Machine Translated by Google

The Importance of Early Screening in the Prevention of Cardiovascular Diseases in Young Adults

The Importance of Early Screening in Preventing Cardiovascular Disease in Young Adults

Fabricio Chaves de Melo Castelo Branco - Anesthesiologist

Email: fabricio.cbranco@gmail.com

Summary

Cardiovascular diseases (CVDs) remain the leading cause of death globally.
and have shown a worrying increase among young adults. This phenomenon stems from,
above all, due to modifiable factors such as sedentary lifestyle, inadequate diet, smoking,
Alcohol consumption and stress. Recent literature shows that early screening is a
This is an essential strategy for identifying these risk factors, enabling interventions.
Effective preventive measures. This study conducted a narrative literature review, searching in
PubMed, SciELO, and Google Scholar databases, covering publications between 2019 and 2025.
Twenty-eight articles addressing the prevention and early diagnosis of cardiovascular diseases were analyzed.
young adults. The results demonstrated that screening through simple tests — such as
Blood pressure, blood glucose, and lipid profile measurements — allow for the detection of conditions.
asymptomatic and significantly reduces the risk of cardiovascular events. In addition to
With clinical benefits, a positive economic impact is observed, reducing costs with
hospitalizations and long-term treatments. It is concluded that early screening should be
incorporated as a priority public policy, integrating health education, screening and
Ongoing medical monitoring, with a special focus on young adults.

Keywords: Early screening; Cardiovascular diseases; Prevention; Young adults;
Risk factors.

Abstract

Cardiovascular diseases (CVDs) remain the leading cause of global mortality and have shown
a concerning rise among young adults. This trend is mainly driven by modifiable factors such
as sedentary lifestyle, poor diet, smoking, alcohol consumption, and stress. Recent literature
highlights early screening as an essential strategy for the timely identification of cardiovascular disease
risk factors, enabling effective preventive interventions. This literature narrative review
conducted searches in PubMed, SciELO, and Google Scholar databases for studies published

Machine Translated by Google

between 2019 and 2025. Twenty-eight relevant articles addressing early detection and prevention of CVDs in young adults were analyzed. Findings indicate that screening with simple tests — such as blood pressure measurement, fasting glucose, and lipid profile — enables the detection of asymptomatic conditions and significantly reduces cardiovascular event risk. Beyond clinical benefits, early screening also provides economic advantages by lowering hospitalization and long-term treatment costs. It is concluded that early screening should be adopted as a public health priority, integrating health education, screening programs, and continuous medical follow-up, particularly targeting young adults.

Keywords: Early screening; Cardiovascular diseases; Prevention; Young adults; Risk factors.

Introduction

Cardiovascular diseases (CVDs) remain the leading cause of death worldwide. responsible for approximately 17.9 million deaths annually according to the World Health Organization Health (WHO, 2023). Traditionally associated with the elderly population, CVDs have been showing increasing incidence among young adults, a phenomenon attributed to the adoption of lifestyles. sedentary lifestyles, inadequate diet, stress, and the consumption of alcohol and tobacco. The literature indicates that many cardiovascular risk factors are modifiable and, when Early identification can substantially reduce morbidity and mortality associated with major cardiovascular events, such as acute myocardial infarction and stroke cerebral (Carvalho, 2025) In this context, early screening emerges as an essential strategy. public health, aimed at the early detection of risk factors, allowing for interventions effective preventive and educational measures (Pedroso; Lima; Barbosa, 2025).

Given this, this article aims to discuss the importance of early screening in prevention of cardiovascular diseases in young adults, highlighting the main risk factors. risk and scientific evidence on the impact of early detection in reducing mortality and in improving the quality of life.

Methods

This study consists of a narrative literature review, with the purpose of gathering and Analyze scientific evidence on the importance of early screening for risk factors. Cardiovascular diseases in young adults.

Machine Translated by Google

Searches were conducted in the PubMed, SciELO, and Google Scholar databases, using the descriptors: “early screening”, “cardiovascular diseases”, “prevention”, “young adults” and “risk factors”. Articles published between 2019 and 2025, in Portuguese and English, were included. that addressed the prevention and early diagnosis of CVDs in this age group.
The exclusion criteria included studies focused exclusively on populations.
Pediatric or elderly studies, animal studies, and articles without a clear methodology. After screening, Twenty-eight relevant articles were selected for analysis. The data synthesis adopted an approach... qualitative, highlighting convergent findings on early screening and its impact on health. cardiovascular.

Results

The studies analyzed revealed that young adults frequently present risk factors.
silent conditions, such as early hypertension, dyslipidemia, and insulin resistance, that become unnoticed due to the absence of symptoms.
Several studies (Silva et al., 2021; Lima & Costa, 2022; Rodrigues et al., 2023) indicate screening programs based on simple laboratory tests — such as lipid profile,
Fasting blood glucose and blood pressure measurements allow for the early detection of conditions. predisposing factors, allowing intervention before the clinical manifestation of CVDs.
The literature also shows that early screening is associated with change in behavior and the adoption of healthy habits. Longitudinal studies (Ferreira et al., 2020;
Studies (WHO, 2023) demonstrate a reduction of up to 40% in the risk of cardiovascular events in Individuals who joined primary prevention programs after screening.
Furthermore, screening initiatives in workplaces and universities have shown good results. Adoption among young adults, highlighting the potential of these actions in non-contexts. hospitals.

Discussion

The results of this review show that early screening is a high-impact strategy.
in the prevention of cardiovascular diseases in young adults. Despite the knowledge While the analysis of risk factors is well-established, there is a deficit in targeted public policies.

Machine Translated by Google

specifically in this age group, which contributes to late diagnosis and a greater
burden of morbidity and mortality (Araujo; Barbosa, 2025).
Recent studies (Santos et al., 2021; Rocha & Almeida, 2023) indicate that the incorporation of
Screening protocols in routine consultations can significantly reduce the number of
Cardiovascular events. However, barriers such as limited access to testing and low...
Risk perception among young adults hinders the widespread implementation of these strategies.
A comparison between different health contexts shows that countries with surveillance systems
Active and ongoing preventive education leads to lower rates of disease.
premature cardiovascular events (WHO, 2023). Thus, the integration between screening actions,
Health education and regular medical check-ups are essential to modify the
current situation.
In addition to clinical benefits, early screening also has positive economic impacts.
Reducing costs associated with hospitalizations and long-term treatments. Prevention is key.
demonstrably more cost-effective than treating cardiovascular complications.
advanced (Oliveira et al., 2020).

Conclusion

Early screening in young adults is an essential tool for prevention.
Primary cardiovascular disease. Early detection of risk factors allows for...
Adoption of measures to control and promote health, directly impacting the reduction of
morbidity and mortality.
The literature review demonstrated that simple, low-cost, and applicable strategies in
various contexts — such as regular blood pressure checks, cholesterol testing and
Educational campaigns can generate significant results in public health.
It is therefore recommended that public policies and health programs broaden their focus.
preventive care for young adults, encouraging regular checkups, lifestyle changes and
Continuous multidisciplinary monitoring. Strengthening these practices is fundamental.
to reduce the impact of CVDs in the coming decades.

Machine Translated by Google

References

Araujo, Nicolas Luzeiro de; Barbosa, Elliza Emily Perrone. (2025). Recognition and Nursing interventions in cardiopulmonary arrest in emergency services and emergency. *RCMOS - Multidisciplinary Scientific Journal The Knowledge,* Brazil, v. 1, n. 2. DOI: 10.51473/rcmos.v1i2.2025.1215. Available in: https://submissoesrevistarcmos.com.br/rcmos/article/view/1215. Accessed on: November 12, 2025.

Pedroso, Etelvina Rocha de Barros; Lima, Thamires Fernandes; Barbosa, Emily Perrone Elliza. (2025). Nursing Care in Cardiac Emergencies in Brazil: Management of Myocardial Infarction Acute Myocardial Injury in Elderly Individuals Aged 60 to 75 Years Over the Last 10 Years – An Integrative Review: Nursing Care in Cardiac Emergencies in Brazil: Management of Acute Myocardial Infarction in Elderly People Aged 60 to 75 Years Over the Last 10 Years – Integrative Review. *RCMOS - Multidisciplinary Scientific Journal O Saber,* Brazil, v. 1, n. 1. DOI: 10.51473/rcmos.v1i1.2025.1167. Available in: https://submissoesrevistarcmos.com.br/rcmos/article/view/1167. Accessed on: November 12, 2025.

Carvalho, Marcelo Martins Bringel. (2025). “Community Cardiology Model Applied to Public Semi-Intensive Care Unit: Reduction of Mortality and Readmissions in the Interior of the State Maranhão”: “Community Cardiology Model Implemented in a Public Step-Down ICU: Reducing Mortality and Readmissions in Rural Areas”. *RCMOS - Revista Científica Multidisciplinary Knowledge,* Brazil, v. 1, n. 1. DOI: 10.51473/rcmos.v1i1.2025.945. Available From: https://submissoesrevistarcmos.com.br/rcmos/article/view/945. Accessed on: November 12, 2025.

Ferreira, MA, Souza, RP, & Carvalho, DL (2020). Primary prevention of diseases Cardiovascular: challenges and perspectives. *Brazilian Journal of Preventive Cardiology,* 13(2), 55–62.

Lima, TS, & Costa, AF (2022). Early screening of cardiovascular risk factors in Young adults: an integrative review. *Public Health Journal,* 56(4), 210–219.

Oliveira, JR, Almeida, VC, & Santos, L. (2020). Economic impact of disease prevention. Cardiovascular diseases in the health system. *Cadernos de Saúde Coletiva,* 28(3), 401–409.

Rodrigues, EF, Martins, CL, & Barros, F. (2023). Disease screening strategies Cardiovascular diseases in young populations. *Brazilian Journal of Preventive Medicine,* 18(1), 45–58.

Rocha, MB, & Almeida, CR (2023). Evaluation of adherence to cardiovascular screening in university health programs. *Brazilian Journal of Collective Health,* 29(2), 320–332.

Machine Translated by Google

Santos, AC, Pereira, GM, & Nogueira, JT (2021). Cardiovascular risk factors in Young adults: prevalence and prevention. *Brazilian Archives of Cardiology,* 117(6), 987–995.

Silva, PH, et al. (2021). Screening and prevention of cardiovascular diseases: importance of Early screening. *Journal of Preventive Medicine and Public Health,* 12(3), 150–159.

World Health Organization (WHO). (2023). *Cardiovascular diseases (CVDs):* Key facts. Geneva: WHO.