

# Dynamics in Cardiovascular Diseases Risk Factors Prevalence among Females of Working Age Based on Results of 35 Years Monitoring

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## Description

A Myocardial Infarction (MI), commonly known as a heart attack occurs when blood flow decreases or stops to the coronary artery of the heart, causing damage to the heart muscle. The most common symptom is chest pain or discomfort which may travel into the shoulder, arm, back, neck or jaw. Often it occurs in the center or left side of the chest and lasts for more than a few minutes. The discomfort may occasionally feel like heartburn. Other symptoms may include shortness of breath, nausea, feeling faint, a cold sweat or feeling tired. About 30% of people have atypical symptoms. Women more often present without chest pain and instead have neck pain, arm pain or feel tired. Among those over 75 years old, about 5% have had an MI with little or no history of symptoms. An MI may cause heart failure, an irregular heartbeat, cardiogenic shock or cardiac arrest. Most MIs occur due to coronary artery disease. Risk factors include high blood pressure, smoking, diabetes, lack of exercise, obesity, high blood cholesterol, poor diet and excessive alcohol intake. The complete blockage of a coronary artery caused by a rupture of an atherosclerotic plaque is usually the underlying mechanism of an MI. MIs are less commonly caused by coronary artery spasms, which may be due to cocaine, significant emotional stress (commonly known as Takotsubo syndrome or broken heart syndrome) and extreme cold, among others. A number of tests are useful to help with diagnosis, including electrocardiograms (ECGs), blood tests and coronary angiography. An ECG, which is a recording of the heart's electrical activity, may confirm an ST elevation MI (STEMI), if ST elevation is present.

## Macroalgae Therapeutic

Treatment of an MI is time-critical. Aspirin is an appropriate immediate treatment for a suspected MI. Nitroglycerin or opioids may be used to help with chest pain; however, they do not improve overall outcomes. Supplemental oxygen is recommended in those with low oxygen levels or shortness of breath. In a STEMI, treatments attempt to restore blood flow to the heart and include Percutaneous Coronary Intervention (PCI), where the arteries are pushed open and may be stented, or thrombolysis, where the blockage is removed using medications.

People who have a Non-ST Elevation Myocardial Infarction (NSTEMI) are often managed with the blood thinner heparin, with the additional use of PCI in those at high risk. In people with blockages of multiple coronary arteries and diabetes, coronary artery bypass surgery (CABG) may be recommended rather than angioplasty. After an MI, lifestyle modifications, along with long-term treatment with aspirin, beta blockers and statins, are typically recommended.

## Terminology

Myocardial Infarction (MI) refers to tissue death (infarction) of the heart muscle (myocardium) caused by ischaemia, the lack of oxygen delivery to myocardial tissue. It is a type of acute coronary syndrome, which describes a sudden or short-term change in symptoms related to blood flow to the heart. Unlike the other type of acute coronary syndrome, unstable angina, a myocardial infarction occurs when there is cell death, which can be estimated by measuring by a blood test for biomarkers (the cardiac protein troponin). When there is evidence of an MI, it may be classified as an ST Elevation Myocardial Infarction (STEMI) or Non-ST Elevation Myocardial Infarction (NSTEMI) based on the results of an ECG.

The phrase "heart attack" is often used non-specifically to refer to myocardial infarction. An MI is different from—but can cause—cardiac arrest, where the heart is not contracting at all or so poorly that all vital organs cease to function, thus might lead to death.[25] It is also distinct from heart failure, in which the pumping action of the heart is impaired. However, an MI may lead to heart failure.

## Signs and Symptoms

Chest pain that may or may not radiate to other parts of the body is the most typical and significant symptom of myocardial infarction. It might be accompanied by other symptoms such as sweating. Chest pain is one of the most common symptoms of acute myocardial infarction and is often described as a sensation of tightness, pressure, or squeezing. Pain radiates most often to the left arm, but may also radiate to the lower jaw, neck, right arm, back, and upper abdomen. The pain most suggestive of an

acute MI, with the highest likelihood ratio, is pain radiating to the right arm and shoulder. Similarly, chest pain similar to a previous heart attack is also suggestive. The pain associated with MI is usually diffuse, does not change with position, and lasts for more than 20 minutes. It might be described as pressure, tightness, knifelike, tearing, burning sensation (all these are also manifested during other diseases). It could be felt as an unexplained anxiety, and pain might be absent altogether.

Levine's sign, in which a person localizes the chest pain by clenching one or both fists over their sternum, has classically been thought to be predictive of cardiac chest pain, although a prospective observational study showed it had a poor positive predictive value. Typically, chest pain because of ischemia, be it unstable angina or myocardial infarction, lessens with the use of nitroglycerin, but nitroglycerin may also relieve chest pain arising from non-cardiac causes.