

# Prevalence of Heart Disease Risk Factors in Patients with Acute Coronary Syndrome Referred to the Emergency Department of Shariati Hospital in Isfahan in 2022

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## ABSTRACT

**Introduction:** Acute coronary syndrome (ACS) is a spectrum of symptoms that indicate acute myocardial ischemia and is a leading cause of death among individuals over the age of 35. ACS includes unstable angina, non-ST elevation myocardial infarction (NSTEMI), and ST-elevation myocardial infarction (STEMI). Key risk factors for coronary heart disease (CHD) and ACS encompass smoking, hypertension, diabetes, hyperlipidemia, male gender, obesity, poor diet and lifestyle choices, and psychological stress. Given its severity, accurate diagnosis and prompt identification of primary risk factors are essential for effective treatment and prognosis. This study aimed to identify the prevalence of heart disease risk factors in ACS patients, specifically those with STEMI, UA, and NSTEMI, admitted to the emergency room at Shariati Hospital in Isfahan.

**Methods and Materials:** This cross-sectional study examines the prevalence of heart disease risk factors in ACS patients at Emergency Department of Shariati Hospital in Isfahan in 2022. The study includes patients admitted for ACS during this period.

**Results:** Among 420 patients, 11 were removed from the study based on the exclusion criteria, leaving data from 409 patients for analysis. Of these patients, 321 (78.5%) were male, and 88 (21.5%) were female. ACS types were distributed as 31.5% for STEMI, 38% for NSTEMI, and 30.5% for UA. Patients' ages ranged from 36 to 93 years, averaging  $62.49 \pm 7.77$  years. The average ages for women and men were 64.7 and 61.9 years, respectively. Gender significantly correlated with age of onset ( $p = 0.05$ ). Age also significantly correlated with ACS type, with STEMI patients being older on average ( $p = 0.05$ ). Obesity was found in 203 patients (49.6%), with 65 women and 45 men affected. Smoking was reported in 43 patients. Hypertension was present in 167 patients (41%), significantly more common in those with NSTEMI ( $p = 0.05$ ). Diabetes was present in 173 patients (42%), with no significant correlation with ACS type ( $p = 0.5$ ). Hyperlipidemia was found in 69 patients, with a significant relationship to ACS type, being most common in NSTEMI and least in UA ( $p = 0.05$ ). Stress and psychological pressure were reported in 58 patients, significantly related to ACS type, mostly STEMI ( $p = 0.05$ ). A family history of premature myocardial infarction was noted in 26 patients, significantly associated with STEMI ( $p = 0.05$ ).

**Conclusion and Discussion:** ACS causes significant mortality and severe complications. Managing and preventing risk factors is crucial for ACS prevention and treatment. Identifying these factors helps healthcare providers develop targeted prevention and treatment strategies.

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