Machine Translated by Google
RCMOS - Multidisciplinary Scientific Journal The Knowledge.
ISSN: 2675-9128. São Paulo-SP.

Year VII, v.1 2026 | Submission: July 3, 2026 | Accepted: July 6, 2026 | Publication: July 9, 2026

Cardiovascular diseases: a narrative review

Cardiovascular diseases: a narrative review

Cardiovascular diseases: a narrative review

Barbara Aline Ferreira Assunção

SUMMARY

This study addresses cardiovascular diseases (CVDs), considered the leading cause of morbidity and mortality in Brazil and worldwide, highlighting their risk factors, pathophysiological mechanisms, prevention strategies, diagnostic methods, and therapeutic approaches. The overall objective was to analyze the main aspects of cardiovascular diseases, with emphasis on atherosclerosis, acute myocardial infarction, and the prevention and clinical management strategies described in the scientific literature. The methodology consisted of a narrative literature review, developed through consultation of scientific articles, books, and technical documents published in national and international databases, selected according to their relevance and pertinence to the topic. The analyzed studies showed that factors such as sedentary lifestyle, inadequate diet, smoking, obesity, diabetes mellitus, and stress are associated with the development of cardiovascular diseases, while early diagnosis, the adoption of healthy habits, and qualified multidisciplinary care contribute to the reduction of morbidity and mortality. Advances in therapeutic strategies were also identified, including new pharmacological approaches for heart failure.

It is concluded that prevention, early diagnosis, health promotion, and the continuous incorporation of scientific evidence constitute fundamental pillars for tackling cardiovascular diseases and improving the quality of life of the population.
Keywords: Cardiovascular diseases. Atherosclerosis. Acute myocardial infarction. Prevention. Diagnosis. Treatment.

ABSTRACT

Cardiovascular diseases (CVDs) remain the leading cause of morbidity and mortality worldwide, representing a major public health challenge. This study addresses the main aspects of cardiovascular diseases, heightened risk factors, pathophysiological mechanisms, prevention strategies, diagnostic methods, and therapeutic approaches. The objective was to analyze the main characteristics of cardiovascular diseases, with emphasis on atherosclerosis, acute myocardial infarction, and current prevention and clinical management strategies reported in the scientific literature. The methodology consisted of a narrative literature review based on scientific articles, books, and technical documents retrieved from national and international databases according to their relevance to the proposed topic. The reviewed studies demonstrated that a sedentary lifestyle, unhealthy diet, smoking, obesity, diabetes mellitus, and stress are closely associated with the development of cardiovascular diseases. In contrast, early diagnosis, healthy lifestyle habits, and qualified multidisciplinary care significantly contribute to reducing morbidity and mortality. The review also identified advances in therapeutic strategies, including novel pharmacological approaches for heart failure management. It is concluded that prevention, early diagnosis, health promotion, and the continuous incorporation of scientific evidence into clinical practice are essential for reducing the burden of cardiovascular diseases and improving population health outcomes.

This article is published in open access under the Creative Commons Attribution license, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Machine Translated by Google
RCMOS – Multidisciplinary Scientific Journal The Knowledge.
ISSN: 2675-9128. São Paulo-SP.

Year VII, v.1 2026 | Submission: July 3, 2026 | Accepted: July 6, 2026 | Publication: July 9, 2026

Keywords: Cardiovascular diseases. Atherosclerosis. Acute myocardial infarction. Prevention. Diagnosis. Treatment.

1 INTRODUCTION

Cardiovascular diseases (CVDs) encompass a broad range of illnesses that They affect the heart and vascular system, including arteries, veins, and capillaries. Among them, Coronary artery disease stands out as one of the main contributing factors. due to the occurrence of acute myocardial infarction and other cardiovascular complications. serious. In some cases, these illnesses result from the progressive process of Atherosclerosis, characterized by the accumulation of lipids in the walls of blood vessels. Over the years, this compromises blood flow and increases the risk of cardiovascular events. fatal.

In recent decades, cardiovascular diseases have become the leading cause of death. a major cause of morbidity and mortality in Brazil and worldwide, representing one of the greatest challenges. for healthcare systems. In addition to the high number of deaths, these diseases generate significant social, economic and welfare impacts resulting from frequent hospitalizations, functional disabilities, and the high costs of treatment. high complexity. This scenario becomes even more worrying in inland regions. of the country, where limitations in health service infrastructure and the scarcity of Specialized professionals hinder access to timely diagnoses and treatments. Recent studies demonstrate that organized models of cardiovascular care They can contribute to reducing mortality and hospital readmissions. reinforcing the importance of strengthening healthcare networks (Carvalho, 2025).

Given this context, it becomes essential to expand strategies aimed at prevention, early identification of risk factors, and improved quality of care for Patients with cardiovascular diseases. Adopting healthy lifestyle habits, associated with early diagnosis and treatment based on scientific evidence, This represents one of the main ways to reduce the incidence of these diseases and to minimize its complications.

This study is socially relevant because it addresses one of the main causes of illness and death in the population, contributing to the dissemination of information.

This article is published in open access under the Creative Commons Attribution license, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Machine Translated by Google
RCMOS - Multidisciplinary Scientific Journal The Knowledge.
ISSN: 2675-9128. São Paulo-SP.

Year VII, v.1 2026 | Submission: July 3, 2026 | Accepted: July 6, 2026 | Publication: July 9, 2026

that favor the prevention and promotion of cardiovascular health. From the perspective
This professional tool aims to support the work of healthcare professionals by gathering evidence.
updated scientific information on the prevention, diagnosis, and treatment of diseases.
Cardiovascular diseases. In the academic field, it aims to broaden discussions on the subject.
providing support for future research and strengthening scientific production in the area.
The overall objective of this study is to analyze the main aspects of the diseases.
cardiovascular diseases, addressing their risk factors and pathophysiological mechanisms,
prevention strategies, diagnostic methods, and therapeutic approaches described in
scientific literature. As specific objectives, it seeks to understand the factors
associated with the development of cardiovascular diseases, describe the processes
To analyze the pathophysiological aspects of atherosclerosis and acute myocardial infarction, the importance
from early diagnosis, discuss the role of multidisciplinary care and present the
main preventive and therapeutic strategies available.
Regarding the methodological procedures, this is a narrative literature review.
developed from consulting scientific articles, books and technical documents
published in national and international databases, selected according to their
scientific relevance and pertinence to the proposed theme.

2. THEORETICAL FRAMEWORK

2.1 Cardiovascular Diseases

Cardiovascular diseases (CVDs) are one of the major health problems.
public in Brazil and around the world. Since the beginning of the 20th century, political transformations,
Social, scientific, economic, and labor relations changes have modified lifestyles.
of the population. These changes influenced daily habits, favoring the
an increase in risk factors associated with cardiovascular diseases and contributing to
high morbidity and mortality rates (Chor et al., 1999).
Although associated with aging, CVDs have shown an increase.
Significant among young adults. This scenario is related to risk factors.
Modifiable factors, such as sedentary lifestyle, inadequate diet, smoking, consumption
Excessive alcohol consumption, obesity, stress, and anxiety. Adopting these habits

This article is published in open access under the Creative Commons Attribution license, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Machine Translated by Google

Year VII, v.1 2026 | Submission: 03/07/2026 | Accepted: 06/07/2026 | Publication: 09/07/2026

It compromises cardiovascular health and increases the likelihood of events such as heart attacks.
acute myocardial infarction and stroke.
In this context, early screening is a key strategy for identifying
Individuals at risk before the onset of clinical manifestations. Tests
simple tasks, such as measuring blood pressure, testing blood glucose, and assessing the patient's profile.
Lipid-based tests allow the detection of asymptomatic metabolic and cardiovascular changes.
When heart disease is suspected, additional tests, such as
Electrocardiogram, stress test, and echocardiogram help in confirming the diagnosis.
diagnostic and in monitoring clinical evolution, enabling more effective interventions.
effective (Kamel; Kamel, 1996).
Recent studies demonstrate that early identification of risk factors reduces the
It reduces the occurrence of cardiovascular complications and lowers the costs associated with them.
hospitalizations and highly complex treatments. In a narrative literature review.
involving publications between 2019 and 2025, Branco (2025) highlights that the incorporation of
early screening within public health policies, combined with health education and...
Continuous medical monitoring is an effective strategy to reduce
Incidence of cardiovascular disease among young adults.
Prevention of cardiovascular diseases is based on promoting healthy habits, including
A balanced diet, regular physical activity, stress management, and...
anxiety, quitting smoking, moderate consumption or absence of alcoholic beverages
and a balance between work activities and leisure time (Kamel; Kamel, 1996). These
These measures contribute not only to primary prevention but also to improvement.
quality of life and the reduction of cardiovascular risk factors.
Once the disease is established, treatment varies according to its severity and the patient's condition.
patient's clinical care. The approach may include medical follow-up, therapy
Pharmacological treatment and lifestyle changes. In more complex cases,
Interventional or surgical procedures may be necessary, including surgery.
revascularization, repair of cardiac structures, implantation of devices or, in
Extreme situations, heart transplant.

This article is published in open access under the Creative Commons Attribution license, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Machine Translated by Google

Year VII, v.1 2026 | Submission: July 3, 2026 | Accepted: July 6, 2026 | Publication: July 9, 2026

2.2 Atherosclerosis, Acute Myocardial Infarction, and Clinical Management Strategies

Atherosclerosis is one of the main etiological factors of diseases.
Cardiovascular diseases (CVDs), characterized as a multifactorial process,
Progressive and slowly evolving. Its development is related to the interaction between
genetic predisposition, family history and environmental factors, associated with lifestyle
life. The action of these factors on the vascular endothelium triggers structural changes.
and functional factors that promote the formation of atherosclerotic plaques. Plaque formation
Atheroma results from the progressive accumulation of lipoproteins in the intra- and intra-cutaneous spaces.
extracellular fluid in the arterial wall, promoting endothelial dysfunction and matrix alterations.
extracellular fluid and thrombus deposition. This process can compromise any cell bed.
arterial pressure in the body, increasing the risk of events such as acute myocardial infarction.
(AMI), stroke and aortic aneurysm (Chavaglia; Silva, 2010).
When atherosclerosis affects the coronary arteries, it reduces blood flow.
for the heart muscle, which may manifest as unstable angina or progress to
Complete occlusion of the vessel, culminating in acute myocardial infarction. The extent of
The lesion depends on the degree of coronary obstruction and the presence of collateral circulation.
leading the myocardial tissue to a progressive process of ischemia, cell injury and
necrosis (Pesaro et al., 2004).
Acute myocardial infarction remains among the leading causes of morbidity and mortality.
Worldwide, it is most prevalent in older adults, aged 60 to 75. However,
Advances in the organization of cardiovascular care have contributed to important...
reductions in in-hospital mortality. Whereas, in the 1960s, mortality
The average rate of myocardial infarction was approximately 30%, following the implantation of coronary units.
reduced this rate to around 16% (Pesaro et al., 2004). Despite these advances, the
AMI continues to produce a high epidemiological and economic impact, requiring
Permanent strategies for prevention, early diagnosis, and specialized care.
Epidemiological study conducted in the Tocantins Health Region, in the state of Pará, which
The analysis of hospitalizations between 2015 and 2024 demonstrated a significant increase in
Hospitalizations for AMI in 2022 and 2023, although a gradual reduction was observed.
of hospital mortality. The results also showed a predominance of
Hospitalizations among men, higher proportion of deaths among women, elevated

This article is published in open access under the Creative Commons Attribution license, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Machine Translated by Google

Year VII, v.1 2026 | Submission: 03/07/2026 | Accepted: 06/07/2026 | Publication: 09/07/2026

concentration of cases in the elderly population and progressive increase in costs
care services. The authors highlight the need to strengthen the care network for
cardiovascular emergencies and implementing preventive strategies aimed at groups
more vulnerable (Pinheiro et al., 2026).

In the care of patients suffering a heart attack, nursing plays a fundamental role.
From admission to rehabilitation, the nurse is the primary professional responsible.
through clinical assessment, identification of signs and symptoms, and monitoring
continuous and through the administration of initial therapies. Recent integrative reviews
They demonstrate that speed in nursing care is associated with a reduction in
complications and morbidity and mortality. However, challenges related to
early recognition of AMI, standardization of institutional protocols,
Continuous team training and professional autonomy are factors that influence...
quality of care provided (Pedroso et al., 2025; Oliveira, Souza and Barbosa, 2025).

After diagnosis, treatment of AMI may involve clinical measures,
pharmacological, interventional procedures and revascularization surgeries
myocardial, according to the severity of the clinical picture (Miyake; Ferreira, 2000). In addition
In addition, new therapeutic approaches have been expanding the possibilities for treating...
Cardiovascular diseases. Among them, inhibitors of the cotransporter of
sodium-glucose inhibitors type 2 (iSGLT2), developed for the treatment of type 2 diabetes mellitus.
2. Recent evidence demonstrates that medications such as empagliflozin and
Dapagliflozin reduces hospitalizations and events related to heart failure.
cardiac function with preserved ejection fraction, regardless of the presence of diabetes,
consolidating this pharmacological class as an important therapeutic alternative for
patients with heart failure (Kliemann et al., 2025).

Preventing cardiovascular disease remains the most effective strategy for
to reduce its incidence and severity. Among the modifiable factors, control stands out.
adequate management of type 2 diabetes mellitus, a condition associated with an increased risk.
cardiovascular. In this context, recent studies show that the Mediterranean diet
It promotes significant improvement in glycemic control and a reduction in glycated hemoglobin.
Improved lipid profile, blood pressure control, and reduced inflammation.
chronic, contributing to the overall reduction of cardiovascular risk. In addition to its

This article is published in open access under the Creative Commons Attribution license, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Machine Translated by Google

Year VII, v.1 2026 | Submission: 03/07/2026 | Accepted: 06/07/2026 | Publication: 09/07/2026

Clinical benefits: it is a balanced, sustainable, and easy dietary pattern.
adherence for the population (Palmeira; Malinovski, 2025).
Therefore, addressing cardiovascular diseases requires a specific approach.
multidisciplinary, integrating prevention, early diagnosis, qualified care and
Constant updating of therapeutic strategies. The combination of promoting
health, professional qualification and the incorporation of new scientific evidence
This represents one of the main ways to reduce morbidity and mortality associated with
Cardiovascular diseases and improve the quality of life of the population.

CONCLUSION

This study allowed for the analysis of the main aspects related to diseases.
cardiovascular diseases, highlighting their high relevance as a public health problem.
due to high morbidity and mortality rates and the social, economic and
the healthcare burden that these illnesses represent for the population and for the healthcare systems.
health.

The aim was to understand the factors associated with the development of diseases.
cardiovascular diseases, highlighting the influence of genetic predisposition and risk factors.
Modifiable factors, such as sedentary lifestyle, inadequate diet, smoking, consumption
Excessive alcohol consumption, obesity, stress, and type 2 diabetes mellitus. It was found-
I know that adopting healthy lifestyle habits is one of the most effective strategies.
to reduce the incidence of these diseases and promote a better quality of life.
It was also possible to understand the pathophysiological mechanisms of atherosclerosis and its
close relationship with the development of acute myocardial infarction, highlighting that the
The progressive formation of atherosclerotic plaques compromises blood flow and
It favors the occurrence of fatal cardiovascular events. It was also observed that, despite
Despite advances in diagnosis and treatment achieved in recent decades, acute myocardial infarction...
Myocardial cancer continues to be highly relevant epidemiologically, requiring
Continuous improvement of prevention and care strategies.
It is also important to highlight the importance of early identification of risk factors and of
conducting screening tests, which allows for timely interventions capable of
to reduce complications, hospitalizations, and healthcare costs. In this context, it was found that...

This article is published in open access under the Creative Commons Attribution license, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Machine Translated by Google

Year VII, v.1 2026 | Submission: July 3, 2026 | Accepted: July 6, 2026 | Publication: July 9, 2026

that the integrated performance of multidisciplinary nursing teams plays a role crucial in identifying clinical signs, in initial care, and in monitoring. continuous and effective implementation of evidence-based therapeutic practices. scientific.

Regarding treatment, it was found that the evolution of pharmacological therapies And cardiovascular interventions have broadened the possibilities for controlling the disease and... reduction of complications. Furthermore, new scientific evidence demonstrates Promising results from innovative therapeutic approaches, such as the use of inhibitors. of the sodium-glucose cotransporter type 2 (iSGLT2), reinforcing the importance of Continuous updating of clinical practices.

It can be concluded, therefore, that tackling cardiovascular diseases depends on... Integration between actions promoting health, prevention, early diagnosis, and assistance. qualified multidisciplinary team and continuous incorporation of scientific evidence into clinical care. This study is expected to contribute to expanding knowledge about the topic, providing support to health professionals, researchers, and managers in the development of strategies that strengthen prevention, improve care, and promote better clinical outcomes and improved quality of life for the population affected by diseases cardiovascular.

REFERENCES

Branco, FC de MC (2025). *The importance of early screening in the prevention of cardiovascular diseases in young adults. Brazilian Scientific Journal of Health and Medicine,* 1(1). https://doi.org/10.51473/rbmed.v1i1.2025.2

Carvalho, MMB (2025). *Community cardiology model applied to the public semi-intensive ICU: reduction of mortality and readmissions in the interior of Maranhão.* *RCMOS - Multidisciplinary Scientific Journal The Knowledge,* 1(1). https://doi.org/10.51473/rcmos.v1i1.2025.945

Chavaglia, AF, & Silva, CA (2010). *Analysis of cardiovascular risk factors in systemic arterial hypertension.* University of the Amazon.

Chor, D., et al. (1999). Cardiovascular diseases: Overview of mortality in Brazil. In MCS Minayo (Ed.), *The many Brazils: Health and population in the 1980s* (2nd ed.). ABRASCO; HUCITEC.

Kamel, D., & Kamel, JG (1996). *How to prevent myocardial infarction.*

Sprint, Kliemann, BM, Silva, HF, Fournier, VV, & Rigo, VDA (2025). *Efficacy of SGLT2 inhibitors in reducing major cardiovascular events in patients with heart failure with preserved ejection fraction: A systematic review of*

This article is published in open access under the Creative Commons Attribution license, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Machine Translated by Google

Year VII, v.1 2026 | Submission: July 3, 2026 | Accepted: July 6, 2026 | Publication: July 9, 2026

literature. RCMOS - Multidisciplinary Scientific Journal The Knowledge, 1(2). https://doi.org/10.51473/rcmos.v1i2.2025.1679

Miyake, ERN, & Ferreira, BA (2000). Acute myocardial infarction: treatment, rehabilitation and control of risk factors. *UNISA Nursing Journal,* 1, 24–29.

Oliveira, GRB, Souza, NA, & Barbosa, EEP (2025). *The role of nurses in the care of acute myocardial infarction (AMI) in in-hospital emergency services in Brazil. RCMOS - Revista Científica Multidisciplinar O Saber,* 1(1). https://doi.org/10.51473/rcmos.v1i1.2025.1181

Palmeira, JS, & Malinovski, J. (2025). *Impact of the Mediterranean diet on glycemic control and cardiovascular risk factors in people with type* 2 diabetes.
RCMOS - Journal https://doi.org/ *Multidisciplinary Scientific Knowledge,* 1(2).
10.51473/rcmos.v1i2.2025.1253

Pedroso, ERB, Lima, TF, & Barbosa, EEP (2025). *Nursing care in cardiac emergencies in Brazil: management of acute myocardial infarction in elderly people aged 60 to 75 years in the last 10 years: an integrative review. RCMOS - Revista Científica Multidisciplinar O Saber,* 1(1). https://doi.org/10.51473/rcmos.v1i1.2025.1167

Pesaro, AEP, Serrano Júnior, CV, & Nicolau, JC (2004). Acute myocardial infarction: acute coronary syndrome with ST-segment elevation.
Brazilian Medical Association Journal, 50(2), 214–220.

Pinheiro, CT, Monarcha Júnior, JAS, Leão, JPS, Nunes, VLM, Paulucio, DS
S., Rodrigues, IC, Alcantara, NL, Frazão, LC, Rego, EL, Maia, ALB, Araújo, TRF, & Carvalho, BMS (2026). *Epidemiological profile of patients hospitalized for*
Acute myocardial infarction in the Lower Tocantins region, in Pará, between 2015 and 2024. Brazilian Scientific Journal of Health and Medicine, 1(1). https://doi.org/10.51473/rbmed.v1i1.2026.22

This article is published in open access under the Creative Commons Attribution license, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.