

DOCUMENT TITLE: Breast Cancer – Overview and Global Facts

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CLINICAL CONTEXT: Public health, prevention, early detection, and general management of breast cancer

KEY FACTS

- Breast cancer caused an estimated 670,000 deaths globally in 2022.
- Approximately 2.3 million women were diagnosed with breast cancer worldwide in 2022.
- Breast cancer is the most common cancer among women in 157 out of 185 countries.
- Breast cancer occurs in every country in the world.
- Around 0.5-1% of breast cancers occur in men.
- Effective early diagnosis, treatment, rehabilitation, and palliative care are essential to reduce mortality and improve quality of life.

DEFINITION AND BIOLOGY OF BREAST CANCER

Breast cancer is a disease in which abnormal breast cells grow uncontrollably and form tumors.

Breast cancer cells typically originate in the milk ducts and/or the milk-producing lobules of the breast.

The earliest form of breast cancer (in situ) is not life-threatening and can often be detected early.

Invasive breast cancer occurs when cancer cells spread into surrounding breast tissue.

Advanced invasive cancers can metastasize to lymph nodes and distant organs, becoming life-threatening.

GLOBAL BURDEN AND EPIDEMIOLOGY

In 2022, breast cancer affected women of all ages after puberty, with increasing incidence in later life.

Significant global inequities exist:

- In very high Human Development Index (HDI) countries:
 - 1 in 12 women will be diagnosed during their lifetime
 - 1 in 71 women will die from breast cancer
- In low HDI countries:
 - 1 in 27 women will be diagnosed
 - 1 in 48 women will die from the disease

RISK FACTORS FOR BREAST CANCER

The strongest risk factor for breast cancer is female gender. Approximately 99% of cases occur in women.

Other risk factors include:

- Increasing age
- Obesity
- Harmful alcohol use
- Family history of breast cancer

- Exposure to ionizing radiation
- Reproductive factors (early menarche, late first pregnancy)
- Tobacco use
- Postmenopausal hormone therapy

Inherited genetic mutations significantly increase risk, particularly:

- BRCA1
- BRCA2
- PALB2

EARLY DETECTION OF BREAST CANCER

Early detection reduces breast cancer mortality.

There are two main components:

1. Early diagnosis:
 - Awareness of signs and symptoms
 - Timely clinical evaluation and referral
2. Screening:
 - Mammography in asymptomatic women, typically aged 50-69 years
 - Identification of pre-clinical lesions before symptoms appear

SIGNS AND SYMPTOMS

Early breast cancer often causes no symptoms.

Possible symptoms include:

- Breast lump or thickening, usually painless
- Changes in breast size, shape, or appearance
- Skin dimpling, redness, or pitting
- Changes in the nipple or areola
- Abnormal or bloody nipple discharge

Advanced disease may cause symptoms related to metastasis, such as bone pain or headaches.

MANAGEMENT OVERVIEW

Breast cancer treatment depends on cancer subtype and stage.

Treatment may include:

- Surgery (lumpectomy or mastectomy)
- Radiation therapy
- Systemic therapies such as:
 - Hormonal therapy
 - Chemotherapy
 - Targeted biological therapy

Early and complete treatment significantly improves outcomes.

WHO RESPONSE AND GLOBAL STRATEGY

The World Health Organization launched the Global Breast Cancer Initiative (GBCI) in 2021.

The initiative aims to reduce global breast cancer mortality by 2.5% per year by 2040.

The three pillars are:

- Health promotion for early detection
- Timely diagnosis

- Comprehensive breast cancer management

DOCUMENT SCOPE:

This document provides high-level, evidence-based information on breast cancer epidemiology, risk factors, early detection, and general management. It does not replace clinical guidelines or individualized medical decision-making.