International Journal of Advance Research in Medical Surgical Nursing

E-ISSN: 2663-2268
P-ISSN: 2663-225X
www.surgicalnursingjournal.com
IJARMSN 2025; 7(1): 39-40
Received: 24-10-2024
Accepted: 30-11-2024

Yerni Jyothi Kolli
Ph.D. Scholar, Malwanchal University, Indore, Madhya Pradesh, India

Dr. Reena Thakur
Research Supervisor, Malwanchal University, Indore, Madhya Pradesh, India

Corresponding Author:
Yerni Jyothi Kolli
Ph.D. Scholar, Malwanchal University, Indore, Madhya Pradesh, India

Coronary artery disease risk factors among adults

Yerni Jyothi Kolli and Reena Thakur

DOI: https://doi.org/10.33545/surgicalnursing.2025.v7.i1a.218

Abstract
Coronary Artery Disease (CAD) remains one of the leading causes of morbidity and mortality worldwide. This article explores the primary risk factors associated with CAD among adults, categorizing them into modifiable and non-modifiable factors. Modifiable risk factors include hypertension, hyperlipidemia, diabetes, smoking, obesity, sedentary lifestyle, and poor dietary habits. Non-modifiable risk factors encompass age, gender, family history, and genetic predisposition. The role of emerging risk factors such as inflammation and psychosocial stress is also discussed. The article highlights the importance of preventive strategies such as lifestyle modifications, regular medical check-ups, and medication adherence in mitigating CAD risks. A comprehensive understanding of these factors is crucial for early intervention and reducing the global burden of CAD.

Keywords: Coronary artery disease (CAD), morbidity, mortality, risk factors

Introduction
Coronary Artery Disease (CAD) is a major health concern, contributing significantly to cardiovascular-related deaths. It is caused by the buildup of atherosclerotic plaques in the coronary arteries, leading to reduced blood flow to the heart. Identifying and addressing risk factors associated with CAD is essential for prevention and management. This article provides an in-depth analysis of CAD risk factors among adults, emphasizing both modifiable and non-modifiable elements.

Non-Modifiable Risk Factors
1. **Age:** The risk of CAD increases with age. Men over 45 years and women over 55 years are at a higher risk of developing the disease.
2. **Gender:** Males are more prone to CAD compared to premenopausal women. However, after menopause, the risk in women rises significantly.
3. **Genetic Factors:** Family history of CAD, especially in first-degree relatives, elevates the likelihood of developing the disease.
4. **Ethnicity:** Certain ethnic groups, such as South Asians and African Americans, have a higher predisposition to CAD due to genetic and lifestyle factors.

Modifiable Risk Factors
1. **Hypertension:** High blood pressure strains the heart, increasing the risk of atherosclerosis and CAD.
2. **Hyperlipidemia:** Elevated levels of low-density lipoprotein (LDL) cholesterol and triglycerides contribute to plaque formation in the arteries.
3. **Diabetes Mellitus:** Uncontrolled blood glucose levels damage blood vessels, making diabetics more prone to CAD.
4. **Smoking:** Tobacco use accelerates atherosclerosis, raises blood pressure, and reduces oxygen supply to the heart.
5. **Obesity:** Excess weight, particularly central obesity, is linked to insulin resistance, hypertension, and dyslipidemia, all of which increase CAD risk.
6. **Sedentary Lifestyle:** Lack of physical activity contributes to weight gain, hypertension, and poor cardiovascular health.
7. **Poor Diet:** Diets high in trans fats, sodium, and refined sugars promote obesity, hypertension, and hyperlipidemia.
8. **Alcohol Consumption:** Excessive alcohol intake raises blood pressure and triglyceride levels, increasing CAD risk.

Emerging Risk Factors

1. **Inflammatory Markers:** Elevated C-reactive protein (CRP) levels indicate inflammation, which plays a role in plaque formation.
2. **Psychosocial Stress:** Chronic stress, anxiety, and depression have been linked to increased CAD risk.
3. **Sleep Disorders:** Conditions such as obstructive sleep apnea contribute to hypertension and metabolic syndrome, further escalating CAD risk.

Preventive Strategies

1. **Lifestyle Modifications:** Adopting a heart-healthy diet (Mediterranean or DASH diet), engaging in regular exercise, and quitting smoking can significantly lower CAD risk.
2. **Regular Medical Check-ups:** Routine screenings for blood pressure, cholesterol levels, and blood glucose help in early detection and intervention.
3. **Pharmacological Interventions:** Use of antihypertensives, statins, and antiplatelet agents as prescribed by healthcare professionals can help manage risk factors effectively.
4. **Mental Health Management:** Stress reduction techniques such as meditation, yoga, and therapy play a role in improving heart health.

Conclusion

Coronary Artery Disease continues to be a leading cause of death among adults, with risk factors ranging from lifestyle choices to genetic predisposition. While non-modifiable factors cannot be altered, managing modifiable factors through lifestyle changes, medication, and routine health check-ups can significantly reduce CAD risk. Public health initiatives aimed at increasing awareness and encouraging preventive measures are essential in the fight against CAD.

Conflict of Interest

Not available.

Financial Support

Not available.

References

1. Fuster V, Kelly BB. Promoting cardiovascular health in the developing world: A critical challenge to achieve global health. Washington (DC): National Academies Press; c2010.
2. Libby P, Ridker PM, Hansson GK. Progress and challenges in translating the biology of atherosclerosis. Nat. 2011;473(7347):317-325.
3. Yusuf S, Hawken S, Ounpuu S, Dans T, Avezum A, Lanas F, *et al*. Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): case-control study. Lancet. 2004;364(9438):937-952.
4. Grundy SM, Stone NJ, Bailey AL, *et al*. 2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA guideline on the management of blood cholesterol: A report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. J Am Coll Cardiol. 2018;73(24):e285-e350.
5. Benjamin EJ, Muntner P, Alonso A, *et al*. Heart disease and stroke statistics-2019 update: A report from the American Heart Association. Circulation. 2019;139(10):e56-e528.

How to Cite This Article

Kolli KYJ, Thakur R. Coronary artery disease risk factors among adults. International Journal of Advance Research in Medical Surgical Nursing. 2025;7(1):39-40.