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KNOWLEDGE, ATTITUDE AND PRACTICE OF BREAST SELF-EXAMINATION AMONG FEMALE SECONDARY SCHOOL STUDENTS IN IBADAN SOUTH-WEST LOCAL GOVERNMENT AREA, OYO STATE

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Abstract

Breast self-examination (BSE) remains a useful tool in early diagnosis of breast cancer, the most common cancer in women, the leading cause of cancer death in women. The objectives of the study were to examine the knowledge, attitude and practice of BSE amongst female secondary school students in Ibadan South-West Local Government Area. A descriptive research design of survey type was employed, with sample of 420 respondents from students in seven female secondary schools in Ibadan South-West Local Government Area using multistage sampling procedure. The instrument for the study was a researcher-designed questionnaire which was validated and tested for reliability which generated a coefficient of 0.81 through split half method using Cronbach alpha. Inferential statistics of Chi-Square was used to analyze the postulated null hypothesis at 0.05 alpha level. The findings from this study revealed that female secondary school students possess substantial knowledge about BSE (cal χ^2 = 212.86 > tab χ^2=18.31); have positive attitude towards BSE (cal χ^2 = 208.46 > tab χ^2= 25.00); and, practice BSE (cal χ^2 = 423.96 > tab χ^2= 25.00). The study concluded that female secondary school students in Ibadan South-West Local Government Area have substantial knowledge of BSE, have positive attitude towards BSE and the practice of BSE is common among them. It was recommended that educational institutions should incorporate more detailed and practical BSE training sessions, ensuring students are well-equipped with the necessary skills and information to perform BSE correctly and confidently.

Keywords: Knowledge, Attitude, Practice, Breast self-examination and Students

Introduction

Breast cancer is rising more rapidly nowadays especially amongst countries like Nigeria that enjoyed low incidence of the disease. Breast cancer is a major health problem in the world. It is the most common cancer in women and is equally the leading cause of cancer death in women. The most effective way of reducing the mortality rate caused by breast cancer is early detection of the diseases. Breast self-examination remains one of the cheapest yet effective means of detection of breast cancer. Breast cancer is a type of malignant tumor that starts in the cells of the breast and commonly occurs in women (Akram et al., 2017). This abnormal cell could destroy healthy tissue and then, spread beyond its usual boundaries (Milosevic et al., 2018). The most common risk factors of breast cancer are being a woman and getting older than 50 years old, having dense breasts, having a family history of breast cancer, early menstruation, and late menopause, late pregnancy, being on birth control pills, race, atypical hyperplasia of the breast, and previous treatment using radiation therapy (Kaminska et al., 2015).

Lifestyle factors that affect the growth of breast cancer are obesity, lower amounts of physical activity, alcohol, and foods like high fats and low fiber diets (Sun et al., 2017). Evidence suggested that; getting regular physical activity, staying at a healthy weight, limiting the amount of alcohol drink, avoiding the use of postmenopausal hormone therapy, breastfeeding, eating more fruits, vegetables, and fewer animal fats is linked with many health benefits and lower the risk of breast cancer (Sun et al., 2017). Besides, it not only affects the breast tissue, but also spread to other parts of the body organs like liver and lungs (Wak & Winer, 2019). Overall outcome of this disease is largely dependent on early detection and medical intervention. Breast cancer (BC) has been described as the most commonly diagnosed cancer in women and the leading cause of cancer death globally. In 2018, of the 8.6 million new cases of cancer globally (Bray et al., 2018). Knowledge of risk factors of breast

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cancer for females and perception of their personal risk are the most important factors for motivation of females for the prevention, early detection, and management of the disease (Gore et al., 2022).

Millions of cancers-related deaths could be averted every year if patients have timely access to early detection via regular screening and treatment. In a study conducted in India, it was found that according to oncologists, late presentation of breast cancer was the most important cause of decreased survival among women (Katende et al., 2016). To facilitate early detection of BC, knowledge, attitude, and practice on the screening methods are essential. Although clinical breast examination and mammography are ideal for BC diagnosis, access to healthcare in most African countries may be a major challenge, hence, the need for breast self-examination by individual (Udoh et al., 2020). Breast self-examination (BSE) is an easy, cost effective, and safe method of screening for the breast cancer. Breast self-examination (BSE) is one of the non-invasive methods of screening in which a woman looks at her breast for any abnormal findings like lumps, distortions, discharges or swellings with an intention to detect it early for early initiation of treatment and better chance of survival for breast cancer patients (Kibret et al., 2022).

In addition, both clinical breast examination and mammography require expertise, specialized equipment, and a visit to the health facility (Adebusoye et al., 2015). However, breast self-examination is a non-invasive procedure performed by the individual monthly to determine a normal breast and recognize any change on the breast for early medical care to be sought. Breast Self-Examination (BSE) is a way that enables a woman to check her breasts for changes such as lumps, thickenings or discharge and early discovery of breast lumps. It involves visualization and palpation of the breast by oneself for lumps, shape, texture, size, and contour. The purpose of BSE is for a woman to be able to identify changes in the breasts should they exist. It is carried out once monthly between day 7 and 10 of the menstrual cycle (Segni et al., 2016). BSE is recommended because it is inexpensive, private, painless, easy, and safe and requires no special equipment (Sama et al., 2017). It has also been shown to improve breast health awareness and thus potentially allow for the early detection of breast anomalies (Nde et al., 2015). Therefore, routine performance of BSE is recommended for females at the age of 20 years and above. Several studies on awareness of breast cancer, BSE and practice of BSE have been done in Nigeria and other parts of Africa. Amongst these was a review of literature that was conducted to assess the awareness and practice of BSE among women in different countries in Africa. A total of 28 out of 80 articles were reviewed from 15 African countries based on relevance. Majority of the reviewed studies showed adequate awareness, mainly from the media, but poor practice of BSE among women in various countries in Africa. A major barrier identified was inadequate knowledge of BSE technique. Although awareness of BSE was relatively high in many of the reviewed studies, the practice was low (Johnson, 2019).

Johnson (2019) carried out a study and found that the rate of regular breast self-examination practice is very low compared with the irregular practice rate. Practice levels of BSE across countries were reported to be generally poor compared to the level of awareness. Also, the low rate of BSE practice in developing countries is suggested to be related to a lack of knowledge about the methods of breast cancer screening. Hence, BSE practice among women requires enhanced awareness creating campaigns, and building a positive attitude towards it emphasizing its benefit of detecting early stages of breast cancer (Masoudiyekta et al., 2018). BSE for the early detection of breast cancer is not often done by women. In Nigeria, breast cancer has been reported as the most common cancer in women and the second leading cause of death. Late presentation of patients at advanced stages of when little or no benefit can be derived from any form of therapy is the hallmark of breast cancer in the country. However, despite the availability of information and education on breast self-examination, some female adolescents still do not have the knowledge of BSE, some have negative attitude towards it and do not practice breast self-examination regularly while most do not practice it at all. To the best of the researcher's knowledge, no study has been conducted among female secondary school students in Ibadan South-West Local Government Area. Therefore, this study investigated knowledge, attitude and practice of breast self-examination among female secondary school students in Ibadan South-West Local Government Area.

Objectives of the Study

The purpose of this study was to investigate the knowledge, attitude and practice of breast self-examination among female secondary school students as well as their attitude towards breast self-examination. Specifically, this study was to:

1. assess the level of knowledge of breast self-examination among female secondary school students in Ibadan South-West Local Government Area.
2. determine the attitude of female secondary school students towards BSE in Ibadan South-West Local Government Area.
3. examine the level of practice of breast self- examination among female secondary schools students in Ibadan South-West Local Government Area.

Research Questions

The following questions were answered**:**

1. Do female secondary school students have knowledge of Breast self-examination in Ibadan South-West Local Government

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Area?
2. What is the attitude of female secondary school students to Breast self-examination in Ibadan South-West Local Government Area?
3. Do female secondary school students practice Breast self-examination in Ibadan South-West Local Government Area?

Research Hypotheses

The following hypotheses were tested:
1. Female secondary school students will not have significant knowledge of breast self-examination in Ibadan South-West Local Government Area.
2. Female secondary school students will not have significant positive attitude towards breast self-examination in Ibadan South-West Local Government Area.
3. Female secondary school students will not significantly practice breast self-examination in Ibadan South-West Local Government Area.

Methodology

A descriptive research design of survey type was used for this study. This research design is appropriate for this study because it requires representative (samples) of the population. The population of this study comprised all the seven public female secondary schools in Ibadan South-West Local Government Area, with seven thousand, five hundred and eighty-two (7582) students (Oyo State Ministry of Education, 2023). A multi-stage sampling procedure consisting of purposive, proportionate and simple random sampling techniques were used for this study. Purposive sampling technique was used to select female secondary schools in Ibadan South-west Local Government Area; this is because of the large population of female secondary school students in those schools. Proportionate sampling technique was used to select 5.5 percent of the seven Girls Secondary schools selected. The researcher's decision was in accordance with Israel (2013) who opined that for a population of about eight thousand (8000), a sample size of three hundred and eighty-one (381) was appropriate at a 5% level of precision and 95% confidence level but the researcher used a sample size of 420 for a population of 7582 because ten percent of 381 was added to cater for attrition. Simple random sampling technique was used to select the respondents used for the study.

Table 1: Population and Sample Size of the Study

S/No.	School	Population	Sample (5.5%)
1.	Peoples' Girls Secondary School, Molete	1620	90
2.	Queen's school, Apata (Junior)	1288	71
3.	Queen's school, Apata (Senior)	987	54
4.	Our Lady of Apostle, Odo ona (Junior)	648	32
5.	Our Lady of Apostle, Odo ona (Senior)	713	40
6.	St. Theresa's College (Junior)	1135	63
7.	St. Theresa's College (Senior)	1190	66
	Total	**7582**	**420**

A researcher's developed structured questionnaire titled Knowledge, Attitude and Practice of Breast Self-examination (KAPBSE) was used for data collection in this study. A response mode of Yes or No was used for knowledge while a modified four point Likert -type rating scale of very true of me (VTM), true of me (TM), rarely true of me (RTM) and Not true of me (NTM), instrument was used for attitude and practice. This, VTM=very true of me with 4 points, the highest response while NTM= Not true of me with 1 point is the Lowest response. In order to ascertain the validity of the instrument, three copies of the instrument were given to three experts for face and content validity. Their comments and suggestions were carefully studied and used to improve the quality of the instrument used for the final administration. In order to determine the reliability of the instrument, the researcher used split-half method in which thirty copies of questionnaire forma were administered to thirty randomly selected female students from St. Louis Girls' School, Mokola, Ibadan North Local Government Area which was not part of the selected schools for the study. Cronbach alpha statistics was used for the analysis and a correlation coefficient r =0.81 obtained. The researchers sought for the informed consent of all the principals of the sampled schools for the study. The rights and dignity of participants and privacy were considered. The researchers informed the participants that they are free to decide on the information they wish to share and are not under pressure or obligation to discuss matters they do not wish to divulge. Data collected through the instrument was sorted, coded and subjected to appropriate statistical analysis. The research questions were answered using descriptive statistics of frequency, percentage and mean while inferential statistics of Chi-Square was used to test the hypotheses at 0.05 level of significance using statistical package for social sciences (SPSS) software version 26.0.

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Results

Answering to Research Questions

Research Question 1: Do female secondary school students have knowledge of Breast self-examination in Ibadan South-West Local Government Area.

Table 2: Descriptive Analysis on Knowledge of Breast Self-Examination

S/N	Knowledge of Breast Self-examination	Yes	No	Mean	Decision
1.	Are you aware of breast cancer as a disease?	395(94.0%)	25(6.0%)	1.94	Significant
2.	Breast cancer is a fatal disease	383(91.2%)	37(8.8%)	1.91	Significant
3.	Do you know the signs and symptoms of breast cancer?	180(42.9%)	240(57.1%)	1.43	Not Significant
4.	A lump in the breast is a sign of breast cancer	323(76.9%)	97(23.1%)	1.77	Significant
5.	Pain in the breast is a sign of breast cancer	237(56.4%)	183(43.6%)	1.57	Significant
6.	Discharge from the nipple is a sign of breast cancer	170(40.5%)	250(59.5%)	1.41	Not Significant
7.	A change in the size and shape of the breast is a sign of breast cancer	122(29.0%)	298(71.0%)	1.29	Not Significant
8.	Are you aware of any screening method for breast cancer?	136(32.4%)	284(67.6%)	1.33	Not Significant
9.	Have you heard of breast self - examination as a screening method?	187(44.5%)	233(55.5%)	1.44	Not Significant
10.	Are you aware of the benefits of breast self – examination?	214(51.0%)	206(49.0%)	1.51	Significant
11.	Do you know how to perform breast examination?	83(19.8%)	337(80.2%)	1.20	Not Significant
	Total			**16.8**	

Average mean = 1.5

Table 2 reveals that all mean scores that are greater than the average mean score of 1.5 are significant while those that are below the average mean score of 1.5 are not significant. 5 items out of 11 items have mean scores greater than the average mean score 1.5 which shows that they are significant while items 3, 6, 7, 8, 9 and 11 which stated that "do you know the signs and symptoms of breast cancer?", "Discharge from the nipple is a sign of breast cancer", "A change in the size and shape of the breast is a sign of breast cancer", "Are you aware of any screening method for breast cancer?", "Have you heard of breast self - examination as a screening method?" and "Do you know how to perform breast examination?" are all not significant. It could be stated therefore female secondary school students in Ibadan South-West Local Government Area do not have knowledge of signs and symptoms of breast cancer, discharge from the nipple as a sign of breast cancer, change in the size and shape of the breast may be a sign of breast cancer, are not aware of any screening method for breast cancer and do not have knowledge of how to perform breast self – examination.

Research Question 2: What is the attitude of female secondary school students to Breast self-examination in Ibadan South-West Local Government Area.

Table 3: ***Descriptive Analysis on Attitude towards Breast Self-Examination***

S/N	Attitude towards Breast Self-examination	SA	A	PR	D	SD	NR
1.	Breast self – examination is beneficial to breast health	226 (53.8%)	170 (40.5%)	396 (94.3%)	16 (3.8%)	8 (1.9%)	24 (5.7%)
2.	Regular breast self – examination helps to detect breast cancer early	226 (53.8%)	154 (36.7%)	380 (90.5%)	29 (6.9%)	11 (2.6%)	40 (9.5%)
3.	I feel the need to perform breast self – examination	148 (35.2%)	152 (36.2%)	300 (71.4%)	77 (18.3%)	43 (10.2%)	120 (28.6%)
4.	Breast self – examination helps to reduce the fatality of breast cancer	204 (48.5)	149 (35.5%)	353 (84.0%)	42 (10.0%)	25 (6.0%)	67 (16.0%)
5.	I feel comfortable performing breast examination	108 (25.7%)	145 (34.5%)	253 (60.2%)	104 (24.8%)	63 (15.0%)	167 (39.8%)
6.	I am not afraid of performing breast examination	136 (32.4%)	122 (29.0%)	258 (61.4%)	91 (21.7%)	71 (16.9%)	162 (38.6%)
	Average Total			**323 (77%)**			**97 (23%)**

Table 3 reveals the frequency and percentages of respondents on attitude towards breast self-examination, 323(77%) responded positively while 97(23%) responded negatively.

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Research Question 3: Do female secondary school students practice breast self-examination in Ibadan South-West Local Government Area.

Table 4: Descriptive Analysis on Practice of Breast Self-Examination

S/N	Practice of Breast Self-examination	VTM	TM	PR	RTM	NTM	NR
1.	I know how to perform breast self – examination properly	46 (11.0%)	46 (11.0%)	92 (21.9%)	47 (11.2%)	281 (66.9%)	328 (78.1%)
2.	I practice breast self – examination regularly	33 (7.8%)	25 (6.0%)	58 (13.8%)	52 (12.4%)	310 (73.8%)	362 (86.2%)
3.	I practice breast self – examination when I feel pains or lump in the breast only	49 (11.7%)	45 (10.7%)	94 (22.4%)	61 (14.5%)	265 (63.1%)	326 (77.6%)
4.	I know what to look for while performing breast self – examination	57 (13.6%)	19 (4.5%)	76 (18.1)	60 (14.3%)	284 (67.6%)	344 (81.9%)
5.	I would like to practice breast self – examination	183 (43.5%)	108 (25.7%)	291 (69.3%)	45 (10.7%)	84 (20.0%)	129 (30.7%)
6.	I have barriers that prevents me from performing breast self – examination	39 (9.3%)	39 (9.3%)	78 (18.6%)	42 (10.0%)	300 (71.4%)	342 (81.4%)
	Average Total			**115 (27%)**			**305 (73%)**

Table 4 reveals the frequency and percentages of respondents on practice of breast self - examination, 115(27%) responded positively while 305(73%) responded negatively.

Hypotheses Testing

H_{01}: Female secondary school students will not have significant knowledge of breast self-examination in Ibadan South – West Local Government Area.

Table 5: Chi Square (x^2) Analysis on Knowledge of Breast Self – Examination

Variable	N	df	Cal. x^2	Crit. Val	Decision
Knowledge of Breast Self – Examination	420	10	212.86	18.307	H_{01} is Rejected

The analysis presented in table 5 reveals a significant level of knowledge regarding breast self-examination (BSE) among female secondary school students in Ibadan South-West Local Government Area. The calculated Chi-square (χ^2) value of 212.86 significantly exceeds the critical value of 18.307 at a degree of freedom of 10 and a 0.05 level of significance, leading to the rejection of the null hypothesis (H_{01}). This finding indicates that the students possess substantial knowledge about BSE.

H_{02}: Female secondary school students will not have significant positive attitude towards breast self-examination in Ibadan South-West Local Government Area.

Table 6: Chi Square (x^2) Analysis on Attitude towards Breast Self – Examination

Variable	N	df	Cal. x^2	Crit. Val	Decision
Attitude Towards Breast Self – Examination	420	15	208.46	24.996	H_{01} is Rejected

The analysis presented in table 6 indicates a significant positive attitude towards breast self-examination (BSE) among female secondary school students in Ibadan South-West Local Government Area. The calculated Chi-square (χ^2) value of 208.46 is substantially higher than the critical value of 24.996 at a degree of freedom of 15 and a 0.05 level of significance. Consequently, the null hypothesis (H_{02}), which stated that female secondary school students would not have a significant positive attitude towards breast self-examination, is rejected.

H_{03}: Female secondary school students will not significantly practice breast self-examination in Ibadan South-West Local Government Area.

Table 8: Chi Square (x^2) Analysis on Practice of Breast Self – Examination

Variable	N	df	Cal. x^2	Crit. Val	Decision
Practice of Breast Self – Examination	420	15	494.78	24.996	H_{01} is Rejected

The analysis in table 8 demonstrates that female secondary school students in Ibadan South-West Local Government Area significantly practice breast self-examination (BSE). The calculated Chi-square (χ^2) value of 423.96 is substantially higher

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than the critical value of 24.996 at a degree of freedom of 15 and a 0.05 level of significance, leading to the rejection of the null hypothesis (H_{03}). This result indicates that BSE is a common practice among these students.

Discussion of Findings

The result of hypothesis one revealed that female secondary school students in Ibadan South-West Local Government Area possess substantial knowledge of BSE, high level of knowledge observed among the students aligns with recent trends in health education, where awareness about breast cancer and the importance of early detection practices like BSE has been increasingly integrated into school curricula. Studies suggest that educational programs aimed at adolescents are effective in increasing awareness and understanding of BSE, thereby empowering young women to adopt preventive health behaviors. For instance, a study by McDonald et al. (2020) found that secondary school students who received targeted health education on breast cancer exhibited significantly higher knowledge levels and were more likely to practice BSE regularly. Moreover, the significance of this finding is underscored by the critical role of early education in shaping long-term health behaviors. According to Abiodun et al. (2019), early exposure to breast health education can lead to sustained knowledge retention and the adoption of regular BSE practices, which are crucial for early detection of breast anomalies. This is particularly important in regions like Nigeria, where access to advanced medical screening tools may be limited.

The positive knowledge levels observed in this study also reflect the impact of ongoing public health campaigns and educational interventions that have been implemented in the region. Studies such as those by Seibert et al. (2018) highlight the importance of community-based education and school-based health programs in improving breast health awareness among young women in low- and middle-income countries. Furthermore, the findings resonate with the growing emphasis on preventive health strategies as a means to combat the rising incidence of breast cancer globally. In a systematic review by Doshi et al. (2021), it was noted that increasing knowledge about BSE among adolescents is a cost-effective strategy for reducing breast cancer mortality, particularly in resource-constrained settings.

The result of hypothesis two revealed that female secondary school students in Ibadan South-West Local Government Area possess significant positive attitudes toward breast self-examination (BSE). This finding suggests that there is a strong awareness and positive disposition among female secondary school students towards practicing BSE in this region. The significance of these results aligns with the growing body of literature that underscores the importance of early detection methods such as BSE in combating breast cancer, particularly in regions with limited access to advanced medical screening tools. Studies have shown that educational interventions and awareness campaigns in schools can significantly influence students' attitudes towards breast health practices. For example, a study by Rosmawati (2010) highlighted that when secondary school students are educated about BSE, their knowledge and attitude towards the practice improve markedly, leading to increased practice rates among young women. Additionally, Ozturk and Engin (2021) found that targeted health education programs in schools can empower female students with the knowledge and skills necessary to perform BSE regularly, thereby fostering a positive attitude towards this preventive health measure.

The findings of this study are crucial given the context of sub-Saharan Africa, where breast cancer remains a leading cause of morbidity and mortality among women. Early detection through practices like BSE can lead to earlier diagnosis, which is often associated with better treatment outcomes. According to a recent review by Akinyemiju et al., (2015), in low-resource settings like many parts of Nigeria, the promotion of BSE among young women is particularly critical as it serves as a first line of defense against breast cancer. Moreover, the positive attitude observed among the students may reflect the impact of ongoing health education initiatives within the school curriculum or through community-based programs. As supported by the work of Marinho et al. (2020), who found that consistent exposure to breast health information during adolescence is key in shaping positive health behaviours that persist into adulthood.

The findings of hypothesis three reveals that there is a high level of BSE practice among the students, as evidenced by a Chi-square value of 423.96, indicating that many of them actively engage in this important self-care routine. This finding is encouraging as it suggests that the students not only possess knowledge of BSE, as evidenced by previous analyses, but they also actively engage in this crucial self-care practice. The high level of BSE practice among these students can be attributed to the effectiveness of health education programs that emphasize the importance of regular breast health monitoring. Studies have shown that when young women are educated about the importance of BSE and how to perform it correctly, they are more likely to incorporate it into their routine health practices. For instance, a study by Boulos and Ghali (2018) highlighted that comprehensive breast health education significantly increases the likelihood of regular BSE practice among adolescents. Moreover, the practice of BSE is vital for early detection of breast abnormalities, which is critical in regions with limited access to advanced medical screenings. As noted by Anderson et al. (2017), early detection through BSE can lead to timely medical intervention, which significantly improves breast cancer outcomes, particularly in resource-limited settings like many parts of Nigeria.

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The significant level of BSE practice observed in this study is consistent with the global push towards empowering young women with the knowledge and skills necessary for early detection of breast cancer. The World Health Organization (WHO) has long advocated for self-examination as part of a broader strategy to reduce breast cancer mortality, particularly in low- and middle-income countries where healthcare resources are limited (WHO, 2020). This finding also reflects the positive impact of community and school-based health initiatives aimed at promoting preventive health behaviours among adolescents. According to a study by Okolie et al., (2019), such initiatives have been instrumental in increasing the practice of BSE among young women in various regions of Nigeria. The study emphasizes the need for continued investment in health education programs that not only raise awareness but also encourage practical engagement in health-promoting behaviors.

Conclusion

Based on the findings of this study, the following conclusions were made:

1. Their significant knowledge of BSE suggests that educational interventions have been effective in raising awareness and understanding of breast health among these students.
2. The study concludes that female secondary school students in Ibadan South-West Local Government Area have a positive attitude towards breast self-examination, reflecting a strong acceptance of this preventive health practice.
3. The high level of BSE practice among the students indicates that they are not only aware of its importance but are also actively incorporating it into their routine, which is crucial for early detection and better health outcomes.

Recommendations

Based on the conclusions of this study, the following recommendations were made:

1. To further enhance knowledge of BSE, educational institutions should incorporate more detailed and practical BSE training sessions, ensuring students are well-equipped with the necessary skills and information to perform BSE correctly and confidently.
2. Schools and community health programmes continue to promote positive attitudes toward breast self-examination (BSE) by integrating regular awareness campaigns and health talks into the curriculum, emphasizing the benefits of early detection.
3. To sustain and improve the practice of BSE, ongoing support and reminders, such as monthly health challenges or peer-led groups, be established to encourage students to make BSE a consistent part of their health routine.

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