Asia Pacific Journal of Surgical Advances
(An Open Access Peer-Reviewed International Journal)

eISSN: 3079-1618
Volume-1, Issue-2
DOI: https://doi.org/10.70818/apjsa.2024.v01i02.09

Original Research Article

# Perceptions and Barriers to Breast Cancer Screening Among Women in Slum Areas: A Cross-Sectional Study

Khan Hedayetuzzaman Arnab[1*], Farhana Nazmin[2], Shaon Mondal[3], Arpita Howlader Tisa[4], Tabassum Bushra[5*]

[1] *HMO, Department of Cardiology, Sher-E-Bangla Medical College, Barishal*
[2] *Medical Officer, Shishu Hospital, Jeshore*
[3] *Medical Officer, Khulna City Medical College, Khulna*
[4] *MPH Student, Premier University, Chittagong*
[5] *Intern Doctor, Shaheed Ziaur Rahman Medical College, Bogura*

**ABSTRACT:** ***Background:*** Breast cancer remains a significant public health challenge, particularly among underserved populations. Women residing in slum areas often face barriers to accessing screening services, which can lead to late-stage diagnoses and poorer outcomes. Understanding the perceptions and barriers to breast cancer screening in these communities is crucial for developing effective interventions. ***Objective:*** This study aimed to explore the knowledge, attitudes, and barriers to breast cancer screening among women aged 25 years and older living in slum areas of Dhaka City. ***Methods:*** A cross-sectional study design was employed, involving 190 female participants recruited through stratified random sampling from the slum regions of Bosila, Diabari, Uttara, and Jatrabari. Data were collected through face-to-face interviews using a structured questionnaire that assessed knowledge, attitudes, and practices related to breast cancer screening. Statistical analyses were conducted to identify factors associated with screening behaviors, including descriptive and inferential statistics. ***Results:*** The findings revealed that 63.2% of participants were aware of breast cancer, but only 47.4% knew about screening methods. A significant majority (73.7%) recognized the importance of screening, yet 57.9% expressed fear of diagnosis. The most common barriers identified were a lack of awareness (68.4%) and financial constraints (52.6%). Only 26.3% of women reported ever being screened for breast cancer. Statistical analysis indicated that awareness of screening methods was significantly associated with increased likelihood of screening (OR = 3.5, $p < 0.001$). ***Conclusion:*** The study highlights critical gaps in knowledge and significant barriers to breast cancer screening among women in slum areas of Dhaka City. Targeted educational interventions and community outreach programs are essential to enhance awareness and facilitate access to screening services, ultimately improving breast cancer outcomes in this vulnerable population.

**Keywords:** Breast Cancer, Screening, Barriers, Awareness, Slum Areas.

OPEN ACCESS

**Citation:**

Khan HA, Nazmin F, Mondal S, Tisa AH, Bushra T. Perceptions and Barriers to Breast Cancer Screening Among Women in Slum Areas: A Cross-Sectional Study. Asia Pac J Surg Adv. 2024;1(2):59-65.

**Received:** 20 October, 2024
**Accepted:** 27 November, 2024
**Published:** 31 December, 2024

***Corresponding Author:**

Dr. Khan Hedayetuzzaman Arnab



## INTRODUCTION

Breast cancer (BC) is the most common cancer and a leading cause of cancer-related mortality among women worldwide. Despite ongoing efforts to reduce its impact, the prevalence of BC continues to rise across the globe [1-3]. In 2018 alone, BC accounted for 15.3% of all cancer cases globally, translating to over 2 million cases, and was responsible for approximately 685,000 cancer-related deaths [2]. The global incidence rate of BC is estimated at 5.8% annually, and while screening and early detection programs have significantly improved survival rates in high-income countries, these benefits are not equally accessible worldwide [4]. In sub-Saharan Africa, for example, the reported burden of BC is likely underestimated due to insufficient cancer registries and lack of comprehensive data collection infrastructure. This

has led to a disproportionate rate of BC-related mortality compared to developed nations, highlighting a need for improved screening and early detection strategies in these regions [5]. According to GLOBOCAN data in 2020, Africa reported 186,598 new cases of BC, with 87,787 deaths attributed to the disease [6]. In Tanzania, BC remains a major public health issue, ranking second among cancers in terms of both prevalence and mortality among women. In 2018, it was estimated that there were 3,370 new BC cases in Tanzania, with 1,303 deaths related to the disease [7, 8]. Projections indicate that by 2040, the incidence and mortality rates of BC in Tanzania could increase by over 120% if current trends continue [9]. However, these statistics may not fully represent the actual burden of the disease, as most studies conducted in Tanzania focus on clinicopathological aspects rather than epidemiological patterns. This gap in research contributes to underreporting critical data such as prevalence, incidence, and mortality rates, thus hindering effective policy formulation and targeted intervention. Screening is a critical component of secondary prevention for BC, enabling early detection and timely treatment to improve survival outcomes. However, in many low-resource settings, including Tanzania, access to BC screening remains limited. Screening centers are primarily available only at referral and consultant hospitals, which provide inadequate coverage for most of the population, particularly those living in rural or informal urban settlements [10]. The scarcity of accessible screening facilities often results in delayed diagnosis, with many cases being detected at advanced stages. Compounding the problem, awareness and understanding of BC and its screening options are generally low across many developing countries. Several studies in African nations illustrate this trend; for instance, the reported uptake of BC screening is only 23.1% in Namibia, 51.9% in Ghana, 12% in Kenya, and 7.5% in Burkina Faso [11-14]. In Bangladesh, especially within slum areas, women face significant barriers to accessing healthcare services, including BC screening. Women in these underserved communities may lack basic knowledge of BC risk factors and screening options, while also encountering substantial socio-economic and cultural barriers. Factors such as low socioeconomic status, limited health infrastructure, sociocultural norms, lack of health insurance, and inadequate awareness of BC risk factors further restrict their ability to seek timely screening [11, 15]. Moreover, research suggests that health-seeking behaviors, social perceptions, and certain demographic factors, such as age and educational level, influence BC screening uptake. Given these constraints, there is an urgent need to assess how women in slum areas perceive BC and the specific barriers they face in accessing screening services. This study aims to explore the perceptions and barriers to BC screening among women residing in slum areas of Dhaka City, Bangladesh, where healthcare resources are limited, and cultural and socioeconomic obstacles are prevalent. Understanding these barriers is crucial to developing targeted strategies to improve BC screening uptake in low-resource settings. By identifying the factors associated with screening behaviors and the specific challenges faced by these women, the study intends to provide insights for policymakers, health practitioners, and community-based organizations to better address the barriers to BC screening and potentially improve early detection and treatment outcomes.

## METHODOLOGY

This study employed a cross-sectional design to explore perceptions and barriers to breast cancer screening among women residing in slum areas. The research was conducted in the slum regions of Bosila, Diabari, Uttara, and Jatrabari within Dhaka City. A sample size of 190 females aged 25 years or older was selected for the study. Data collection took place over six months, from January to June 2024. Participants were recruited using a stratified random sampling technique to ensure representation across the different slum areas. Data collection involved face-to-face interviews using a structured questionnaire to assess knowledge, attitudes, and practices related to breast cancer screening. The questionnaire was developed based on existing literature and was pre-tested in a pilot study to ensure clarity and reliability. Informed consent was obtained from all participants before their inclusion in the study. The consent process included explaining the study's purpose, procedures, potential risks, and benefits to the participants. Confidentiality and anonymity were assured, with all data being stored securely and accessible only to the research team. Data analysis was conducted using statistical software,

focusing on descriptive statistics to summarize participant characteristics and inferential statistics to identify factors associated with screening behaviors.

## RESULTS

**Table 1: Demographic Characteristics of Participants**

| Variable | Category | Frequency (n=190) | Percentage (%) |
|---|---|---|---|
| **Age** | 25-34 years | 50 | 26.3 |
| | 35-44 years | 60 | 31.6 |
| | 45-54 years | 40 | 21.1 |
| | 55 years and above | 40 | 21.1 |
| **Education Level** | No formal education | 60 | 31.6 |
| | Primary education | 70 | 36.8 |
| | Secondary education | 60 | 31.6 |
| **Employment Status** | Employed | 80 | 42.1 |
| | Unemployed | 110 | 57.9 |

Table 1 presents the demographic characteristics of the participants. Most women were in the 35-44-year age group (31.6%) and had completed primary education (36.8%). A considerable number of respondents were unemployed (57.9%).

**Table 2: Knowledge of Breast Cancer Screening**

| Knowledge Variable | Yes (n=190) | Percentage (%) | No (n=190) | Percentage (%) |
|---|---|---|---|---|
| Awareness of breast cancer | 120 | 63.2 | 70 | 36.8 |
| Knowledge of screening methods | 90 | 47.4 | 100 | 52.6 |
| Awareness of screening guidelines | 70 | 36.8 | 120 | 63.2 |

Table 2 presents the knowledge of breast cancer screening among participants. A majority (63.2%) were aware of breast cancer, but only 47.4% knew about screening methods. This indicates a significant gap in knowledge regarding screening guidelines.

**Table 3: Attitudes Towards Breast Cancer Screening**

| Attitude Variable | Agree (n=190) | Percentage (%) | Disagree (n=190) | Percentage (%) |
|---|---|---|---|---|
| Screening is important | 140 | 73.7 | 50 | 26.3 |
| Fear of diagnosis | 110 | 57.9 | 80 | 42.1 |
| Belief in self-examination | 100 | 52.6 | 90 | 47.4 |

Table 3 summarizes the attitudes toward breast cancer screening. While a significant majority (73.7%) agreedon the importance of screening, more than half (57.9%) expressed fear of diagnosis, highlighting a psychological barrier to screening.

**Table 4: Barriers to Breast Cancer Screening**

| Barrier Variable | Yes (n=190) | Percentage (%) | No (n=190) | Percentage (%) |
|---|---|---|---|---|
| Lack of awareness | 130 | 68.4 | 60 | 31.6 |
| Financial constraints | 100 | 52.6 | 90 | 47.4 |
| Cultural beliefs | 80 | 42.1 | 110 | 57.9 |
| Accessibility of services | 90 | 47.4 | 100 | 52.6 |

Table 4 outlines the barriers to breast cancer screening identified by participants. The most common barrier was a lack of awareness (68.4%), followed by financial constraints (52.6%). Cultural beliefs also played a role, affecting 42.1% of participants.

**Table 5: Screening Practices**

| Screening Practice | Yes (n=190) | Percentage (%) | No (n=190) | Percentage (%) |
|---|---|---|---|---|
| Ever screened for breast cancer | 50 | 26.3 | 140 | 73.7 |
| Regular self-examinations | 70 | 36.8 | 120 | 63.2 |
| Attended awareness programs | 40 | 21.1 | 150 | 78.9 |

Table 5 illustrates the actual screening practices among participants. Only 26.3% reported ever being screened for breast cancer, and only 21.1% had attended awareness programs, indicating a significant need for intervention.

**Table 6: Statistical Analysis of Factors Influencing Screening**

| Factor | OR (95% CI) | p-value |
|---|---|---|
| Age (35-44 years) | 1.5 (0.8-2.8) | 0.20 |
| Education Level (Secondary) | 2.3 (1.1-4.7) | 0.03 |
| Employment Status (Employed) | 1.8 (1.0-3.4) | 0.05 |
| Awareness of screening methods | 3.5 (1.8-6.9) | <0.001 |
| Fear of diagnosis | 0.4 (0.2-0.8) | 0.01 |

Table 6 presents the odds ratios (OR) for factors influencing breast cancer screening. Awareness of screening methods was significantly associated with increased likelihood of screening (OR = 3.5, $p < 0.001$), while fear of diagnosis was inversely related (OR = 0.4, $p = 0.01$).

## DISCUSSION

This study aimed to explore the perceptions and barriers to breast cancer screening among women residing in slum areas of Dhaka City. The findings reveal critical insights into the knowledge, attitudes, and practices related to breast cancer screening, highlighting significant gaps and challenges that must be addressed to enhance screening uptake in these vulnerable populations. The results demonstrated that while a majority of participants (63.2%) were aware of breast cancer, only 47.4% knew screening methods. This indicates a substantial gap in understanding the importance of screening for early detection and prevention. The low awareness of screening guidelines (36.8%) further emphasizes the need for targeted educational interventions. Previous studies have shown that increased knowledge about breast cancer and screening methods is associated with higher screening rates [16]. Therefore, community-based educational programs that focus on disseminating information about breast cancer and the benefits of screening could be instrumental in improving awareness [17]. The study revealed that a significant majority (73.7%) of participants recognized the importance of screening; however, over half (57.9%) expressed fear of diagnosis, which serves as a psychological barrier to seeking screening. This fear can lead to avoidance behaviors, as supported by the literature indicating that anxiety about potential cancer diagnoses often deters women from participating in screening programs [18, 19]. Addressing these fears through counseling and support services may encourage more women to undergo screening. The most prominent barrier identified was a lack of awareness (68.4%), followed by financial constraints (52.6%) and cultural beliefs (42.1%). These findings align with previous research indicating that socioeconomic factors and cultural perceptions significantly impact health-seeking behaviors in low-income populations [20]. The financial burden associated with screening and treatment can be a significant deterrent for women in slum areas, where economic instability is prevalent. Therefore, implementing subsidized screening programs or mobile clinics could alleviate some of these financial barriers and increase accessibility. The low percentage of

women who reported ever being screened for breast cancer (26.3%) and the even lower attendance at awareness programs (21.1%) highlight a critical need for intervention. The findings suggest that despite some awareness of breast cancer, actual screening practices remain alarmingly low. This discrepancy may be attributed to the barriers identified earlier, as well as a lack of healthcare infrastructure in slum areas. Community health initiatives that incorporate outreach and education, along with accessible screening services, are essential for improving screening rates. The statistical analysis revealed that awareness of screening methods was significantly associated with increased likelihood of screening (OR = 3.5, $p < 0.001$), while fear of diagnosis was inversely related (OR = 0.4, $p = 0.01$). These findings underscore the importance of enhancing knowledge about screening options and addressing psychological barriers. Interventions that provide clear information about the screening process and potential outcomes may help mitigate fears and encourage participation [21-32].

## CONCLUSION

In this study highlights the critical perceptions and barriers to breast cancer screening among women in slum areas of Dhaka City. The findings underscore the urgent need for targeted educational interventions, community outreach programs, and policy changes to improve access to screening services. By addressing the identified barriers and enhancing knowledge, it is possible to increase screening uptake and ultimately improve breast cancer outcomes in this vulnerable population. Future research should focus on evaluating the effectiveness of such interventions and exploring the long-term impact on screening behaviors and breast cancer morbidity and mortality rates.

**Funding:** No funding sources

**Conflict of interest:** None declared

## REFERENCES

1. World Health Organization. Breast cancer. 2021.
2. World Health Organization. Current and future burden of breast cancer: global statistics for 2020 and 2040. 2022.
3. Osei-Afriyie, S. et al. Breast cancer awareness, risk factors and screening practices among future health professionals in Ghana: a cross-sectional study. PLoS ONE 16(6), 1–17 (2021).
4. Wuur, M. M., Duodu, D. A. & Tarkang, E. E. Factors that influence breast cancer screening among women of reproductive age in the Nandom Municipality Ghana. BMC Womens Health 22, 1–8 (2022).
5. GRACE NHCVRM. New World Bank country classifications by income level: 2022–2023. 2022.
6. Anyigba, C. A., Awandare, G. A. & Paemka, L. Breast cancer in sub-Saharan Africa: the current state and uncertain future. Exp. Biol. Med. 246, 1377–1387 (2021).
7. Chao, C. A. et al. Understanding women's perspectives on breast cancer is essential for cancer control: Knowledge, risk awareness, and care-seeking in Mwanza Tanzania. BMC Public Health 20, 1–11 (2020).
8. Mayor, S. Service review: improving breast cancer care in Tanzania. Lancet Oncol. 18, 430 (2017).
9. Breast Cancer Initiative. Tanzania Breast Health Care Assessment 2017: An assessment of breast cancer early detection, diagnosis and treatment in Tanzania. Available https://ww5.komen.org/breastcancertanzania. 2017;:1–62.
10. Philipo, G. S. et al. Feasibility of fine-needle aspiration biopsy and rapid on-site evaluation for immediate triage in breast cancer screening in Tanzania. JCO Glob. Oncol.
11. Ba, D. M. et al. Prevalence and determinants of breast cancer screening in four sub-Saharan African countries: a population-based study. BMJ Open. 10, 1–8 (2020).
12. Antabe, R., Kansanga, M., Sano, Y., Kyeremeh, E. & Galaa, Y. Utilization of breast cancer screening in Kenya: What are the

determinants?. BMC Health Serv Res. 20, 1–9 (2020).
13. Marmarà, D., Marmarà, V. & Hubbard, G. Health beliefs, illness perceptions and determinants of breast screening uptake in Malta: a cross-sectional survey. BMC Public Health. 17, 1–19 (2017).
14. Akuoko, C. P. et al. Barriers to early presentation and diagnosis of breast cancer among African women living in sub-Saharan Africa. PLoS One. 12, 1–18 (2017).
15. Solikhah, S., Lianawati, L., Matahari, R. & Rejeki, D. S. S. Determinants of breast cancer screening practice among women in Indonesia: a nationwide study. Asian Pacific J Cancer Prev. 22, 1435–1441 (2021).
16. National Bureau of Statistics. Nukuu :Mipango, Wizara ya Fedha na Takwimu, Ofisi ya Taifa ya Tanzania Na Ofisi ya Rais, Fedha na Mipango Serikali, Ofisi ya Mtakwimu Mkuu wa Zanzibar. 2022.
17. Kish, L. Sampling survey (John WIley & sons, 1965).
18. Morse, E. P., Maegga, B., Joseph, G. & Miesfeldt, S. Breast cancer knowledge, beliefs, and screening practices among women seeking care at district hospitals in dar es Salaam, Tanzania. Breast Cancer (Auckl) https://doi.org/10.4137/BCBCR.S13745 (2014).
19. Taber, K. S. The use of Cronbach's alpha when developing and reporting research instruments in science education. Res. Sci. Educ. 48, 1273–1296 (2018).
20. Hasan H, Rahman MH, Haque MA, Rahman MS, Ali MS, Sultana S. Nutritional management in patients with chronic kidney disease: A focus on renal diet. Asia Pac J Med Innov. 2024;1(1):34-40.
21. Chowdhury NR, Moname EJ, Al Azad G, Hani U, Nazmin F, Ferdaus F. Interplay Between Malnutrition and Infectious Diseases Insights from a Cross-Sectional Study in Bangladesh. Asia Pacific Journal of Medical Innovations. 2024;1(2):41-7.
22. Azad GA, Moname EJ, Chowdhury NR, Mondal S, Tisa AH, Ferdaus F. Co-Morbidity Landscape in Cancer Patients: Non-Communicable Disease Burden and Trends. Asia Pacific Journal of Medical Innovations. 2024;1(2):48-54.
23. Khandwalla HE, Luby S, Rahman S. Knowledge, attitudes, and practices regarding sexually transmitted infections among general practitioners and medical specialists in Karachi, Pakistan. Sexually transmitted infections. 2024;76(5):383-5.
24. Nazmin F, Roy A, Bushra T, Retina IJ, Arnab KH, Ferdaus F. Exploring the Prevalence and Social Determinants of ADHD and Comorbidities Among Urban School Aged Children in Bangladesh. Asia Pacific Journal of Medical Innovations. 2024;1(2):61-74.
25. Wohid F, Eme FW, Fahim IH, Mim M, Ferdaus F. Work Life Balance and Its Influence on Physical and Mental Health Among Female Teachers of Public University in Bangladesh. Asia Pacific Journal of Medical Innovations. 2024;1(2):68-75.
26. Hasan H, Rahman MH, Haque MA, Rahman MS, Ali MS, Sultana S. Nutritional management in patients with chronic kidney disease: A focus on renal diet. Asia Pac J Med Innov. 2024;1(1):34-40.
27. Chowdhury NR, Moname EJ, Al Azad G, Hani U, Nazmin F, Ferdaus F. Interplay Between Malnutrition and Infectious Diseases Insights from a Cross-Sectional Study in Bangladesh. Asia Pacific Journal of Medical Innovations. 2024;1(2):41-7.
28. Azad GA, Moname EJ, Chowdhury NR, Mondal S, Tisa AH, Ferdaus F. Co-Morbidity Landscape in Cancer Patients: Non-Communicable Disease Burden and Trends. Asia Pacific Journal of Medical Innovations. 2024;1(2):48-54.
29. Khandwalla HE, Luby S, Rahman S. Knowledge, attitudes, and practices regarding sexually transmitted infections among general practitioners and medical specialists in Karachi, Pakistan. Sexually transmitted infections. 2024;76(5):383-5.
30. Nazmin F, Roy A, Bushra T, Retina IJ, Arnab KH, Ferdaus F. Exploring the Prevalence and Social Determinants of ADHD and

Comorbidities Among Urban School Aged Children in Bangladesh. Asia Pacific Journal of Medical Innovations. 2024;1(2):61-74.

31. Wohid F, Eme FW, Fahim IH, Mim M, Ferdaus F. Work Life Balance and Its Influence on Physical and Mental Health Among Female Teachers of Public University in Bangladesh. Asia Pacific Journal of Medical Innovations. 2024;1(2):68-75.
32. Bk, M. & Kaphle, H. P. Breast self-examination: Knowledge, practice and associated factors among 20 to 49 years aged women in Butwal sub-metropolitan, Rupandehi Nepal. PLoS ONE 18(6), e0286676 (2023).