



## Breast Cancer: A Short Introduction and General Trends of its Awareness

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### Introduction

Breast cancer is the malignancy of the breast tissue, which is the most frequently diagnosed cancer in women worldwide and rarely in men. Breast cancer diagnosis has been regularized in developed countries since 1980. This is not, however, the case in developing countries, and as a result, breast cancer incidences and the associated mortality rate are on the rise. Breast cancer has resulted in 13.7% of deaths, according to the Cancer Report, 2008. It is more common in the Pakistani population as compared to the Western population [1]. 1 in every 9 Pakistani women suffers from breast cancer, which is one of the highest incident rates in Asia [2]. Recently, the incidence of breast cancer has been 21.5% among females and 45.9% among female patients reported from Shaukat Khanum Memorial Cancer Hospital [3].

Breast cancer in men, or male breast cancer (MBC), is a rare form of cancer, accounting for less than 1% of all male cancers and all breast carcinomas. However, recent studies in the US have shown a significant increase in the incidence of MBC, while European studies have observed a steady, low rate [4]. Pakistan has the highest incidence rate of breast cancer among Asian countries [5]. Surprisingly, despite a similar socio-cultural environment, the occurrence rate of breast cancer among Pakistani women is significantly higher at 50 per 100,000. Unfortunately, a general lack of public awareness often results in a late-stage diagnosis of breast cancer, which can lead to a poor treatment outcome.

According to the origin, grading, staging and receptor breast cancers are classified in different forms. Menstrual and reproduc-

tive factors also called hormonal factors are considered the most important risk factors for breast cancer. Older age at first live birth and no breastfeeding have been found to increase breast cancer risk. Breast cancer originates from breast tissue, most commonly from the inner lining of milk ducts (ductal carcinoma) or the lobules (lobular carcinoma) that supply the duct with milk [6]. Healthy cells can divide when necessary and halt the process when no longer required. However, when cells lose their ability to stop dividing, attach to other cells, remain in their proper location, and die at the appropriate time, they can become cancerous cells. In some cases, the protective pathways P13K/AKT and RAS/MEK/ERK, which are responsible for cell suicide when no longer needed (apoptosis), may be permanently activated due to a mutation in the controlling gene. This is one of the contributing factors that can lead to cancer when combined with other mutations [7].

### TNM grading system

TNM system is used for the grading of breast cancer:

- T indicates the size of the tumor
- N indicates whether or not the tumor has spread to lymph nodes.
- M indicates whether the tumor has metastasized

### Stages

- Stage 0 shows pre-cancerous or marker condition, either ductal carcinoma in-situ or lobular carcinoma in-situ.
- Stage 1-3 indicates whether within the breast or regional lymph nodes.
- Stage 4 shows the cancer is metastatic and has a less favorable prognosis [8].

### Risk factors

Risk factors of breast cancer include lack of childbearing or lack of breastfeeding, increase level of some hormones [9], change in dietary patterns, obesity, exposure to light pollution, tobacco and alcohol intake [10]. Overall, 5-10% of all cases are believed to be due to genetics [11-22].

### Diagnosis

Breast cancer can be diagnosed through three methods:

- Breast Self-Examination (BSE),
- Clinical Breast Examination (CBE),
- and Mammography.

Typically, developed countries have a higher level of awareness about breast cancer compared to underdeveloped countries. Educating young women is an effective method of spreading awareness.

### Conclusion

The female population of undeveloped nations all over the world, particularly in Southeast Asia, is disproportionately affected by breast cancer, which is one of the most prevalent and uncommon medical disorders. In order to enhance overall attitudes and practices, it is crucial to thoroughly identify, address, treat, and report the various factors that influence the prognosis and severity of the condition, particularly those related to female health and environmental anomalies. The prevalence of breast cancer awareness in developing countries remains low despite numerous global awareness campaigns and advertisements. In order to ensure accurate identification, diagnosis, and treatment of early-stage breast cancer, it is imperative to develop and implement comprehensive awareness programs and public outreach initiatives. These efforts should be designed to reach a wider audience, particularly individuals with limited medical knowledge, and be easily accessible to all. This can be considered as one of the methods that can be employed for the prevention and early detection of breast cancer. In closing, we must address male breast cancer as well with the seriousness it warrants. This means not only recognizing its incidence and unique challenges but also actively advocating for education, research, and comprehensive care for those affected. By fostering a community that prioritizes early detection strategies and champions the advancement of treatment options, we create a more knowledgeable society equipped to battle all forms of breast cancer.

This can be brought about by:

- Supporting Male Breast Cancer Coalitions and Cancer Research Institutions.
- Advocating for awareness in the community.
- Continue to educate yourself and others on male breast cancer.

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### Conflict of interest

None.

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