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A Systematic Review of Women's Knowledge and Practices Regarding Breast Self-Examination

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ABSTRACT

Globally, breast cancer is the primary cause of death. Non-pharmacological therapy involving knowledge and practice of breast self-examination (BSE) is a straightforward, incredibly affordable, non-invasive initial diagnostic technique for early breast cancer diagnosis. The objective of this study is to examine women's knowledge and practices about breast self-examination. The method is a systematic review using PRISMA. Data sourced from searches in PubMed, ScienceDirect, and Google Scholar were conducted to identify relevant published studies. The data was restricted to English-language articles on women's knowledge and practice of breast self-examination published during the previous five years. The results show 15 articles that explain the knowledge and practice of breast self-examination carried out by women. The majority of women have heard of BSE but do not fail to carry out BSE regularly every month. The majority of evaluated studies demonstrated a notable correlation between participants' knowledge of breast cancer and their age, marital status, and level of education. The conclusion is that women's knowledge and practice of breast self-examination are still lacking. Hence, it is imperative to develop techniques that might enhance the awareness and adoption of breast self-examination. Although breast self-examination is generally part of a prevention and monitoring strategy, it does not replace medical or pharmacological care. The contribution of this study is to provide information that breast self-examination has several important contributions in the context of breast health and early detection of breast cancer.

Keywords: Breast Self-Examination, Knowledge, Practice, Women's Health, Breast Care

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1. INTRODUCTION

Breast cancer is a critical disease in developing and developed countries (Barrios, 2022; Huang et al., 2021; Wilkinson & Gathani, 2022). It is the leading type of cancer among women, and the risk increases with age (Daly et al., 2021; Francies et al., 2020; Konat-Bąska et al., 2020). The main factors that elevate the likelihood of breast cancer in women are certain hereditary genetic alterations, family and personal history of breast cancer, and biopsy-confirmed hyperplasia (Feng et al., 2018; Urban et al., 2023).

The most frequent cancer in the world and the second largest contributor to cancer-related mortality among women is breast cancer (BC). By 2020, there will likely be over 42,000 predicted deaths and 276,480 estimated new cases, accounting for 30% of all malignancies in women (Siegel et al., 2020). The WHO reports that in 2020, 685,000 deaths worldwide were linked to breast cancer, and 2.3 million women got a diagnosis of the disease (Lei et al., 2021).

Prioritizing early detection and improving breast cancer survival is essential to lowering the disease's rising death rate, which is expected to reach 112,000 fatalities by 2040 (Ferlay et al., 2021). Early detection and diagnosis using screening techniques such as clinical breast examination (CBE), mammography, and breast self-examination (BSE) can lead to the cure of breast cancer (Seifu & Mekonen, 2021). Early detection of breast cancer is the most effective strategy for managing the disease, which can lead to reducing associated death and illness (Figueroa et al., 2021; Ginsburg et al., 2020; Sarker et al., 2022). Breast self-examination (BSE) is a noninvasive monthly technique that an individual performs to assess whether their breasts are normal and to identify any changes so that they can seek medical attention as soon as possible (Udoh et al., 2020).

Knowledge BC symptoms, BSE protocols, and BSE techniques entails knowing these things (Reddy et al., 2024; Sayed et al., 2024). Research indicates that understanding BSE can help in early BC detection (Asmare et al., 2022). Understanding BSE may also have an impact on BSE behavior and mindset (Dinegde et al., 2020). By practicing BSE, a person learns about the anatomy of her breasts and assumes responsibility for her health, as any irregularity must be promptly diagnosed and treated (Black & Richmond, 2019; Nemenqani et al., 2014).

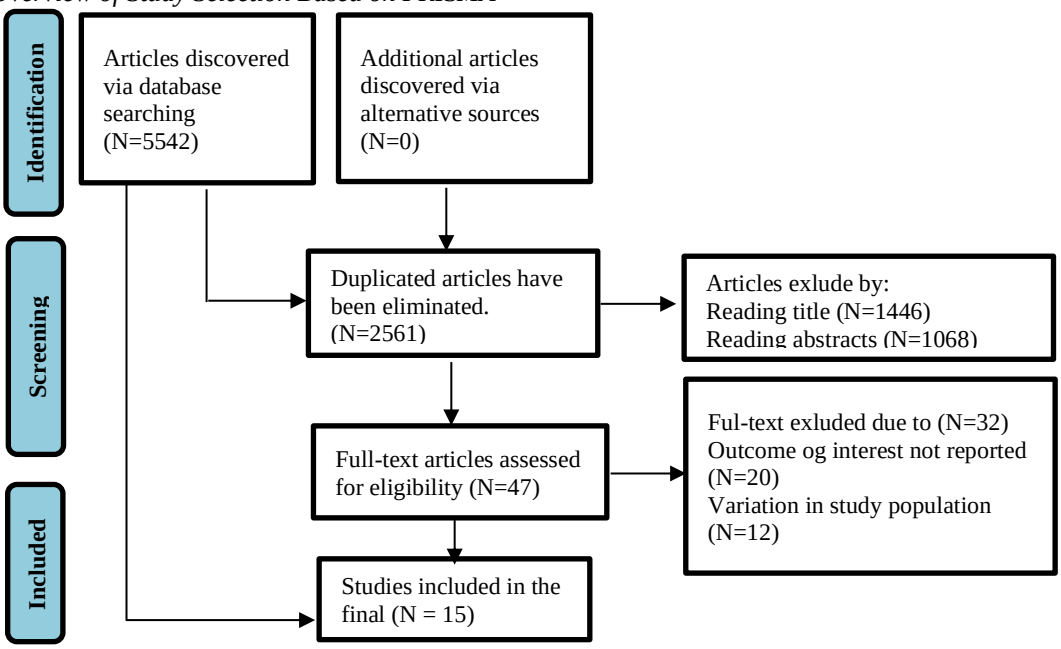
Studies by Apatić & Lovrić (2023), the majority of participants (62.9%) thought they had no chance of getting breast cancer (BC). 459 (19%) of the sample said they perform a BSE once a month following the end of their menstrual cycle. 521 people (46.8%) claimed they forgot to do the BSE, while 363 people (32.6%) said they were unsure of how to do it. The knowledge questions (with a response range of 0–5) had a mean ± standard deviation value of 1.04±0.63. The majority of participants (98.6%) said that BSE is crucial for the early identification of BC, and 96.9% thought that BSE knowledge could be raised.

Based on a preliminary study of 5 articles by Gaw et al. (2020), Abo Al-Shiekh et al. (2021), Ishtiak et al. (2022), Manisha & Kaphle (2023), and Alshafie et al. (2024), all articles used the Cross-sectional method. As a novelty, the difference between this study and other studies is the method. This study uses systematic reviews. Our objective in conducting this systematic study is to investigate women's knowledge, screening practices, and practices related to breast self-examination. Because this training makes the interview process easier for women, it can greatly ease the shift from program implementation to individual implementation.

2. METHOD

The method employed is a systematic review utilizing the Preferred Reporting Items for Systematic Reviews (PRISMA) guidelines. Relevant published studies were identified by searching data collected from Google Scholar, ScienceDirect, and PubMed. The search was restricted to studies published in the English language within the past five years, focusing on the knowledge and practice of women regarding breast cancer screening. The search was conducted using Medical Subject Headings (MeSH) as the basis for the keywords. The search terms used were "Breast Self-Examination", "Practice", "Knowledge" and "Breast cancer". The diagram presented in Figure 1 provides a concise summary of the study selection process, as guided by the PRISMA guidelines.

Figure 1
Overview of Study Selection Based on PRISMA



Only studies that provided quantitative proof of knowledge and breast self-examination practice were included in the analysis. The method of selecting the retrieved articles is depicted in Figure 1. PRISMA guidelines were followed when conducting our review. In the first database search, 5542 published studies in the English language were found. After reading the abstracts of the remaining 1068 research, 1021 publications were deemed duplicates, did not follow a cross-sectional study design, or were published before to 2019. 32 of the remaining 47 studies were disregarded because they only had partial information and were done on medical practitioners. There were 15 cross-sectional study designs carried out.

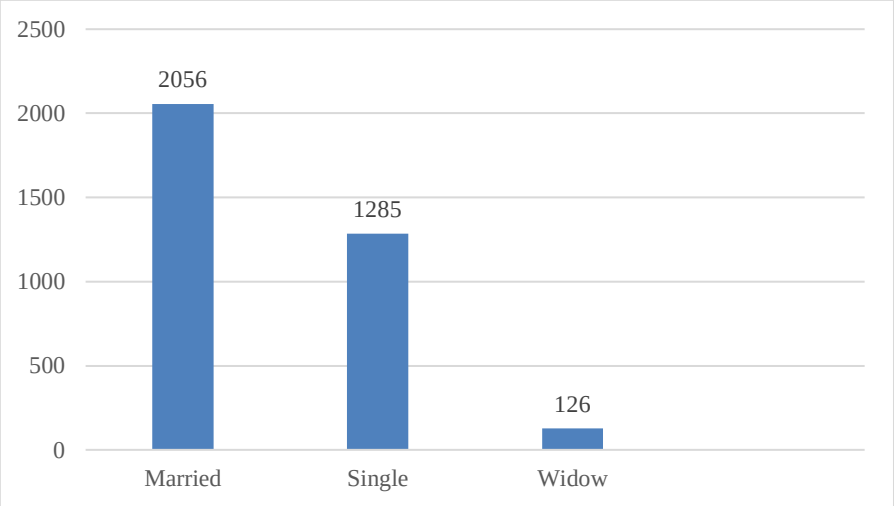
Inclusion criteria for data selection are Cross-sectional, English-language studies published from 2020 to 2024 on knowledge and practice of breast self-examination. Exclusion criteria for data selection are Case studies, case series, past reviews, qualitative research on the screening uptake for breast cancer, articles done among health professionals, and articles published in languages other than English.

3. RESULTS AND DISCUSSION

3.1. Results

The review contained fifteen studies that satisfied the inclusion criteria. In all, 4960 women between the ages of 18 and 60 participated in these research, which were conducted as 15 separate studies (Table 1) of the 11 articles there are 2056 married, 1285 single and 126 widow (Figure 2).

Figure 2
Marital Status



Of the 15 studies that have been reviewed, the overall research results show that there is a significant relationship between knowledge and BSE practices with a p value of <0.005. There are four primary sections in which the statistical analysis results are provided. The baseline characteristics of the studied sample are assessed in the first section, knowledge level of BSE is assessed in the second, students' attitude level of BSE is assessed in the third, and students' practice level of BSE is assessed in the fourth section. (Gaw et al., 2020; Ishtiak et al., 2022)

Of the 5 research results, 921 (47.6%) had good knowledge about awareness, 87 (4.50%) had moderate knowledge and 926 (47.9%) had low knowledge. (Agbo et al., 2012; Alshafie et al., 2024; Gaw et al., 2020; Ishtiak et al., 2022; Jadhav et al., 2024)

Table 1
Lists the Result from A Systematic Review Search (N=15)

Author(s), Year	Area Study	Design	Participant	Sampel	Result
Gaw et al. (2020)	Saudi Arabia	Cross-sectional	Female students at KSU	422	"Knowledge of BC (57.4%). only 18%of all respondents perform BSE."
Abo Al-Shiekh et al. (2021)	Gaza	Cross-sectional	Students enrolled in the nursing and clinical nutrition programs at	86	"Knowledge: General knowledge about BC (Low knowledge 59 (68,6%), Good knowledge 27 (31,4%). Knowledge about risk factors (Low

			academic levels IV and III.		knowledge 39 (45,3%) good knowledge 47 (54,7%). Knowledge about signs and symptoms (Low knowledge 10 (11,6%), good knowledge 76 (88,4%). Knowledge abaout mammography and CBE (Low knowledge 66 (76,7%), good knowledge 20 (23,3%). Practicing BSE: low practice 67 (77,9%), good practice 19 (22,1%)."
Paruchuri et al. (2021)	Malaysia	Cross-sectional	Female students in a private university	309	"304 students (98.4%) have heard of breast cancer. practice BSE, yes 85 (27.5 %), No 224 (72,5%)."
Fouelifack et al. (2021)	Yaounde, Cameroon	Cross-sectional	Women older than 15 years	402	"Heard of BSE: Yes 201 (50%), No 201 (50%), Practice BSE: Yes 140 (34.8), No 262, (65.2)."
Ishtiak et al. (2022)	Bangladesh	Cross-sectional	Female students who are eighteen years old and attend four universities	400	"Knowledge about BSE. Present 242 (60.5) Absent, 108 (54.0). Practice about BSE: Never 192 (79.3), At least once a year 50 (20.7), Once a month 18 (7.4)."
Ismail et al. (2022)	Malaysia	Cross-sectional	Women 18-50 years old	235	"Level of knowledge: Low 5 (14.3%), Moderate 86 (56.6%), High 43 (89.6%). Respondents Practice."
Ahmad et al., (2022)	Jordan	Cross-sectional	Women between the ages of 20 and 60 who reside in Jordan.	200	"73 participants (36.5%) don't practice BSE; however, 53 participants (26.5%) plan to practice BSE in the future monthly."
Manisha & Kaphle (2023)	Nepal	Cross-sectional	Women aged 20–49 years	262	"Level knowledge: Good 117 (44,7%), Poor 145 (55,3%). Practicing BSE: Yes 71 (27,1) No 191 (72,9%)."
Hussen et al. (2023)	Southeastern Ethiopia	Cross-sectional	Females in the reproductive age group	836	"Not knowledgeable 260 (31.2), 576 (68.8%) Practicing BSE, No 726 (86.4), Yes 110 (13.2 %)."
Jobran et al. (2023)	Palestinian	Cross-sectional	Female students enrolled in Palestinian universities at academic levels I to IV.	467	"l knowledge level: Good 146 (31.3), Low 321 (68.7). Good practice 19 (4.1) low practice 448 (95.9)."
Mohammed et al. (2023)	Sudan	Cross-sectional	Medical student	295	"Three-quarters (n=222; 75.3%) of the 295 respondents in this study

					practiced BSE."
Awogbayila et al. (2023)	Nigeria	Cross-sectional	Woman in market	335	"184 (54.93%) and 151 (45.07%) of the respondents had good and poor knowledge. The majority (139, 41.49%) of the respondents had poor BSE practice."
Wolde et al. (2023)	Kigali, Rwanda	Cross-sectional	Women healthcare practitioners in four district hospitals	221	"Breast self-examination was practiced by 43.5% of female healthcare professionals. This prevalence is low compared to other studies."
Alshafie et al. (2024)	Syria	Cross-sectional	Woman diagnosed with cancer	500	"Five hundred patients were interviewed. Only 27.4% of patients had a good knowledge of BSE, 17.4% had average knowledge, and 55.2% had low knowledge of BS."
Jadhav et al. (2024)	India	Cross-sectional	Women (Mn age=26.63) from two rural localities of Vellore district	412	"Knowledge of BSE: Adequate 173 (42.0), Inadequate, 239 (58.0). Practice of BSE: Good 43 (10.4), poor 369 (89.6)."

3.2. Discussion

Based on the Table 1 of 15 studies, the total number of respondents was 5382 people, the average knowledge about BSE and breast cancer is still low. 1 study conducted in a hospital (Wolde et al., 2023). A low prevalence of breast self-examination was seen among medical practitioners. Breast self-examination and attitudes on breast cancer were favorably correlated with BSE practice (Apatić & Lovrić, 2023; Getu et al., 2022). Furthermore, there was a favorable correlation between attitude and knowledge (Asmare et al., 2022; Jadhav et al., 2024; Khalip et al., 2021; Zhang et al., 2021).

Research conducted on students that "General knowledge about BC (Low knowledge 59 (68,6%), Good knowledge 27 (31,4%). Knowledge about risk factors (Low knowledge 39 (45,3%) good knowledge 47 (54,7%). Knowledge about signs and symptoms (Low knowledge 10 (11,6%), good knowledge 76 (88,4%). Knowledge abaout mammography and CBE (Low knowledge 66 (76,7%), good knowledge 20 (23,3%)." by Abo Al-Shiekh et al. (2021). "Knowledge of BC (57.4%), only 18% of all respondents perform BSE." by Gaw et al. (2020). "Knowledge about BSE. Present 242 (60.5). Absent 108 (54.0). Practice about BSE: Never 192 (79.3), At least once a year 50 (20.7), Once a month 18 (7.4)." by Ishtiak et al. (2022). "Three-quarters (n=222; 75.3%) of the 295 respondents in this study practised BSE." by Mohammed et al. (2023). "304 students (98.4%) have heard of breast cancer. practice BSE, Yes 85 (27.5 %), No 224 (72,5%)" by Paruchuri et al. (2021).

Breast self-examination is advisable to perform in developing countries because it is a non-invasive procedure that is simple, cheap and effective and does not require special equipment, however, there are still many who do not carry out breast self-examination regularly, this is because they have low awareness (Paruchuri et al., 2021), no one tells patients about awareness (Alshafie et al., 2024) 67.6% do not agree to do awareness because it is a waste of time (Gaw et al., 2020).

Female healthcare providers frequently identified smoking (80.5%) and a family history of breast cancer (84.6%) as risk factors. Less than half of the participants were aware of nulliparity, having a first child later in life, early menarche, and late menopause. About 55% of respondents said that continuing to breastfeed does not increase the risk of BC (Wolde et al., 2023).

According to Hussen et al. (2023), 576 (68.8%) respondents or the majority knew enough about breast cancer screening. The two main sources of information are radio and television 98 (56,6%), Health care providers 56 (42.7%,), Internet 61 (46.6%) (Manisha & Kaphle, 2023).

Approximately 73 participants did not perform BSE activities; furthermore, 30 percent of participants had never performed BSE activities previously, and 14 percent did not have the motivation to practice BSE in the past. Conversely, 16.5% of respondents practice BSE every month (Ahmad et al., 2022) Out of the 295 responders in this survey, 75.3 percent (n = 222) practiced BSE because they did not

want to receive a BC diagnosis. Because they understand the benefits of BSE, the majority of responders (74.9%) practiced it. A limited percentage of responders (n=95; 32.3%) practiced BSE due to a family history of BC (Mohammed et al., 2023).

4. CONCLUSION

The level of knowledge and adherence to breast self-examination among women remains insufficient. Thus, there is a need for strategies to increase the level of knowledge of breast self-examination implementation because breast self-examination is one of the most feasible strategies in the early detection of breast cancer if applied correctly. In the context of breast cancer, breast self-examination knowledge and practice play an important role as part of a non-pharmacological therapeutic approach. Non-pharmacological therapy through breast self-examination knowledge means providing information and education to women in the early detection of breast cancer. Breast self-examination is often a component of a preventive and monitoring approach but does not replace medical or pharmacological therapy.

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