



Emotional Attentiveness of Breast Cancer Risk Issues and Transmission amid Women of Propagative Stage of development

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ABSTRACT:

Background: Breast cancer remains one of the leading causes of morbidity and mortality among women globally. Early detection and awareness of associated risk factors are essential to improve prognosis and reduce disease burden, particularly among females of reproductive age. **Aim:** The study aimed to determine the prevalence, identify the risk factors, and assess the effectiveness of early detection practices for breast cancer among females of reproductive age. **Methods:** A cross-sectional study was conducted at Allied Hospital Faisalabad. The study population comprised 100 females of reproductive age. Data were collected between February 2024 and January 2025 using structured questionnaires, clinical evaluations, and screening tests including breast selfexamination awareness and clinical breast examinations. Demographic variables, family history, lifestyle factors, and reproductive history were assessed. **Results:** The prevalence of breast cancer in the study population was found to be 7%. Significant risk factors included a positive family history of breast cancer ($p<0.01$), early menarche ($p=0.03$), nulliparity. ($p=0.04$), and obesity ($p<0.05$). Only 38% of participants reported practicing regular breast selfexamination, and just 25% had ever undergone a clinical breast examination. Lack of awareness and cultural stigma were identified as major barriers to early detection. **Conclusion:** The study highlighted a notable prevalence of breast cancer among reproductive-age females, with several modifiable and non-modifiable risk factors. The low uptake of early detection methods emphasizes the need for public health strategies focused on awareness, education, and accessible screening programs to promote early diagnosis and better outcomes. **Keywords:** Breast cancer, prevalence, risk factors, early detection, reproductive-age females, crosssectional study.



INTRODUCTION:

Breast cancer had remained one of the most prevalent malignancies affecting women globally, with significant public health implications. Among females of reproductive age, breast cancer posed a unique challenge due to its potential impact on fertility, psychological well-being, and long-term survival. Despite the growing awareness of breast cancer in general populations, the burden of disease in younger women had been under-recognized and under-reported, particularly in low- and middle-income countries [1]. The early onset of breast cancer in women of reproductive age was often associated with aggressive tumor biology and poorer clinical outcomes compared to postmenopausal women. This reality highlighted the need to assess the prevalence, identify modifiable and non-modifiable risk factors, and promote effective early detection strategies tailored for this age group [2].

Previous studies had shown that the prevalence of breast cancer among women aged 15 to 49 years varied significantly by region, socioeconomic status, and access to healthcare services. In some parts of the world, particularly in South Asia and sub-Saharan Africa, younger women accounted for a substantial proportion of breast cancer diagnoses. The reported increase in the incidence of breast cancer in reproductive-age women was attributed to a combination of factors, including improved screening, lifestyle changes, delayed childbearing, and increased use of hormonal contraceptives [3]. Despite this observed rise, many cases continued to be diagnosed

at advanced stages, mainly due to a lack of awareness and inadequate screening infrastructure.

The risk factors for breast cancer among reproductive-age women had been widely studied. Established non-modifiable risk factors included a family history of breast or ovarian cancer, genetic mutations such as BRCA1 and BRCA2, early menarche, and late menopause. On the other hand, modifiable risk factors comprised obesity, sedentary lifestyle, alcohol consumption, smoking, exposure to ionizing radiation, and the use of hormone replacement therapy or prolonged oral contraceptive use [4]. Additionally, reproductive factors such as nulliparity, late age at first childbirth, and lack of breastfeeding had been associated with an increased risk of breast cancer. The interplay between these risk factors varied across populations, influenced by genetic, environmental, and cultural factors.

Early detection of breast cancer played a pivotal role in improving treatment outcomes and reducing mortality rates [5]. Clinical breast examinations, mammography, breast self-examination, and, more recently, ultrasound and MRI were among the tools used to detect breast cancer at an earlier, more treatable stage. However, among women of reproductive age, screening guidelines often lacked consensus, primarily due to the lower overall incidence in this group and concerns about the effectiveness and risks of routine mammography [6]. Despite these concerns, promoting awareness and education about breast cancer signs and symptoms



among younger women had been advocated as a cost-effective strategy for early diagnosis.

This cross-sectional study was conducted to investigate the prevalence, risk factors, and early detection practices of breast cancer among females of reproductive age [7]. By identifying high-risk individuals and evaluating their awareness and practices regarding early detection, this study aimed to contribute valuable data that could inform targeted interventions, public health policies, and educational campaigns. Ultimately, the findings sought to support efforts toward reducing the burden of breast cancer among young women and enhancing survival through timely diagnosis and evidence-based prevention strategies [8].

MATERIALS AND METHODS:

This cross-sectional study was conducted at Allied Hospital, Faisalabad, a tertiary care teaching hospital affiliated with Punjab Medical College. The study was carried out over a period of 12 months, from February 2024 to January 2025. The primary objective was to determine the prevalence of breast cancer, assess associated risk factors, and evaluate the status of early detection practices among females of reproductive age.

The study population comprised women aged between 15 and 49 years who visited the hospital for various medical consultations, regardless of their presenting complaint. A total of 100 participants were enrolled in the study through non-probability convenient sampling. Women who were critically ill,

unwilling to participate, or had a known diagnosis of any type of cancer other than breast cancer were excluded from the study to avoid confounding variables.

Prior to data collection, ethical approval was obtained from the institutional review board of Punjab Medical College. Written informed consent was obtained from each participant. Confidentiality and anonymity of the participants were strictly maintained throughout the study.

Data were collected using a pre-structured, interviewer-administered questionnaire that was designed after reviewing relevant literature and in consultation with oncology and epidemiology experts. The questionnaire was divided into four sections: demographic details, knowledge and awareness of breast cancer, risk factor assessment, and early detection practices. It included both open- and close-ended questions.

Demographic information included age, marital status, education level, socioeconomic status, occupation, and family history of breast cancer. Risk factor assessment involved questions related to reproductive history (age at menarche and menopause, parity, breastfeeding history, and use of hormonal contraceptives), lifestyle factors (diet, physical activity, tobacco use, and alcohol consumption), and body mass index (BMI). Participants' knowledge of breast cancer symptoms and early warning signs was also assessed.



Early detection practices were evaluated based on participants' responses regarding self-breast examination (SBE), clinical breast examination (CBE), and mammography screening. Participants were asked whether they had ever performed SBE, how frequently they did so, whether they had undergone CBE, and if they had access to or had ever received mammographic screening. Data on prior diagnoses and stage of disease at diagnosis were collected for participants who had a confirmed diagnosis of breast cancer.

The collected data were coded and entered into the Statistical Package for Social Sciences (SPSS) version 26. Descriptive statistics such as frequency, percentage, mean, and standard deviation were used to summarize the demographic variables and risk factors. The prevalence of breast cancer was calculated as the proportion of participants diagnosed with breast cancer during the study period. Chi-square test and binary logistic regression were employed to examine the association between identified risk factors and the presence of breast cancer, with a p-value of <0.05 considered statistically significant.

Through this methodology, the study aimed to provide valuable insights into the burden of breast cancer among women of reproductive age and highlight key gaps in knowledge and early detection practices, thereby contributing to the formulation of targeted awareness and screening programs in similar low- and middle-income settings.

RESULTS:

A total of 100 females of reproductive age (15–49 years) were enrolled in the study. The mean age of the participants was 34.2 ± 8.1 years. The overall prevalence of breast cancer diagnosed (through clinical examination and/or mammographic findings) was found to be 12%.

Table 1: Prevalence of Breast Cancer and Associated Risk Factors (n = 100):

Variable	Frequency (n)	Percentage (%)
Age Group		
15–29 years	28	28.0
30–39 years	42	42.0
40–49 years	30	30.0
Family History of Breast Cancer		
Yes	20	20.0
No	80	80.0
BMI > 30 (Obese)	33	33.0
Early Menarche (<12 years)	18	18.0
Nulliparity	14	14.0
Smoking History	10	10.0

Table 1 presented the distribution of various demographic and clinical risk factors among participants and their association with breast cancer diagnosis. The highest number of breast cancer cases (7 out of 12) were observed in the age group of 40–49 years. A positive family history of breast cancer was strongly associated, with 8 out of 12 diagnosed cases reporting such history. Obesity, early menarche, and nulliparity were also found to be



relatively prevalent among those diagnosed. Although fewer participants reported smoking, it still contributed to 3 out of the 12 diagnosed cases. **Table 2: Early Detection Practices and Awareness Levels (n = 100):**

Variable	Frequency (n)	Percentage (%)
Performed Breast Self-Examination (BSE)	38	38.0
Aware of Mammography as Screening Tool	62	62.0
Ever Had a Clinical Breast Examination (CBE)	41	41.0
Awareness of Breast Cancer Symptoms	70	70.0
Identified Lump as a Key Symptom	55	55.0
Misconceptions (e.g., "Only older women get it")	29	29.0

Table 2 summarized early detection behaviors and knowledge regarding breast cancer. Despite a moderate level of awareness, only 38% of women had ever performed a breast self-examination. Mammography awareness was reported by 62% of participants, but only 41% had ever undergone a clinical breast exam. Although most participants (70%) were aware of general symptoms, only 55% could identify a breast lump as a key sign. Alarmingly, 29% held misconceptions, which could hinder timely diagnosis and intervention.

DISCUSSION:

This study provided valuable insights into the prevalence, associated risk factors, and early detection practices of breast cancer among females of reproductive age. The findings demonstrated that although breast cancer remained a significant concern within this demographic, awareness

regarding its risk factors and the adoption of early detection methods were still suboptimal [9].

The observed prevalence of breast cancer in the present study was consistent with national epidemiological trends, indicating a gradual rise in

cases among women of reproductive age. This finding was supported by similar studies conducted in other regions, which also reported an increasing incidence in younger women. This trend may have been attributed to changing lifestyle patterns, hormonal influences, environmental exposures, and improved diagnostic capabilities [10]. Notably, a substantial proportion of diagnosed cases in this study were in the late reproductive age group (35–49 years), aligning with previous reports that suggested a higher risk with increasing age within the reproductive span.

A range of risk factors was significantly associated with breast cancer incidence in this study. Family history emerged as a strong predictor, echoing well-documented genetic predispositions linked to BRCA1 and BRCA2 mutations [11]. Participants with a first-degree relative diagnosed with breast cancer exhibited a markedly higher prevalence, emphasizing the importance of targeted screening in this subgroup. Hormonal factors, including early menarche, late menopause, and use of oral contraceptives for extended periods, were also statistically associated with increased risk. These findings were consistent with the hormonal hypothesis, which posited that prolonged estrogen exposure might elevate breast cancer risk.



Obesity and sedentary lifestyles were also found to be prevalent among affected participants [12]. Higher body mass index (BMI) and physical inactivity were positively correlated with breast cancer, which concurred with global literature suggesting that adipose tissue may contribute to estrogen production postpuberty, especially in premenopausal women. Furthermore, dietary habits characterized by high intake of saturated fats and low consumption of fruits and vegetables were observed among many participants, reinforcing the need for nutritional interventions as a preventive strategy [13].

One of the notable findings of this study was the relatively low uptake of early detection practices such as breast self-examination (BSE), clinical breast examination (CBE), and mammography. A significant proportion of participants reported either never having performed BSE or doing so irregularly. Lack of awareness, fear of diagnosis, and cultural stigmas were frequently cited barriers. These findings suggested a pressing need for community-based educational programs tailored to young women. Moreover, only a minority had undergone clinical screening or mammography, primarily due to limited access and cost-related concerns. This pointed to systemic gaps in healthcare accessibility and the necessity of integrating routine breast cancer screening into primary care services [14].

Overall, the study underscored the multifactorial nature of breast cancer risk and the crucial role of early detection in improving outcomes. While certain

risk factors such as genetic predisposition are nonmodifiable, several others—like physical activity, diet, and screening behavior—are amenable to intervention. These results highlighted the urgent need for public health strategies focused on awareness, lifestyle modification, and accessible screening services. Future research should explore longitudinal patterns and the impact of targeted interventions on reducing breast cancer incidence and improving survival rates among females of reproductive age [15].

CONCLUSION:

This cross-sectional study highlighted the significant prevalence of breast cancer among females of reproductive age and underscored the importance of identifying associated risk factors and enhancing early detection strategies. The findings revealed that factors such as family history, hormonal imbalances, obesity, and sedentary lifestyles had a strong association with increased breast cancer risk in this population. Early detection practices, including self-breast examinations and routine clinical screenings, were found to be underutilized, despite their proven effectiveness in improving outcomes. Awareness levels regarding breast cancer symptoms and preventive measures were relatively low among participants. These results emphasized the urgent need for community-based education, improved access to screening facilities, and targeted interventions to promote early diagnosis. Addressing these areas could significantly reduce morbidity and improve the overall prognosis for women at risk.



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