

Among Young People And Measures For Its Prevention The Increasing Prevalence Of Arterial Hypertension

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Abstract

Arterial hypertension has become an increasingly prevalent health concern among young people worldwide. This study examines the growing incidence of hypertension in youth, its etiological factors, pathophysiological mechanisms, and preventive strategies. Major risk factors include unhealthy dietary habits, sedentary lifestyle, chronic stress, obesity, hereditary predisposition, and excessive consumption of energy drinks. The article highlights the importance of early diagnosis, regular blood pressure monitoring, and implementation of preventive interventions such as healthy nutrition, physical activity, stress management, and sleep hygiene. Effective prevention and early management of hypertension in young populations may significantly reduce future cardiovascular morbidity and mortality.

Keywords: arterial hypertension; youth health; cardiovascular risk factors; obesity; prevention; blood pressure; healthy lifestyle; stress management.

Аннотация

Артериальной гипертензии среди молодёжи, а также её основные факторы риска, клинические проявления, методы диагностики и профилактические меры. В рамках исследования рассмотрены факторы, способствующие развитию гипертензии, включая неправильное питание, малоподвижный образ жизни, избыточную массу тела, стресс, наследственную предрасположенность и употребление энергетических напитков. Кроме того, освещается значение формирования здорового образа жизни, повышения физической активности, регулярного контроля артериального давления и сохранения психологического благополучия в профилактике заболевания. В статье представлены научно обоснованные рекомендации по раннему выявлению артериальной гипертензии у молодёжи и снижению риска её осложнений.

Ключевые слова: артериальная гипертензия, здоровье молодёжи, факторы риска, здоровый образ жизни, профилактика, стресс, неправильное питание, избыточная масса тела, артериальное давление.

Introduction:

Arterial hypertension is a clinical syndrome characterized by persistent or intermittent elevation of arterial blood pressure above normal values. It is one of the most prevalent disorders of the cardiovascular system and may occur either as a primary disease or secondary to other pathological conditions. Hypertension is classified into primary (essential) and secondary (symptomatic) forms. Primary arterial hypertension is a chronic condition in which elevated blood pressure occurs without an identifiable underlying cause. Secondary hypertension develops due to pathological conditions affecting organs and systems such as the kidneys, adrenal glands, thyroid gland, and others [1].

Classification of Arterial Hypertension:

Grade 1 (Mild Hypertension):

140–159/90–99 mmHg.

Typically associated with mild blood pressure elevation and often asymptomatic clinical presentation. Lifestyle modification, dietary correction, and regular physical activity are recommended.

Grade 2 (Moderate Hypertension):

160–179/100–109 mmHg.

Persistent elevation begins to adversely affect the cardiovascular system. Pharmacological treatment may be required.

Grade 3 (Severe Hypertension):

≥180/110 mmHg.

Represents a high-risk stage associated with increased probability of cardiac, renal, and cerebral complications, requiring strict monitoring and medical therapy.

Isolated Systolic Hypertension:

Characterized by elevated systolic blood pressure with normal diastolic pressure. Common in older adults but may also occur in young individuals [2].

Arterial Hypertension in Young People:

Traditionally considered a disease of older adults, arterial hypertension is increasingly being diagnosed in younger populations. Recent epidemiological studies indicate a rising prevalence of hypertension during adolescence and early adulthood. Diagnostic criteria in pediatric and adolescent populations differ from adult standards and are determined according to age, height, and sex.

According to the American Academy of Pediatrics, blood pressure values exceeding the 90th percentile for age are considered elevated, whereas values above the 95th percentile indicate hypertension. In most pediatric cases, primary hypertension is diagnosed, often associated with genetic and environmental factors [3]. Secondary hypertension is less common and is usually linked to renal, cardiac, or endocrine disorders.

Etiological Factors Contributing to Hypertension in Youth:

Obesity and Overweight

Reduced physical activity, excessive screen time, and unhealthy dietary habits have led to a marked increase in obesity among young people. Obesity significantly increases the risk of elevated blood pressure due to metabolic disturbances and hormonal dysregulation affecting vascular tone.

Genetic Predisposition

A family history of hypertension substantially increases the likelihood of developing the disease due to inherited vascular and metabolic regulatory mechanisms.

Chronic Stress and Emotional Overload

Academic pressure, examinations, extracurricular obligations, and family-related stress contribute to chronic psycho-emotional tension. Elevated secretion of catecholamines and cortisol increases vascular resistance and cardiac workload [4].

Sedentary Lifestyle

Physical inactivity contributes to poor cardiovascular conditioning, vascular dysfunction, weight gain, and increased arterial pressure.

Excessive Salt and Unhealthy Food Consumption

Frequent intake of fast food, high-sodium meals, sugary beverages, and processed foods leads to fluid retention, increased blood volume, and vascular overload, thereby promoting hypertension development [5].

Renal and Endocrine Disorders

Secondary hypertension may arise from chronic kidney disease or endocrine abnormalities such as hyperthyroidism and Cushing's syndrome. Diagnostic evaluation may include blood tests, renal ultrasonography, and hormonal assays.

Common clinical manifestations include:

- Chronic fatigue
- Reduced concentration
- Occipital headaches
- Irritability and mood instability
- Dyspnea or weakness during physical exertion

Treatment and Preventive Strategies:

Lifestyle Modification

Approximately 70% of hypertension management effectiveness depends on adherence to healthy lifestyle measures, whereas 30% is attributable to pharmacological therapy when necessary.

Sleep Hygiene

Adequate sleep is essential for cardiovascular regulation:

- Children under 12 years: bedtime before 10:00 PM
- Adults: bedtime before 11:00 PM

Artificial light exposure before sleep should be minimized to ensure normal melatonin secretion, which contributes to blood pressure regulation [6].

Dietary Management

Recommended dietary interventions include:

- Reduction of portion sizes
- Restriction of simple carbohydrates
- Limitation of salt intake
- Increased consumption of potassium- and magnesium-rich foods such as bananas, oats, avocados, pumpkin seeds, buckwheat, cashews, and walnuts

Physical Activity

Regular physical exercise contributes to:

- Weight management
- Reduction of arterial blood pressure
- Increased HDL cholesterol levels
- Decreased risk of diabetes mellitus

Conclusion

Arterial hypertension among young people is an increasingly significant public health concern. Although frequently asymptomatic in early stages, it may predispose individuals to serious cardiovascular complications later in life. Major contributing factors include obesity, sedentary behavior, chronic stress, poor nutrition, hereditary predisposition, and renal/endocrine disorders.

Early diagnosis through regular blood pressure monitoring and preventive examinations is essential. Primary preventive and therapeutic measures include healthy lifestyle promotion, dietary regulation, salt restriction, regular physical activity, stress management, and pharmacotherapy when indicated.

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