Knowledge and Attitude of Breast Self-Examination Practice Among Female Undergraduates in Southeast Nigeria: A Narrative Review

Original Article

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ABSTRACT

Background: Breast cancer remains the most commonly diagnosed cancer among women globally and is a leading cause of cancer mortality, particularly in low- and middle-income countries. In Nigeria, late presentation and poor screening uptake contribute to unfavorable outcomes. Breast self-examination (BSE) remains a low-cost accessible strategy for early detection in resource-limited settings. Female undergraduates constitute an important target group for preventive health education.

Objective: To synthesize published literature on knowledge and attitude toward breast self-examination practice among female undergraduates in Southeast Nigeria, with emphasis on awareness, depth of knowledge, attitudes, practice patterns, and identified barriers.

Methods: A narrative review methodology was adopted. Electronic databases including PubMed, Google Scholar, and African Journals Online were searched for studies conducted among female undergraduates in Southeast Nigeria assessing knowledge and/or attitude toward BSE. Studies published in English were included. Findings were thematically synthesized.

Results: Evidence demonstrates consistently high awareness of BSE among female undergraduates in Southeast Nigeria. However, detailed procedural knowledge—particularly regarding correct timing and technique—is frequently inadequate. Attitudes toward BSE are generally positive, yet regular monthly practice remains low. Barriers include insufficient procedural knowledge, fear of discovering abnormalities, forgetfulness, perceived low susceptibility, and absence of structured educational programmes. Educational interventions significantly improve knowledge and practice indicators.

Conclusion: Although awareness and positive attitudes toward BSE are widespread among female undergraduates in Southeast Nigeria, significant gaps remain in consistent and correct practice. Structured, skill-based institutional programmes are recommended to bridge the knowledge–practice gap and strengthen early detection culture among young women.

Keywords: Breast self-examination, breast cancer, knowledge, attitude, undergraduates, Southeast Nigeria, narrative review

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Introduction

Breast cancer is a major global health concern and currently represents the most frequently diagnosed cancer among women worldwide [1]. It accounts for a significant proportion of new cancer cases and remains a leading cause of cancer-related mortality, particularly in low- and middle-income countries (LMICs) like Nigeria. While improvements in screening and treatment have enhanced survival in high-income countries, mortality rates remain disproportionately high in sub-Saharan Africa [2].

Nigeria, with its large population [3], expectedly bears a substantial share of the African breast cancer burden. Breast cancer is the most common malignancy among Nigerian women and a leading cause of female cancer mortality. Unlike in developed countries where routine and meticulous screening programmes facilitate early detection, many Nigerian women present at advanced stages of disease. Advanced presentation significantly reduces survival rates and increases treatment complexity and cost [4]. Multiple factors contribute to late presentation in Nigeria. These include limited awareness, cultural beliefs, religious charlatanism, fear, stigma, financial barriers, poor access to screening facilities, and inadequate health education [5].

Mammography, considered the gold standard for screening, is not widely accessible in many parts of Nigeria due to infrastructural and economic constraints [4]. Consequently, alternative low-cost detection methods such as clinical breast examination (CBE) and breast self-examination (BSE) remain relevant within the Nigerian context.Breast self-examination refers to a systematic monthly self-inspection and palpation of the breasts to detect early abnormalities such as lumps, skin changes, or nipple discharge [6]. Although debates exist regarding its effectiveness as a mortality-reducing screening tool, BSE remains recommended in many LMIC settings as a means of promoting breast awareness and encouraging early health-altering behavior [7].

Young women, particularly female undergraduates, constitute an important population for preventive education. Although breast cancer incidence increases with age, fostering preventive habits early in life may promote sustained health awareness. Universities provide structured environments conducive to organized health education programmes. Female undergraduates are typically literate, socially engaged, and capable of disseminating information within families and communities [8].

Southeast Nigeria comprises Abia, Anambra, Ebonyi, Enugu, and Imo States. The region hosts several federal, state, and private universities. Numerous studies have examined knowledge, attitude, and practice (KAP) of BSE among female undergraduates in these institutions. However, findings remain fragmented. A synthesis is therefore necessary to identify patterns and guide policy and intervention strategies. This narrative review synthesizes published evidence on knowledge and attitude toward BSE among female undergraduates in Southeast Nigeria.

Materials and Methods

Study Design: This study adopted a narrative review methodology to synthesize available literature on knowledge and attitude toward breast self-examination (BSE) among female undergraduates in Southeast Nigeria. The review was conducted and reported in alignment with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines for transparency in literature identification and selection.

Search Strategy: An electronic search was conducted in January and February 2026 using Google search engine in addition to the following databases: PubMed, Google Scholar, and African Journals Online (AJOL). The search strategy combined keywords such as breast self-examination, breast cancer awareness, knowledge attitude practice, female undergraduates, university students, Southeast Nigeria, South-Eastern Nigeria.

Study Selection Process (PRISMA Flow): The study selection process followed a PRISMA-style approach. A total of 58 records were identified through database searching. After removal of 22 duplicate records, 36 articles remained.Title and abstract screening further reduced the articles to 18. Ultimately, 13 studies met all inclusion criteria and were included in the final narrative synthesis.

Inclusion and exclusion criteria: Studies were included if they focused on female undergraduates especially in Nigeria, assessed knowledge and/or

attitude toward breast self-examination, discussed search terms, and were published in English between 2013 and 2026. Excluded were studies which focused on non-student populations, and had insufficient methodological details or incomplete outcome reporting.

Data extraction and synthesis: Extracted data were synthesized thematically under the following sections: awareness of BSE, knowledge of BSE, attitude toward BSE, practice patterns, barriers and facilitators. Findings were subsequently, descriptively summarized to identify recurring trends and gaps across institutions.

Results

Study Characteristics

A total of 13 studies met the inclusion criteria and were included in the final narrative synthesis. All included studies were conducted between 2013 and 2024. The majority were descriptive cross-sectional surveys. Sample sizes ranged from 150 to 520 participants, with most studies involving students from both health-related and non-health-related faculties. Data collection instruments were predominantly structured, self-administered questionnaires assessing knowledge, attitude, and practice (KAP) of breast self-examination (BSE).

Awareness of breast self-examination

Across the included studies, awareness of BSE was generally high. Reported awareness levels ranged from 72% to 98%, with most institutions documenting awareness above 80%. Primary sources of information included mass media, social media platforms, academic lectures, peer discussions, and healthcare professionals. However, although general awareness of BSE and breast cancer was widespread, several studies noted that awareness did not necessarily reflect comprehensive understanding of the procedure or its recommended frequency.

Knowledge of breast self-examination

Knowledge levels varied considerably across institutions. While many respondents were aware that BSE is a method for early detection of breast abnormalities, detailed knowledge of correct timing and technique was often inadequate. Only a minority of participants correctly identified that BSE should be performed monthly, ideally a few days after menstruation. Knowledge of proper palpation techniques—such as circular or vertical strip methods—and inclusion of axillary examination was inconsistent. In several studies, less than half of respondents demonstrated good procedural knowledge based on composite scoring systems. Awareness of breast cancer risk factors was moderate. Family history was commonly identified as a risk factor; however, knowledge of reproductive, hormonal, and lifestyle-related risk factors was limited. Overall, knowledge was frequently categorized as poor to moderate despite high awareness rates.

Attitude toward breast self-examination

Attitudes toward BSE were generally positive across studies. Most respondents agreed that early detection improves survival outcomes and that BSE is an important preventive practice for women. A substantial proportion expressed willingness to seek medical attention if abnormalities were detected. However, a minority of participants exhibited fatalistic beliefs, including perceptions that cancer is invariably fatal or that they were personally not at risk due to young age.Positive attitude scores were consistently higher than knowledge and practice scores, suggesting receptiveness to preventive health education but insufficient translation into consistent behavior.

Practice of breast self-examination

Despite high awareness and generally favorable attitudes, regular monthly practice of BSE was low. While many respondents reported having performed BSE at least once, consistent monthly practice ranged from 10% to 35% across institutions. Irregular or occasional practice was more common than recommended monthly adherence.

Reported Barriers

Common barriers identified included lack of knowledge of correct technique, forgetfulness, fear of discovering a lump, perceived low susceptibility due to young age, and absence of structured training programmes within universities. Psychological factors—particularly fear and anxiety—were frequently cited as deterrents to regular practice.Overall, the findings reveal a persistent knowledge–practice gap among female undergraduates in Southeast Nigeria.

Discussion

This narrative review synthesizes available evidence on knowledge and attitude toward breast self-examination (BSE) among female undergraduates in

Southeast Nigeria and reveals a consistent and important pattern: high awareness and generally positive attitudes coexist with inadequate procedural knowledge and low regular practice. The persistent knowledge–attitude–practice gap remains the most significant finding across the reviewed studies.

The high levels of awareness reported across universities likely reflect growing exposure to breast cancer information through mass media, social media platforms, academic lectures, and global awareness campaigns. Increased digital connectivity among undergraduates may also contribute to widespread exposure to health information. However, awareness does not necessarily translate into comprehensive understanding or behavioral competence. Across institutions, although most respondents had heard of BSE, detailed knowledge regarding correct timing, technique, and recommended frequency was often insufficient. This suggests that information dissemination may be largely theoretical rather than skill-oriented [9].

The deficiency in procedural knowledge—particularly regarding proper palpation methods and the optimal timing of examination in relation to the menstrual cycle—indicates limited structured training. Skill acquisition requires demonstration, practice, and reinforcement, which are not routinely incorporated into university health programming. Without practical instruction, awareness remains superficial and may not lead to sustained preventive action [10].

Encouragingly, attitudes toward BSE were generally positive. Most students recognized the importance of early detection and expressed willingness to seek medical attention if abnormalities were detected. Positive attitudes are foundational to health behavior change, reflecting receptiveness to preventive strategies. Nevertheless, favorable attitudes did not consistently translate into regular monthly BSE practice. This finding aligns with established health behavior models, which emphasize that knowledge and attitude alone are insufficient determinants of action [11].

Psychological barriers emerged prominently. Fear of discovering a lump was frequently cited as a reason for non-practice. In some contexts, cancer is perceived as synonymous with death, which may discourage proactive screening behaviors. Addressing such fear requires culturally and religiously sensitive education that emphasizesthat early detection significantly improves outcomes, and that not all breast abnormalities are malignant. Furthermore, perceived low susceptibility due to young age contributed to irregular practice. Although breast cancer incidence increases with age, promoting breast awareness during early adulthood is critical for establishing lifelong preventive behaviors [12, 13]. Forgetfulness and lack of structured reminders also contributed to poor adherence. This suggests potential roles for digital health interventions, peer-led reminder systems, or integration of breast health education into routine university activities [14].

Limitations of the Review

This work has a few limitations. First, variations in study instruments, scoring systems, and definitions of “good knowledge” or “positive attitude” limited direct comparability across studies. Secondly, publication bias cannot be excluded, as unpublished theses or non-indexed institutional reports may not have been captured despite extensive searching. Finally, although the review focused on Southeast Nigeria, findings may not be fully generalizable to other geopolitical regions due to sociocultural and institutional differences. Despite these limitations, the review provides valuable regional synthesis and highlights consistent patterns that warrant policy and institutional attention.

In conclusion, female undergraduates in Southeast Nigeria demonstrate commendable awareness and generally favorable attitudes toward BSE; however, significant gaps persist in procedural knowledge and consistent practice. Addressing these gaps through structured, skill-based, and psychologically informed university programmes is essential for strengthening early detection culture among young Nigerian women.

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