

A Study to Assess the Knowledge Regarding Management of Modifiable Risk Factors of Coronary Artery Disease Among Patients with Diabetes Mellitus in a Selected Diabetic OPD of Dharwad District with a View to Develop an Information Guide Sheet

Anushka Shamsundar Gawas¹, Manjunath G S²

¹Final year B. Sc Nursing, KLES Institute of Nursing Sciences, Hubballi,

²Associate Professor & HOD Dept of Medical Surgical Nursing, KLES Institute of Nursing Sciences, Hubballi,

Corresponding Author: Manjunath G S

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ABSTRACT

BACKGROUND OF THE STUDY:

Diabetic patients exhibit an increased risk for development of atherosclerotic coronary artery disease for many reasons, including metabolic factors, like hyperglycemia, dyslipidemia and insulin resistance, which lead to endothelial cell injury, vascular smooth muscle dysfunction, impaired platelet function and abnormal coagulation. And diabetes mellitus patients have lipid-rich atherosclerotic plaques, which are more vulnerable to rupture than the non-diabetic patients. Hence; the investigator felt that there is a need to increase the knowledge regarding management of modifiable risk factors of coronary artery disease among patients with diabetes mellitus in a selected diabetic OPD of Hubli-Dharwad district.

STATEMENT OF THE PROBLEM: "A study to assess the knowledge regarding management of modifiable risk factors of coronary artery disease among patients with diabetes mellitus in a selected diabetic OPD of Dharwad district with a view to develop an Information Guide Sheet."

OBJECTIVES OF THE STUDY: To assess the knowledge regarding

management of modifiable risk factors of coronary artery disease among patients with diabetes mellitus.

To find out an association between knowledge scores with their selected socio-demographic variables.

To develop an Information Guide Sheet on management of modifiable risk factors of coronary artery disease among patients with diabetes mellitus.

METHODOLOGY: A descriptive study was conducted among 100 patients with diabetes mellitus in selected OPD of Dharwad district. The samples were selected by Non-Probability; Purposive Sampling Technique. Data was collected by structured knowledge questionnaire. Data analysis was done using descriptive and inferential statistics.

RESULTS: Overall results of the study revealed that out of 50 patients with diabetes mellitus, majority of the subjects 34 (68%) had average knowledge, 10 (20%) had good knowledge, and 6 (12%) had poor knowledge regarding management of modifiable risk factors of CAD.

CONCLUSION: The study concludes that, knowledge of patients with DM regarding management of modifiable risk factors of

CAD was average; therefore, there is an immediate need to initiate preventive measures to raise awareness of these risk factors so that patients with diabetes at high risk for future CAD can be managed.

KEY WORDS: Modifiable risk factors; coronary artery disease; Diabetes mellitus; Information Guide Sheet; Patients with diabetes mellitus.

The Variables for Present Study Were:

Study variables: Knowledge regarding management of modifiable risk factors of coronary artery disease among patients with diabetes mellitus.

Attribute variables: age, gender, religion, educational status, occupation, income, type of family, area of residence, bad habits, dietary pattern, duration of diabetes mellitus, family history of diabetes mellitus, family history of coronary artery disease, and source of information regarding management of modifiable risk factors of coronary artery disease.

RESEARCH METHODOLOGY

Research Approach: Survey Approach

Research Design: Descriptive Design

Primary Source: Patients with Diabetes Mellitus visiting Diabetic OPD

Secondary Source: Diabetic patients record maintained in Diabetic OPD, Hubballi.

Research Setting: Diabetic OPD, Hubballi

Sample: Patients with Diabetes Mellitus

Sample Size: 50

Sampling Technique: Non-probability; Purposive sampling technique

Inclusive criteria: Patients with diabetes mellitus who:

- Are Present at the time of study
- Can read and write Kannada and English
- Are willing to participate in the study

Exclusive Criteria: Patients with diabetes mellitus who

- Are sick at the time of data collection.

METHODOLOGY

Instrument: Structured Knowledge Questionnaire

Section I: Items on Socio Demographic Variables

Section-II: Knowledge items on management of modifiable risk factors of coronary artery disease.

Findings of the Study:

SECTION I: Distribution of sample characteristics according to their selected socio-demographic variables.

Table No 01: Frequency and percentage distribution of subjects according to their selected socio-demographic variables. n=50

Sl. No	Socio-Demographic Variables	Frequency (f)	Percentage (%)
1)	Age in Years		
	a) < 40 years	04	08
	b) 40 – 50 years	10	20
	c) 50 – 60 years	17	34
	d) 60 – 70 years	11	22
2)	Gender		
	a) Male	33	66
	b) Female	17	34
3)	Religion		
	a) Hindu	40	80
	b) Muslim	5	10
	c) Christian	4	08
4)	Educational status		
	a) Primary education	03	06
	b) Secondary education	19	38

	c) Pre-university education	12	24
	d) Graduate	13	26
	e) Post-graduate & above	03	06
5)	Occupation		
	a) Not employed/unemployed	02	04
	b) Home maker	08	16
	c) Daily wage worker	11	22
	d) Private employee	10	20
	e) Government employee	12	24
	f) Self-employee	7	14
6)	Income (in Rupees) per month		
	a) <10,000 Rs	18	36
	b) 10,000-20,000 Rs	13	26
	c) 20,000-30,000 Rs	6	12
	d) >30,000 Rs	13	26
7)	Type of family		
	a) Nuclear family	44	88
	b) Joint family	6	12
8)	Area of residence		
	a) Rural	12	24
	b) Urban	38	76
9)	Bad habits		
	a) Smoking cigarette	05	10
	b) Tobacco usage	6	12
	c) Alcohol drinking	6	12
	d) No habits	33	66
10)	Dietary pattern		
	a) Vegetarian	14	28
	b) Mixed	36	72
11)	Duration of diabetes mellitus		
	a) < 5 years	31	62
	b) 5 – 10 years	05	10
	c) 10 – 15 years	08	16
	d) > 15 years	06	12
12)	Family history of diabetes mellitus		
	a) Yes	40	80
	b) No	10	20
13)	Family history of coronary artery disease		
	a) Yes	17	34
	b) No	33	66
14)	Any previous knowledge regarding management of modifiable risk factors of coronary artery disease		
	a) Yes	42	84
	b) No	08	16
	Sources of information		
	a) Print media	08	24
	b) Electronic media	16	25
	c) Health personal	09	14
	d) Peer group & social circle	17	34

➤ Table No 1

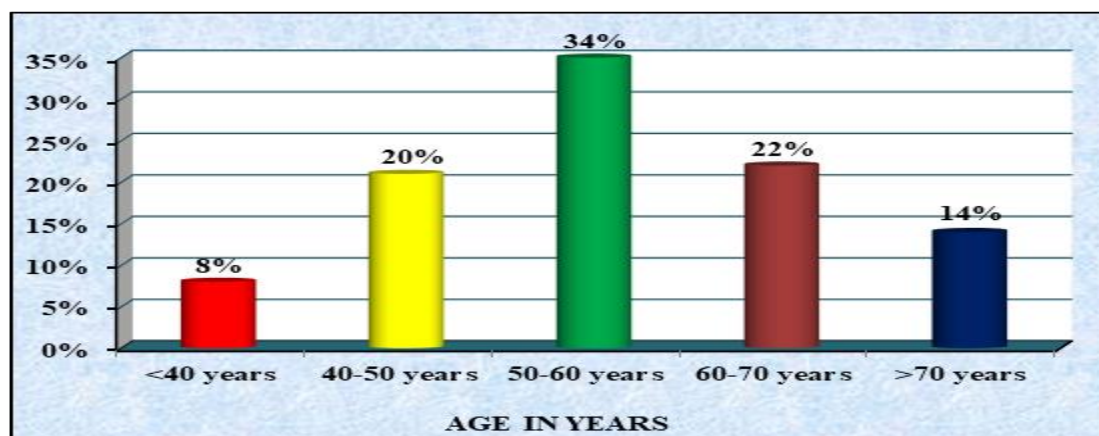
➤ With regards to age, majority of the subjects 17(34%) were in the age group of 50-60 years, 11(22%) were in the age group of 60-70 years, 10(20%) were in the age group of 40-50 years, 08(16%)

were in the age group of more than (>)70 years and 4(8%) were in the age group of less than (<) 40 years.

➤ In respect to the gender, majority of the subjects 33(66%) were males and 17(34%) were females.

- With regards to religion, majority of the subjects 40(80%) were Hindu religion, 5(10%) were Muslim, 4(8%) were Christian and 1(2%) belongs to other religion.
- With pertaining to education, majority of the subjects 19(38%) had secondary education, 13(26%) had graduation, 12(24%) had pre-university education, and 3(6%) had post-graduate & above, 3(6%) had primary education.
- In view of occupation, majority of the subjects 12(24%) were government employee, 11(22%) were daily wage worker, 10(20%) were private employee, 8(16%) were home maker, 7(14%) were self-employee, and 2(4%) were not employed.
- In terms of income (in Rupees) per month; majority of the subjects 18(36%) had income <Rs.10000/-, 13(26%) had income between Rs.10000-20,000/-, 13(26%) had income between >Rs.30,000/-, and 06(12%) had income between Rs.20,000-30,000/-.
- With reference to type of family, majority of the subjects 44(88%) belongs to nuclear family and 6(12%) belongs to joint family.
- In respect to the area of residence, majority of the subjects 38(76%) were from urban area and 12(24%) were from rural area.
- With relating to bad habits majority of the subjects 33(66%) not having any habits and 6(12%) have the habit of tobacco usage, 5(10%) have the habit of cigarette smoking, 6(12%) have the habit of alcohol drinking.
- With regards to dietary pattern, majority of the subjects 36(72%) belongs to mixed diet and 14 (28%) belongs to vegetarian diet.
- Regarding duration of diabetes mellitus, majority of the subjects 31(62%) having <5 years, 8(16%) having 10-15 years, 6(12%) having > 15 years and 5(10%) having 5-10 years.
- With pertaining to family history of diabetes mellitus majority of the subjects 40(80%) had family history, and 10(10%) not had family history.
- With concerning to family history of coronary artery disease, majority of the subjects 33(66%) not had family history and 17(34%) had family history.
- In view of source of information regarding management of modifiable risk factors of CAD; maximum number of subjects 17(34%) had information from peer group and social circle, 16(25%) by electronic media, 8(24%) by print media, 9(14%) by health personnel, and 8(16%) subjects were not having any information regarding management of modifiable risk factors of CAD.

GRAPHICAL REPRESENTATION OF SOCIO-DEMOGRAPHIC VARIABLES



Graph 1: The Cylindrical graph represents percentage distribution of subjects according to their age group.

SECTION II: Analysis and interpretation of knowledge scores of patients with diabetes mellitus regarding management of modifiable risk factors of coronary artery disease.

Table No 02: Mean, Median, Mode, Standard Deviation and Range of knowledge scores of subjects regarding management of modifiable risk factors of coronary artery disease. n=50

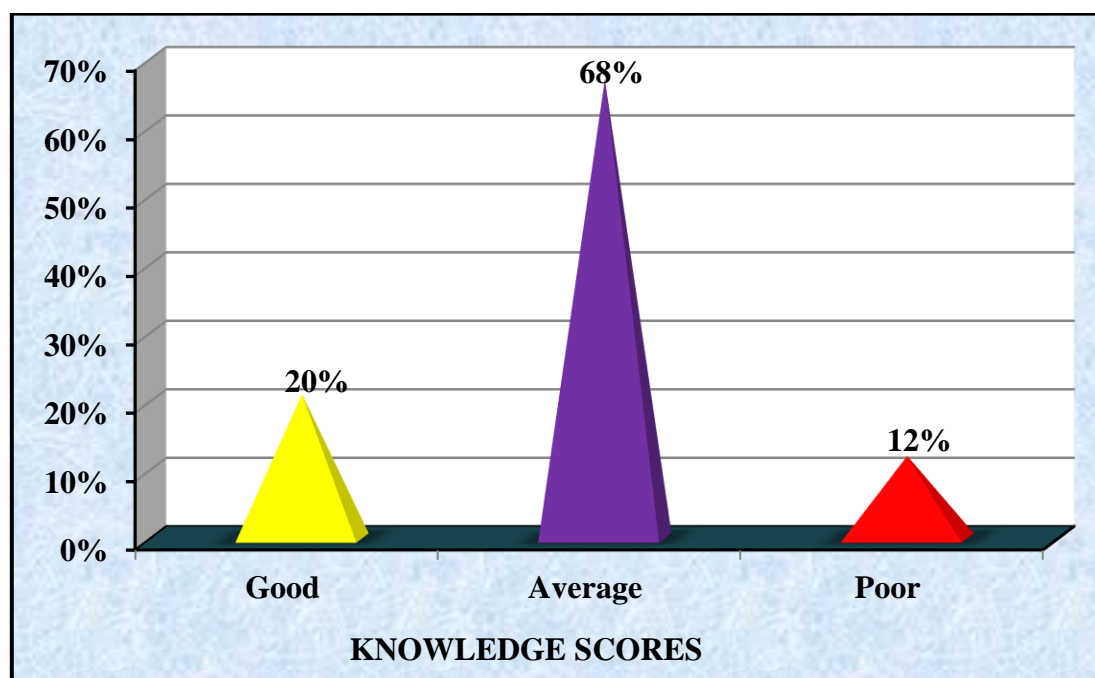
Area of Analysis	Mean	Median	Mode	Standard Deviation	Range
Knowledge	18.25	11	18	3.96	16

Table No 2: Revealed that; the mean value of knowledge scores was 18.25, median 11, mode 18, standard deviation 3.96 and range was 16.

Table No 03: Frequency and percentage distribution of knowledge scores of subjects regarding management of modifiable risk factors of CAD. n=50

Knowledge scores	Frequency(f)	Percentage (%)
Good (22.21 and above)	10	20
Average (16.25 to 22.21)	34	68
Poor (16.25 and below)	06	12

Table No 03: Revealed that; majority of the subjects 34(68%) had average knowledge, 10(20%) subjects had good knowledge, and 6(12%) subjects had poor knowledge



Graph 16: The Pyramid graph represents percentage distribution of level of knowledge score of subjects according to management of modifiable risk factors of coronary artery disease.

SECTION III: TESTING HYPOTHESIS

Table No. 04: Association between knowledge scores of subjects and selected socio-demographic variables. n=50

Sl. No	Socio-demographic Variable	Good	Average	Poor	Chi Square		
					Cal	Tab	Df
1)	Age in Years						
	a) < 40 years	0	4	0	12.27	15.51	8
	b) 40 – 50 years	2	7	2			
	c) 50 – 60 years	3	13	3			
	d) 60 – 70 years	4	6	0			
	e) >70 years	0	5	1			

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2)	Gender						
	a) Male	9	22	3	2.34	5.99	2
	b) Female	5	10	1			
3)	Religion						
	a) Hindu	8	26	5	4.59	12.59	6
	b) Muslim	1	3	1			
	c) Christian	1	4	0			
	d) Others	0	0	1			
4)	Educational status						
	a) Primary education	1	1	1	17.37*	15.51	8
	b) Secondary education	3	13	3			
	c) Pre-university education	1	9	2			
	d) Graduate	5	8	0			
	e) Post graduate and above	1	1	1			
5)	Occupation						
	a) Not employed	0	1	0	18.801*	18.31	10
	b) Home maker	2	6	1			
	c) Daily wage worker	1	7	3			
	d) Private Employee	1	8	0			
	e) Government employee	5	6	1			
	f) Self-employee	1	5	2			
6)	Income (in Rupees) per month						
	a) < 10,000 Rs	4	10	3	12.61*	12.59	6
	b) 10,000-20,000 Rs	0	11	2			
	c) 20,000-30,000 Rs	1	5	0			
	d) >30,000 Rs	5	8	1			
7)	Type of family						
	a) Nuclear	8	30	6	2.623	5.99	2
	b) Joint	2	4	0			
8)	Area of residence						
	a) Rural	2	7	3	5.73	5.99	2
	b) Urban	8	27	3			
9)	Bad habits						
	a) Smoking cigarette	0	3	1	8.187	12.59	6
	b) Tobacco usage	1	4	1			
	c) Alcohol drinking	0	5	2			
	d) No habits	9	22	2			
10)	Dietary pattern						
	a) Vegetarian	5	8	0	8.696*	5.99	2
	b) Mixed	6	25	6			
11)	Duration of diabetes mellitus						
	a) < 5 years	7	17	4	4.049	12.59	6
	b) 5-10 years	0	3	1			
	c) 10-15 years	2	8	0			
	d) > 15 years	1	6	1			
12)	Family history of DM						
	a) Yes	9	26	4	1.667	5.99	2
	b) No	1	8	2			
13)	Family history of CAD						
	a) Yes	4	13	0	7.00*	5.99	2
	b) No	6	20	7			
14)	Source of Information						
	a) Print media	2	5	0	12.97	15.51	8
	b) Electronic media	4	4	1			
	c) Health personal	0	6	2			
	d) Peer group & social circle	4	13	1			
	e) No information	0	6	2			

H₁: There will be a statistical association between knowledge scores on management of modifiable risk factors of coronary artery disease among patients with diabetes mellitus with their selected socio-demographic variables at 0.05 level of significance. There was a statistical association found between knowledge scores on management of modifiable risk factors of coronary artery disease among patients with diabetes mellitus and five variables, they are educational status, occupation, income (in Rupees)/month, dietary pattern and family history of coronary artery disease; hence, H₁ was accepted for these variables, whereas in regards with other all variables such as age, gender, religion, type of family, area of residence, bad habits, duration of diabetes mellitus, family history of diabetes mellitus, and source of information regarding management of modifiable risk factors of CAD; there was no association found, hence hypotheses was rejected in these cases.

Declarations

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Conflict of Interest: The Authors declare no conflict of interest.

Ethical Approval: Approved.

Informed Consent: Not applicable.

Authors' Contributions: All the authors contributed to the conception and design of the work, drafted the manuscript, revised it critically for important intellectual content, gave final approval of the version to be published and agreed to be accountable for all aspects of the work.

Recommendations:

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

A similar study that can be done on large and wider sample size and period of time would be more pertinent in making broad generalization.

A comparative study can be conducted to assess the knowledge regarding management of modifiable risk factors of coronary artery disease among patients with diabetes mellitus and non-diabetes mellitus.

A study can be carried out to evaluate the effectiveness of planned teaching programme on management of modifiable risk factors of coronary artery disease among patients with diabetes mellitus.

Public awareness programme regarding management of modifiable risk factors of CAD can be conducted among patients with diabetes mellitus.

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