IJIRHS.ORG | ISSN: 3107-4219
INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH IN HEALTH SCIENCE
An International Open Access, Peer-reviewed, Refereed Journal

IDENTIFICATION OF RISK FACTORS ASSOCIATED WITH CORONARY ARTERY DISEASE AMONG ADULT PATIENTS.

Iyammal. C

Research Scholar, Medical and Surgical Nursing, Vinayaka Mision's Research foundation (DU), Salem.

Abstract:

Background: Coronary artery disease (CAD), a leading cause of death globally, is highly prevalent in India due to various risk factors such as smoking, obesity, hypertension, diabetes, physical inactivity, and unhealthy lifestyle choices. In addition to traditional risk factors, Indians are also influenced by genetic factors and emerging risks like metabolic syndrome and inflammation markers, contributing to the unique "Indian paradox" of high CAD prevalence. **Aim:** This study aimed to identify the Risk Factors Associated with Coronary Artery Disease Among Adult Patients in the Cardiology Department of Government Rajaji Hospital, Madurai. **Methodology:** A descriptive research design with a quantitative approach was employed. The study included 20 adult CAD patients (15 males and 5 females) who had a history of myocardial infarction. Participants were selected based on specific inclusion criteria, and data were gathered through structured interviews that assessed demographic details, comorbid conditions, and psychosocial factors. **Results:** The findings revealed that the majority of participants (85%) were categorized as having mild comorbid risk, while 60% faced moderate psychosocial risk. Age, gender, and body mass index (BMI) were found to be significant factors influencing the risk levels, with those aged 40-50 years and obese individuals showing higher risk levels. Notably, 25% of participants with a normal BMI were also at high risk, emphasizing the complexity of CAD risk. **Conclusion:** The study concluded that both comorbid and psychosocial factors, along with BMI, play significant roles in determining the risk of coronary artery disease. These results highlight the need for comprehensive interventions targeting both physical and psychological health to reduce CAD incidence and improve health outcomes.

Keywords: Coronary artery disease, Risk factors, Comorbid conditions, Psychosocial factors, Body mass index, India.

INTRODUCTION

Coronary heart disease (CHD), also known as coronary artery disease (CAD), is the most common type of cardiovascular disease and a leading cause of death worldwide. In India, CAD is particularly prevalent and severe, with risk factors such as smoking, obesity, hypertension, diabetes, physical inactivity, and unhealthy lifestyle habits contributing significantly. Indians exhibit a unique "Indian paradox," where high CAD prevalence occurs even with relatively low traditional risk factors like obesity and smoking, potentially due to genetic factors such as elevated lipoprotein(a) and emerging risks like metabolic syndrome and inflammation markers.

The burden of CAD in India is rising alarmingly: urban prevalence rates are much higher than rural, with mortality predicted to increase substantially by 2020. Indians experience CAD 5 to 10 years earlier than other populations, and mortality rates are higher compared to whites, Chinese, and Japanese. Globally, cardiovascular diseases cause about 17 million deaths annually, disproportionately affecting low- and middle-income countries, including India. The key modifiable risk factors include tobacco use, unhealthy diet, physical inactivity, and hypertension. Awareness and early identification of these risk factors are crucial for prevention and lifestyle modification to reduce CAD incidence and mortality in India and worldwide. This growing epidemic highlights the urgent need for targeted public health policies and interventions to manage CAD risk factors and improve cardiovascular health outcomes in India and globally.

AIM OF THE STUDY:

The aim of the study to identify the Risk Factors Associated with Coronary Artery Disease Among Adult Patients.

MATERIALS AND METHODS

Study Design and Participants:

The study employed a descriptive research design with a quantitative approach. The participants included 20 adult CAD patients (15 males, 5 females). The study was conducted in Government Rajaji Hospital, Madurai.

Inclusion and Exclusion Criteria:

Inclusion criteria were adult CAD patients aged 20-50 years, diagnosed with CAD and history of myocardial infarction, and able to speak Tamil and English. Excluded were patients with congenital heart disease and those who had undergone coronary artery bypass graft (CABG).

Tools:

Data were collected using a structured interview schedule developed by the investigator, consisting of demographic information and a questionnaire to assess comorbid and psychosocial risk factors influencing CAD. Risk factor responses were scored on a 4-point categorical scale (high risk to no risk).

Data Collection Procedure:

Data collection was done through face-to-face interviews after obtaining permission from the cardiology department head and verbal consent from patients. Interviews were conducted between August 17-19, 2016, with each session lasting 10-15 minutes, ensuring privacy, dignity, and respect for participants' cultural and religious beliefs.

Data Analysis:

Collected data were tabulated and analyzed descriptively to identify risk factors associated with coronary artery disease among the participants.

RESULTS:

Demographic Variables

The socio-demographic characteristics of the participants reveal a predominantly middle-aged and male population. Most participants (75%) were aged between 40-50 years, followed by 20% in the 30-40 years age group, and only 5% in the 20-30 years group. The sample was largely male (75%), with females making up 25%. In terms of education, half of the participants had completed high school (50%), 35% had primary education, and only 5% were uneducated. Occupation-wise, 50% were laborers, 40% were unemployed, and 10% worked in clerical roles. Regarding family income, 50% earned less than Rs 5000 per month, 45% earned between Rs 5001-10,000, and 5% earned between Rs 10,001-15,000. A vast majority (95%) identified as Hindu, with 5% being Muslim. All participants were non-vegetarian in their food habits. Most participants (70%) lived in single-family households, while 30% were in joint families. In terms of marital status, 95% were married, and 5% were unmarried. As for body mass index (BMI), 50% of the participants were classified as obese (BMI > 25.0), 45% had a normal BMI, and 5% were overweight.

Influencing coronary artery disease

In terms of the comorbid and psychosocial factors influencing coronary artery disease, the majority of participants (85%) were categorized as having mild risk for comorbid factors, while 15% were at high risk. For psychosocial factors, 60% were at moderate risk, 15% were at mild risk, and 25% were at high risk.

Association of selected demographic variables

Regarding the association of demographic variables with risk factors, age played a significant role, with 40% of participants aged 40-50 years categorized as high risk, and 15% of those aged 30-40 years at moderate risk. Males were predominantly at high risk (66.7%), while 60% of females were at moderate risk. In terms of BMI, 35% of obese participants were at moderate risk, while 25% of those with normal BMI were at high risk. Overweight participants had a mild risk level. This data highlights the critical interplay between socio-demographic factors, comorbidities, and psychosocial influences in determining coronary artery disease.

Table 1: Socio Demographic variable of the participants. **N=20**

S.No	Characteristics	Frequency	Percentage
1	**Age group**		
	a. 20-30 yrs	1	5%
	b. 30-40 yrs	4	20%
	c. 40-50 yrs	15	75%
2	Gender		
	a. Male	15	75%
	b. Female	5	25%
3	**Education level**		
	a. Uneducated	1	5%
	b. Primary education	7	35%
	c. High school	10	50%
	d. Higher secondary	-	10%
	e. Graduate	-	
4	**Occupation Level**		
	a. Professional	-	
	b. Clerical work	2	10%
	c. Business	-	
	d. Labourer	10	50%
	e. Unemployed	8	40%
5	**Family income per month**		
	a. <Rs 5000	10	50%
	b. Rs 5001-10,000/-	9	45%
	c. Rs 10,001-15,000/-	1	5%
	d. >Rs 15000	-	

6	**Religion**		
	a. Hindu	19	95%
	b. Christian	-	
	c. Muslim	1	5%
	d. Others	-	
7	**Food habits**		
	a. Vegetarian	-	
	b. Non vegetarian	20	100%
8	**Family type**		
	a. Single family	14	70%
	b. Joint family	6	30%
9	**Marital status**		
	a. Married	19	95%
	b. Unmarried	1	5%
10	**Body mass index**		
	a. Obese (>25.0)	10	50%
	b. Overweight (23.0-24.9)	1	5%
	c. Normal (18.5-22.9)	9	45%

Table 2: Interpretation of comorbid and psychosocial factors influencing coronary artery disease. N=20

Risk factors	Mild risk	Moderate risk	High risk
Comorbid	-	85%	15%
Psychosocial	15%	60%	25%

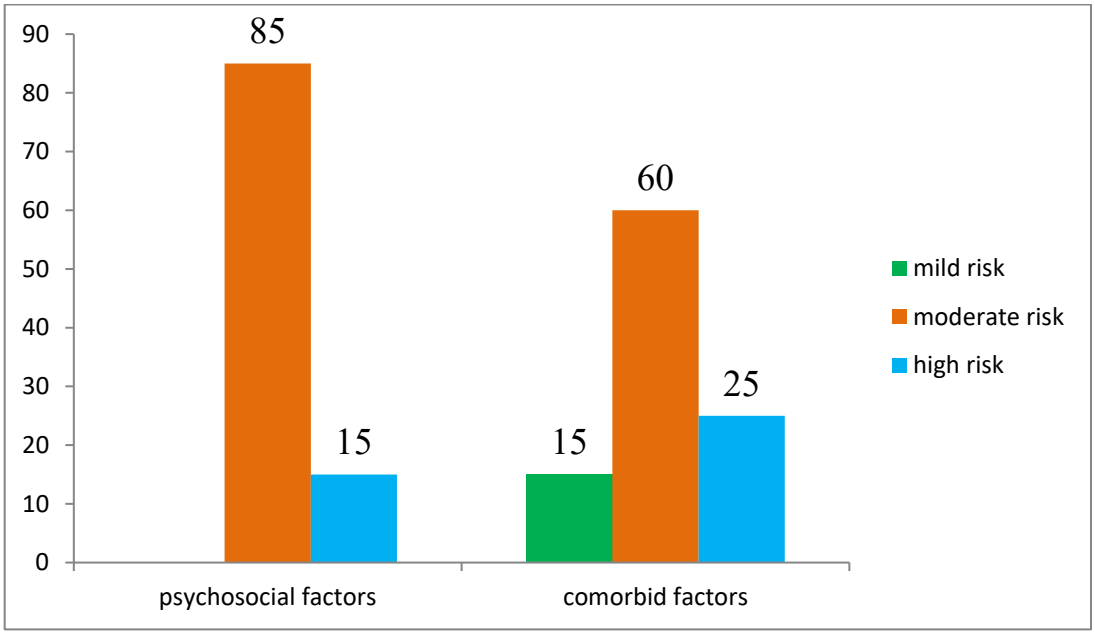

Figure 1: Comorbid and psychosocial factors influencing coronary artery disease

Table 3: Association of selected demographic variables with risk factors. **N=20**

S. No	Characteristic	Category	Mild Risk	Moderate Risk	High Risk	Percentage
Age	20-30 yrs		-	1	5%	
	30-40 yrs		3	15%	1	5%
	40-50 yrs		3	15%	8	40%
Sex	Male		-	-	10	66.7%
					5	33.3%
	Female		-	-	3	60%
					2	40%
Body Mass Index	Obese		-	7	35%	
				2	10%	
	Overweight		-	1	5%	
	Normal		-	5	25%	
				5	25%	

DISCUSSION:

The study found that 85% of participants had mild comorbid risk, while 15% were at high risk. For psychosocial factors, 60% were at moderate risk, 25% at high risk, and 15% at mild risk. Regarding body mass index (BMI), 35% of obese participants were at moderate risk, and 25% with a normal BMI were at high risk. Overweight participants were mostly classified as mild risk. These results highlight the significant impact of both comorbid and psychosocial factors, along with BMI, on the risk of coronary artery disease.

CONCLUSION:

In conclusion, the study reveals that comorbid and psychosocial factors, along with body mass index (BMI), significantly influence the risk of coronary artery disease (CAD). Most participants were at mild risk for comorbid factors, while psychosocial factors showed a moderate to high risk. Obese individuals had higher moderate risk levels, and those with a normal BMI were at high risk. These findings emphasize the need for interventions targeting both physical and psychological health to reduce CAD risk.

BIBLIOGRAPHY:

1. Brunner and Suddarth's. (2000). Text book of Medical and Surgical Nursing. 12th Edition. New Delhi: Lippincott.
2. Barbara K.Timby Nancy E-Smith. (2006). Introduction of Medical and Surgical Nursing. 9th edition. New York: Lippincott.
3. Gaylene Bouska Altman, et all. (2010). Delmar's Fundamental & Advanced nursing skills. 6 th edition. New Delhi: N. R. Publishing house.
4. Harrison's. (2005). Principles of Internal medicine. 16th Edition. McGraw Hill: Medical publishing Division.
5. Joyce Black, Janattekanson Hawks. (2005). Medical Surgical Nursing.7th edition. New Jercy: Pearson education Inc.
6. Kocher's. (2009). Clinical medicine for students. 5 th edition. Calicut: Lippincott William Kluwer.
7. Lippincott. (2010). Manual of nursing practice. 10th edition. New Delhi: Lippincott William Kluwer.
8. Potter & Perry, (2012). Clinical Nursing Skills & Technique. 6th edition. Calicut: Elsevier Mosby.
9. Sanjitakhadka, et al. (2008). Fundamental of nursing procedure manual. 1st edition. Nepal: japan international cooperation agency.
10. Suzanne Smeltze, Breda G.Bare et al. (2005). Text book of Medical and surgical Nursing. 11th Edition. New Delhi: Lippincott.
11. Abdella ,(1978), patient care through nursing research (3rded). new york: The Macmillan publications.
12. BasavathappaBT.(1998), Nursing Research, (2ndEdition). New Delhi: JayPee Brother Medical Publishers(P)Ltd.

Cite this Article: Iyammal. C (2025). Identification of the Risk Factors Associated with Coronary Artery Disease Among Adult Patients. *International Journal of Innovative Research in Health Science*, 1(12), 1-7. https://doi.org/10.63349/ijirhs.202467.