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## One-Third of Deaths Worldwide Due to Cardiovascular Disease



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According to a new study, cardiovascular diseases, including heart diseases and stroke, account for nearly one-third of deaths throughout the world. The study examined all countries over the last 25 years. The paper titled Global, Regional, and National Burden of Cardiovascular Diseases for 10 Causes, 1990-2015, is published in the Journal of the American College of Cardiology.

The greatest number of cardiovascular deaths were found to be in Eastern Europe, Central Asia, the Middle East, South America, sub-Saharan Africa, and Oceania. It is important to note that declines that were seen in the US, Canada, Australia, New Zealand, Japan, South Korea and some Western European countries over the last two decades have now begun to taper off and plateau.

The highest prevalence rates of cardiovascular disease (CVD) including coronary artery disease, atrial fibrillation, heart failure, stroke, and peripheral arterial disease were found to be in sub-Saharan Africa, Eastern and Central Europe and Central Asia. The lowest rates were found in high-income Asian countries such as Singapore, Japan, South Korea and South American countries including Chile and Argentina. The highest rates of CVD deaths were found throughout Central Asia and Eastern Europe as well as Iraq, Afghanistan and many South Pacific Island nations. Lowest CVD death rates were found in Japan, Andorra, Peru, France, Israel and Spain.

Ischaemic heart disease was the leading cause of health loss in every region of the world except sub-Saharan Africa. Prevalence of ischaemic heart disease was highest in Eastern Europe followed by Central Asia and Central Europe. High rates were also found in the Middle East/North Africa region, South Asia and some parts of sub-Saharan Africa.

Stroke was found to be the second-leading cause of global health loss. Approximately 9 million people suffered from a first time stroke in 2015. Also, ischaemic heart disease and stroke were not limited to the elderly but even young individuals suffered from these diseases.

Dr. Gregory Roth, Assistant Professor at the Institute for Health Metrics and Evaluation (IHME) at the University of Washington and in the Division of Cardiology at the University of Washington School of Medicine believes that this is an alarming threat to global health. Low and middle income countries are already seeing more deaths that are caused by cardiovascular disease and now trends in CVD mortality are not declining even for high-income regions.

Globally, there were approximately 18 million deaths due to CVD in 2015 and over 400 million individuals were living with the disease. Between 1999-2010, the age-standardised death rate from CVD had declined worldwide. The declines were primarily driven by improvements in high-income countries but this progress has slowed down over the last five years. There were 393 CVD deaths for every 100,000 people in 1990 which declined to 307 CVD deaths per 100,000 in 2010. But during the last five years, the declines have been minimal, to 286 CVD deaths per 100,000.

As JACC Editor-in-Chief Valentin Fuster points out, we keep talking about how much we've progressed but the fact is that cardiovascular disease continues to be the number 1 killer in the world. He also states that medicine is so expensive but no effort is being made to promote health at a younger age. This could be a very cost-effective strategy to prevent the onset of disease. But we keep investing in treating advanced manifestation of cardiovascular disease but ignore investment in strategies that could prevent onset altogether.

Co-author Dr. Paulo Lotufo with the University of São Paulo in Brazil also notes that high levels of cardiovascular disease can be quite problematic for low-income countries as they have less effective treatments available and also limited access to specialised medical services. Many of these nations are dealing with a double burden of chronic and infectious disease.

The researchers used the Socio-Demographic Index (SDI) which combines education, fertility and income to measure development. They found that CVD mortality first increased, then decreased steeply and then plateaued in the last few years.

Dr. Roth explains that levels of cardiovascular diseases are increasing worldwide mainly because risk factors such as high blood pressure, poor diet, high cholesterol, tobacco smoking, use of alcohol and obesity are all increasing. CVD is thus a global problem and there is a need to find innovative ways to deliver low-cost effective treatments to people who don't have access to them.

"Past periods of decline in cardiovascular disease mortality marked a remarkable achievement for public health and medical care around the world," said Dr. Christopher Murray, director of IHME and study co-author. "Governments, advocacy groups, clinicians, and communities should look to this new evidence when developing programs and policies that could reduce the burden of cardiovascular disease and save more lives."

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