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Global Variation in Breast Cancer Mortality

Breast cancer is the most commonly diagnosed cancer in women worldwide and the leading cause of cancer-related mortality. An estimated 2.3 million new cases are identified each year, representing one in four cancers diagnosed, and more than 660,000 women die from the disease annually. By 2050, annual cases are projected to exceed 3 million, with deaths surpassing 1 million. While mortality has fallen significantly in more developed countries over recent decades, less favourable outcomes persist in lower resource settings, where later stage presentation and limited access to effective treatment are common. These disparities highlight the continuing challenge of ensuring that breast cancer, a treatable disease, is managed effectively across different regions.

Must Read: ***Improving Breast Cancer Outcomes in Women Over 40***

Global Patterns and Mortality Trends

Breast cancer is the leading cause of cancer-related deaths in women in 112 countries. In some developed regions, lung cancer has become the most common cause of cancer death among women due to historic increases in tobacco use, while cervical cancer remains the leading cause in large parts of sub-Saharan Africa and Asia. Incidence and mortality are closely linked to levels of development. High-income countries report the highest incidence but lowest mortality, while less developed regions show the opposite pattern. Mortality-to-incidence ratios range from 18% in the most developed countries to 56% in less developed regions, reflecting marked differences in survival. Age at presentation also varies, with about half of cases in less developed countries occurring before the age of 50, compared with one fifth in more developed countries. These disparities have wide social impact, as breast cancer mortality was estimated in 2020 to account for half of all maternal orphans worldwide, the majority in Asia and Africa.

Early Detection and Diagnosis

Reductions in mortality in more developed countries have been driven largely by earlier diagnosis and more effective treatment. The distinction between early detection and early diagnosis is important. Early detection refers to screening asymptomatic populations, while early diagnosis involves timely and accurate evaluation of symptomatic women. Population-based mammographic screening programmes, introduced in Europe and North America in the late 1980s, have reduced mortality by around 20% among women who attend. These programmes, however, are resource-intensive and require strong quality assurance systems.

In less developed regions, late-stage presentation is common, with rates ranging from 30–50% in Latin America to as high as 75% in sub-Saharan Africa. Barriers to earlier diagnosis include financial and educational constraints, coupled with limited healthcare provision. Where younger age at diagnosis is more common, the effectiveness of widespread mammographic screening remains uncertain. In such contexts, improving health literacy and access to high-quality care for symptomatic women is considered a priority.

Treatment and System Capacity

Comprehensive breast cancer care requires accurate diagnosis, surgery, radiotherapy and systemic therapies guided by tumour characteristics such as oestrogen and HER2 receptor status. High-quality pathology services are widely available in high-income countries but remain accessible to fewer than one third of patients in low-income settings. Globally, only about a quarter of the population has access to safe and timely cancer surgery, compared with nearly full availability in developed countries. Radiotherapy services are also unevenly distributed, with just 29% of the least developed countries reporting operational facilities. Access to systemic therapies is similarly limited, with around 90% of new anticancer drugs consumed in developed regions.

In response to these inequalities, international initiatives have been launched. The Breast Health Global Initiative developed resource-appropriate strategies between 2002 and 2018. In 2021, the World Health Organization established the Global Breast Cancer Initiative, aiming to reduce global mortality by 2.5% annually, which would save 2.5 million lives over 20 years. Its framework rests on three pillars: health promotion for early detection, timely diagnosis and comprehensive management.

Breast cancer continues to be a major global health challenge. Mortality reductions achieved in more developed countries demonstrate what can be accomplished through earlier detection, timely diagnosis and access to effective treatments. Yet survival disparities remain wide, particularly in regions with fewer resources, where late presentation and limited treatment capacity persist. Addressing these gaps requires sustained international collaboration, strengthened health systems and initiatives that promote equitable access to high-quality care for all women.

Source: **British Journal of Radiology**

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