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**B Chandrakala**

MSc (Nursing), College of nursing, SVIMS, Tirupati, Andhra Pradesh, India

**B Kokilamma**

Assistant Professor, College of nursing, SVIMS, Tirupati, Andhra Pradesh, India

**Dr. P Sudharani**

Principal, College of nursing, SVIMS, Tirupati, Andhra Pradesh, India

**M Sreelatha**

Associate Professor, College of Nursing, SVIMS, Tirupati, Andhra Pradesh, India

## A study to assess the knowledge on foot care among type-2 diabetic clients at SVIMS OPD, Tirupati

**B Chandrakala, B Kokilamma, Dr. P Sudharani and M Sreelatha**

### Abstract

**Introduction:** Foot ulcers and amputations are a major cause morbidity, disability as well as emotional and physical costs for people with diabetes. Good knowledge on foot care well reduce the risk of diabetic foot complications and ultimately amputation.

**Aim:** The aim of the study was to assess the knowledge on foot care among type-2 diabetic clients at SVIMS OPD, Tirupati.

**Methods:** A descriptive study was conducted on clients who were comes to Endocrinology SVIMS OPD, Tirupati, in the year of 2017. They were interviewed with checklist of 28 'Yes' or 'No' questions on foot care knowledge.

**Analysis:** The level of knowledge, whether good or poor, was determined based on the median score of each category. The result was tested using a Chi-square test.

**Result:** A total of 100 clients were included in this study. The majority of the clients (44%) had moderate knowledge, while (29%) had adequate knowledge and remaining (27%) had inadequate knowledge on foot care.

**Conclusion and recommendations:** There is a significant association between knowledge levels on diabetic foot care with the socio-demographic variables. These findings suggested that extensive health education program were needed to bring awareness among type-2 diabetic clients. So nurses need to encourage by organizing health education program on foot care among type-2 diabetic clients.

**Keywords:** Knowledge, foot care, diabetic client

### Introduction

Foot are the body parts which are given least importance in the daily care. Foot ulcers and amputations are a major cause morbidity, disability as well as emotional and physical costs for people with diabetes. Early recognition and management of risk factors for ulcers and amputations can prevent or delay the onset of adverse outcomes. [6] Currently the number of cases diabetes worldwide is estimated to around 150 million. This number is predicted to be doubled by the year 2025. A prevalence rate of about 5.4% with the greatest number of cases being expected in China and India. By 2030 as much as 9% of the population would be diabetic. [1] More than 23 million people in the United States (US) are believed to have diabetes. It is estimated that by 2025, 300 million people world wide will have diabetes and by 2030, 360 million people. Thus by 2030, worldwide prevalence will approach 5 percent. 1-4 in general, the incidence of non-traumatic lower extremity amputations (LEAs) has been reported to be at least 15 times greater in those with diabetes than with any other concomitant medical illness. It has been reported that annually, about 1 to 4 percent of those with diabetes develop a foot ulcer; 10 to 15 percent of those with diabetes will have at least one foot ulcer during their lifetime [1].

Kiran Shinde, Nitin N Chate (2017) A descriptive cross-sectional study was conducted to determine the level of awareness and attitude of foot care among 100 adult Type-2 diabetic clients attending tertiary health center in Swami Ramanand Teerth Rural Government Medical College, Ambajogai, Maharashtra, India. A questionnaire was used to collect the data. Results shows that the majority (66%) found to have poor scores both for knowledge and practice of foot care and 24 subjects had satisfactory and remaining 10 subjects had good scores. The study concluded the lack of education for foot care measures among adult diabetic clients in rural setup. It also emphasized on need of appropriate steps to be taken to maintain the health and quality of life of the diabetic patients in rural setup [2].

### Correspondence

**B Chandrakala**

MSc (Nursing), College of nursing, SVIMS, Tirupati, Andhra Pradesh, India

### Materials and methods

Non-experimental approach was adopted, independent variables were Socio demographic variables Knowledge regarding foot care among type-2 diabetic clients extraneous variables which could influence the study were age, gender, monthly income of family type, educational status, occupation, marital status, source of variables, family history, duration of diabetes, knowledge about foot care. Dependent variables were Level of Knowledge regarding foot care among type-2 diabetic clients. The study was conducted at endocrinology OPD, SVIMS, Tirupati.

### Population

The population chosen for this study was type-2 diabetic clients.

### Sample and sample size

100 Type-2 diabetic clients who are attending to endocrinology OPD, SVIMS, Tirupati.

### Sampling technique

As the selection of sample depends on availability of clients, purposive sampling technique was adopted based on inclusion criteria.

### Criteria for sample selection:

**Inclusive criteria:** Clients who are

- Curious and having sound mind.
- Willing to participate in the study.
- At Age group of 30->60 years.
- Can understand Telugu and English.
- Attending to Out Patient Department SVIMS, Tirupati.

**Exclusive criteria:** Clients who have

- Mental illness
- In patient department clients

### Development and description of tool

The tool was developed with the help of related literatures from textbooks, journals, websites discussions and guidance from experts.

### The tool consists of two sections

#### Section I

Consist of Socio-demographic data such as Age, Sex, Religion, Educational status, Marital status, Type of family, Occupation, Family income, Place of residence, Source of Information, Personal habits, Duration of the diabetes, History of other diseases and Foot problems.

#### Section II

Consist of 28 items of structured checklist on foot care among type-2 diabetic clients.

### Scoring interpretation

Scoring key was prepared for section-I by coding the demographic data. Section-II consists of 28 YES or NO questions related to knowledge on foot care among type-2 diabetic clients. YES carries 1 mark and NO carries zero mark. The total maximum score was 28.

The scores were interpreted in the following manner.

For assessing the knowledge-

- Adequate Knowledge - above 76%-100%
- Moderate Knowledge - above 51%-75%
- Inadequate Knowledge – below 0-50%

### Content validity

The content validity was obtained from nursing and medical experts. The content validity of tool was given to 13 experts along with objectives. It includes 5 experts from the department of nursing and 4 experts from the community medicine department. The experts were permitted to give their opinions and suggestions regarding adequacy and appropriateness of the study. After obtaining suggestions from the experts necessary modifications were made in the tool. It was translated into Telugu and its appropriateness was obtained from Telugu pundit. The modified tool was fit for the pilot study.

### Reliability of the tool

Reliability of the tool was established by using structured checklist the data was collected from type-2 diabetic clients at SVIMS OPD, Tirupati. The reliability Cronbach's alpha formula. The obtained reliability of  $r = 0.75$  indicated that the tool was reliable.

### Pilot study

The pilot study was conducted from 21-3-17 to 23-3-17 to test the feasibility and "Practicability" of the tool used. Prior to the study of formal permission was obtained from the HOD of Endocrinology at SVIMS OPD, Tirupati.

### Descriptive statistics were used to find out

- Frequency and percentage distribution of demographic variable
- Frequency and percentage distribution of demographic variables to improve the knowledge on foot care among type-2 diabetic clients.

### Inferential statistics

Chi-square test was used to associate knowledge regarding diabetic foot care among type 2 diabetes clients with their selected socio-demographic variables.

### Analysis and interpretation

that there was a significant association between level of knowledge regarding foot care among type 2 diabetic clients with gender and occupation at  $p < 0.01$  level, age, educational status marital status, family income per month, duration of diabetes mellitus and problems related to foot (tightness and pain) at  $p < 0.05$  level.

There was no significant association with the other socio demographic variables.

### Results and Discussion

#### The first objective of the study to assess the knowledge on foot care among type-2 diabetic clients

Present study shows that among 100 type-2 diabetes clients, 44(44%) were having moderate knowledge, 29(29%) were having adequate knowledge and remaining 27 per cent were had inadequate knowledge. This was supported by another study conducted by Padma. K *et al.* (2016) Descriptive cross sectional study was conducted to assess the level of knowledge on Foot ulcer among 100 type 2 diabetic clients. Results shows that with regard to foot care, 32 per cent diabetic clients had inadequate knowledge, 53 per cent had moderate knowledge and whereas 15 per cent had adequate knowledge<sup>[3]</sup>.

**The second objective is to associate the knowledge on foot care among type-2 diabetic clients with their socio-demographic variables.**

The present study shows there was a significant association between level of knowledge regarding foot care among type 2 diabetic clients with age, educational status and marital status, family income per month, duration of diabetes mellitus and problems related to foot (tightness and pain) at  $p < 0.05$  level, gender and occupation at  $p < 0.01$  level. There was no significant association between religion, type of family, area of residence, habit of smoking and drinking alcohol, family history of diabetes mellitus, history of other diseases and problems related to foot like heaviness, cramps and burning. This study was supported by another study conducted by Dr. Vicramasinghe. I.P. *et al.* (2016) there is a significant association between foot care knowledge with educational status, duration of diabetes at  $p < 0.05$  level [4].

**Conclusion**

- Regarding the level of knowledge on foot care related to diabetes out of 100 type-2 diabetic clients, 44 percent had moderate knowledge, 29 percent of them adequate knowledge and 27 percent had adequate knowledge.
- There is significant association between the socio-demographic variables like with age, educational status and marital status, family income per month, duration of diabetes mellitus and problems related to foot (tightness and pain) (at  $p < 0.05$  level), gender, occupation (at  $p < 0.01$  level).
- The mean knowledge scores were 2.02 and standard deviation was 0.752.

**Recommendations**

The implication drawn for the present study is a vital concern to health professional including nursing practice, nursing education, nursing administration and nursing research.

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