

Risks Factors and Preventive Measures of Breast Cancer in Nigeria

By

Dr. Tanimu Ibrahim

Katsina State College of Health Sciences and Technology.

08069825003

email: tanimuiro68@gmail.com

Abstract

Cancer is a disease in which cells in the body grow out of control. Breast cancer is a disease that is characterized by the abnormal growth of cells in the breast. It is the most common malignant disorder affecting women and the leading cause of death among them. In Nigeria, breast cancer cases were historically low but are now increasing as a result of urbanization and lifestyle changes. It is the leading cause of cancer deaths currently, representing about 23% of all cancer cases and approximately 18% percent of deaths are attributed to it in the country. It is against this problem that this paper reviewed the risk factors and preventive measures of breast cancer. The findings of this paper revealed that cigarettes smoking, too much alcohol intake, sedentary life style, overweight and pregnancy are modifiable risk factors associated with breast cancer, while gender, age, early menstruation, late menopause and family history of breast cancer are non-modifiable risk factors of breast cancer. It was also found that reducing alcohol intake, quitting cigarettes, regular physiological activities as well as prolong breast feeding can help prevent breast cancer. Based on the findings of this reviewed, it was recommended that public awareness program should be conducted regularly through radio and television to enlighten the people about risk factors and preventive measures of breast cancer.

Key words: Breast cancer, Risk factors, preventive measures

Introduction

According to Center for Diseases Prevention and Control (CDC, 2021) Cancer is a disease in which cells in the body grow out of control. Except for skin cancer, breast cancer is the most

common cancer in women in the United States. Deaths from breast cancer have declined over time, but breast cancer remains the second leading cause of cancer death among women overall and the leading cause of cancer death among Hispanic women.

Breast cancer is defined as a disease that is characterized by the abnormal growth of cells in the breast (CDC, 2020). It is the most common malignant disorder affecting women and the leading cause of death among them (Bray, 2021). The incidence of breast cancer is higher in developed than in developing countries (Hisham, 2019), however, the incidence is increasing in developing countries like Nigeria while the outcomes remain low due to late presentation. It is therefore imperative to identify how the incidence and mortality rate of the disease can be reduced.

Epidemiology

Breast cancer is currently the most common type of cancer worldwide, with 2.26 million cases recorded in 2020 (WHO, 2021). It is also the most common cancer among women both in developed and developing countries, and a major cause for public health concern (WHO, 2021). While it exists around the globe, developed countries have a higher incidence rate and the incidence rate also varies by ethnicity and race (Smith, & Andrews, 2013). Breast cancer was also the 5th leading cause of cancer deaths worldwide in 2020, with 685,000 deaths attributed to it (WHO, 2021).

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Types of Breast Cancer

There are many different types of breast cancer. According to the American Cancer Society, [ACS] (2022) the most common types are:

- 1. Ductal Carcinoma in situ (DCIS):** This is classified as a non-invasive or pre-invasive breast cancer. It can also be referred to as intra-ductal carcinoma or stage 0 breast cancer. It is characterised by cells lining the duct turning into cancerous cells but not spreading into nearby breast tissue through the walls of the duct. As this is an early stage of breast cancer, most women having it can be cured.

2. **Invasive Breast Cancer (IDC/ILC)** – Breast cancers that have spread into surrounding breast tissues are known as invasive breast cancers. Most breast cancers fall into this category but the two most common types are invasive ductal carcinoma, which begins in the cells lining the milk duct, and invasive lobular carcinoma, which begins in the lobules of the breast.
3. **Triple-negative Breast Cancer** – It is a type of cancer where the cancer cells don't have estrogen or progesterone receptors and also makes little of the HER2 protein. It grows and spreads faster than other forms of invasive breast cancer and accounts for about 10-15% of all breast cancers.
4. **Inflammatory Breast Cancer (IBC)** – IBC occurs as a result of cancer cells blocking the lymph vessels in the skin and therefore making the breast look inflamed. It is a rare form of breast cancer and accounts for only about 1-5% of all breast cancers.
5. **Paget disease of the Breast** – Paget disease is a type of cancer that affects the nipples and areola of the breast. It is a rare form of breast cancer and usually only affects one breast. The majority of cases are found along with ductal carcinoma in situ or invasive ductal carcinoma.
6. **Angiosarcoma of the Breast**– This rare type of breast cancer begins in the cells lining blood and lymph vessels. It is said to often be the result of complications of previous breast radiation treatment and tend to grow and spread rapidly.
7. **Phyllodes Tumor** – This is a tumor that develops in the connective tissue of the breast. It is a rare form of breast cancer and mostly occurs in women in their 40s. Most phyllodes tumors are benign but 25% are malignant.

Risk Factors of Breasts Cancer

Modifiable Risk Factors

The major modifiable risk factors associated with breast cancer include:

1. **Overweight & Obesity** – Numerous studies have shown a correlation between obesity and breast cancer (Miller,, 2018). High levels of insulin and insulin-like factors in response to obesity have the ability to stimulate the growth of cancer cells.

2. **Smoking:-** Women who are active smokers, especially post-menopausal and prenatal women who smoke, have an increased risk of developing breast cancer. However, exposure to second-hand smoke has also shown to be a risk factor for breast cancer (Luo, 2019). **Alcohol:** Excessive alcohol consumption can increase the risk of breast cancer. The relationship between alcohol consumption and hormone receptor-positive and negative tumours was shown in a study (Romieu, 2017).
4. **Pregnancy:-** While the risk of breast cancer has been shown to decrease with every child that a woman has and carries till full-term, women who have their first child at an older age have an increased risk of developing breast cancer (Pike & Ursin, 2016).
5. **Physical Activity:-** The lack of physical activity puts women at an increased risk of developing breast cancer. A study conducted showed that increased physical activity among women aged 50-79 reduced the risk of developing breast cancer among postmenopausal women (White, 2022).

Non-Modifiable Risk Factors

The main non-modifiable risk factors identified were:

1. **Gender:** - Although breast cancer is a disease that also affects men, it is quite rare and the majority of cases are found in women (Cancer Treatment Centers of America, 2019).
2. **Age:-** After gender, age is the second most important risk factor for breast cancer (Thakur, 2017). The incidence of breast cancer increases with age, reaching its peak at menopause (Kim & Yoo, 2021).
3. **Family history of breast cancer:** - Various studies have shown that a family history of breast cancer is a major risk factor. Approximately a quarter of all breast cancer cases can be linked to family history (Bravi, 2018)
4. **Breast Density:** - Breast density, which refers to the total amount of dense tissue in the breast, has been identified in various studies as an independent risk factor for breast cancer (Bravi, 2018).
5. **Genetic Factors** – Genetic factors have shown to contribute to the incidence of breast cancer. An estimated 40% of hereditary breast cancer cases occur as a result of a mutation in the BRCA1 and BRCA2 genes inherited through the dominant autosomal method (Cobain, 2020).

Preventive Measures of Breast Cancer

Mayo Foundation for Medical Education and Research [MFMER] (2022) stated that Research shows that lifestyle changes can decrease the risk of breast cancer, even in women at high risk. According to MFMER the following measures can help prevent and reduce the risk of breasts cancer:

1. **Limiting alcohol intake.** The more alcohol a person drink, the greater the risk of developing breast cancer. It was also recommended that a person needs to limit the intake of alcohol to no more than one drink a day, as even small amounts increase risk.
2. **Maintaining a healthy weight.** If your weight is healthy, work to maintain that weight and when the weight is over work to reduce it. The greater the weight the higher the risk of developing breast cancer. However, weight can be deduce safely by reducing the number of daily calories intake and increasing the amount of exercise.
3. **Physical activity.** Physical activity can help maintain a healthy weight, which helps prevent breast cancer. Most healthy adults should aim for at least 150 minutes a week of moderate aerobic activity or 75 minutes of vigorous aerobic activity weekly, plus strength training at least twice a week.
4. **Breast-feed.** Breast-feeding might play a role in breast cancer prevention. The longer you breastfeed, the greater the protective effect.
5. **Limit postmenopausal hormone therapy.** Combination hormone therapy may increase the risk of breast cancer. A victim might be able to manage the symptoms with no hormonal therapies and medications.

Breast Cancer among Nigerian Women

In the case of Nigerian women, breast cancer tends to be diagnosed at an advanced stage and the chances of survival are low (Adebamowo, 1999). Women in the country are also more frequently diagnosed with triple-negative breast cancer than women of European ancestry (Huo, 2019), with cases occurring at a much younger age (Adesunkanmi, 2016). As a result of the late presentation of the disease, the only options available are expensive treatment procedures, which may be unaffordable for the average Nigerian woman.

Though there is a high incidence of breast cancer in Nigeria, studies have shown that the majority of Nigerian women, both in rural and urban areas possess little or no knowledge about risk factors and symptoms of the disease. In cases where women are aware of these, there is hesitation in seeking healthcare which results in untimely death. Religious, economic and socio-cultural factors have shown to play a part in women's attitude towards the disease (George, 2019). There is also a lack of knowledge on breast self-examinations (BSE) and who should conduct them, especially in rural areas (Nwaneri, 2016,)

Clinical breast examinations and mammography have been recommended by the American Cancer

Society (ACS) for the early detection of breast cancer (Smith, & Andrews, 2013), however in Nigeria there is a lack of organised breast cancer screening programme, with only one state having a structured mammography screening program (George, 2019). Visiting healthcare facilities to get screened is also low and this might be as a result of cost restraints as many Nigerians have to pay for healthcare out of pocket (Huo, 2019). Socio-cultural factors might also play a role in women's readiness to attend regular screenings in areas where it is available.

Conclusion

With the high incidence and mortality rate associated with breast cancer in low and middle income countries like Nigeria, there is a need for efforts to be made to create more awareness about the disease, especially among uneducated women and proper structures for early detection. With proper education of women in both rural and urban areas and affordable screening programmes developed, the chances of survival can be increased. Policies on the breast cancer detection and care also need to be developed and disseminated to aid healthcare workers make informed decisions. **Recommendations**

Based on the findings of this reviewed, it was recommended that:

1. Public awareness program should be conducted regularly through radio and television to enlighten the people about risk factors and preventive measures of breast cancer
2. Health personnel should double their efforts in educating women about risk factors and preventive measures of breast cancer
3. Breast cancer examination should be included in Antenatal Care Services

4. Breast cancer treatment services should be made available and free of charge throughout the country
5. Breast cancer awareness program should be made regularly across the country.

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