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A Descriptive Study To Assess The Level Of Knowledge Regarding Risk Factors And It's Prevention Of Coronary Artery Disease Among Patients Attending Medicine Outpatient Department In Government Hospital Agra Uttar Pradesh

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Abstract :
A study was conducted to evaluate the level of awareness regarding risk factors and preventive measures for coronary artery disease (CAD) among patients attending the medicine outpatient department at Dasmesh Hospital, Faridkot. The research aimed to assess patients' knowledge and examine any associations between their knowledge scores and selected socio-demographic variables.
Employing a descriptive research design, the study utilized a non-probability convenience sampling technique. Data were collected through structured interviews using a knowledge questionnaire. The findings indicated that the majority of participants possessed an average level of knowledge about CAD risk factors and prevention. Statistical analysis revealed no significant correlation between knowledge levels and socio-demographic factors such as age, gender, education, occupation, marital status, smoking habits, or family history.

KEYWORDS: Coronary artery disease, Outpatient department, non-purposive, Prevention

INTRODUCTION

CAD also known as coronary arteriosclerosis, is the most prevalent form of heart disease and a leading cause of mortality in India. CAD occurs when the coronary arteries, responsible for supplying blood to the heart muscle, become narrowed or blocked due to the accumulation of cholesterol and other substances, forming plaques—a condition known as atherosclerosis.

As these plaques build up, blood flow to the heart muscle is restricted, depriving it of necessary oxygen and nutrients. This can result in anginal attacks. Additionally, CAD can weaken the heart muscle over time, leading to heart failure and arrhythmias.

The heart is a vital organ, beating approximately 100,000 times daily to pump blood throughout the body. Despite its resilience, the incidence of cardiovascular diseases, including CAD, is on the rise globally. In India, cardiovascular diseases account for a significant proportion of deaths, with CAD being a leading contributor.

Epidemiological studies indicate that the prevalence of CAD in India is notably higher than in Western countries. Factors contributing to this increased prevalence include urbanization, lifestyle changes, and the adoption of diets high in saturated fats and low in physical activity.

Risk factors for CAD are categorized into modifiable and non-modifiable types. Modifiable risk factors include hypertension, diabetes mellitus, smoking, physical inactivity, obesity, and elevated serum cholesterol levels. Non-modifiable risk factors encompass age, gender, and family history of heart disease.

Understanding these risk factors and their prevention is crucial in managing and reducing the burden of CAD in India. Public health initiatives focusing on education, lifestyle modifications, and early detection can play a pivotal role in combating this growing health challenge.

OBJECTIVES

1. **Evaluate Patients' Understanding**: Assess the extent of knowledge regarding the risk factors and preventive measures for coronary artery disease (CAD) among individuals attending the Medicine Outpatient Department at Government Hospital Agra Uttar Pradesh.
2. **Analyse Knowledge Correlations**: Examine the relationship between patients' knowledge scores on CAD prevention and their awareness of associated risk factors.

ASSUMPTIONS

- **Inadequate Knowledge Among Patients**: It is presumed that patients attending the Medicine Outpatient Department at Government Hospital Agra Uttar Pradesh, possess limited understanding regarding coronary artery disease (CAD), including its risk factors and preventive measures.

DELIMITATIONS

1. **Sample Size**: The study will include a total of 50 participants, selected through a non-purposive sampling technique. This sample size is chosen to balance the need for statistical significance with practical constraints.
2. **Study Location**: Data collection will be conducted exclusively within the Medicine Outpatient Department of Government Hospital Agra Uttar Pradesh. This geographical limitation ensures a manageable and contextually relevant study environment.

REVIEW OF LITERATURE

A comprehensive review of existing studies highlights the varying levels of knowledge regarding coronary artery disease (CAD) among different populations, emphasizing the need for targeted educational interventions.

1. **Parisa Parsa (2019)** conducted a descriptive survey to assess patient knowledge about CAD and its association with demographic variables. The study found significant relationships between knowledge levels and factors such as age, occupation, and education, indicating that younger, more educated individuals in certain professions had better awareness. However, no significant association was found with religion, existing diseases, or the timing of CAD diagnosis.
2. **Nidhin Abraham (2017)** study focused on patients with diabetes mellitus in rural Mehsana District, India, highlighting the increased risk of coronary artery disease (CAD) among diabetics—approximately two to three times higher than in non-diabetic individuals. The research aimed to assess baseline knowledge regarding modifiable CAD risk factors and evaluate the effectiveness of a structured teaching program (STP) in enhancing this knowledge.
3. **Sr. Kanikkai Parvin et al. (2020)** assessed the risk status for CAD among bus drivers in Tamil Nadu. The study identified high prevalence rates of obesity, hypertension, smoking, and stress among drivers, with 71.5% categorized as medium risk and 28.5% as high risk for CAD. The findings underscore the need for targeted interventions to address lifestyle factors contributing to CAD risk in this occupational group. **Sumanpreet Kaur (2016)** examined the prevalence of cardiovascular risk factors among adolescents in Punjab. The study found that a significant proportion of adolescents had mild to moderate risk for developing cardiovascular disorders, with associations between risk factors and variables such as age, dietary pattern, BMI, and family history. The research highlights the importance of early education on healthy lifestyles to mitigate future CAD risk.
4. **Ramya K. R. & Kiran Batra (2015)** investigated adolescents' knowledge and perceptions of coronary heart disease (CHD) in Kerala. The study revealed that a large majority of adolescents had inadequate knowledge about CHD, with limited awareness of lifestyle-associated risk factors. The findings suggest the necessity for population-based programs to increase awareness and skills to prevent CHD progression.

RESEARCH METHODOLOGY

Research Approach and Design:

This study employed a descriptive research approach to systematically assess the level of knowledge regarding the risk factors and prevention of coronary artery disease (CAD) among patients. The non-experimental research design was utilized, allowing for observation and analysis without manipulating variables.

Research Setting:

The research was conducted in the Medicine Outpatient Department (OPD) of Government Hospital Agra Uttar Pradesh, Punjab, providing a clinical environment for data collection.

Target Population:
The study targeted patients attending the Medicine OPD at Government Hospital Agra Uttar Pradesh, Punjab, ensuring relevance to the clinical setting.

Sample and Sampling Technique:
A non-probability convenience sampling technique was employed, where 50 patients were selected based on their availability and willingness to participate during the study period. This method is commonly used in clinical research for its practicality and efficiency.

Inclusion Criteria:
Participants were included if they:

- Were available during the data collection period.
- Expressed willingness to participate in the study.
- Could communicate in English or Punjabi.
- Were both male and female patients attending the OPD.

Exclusion Criteria:
Patients who were unable to communicate effectively or unwilling to participate were excluded from the study.

Research Tools:
The study utilized two main tools:

1. **Socio-Demographic Profile:**
   A structured questionnaire was used to collect background information, including:
   - Age
   - Gender
   - Educational status
   - Occupation
   - Marital status
   - Smoking habits
   - Family history of CAD
2. **Structured Knowledge Questionnaire on CAD:**
   This tool comprised 24 items assessing knowledge about CAD's risk factors and prevention strategies. Each correct response was scored as 1, and incorrect or unanswered items received a score of 0, yielding a maximum score of 24.

Data Collection Procedure:
Data were collected through structured interviews conducted by the researcher. Participants were informed about the study's purpose and provided written consent before participation. The interviews were carried out in a private setting within the OPD to ensure confidentiality and minimize distractions.

Data Analysis:
Data were analyzed using descriptive statistics to summarize the socio-demographic characteristics and knowledge scores. Inferential statistics, such as chi-square tests, were applied to examine associations between knowledge levels and selected demographic variables.

Ethical Considerations:
The study adhered to ethical guidelines by ensuring voluntary participation, obtaining informed consent, maintaining participant confidentiality, and minimizing any potential risks.

Limitations:
The study's findings may not be generalizable beyond the sample due to the non-random sampling method. Additionally, the reliance on self-reported data may introduce response biases.

Conclusion:
This methodological framework provides a structured approach to assessing patients' knowledge regarding CAD, contributing valuable insights for developing targeted educational interventions in clinical settings.

evel of knowledge	Score
Excellent	19-24
Good	13-18
Average	7-12
Poor	0-6

Knowledge score range regarding coronary artery disease patients.

RESULTS:
Out of 50 participants, 17(34%) respondents were in the age group of 50-59 years and 25(50%) respondents were male; 22(44%) were had middle school education, 47(94%) were married and 45(90%) were nonsmoker and 39(78%) were not having any hereditary history.

Table 1: Distribution of Knowledge regarding risk factor and prevention of coronary artery disease. N =50

Level of knowledge	Frequency	Score
Excellent	04	8%
Good	16	32%
Average	23	46%
Poor	07	14%

Table 1 shows that 23(46%) patients were had average level of knowledge regarding prevention and risk factors of coronary artery disease where as16 (32%) had good level of knowledge, followed by 07(14%) patients were had poor level of knowledge and only 04(8%) were had excellent level of knowledge.

Table 2: Association level of knowledge regarding coronary artery disease with their socio demographic variables

Sr. No.	Demographic variables	Level of knowledge				Chi-square	DF	Table value	Level of Significance
		Excellent	Good	Average	Poor				
1.	**Age(in Years)**								
	30-39	0	3	0	0	9.362	9	16.92	NS
	40-49	4	5	6	0				
	50-59	2	8	5	2				
	60-69	1	6	6	2				
2.	**Gender**					1.474	3	7.82	NS
	Male	3	13	08	1				
	Female	4	10	10	1				
3.	**Education**								
	Middle school	2	9	9	2	7.774	9	16.92	NS
	High School	2	3	5	0				
	Graduate	2	8	1	0				
	Post Graduate	2	2	2	0				
4	**Occupation**								
	Self employed	3	12	7	2	5.4327	9	16.92	NS
	Retried	0	01	1	0				
	Employed	3	10	7	1				
	Out of work from 1 year	1	01	0	1				
5	**Marital Status**								
	Married	7	21	15	4	0.998	9	16.92	NS
	Divorced	0	00	00	0				
	Widow	0	02	01	0				
	Unmarried	0	00	00	0				
6	**Smoking**								
	Never smoke	6	21	15	4	5.543	9	16.92	NS
	Currently smoking	0	00	00	0				
	Trying to quit smoke	1	00	01	0				
	Used to smoke	0	02	00	1				
7	**Hereditary**								
	Yes	0	03	03	1	3.787	6	12.59	NS
	No	7	17	12	3				
	Don't know	0	03	01	0				

Table 2 shows association between levels of knowledge regarding coronary artery disease with their socio demographic variables. It was found none of the socio demographic variables was statistically significant at 0.05 levels.

Recommendations for Future Research on Coronary Artery Disease (CAD) Knowledge and Prevention

Based on the findings of the current study, the following recommendations are proposed to further enhance understanding and management of CAD:

1. **Expand Sample Size for Broader Insights**

   Conducting similar studies with larger and more diverse populations can provide more generalized data and strengthen the validity of findings.

2. **Evaluate Effectiveness of Various Educational Interventions**

   Investigate and compare the impact of different educational methods, such as structured teaching programs, digital platforms, and community outreach, on patients' knowledge and practices regarding CAD prevention.

3. **Assess Knowledge and Attitudes Across Different Demographics**

   Studies focusing on various demographic groups can help identify specific needs and tailor interventions accordingly. For instance, research could explore the knowledge and attitudes of adolescents, elderly populations, or individuals from rural areas.

4. **Investigate Knowledge and Practices in Different Settings**

   Conducting descriptive studies in various settings, such as rural clinics, urban hospitals, or community health centers, can provide insights into the existing knowledge and practices related to CAD prevention in different environments.

5. **Compare Knowledge, Practices, and Attitudes in Diverse Populations**

   Comparative studies between rural and urban populations can shed light on regional disparities in CAD awareness and prevention practices, facilitating the development of targeted interventions.

6. **Explore the Role of Technology in Enhancing Awareness**

   Investigate the effectiveness of digital tools, such as mobile applications and online platforms, in disseminating information and improving CAD knowledge among patients.

7. **Examine the Impact of Socioeconomic Factors on CAD Awareness**
   Research could explore how factors like income, education, and occupation influence individuals' understanding of CAD and their preventive behaviours.

8. **Implement Longitudinal Studies to Assess Knowledge Retention**
   Long-term studies can evaluate the sustainability of knowledge gained through educational interventions and its impact on long-term health outcomes.

Limitations of the Study

1. **Sample Size and Generalizability**
   The study was conducted with a sample size of 50 patients attending the medicine outpatient department at Government Hospital Agra Uttar Pradesh. This limited sample size restricts the ability to generalize the findings to the broader population of coronary artery disease patients.

2. **Scope of Assessment**
   The study focused solely on assessing the knowledge of patients regarding the risk factors and prevention of coronary artery disease. Due to time constraints, it did not evaluate the actual practices or behaviors of patients in relation to CAD prevention.

3. **Cross-Sectional Design**
   Being a cross-sectional study, the research provides a snapshot of patient knowledge at a single point in time. This design limits the ability to observe changes over time or establish causal relationships between variables.

4. **Potential Biases**
   The use of a non-probability convenience sampling technique may introduce selection bias, as the sample may not be representative of the general population. Additionally, the reliance on self-reported data could lead to response bias, affecting the accuracy of the findings.

5. **Limited Scope of Demographic Variables**
   The study collected data on basic demographic variables but did not explore other potentially influential factors such as socioeconomic status, lifestyle habits, or cultural beliefs, which could provide a more comprehensive understanding of patients' knowledge and behaviours regarding CAD.

6. **Lack of Longitudinal Follow-Up**
   Without a longitudinal follow-up, the study cannot assess the long-term retention of knowledge or the impact of increased awareness on patients' health outcomes and preventive practices.

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