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Breast Self-Examination for Prevention and Early Detection of Breast Cancer: Insights into Knowledge, Attitudes, and Practices (KAP) – A Review

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Abstract

Breast Self-Examination (BSE) is a low-cost, non-invasive technique for breast health awareness, historically promoted for the early detection of breast cancer. While major international guidelines (e.g., U.S. Preventive Services Task Force, WHO) have shifted towards emphasizing mammographic screening and clinical breast examination (CBE), citing a lack of mortality benefit and potential harms from BSE, knowledge of and attitudes towards BSE remain significant public health issues, particularly in low-resource settings. This review synthesizes global evidence on the knowledge, attitudes, and practices (KAP) related to BSE. Findings indicate that while **knowledge** of BSE is often moderately high, accurate understanding of correct technique, timing, and risk factors is generally poor. **Attitudes** are predominantly positive, with women viewing BSE as empowering and a vital component of self-care. However, **practice** rates remain low and irregular, hindered by barriers including fear of discovering a lump, lack of confidence in technique, cultural taboos, and competing priorities. Significant disparities exist based on geography, socioeconomic status, education, and healthcare access. The review concludes that BSE should be reframed not as a standalone screening tool but as a critical component of **Breast Self-Awareness (BSA)**, empowering women to know their own breasts and promptly report changes to a healthcare provider. Future efforts should focus on culturally sensitive, structured education to improve technique and encourage appropriate help-seeking behavior, integrating BSA into broader cancer control strategies.

Keywords: Breast Self-Examination, Breast Awareness, Breast Cancer, Early Detection, Knowledge, Attitudes, Practices, Health Education, Global Health.

1. Introduction

Breast cancer is the most commonly diagnosed cancer and a leading cause of cancer mortality among women worldwide [1]. Early detection remains a cornerstone of improving survival outcomes. Breast Self-Examination (BSE), defined as a systematic monthly palpation and visual inspection of one's own breasts, was once widely promoted as a primary screening method. Contemporary evidence from randomized controlled trials, however, has not demonstrated a reduction in breast cancer mortality attributable to BSE, while noting an increase in benign biopsies and patient anxiety [2]. Consequently, major guidelines in high-income countries no longer recommend routine teaching of BSE for average-risk women.

Despite this policy shift, BSE remains a topic of significant global interest and practice. In low- and middle-income countries (LMICs) with limited access to mammography, BSE is often a pragmatic component of early detection programs [3]. Furthermore, the concept of **Breast Self-Awareness (BSA)**—which encourages familiarity with the normal look and feel of one's breasts to detect any changes—has evolved from BSE and is broadly endorsed. Understanding the Knowledge, Attitudes, and Practices (KAP) surrounding BSE is crucial for designing effective health education, improving health-seeking behavior, and tailoring public health messages across diverse cultural and resource settings. This review examines the global landscape of BSE KAP, identifies barriers and facilitators, and discusses its evolving role in breast cancer control.

2. Knowledge of Breast Self-Examination

2.1. Awareness and Source of Information

Studies across diverse populations consistently report a **high level of general awareness** of BSE as a concept. However, this awareness is often superficial. Common sources of information include mass media (TV, radio), healthcare providers, and social networks, though the depth and accuracy of information from non-clinical sources are frequently inadequate [4].

2.2. Deficits in Accurate Knowledge

Critical knowledge gaps are prevalent:

- **Technique:** Many women lack knowledge of the proper method, including the use of finger pads, systematic coverage of all breast tissue (including the axillary tail), and the correct circular pressure patterns.
- **Timing:** Knowledge of the optimal time for BSE (5-7 days after the onset of menstruation for premenopausal women) is often poor.
- **Risk Factors:** Understanding of non-lump symptoms (e.g., skin dimpling, nipple retraction, discharge) and personal risk factors beyond family history is limited.
- **Purpose:** Confusion persists between BSE as a screening/awareness tool versus a diagnostic tool.

3. Attitudes Towards Breast Self-Examination

3.1. Generally Positive Perceptions

Attitudinal studies reveal that BSE is widely viewed in a **positive light**. Women commonly perceive it as:

- **Empowering:** Providing a sense of control over one's health.
- **Important/Vital:** A necessary part of self-care and cancer prevention.
- **Convenient:** A private, cost-free method that can be done at home [5].

3.2. Negative Attitudes and Perceived Barriers

Despite positive views, negative attitudes act as significant deterrents:

- **Fear and Anxiety:** Fear of discovering cancer, anxiety about the procedure, and worry about a "bad" result are powerful psychological barriers.
- **Fatalism:** Beliefs that cancer is predestined or invariably fatal can diminish motivation.
- **Embarrassment and Modesty:** Cultural and religious norms regarding body touching, particularly of the breasts, can inhibit practice, especially among younger and unmarried women [6].

4. Practices of Breast Self-Examination

4.1. Prevalence and Regularity

Reported **practice rates are consistently lower than knowledge and positive attitude rates**. While many women report having "ever performed" BSE, the proportion who practice it **monthly and correctly** is alarmingly low, often below 20-30% in both high- and low-income settings [7]. Practice is frequently irregular and prompted by symptoms rather than as a routine screening behavior.

4.2. Correlates and Predictors of Practice

Socio-demographic and healthcare access factors strongly influence BSE practice:

- **Higher Practice Rates Associated With:** Higher education, higher income, urban residence, family history of breast cancer, exposure to BSE education (especially from a healthcare provider), and having health insurance [8].

- **Lower Practice Rates Associated With:** Rural residency, lower socioeconomic status, older age, and lack of access to clinical services.

5. Disparities and the Global Context

The KAP of BSE varies dramatically by global region and resource setting.

- **High-Income Countries:** Despite guideline changes, BSE practice persists, often driven by historical health messaging. The focus has shifted to BSA, encouraging symptom awareness without mandating a monthly routine.

- **Low- and Middle-Income Countries (LMICs):** BSE is often a cornerstone of national cancer control plans due to the scarcity of mammography. Here, improving KAP is a critical public health priority to downstage disease at presentation [3]. Cultural beliefs and healthcare system barriers are particularly pronounced.

6. From BSE to Breast Self-Awareness (BSA): The Evolving Paradigm

The limitations of structured, monthly BSE have led to the promotion of a more flexible concept: **Breast Self-Awareness (BSA)**. BSA emphasizes:

- ❖ Knowing one's normal breast appearance and feel.

- ❖ Recognizing any new changes (lump, pain, skin changes, nipple discharge).

- ❖ Promptly reporting such changes to a healthcare provider without delay. This model reduces the anxiety of a "perfect technique" and focuses on empowerment and appropriate help-seeking, which is the ultimate goal of any early detection strategy [9].

7. Implications for Public Health and Clinical Practice

- ❖ **Structured, Culturally Competent Education:** Health promotion must move beyond raising awareness to teaching *correct technique and risk awareness*. Education should be delivered by trained providers (nurses, community health workers) and tailored to local cultural norms.

- ❖ **Integration into Healthcare Encounters:** Routine health visits (e.g., family planning, postnatal care) present opportunities for providers to demonstrate BSE/BSA and address fears.

- ❖ **Leveraging Community and Digital Channels:** Peer-led education and accurate information dissemination via social media and mobile health apps can enhance reach and reinforcement.

- ❖ **Focus on High-Risk and Underserved Groups:** Targeted interventions are needed for rural populations, women with low literacy, and those with strong cultural barriers.

- ❖ **Policy and Guidelines:** National health policies in LMICs should integrate BSA education into primary healthcare systems, ensuring it is linked to functional referral pathways for diagnosis.

8. Conclusion

Knowledge of BSE is widespread, attitudes are largely favorable, but correct and regular practice remains low globally. The barriers are multifaceted, encompassing knowledge deficits, psychological fears, cultural norms, and systemic inequities. While BSE is not an evidence-based screening tool for reducing mortality, its value lies in its role as a gateway to **Breast Self-Awareness**. Effective public health strategy should deprioritize the rigid, monthly exam and instead promote comprehensive education that empowers women to understand their bodies, recognize changes, and

seek timely medical evaluation. In this context, improving the KAP of breast awareness remains a vital, cost-effective component of a comprehensive breast cancer control strategy, especially in resource-constrained settings where it may represent the first and only line of early detection.

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