

A Study To Assess The Knowledge Level Regarding Coronary Artery Disease Among Diabetic Patients in Jmmc And RI, Thrissur.

Aleena Joy , Alex Joseph, Alfi Prince, Alfred Santhosh, Devika Suri K_j , Divya

Joy , Jefy George Jeleetta Jomi, Mrs. Remya Ramachandran ,

Dr. Sr. Philo Resmi , Dr Angela Gnanadurai

IIV Year Bsc (N) Students*, Jubilee Mission College Of Nursing, Thrissur²asst.Professor, Jubilee Mission College Of Nursing, Thrissur

3vice Principal Cum Hod, Jubilee Mission College Of Nursing, Thrissur⁴principal, Jubilee Mission College Of Nursing, Thrissur

Abstract

Introduction: Non communicable diseases are medical conditions developed as a result of combination of genetic, physiological, environmental and behaviors factors. The current 2019 national health mission study estimates that the cumulative incidence of T2DM Kerala is 21.9% and the incidence of pre-diabetes is 36.7%. Nearly 60% of the participants who had impaired plasma glucose at baseline converted to T2DM at present, shows an epidemic trend for T2DM in Kerala. Coronary artery disease is a major determinant of the long-term prognosis among patients with diabetes mellitus. Diabetes mellitus is associated with 2-to-4-fold increased mortality risk from heart disease. Primary prevention can play an important role in decreasing the incidence of coronary artery disease in diabetic patients' aggressive treatment of hyperlipidemia and hypertension is essential.

Objective: To assess the level of knowledge regarding prevention of coronary artery disease among diabetic patients, to find out the association between the level of knowledge regarding coronary artery disease among diabetic patients and their selected Socio-demographic and clinical data.

Methodology: A descriptive study was conducted among 150 diabetes patients. Sample was selected by non-probability convenience sampling technique. Standardized Self-structured Questionnaire was used to assess the knowledge level regarding coronary artery disease among diabetic patients.

Results: In socio demographic findings, majority of sample 69 (46%) belongs to age group between 51-60 years. Majority of sample 89 (59.3%) are male. Most of sample completed 111 (74%) school education. Majority of sample 137 (91.3%) were married. Almost half of the sample had monthly income occupation 64 (42.6%). 48 (32%) was below 5000 of monthly income. Half of the sample are hindus 74 (49.3%). Majority are following mixed food habit 136 (90.6%). More than half of sample 79 (52.6%) were diagnosed with diabetes. Majority of sample 110 (73.3%) are not in insulin therapy. All the sample had other illness 150 (100%). Majority 120 (80%) were checked cholesterol and blood pressure. Majority the sample 132 (88%) had no knowledge about cardiovascular disorder. More than half of sample 89 (59.3%) had non-healthy habits. None of them have history of heart disease 150 (100%). Most of sample 115 (76.6%) had no history of disease among family members. Majority of sample 92 (61.3%) are not exercise at least 2 hours 30 minutes per week.

Conclusion: In the study shows majority of sample had moderate knowledge 122 (81%), 23 (15%) of have inadequate knowledge and 5 (4%) of adequate knowledge. The study concluded that, there is no significant association between level of knowledge regarding coronary artery disease among diabetic patients and their selected sociodemographic and clinical data variables such as occupation, monthly income, religion and there is significant association in food habit, exercise, unhealthy habits.

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I. Introduction

Non communicable diseases are medical conditions developed as a result of combination of genetic, physiological, environmental and behaviors factors. Noncommunicable diseases are one of the major challenges for public health in the 21st century, not only in terms of human sufferings but also harm they inflict on the socioeconomic development of country. NCDs kills approximately 41 million people (71% of global deaths) worldwide each year, including 14 million people who die too young between the ages of 30 and 70.

In India nearly 5.8 million people (WHO report 2015) die from NCDs every year. As per WHO report in 2015 one in 4 Indians has a risk from an NCD before they reach the age of 40. Health of the nation's states by ministry of health and family welfare, Government of India found that there is increase in the contribution of NCDs from 30% of the total disease burden disability-adjusted life years. In 1990 it is 37% but in 2016 it is 61%. This shows a rapid epidemiological transition with a shift in disease burden to NCDs. More than 60% of the people with diabetes live in Asia, with almost one-half in China and India combined.

Western Pacific, the world's most populous region, has more than 138.2 million people with diabetes, and the number may rise to 201.8 million by 2035. Approximately 537 million adults between the age of 20-79 years, are living with diabetes. The total number of people living with diabetes is projected to rise to 643 million by 2030 and 783 million by 2045. In 1 adult with diabetes lives in low- and middle-income countries. India has the second highest total population in the world. The International Diabetes Federation estimated that 72.9 million adults in India were living with diabetes in 2021/2019 study also found that diabetes prevalence high in urban areas. The 2019 National Health Mission study estimates that the cumulative incidence of T2DM Kerala is 21.9% and the incidence of pre-diabetes is 36.7%. Nearly 60% of the participants who had impaired plasma glucose at baseline converted to T2DM at present, shows an epidemic trend for T2DM in Kerala.

The prevalence and severity of other atherosclerosis is higher among diabetes patients. Particularly coronary artery disease which is major contributor to mortality. And mobility among type 2 diabetes. Diabetic subjects have been shown to have higher risk for coronary artery disease compared to non-diabetic patients. The prevalence of Cardio-vascular diseases among diabetic subjects was 21.4% (known diabetes 25.3% and newly diagnosed diabetes 13.1%). Diabetic subjects are known to have a two or four times increased CAD risk. Coronary artery disease accounts for more than 80% of all deaths and 75% of all hospitalization in diabetic subjects.

Statement of problem

A study to assess the knowledge level regarding Coronary Artery Disease among diabetic patients in JMMC and RI Thrissur.

Objectives

1. To assess the level of knowledge regarding prevention of Coronary Artery Disease among diabetic patients.
2. To find out the association between the level of knowledge regarding Coronary Artery Disease among diabetic patients and their selected Socio-demographic and Clinical data.

Hypothesis

H1-There is significant association between knowledge regarding Coronary Artery Disease among diabetes patients and selected demographic and clinical variables.

Research Approach

Non experimental quantitative approach

Research Design

Non experimental descriptive research design

Variables

- Research variable: Knowledge level
- Socio-demographic variables: It includes age, sex, educational status, marital status, occupation, monthly income, religion, food habits.
- Clinical data variables: It includes number of years diagnosed with diabetes, about insulin therapy, other illness, exercises, unhealthy habits, history of heart disease and knowledge about cardiovascular disease.

Setting of the study

This study was conducted in selected ward of JMMC and RI. It is a multi-specialty hospital which consists of 1500 beds. Data collection was conducted in selected wards: male surgery, female surgery, nephro ward.

Population

- Population is the total number of units from data can be potentially be collected. Target population: The target population of present study is all diabetic patients present in Male surgery, Female surgery and Nephro ward between age group of 20-60 years
- Accessible population: The diabetic patients who are admitted in Male surgery and Female surgery, Nephro ward of JMMC and RI Thrissur.

Sample and sampling technique

Sample

Sample of the study was diabetic patients, age between 20-60 years old and who met the inclusion criteria.

Sample size

Sample consist of 150 diabetic patients of age between 20-60 year in selected wards of JMMC and RI.

Sampling technique

Convenient sampling technique was used to recruit the sample.

Criteria for sampling

- Inclusion criteria
 - able to comprehend Malayalam
 - willing to participate
 - 20 years up to 60 years
- Exclusion criteria
 - patients with coronary artery disease
 - patients who are not available at the time of data collection

Plan for data collection

Tool and technique

Tool Section A

A semi structured questions which has 2 parts Part 1: Social demographic data

It consists of demographic variables age, sex, educational status, marital status, occupation, monthly income, religion and food habits.

Part 2: Clinical data

It consists of questionnaire regarding health status of an individual. Section B

Multiple choice questions regarding coronary artery disease among diabetic patients.

Scoring and interpretation

The multiple-choice questions with four alternatives each with a right answer allocated a score of one and every wrong answer with a score of zero. The total attainable score is knowledge question was 30 and mini score was zero.

Data collection process

After getting permission from this ethical committee the data were collected from 150 sample from 13/09/2022 to 24/09/2022 who met the inclusion criteria using convenient sampling technique. A good rapport was established with the participants and relatives and purpose of the study was explained to them and the doubts were cleared. The informed consent was taken from the participants. The semi structured questions were used to assess their knowledge and leaflet is provided to the patients after the assessments.

II. Result

Table 1: Distribution of sample according to socio-demographic variables such as occupation, monthly income, religion, food habit.

(n=150)

Socio-demographic variables	Frequency (f)	Percentage (%)
Occupation		
Daily wage	26	17.3
Monthly income	64	42.6
Unemployment	60	40
Monthly income		
Below 5000	48	32
5001-10,000	40	26.6
10,001-15,000	33	22
above 15,001	29	19.3
Religion		

Christian	47	31.3
Hindu	74	49.3
Muslim	29	19.3
Food habit		
Vegetarian	7	5
Non-vegetarian	7	5
Mixed	136	90.6

Table 1: Shows that 64 (42.6%) of them had monthly income, 48 (32%) of them had below 5000 of monthly income, 74 (49.3%) were hindu and 136 (90.6%) was following mixed food habit.

Table 2: Distribution of sample according to clinical data variables such as exercise at least 2 hours 30 minutes per week, unhealthy habits, history of heart diseases, history of heart diseases among family members, knowledge about cardiovascular disorder.

(n=150)

Clinical data variables	Frequency (f)	Percentage (%)
Exercise at least 2 hours 30 minutes per week		
Yes	58	38.6
No	92	61.3
Unhealthy habits		
Smoking	28	18.6
Alcoholic	27	18
Both	6	4
None	89	59.3
History of heart disease		
Yes	0	0
No	150	100
History of heart disease among family members		
Yes	35	23.3
No	115	76.6
Knowledge about cardiovascular disorders		
Yes	18	12
No	132	88

Table 2: Shows that 92 (61.3%) of them were doesn't exercise at least 2 hours 30 minutes per week, 89 (59.3%) of them had no unhealthy habits, none of them have history of heart disease 150 (100%), 115 (76.6%) of them had no history of disease among family members and 132 (88%) of them had no knowledge about cardiovascular disorder.

Level of knowledge regarding coronary artery disease among diabetic patients.

Table 3: Distribution of diabetic patients based on knowledge regarding coronary artery disease. (n=150)

SL. No.	Level of knowledge	Range of scoring(f)	Percentage(%)
1	Inadequate knowledge	23	15
2	Moderate knowledge	122	81
3	Adequate knowledge	5	4

Table 7: Shows that 23 (15%) of them inadequate knowledge, 122 (81%) had moderate knowledge, and 5 (4%) had adequate knowledge.

Figure 1: Distribution of diabetic patients based on level of knowledge.

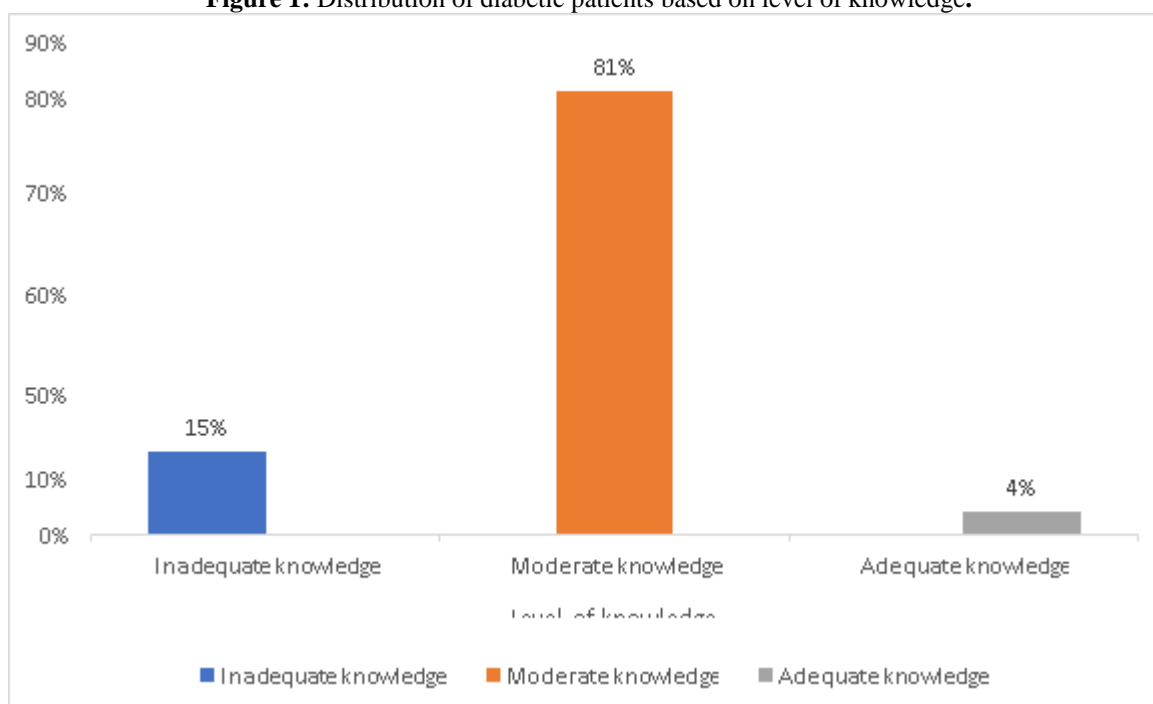


Table 3: Diabetic patients’ knowledge level based on questionnaire components such as diabetes-general information, complications and coronary artery disease-general information, causes, signs and symptoms, prevention.
(n=150)

Sl. No.	Components	Inadequate knowledge		Moderate knowledge		Adequate knowledge	
		N	%	N	%	N	%
1	Diabetes- General information	29	19	76	51	45	30
2	Complications of diabetes mellitus	25	17	67	44	58	39
3	Coronary artery disease- General information	65	43	81	54	4	3
4	Causes of coronary artery disease	12	8	54	36	84	56
5	Signs and symptoms of coronary artery disease	44	29	75	50	31	21
6	Prevention of coronary artery disease in diabetes	71	47	77	52	2	1
7	Overall	23	15	122	81	5	4

Table 3: Shows that 23 (15%) of them inadequate knowledge, 122 (81%) had moderate knowledge, and 5 (4%) had adequate knowledge.

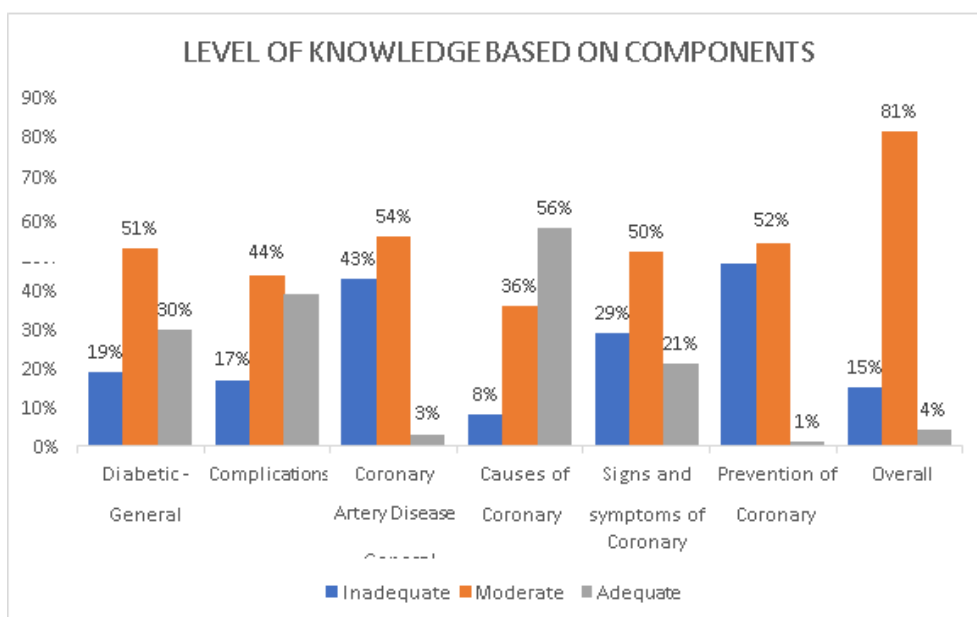


Figure 2: Distribution of diabetic patients level of knowledge based on components.

Table 4: Association between the level of knowledge regarding coronary artery disease among diabetic patients and their selected socio-demographic and clinical data. (n=150)

Sl. No.	Socio-demographic and clinical variables	Inadequate		Moderate		X ²	df	P value
		f	%	F	%			
1	Food habits							
	1.Vegetarian	0	0.0	7	100.0	8.154	3	0.043
	2.Non – Vegetarian	0	0.0	7	100.0			
	3.Mixed	23	16.9	113	83.0			
2	Exercise at least 2 hours and 30 minutes per week							
	1.Yes	2	3.4	56	96.6	10.289	1	0.001
	2.No	21	22.8	71	77.2			
14	Unhealthy habits							
	1.Smoking	1	3.6	27	96.4	11.563	3	0.009
	2.Alcoholic	1	3.7	26	96.3			
	3.Both	0	0.0	6	100.0			
	4.None	21	23.6	68	76.4			

*Significant (p<0.05)

Table 4: Shows that there is significant association between level of knowledge regarding coronary artery disease among diabetic patients and their selected socio-demographic and clinical data variables such as food habit, exercise, unhealthy habits.

III. Discussion

To assess the level of knowledge regarding coronary artery disease among diabetic patients.

The findings show that majority of samples had moderate knowledge 122 (81%), 23 (15%) of samples have inadequate knowledge and 4 (3%) of samples had adequate knowledge. A similar descriptive research design study was conducted by Kaur JP et al. in 2022 shows that a study to assess the level of knowledge regarding risk factors and its prevention of coronary artery disease among patients attending medicine outpatient department in Dasmesh Hospital, Faridkot and to find out the association between the knowledge scores of prevention and risk factor of coronary artery disease among patients. Results show that out of 100 participants, 17 (34%) respondents were in the age group of 10-19 years and 21 (21%) respondents were male; 22 (44%) were had middle school education, 47 (94%) were married and 41 (90%) were non smoker and 39 (78%)

were not having any hereditary history. The result reveals that majority of the patients have average level of knowledge.

To find out the association between the level of knowledge regarding coronary artery disease among diabetic patients and their selected Socio-demographic and clinical data.

The findings shows that there is no significant association between level of knowledge regarding coronary artery disease among diabetic patients and their selected socio- demographic and clinical data variables such as occupation, monthly income, religion. There is significant association between variables. A similar observational cross- sectional descriptive study was conducted by Wael A. Al Arawi et al. in 2020 on a study to find out the association of demographic variables with the awareness of Type 2 diabetes mellitus patients (T2DM) among the Northwest Population in Saudi Arabia. Shows that among 100 participants 52 (52%) were male. A view number of participants 9 (1.72%) were illiterate, whereas 25 (48%) completed primary education and 33

(63.4%) participants were graduate. Of the 100 participants, about 86 (86%) identified their type of diabetes and know that it is a lifestyle disease. Overall, moderate knowledge observed among the study population regarding the knowledge, self-care practices, and complications of diabetes. Most of the study population well aware about the T2DM is a lifestyle related disease, self-monitoring of blood glucose, foot care, and complications of kidney disease and ischemic heart disease. But the regression analysis showed no significant association between age, occupation status, and disease duration with knowledge of diabetes, self-care practices and knowledge regarding complications of diabetes.

IV. Conclusion

The present study was conducted to assess the level of knowledge regarding coronary artery disease among diabetic patients in jubilee mission medical college and research institute, Thrissur. The study shows that majority of samples had moderate knowledge 122 (81%), 23 (15%) of samples have inadequate knowledge and 5 (4%) of samples had adequate knowledge. The findings shows that there is no significant association between level of knowledge regarding coronary artery disease among diabetic patients and their selected socio-demographic and clinical data variables such as occupation, monthly income, religion and there is significant association in food habit.

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