during her clinical experience has come in contact with diabetic patients who have ulcers, corns or even injuries in their feet which they did not assessed before. Ignorance and negligence go hand in hand since most physicians do not bother to undertake even clinical examination of the feet, which costs nothing .The patients do not know the foot related complications of diabetes even while suffering with it. The investigator also found that they lacked knowledge regarding the foot care and they expressed their desire to learn it. Therefore the investigator chooses a

structured teaching programme to improve their knowledge and makes them aware about their foot problems.

REVIEW OF LITERATURE

The literature reviewed for the study had been organized under the following headings

1. Literature review on prevalence and risk factors for foot complications

2. Literature review on effectiveness of structured teaching programme regarding foot care among diabetic patient.

Al-Maskari F, El-Sadig M (2007) conducted a cross sectional survey study to determine the prevalence and risk factors for foot complications among diabetic patients in Al-Ain district, United Arab Emirates (UAE). A sample of 513 diabetic patients with a mean age of 53 years (SD: +/- 13) were randomly selected during 2003/2004. All completed an interviewer-administered questionnaire and underwent medical assessment including foot examination and assessment of presence of peripheral neuropathy (PN) and peripheral vascular disease (PVD). Forty nine percent of the study populations were diagnosed to have DM without presenting with symptoms of diabetes and 35% had hypertension. The majority (86%) had type 2 DM. Of the total sample, 39% (95% CI: 35.1-43.7%) had PN and 12% (95% CI: 8.8-14.4%) had PVD. Significant risk factors for PN and PVD were: male gender, poor level of education, UAE nationality, increased duration of diabetes, type 2 DM, presence of hypertension and microalbuminuria (MA). Conclusion of the study was that the low prevalence of foot ulceration and amputation among the study population, nevertheless, a substantial proportion had potential risk factors for foot complications.

Kshitij Shankhdhar, 2008 A lack of awareness also contributes to the problem. Given the large numbers of people walking barefoot, there are innumerable foot lesions. However, these lesions are often neglected by patients due to diabetic neuropathy. In 90 percent of foot ulcer cases in patients with diabetes, sensory neuropathy is part of the problem.

Vatankhah .N,et al (2009) conducted an experimental study to evaluate the impact of a simple educational program on the knowledge and practice of people with type II diabetes in relation to the foot at risk in Tehran, Iran. One hundred and forty-eight people with type 2 diabetes underwent a structured interview using a 32-item designed questionnaire about their knowledge of foot care standards in diabetes and their personal foot care behaviors. The mode of the intervention was face-to-face.and found that the applied educational intervention aimed at patients with type 2 diabetes has improved their knowledge and practice about diabetic foot care ($p<0.0001$ and $p=0.011$; wilcoxon signed ranks test, respectively). Knowledge and practice scores were increased significantly after the education in the lean group (BMI < or =25) rather than the obese ones. In conclusion the findings of study have shown that a simple face-to-face education is an effective and applied method to improve the knowledge about foot care.

Grupo de Trabalho Internacional sobre, 2001 Diabetic foot is one of the most

incapacitating chronic complications resulting from poor disease management. It has a social and economic impact on families, health system, and society as a whole in both developing and developed countries. Every 30 seconds; a lower limb is lost as a consequence of diabetes. Worldwide, more than a million amputations are performed each year as a consequence of diabetes. Up to 85 percent of all amputations in people with diabetes are preceded by foot ulcers. The investigator during her clinical experience has come in contact with diabetic patients who have ulcers, corns or even injuries in their feet which they did not assessed before. Ignorance and negligence go hand in hand since most physicians do not bother to undertake even clinical examination of the feet, which costs nothing .The patients do not know the foot related complications of diabetes even while suffering with it. The investigator also found that they lacked knowledge regarding the foot care and they expressed their desire to learn it. Therefore the investigator chooses a structured teaching programme to improve their knowledge and makes them aware about their foot problems.

Methodology

In this study, the researcher used the Experimental -Quantitative research approach, population of the research was a type 2 diabetes Clients who have participated in the study, Pre experimental research design (One group pretest, post-test design). Target Population-Type II diabetic patient, Accessible Population Type II diabetic patients attending OPD of selected Hospitals of Gandhinagar District, Gujarat State, by Purposive sampling, 60 sample where taken. This study tool structured interview schedule, with Intervention structured teaching programme through pamphlet.

Sampling:

The subjects of this study are those who have participated in study were present at the time the data were collected additionally; those who meet the inclusion and exclusion criteria established for the research project and are willing to take part in the study. selected sample by Purposive sampling 60 type II diabetic patients were used.

Inclusion Criteria:

- Type II Diabetic patient's age above 30 yrs.
- Type II Diabetic patients whose blood sugar level is above 140mg/dl.
- Type II Diabetic patients who attends OPD in Gatujarat hospital Gandhinagar District, Gujarat State.
- Type II Diabetic patients who can understand and respond in Hindi & English.
- Type II Diabetic patients who are willing to participate.

Data Collection Procedure:

Data is collected at various points and stages in time from a variety of samples because organisations and researchers always work hard to make effective judgments using data. Prior to starting data collection, formal administration permission was gained. The researcher

prepared and adhered to the plan of the data gathering process as follows: -

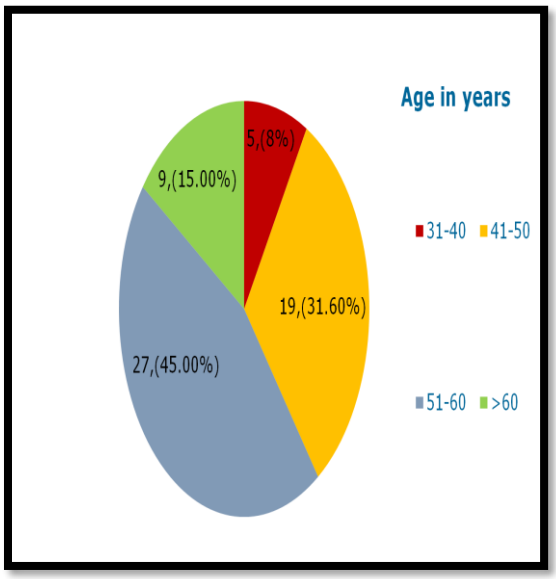
- A written permission was obtained from the concerned authority.
- Total 60 samples were selected for the study from OPD of Gandhinagar District, Gujarat State
- The purpose of the study was explained to the respondents and informed consent was obtained.
- Confidentiality was assured to all the subjects to get their cooperation.
- A pre-test with the socio demographic data and structured interview schedule was used to assess the knowledge of type II diabetic patients regarding foot care from all 60 subjects following explanation of questionnaire was given to each respondent to response the questions as per their knowledge for pre-test.
- Post-test was administered on the 15th day during their follow up visit by using the same questionnaire.

DATA ANALYSIS & INTERPRETATION

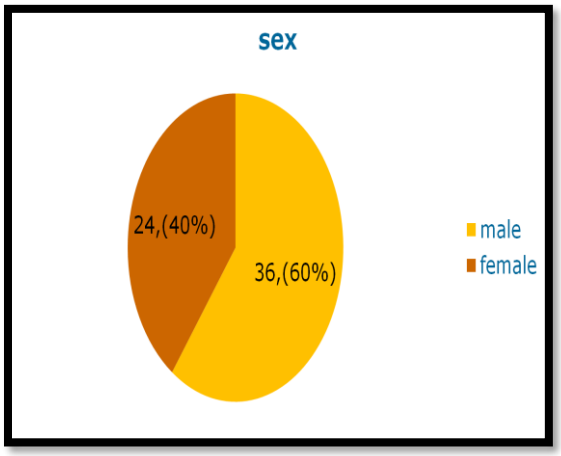
The collected data was tabulated, organized and analysed by using descriptive and inferential statistics.

- Section I: Demographic Data of Respondent
- Section II: Association of pre test knowledge score with selected demographic data
- Section III: Comparison of mean score of significant demographic variable
- Section IV: Association between pretest knowledge score and selected demographic variables
- Section V Effectiveness of Pamphlet

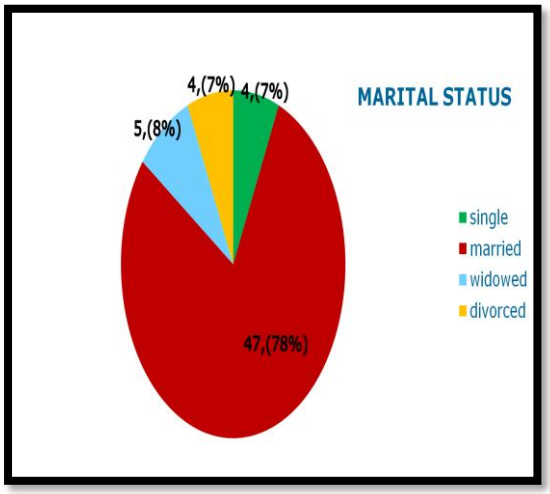
Section I: Demographic Data of Respondent

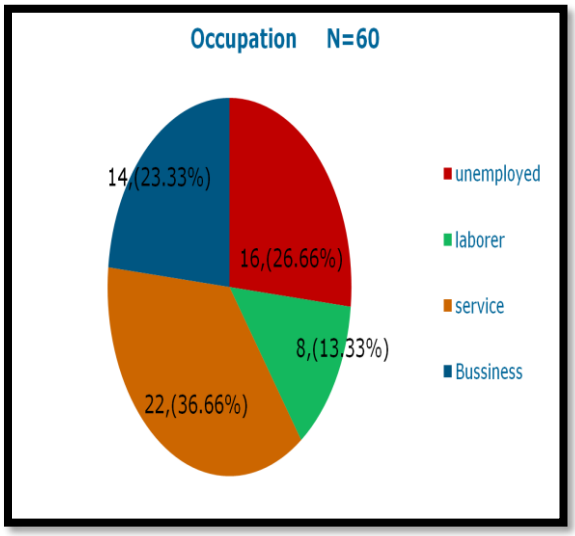


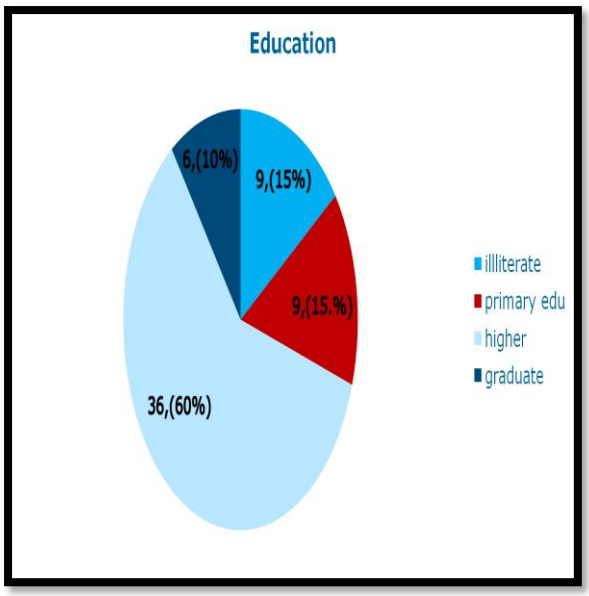
Pie diagram showing percentage distribution of sex



Pie Diagram showing percentage distribution of marital status

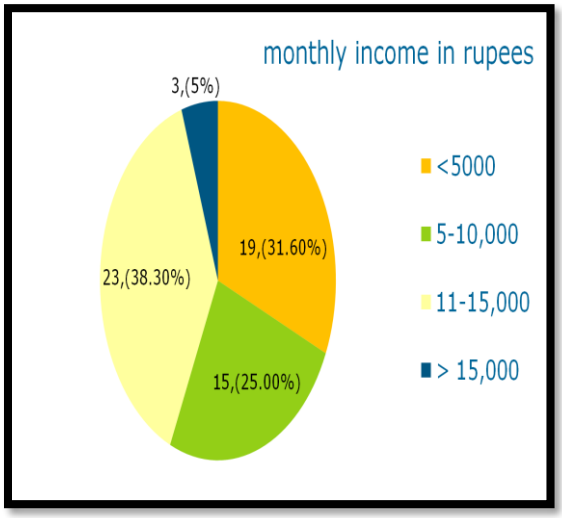






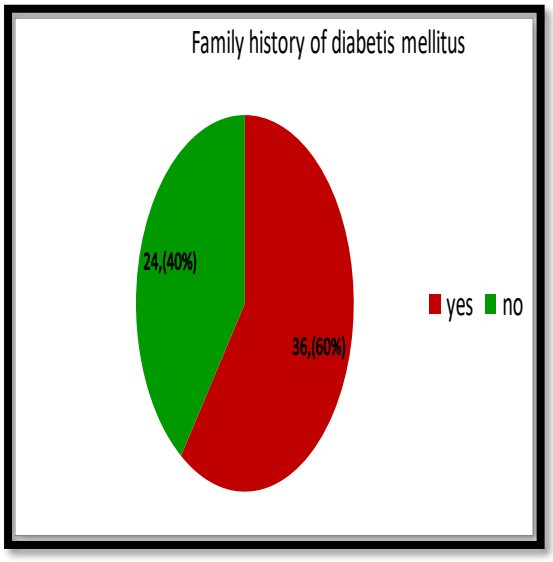
Pie Diagram showing percentage distribution of Education

Pie diagram showing percentage distribution of Occupation

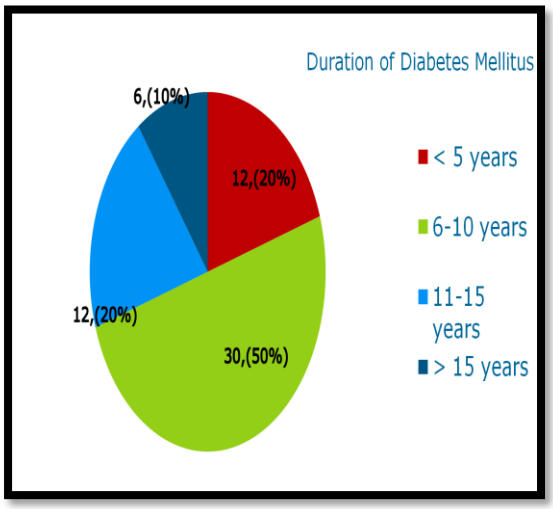


Pie diagram showing percentage distribution of Monthly income

Pie diagram showing percentage distribution of Family History of D M



Pie Diagram showing percentage distribution of duration of Diabetes Mellitus

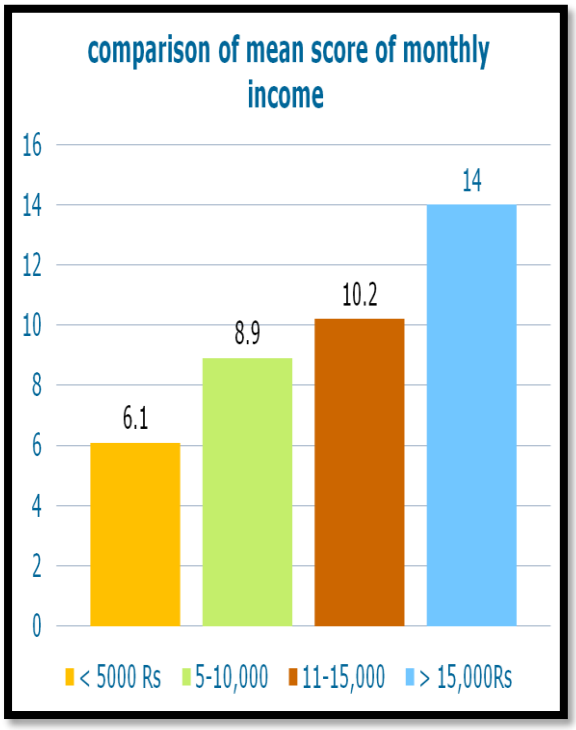


Section: II Association of pre test knowledge score with selected demographic data

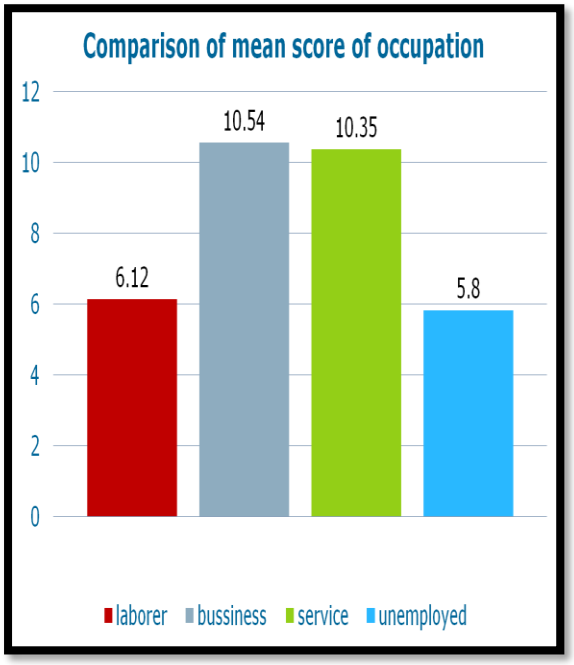
S.No.	Demographic variables	Frequency (n)	Percentage (%)	X^2 Value
1.	Age in years 31-40 41-50 51-60 ≥60	5 19 27 9	8.3% 31.6% 45% 15%	10.52 NS
2.	Sex Male Female	36 24	60% 40%	1.8 NS
3.	Marital Status Single Married Divorced Widow	4 47 5	6.66% 78.33% 8.3%	5.67 NS
4.	Qualification Illiterate Primary Education Higher Secondary Graduate	9 9 36 6	15% 15% 60% 10%	10.88 NS
5.	Occupation Laborer Business Service Unemployed	8 14 22 16	13.33% 23.33% 36.66% 26.66%	15.09 S
6.	Monthly Income in Rs. <5000 5000-10000 11000-15000 >15001	19 15 23 3	36.1% 25% 38.3% 5%	18.28 S
7.	Family history of diabetes Yes No	36 24	60% 40%	9.3 S
8.	Duration of diabetes mellitus <5 years 6-10 years 11-15 years >15 years	12 30 12 6	20% 50% 20% 10%	5.44 NS

Section III : Comparison of mean score of significant demographic variable

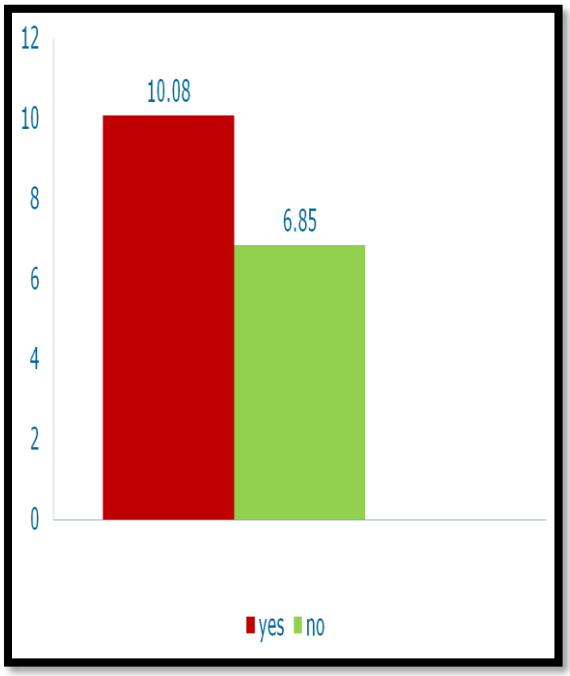
Column diagram showing mean score of socio demographic data of monthly income



Column diagram showing mean score of different occupation.



Column diagram showing mean score of data related to family history of diabetes mellitus



Section IV Association between pretest knowledge score and selected demographic variables

There is a association with occupation, family history of diabetes mellitus of type II diabetic Patients regarding foot care. so the hypotheses RH_1 There is significant association with knowledge & selected demographic variable is accepted.

Assess the pre-test knowledge scores of diabetic patients regarding foot care

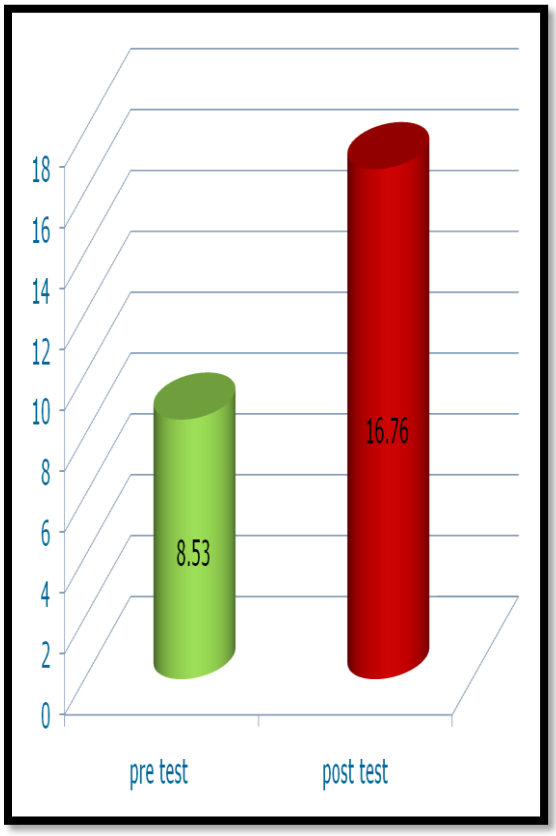
Knowledge score	Grade	Pre test			
		Frequency	%	Mean score	S.D
0-8	Poor	31	51.6	8.53	±4.3360

			6		
9-16	Average	26	43.33%		
17-24	good	3	5%		

Assess the Post-test knowledge score of diabetic patients regarding foot care

Knowledge score	Grade	post test			
		Frequency	%	Mean score	S.D
0-8	Poor	0	0	16.76	±3.836
9-16	Average	30	50		
17-24	good	30	50		

Column diagram showing pretest and post-test mean score of type II diabetic patients regarding foot care



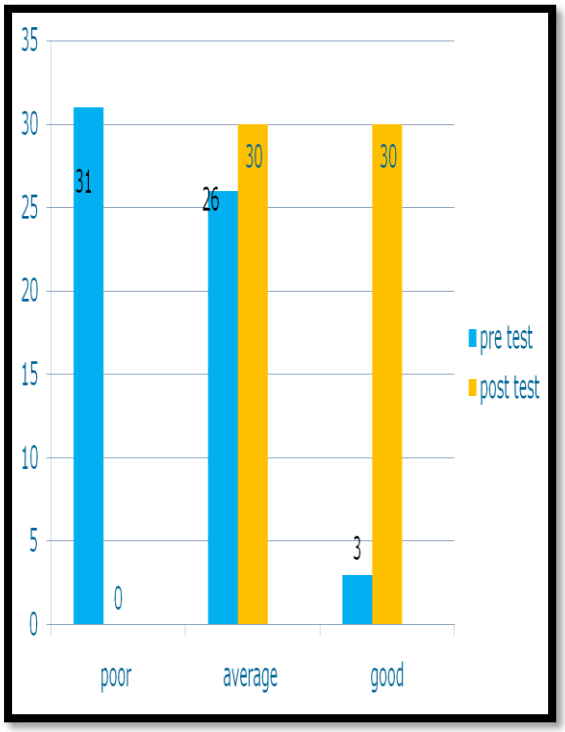
EFFECTIVENESS OF PAMPHLET

Mean, Standard Deviation (SD) and't' value of pre and post-test Knowledge scores on foot care of diabetic patients

Knowledge area	Mean score	Mean difference	S.D	df,	t,value
Pre test	8.53	8.23	±4.3360	59	15.33***
Post test	16.76		±3.836		

P<0.05* p<0.01**,

Column diagram showing the knowledge score of diabetic patients



Conclusion:

Educating the patient will help them to improve their knowledge regarding foot care, prevents furture complication and leads to safe diabetes mellitus. Structured teaching programme through pamphlet is considered an effective education strategy to improve the awareness and knowledge of type II diabetic patient regarding foot care.

RECOMMENDATIONS

From the findings of the present study, the following recommendations had been suggested.

- In much larger sample for broader generalization.
- In different settings.
- With a control group.
- A follow up could be carried out to find out the effectiveness in terms of retention of knowledge and revision need of teaching programme.
- A study can be conducted to assess the prevalence of diabetes mellitus and complications associated with it.

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