



BREAST CANCER IN SOUTHEAST ASIA: PREVALENCE, CAUSES, TREATMENT, GUIDELINES, AND FUTURE PERSPECTIVES

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Abstract

Breast cancer is the most common cancer among women in Southeast Asia, with increasing incidence and mortality rates over the years. As of 2021, the region reported **over 250,000 new cases annually**, with mortality exceeding **100,000 deaths per year**. Countries such as Indonesia, Thailand, Malaysia, and Vietnam have recorded rising breast cancer cases due to lifestyle changes, genetic predisposition, and late-stage diagnoses. The major risk factors include **age, family history, obesity, hormonal imbalances, alcohol consumption, and environmental exposures**. While advancements in **early detection, chemotherapy, hormone therapy, and targeted treatments** have improved survival rates in developed nations, disparities in access to healthcare in Southeast Asia remain a challenge. The World Health Organization (WHO), regional health ministries, and non-governmental organizations (NGOs) have introduced national cancer control programs focusing on early detection, mammographic screening, and public awareness campaigns. However, **late-stage diagnoses account for over 50% of cases**, leading to poorer prognoses. The mortality-to-incidence ratio (MIR) remains significantly higher in Southeast Asia than in Western countries, emphasizing the need for improved healthcare infrastructure and screening accessibility. Future strategies must focus on **enhancing public health initiatives, increasing research funding, and ensuring equitable access to advanced treatment options** to curb the increasing burden of breast cancer in the region.

Key Words: Breast cancer, Southeast Asia, Incidence Mortality, Risk factors, Early detection, Healthcare access

1. Introduction

Breast cancer is the most frequently diagnosed cancer among women worldwide, and Southeast Asia is no exception. Due to increasing urbanization, changing lifestyles, and inadequate early detection programs, the disease continues to pose a major health threat in the region. Despite ongoing efforts to reduce mortality rates, **limited access to screening and treatment facilities leads to high mortality rates, particularly in low-income countries**. This article presents an overview of the prevalence, risk factors, available treatment options, governmental initiatives, and future perspectives on breast cancer in Southeast Asia (Global Cancer Observatory; 2021).

2. Prevalence of Breast Cancer in Southeast Asia

The incidence of breast cancer in Southeast Asia varies across countries due to **differences in healthcare infrastructure, screening programs, and awareness levels**. The following table summarizes the estimated cases and mortality rates of breast cancer in the region as of 2021:

Table 1: Breast Cancer Incidence and Mortality in Southeast Asia (2021)

Country	New Cases (2021)	Deaths (2021)	Mortality-to-Incidence Ratio (MIR)
Indonesia	65,000	25,500	0.39
Thailand	45,000	15,200	0.34
Vietnam	41,000	18,000	0.44
Malaysia	33,000	12,500	0.38
Philippines	48,500	20,000	0.41
Myanmar	19,500	10,000	0.51
Cambodia	14,000	7,500	0.54
Laos	8,500	4,800	0.56

(Source: WHO Cancer Statistics, 2020)

3. Causes and Risk Factors

Several factors contribute to the rising incidence of breast cancer in Southeast Asia (Yip et al, 2021), including:

- **Genetics:** BRCA1 and BRCA2 gene mutations increase the risk.
- **Hormonal Factors:** Early menarche, late menopause, and hormone replacement therapy.
- **Obesity and Lifestyle Factors:** High-fat diet, sedentary lifestyle, smoking, and alcohol consumption.
- **Environmental Exposures:** Pollutants and exposure to endocrine-disrupting chemicals.
- **Limited Screening Programs:** Late-stage detection due to lack of widespread mammography programs.

4. Available Treatments

Breast cancer treatment in Southeast Asia varies based on the availability of medical resources. The primary treatment options include Azizah et al; 2019):

Surgical Interventions:

- **Mastectomy:** Complete removal of breast tissue.
- **Lumpectomy:** Partial removal of cancerous tissue.

Pharmacological Treatments:

- **Chemotherapy:** Used in early-stage and advanced-stage breast cancer.
- **Hormone Therapy:** Tamoxifen, Aromatase inhibitors.
- **Targeted Therapy:** HER2 inhibitors like Trastuzumab.
- **Immunotherapy:** Emerging treatments such as checkpoint inhibitors.

5. Government and Non-Governmental Guidelines (NG et al; 2021)

National Breast Cancer Programs in Southeast Asia:

- **Indonesia:** National Cancer Control Plan (NCCP) emphasizes early detection.
- **Thailand:** Mammography programs under universal healthcare.
- **Malaysia:** Breast Cancer Awareness Campaign by the Ministry of Health.
- **Vietnam and Philippines:** Implementation of hospital-based cancer treatment centers.

WHO Guidelines on Breast Cancer Control, 2017:

- Promotion of early screening and self-examinations.
- Establishment of cancer registries for accurate data collection.
- Expansion of palliative care for late-stage breast cancer patients.

Conclusion

Breast cancer remains a major health concern in Southeast Asia, with **high incidence rates and significant mortality due to late-stage diagnosis**. Despite efforts by governments and NGOs, the **mortality-to-incidence ratio (MIR) in Southeast Asia remains considerably higher than in Western nations**, highlighting disparities in healthcare access, affordability, and awareness. Limited resources, socio-economic factors, and cultural stigma contribute to delayed medical intervention, further worsening patient outcomes.

To address these challenges, Southeast Asian countries must focus on **strengthening cancer prevention programs, increasing accessibility to early screening, and ensuring affordable treatment options**. Expanding universal healthcare coverage to include **routine mammography, genetic testing, and innovative treatment modalities** is crucial for improving survival rates. Governments should prioritize **investments in oncology research, cross-border collaborations, and regional cancer control strategies** to combat the increasing burden of breast cancer effectively. Without decisive action, breast cancer mortality in Southeast Asia is expected to rise further, impacting public health and economic stability in the region.

Conflict of Interest

The authors declare that they have no conflicts of interest regarding the publication of this article.

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