



A Study to Assess the Demographic and Clinical Profile among Patients with Type-2 Diabetes mellitus in a Selected Hospital, Thrissur

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ABSTRACT

India is known as the “Diabetic capital” of the world, due to the dramatic rising prevalence of diabetic patients. This study was undertaken to assess the demographic and clinical profile among patients with Type 2 diabetes mellitus in a selected hospital, Thrissur. The research design adopted for this study is descriptive survey design. Thirty samples were selected by purposive sampling technique. The demographic and clinical profile was collected by structured questionnaire which consists of two sections-demographic and clinical profile. The findings revealed that, out of 30 samples, majority 53.33% belongs to the age group more than 60 years, male and female ratio is equally distributed and 80% were belongs to nuclear family and 70% pf the samples belongs to rural area. Majority of the samples 43.33% had secondary level of education, 43.33% of the samples had less than Rs 10,000/-. By means of the personal habits most of the samples 86.66% does not had any type of personal habits like smoking, alcoholism and tobacco products usage .63.33% does not follow any dietary pattern and 66.66% does not had any regular exercise. Regarding the clinical profile, majority of the samples 66.66% had to overweight.73.33% of them had history of DM more than 5 years, 63.33% of the patients had the family history of DM. 50% of the samples had comorbid conditions such as, hypertension and other cardiovascular diseases (80%) arthritis (13.33%) hypothyroidism (6.66%). 53.33% of the samples had complications of DM such as, hypoglycaemia (56.25%), neuropathy (25%), infected foot ulcer (12.5%) and visual problems (6.25%). The study concluded that, this data is a base line for further studies on diabetes mellitus.

KEYWORDS

Diabetes mellitus, Type 2 DM, Clinical and demographic profile.

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INTRODUCTION

Background of the study

Today non-communicable diseases represent an important public health problem worldwide, since they are associated with high rates of morbidity and mortality and high costs to public health systems. Type 2 diabetes mellitus (T2DM) gets attention because of its chronic nature and high incidence worldwide.¹

According to International Diabetic Federation, one out of 11 adults has diabetes (415 million worldwide) and by the year 2040, one adult in 10 (642 million worldwide) will suffer from diabetes. The fearful fact is that 46.5% of adults with diabetes are undiagnosed.² It is also estimated that the number of diabetic patients in India has doubled between 1995 and 2005 and by 2025, it would reach the figure of about 70 million.³

Diabetes mellitus (DM) is a very big health issue throughout the world with accumulative incidence as a leading cause of the morbidity and mortality. Its complications are one of the main reason of morbidity and mortality in developing nations.⁴ India is termed as the diabetic capital of the world, as it is projected to have more diabetic patients than any other country in the world by 2025.³ The rising prevalence of T2DM poses a major threat to clinical management, economic growth and social wellbeing of patients.⁵

DM has various possible prolonged complications of vascular system which may be categorized as microvascular and macrovascular. Microvascular complications includes diabetic retinopathy, neuropathy and nephropathy while macrovascular complications includes coronary artery diseases, atherosclerosis, and cardio vascular diseases like stroke. Besides these complications, glaucoma and cataract eye, diabetic foot ulcer and urinary tract infections are also common in patients having DM. Death ratio is there for greater in diabetic patients due to presence of these numerous complications.⁴

Need for the study

DM is a condition that adversely affects the normal physiological ability to produce or utilize insulin.⁶ The aetiology of DM in India is multifactorial and includes genetic factors coupled with environmental influences such as obesity associated with rising living standards, steady urban migration and life style changes.⁷ A population based study conducted among 1000 participants in Haryana found that the highest prevalence of DM was in the age group of 55-64 years (26%), those engaged in services (11.6%), illiterates and upper middle class family (14.4%)⁵



Another research study which was conducted to find out the association between socio demographic factors and blood sugar level in T2DM patients showed that age, education, residential area, physical exercise and other co-morbid diseases was significantly correlated with FBS level of the T2DM patients.⁶

By reviewing the literature the researcher felt that studying the epidemiology of the patients with DM would help in identifying the causes, manifestations and severity of the DM in the community and there by spreading a light on the need of further research in this area.

Statement of the problem

A study to assess the demographic and clinical profile among patients with Type 2 diabetes mellitus in a selected hospital, Thrissur.

Objectives of the study

1. To assess the demographic profile among patients with Type 2 diabetes mellitus.
2. To assess the clinical profile among patients with Type 2 diabetes mellitus.

REVIEW OF LITERATURE

A literature review is a body of text that aims to review the critical points of knowledge on a particular topic of research.⁸

Review is the most important steps in the research process. It is an account of what is already known about a particular phenomenon. The main purpose of literature review is to convey to the readers about the work is already done and the knowledge and ideas established on a particular topic on research. It is a description and analysis of the literature relevant to a particular field or topic.⁸

The review of literature about demographic and clinical profile among patients with Type 2 diabetes mellitus is presented under the following heading.

Review of literature

1. Incidence and prevalence of DM.
2. Demographic and clinical profile of DM.

Incidence and prevalence of Diabetes Mellitus

A prospective cohort study was conducted to assess the incidence of type 2 diabetes mellitus and prediabetes in Kerala, in two urban wards of central Kerala. The 865 individuals, who participated in the baseline survey in 2007 were again invited for a follow-up study in 2017. Result showed that nearly 60% of participants with baseline IFG (impaired fasting glucose) were converted to T2DM



group in the follow-up period. Age >45 years, family history of T2DM, BMI \geq 25 kg/m² and presence of central obesity emerged as important risk factors for incident of T2DM. The study concluded that there was a high incidence of prediabetes over diabetes. It shows an epidemic trend of T2DM in Kerala, India that requires an immediate public health action.⁹

A community-based cross-sectional study was conducted to determine the prevalence and risk factors of diabetes among adults in rural Kerala, among 454 resident adults aged 30 years and above, during December 2012 to 2013 in Thrissur. The study subjects were randomly selected via a house-to-house survey after obtaining their informed verbal consent. Data was collected via an interview using a pre-designed pre-tested questionnaire. In this study, the overall prevalence of type 2 diabetes mellitus was 18.7%. The prevalence of T2DM among adults in rural Thrissur is high.¹⁰

A descriptive community based research study was conducted to identify the prevalence of diabetes. The study population were 3316 adult males and females, from four various states of Sudan. The states were selected purposively and the sample size is divided proportionally to the state population. The study showed that the overall prevalence of known diabetic population in four rural States in Sudan was 11.2% with significant variation between States. The study concluded that the prevalence of DM in rural population in Sudan is high.¹¹

Demographic and clinical profile of Diabetes mellitus patients.

A research study was conducted to find out the type of DM in diabetic patients and to study about the socio-demographic and clinical characters by clinical examinations. The study results showed that, majority of the patients had age of onset of DM above 25 years (83%). Seventy nine percent of the type 1 Diabetes Mellitus (T1DM) patients had onset of disease below 30 years. Whereas, majority of the patients with type 2 diabetes (54.4%) had onset of disease above 30 years. There were 63 males and 67 females in this study and majority percentage of the patients had a sedentary lifestyle, and 70% of the patients were from urban area. T2DM was the commonest type of diabetes 103/130 (79.3%) followed by type 1 diabetes 19/130(14.7%). The study concluded that majority of patients had the age of onset >25 years with slight female predominance.¹²

A hospital based descriptive study was conducted on the clinical profile of patients with diabetic foot in a tertiary hospital of Andrapradesh. Fifty samples were selected by convenience sampling technique. Data collection was done by with pre-designed pre tested interview questionnaire. The study found that the majority of the affected samples are in the age group of 51-70 years, and most



of them belonged to lower middle class families. The study concluded that the socio-demographic variables play an important role in the development of diabetic foot ulcer which is a severe complication of DM.¹³

A hospital-record based descriptive cross sectional study was conducted to assess the socio-demographic and anthropometric profile of 167 diabetic patients who were attending the diabetic clinic in tertiary care hospital of Gujarat. The study was conducted from November 2014 to December 2014. The results were 85 people were males and 52 were females. DM was more common among those above age of 60 years. Almost 3/4th of the patients had high waist hip ratio and 21% patients were obese. The study concluded that the diabetic patients from that setting belong to both genders and are often from the lower socioeconomic status and having limited education in their geriatric group. There is high proportion of obesity and hypertension among them.¹⁴

RESEARCH METHODOLOGY

Methodology is the most important part of the research protocol and forms the core of the research project. It should contains sufficient information about all the procedures planned to achieve the objectives. Methodology can be modified according to the specific type of study.¹⁵

This chapter deals with research approach, research design, setting of the study, population of the study, sample of the study, criteria for sample selection, sample size, sampling technique, development of the tool, description of the tool, validity of the tool, procedure for data collection, and plan for data analysis.

Research approach

Research approach involves the description of the plan to investigate the phenomenon under study in a structured (quantitative), unstructured (qualitative) or a combination of the two methods (quantitative-qualitative integrated approach).⁸

In this study, the researcher adopted quantitative approach to assess the demographic and clinical profile among patients with diabetes mellitus.

Research design

A research design is the master plan specifying the methods and procedures for collecting and analysing the needed information in a research study.⁸ The research design adopted for this study was descriptive research design.



Setting of the study

Setting of the study refers to the physical location and condition in which data collection takes places in a study.⁸

This study was conducted in Medical OPDs of Aswini hospital, Thrissur. Aswini hospital is a leading private hospital situated in Thrissur, in Kerala state of India. It is a 300 bedded multi super specialty hospital.

Population of the study

Population is defined as the entire aggregate of cases in which a researcher is interested.¹⁶ The population of this study comprised of patients who were diagnosed with Type 2 Diabetes mellitus in Aswini hospital, Thrissur.

CRITERIA FOR SAMPLE SELECTION

Inclusion criteria: Patients who are,

- age group between 30-60 years
- diagnosed with other types of diabetes mellitus.
- available at the time of data collection

Exclusion criteria: Patients who are,

- diagnosed with Type 1 diabetes mellitus
- not able to follow the instructions

Sample and sample size of the study

Sample may be defined as the representative unit of a target population, which is to be worked upon by the researcher during their study.⁸

This study comprised of 30 patients with Type 2 Diabetes mellitus in selected Medical OPDs of Aswini Hospital, Thrissur.

Sampling technique

Sampling is the process of selecting representative unit of the target population under study.⁸ The sampling technique adopted for this study was purposive sampling technique.

Development of the tool

A research tool is the device used to measure the concept of interest in a research project that a researcher uses to collect data.⁸

The tool of this present study was developed by the researcher, by reviewing literatures, clinical experiences and by consulting Nursing experts in the field of Medical Surgical Nursing.



Description of tool

The tool consists of two sessions

Section A: Demographic profile (age, gender, religion, type of family, marital status, educational status, occupation, type of work, monthly income, area of residence, personal habits, dietary pattern, exercise pattern, and previous knowledge about Diabetes Mellitus).

Section B :Clinical profile (Height, weight, BMI, duration of DM, family history of DM, comorbid conditions, type of Diabetic management, complications due to Diabetes Mellitus, and recent blood sugar level).

Validity of the tool

Validity means the degree to which an instrument measures what it is intended to measure.⁸ The content validity was obtained by two experts in Medical Surgical Nursing department and by one physician. After obtaining suggestions from the experts and discussion with the guide, the tool was finalized with minor modifications.

Procedure for data collection

It is the most time consuming step in research process, which involves direct or indirect interaction with the respondents to gather information pertaining to the topic under study.⁸

In this study formal verbal permission was obtained from the physicians of the selected medical OPDs of Aswini Hospital, Thrissur. The data collection was done within 2 weeks of time interval, from 09-07-2014 to 20-07-2014

Step 1: Selection of samples

By purposive sampling technique the investigator chosen the samples from the selected Medical OPDs of Aswini hospital which was started at 9am to 12.30pm.

Step 2: Administration of structured demographic and clinical profile questionnaire to the samples

The researcher introduced own self to the samples and established good rapport with them by understanding about the purpose of the study. After obtaining the written consent from the samples, the investigator provided structured demographic and clinical profile questionnaire to the samples, and explained about the instructions related to the tool and clarified the doubts of the samples and instructed them to encircle the most appropriate options in the questionnaire. The time provided to the samples were 15 minutes for the completion of the questionnaire. The questionnaire was filled



in the presence of the researcher to avoid bias, after that the tool was returned back to the researcher. Height and weight was measured by the investigator by own self and recorded.

Plan for data analysis

The process of analysis involves the difficult task of contrasting and comparing the final data to determine what pattern, themes, or threads emerge.⁸

Data was analysed on the basis of the objectives of the study by using descriptive statistics. Frequency and percentage distribution was used to analyse the demographic variables of patients with diabetes mellitus like age, gender, religion, type of family, marital status, educational status, occupation, type of work, monthly income, area of residence, personal habits, dietary pattern, exercise pattern, and previous knowledge about Diabetes Mellitus and also same as the clinical variables like, BMI, duration of DM, family history of Diabetes Mellitus, any comorbid conditions, type of Diabetic management, complications due to Diabetes Mellitus, and recent blood sugar level.

ANALYSIS AND INTERPRETATION

Analysis and interpretations are one of the most important phases of research process. Data analysis is the process of organizing and synthesizing the data so as to answer research questions and test hypothesis. Interpretation of data refers to the critical examination of the analysed study results to draw inferences and conclusions.⁸

In this session deals with the analysis and interpretation of the data in order to study the demographic and clinical profile among patients with Type 2 DM. The data was organized, tabulated, analysed and interpreted as follows according to the objectives of the study.

The objectives were:

1. To assess the demographic profile among patients with Type 2 Diabetes Mellitus.
2. To assess the clinical profile among patients with Type 2 Diabetes Mellitus.

Table 1 Description of the demographic profile among patients with Type 2 Diabetes mellitus N=30

SL.NO	DEMOGRAPHIC PROFILE	FREEQUENCY	PERCENTAGE (%)
1.	Age in years		
	a. 20-40 years	02	06.66
	b. 41-60 years	12	40.00
	c. >60 years	16	53.33
2.	Gender		
	a. Male	15	50.00
	b. Female	15	50.00



3.	Religion		
a.	Hindu	24	80.00
b.	Christian	04	13.33
c.	Muslim	02	06.66
4.	Type of family		
a.	Nuclear family	18	60.00
b.	Joint family	12	40.00
5.	Marital status		
a.	Married	24	80.00
b.	Unmarried	02	06.66
c.	Widow /widower	04	13.33
6.	Educational status		
a.	Primary	07	23.33
b.	Secondary	13	43.33
c.	Higher secondary	03	10.00
d.	Diploma	02	06.66
e.	Graduate and above	05	16.66
7.	Occupation		
a.	Government employee	02	06.66
b.	Private employee	05	16.66
c.	Business	02	06.66
d.	Home maker	07	23.33
e.	Retired	08	26.66
f.	Un employed	06	20.00
8.	Type of work		
a.	Low	13	43.33
b.	Moderate	16	53.33
c.	High	01	03.33
9.	Monthly income		
a.	≤Rs 10,000/-	13	43.33
b.	Rs20,001/- to 20,000/-	05	16.66
c.	Rs 20,001/- to Rs 30,0000/-	06	20.00
d.	>Rs 30,000/-	06	20.00
10.	Area of residence		
a.	Rural	21	70.00
b.	Urban	07	23.33
c.	Semi urban	02	06.66
11.	Personal habits		
a.	Smoking	02	06.66
b.	Alcoholism	01	03.33
c.	Use of other tobacco products	01	03.33
d.	Nil	26	86.66
12.	Dietary pattern		
a.	Yes	19	63.33
b.	No	11	36.66
13.	Regular exercise		
a.	Yes	10	33.33
b.	No	20	66.66
14.	Previous knowledge related to DM		
a.	Yes	19	63.33
b.	No	11	36.66

Table 1 showed the percentage distribution of demographic profile of samples according to age in years, gender, religion, type of family, marital status, educational status, occupation, type of work,



monthly income, area of residence, personal habits, dietary pattern, regular exercise and previous knowledge related to DM.

In relation to age, most of the samples, 16 (53.33%) belongs to the age group of above 60 years, 12 (40%) of samples were in the age group of 41-60 years, and 2 (6.66%) belongs to the age group of 20-40 years.

With reference to the gender, both males and females belongs to 15 (50%) for each.

In accordance with religion, majority of the samples 24(80%) were belongs to Hindu religion, 4 (13.33%) samples belongs to Christian religion, and 2 (6.66%) samples belongs to Muslim religion. Regarding the type of family, 18 (60%) were belongs to nuclear family, and the remaining 12 (40%) of them belongs to joint family.

In terms of the marital status, 24 (80%) of the samples were married, 4 of them (13.33%) were widow/widower and the remaining 2 (6.66%) were unmarried.

In accordance with the educational status, 13 (43.33%) had secondary level education, 7(23.33%) had primary education, 5 (16.66%) were graduates and above, 3(10%) had higher secondary level education, the remaining 2(6.60%) had diploma.

In relation to the occupation status of the samples, 8 (26.66%) were retired, 7 (23.33%) were homemakers 6 (20%) were unemployed, 5 (16.66%) were private sector workers, 2(6.66%) were business workers and government employees for each.

With reference to the type of work, 16 (53.33%) of the samples had moderate level of work, 13 (43.3%) had low level of work and the remaining one (3.33%) have the high level of work.

Based on the monthly income, majority 13 (43.33%) of the samples had the monthly income of \leq Rs 10,000/-, 5 (16.66%) samples had monthly income between Rs10,001/- to Rs 20,000/- and the remaining 6 (20%) of them had monthly income of Rs 20,001/- to Rs 30,000/-and more than Rs 30,000/- for each.

In accordance with the area of residence, majority 21 (70%) of the samples resides in rural area, 7 (23.33%) were in urban area and the 2 (6.66%) of them in semi urban area.

In terms of the personal habits, majority 26(86.66%) of them did not have any personal habits, 2 (6.66%) had the habit of smoking, and the 1 (3.33%) had the habit of alcoholism and usage of tobacco products in each.

Related to the dietary pattern 19 (63.33%) does not follow any regular dietary pattern, and the remaining 11 (36.66%) of them had follow a regular dietary pattern.



With regards to the exercise pattern 20 (66.66%) does not follow any regular exercise pattern, and the rest of them 10 (33.33%) of them had a regular exercise pattern.

By means of the previous knowledge of samples regarding DM, 19 (63.33%) had the previous knowledge regarding DM, and the remaining 11 (36.66%) did not had any previous knowledge regarding DM.

Table 2 Description of clinical profile among patients with Type 2 Diabetes mellitus. N=30

SLNO	CLINICAL VARIABLES	FREEQUENCY	PERCENTAGE
1.			
2.	BMI		
	a. Under weight	02	06.66
	b. Normal weight	04	13.33
	c. Over weight	10	33.33
	d. Class I obesity	10	33.33
	e. Class II obesity	04	13.33
3.	History of DM?		
	a. < 1 year	04	13.33
	b. 1-5 years	04	13.33
	c. >5 years	22	73.33
4.	Family history of DM		
	a. Yes	19	63.33
	b. No	11	36.66
5.	Co morbid conditions		
	a. Yes	15	50.00
	b. No	15	50.00
6.	Type of comorbid condition		
	a. Hypertension & cardiovascular diseases	12	80.00
	b. Arthritis		
	c. Hypothyroidism	2	13.33
		1	6.66
7.	Type of diabetic management		
	a. Oral medications	19	63.33
	b. Insulin injection	05	16.66
	c. Both	06	20.00
8.	Complications due to DM		
	a. Yes	16	53.33
	b. No	14	46.66
9.	Complications		
	a. Hypoglycemia	9	56.25
	b. Neuropathy	4	25.00
	c. Infected foot ulcer	2	12.5
	d. Visual problems	1	6.25
10.	Regular blood sugar checking		
	a. Yes	28	93.33
	b. No	02	06.66
11.	Recent blood sugar level- FBS level		
	a. 70-100 mg/dl	06	20.00
	b. 100-125mg/dl	09	30.00
	c. >125mg/dl	15	50.00



Table 2 explains the percentage distribution of the clinical profile of the samples according to their BMI, history of DM, family history of DM, any other comorbid conditions, type of comorbid conditions, type of diabetic management, complications of DM, checking blood sugar level at regular interval and recent blood sugar (FBS) level.

In relation to the BMI, 10 (33.33%) samples belongs to overweight and class 1 obesity for each, 4 (13.33%) were included in class 2 obesity, same as 4 (13.33%) were in normal weight category and the remaining 2 (6.66%) were in underweight category.

In terms of the history of DM, 22 (73.33%) had the history of DM for more than 5 years, 4 (13.33%) of them had less than 1 year, and the 4 (13.33%) had the history of DM for 1- 5 years.

In accordance with the family history of DM, 19 (63.33%) had the family history of DM, and the rest of the 11 (36.66%) had no family history of DM.

By means of the comorbid conditions, half of them 15(50%) reported some kind of co morbid conditions. In which, 12 (80%) of them had hypertension and other cardio vascular diseases, 2 (13.33%) of them had arthritis and 1(6.66%) had hypothyroidism. The remaining 15(50%) samples does not had any comorbid conditions.

In terms of the type of diabetic management, 19 (63.33%) of the samples managing the DM with oral medications, 5 (16.66%) had taking insulin injection only and 6 (20%) had taken the both insulin and oral medications.

Related to the complications of DM, 16 (53.33%) had complaints of complications due to DM. Out of these 16 samples, 9 (56.25%) had reported hypoglycaemic attack, 4 (25%) had neuropathy, 2 (12.5%) had infected foot ulcer and the remaining 1(6.25%) had visual problem. The remaining 14(46.66%) samples does not had any complications due to DM.

In related to the regular blood sugar monitoring status, 28 (93.33%) of the samples checks their blood sugar level at regular intervals, and the rest of the 2 (6.6 %) did not check their blood sugar level at regular intervals.

In terms of the recent blood sugar level (FBS) 15 (50%) of the samples had blood sugar level more than 125mg/dl, 9 (30 %) of the samples had blood sugar level between 100-125mg/dl, and the remaining 6 (20%) of them had blood sugar level between 70-100mg/dl.

DISCUSSION, SUMMARY AND CONCLUSION

This section deals with the brief account of the discussion of the findings in accordance with the objectives of the study, summary and the conclusions drawn from the findings.

Discussion

The discussion section is devoted to a thoughtful and insightful analysis of the findings, leading to discussion of their clinical and theoretical utility. Value of the research is only reached when findings are well communicated and further leads to practice. Discussion refers to whether the research findings or study reports differ from previous literature.⁸

The present study is aimed to assess the demographic and clinical profile among patients with T2DM. The study was conducted among the patients who were diagnosed with T2DM in a selected OPDs of Aswini Hospital, Thrissur. The data was collected with the help of a structured



questionnaire on demographic and clinical profile. The purposive sampling technique was used to select the samples. The findings of the study were discussed based on the relation to the observation made by other studies which the researcher had reviewed.

The first objective: To assess the demographic profile among patients with Type 2 diabetes mellitus.

The demographic profile of the patients with T2DM was assessed with the help of a questionnaire regarding their demographic profile. Out of the 30 samples, 16 (53.33%) belongs to the age group of above 60 years, 12 (40%) of samples were in the age group of 41-60 years, and 2 (6.66%) belongs to the age group of 20-40 years. With reference to the gender, both males and females belongs to 15 (50%) for each. In accordance with religion, majority of the samples 24(80%) were belongs to Hindu religion, 4(13.33%) samples belongs to Christian religion, and 2 (6.66%) samples belongs to Muslim religion. Regarding the type of family, 18 (60%) were belongs to nuclear family, and the remaining 12 (40%) of them belongs to joint family. In terms of the marital status, 24 (80%) of the samples were married, 4 of them (13.33%) were widow/widower and the remaining 2 (6.66%) were unmarried. In accordance with the educational status, 13 (43.3%) had secondary level education, 7(23.3%) had primary education, 5 (16.6%) were graduates, 3(10%) had higher secondary level education, the remaining 2(6.60%) had diploma. In relation to the occupation status of the samples, 8 (26.66%) were retired, 7 (23.33%) were homemakers 6 (20%) were unemployed, 5 (16.66%) were private sector workers, 2(6.66%) were business workers and government employees for each. With reference to the type of work, 16 (53.33%) of the samples had moderate level of work, 13 (43.3%) had low level of work and the remaining one (3.33%) have the high level of work. Based on the monthly income, majority 13 (43.33%) of the samples had the monthly income of \leq Rs 10,000/-, 5 (16.66%) samples had monthly income between Rs10,001/- to Rs 20,000/- and the remaining 6 (20%) of them had monthly income of Rs 20,001/- to Rs 30,000/-and more than Rs 30,000/- for each. In accordance with the area of residence, majority 21 (70%) of the samples belongs to rural area, 7 (23.33%) were in urban area and the 2 (6.66%) of them belongs to semi urban area. In terms of the personal habits, majority 26(86.66%) of them did not have any personal habits, 2 (6.66%) had the habit of smoking, and the 1 (3.33%) had the habit of alcoholism and usage of tobacco products in each. Related to the dietary pattern 19 (63.33%) does not follow any regular dietary pattern, and the remaining 11 (36.60%) of them had follow a regular dietary pattern. With regards to the exercise pattern 20 (66.66%) does not follow any regular exercise



pattern, and the rest of them 10 (33.33%) of them had a regular exercise pattern. By means of the previous knowledge of samples regarding DM, 19 (63.33%) had the previous knowledge regarding DM, and the remaining 11 (36.66%) did not had any previous knowledge regarding DM.

This findings were supported by, a cross sectional study conducted for the duration of 6 months. That study revealed that the mean age of diabetic population was 62 years. Male-female, urban-rural ratios were nearly 1:1 and 3:2 respectively. Nearly 7 % patients were found to be below poverty line (BPL). On risk factor evaluation of 623 diabetic patients it was found that 598 (96%) patients had lack of exercise, 406 (65.2%) patients had age more than 60 years and 90 (14.4%) patients had positive family history.¹⁷

The second objective: To assess the clinical profile among patients with Type 2 diabetes mellitus.

Regarding BMI, 10 (33.33%) belonged to overweight and class 1 obesity for each, 4 (13.3%) each were included in class 2 obesity and normal weight category and the remaining 2 (6.6%) were in the underweight category. In terms of the history of DM, 22 (76.66%) had the history of DM for more than 5 years, 5 (13.3%) of them had less than 1 year, and the 3 (10%) had the history of DM for 1- 5 years. In accordance with the family history of DM, 19 (63.33%) had the family history of DM, and the rest of the 11 (36.6%) had no family history of DM. By means of the comorbid conditions, half of them 15(50%) had some kind of comorbid diseases, in which, 12 (80%) of them had hypertension and other cardio vascular diseases, 2 (13.3%) have arthritis and the remaining 1(6.6%) had hypothyroidism. In terms of the diabetic management, 19 (63.3%) of the samples managing DM with oral medications, 5 (16.6%) had taking insulin injection only and 6 (20%) had the both insulin and oral medications. Related to the complications of DM, 16 (53.33%) had some kind of complications related to DM, the remaining 14 samples does not had any complications. Out of complicated cases, 9 (53.25%) had hypoglycaemic attack, 4 (26.66%) had neuropathy, 2 (13.33%) had infection and foot ulcer and the remaining 1(6.6%) had visual problem. In related to the regular blood sugar monitoring status, 28 (93.33%) of the samples checks their blood sugar level at regular intervals, and the rest of the 2 (6.6 %) did not check their blood sugar level at regular intervals. In terms of the recent blood sugar level (FBS) 15 (50%) of the samples had blood sugar level more than 125mg/dl, 9 (30 %) of the samples had blood sugar level between 100-125mg/dl, and the remaining 6 (20%) of them had blood sugar level between 70-100mg/dl.



This study findings were supported by one cross sectional observational study was conducted on the clinical profile of T2DM patients. This study concluded that, hypertension was observed as a risk factor in 35% patients which shows association of T2DM with it. Obesity was seen in 49% of patients in present study which shows association of T2DM with high BMI. The study also revealed that, obesity, family history of diabetes, uncontrolled glycaemic status, sedentary lifestyles and hypertension were highly prevalent in T2DM subjects.¹⁸

Summary

The present study was conducted to assess the demographic and clinical profile among patients with Type 2 diabetes mellitus. With the help of a questionnaire provided to the samples to identify the demographic and clinical profile. Then the data was analysed and interpreted.

The study reveals that out of 30 samples most of the samples 53.33% belongs to the age group more than 60 years. In terms of gender both males and females are equally distributed as 50% and 80 % were belonged to nuclear family. In terms of educational status only 26.66% had higher level of education, while 66.66% of the samples have minimum level of education. In relation to the monthly income 43.33% of the participants had less family income compared to the other samples, 20% of the samples had higher level of income. In accordance with the area of residence 70% of the samples belongs to rural area. By means of the personal habits most of the samples 86.66% does not had any type of personal habits. 63.33% does not follow any regular diet and 66.66% of the samples does not had any regular exercise habit. Regarding the BMI, majority of the samples 66.66% belongs to overweight category. By means of the history of DM, 73.33% of them have DM more than 5 years. In terms of the family history of DM, 63.33% of the patients had the family history. In relation to the comorbid conditions, 50% of the samples had some kind of comorbid conditions. In which hypertension and cardiovascular diseases are the highest one (80%). In relation to the complications related to DM, 53.33% of the samples had some kind of complications of DM in which hypoglycaemia is the highest one (53.25%)

Conclusion

DM is a condition that adversely affect the normal physiological function of the individual. Globally the incidence and prevalence of DM is rising. The present study is aimed to assess the demographic and clinical profile among patients with T2DM in a selected hospital. Thirty samples were selected with purposive sampling technique and with the help of a questionnaire, the researcher collected the demographic and clinical profile. The results showed that majority of the



DM patients included in the age category more than 65 years, the increased BMI is also act as a risk factor for developing DM, lack of regular exercise and dietary pattern make an influence in the blood sugar level of T2DM patients.

Nursing implications

The investigator had drawn the following implications from the study which is of vital concern to the field of nursing practice, nursing education, nursing service, nursing administration and nursing research.

Nursing practice.

- The study findings will able to help the staff nurses to know about the demographic and clinical variable of DM patients.
- The findings can be used by the healthcare workers to plan the health education for patients with diabetes mellitus.
- The staff nurses can share this knowledge to other health care providers also.

Nursing education

- This study will provide knowledge for the nursing students to understand about the demographic and clinical variables of patients with diabetes mellitus.
- Student nurses can provide health education and conduct awareness programmes to the people based on the study findings.

Nursing research

- The study will serve as a valuable reference material for the future investigator.
- Nursing researcher can utilize the study findings of the study to conduct future studies in different aspects of complication of DM.
- The present study will act as a background for the future studies.
- The study can be publish in various kinds of journals.

Nursing administrations

- Nurse administrator can organize many awareness programmes and health education programmes to the public about diabetes mellitus and the demographic and clinical factors.
- Nurse administrator can conduct a CNE programme based on the research findings to make staff nurses aware about the facts.

Limitations



- The broad generalization of the study finding is difficult due to the limited sample size.
- Study period was limited as 2 weeks.
- The tool used for the study was not a standardized one.
- The study was limited only to one setting, so generalization is not possible.

Recommendations

Keeping in view the findings of the present study, the following recommendations were made;

- A similar study can be conducted on a large sample may help to draw out more definite conclusions and make generalization.
- A study can be conducted with a teaching strategy or distributing one module regarding the findings of this study, thus make the public more aware about DM.
- A follow up study can be conducted to understand about the complications of DM.



REFERENCES

1. Zanchetta Cristina Flavia, Trevisan Donizetti Danilo, Apolinario Peruzzo Priscila, Silval da Bastoni Juliana, Helena Maria. Clinical and demographic variables associated with diabetes-related distress in patients with type 2 diabetes mellitus. 2016; 14(3):346-351.
2. Trikkalinou Aikaterini, Papazafiropopulou K Athanasia, Melidonis Andreas. Type 2 diabetes and quality of life. World Journal of Diabetes.2017; 8(4):120-129.
3. Kumar Prayaga, Agarwal Neeraj, Singh Mani Chandra, Pandey Sanjay, Ranjan Alok, Kumar Dhananjay. Diabetic and quality of life –a pilot study. International Journal of Medical Science and Public Health.2016; 5(8):1143-1147.
4. Maryam Amara, Khawaja Wajiha, Khawaja Madhina. Socio-demographic factors responsible for poor management of Diabetes mellitus. Annals of PIMS. 2017; 13 (2): 254-257.
5. Jangra Anuj, Malik J S, Singh Srishti, Sharma Nithika. Diabetes mellitus and its socio-demographic determinants: a population-based study from a rural block of Haryana, India. International journal of advances in medicine.2019; 6 (1): 30-34.
6. Islam Rabiul. Association between socio-demographic factors and blood sugar levels in type 2 diabetes mellitus patients in Bangladesh. Journal of diabetes mellitus. 2017; 7:151-159.
7. Kaveeshwar Abhijeeth Seema, Cornwall Jon. The current state of diabetes mellitus in India. Australian medical journal. 2014; 7(1): 45-48.
8. Sharma K Suresh. Nursing research and statistics. 2nd edition. India. Elsevier publications, 2015:40-44.
9. Vijayakumar gadadharan and co-ediors.Incidence of type 2 diabetes mellitus and prediabetes in Kerala, India: results from a 10-year prospective cohort. [Internet] 2019. Available from: <https://doi.org/10.1186/s12889-019-6445-6>.
10. Simon Catherine, Narayanan Nair, Binu Jeffy, Rajmohan Priyanka. Prevalence and risk factors of type 2 diabetes mellitus among adults in a rural area of Thrissur, Kerala. 2017; 5 (9): 28303-28310.
11. Balla Ahamed Siham, Ahmed Abu Haider, Awadelkareem Ali Mohamed. Prevalence of diabetes, knowledge and attitude of rural population towards diabetes and hypoglycaemic event, in Sudan. American journal of health research.2014; 2(6):356-360.



12. K suresh, Malliyappa Vijay Kumar, A K Badrinath. Socio Demographic and Clinical Profile of Diabetes Mellitus in Adolescents and Young Adults. *Journal of evolution of medical and dental sciences*. 2014; 3(9): 2287-2301.
13. Raju Prabhakar Chakrapani. Study on clinical profile of patients attending a tertiary care hospital with diabetic foot from Andhra Pradesh. *Indian Journal of Basic and Applied Medical Research*. 2017; 6 (3): 483-488.
14. Rana M Himanshu, Parag Chavda, Chirag C Rathod, Meera Mavani. Socio-Demographic and Anthropometric Profile of Diabetic Patients Attending Diabetes Clinic in Tertiary Care Hospital of Central Gujarat. *National journal of Community Medicine*. 2015; 6(4):554-557.
15. MKC Nair, Ramadevi S, Aneesh T S, Harikumar Nair G S, Ajith Kumar K, Leena. An introduction to research methodology, 1st edition. Kerala health science publications. 2017:234.
16. Polit D F Beck. *Nursing research generating and assessing evident for nursing practice*; 8th edition. JB Lippencott Williams and Williams publications. 237.
17. Borkar Mangala, Sikariya kusum, Chonde A Ganesh, Dhawane Shital, Ambhore Pradip, Jadhav Vishal. Clinical profile of type 2 diabetes. *World journal of pharmaceutical and medical research*. 2017; 3(6): 294-298.
18. Mathur Medha, Mathur Navgeeth, Singh Omveer, Solanki Jithendra, Soni Pradeep, Sarvwa Ashutosh. Demographic characters and factors favouring emergence of diabetes mellitus type two. *International journal of research and medical sciences*. 2018;6(3):950-954.