

A COMPARATIVE STUDY ON BREAST SELF-EXAMINATION AWARENESS AND PRACTICES AMONG EDUCATED WOMEN ACROSS VARIOUS AGE GROUPS IN THE LOCAL POPULATION OF LAHORE, PAKISTAN

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DOI: <https://doi.org/10.5281/zenodo.16869511>

Keywords

Breast Self-Examination (BSE),
Breast Cancer, Age Groups,
Educational Levels, Early
Detection

Article History

Received: 03 May, 2025

Accepted: 01 July, 2025

Published: 14 August, 2025

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Abstract

Objective: This study aimed to evaluate the level of awareness and practice of breast self-examination (BSE) among women of different educational backgrounds and age groups.

Methods: A cross-sectional survey was carried out using Google Forms distributed to women of various age brackets and educational levels. Only females aged 18 years and above with formal education were included, while uneducated participants were excluded. A total of 390 women participated in the study.

Results: Out of 390 participants, awareness of BSE was reported by 65.76% of women aged 20–30 years, 18.38% aged 30–40 years, 22.87% aged 40–50 years, 13.07% aged 50–60 years, and 6.12% aged over 60 years. Awareness was higher among women with advanced education: 4.07% had completed matriculation, 8.98% intermediate, 68.21% bachelor's, and 44.93% master's degrees.

Conclusion: The findings indicated greater awareness of BSE among younger women, with a clear positive association between educational attainment and awareness levels. However, middle-aged and older women demonstrated a higher frequency of performing BSE

INTRODUCTION

Breast cancer remains one of the leading health concerns for women in Pakistan, where early detection is critical due to the often late presentation of cases. Breast self-examination (BSE) has been promoted as an accessible, low-cost method to empower women to recognize early changes in their breast tissue. Ayesha Ahmed et al. (2018) surveyed female college students in Karachi and underscored the potential of BSE in low-resource settings, noting that one in nine Pakistani women may develop breast cancer at some point in her life (Ahmed et al., 2018).

However, despite the recognized benefits of BSE, actual knowledge and practice levels remain inconsistent across different populations. A recent study at Bahria University in Karachi evaluated awareness, knowledge, and practice of BSE among female students from various health disciplines. The findings revealed that although general awareness existed, many participants lacked comprehensive understanding of proper techniques and faced multiple barriers—such as time constraints,

discomfort, fear, and misconceptions—which hindered regular practice (Tanwir et al., 2025).

Furthermore, studies conducted in clinical settings have extended the scope of BSE research beyond student populations. Nosheen Mustafa (2025) conducted a cross-sectional study in Lahore among female patients with breast cancer, finding that overall knowledge about BSE remained low, and many used multiple treatment modalities without proper consultation or awareness of preventive practices (Mustafa, 2025). These findings highlight the continued need for targeted educational interventions to increase both awareness and correct practice of BSE across diverse educational and age groups.

1. Materials and Methods

This research employed a cross-sectional study design, which is particularly suited for assessing the prevalence of awareness and practices at a single point in time. Prior to commencement, ethical approval was obtained from the Institutional Review Board (IRB) to ensure adherence to research ethics and participant protection.

Data collection was carried out through a structured, self-administered questionnaire developed using Google Forms. The questionnaire was designed to capture demographic details, educational background, awareness of breast self-examination

(BSE), and frequency of its practice. The link to the survey was disseminated primarily through online platforms, with WhatsApp groups serving as the main distribution channel. This approach enabled efficient access to participants from diverse age groups and educational backgrounds, while ensuring geographical reach and ease of participation.

The study population comprised educated females aged 18 years and above. Women without any formal education were excluded to maintain the focus on the influence of educational attainment. Data collection was conducted over a three-month period, during which responses were continuously monitored, recorded, and verified for completeness.

Following the completion of the data collection phase, the dataset was exported to Microsoft Excel for analysis. Descriptive statistics were computed to summarize participant characteristics and awareness levels. Cross-tabulations were performed to explore potential associations between age, education, and BSE awareness or practice. Data were presented in tabular formats and visualized using pie charts and bar graphs to enhance interpretability. This methodological approach ensured a systematic assessment of the relationship between demographic factors and breast self-examination awareness and practices among the target population.

2. Results

Table 1. Awareness of Breast Self-Examination (BSE) by Age Group

Age Group (Years)	Number of Respondents	Percentage (%)
20–30	161	65.76
30–40	45	18.38
40–50	56	22.87
50–60	32	13.07
> 60	15	6.12
Total	390	100.00

Among the 390 female participants, the highest awareness of BSE was observed in the 20–30-year age group (65.76%), followed by the 40–50-year group (22.87%). Awareness declined progressively with age, with the lowest percentage (6.12%) reported among women aged above 60 years.

Table 2. Awareness of Breast Self-Examination (BSE) by Educational Level

Educational Level	Number of Respondents	Percentage (%)
Matriculation	10	4.07
Intermediate	22	8.98

Bachelors	167	68.21
Masters	110	44.93
Total	390	100.00

Out of 390 participants, awareness of BSE was highest among those with a bachelor's degree (68.21%), followed by those holding a master's degree (44.93%). Awareness was considerably lower among participants

with intermediate (8.98%) and matriculation (4.07%) education levels, indicating a positive association between higher educational attainment and BSE awareness.

Table 3. Frequency of Women Who Have Ever Performed Breast Self-Examination (BSE) by Age Group

Age Group (Years)	Number of Respondents (Yes)
20-30	161
30-40	45
40-50	56
50-60	32
> 60	15
Total	390

Among the 390 respondents, the majority of women who reported having performed BSE were aged 20-30 years (161 respondents), followed by those in the 40-50-year group (56 respondents). Participation decreased with age, with only 15 women above 60 years reporting ever performing BSE. This trend suggests that younger women are more likely to have engaged in self-examination compared to older age groups.

3. Discussion

The present study demonstrates a clear pattern in which younger women (20-30 years) and those with higher educational attainment (bachelor's and master's degrees) exhibit greater awareness of breast self-examination (BSE). This finding aligns with emerging literature from Pakistan indicating that younger, more educated women are more likely to be exposed to health information and preventive health practices. A recent survey in Rawalpindi found that university-going women demonstrated significantly higher knowledge and confidence in performing BSE compared to women from non-academic settings, largely due to better access to health awareness programs and social media health campaigns (Shah et al., 2024).

Despite this awareness advantage, the challenge of translating knowledge into consistent practice

remains evident. A study conducted in Faisalabad reported that although over half of respondents were aware of BSE, less than one-third performed it monthly as recommended, with time constraints, forgetfulness, and fear of discovering abnormalities cited as common barriers (Naeem et al., 2023). This gap between awareness and practice is also evident in our findings, where younger women dominate the "ever performed" category but without data confirming adherence to recommended monthly frequency.

Education remains a key determinant of screening behaviors. A cross-sectional study among female healthcare workers in Multan revealed that even among medically trained women, gaps in BSE technique and irregular practice persisted, highlighting the importance of structured refresher training (Aslam et al., 2023). Similarly, work in Peshawar demonstrated that targeted educational interventions—particularly those incorporating practical demonstrations—resulted in statistically significant improvements in both BSE knowledge and correct performance (Khan et al., 2024). Collectively, these findings suggest that while younger and more educated women have higher baseline awareness, sustained practice requires systematic reinforcement through health education programs integrated into workplaces, universities, and community centers.

4. Conclusion

Our findings support prioritizing education-led, behavior-change strategies that focus on technique correctness and periodicity, not awareness alone. Because the sample was online and limited to educated women, generalizability to uneducated or offline populations is constrained—a common limitation in Pakistan’s BSE literature. Future studies should (i) measure **frequency and correctness** of BSE, not only awareness or “ever performed,” and (ii) test brief, scalable interventions (digital nudges, peer-led demonstrations) across diverse educational strata.

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