

A Study to Evaluate the Effectiveness of An Information Booklet on Knowledge and Practice Regarding Prevention of Diabetic Foot Ulcers among Diabetic Patients in Selected Villages, Rohtas

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***Abstract:** India is a diabetic capital of the World. Diabetic foot ulcer is of the most common complication of diabetic it is because of micro vascular and neuropathic complication. The incidence of foot ulcer among people with Diabetic varies from 8%to17%. Studies have shown that proper control of blood glucose prevents the development of micro vascular complications. Furthermore, the practice of diabetic foot care including daily foot examination and use of appropriate footwear is considered important in its early detection and prevention of complications. People with poor knowledge and practice regarding diabetic foot care are known to have a higher incidence of diabetic foot ulcers that cause severe disability and hospitalization Often diabetic foot ulcers get infected, sometimes even requiring an amputation which is the cause for more than half of non-traumatic lower limb amputations. Of all complications of diabetes, diabetic foot related complications are the most preventable ones. Poor knowledge of foot care and poor foot care practices were identified as important risk factors for foot problems in diabetic. This study thus aims to determine the awareness and practices of foot care in adult.*

Keywords: Diabetic Foot Ulcers

I. INTRODUCTION

India is a diabetic capital of the World. Diabetic foot ulcer is of the most common complication of diabetic it is because of micro vascular and neuropathic complication. The incidence of foot ulcer among people with Diabetic varies from 8%to17%. Studies have shown that proper control of blood glucose prevents the development of micro vascular complications. Furthermore, the practice of diabetic foot care including daily foot examination and use of appropriate footwear is considered important in its early detection and prevention of complications. People with poor knowledge and practice regarding diabetic foot care are known to have a higher incidence of diabetic foot ulcers that cause severe disability and hospitalization Often diabetic foot ulcers get infected, sometimes even requiring an amputation which is the cause for more than half of non-traumatic lower limb amputations. Of all complications of diabetes, diabetic foot related complications are the most preventable ones. Poor knowledge of foot care and poor foot care practices were identified as important risk factors for foot problems in diabetic. This study thus aims to determine the awareness and practices of foot care in adult. [1]

Diabetes mellitus (DM) is a metabolic disorder characterized by prolonged hyperglycemia. Either there is insufficient insulin being manufactured or there is tissue insensitivity to insulin. Globally, about 422 million individuals have diabetes. The majority of them are from developing countries. It is estimated that the figure will increase 1.4 times by 2045 due to a sedentary lifestyle and changing dietary patterns. Prolonged hyperglycemia results in several DM complications, such as peripheral neuropathy, peripheral vascular disease, foot ulcers; high risk of sepsis, poor wound healing, and limb amputations. Diabetic neuropathy often leads to the development of diabetic foot ulcers (DFUs) where a thickened wound at the balls of the feet forms regardless of the duration. Foot ulcer is the most common, but serious and costly complication of DM, accounting for 7% to 11% of all hospital admissions in diabetic patients. This affects

societies and leaves a huge financial impact on low-income families and the health care system in developing nations.

Mr Lawrence Sena Tuglo 2021. [2]

Diabetes is one of the major public health problems in the world, responsible for several health problems, including stroke, blindness, heart attack, kidney failure, and lower limb amputation [1]. In 2017, diabetes mellitus resulted in the death of 4 million adults globally [2]. In 2019, an estimated 463 million individuals lived with diabetes, with a prevalence level of 9.3% in adults. The prevalence of diabetes has increased by 62% over the last ten years (2009–2019), and the prevalence is projected to rise to 10.2% and 10.2030 and 2045, respectively. **(Taiwo Maxwell Adeyemi2021)[3]**

Complications of diabetes mellitus (DM) are financially demanding on the health system. The total worldwide health expenditure due to DM was approximately US\$ 673 billion in 2015 and this amount is expected to increase to US\$ 802 billion by 2040. Approximately 85% of diabetes-related amputations are as a result of diabetic foot ulcers (DFU) and account for more than half of non-traumatic lower extremity amputations (LEAs). A previous local study by this author showed that more than 50% of amputations were attributed to DM, indicating an urgent need for foot-care intervention. The financial implications of diabetic LEA include direct costs of treatment and indirect costs relating to the loss of productivity and reduction in the quality of life. **Thandinkosi Madiba[4]**

Diabetes mellitus (DM) is a group of chronic metabolic disorders characterized by elevated levels of blood glucose that is associated with significant morbidity, mortality, and increasing health care cost. Accordingly, there are two major types and treatment varieties according to the cause. The world prevalence of diabetes is 8.5% among adults aged over 18 years, affecting 422 million adults, in 2014 increased to 9.3% million people in 2019. The prevalence of DM has been steadily increasing for the past three decades and is growing most rapidly in low- and middle-income countries. According to the International Diabetes Federation Atlas guideline report, the prevalence of diabetes in Africa among adults aged 20–79 years was 4.2% in 2017. In Ethiopia, DM is emerging as one of the major chronic health problems, and the prevalence adjusted to the national population was 4.4% in 2013. **Tuha A 2021 [5]**

IN diabetes resulted in 1.4 million deaths worldwide, making it the 8th leading cause of death. Unfortunately, once sustaining ulceration, recurrence rates can reach 50% at 2 years and 70% at 5 years. Patients who have diabetic foot ulcers have also been determined to have an increased risk for mortality when compared with non-ulcerated counterparts. Bioko reported a 2.4-fold risk of death in patients who have diabetic ulcers after adjustment for age, duration, glucose control, amputation, and smoking history. Ramsey, in a 1999 retrospective cohort study of 8905 patients with diabetes, reported a 3-year survival of only 72% in those with foot ulcers versus 87% in age and sex-matched non-ulcerated patients. In a recent single-prospective cohort study of patients with new diabetic foot ulcers, the 5-year mortality rate was 44%, although there was no reported comparison with non-ulcerated charts. **Pallela Narayana Someshwara Rao. [6]**

The World Health Organization (WHO) has reported that Saudi Arabia ranks the second highest in the Middle East, and is seventh in the world for the rate of diabetes. It is estimated that around 7 million of the population are diabetic and almost around 3 million have pre-diabetes. Even more worrying perhaps, is the increasing pattern of diabetes noted in Saudi Arabia in the recent past. In fact, diabetes has approximately registered a ten-fold increase in the past three eras in Saudi Arabia. **WHO [7]**

II.NEED FOR STUDY

International Diabetic Federation stated that diabetes is the third leading cause of death by disease. People with diabetes are prone to foot problems because it can cause damage to the blood vessel and nerves. This in turn, may result in decreased ability to sense trauma or pressure on the foot. Foot injury may go unnoticed until severe infection develops. Diabetes also alters the immune system. Thus increasing the body's ability to fight infection. Small infection can rapidly progress to death of the skin and other tissues (necrosis), which may require amputation, to the affected limb to save the patient's life. Every 30 seconds a leg is lost due to diabetes in the world and 70 percent of all leg amputations were done on people with diabetes somewhere in the world. According to the International Diabetes Federation (IDF) in an effort to, reduce the number of amputations among people with diabetes. Every year, four million people worldwide get a foot ulcer and one in every six people with diabetes develop a foot complication in their

life time. People with diabetes are up to 40 times more likely to undergo lower leg amputation. In poor countries like India, treating diabetic foot may account for 40 percent of health resources. [8]

World diabetes day campaign, conducted by the International Diabetes Federation, in the year (2005) jointly with WHO focuses on diabetes and foot care, encapsulated in the slogan **According to (American Diabetic Association)** 50% of these amputations are thought to be preventable, provided patients are taught foot care measures and practice them on a daily basis. Globally the rates of amputations range from a high of 43.9 per 100,000 per year among residents of Madrid to lowest range 38.3 per 1000000. [9]

India 40% of all diabetic admissions to hospitals are due to foot problems. Diabetes can damage a person's blood vessels and nerves especially if their blood is sugar poorly controlled. Poor circulation and nerve damage in the feet makes people vulnerable to unnoticed cuts or other injuries and progress into poorly healing ulcer sores. In severe cases this can lead to foot or leg amputation. [10]

Dr. Srujal shah, (2014) Surgeon reported that diabetic foot ulcers are often a strong indicator of advanced diabetes. Researchers from St. Georges University of London investigated how diabetic foot ulcers affected a person's risk of dying earlier. They found that those with a history of foot ulceration had a higher death rate than those without the foot ulcers. [11]

Dr.Ramesh (2012) Stated that in India patients with Diabetic Foot Ulcer (DFU) have greater death risks as compared with patient without a history of DFU. In India most of the foot problems are associated with neuropathy and infective rather than vascular. It is also observed that in India 55% of foot ulcers are neuropathic (nerve involvement), 35% are neuroischemic and 10% are ischemic blood vessels involvement. Up to 25% of patients with diabetes develop a foot ulcer. More than half of all foot ulcers become infected, requiring hospitalization and 20% of infections result in amputation. Diabetes contributes approximately 80% of all nontraumatic amputations performed every year. After a major amputation 50% of people will have another limb amputated in two years. People with a history of a diabetic foot ulcer have a 40% greater 10 year death rate than people with diabetes alone. [12]

Dr. Abhijeet Joshi. (2007) A diabetic foot surgeon, says when diabetes is not well controlled there is damage to the organs and the immune system is impaired. Foot problems occur in people with diabetes and can get serious very fast. Recent statistics shows that approximately a quarter of all people with diabetes worldwide at some point during their lifetime will develop sores or breaks (ulcers) in the skin of their feet. [13]

Dr. Joshi. (2010) Those with long standing diabetes is at the risk of developing diabetic neuropathy and complications of diabetic foot. Round-the-year foot care can ensure that the chances of complications are minimized. A diabetic should take special care of his feet, says V.Ramnarayan, consultant orthopaedic surgeon SRMC. "Watch out for numbness, foot ulcers and carefully examine spaces between the toes and the soles of the feet. Socks should be washed regularly and changed every day and one should use footwear, preferably with ankle support. Nails should not be cut short and sharp edges should be filed," he says. Special care should be taken by those who plan to go on temple visits and have to walk barefoot. "Trivial foot lesions precede 85% of leg amputations in India. Almost 75 percent of amputations are carried out in neuropathic feet with secondary infection, which are potentially preventable. [14]

III. PROBLEM STATEMENTS

"A study to evaluate the effectiveness of an information booklet on knowledge and practice regarding prevention of diabetic foot ulcer among diabetic patients in selected villages, Rohtas".

IV. OBJECTIVE OF THE STUDY

- Assess the knowledge and practice on prevention of foot ulcer among diabetic mellitus patient.
- Develop an information booklet on knowledge & practice related to prevention of foot ulcers among diabetic mellitus patient.
- Evaluate the effectiveness of knowledge and practice related to foot ulcers among diabetic mellitus patients.
- Evaluate the effectiveness of knowledge & practice related to foot ulcer among diabetic mellitus patient with selected demographic variables.

V. OPERATIONAL DEFINITION

- **EVALUATE:** In the present study evaluate refers to measure the knowledge of the diabetic patient regarding diabetic foot ulcer.
- **EFFECTIVENESS:** In the present study information booklet on knowledge and practice regarding prevention of diabetic foot ulcer among diabetic patients.
- **FOOT CARE INSTRUCTION:** It refers to the information on foot care provided by the investigator to the diabetics in a group of 6-8 persons through a structured teaching module, and Booklet
- **KNOWLEDGE:** It refers to the awareness of diabetics on foot care and it is assessed using a structured interview schedule which was prepared by the investigator.
- **PRACTICE:** It refers to the care of foot performed by the diabetics. In this study it is assessed using rating scale prepared by University of Nottingham 2007.
- **DIABETIC PATIENTS:** The patients diagnosed with the history of Diabetic mellitus, from 40-60.
- **SELECTED COMMUNITY:** It refers to the residential areas located in (namely Alanchy).
- **PREVENTION:** It refers to the efforts taken towards curtailing the onset of diabetic foot among the diabetics.

ASSUMPTION

Diabetic patients have inadequate knowledge regarding prevention foot ulcer. Patient's knowledge is influenced by variables such as Age, Educational status, annual income Occupation, Marital status, Religion.

HYPOTHESIS

H₀- There will be a no significant difference between pre-test and post-test level of knowledge of among community area of diabetic foot ulcer.

H₁- There will be a significant difference between pre-test and post-test level of knowledge and practice among elder people regarding diabetic patient.

H₂- there will be a significant association between the pre-test knowledge score and selected demographic variable.

DELIMITATION

Selected community area Dhanpurwa Rohtas.

Can understand Hindi and English.

Willing to participate in the study.

Available at the time of data collection.

CONCEPTUAL FRAMEWORK

Conceptual framework means "Interrelated concepts or abstractions that are assembled together in some rational scheme by virtue of their relevance to common theme". The conceptual framework for this study was developed by applying Dorothy Johnson's open system theory. According to general systems theory "A system consist of a set of interacting components". These are two types of general system closed and open. A closed system does not exchange energy, matter or information with its environment. It receives no input from the environment and gives no output to the environment. In open system energy, matter or information more into and out of the system. All living system, such as plant, animals, people, families and communities are open system. The system uses, organizes, transform the input in

a process called as throughout and releases information, matter and energy output into the environment. Output into that returns to the system as input is called as feedback. In the present study, the investigator considered system as different community and sub system as Diabetic patient the whole school is considered as open system, which possesses input, throughout process output and feedback.

Input:-

Input is considered as assessment of knowledge regarding Diabetic foot ulcer. Through put is the activity phase, here the investigator implemented evaluate the effectiveness of an information booklet knowledge and practice regarding prevention to the group of diabetic patients, it's prevention and management.

Output:-

Output is the post -test and it is the outcomes of the study. Here the investigator reassessed the knowledge after a week of implementation of information and booklet and it revealed that the sample gained in knowledge though post test scores.

FEEDBACK:-

Feedback is the difference in mean percentage of pre-test and post-test knowledge score of community regarding DFU.

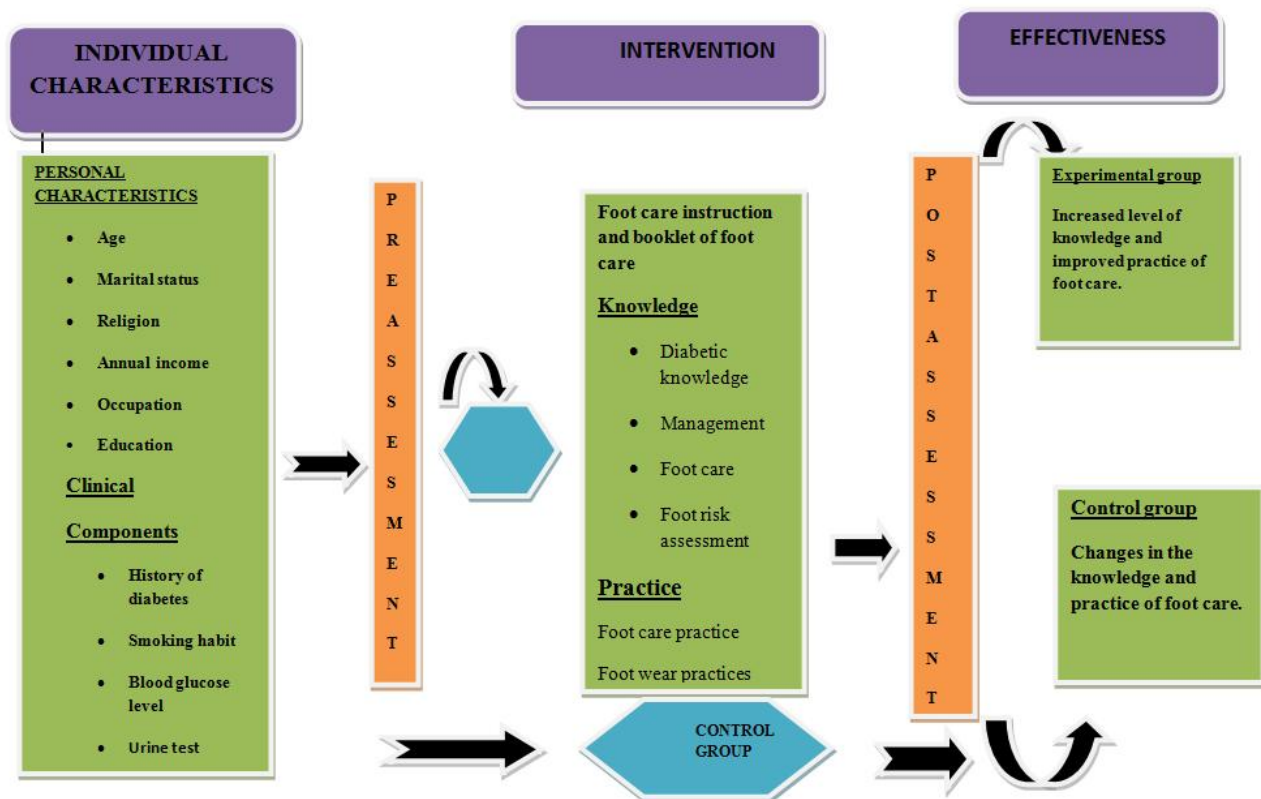


Fig.1. contextual frame work representation

VI. RESERCH METHODOLOGY

The methodology of a research study is defined as "the way the pertinent information is gathered in order to answer the questions or analyses the research problem. It enables the research to project a blue print of the research undertaken" " research methodology involves a systematic procedure by which the researcher starts from the initial identification of the problem to its final conclusion."

The present study is conducted to “A study to evaluate the effectiveness of an information booklet on Knowledge and practice regarding prevention of diabetic foot ulcer among diabetic patients in selected village Rohtas”. This chapter

deals with brief description of different steps undertaken by the investigator for the study. It involves research approach, setting of the study, population, sample and sampling technique, selection of tool, development and description of the tool, content validity, ethical consideration, reliability, pilot study, data collection, procedure and plan for data analysis.

RESEARCH APPROACH

The research approach is the most essential part of any research. The entire study is best on it. The appropriate choice of the research approach depends on the purpose of the research study that is under taken. "Approach to research is an umbrella which covers the basic procedure for conducting research." The researcher found that quantitative approach is best suited, as it is a scientific investigation in which observations are made, data are collected according to a set of well-defined criteria and studies observable changes that taken place under controlled conditions.

RESEARCH DESIGN

The Research design adopted for this study is experimental one group pre- test and post- test research design.

SETTING OF THE STUDY

The present study was conducted in the selected community area of Sasaram, Rohtas. The basic reason for selecting these areas are availability of the study sample, feasibility conducting the study, availability of governance, geographical, familiarity, authority permission and conducting the study.

TARGET POPULATION

The target population is the population in which the research is interested and to which he/she would like to generalize the result of the study (Pilot & Hungler).

In this study, target population is community areas Sasaram, Rohtas.

SAMPLE AND SAMPLING TECHNIQUE

This study is 60 samples and Purposive sampling technique is used to select of the study. A Questionnaire method is used to select of the study.

INCLUSION CRITERIA

Elderly who age group Below 30-60 Above year.

Elderly who are present at the time of study.

Elderly who are able to understand Hindi to English.

EXCLUSION CRITERIA

Elderly who are not willing to participate in the study

Who are not age group of the 30 to 60

Who are not understanding hind English

LIMITATION

The limitations in the study were:

- Study was limitation only to selected community who were from local areas of Rohtas.
- Study was limited to the community areas who can understand Hindi and English.
- Due to limitation of time, the investigator taught the community areas client once about DFU.
- Generalization cannot be done, as the size of the sample was small.

METHODS OF DATA COLLECTION

Data collection is the gathering of information from the sampling units. The investigator collected the data from the 60 diabetic patients, who lived in the community setting area Dhanpurwa." A Questionnaire is a method of data collection

in which the researcher obtain responses from the subject in a face to face encounter". Hence, the researcher developed a structured questionnaire schedule to conduct the tools. Pre-test post-test design was used for data collection to evaluate the effectiveness of an information booklet on knowledge and practice regarding foot ulcer among diabetic patient. The structured questionnaires schedule, which was used in pre-test, was again used in the post test in the same manner in the same order to all the respondents of the research study.

DEVELOPMENT OF THE TOOLS

Structured questionnaire was prepared containing a set of question, are being filled by the researcher. The tool is developed with the help of many resources like literature review, Consultation with the experts and validity of the tool, etc.

VALIDITY OF THE TOOL

The validity of the tool is the degree to which the tool measure what it claims to measure. It is the degree to which the results are truthful. So that it requires research instrument too correctly Measure the concept under study. The tool is validated by 3 experts from specified field such as (Dept. Medical surgical Nursing). The researcher modified the tool based on experts' suggestions. The tool is translated from English and to confirm the appropriateness of the language used inflaming the items.

RELIABILITY OF THE TOOL

Validity refers to the degree to which an instrument measures what it is supposed to be measuring **Polite & Hungler (1995)**.

The degree of consistency or dependability with which a instrument measures the attribute what is supported to be measured. For the present study reliability of the tool is not required since the tool used in study for the data collection is itself a standardized value. All the measurements data estimations of the tool used in the study is based on the standard instruments parameters which is universally adapted by all the health care institutions

DATA COLLECTION PROCEDURE

"Data collection is the process of gathering and measuring information on targeted variables in established system, which enables one to answer relevant questions and evaluate outcomes". The data is collected from 06-02-23 to 09-02-23. 60 diabetic clients were selected by convenient random sampling. Prior permission was obtained from mayor. Consent has been obtained from the sample. The researcher conducts face -to- face questionnaire with subjects by using the structured questionnaire schedule before and after the implementation of booklet.

PLAN FOR DATA ANALYSIS

Data analysis is a process of inspecting , cleaning , transforming and modeling data with the goal of discovering useful information , informing conclusions, and supporting decision making." systematic organization and synthesis of research data, the testing of the research hypothesis by using the obtained data. It is planned to analyze and interpret the data with the help of descriptive and inferential statistics. The following methods were planned to analyze the data. Frequencies distribution, percentages, mean and standard deviation and inferential statistics like were used to summarize the sample characteristics by item wise analysis.

Coding was done for each item.

Coded data was entered into excel sheet with key for coding.

Frequency and percentage distribution for socio demographic characteristics of sample.

Analysis of knowledge level of DFU among client at community areas Sasaram, Rohtas.

Mean, standard deviation and paired t test were used to calculate the booklet on diabetic patient.

Chi - square values were computed to find out relationship between knowledge with selected demographic variables i.e. age, Education, income, religion marital status, Occupation. The analysis and interpretation of data have been organized and presented under the following.

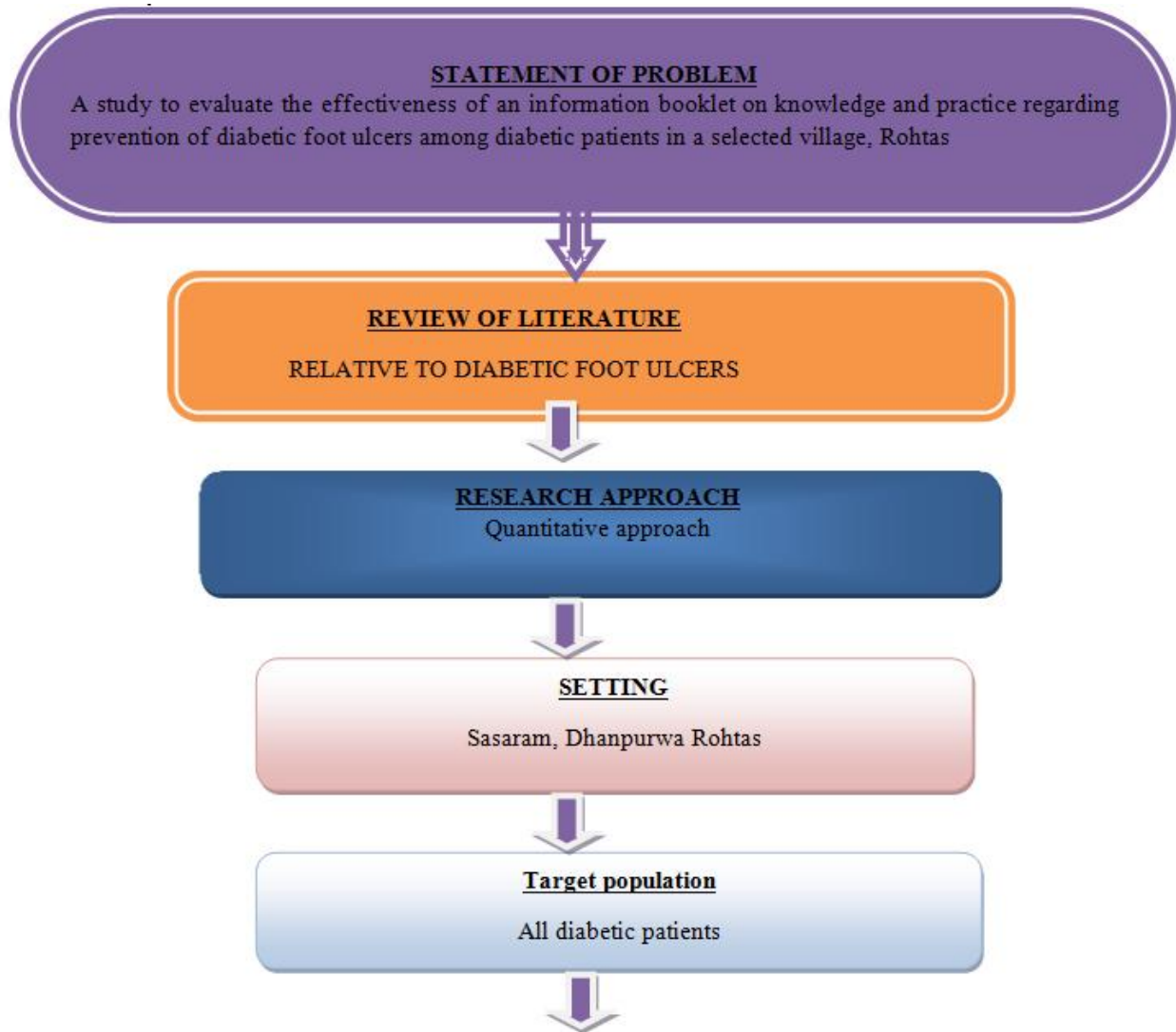
Sections

Section I- Sample characteristics

Section II- Knowledge Levels of the sample and items wise analysis of knowledge of Diabetic patient with regard to diabetic foot ulcer

Section III- Level of knowledge on diabetic patient in pre -test and post- test about Diabetic foot ulcer.

Section IV- Relationship of knowledge score of diabetic patient with their select area.



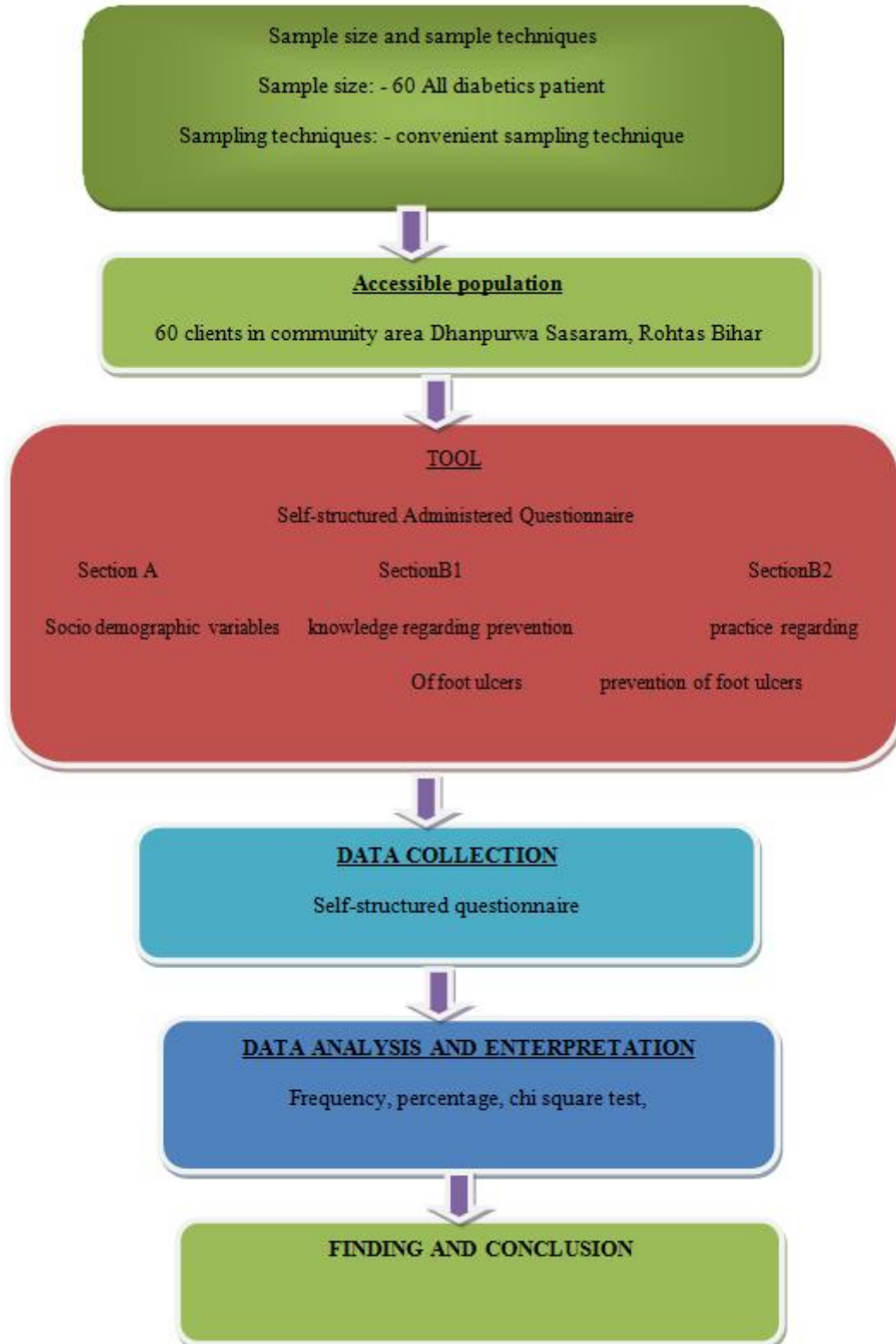


Fig.2. Schematic Representation of Research Mythology

VII. ANALYSIS AND INTERPRETATION OF DATA

This section presents the description of the study sample characteristics analysis and interpretation of the through descriptive and inferential statistics. The data needs be presented through descriptive and inferential statistics. The data needs to be presented through tables/graph/ figures.

Objective wise analysis (table, graph & interpretation of data)

Table heading on top of table & figures heading on bottom of figure

Analysis is the process of breaking a complex topic in smaller parts of gain better understanding of it. The analysis and interpretation of data represent the application of deductive and inductive logic to the collected raw data.

These chapters deal with the analysis and inter- relation of the data obtained from 60 clients. The collected data were tabulated and presented according to the objective to the objectives under the following headings.

Objective:

Assess the knowledge and practice on prevention of foot ulcer among diabetic mellitus patient.

Develop an information booklet on knowledge & practice related to prevention of foot ulcers among diabetic mellitus patient.

Evaluate the effectiveness of knowledge and practice related to foot ulcers among diabetic mellitus patients.

Evaluate the effectiveness of knowledge & practice related to foot ulcer among diabetic mellitus patient with selected demographic variables.

HYPOTHESIS:

H₀- There will be a no significant difference between pre-test and post-test level of knowledge of among community area of diabetic foot ulcer.

H₁- The will be a significant difference between pre-test and post-test level of knowledge and practice among elder people regarding diabetic patient.

H₂- there will be a significant association between the pre-test knowledge score and selected demographic variable

ORGANIZATION OF THE FINDING:

The study finding were organized and presented in following sections:

Section-1

Table no. 1

Table 4.1- Representing frequency and percentage of socio-demographic data

N=60

Demographic	Frequency	Percentage (%)
AGE		
Below 30 years	6	10
30-45 years	19	31.7
45-60 years	15	25
Above 60 year	20	33.3
Education		
Matric	18	30
Inter	17	28.3
Graduate	12	20
Illiterate	13	21.7
Marital		
Married	57	95
Unmarried	3	5

Divorce	0	0
Income		
<5000	6	10
5000-10000	20	33.3
100000-15000	25	41.7
>15000	9	15
Religion		
Hindu	59	98.3
Muslim	1	1.7
Occupation		
unemployed	16	26.7
unskilled work	15	25
semi-skilled	23	38.3
Skilled	6	10

Percentage wise distribution of client in relation to their age group indicated 6 (10%) of them belong to Below 30 years of age, 19(31.7%) of the belong to 30-45 years, 15(25%) of them belong 45-60 years 20(33.3%) of them belong to Above 60 years. In the Percentage distribution of client in relation to their Education status Matric 18 (30%), inter 17(28.3%) , graduate 12(20%) and illiterate 13(21.3%). In the percentage distribution of client in relation to their marital status married 57(95%) and unmarried 3(5%), divorce 0(0%). In the percentage distribution of client in relation to their monthly income majority <5000 3(10%) monthly income and 5000-10000 20(33.3%), and 10000-15000 25(41.7%), and >15000 9 (15%) are other. In the percentage distribution of client in relation to their Religion according to it shown that about 98% of client were from Hindu where as 2% of the client were from Muslim and Christian and Sikh 0% client. In the percentage distribution of client in relation to their occupation unemployed 16(26.7%) and unskilled work 15(25%) and semi-skilled 23(38.3%), and skilled 6(10%) of the occupation

VIII. RESULTS AND FINDINGS

Table 4.2 Sample of age group.

Age	Frequency	Percentage (%)
Below 30 year	6	10
30-45 year	19	31.7
45-60 year	15	25
Above 60 year	20	33.3
Total	60	100

Table 4.2- Shows Percentage wise distribution of client in relation to their age group indicated 6 (10%) of them belong to Below 30 years of age, 19(31.7%) of the belong to 30-45 years, 15(25%) of them belong 45-60 years 20(33.3%) of them belong to Above 60 years age group.

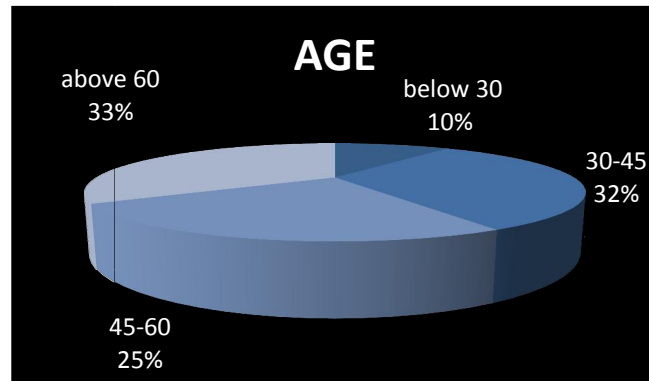


Fig. 4.1 Pie diagram representing sample of age group.

Table 4.3- Sample of education group.

Education	Frequency	Percentage (%)
Matric	18	30
Inter	17	28.3
Graduate	12	20
Illiterate	13	21.7
Total	60	100

In the Percentage distribution of client in relation to their Education status Matric 18(30%), inter 17(28.3%) , graduate 12(20%) and illiterate 13(21.3%).

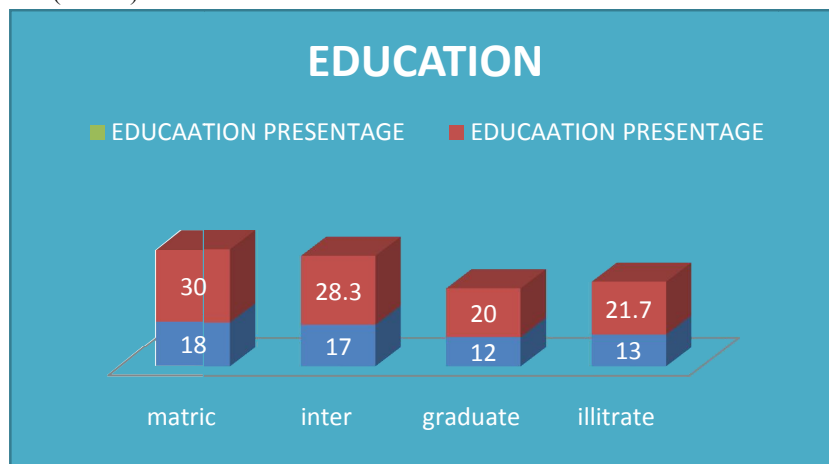


Fig. 4.2 Colum diagram representing sample of education group.

Table 4.4- Sample of marital group.

Marital	Frequency	Percentage (%)
married	57	95
unmarried	3	5
divorce	0	0
Total	60	100

In the percentage distribution of client in relation to their marital status married 57(95%) and unmarried 3(5%), divorce 0(0%).

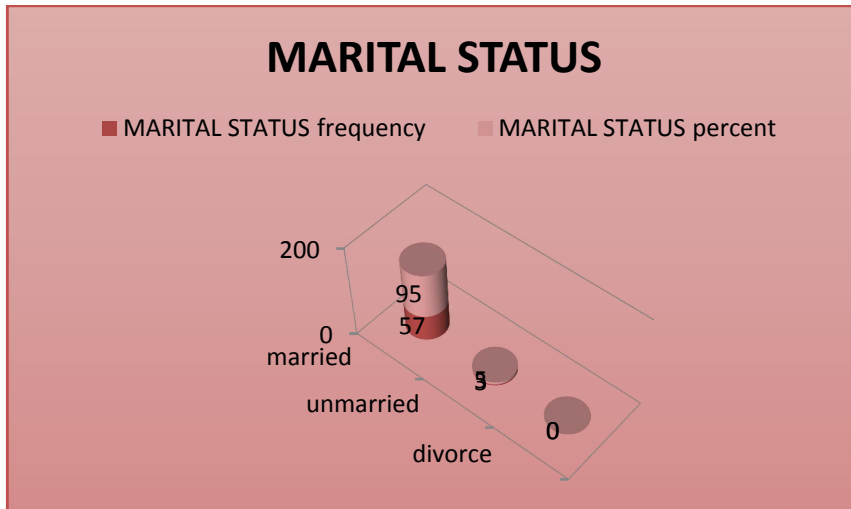


Fig. 4.3 Cylinder diagram representing sample of marital group.

Table 4.4- Sample of economical group.

Economical	Frequency	Percentage (%)
<5000	6	10
5000-10000	20	33.3
100000-15000	25	41.7
>15000	9	15
Total	60	100

In the percentage distribution of client in relation to their monthly income majority <5000 3(10%) monthly income and 5000-10000 20(33.3%), and 10000-15000 25(41.7%), and >15000 9 (15%) are other.

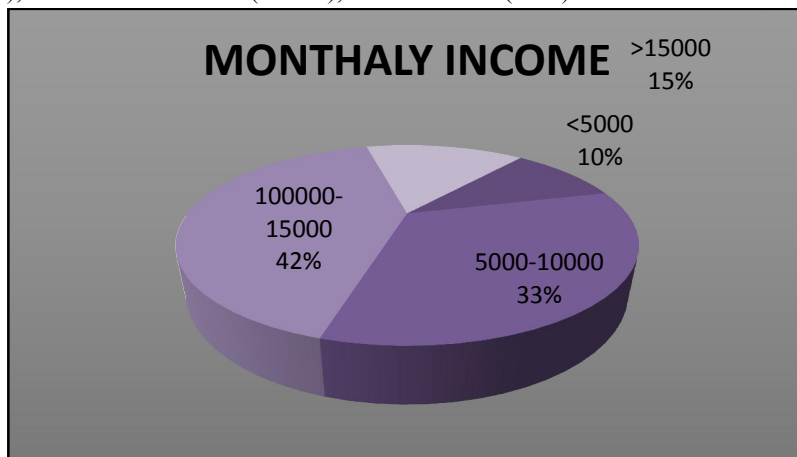


Fig. 4.4- Pie diagram representing sample of education group.

Table 4.5- Sample of religion group.

RELIGION	Frequency	Percentage (%)
Hindu	59	98.3
Muslim	1	1.7
Christians	0	0
Sikh	0	0
Total	60	100

In the percentage distribution of client in relation to their Religion according to it shown that about 98% of client were from Hindu where as 2% of the client were from Muslim and Christian and Sikh 0% client.

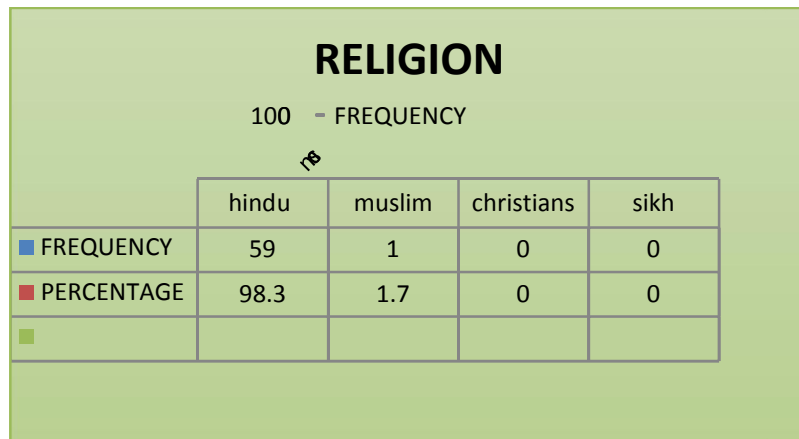


Fig. 4.5- Area diagram representing sample of education group.

Table 4.6- Sample of occupation group.

OCCUPATION	Frequency	Percentage (%)
Unemployed	16	26.7
Unskilled work	15	25
Semi-skilled	23	38.3
Skilled	6	10
Total	60	100

In the percentage distribution of client in relation to their occupation unemployed 16(26.7%) and unskilled work 15(25%) and semi-skilled 23(38.3%)and skilled 6(10%) of the occupation.

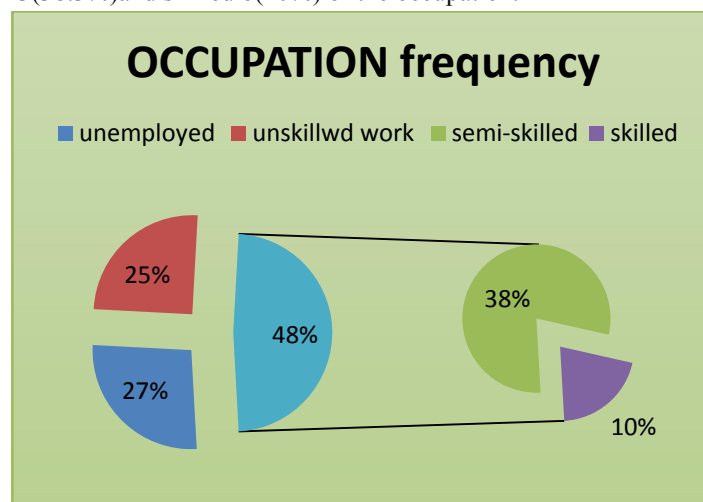


Fig. 4.6- Pie diagram representing sample of group.

Section- II

Table no. 2- To the assessment of pre- test knowledge and post- test knowledge regarding diabetic foot ulcer community areas client

Knowledge score	Range	Mean score	SD	Mean difference	Df	Paired "t" value	p- value
Pre- test	5-12	7.77	1.899	7.767	59	4.329	.000
Post- test	3-14	9.27	3.064	9.267			

Table no2.1. Percentage of pre-test knowledge score and post-test knowledge score (N=60)

Knowledge core	pre-test score		post-test score	
	F	%	F	%
Poor	8	13.3	10	16.7
Good	9	8.3	30	50
Average	47	78.3	20	33.3

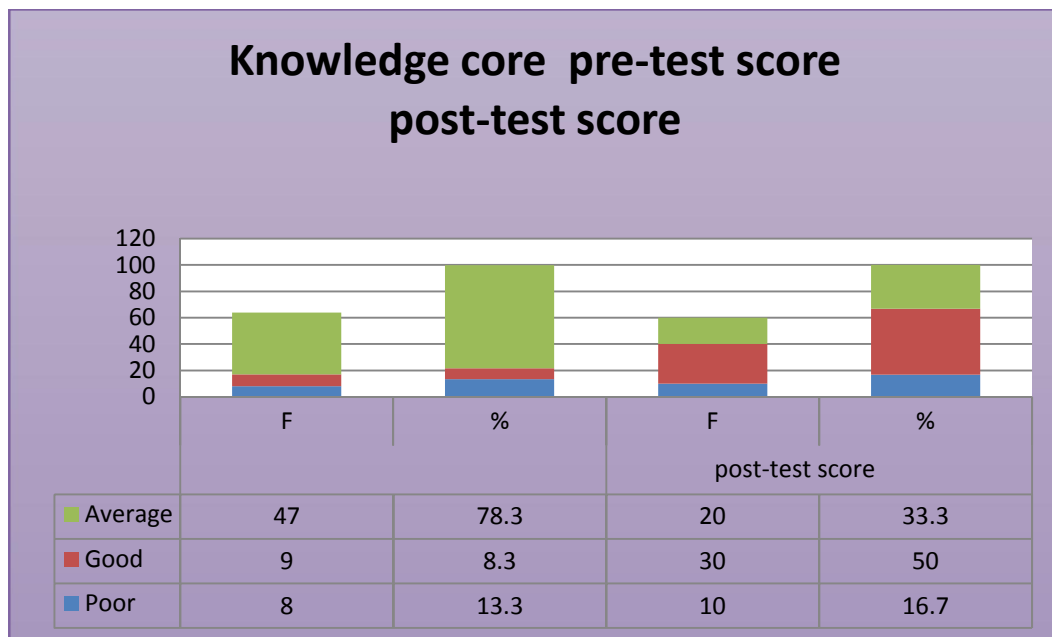


Fig. 4.6- Column diagram representing sample of group.

Table2.3. Chie square shows the association between post-test knowledge score and selected demographic variables.

Social demographic variable	Knowledge score			X2	df	P- value
	Poor	Average	Good			
	F (%)	F (%)	F (%)			
Age (in year)						
Below 30 year	2(33.3%)	1(16.7%)	3(50%)	5.918	6	.432
30-45 year	3(15.8%)	8(42.1%)	8(42.1%)			
45-60 year	4(26.7%)	3(20%)	8(53.3%)			
Above 60	1(16.7%)	8(40%)	11(55%)			
Education						
Matriculation	1(5.6%)	6(33.3%)	11(61.1%)	5.802	6	.446
Intermediate	2(11.8%)	7(41.1%)	8(47.1%)			
Graduate	4(33.3%)	4(33.3%)	4(33.3%)			
Illiterate	3(23.1%)	3(23.1%)	7(53.8%)			



Marital status						
Married	9(15.8%)	20(35.1%)	28(49.1%)	1.754	2	.416
Unmarried	1(33.3%)	0(0%)	2(66.7%)			
Divorce	0(0%)	0(0%)	0(0%)			
Monthly income						
<5000	3(50%)	3(50%)	0(0%)	13.469	6	.036
5000-10000	4(20%)	8(40%)	8(40%)			
10000-15000	3(12%)	5(20%)	17(68%)			
>15000	0(0%)	4(44.4%)	5(55.6%)			
Religion						
Hindu	9(15.3%)	20(33.9%)	30(50.8%)	5.085	2	0.79
Muslim	1(100%)	0(0%)	0(0%)			
Christians	0(0%)	0(0%)	0(0%)			
Sikh	0(0%)	0(0%)	0(0%)			
Occupation						
Unemployed	2(12.5%)	6(37.5%)	8(50%)	4.814	6	.568
Unskilled work	1(6.7%)	4(26.7%)	10(66.7%)			
Semi-skilled work	5(21.7%)	9(39.1%)	9(39.1%)			
Skilled work	2(33.3%)	1(16.7%)	3(50%)			

SUMMARY

The chapter deals with the research methodology which includes research approach research design, setting of study, sample, sample technique, development and description of tool, pilot study procedure for data collection, plan for data analysis.

DISCUSSION

The chapter deal with the detail discussion of finding of the study interpreted from statistical analysis. The finding are discussion in relation to objective formulated, compared and contrasted with dose of other similar study conducted in different setting. The present study is an evaluate the effectiveness of an information booklet on knowledge and practice related to foot ulcers among diabetes mellitus patient in order to achieve the objective. A quantitative approach was adopted and convenient sampling was use to collect the data. The study was conducted in one week at community area Sasaram, Dhanpurwa, Rohtas. The data was collected during class hours using self-structured questionnaire.

The findings of the study have been discussion based on objectives.

OBJECTIVES:

Asses the knowledge and practice on prevention of foot ulcers among diabetic mellitus patient.

Develop an information booklet on knowledge and practice related to prevention of foot ulcers among diabetic mellitus patient.

Evaluate the effectiveness of knowledge & practice related to foot ulcers among diabetic mellitus patient.

To find out the association between knowledge & practice related to foot ulcers among diabetic mellitus patient with selected demographic variables.

HYPOTHESIS:

H0- There will be a no significant difference between pre-test and post-test level of knowledge of among community area of diabetic foot ulcer.

H1- The will be a significant difference between pre-test and post-test level of knowledge and practice among elder people regarding diabetic patient.

H2- there will be a significant association between the pre-test knowledge score and selected demographic variable.

IX. MAJOR FINDINGS

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Major finding of socio-demographic data

- Majority of the participation Percentage wise distribution of client in relation to their age group indicated 6 (10%) of them belong to Below 30 years of age, 19(31.7%) of the belong to 30-45 years, 15(25%) of them belong 45-60 years 20(33.3%) of them belong to Above 60 years.
- In the Percentage distribution of client in relation to their Education status Matric 18 (30%), inter 17(28.3%) , graduate 12(20%) and illiterate 13(21.3%).
- In the percentage distribution of client in relation to their marital status married 57(95%) and unmarried 3(5%), divorce 0(0%).
- In the percentage distribution of client in relation to their monthly income majority <5000 3(10%) monthly income and 5000-10000 20(33.3%) , and 10000-15000 25(41.7%), and >15000 9 (15%) are other.
- In the percentage distribution of client in relation to their Religion according to it shown that about 98% of client were from Hindu where as 2% of the client were from Muslim and Christian and Sikh 0% client.
- In the percentage distribution of client in relation to their occupation unemployed 16(26.7%) and unskilled work 15(25%) and semi-skilled 23(38.3%) and skilled 6(10%) of the occupation.

ACELYA TÜRKMEN^{1*}, Ezgi SEYHAN AK² ET (2021) Conducted This study is conducted to analyze the diabetic foot ulcer patients' knowledge and attitudes regarding **foot** care. Diabetes mellitus (DM) is a metabolic disease that develops due to insulin deficiency, insulin resistance, or a combination of the two. Diabetes mellitus is becoming more common with each passing year, with the number of people living with diabetes expected to rise 1.5 fold from 463 million in 2019 to 700 million in 2045.

Khan Phuong Tong ET, al conducted the lifetime risk of developing a diabetic foot ulcer (DFU) in people with diabetes is as high as 25%. A trio of factors constitutes the diabetic foot syndrome that characterizes DFUs, including neuropathy, vascular disease and infections.

Jaap J. van Netten ET; al (2019) conducted prevention of foot ulcers in patients with diabetes is important to help reduce the substantial burden on both patient and health resources. A comprehensive analysis of reported interventions is needed to better inform healthcare professionals about effective prevention. The aim of this systematic review is to investigate the effective- ness of interventions to help prevent both first and recurrent foot ulcers in persons with diabetes who are at risk for this complication. We screened trial registries for additional studies not found in our search and unpublished trials. Two independent reviewers assessed data from controlled studies for methodological quality, and extracted and presented this in evidence and risk of bias tables. From the 13,490 records screened, 35 controlled studies and 46 non-controlled studies were included. Few controlled studies, which were of generally low to moderate quality, were identified on the prevention of a first foot ulcer.

Mirfat Mohamed Labib elkashif et; al (2021) Conducted The practice of diabetic self-care plays a significant role in maintaining and preventing diabetic foot complications, but low commitment to self-care practices is common.. The study included 100 adult patients diagnosed with diabetes (types I and II) for at least six months. The findings revealed that 79% suffered from burning or tingling in legs or feet; 74% complained of presence of redness of lower limb, legs or foot pain with activity, and loss of lower extremity sensation; and 80% had changes in skin color or skin lesions. A comparison between the group pre- and post-intervention (protocol) showed that post-intervention patient foot care knowledge and self-care practice scores were higher. Also, 72% of the participants obtained good knowledge related to foot care post- protocol intervention compared to 37% pre- intervention. Based on the findings, the establishing intervention protocol fosters self-care practice and knowledge regarding needs, concerns, and medication use among diabetic foot patients.

Michael A. Del Core, MD et, al (2018) conducted A studytopical review the evaluation and treatment of diabetic foot ulcers and diabetic foot infections. Diabetic foot ulcers and infections are common complications of diabetic foot

disease. One of the most common problems in the care of the diabetic patient is the diabetic foot ulcers (DFU), with studies reporting an average annual incidence of 2.2%. Even with appropriate care, DFUs can ultimately lead to serious complications such as infection, amputation, and even death. Infections occur in up to 58% of patients presenting with a new foot ulcer. In the percentage distribution of client in relation to their Religion according to it shown that about 98% of client were from Hindu where as 2% of the client were from Muslim and Christian and Sikh 0% client.

Chaudhary Muhammad JunaidNazar et, al (2016) conducted a study on effectiveness of diabetes education and awareness of diabetes mellitus in combating diabetes in the United Kingdom; main objective of the study is to evaluate the role of knowledge and awareness of diabetes in fighting against diabetes and to interpret to which extent is diabetes education successful. The systematic review to be carried out will include literature from 2001 to 2011 in the United Kingdom regarding awareness of diabetes among UK population and effectiveness of diabetes education. Literature will be accessed using search database, British medical journals, and library. Good quality papers will be used for the systematic review. Previous studies about diabetes education will consulted and assessed.

DISCUSSION RELATED TO OTHERS STUDIES

The discussion the explanation of the finding, where the research presentation his or her finding through critical analysis along with others similar research finding. This section also present the verdict on whether your finding support existing theories. Explain the results and present possible reason why the results might have turned out. On the basis of finding of the present study and objectives of the study, a discussion has been made with reference to the results obtained by other investigators.

SUMMARY

The purpose of the study to evaluate the effectiveness of an information booklet on knowledge and practice regarding prevention of diabetic foot ulcer among diabetic patient selected village Rohtas. The data collected by self- structured questionnaire, in first section in demographic data and in second section B1 questionnaire knowledge regarding diabetic foot ulcer in section B2 questionnaire practice regarding diabetic foot ulcer. The setting of the study was community area (DHANPURWA) Sasaram, Rohtas. Data collected by quantitative survey approach. There were 60 participants.

CONCIUSION

The present study was aimed assessing the level of knowledge and practice regarding diabetic. The relevant data was collected statically based on objective of the study. There are 60 client in community Area, Poor knowledge (16.7%) and Average knowledge (33.3%), Good knowledge (50%), statically no significant association was found between pre-test and post-test level of knowledge among diabetic patient with socio-demographic data.

LIMITATION

The present study cannot generalized, as it is limited to

1. Diabetic patient
2. Smaller sample size
3. Lack of higher analysis
4. Presence of extraneous variables

IMPLICATION IN NURSING

The findings of the study have implication for student. The implications have been listed under following heading i.e. Nursing Service, Nursing Administration and Nursing Research.

NURSING PRACTICE

The findings of the study clearly stated that the majority of the diabetics have Poor knowledge on foot care and fair level of foot care practices. Many of them had not received proper training or demonstration of foot care before

intervention so the Nurses should be more vigilant in educating the adults who are having diabetic to avoid the unwanted complications of losing the leg. The findings of the study can be disseminated to motivate nurses to educate and monitor diabetic patients' practices of foot care. Plan and compliment foot care instruction in the in patient.

NURSING EDUCATION

The nursing staff and students should be taught about the importance of Educating and supervising the patients during the foot care. The nurse educator should Create awareness on foot care among diabetics and should supervise their foot care Practices. It will improve the foot care, prevent loss of foot and improve the quality of Life of these patients. Nursing education should be strengthened to enable nursing students to know about current practices in foot care among diabetic patients. Nursing curriculum should include clinical experience in conducting health teaching on foot care in various settings.

NURSING ADMINISTRATION

Nurse administrator should be active in organizing and coordinating training programs for the adults with Diabetic. It should be ensured that the staff nurses are providing adequate instructions and guidance regarding foot care Special training programs can be organized for those who are in home settings through the hospital's community reach programs. Necessary administrative support should be provided for the development of education materials. Nursing personal should be motivated for development of educational materials.

Nursing Research

This is only an initial investigation to assess the effect of foot care. There is a need for intensive research in the area of adult's knowledge, preparedness and their physical compliance, diet, exercise, eye care and psychological stress in performance of foot care. The present study may motivate other investigators to conduct further. The nurse researcher should promote for more research in this field. And various new tools and different method can be used for this study. Dissemination of finding through professional journals, conference will make the application of the research finding to be effective.

RECOMMENDATIONS

- A similar study can be replicated on a sample with different demographic characteristic. An experimental study may be conducted using a larger.
- Foot care education should be given periodically and a diary can be maintained for ensuring continuity in practice among diabetic patient.
- A comparative study can be done to identify the difference in foot self- care behavior with and without foot problems among diabetic patient.
- A comparative study can be conducted to identify the differences in foot self-care behavior among patient with diabetic in community area setting.
- A study can be conducted among staff nurses to assess their knowledge regarding foot care
- An observational study can be conducted to assess the skills of self-assessment of the foot among patients with diabetic.

Researcher have made following recommendation

- The finding of the present study can be used as a guide of future research.
- Interventional study can be undertaken to increase the knowledge level of diabetic.
- To make the recommendation to the government compulsory medical check-up on yearly basis for the nursing personnel

REFERENCE (APASTYLE)

- [1]. http://repository-tnmgrmu.ac.in/13343/1/200101120amit_mandal.pdf
- [2]. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8874051/>

- [3]. <https://core.ac.uk/download/pdf/475603408.pdf>
- [4]. <https://www.tandfonline.com/doi/full/10.1080/16089677.2021.1980972?cookieSet=1>
- [5]. <https://www.dovepress.com/knowledge-and-practice-on-diabetic-foot-self-care-and-associated-facto-peer-reviewed-fulltext-article-DMSO>
- [6]. <https://www.ijsrp.org/research-paper-0815/ijsrp-p4462.pdf>
- [7]. <https://www.fortunejournals.com/articles/pevaluate-the-effect-of-education-interventions-in-the-prevention-of-diabetic-foot-ulcers-through-knowledge-of-the-disease-and-sel.pd.pdf>
- [8]. Chaudhary Muhammad JunaidNazar et, al 2016 conducted a study on effectiveness of diabetes education and awareness of diabetes mellitus in combating diabetes in the United Kigdom; main objective of the study is to evaluate the role of knowledge and awareness of diabetes in fighting against diabetes and to interpret to which extent is diabetes education successful. The systematic review to be carried out will include literature from 2001 to 2011 in the United Kingdom regarding awareness of diabetes among UK population and effectiveness of diabetes education.
- [9]. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5297564/>
- [10]. Michael A. Del Core, MD et, al 2018 conducted the evaluation and treatment of diabetic foot ulcers and diabetic foot infections diabetic foot ulcers and infections are common complications of diabetic foot disease.
- [11]. [file:///C:/Users/akans/Desktop/pooo/0000003%20\(1\).pdf](file:///C:/Users/akans/Desktop/pooo/0000003%20(1).pdf)
- [12]. ChamilVidushaMadushanJinadasaet, al 2011 conducted A study to determine the knowledge and practice of foot care in patients with chronic diabetic ulcer: Diabetic foot ulcers accounts for many hospital admissions and it is also a major cause of amputations.
- [13]. <http://www.iomcworld.com/ijcrimph/>
- [14]. Leila Yazdanpanahet, al 2015 conducted Diabetic foot ulcer (DFU) is the most costly and devastating complication of diabetes mellitus, which affect 15% of diabetic patients during their lifetime. Based on National Institute for Health and Clinical Excellence strategies, early effective management of DFU can reduce the severity of complications such as preventable amputations and possible mortality, and also can improve overall quality of life. <file:///diabetes mellitus research.pdf>
- [15]. SonalSekhar M, et, al 2017 conducted Patient education (PE) is as important as medical and surgical interventions in the management of diabetic foot ulcer (DFU). <file:///ijem-15-03-55454.pdf>
- [16]. Mohammed T. Al-Hariri, PhD , et ,al 2016 conducted Descriptive study on the knowledge, attitudes and practices regarding the diabetic foot The aim of this study is to assess the knowledge, attitudes, practices and risk factors influencing diabetic foot ulcers among diabetes patients attending a diabetic clinic in a Saudi hospital. <file:///C:/Users/akans/Desktop/pooo/main.pdf>
- [17]. AydinPourkazemi, et , al 2020 conducted Diabetic foot ulcers (DFUs) are common problems in diabetes. One of the most important factors affecting the quality of diabetes care is knowledge and practice. The current study aimed at determining the knowledge and practice of patients with diabetes regarding the prevention and care of DFU. <https://www.s12902-020-0512-y.pdf>
- [18]. P. Tamilselvi, et, 2010 conducted a study to assess the knowledge Regarding Diabetic foot Ulcer among Diabetic Clients in a selected Hospital, Kancheepuram District, Tamil Nadu. A descriptive study to assess the knowledge regarding diabetic foot ulcer among diabetic clients in a selected hospital, Kancheepuram district, Tamil Nadu. Convenient sampling technique was used to select 100 diabetic patients who were in hospital. Data were gathered through structured knowledge questionnaire .The results mainly found that 56% patients had inadequate level of knowledge,38% had average level of knowledge,6%had an adequate level of knowledge.
- [19]. <https://www.researchgate.net/publication/286883084>
- [20]. Acelya TÜRKMEN^{1*}, Ezgi SEYHAN AK²et 2021 conducted This study is conducted to analyse the diabetic foot ulcer patients' knowledge and attitudes regarding foot care. Diabetes mellitus (DM) is a metabolic disease that develops due to insulin deficiency, insulin resistance, or a combination of the two. Diabetes

mellitus is becoming more common with each passing year, with the number of people living with diabetes expected to rise 1.5 fold from 463 million in 2019 to 700 million in 2045.

- [21]. <https://www.clinmedjournals.org/articles/ijdcr/international-journal-of-diabetes-and-clinical-research-ijdcr-8-144.php?jid=ijdcr#abs>
- [22]. Michael A. Del Core, MD et, al (2018) conducted A study topical review the evaluation and treatment of diabetic foot ulcers and diabetic foot infections. Diabetic foot ulcers and infections are common complications of diabetic foot disease. Additionally, these complications are a common cause of morbidity and impose a substantial burden to the patient and society
- [23]. <https://journals.sagepub.com/doi/pdf/10.1177/2473011418788864>
- [24]. AydinPourkazemiet, al (2020) conducted Diabetic foot ulcers (DFUs) are common problems in diabetes. One of the most important factors affecting the quality of diabetes care is knowledge and practice.
- [25]. <https://onlinelibrary.wiley.com/doi/full/10.1002/dmrr.3273>
- [26]. Matilde monteiro soares et al (2020) conducted It is estimated that diabetes affects 422 million people worldwide, 8.5% of the adult population, and the increase in prevalence is occurring at a faster rate in low- and middle-income countries
- [27]. <https://www.msjonline.org/index.php/ijrms/article/view/3926>
- [28]. Khan Phuong TongET, al conducted the lifetime risk of developing a diabetic foot ulcer (DFU) in people with diabetes is as high as 25%. A trio of factors constitutes the diabetic foot syndrome that characterizes DFUs, including neuropathy, vascular disease and infections. Vitamin C has important functions in the nervous, cardiovascular, and immune systems
- [29]. https://iwgdfguidelines.org/wp-content/uploads/2020/03/van-Netten_et_al-2020-IWGDF-prevention-systematic-review.pdf
- [30]. *Yasmee Khanet*, al (2017) conducted Diabetic foot ulcers are a serious complication of diabetes mellitus which increases the patient morbidity and also have significant socioeconomic impact.
- [31]. <https://www.sciencedirect.com/science/article/pii/S1319562X21001637>
- [32]. Jaap J. van Netten ET; al (2019) conducted prevention of foot ulcers in patients with diabetes is important to help reduce the substantial burden on both patient and health resources. A comprehensive analysis of reported interventions is needed to better inform healthcare professionals about effective prevention.
- [33]. <https://www.ijurgery.com/index.php/isj/article/view/6758>
- [34]. SeemaSachdeva et al to assess knowledge andpractice of basic life support amo nurses working in tertiary care hospital, New Delhi, India, Nursing & Care Op Access Journal, Volume 7, Issue 2 June 2020.<https://medcraveonline.com/NCOAJ/>.
- [35]. George JB, "NURSING THEORY, THE BASE OF PROFESSIONAL NURSIN PRACTICE", 4th Edition (2012),,United States: Appleton & Lange Pp No:14-19.
- [36]. Joyce M.Black et al; "MEDICAL SURGICAL NURSING",7th Edition, Elsevipublication; pp no: 472-474.
- [37]. Lewis et.al," MEDICAL AND SURGICAL NURSING", 6th edition, Philadelphia Mosby publication 2013, Pp.879-884.
- [38]. Patricia. A.Potter.et.al, "BASIC NURSING THEORY AND PRACTICE",8" (2012)
- [39]. Mosby Publications, India,Pp No:300-325.
- [40]. Polit D.F. Hugler Bp. "ESSENTIALS OF NURSING RESEARCH",Philadelphia,JE
- [41]. Lippincott Company(2014),.Pp No:40-45.
- [42]. Praveen Kumar et al; kumar& Clark" CLINICAL MEDICINE"; 6th edition, Elsevier publication; pp no:
- [43]. A. Rick Daniels et al; "CONTEMPORARY MEDICAL SURGICAL NURSING"; 1st
- [44]. Edition; Thomson Delmar publication; pp no: 867-872.
- [45]. Russell D. Metcalfe-Smith. "PERFORMING BASIC LIFE SUPPORT. NURSING PRACTICE", Clinical Research. 2013 Oct-7, 99(40); 20
- [46]. Wilma J Phipps et al; MEDICAL-SURGICAL NURSING"; 7th Edition; B.I.Publishers; pp no: 890-891.

- [47]. Anil Kumar Parashar. Effective planned teaching programme on knowledge and practice of Basic life Support Student in Mangalore. THE NURSING JOURNAL OF INDIA. February 2011-Feb, Vol. CI No.
- [48]. Patrician Josipovic, Michael Webb, Ian Mc Grath. Basic Life Support Knowledge of undergraduate nursing and chiropractic student.