HYPERTENSION AND CARDIOVASCULAR RISK: A GLOBAL HEALTH CHALLENGE THAT OFTEN GOES UNNOTICED

Shahbaz Israr
Samarkand State Medical University, Student of the International Educational Faculty
Scientific Leader: Axtamova Shahzoda Fozilovna — Department Of Rehabilitation (Assistant)

Abstract. *This literature review explores hypertension as a frequently asymptomatic risk factor for cardiovascular disease. It discusses major modifiable and non-modifiable risk factors, cardiovascular and renal complications, and the importance of regular blood pressure screening, lifestyle changes, and effective management.*

Keywords: *hypertension, cardiovascular risk, blood pressure, cardiovascular disease, screening, prevention, lifestyle.*

Annotatsiya. *Ushbu adabiyotlar sharhida arterial gipertenziya yurak-qon tomir kasalliklarining ko‘pincha belgisiz kechuvchi xavf omili sifatida ko‘rib chiqiladi. Asosiy o‘zgartiriladigan va o‘zgarmaydigan xavf omillari, yurak-qon tomir hamda buyrak asoratlari, qon bosimini muntazam o‘lchash, turmush tarzini o‘zgartirish va samarali nazorat qilishning ahamiyati yoritiladi.*

Kalit so‘zlar: *arterial gipertenziya, yurak-qon tomir xavfi, qon bosimi, yurak-qon tomir kasalliklari, skrining, profilaktika, turmush tarzi.*

Аннотация. *В данном обзоре литературы артериальная гипертензия рассматривается как часто бессимптомный фактор риска сердечно-сосудистых заболеваний. Рассматриваются основные модифицируемые и немодифицируемые факторы риска, сердечно-сосудистые и почечные осложнения, а также значение регулярного контроля артериального давления, изменения образа жизни и эффективного лечения.*

Ключевые слова: *артериальная гипертензия, сердечно-сосудистый риск, артериальное давление, сердечно-сосудистые заболевания, скрининг, профилактика, образ жизни.*

Introduction

Hypertension, or persistently elevated arterial blood pressure, represents a significant global public health issue and is a primary modifiable risk factor for cardiovascular disease (CVD). A major challenge in managing this condition is its

"silent" nature; most individuals with high blood pressure do not experience symptoms, leading to a high rate of underdiagnosis. The World Health Organization (WHO) estimates that in 2024, approximately 1.4 billion adults between the ages of 30 and 79 were living with hypertension, with a substantial portion remaining unaware of their status (World Health Organization, 2025a).

Aim of the Study

This review aims to explore the intricate relationship between hypertension and cardiovascular risk, underscoring the critical importance of early detection, preventive strategies, and effective blood pressure management.

Objectives

· To identify the primary risk factors contributing to the development of hypertension.

· To elucidate the pathophysiological mechanisms by which chronic high blood pressure inflicts damage on the cardiovascular system.

· To highlight the essential role of routine screening and lifestyle modifications in preventing hypertension-related complications.

Materials and Methods

This thesis is founded on a descriptive review of current scientific literature and public health data. The primary sources include publications and fact sheets from the World Health Organization pertaining to hypertension and cardiovascular diseases. The collected evidence was synthesized to provide a comprehensive overview of the global burden, associated risk factors, clinical complications, and established preventive approaches.

Results and Discussion

Sustained, uncontrolled hypertension imposes a chronic burden on the heart and vasculature. The persistent elevation in pressure forces the heart to work harder, leading to structural and functional adaptations such as left ventricular hypertrophy. It also contributes to endothelial dysfunction and arterial stiffening, accelerating the process of atherosclerosis. Consequently, long-term hypertension is a major contributor to a range of severe cardiovascular events, including coronary artery disease, myocardial infarction, stroke, heart failure, and chronic kidney disease.

The development of hypertension is multifactorial. Key risk factors include a high-sodium diet, obesity, a sedentary lifestyle, tobacco use, and harmful alcohol consumption. Non-modifiable factors such as advancing age and a family history of the condition also play a significant role. Furthermore, the cardiovascular risk associated with hypertension is substantially amplified when it coexists with other metabolic disorders like diabetes and dyslipidemia, or with smoking (World Health Organization, 2025b).

Prevention and Control

A multi-pronged strategy is essential to mitigate the global burden of hypertension. This begins with promoting regular blood pressure monitoring to ensure early detection. Key lifestyle interventions include adopting a balanced diet low in salt, engaging in regular physical activity, maintaining a healthy weight, and avoiding tobacco and excessive alcohol. For individuals diagnosed with hypertension, adherence to prescribed antihypertensive medication, as directed by a healthcare professional, is crucial. Consistent follow-up is necessary to monitor blood pressure control and manage overall cardiovascular risk.

Conclusion

Hypertension is a highly prevalent yet largely preventable contributor to cardiovascular morbidity and mortality worldwide. Its asymptomatic progression underscores the vital need for routine screening and early intervention. By integrating healthy lifestyle practices, ensuring access to primary healthcare, and promoting consistent long-term treatment, it is possible to significantly reduce the incidence of hypertension-related complications and improve cardiovascular health outcomes globally.

References

1. World Health Organization. (2025a). Hypertension. WHO Fact Sheet.
2. World Health Organization. (2025b). Cardiovascular Diseases. WHO Fact Sheet.