Journal of Biomedical Sciences | ISSN: 2960-9356
Research Article Peer-review, Open Access

The Increasing Prevalence of Cardiovascular Diseases among Young People

Nilufar Chilmurzayeva [1]

Annotation

This article analyzes the factors contributing to the rise of cardiovascular diseases among young people, highlights medical and epidemiological indicators based on current statistical data, and evaluates the effectiveness of preventive measures. The study also emphasizes the need to widely implement health preservation programs and promote a healthy lifestyle in schools and higher education institutions. Scientific research on this topic plays a crucial role in shaping early diagnosis and intervention strategies.

Key words: Cardiovascular, Heart, Artery, Stress, Healthcare, Chronic conditions, Statistics, Blood circulation, Hypertension, Mass media.

[1] Kimyo International University in Tashkent, 2nd-year student of "Medical Treatment" program

Introduction.

Cardiovascular diseases (CVDs) refer to disorders of the heart, arteries, and veins. These conditions are numerous and diverse. Some of them—such as rheumatism, myocarditis, and others—affect the heart itself; others damage the arteries (e.g., atherosclerosis) or the veins (e.g., thrombophlebitis), while certain diseases impact the entire cardiovascular system (e.g., hypertension).

Over the past decades, cardiovascular diseases have been recognized globally as the leading cause of death. According to the World Health Organization (WHO) data from 2024, more than 17.9 million people die each year due to cardiovascular-related illnesses.What is particularly concerning is that these diseases are not only affecting the elderly but are increasingly being observed among young people aged between 15 and 35. Modern medical research indicates that the widespread prevalence of CVDs among the youth is linked to several contributing factors. In particular, a decrease in physical activity, poor dietary habits, a stressful lifestyle, unhealthy behaviors such as smoking and alcohol consumption, and chronic sleep deprivation all negatively affect heart function. A 2023 study conducted by the American Heart Association revealed that one in every three individuals aged 20 to 30 had blood pressure levels

above the normal range. The growing incidence of cardiovascular diseases among the younger generation poses a serious threat not only to the healthcare system but also to the overall stability of society.

Therefore, early detection of the issue, thorough analysis of risk factors, and strengthening of preventive measures are of great importance.

This article examines the main causes contributing to the rise in cardiovascular diseases among young people, current statistical data, mechanisms for disease prevention, and scientific approaches to promoting a healthy lifestyle.

The heart is one of the most active and tirelessly working muscles in the human body. It pumps an average of 4 to 5 liters of blood per minute, supplying all the tissues and organs of the body—including itself—with oxygen and essential nutrients.

This continuous activity of the heart plays a crucial role in maintaining the stability of vital physiological processes[1].

Literature Review.

The heart is supplied with blood through blood vessels known as coronary arteries. When fatty deposits and cholesterol build up on the walls of these arteries, the vessels narrow, restricting blood flow. This process is known as atherosclerosis.

When atherosclerosis occurs in the coronary arteries, the heart does not receive enough blood. This condition is referred to as coronary heart disease or the presence of significant blockages in the heart's blood vessels. It can ultimately lead to a heart attack[2].

In the United States and Europe, mandatory physical activity programs are being implemented in schools and universities, and education on maintaining heart health from an early age is being provided[3].

Anderson et al. empirically found that unhealthy habits — excessive consumption of tobacco, alcohol, and energy drinks — cause early damage to heart function[4].

In their works, Kumar & Clark identified psychological factors such as urban life stress, high academic and work loads, and competitive pressure as major risk factors

Research Methodology

The main objective of the study was to identify the causes behind the increasing prevalence of cardiovascular diseases among young people, assess the current state of the issue, and evaluate the effectiveness of preventive measures.

Statistical data from the past three years (2021–2024), gathered from medical institutions across the country, were analyzed to determine trends in cardiovascular diseases among youth. For instance, according to data from the Specialized Cardiology Center in Tashkent, the percentage of patients aged 18–30 was 12% in 2021, whereas by early 2024, this figure had risen to 18%.

The study also compared the prevalence of cardiovascular diseases among young people based on factors such as gender, place of residence (urban/rural), and socio-economic status.

The results showed that young individuals from low-income backgrounds are at a higher risk of developing cardiovascular diseases. Contributing factors include poor nutrition, constant exposure to stress, and limited access to medical care[5].

An anonymous survey was conducted among 150 respondents aged 18 to 35 to assess their knowledge about a healthy lifestyle, habits related to heart diseases, and awareness of risk factors.

According to the survey results, 64% of the participants reported not engaging in regular physical activity, while 47% stated that they preferred a diet primarily based on fast food.

Results and Analysis

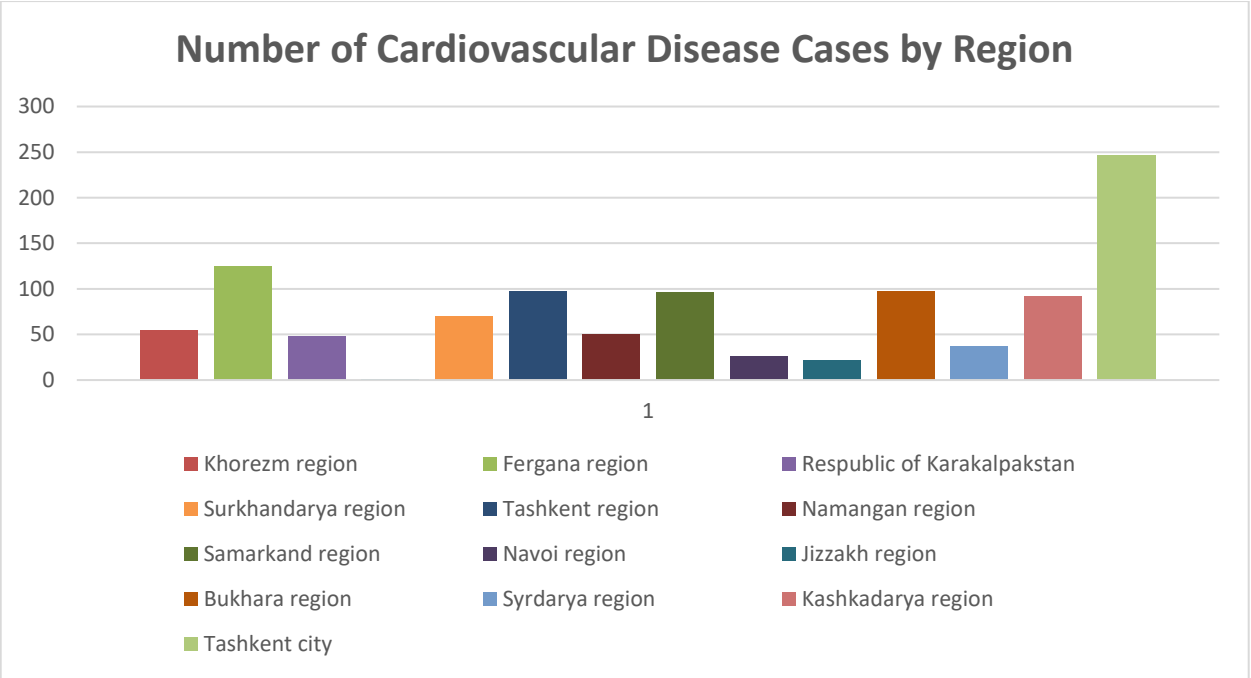
Between 2003 and 2010, the incidence of cardiovascular diseases in Uzbekistan demonstrated a steady upward trend. The primary incidence rate increased from 1,291 to 1,759 cases (a 1.4-fold rise), while the overall morbidity rate rose from 4,672 to 5,503 cases—an important indicator for the national healthcare system[6].

There is a noticeable difference in cardiovascular disease statistics between men and women. Among men, chronic conditions associated with obesity are more common, leading to a higher occurrence of hypertension and heart attacks.

Before 2003, preventive screenings were insufficient. However, in subsequent years, the expansion of polyclinic services and diagnostic stages led to a higher detection rate of diseases. Thus, the increase in reported cases is partly linked to improved diagnostic coverage.

According to the data from the Agency of Statistics under the President of the Republic of Uzbekistan, as of January 1, 2022, 1.2 million individuals in the country were diagnosed for the first time with circulatory system diseases[7].

Diagram 1



Number of people with circulatory system diseases by region:

Tashkent city — 246.3 thousand

Fergana region — 124.2 thousand

Andijan region — 121.5 thousand

Tashkent region — 96.9 thousand

Bukhara region — 96.7 thousand

Samarkand region — 96.1 thousand

Kashkadarya region — 92.2 thousand

Surkhandarya region — 70 thousand

Khorezm region — 54.4 thousand

Namangan region — 50.2 thousand

Republic of Karakalpakstan — 47.7 thousand

Syrdarya region — 36.6 thousand

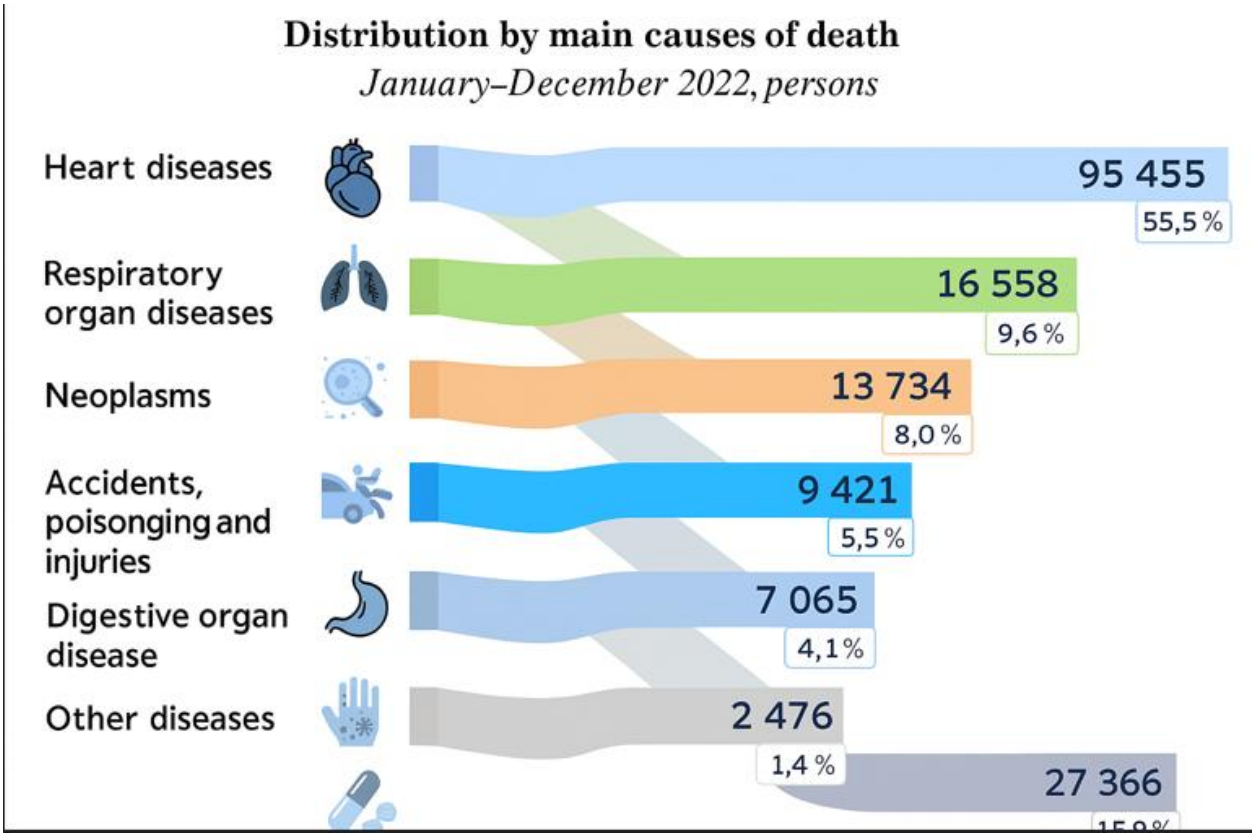
Navoi region — 25.6 thousand

Jizzakh region — 21.5 thousand

In Uzbekistan, 172.1 thousand people died in 2022, according to the Statistics Agency. The number of recorded deaths in 2022 was the lowest in the past two years. In 2020 and 2021, there were 175.6 thousand and 174.5 thousand deaths, respectively.

Of those who died, 95 thousand were men and 77.1 thousand were women. Additionally, 92 thousand deaths occurred in urban areas, while 80.1 thousand were reported in rural areas.

The Statistics Agency identified circulatory system diseases as the leading cause of death. A total of 95.5 thousand people died from this cause, accounting for 55.5% of all deaths in 2022 [6].



Conclusion and Recommendations

The rise of cardiovascular diseases among young people is a cause for concern not only for the healthcare system but for society as a whole. Research shows that stress, poor nutrition, physical inactivity, unhealthy habits (such as smoking and consumption of energy drinks), as well as environmental factors, negatively impact the heart health of the younger generation. Epidemiological data indicate a significant increase in cases of hypertension, ischemic heart disease, and heart rhythm disorders among individuals aged 18 to 35.

These changes in the cardiovascular health of youth pose a threat to their future work productivity, quality of life, and life expectancy. Therefore, it is crucial to promote healthy lifestyles from an early age and to strengthen social responsibility toward heart health.

- Develop and implement special healthy lifestyle programs in schools and universities aimed at preventing cardiovascular diseases.
- Promote physical activity among youth by encouraging participation in sports clubs, walking marathons, and team sports competitions.
- Conduct regular public awareness campaigns through mass media and social networks on the risks and prevention of cardiovascular diseases.

List of used literature:

1. Mayo Clinic Proceedings, “Cardiovascular Effects of Energy Drinks,” *Energy Drinks and Heart Health*, 2022.

2. B. Sirojiddinov, “Yurak kasalliklari va yoshlar,” *Tibbiyot jurnali*, 2022.
3. O‘. B. Sharopov, F. K. G‘afforova, and U. I. Shodmonov, *Ichki kasalliklar*. Toshkent, Uzbekistan: 2003.
4. Daryo.uz, “O‘zbekistonda 2022-yildagi o‘limlarning yarmiga qon aylanish tizimidagi kasalliklar sabab bo‘lgan — statistika,” Feb. 2, 2023. [Online]. Available: https://daryo.uz/2023/02/02/ozbekistonda-2022-yildagi-olimlarning-yarmiga-qon-aylanish-tizimidagi-kasalliklar-sabab-bolgan-statistika
5. World Health Organization, “Cardiovascular Diseases (CVDs): Key Facts.” [Online]. Available: https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)
6. O‘zbekiston Respublikasi Sog‘liqni saqlash vazirligi, *Yurak-qon tomir kasalliklari bo‘yicha 2021–2024 yillardagi statistik tahlil natijalari*. Toshkent, Uzbekistan: SSV Matbuot xizmati, 2024.
7. S. K. Mamatqulov, “O‘zbekiston yoshlari orasida yurak-qon tomir kasalliklarining tarqalishi va profilaktikasi yo‘llari,” *Yosh olim ilmiy-amaliy jurnal*, no. 1, pp. 16–22, 2024.
8. Centers for Disease Control and Prevention, “Heart Disease Facts.” [Online]. Available: https://www.cdc.gov/heartdisease/facts.htm
9. D. Nazarov, “Yoshlar orasida gipertoniya va yurak ritmi buzilishlari: zamonaviy yondashuvlar,” *Tibbiyot va innovatsiyalar*, no. 2, pp. 41–48, 2024.
10. Global Burden of Disease Collaborative Network, *Global Burden of Disease Study 2019 (GBD 2019)*. Seattle, WA, USA: Institute for Health Metrics and Evaluation (IHME), 2020.
11. Z. A. Tursunov and M. S. Abdurahmonova, “Sog‘lom turmush tarzi va yurak kasalliklari o‘rtasidagi bog‘liqlik,” *Tibbiyot va jamiyat*, no. 3, pp. 24–30, 2023.
12. B. E. Karimov, *Yurak-qon tomir kasalliklarining yoshlar salomatligiga ta’siri*. Toshkent, Uzbekistan: Ilm Ziyo nashriyoti, 2022.
13. World Health Organization, “Cardiovascular diseases (CVDs): Key facts,” Geneva, Switzerland: WHO, 2023. [Online]. Available: https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)
14. P. Kumar and M. Clark, *Kumar and Clark’s Clinical Medicine*, 10th ed. London, U.K.: Elsevier, 2020.
15. J. Anderson, L. Brown, and M. Thomas, “Lifestyle risk factors and cardiovascular health in young adults: A cross-sectional study,” *Journal of Adolescent Health*, vol. 70, no. 4, pp. 512–520, 2022. doi: 10.1016/j.jadohealth.2021.11.004