# GLOBAL BURDEN OF CARDIOVASCULAR DISEASES: PREVALENCE, MORTALITY PATTERNS, AND HIGH-RISK COUNTRIES ORGANIZING HEALTHY AND SAFE NUTRITION FOR POPULATIONS WITH CARDIOVASCULAR DISEASES IN UZBEKISTAN: A PUBLIC HEALTH PERSPECTIVE

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**Abstract:** *Cardiovascular diseases (CVDs) remain the leading cause of mortality worldwide, with a disproportionate burden across regions and countries. This study aims to analyze global patterns of CVD prevalence, identify countries with the highest risk, and evaluate persistent mortality trends. Using data from international health organizations and global burden studies, the research highlights geographic inequalities in cardiovascular outcomes. The findings indicate that low- and middle-income countries, particularly in Eastern Europe, Central Asia, and parts of Africa and the Middle East, continue to experience the highest mortality rates. Despite improvements in high-income regions, global deaths from CVDs continue to rise due to population growth, aging, and increased exposure to risk factors. The study emphasizes the need for targeted public health strategies to reduce disparities and improve cardiovascular health globally.*

**Keywords:** *cardiovascular diseases, global health, mortality, epidemiology, high-risk countries, public health*

## INTRODUCTION

Cardiovascular diseases (CVDs), including ischemic heart disease and stroke, represent the most significant cause of death globally. Over the past decades, substantial progress has been made in prevention and treatment; however, the overall burden continues to increase.[1.2.3.4]

Globally, CVDs account for approximately 17.9–19.2 million deaths annually, representing nearly one-third of all deaths. This persistent dominance highlights the urgent need for a deeper understanding of regional disparities and underlying determinants.[5]

The aim of this study is to:

-Examine the global distribution of cardiovascular diseases

-Identify countries with the highest mortality rates

-Analyze trends in CVD-related deaths

-Discuss key contributing factors

2. Materials and Methods

2.1 Study Design

This study is based on a narrative and analytical review of global epidemiological data.

2.2 Data Sources

Data were obtained from:

-World Health Organization (WHO)

-Global Burden of Disease (GBD) Study

-OECD health statistics

2.3 Methods

-Comparative country-level analysis

-Trend evaluation (1990–2023)

-Risk factor assessment

3. Results

3.1 Global Prevalence and Burden

Cardiovascular diseases remain the leading contributor to global mortality and disability. Recent estimates indicate:

-~19.2 million deaths globally in 2023

-One in three deaths worldwide attributed to CVDs

-More than 80% of deaths occur due to heart attacks and strokes

Additionally, the burden of disease has increased significantly since 1990, largely due to demographic changes such as population growth and aging.[6,7,8]

3.2 Regional Distribution of Cardiovascular Mortality

High-Risk Regions

The highest mortality rates are observed in:

-Eastern Europe

-Central Asia

-Middle East and North Africa

-Sub-Saharan Africa

For example:

-Eastern Europe shows some of the highest mortality rates globally, exceeding 500 deaths per 100,000 population

-Countries such as Bulgaria, Romania, and Latvia have mortality rates several times higher than Western European countries [9]

Countries with the Highest Mortality Rates

Recent global data indicate that the highest age-standardized death rates are found in:

-Egypt

-Solomon Islands

-Afghanistan
-Haiti
-Sudan
These countries experience rates several times higher than global averages.
3.3 Low-Risk Countries
In contrast, the lowest mortality rates are observed in:
-Japan
-South Korea
-France
-Australia
-Israel
These countries benefit from:
-Advanced healthcare systems
-Preventive strategies
-Healthier dietary patterns
3.4 Persistent Mortality Trends
Although many high-income countries have achieved reductions in mortality rates, global trends reveal:
-Total number of deaths continues to increase
-Risk factors such as obesity, diabetes, and hypertension are rising
-Inequalities between countries remain substantial
In OECD countries, CVDs still account for approximately 28–32% of all deaths.
3.5 Key Risk Factors Driving Global Burden
3.5.1 Behavioral Factors
-Unhealthy diet
-Physical inactivity
-Tobacco use
-Alcohol consumption
3.5.2 Metabolic Factors
-High blood pressure (leading contributor)
-High cholesterol
-Obesity
-Diabetes
3.5.3 Environmental Factors
- Air pollution (responsible for millions of deaths annually)

4. Discussion
The results demonstrate a clear global inequality in cardiovascular health outcomes. While high-income countries have reduced mortality through improved

healthcare and prevention, many low- and middle-income countries continue to experience increasing burden.

Key Observations

-Epidemiological transition is shifting disease patterns toward non-communicable diseases

-Health system capacity significantly influences outcomes

-Lifestyle changes and urbanization increase risk exposure

Why Some Countries Remain High-Risk

-Limited access to healthcare

-Poor dietary patterns

-High prevalence of hypertension

-Weak preventive policies

5. Public Health Implications

To reduce global disparities, the following strategies are essential:

5.1 Strengthening Health Systems

-Early diagnosis

-Access to essential medicines

-Emergency cardiac care

5.2 Preventive Policies

-Salt reduction programs

-Tobacco control

-Promotion of healthy diets

5.3 Global Collaboration

-Data sharing

-International health programs

-Funding for low-income countries

## CONCLUSION

Cardiovascular diseases remain the leading cause of death globally, with significant disparities between countries. Despite progress in some regions, mortality rates remain high in many parts of the world, particularly in low- and middle-income countries.

Reducing the global burden of CVDs requires coordinated efforts focusing on prevention, healthcare access, and addressing social determinants of health.

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