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Study to Assess the Knowledge and Practice of Breast Self-examination among Adolescent Girls Studying in Akkamahadevi Women's Arts, Sciences and Commerce Colleges, Bagalkot

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Abstract **Original Research Article**

Background: Breast diseases are very common and can be found in most women. Among the Breast diseases, majority of the lesions are benign. This occurs due to various reasons such as infection, trauma, fibro adenoma, cyst of the breast. The incidence of benign breast lesions begins to rise during the 2nd decade life and peak in 4th and 5th decades, as opposed to malignant diseases, for which the incidence continues to increase after menopause, although at less rapid pace. Even so, a woman who detect a breast lump should have it evaluated as soon as possible. ***Methods***: The dates of the descriptive study were July 21, 2024, to Aug 22, 2024. Using the stratified random sample procedure, 60 study participants were chosen. The research was carried out in Akkamahadevi women's arts, science and commerce college, Bagalkot. The study involving 60 adolescent girls. Data were collected with a structured questionnaire and variables including socio demographic characteristics, Breast cancer knowledge, Breast self-examination knowledge and practice. Descriptive statistics were used to analyze and present the data and chi square test of significance was used to determine association between socio demographic variable and practice of breast self-examination.

Keywords: Knowledge, Practice, Adolescent girls and Breast self – Examination.

INTRODUCTION

Breast cancer is a leading diagnosis among women worldwide. The 5-year estimated prevalence of breast cancer accounted for 7,790,717 (30.3%) cases, according to reports from the Global Cancer Observatory (GCO) for females of all ages [1], with 6,85,000 deaths caused in 2020 [2]. In India, breast cancer ranked fourth on the list during the 1990s and has now become the most prevalent of all cancers among women. The reports from national cancer registries showed the highest incidence for Delhi (41/100,000 women), followed by Chennai, Tamil Nadu (37.9/100,000 women) [5]. Breast cancer is metastatic in nature. Hence, early detection of abnormal cells may have a high probability of better prognosis and survival [6]. In this view, several screening approaches, such as mammography and magnetic resonance imaging (MRI), have gained significance, especially in asymptomatic populations [7]. However, due to the insensitivity of mammography in sub-populations of women [8], the high cost of MRI, and the lack of access to equipped healthcare centers, medical-based screening methods are sidelined in low and middle-income countries [9]. Nevertheless, adequate knowledge, a favorable attitude, and good practice toward screening for breast cancer are essential, and evidence exists otherwise.

Breast self-examination (BSE) is a monthly procedure followed at the individual level to examine and detect breast abnormalities [12]. This non-invasive procedure has been a key method in the detection of breast cancer, and a study from Nigeria found that every nine out of ten women find the lump themselves, though eight of those are noncancerous [13]. Similarly, another study from the US indicated that a significant proportion of the women sample (43%) detected breast cancer through self-examination or accidentally [14]. In addition, the American Cancer Society [15], recommends educating and teaching BSE from high school onwards, considering its significance to women's self-care regime. Several studies have observed that BSE's knowledge, attitude, and practice (KAP) were

inadequate [16–18]. Women in metropolitan cities are knowledgeable about BSE but are unaware of performing it appropriately [19], while women from rural areas have poor KAP [20]. Studies from different countries showed that most women are diagnosed during the later stages of cancer and are the ones who did not practice BSE.

General self-care is an intense process by which individuals carry out to understand and know their bodies and how they will respond to health deviations [23]. A wide interest in self-care activities performed by the general public is identified as a promotive factor for well-being [24], and, hence, is being encouraged. Self-care among women as a subject has been popular in the literature. However, self-care practices are challenging for women a midst their commitments to providing family care, caring for children, meeting daily demands, dealing with illnesses, and negotiating work or occupational needs [25]. Despite this fact, women are also more inclined towards performing preventive self-care routines [26]. However, when the subject shifts from general self-care to breast self-examination practices, there is a lower prevalence, especially among low- and middle-income countries.

Moreover, these self-care behavior are generally performed by oneself without the assistance of healthcare specialists, qualifying to be called an important form of early care [28]. This further bears similarity with the practice of BSE, yet is overlooked and neglected in the normal self-care routine among women. Not performing BSE is attributed to a lack of awareness regarding BSE, a low level of education, and fear of the disease among many [29–31]. Health literacy is another variable determining whether women engage in BSE [32]. Socio-demographic aspects such as education and domicile also relate to BSE [30]. In addition, culture was found to influence self-care behavior in general [33]. In a sample of Chinese-American older women, cultural barriers were documented for breast cancer screening.

In a recent systematic review, BSE was not listed as a recommended guideline for screening breast cancer [36]. However, BSE is performed to be aware of the normality of breasts and to recognize changes from unexplained causes. Moreover, in contrast, clinical methods like mammography and MRI detect signs of cancer even before they can be felt overtly by the individual. In this view, BSE only helps notice abnormalities that may or may not be cancerous. Hence, BSE is essentially an aspect of a bodily self-care regime. BSE cannot be called a screening method because ‘not feeling abnormalities or lumps’ does not guarantee ‘no risk or signs of breast cancer’. On the other hand, not knowing and performing BSE as part of self-care may also be harmful in a way that women may fail to notice signs potentially indicative of risks. In addition, the significance of such practices increases when the primary health centers have poor medical infrastructure, especially in low-resource countries. Therefore, the present study supports BSE as a form of early self-care rather than a screening method for breast cancer. In this context, the present study aimed to determine the KAP of BSE among women from Vellore, Tamil Nadu, India Further, we examined the association of KAP with the general self-care and cultural factors.

MATERIALS AND METHODS

For the study, a descriptive survey design was adopted. In Akkamahadevi women’s arts, sciences and commerce college, Bagalkot, India. 60 Adolescent girls provided samples using a straightforward random approach. A conventional, Multiple-choice questionnaire was used to gather information about Knowledge and Practice of Breast self- examination. Both descriptive and inferential statistics were employed to analyse the gathered data.

Source of Data: The present study collected data from Adolescent girls.

Research Approach

Observational studies are nonexperimental studies that focus on obtaining information about people's activities, beliefs, interests, and behaviours by asking questions directly to participants. The descriptive research methods are developed when the purpose of the research is to describe the prevalence or occurrence of the phenomenon or to estimate the phenomenon's value to society. The main objective of this study is to evaluate the Knowledge and Practice of Breast self-examination Among Adolescent girls Studying in Akkamahadevi women’s college, Bagalkot.

Research Design

All plans designed by a researcher to answer research questions or test research findings are called research design. A descriptive design means the study involved a one-time data analysis on Adolescent girls. The research design represents the population, sample size, variables, data collection tools and methods, and data analysis plan.

Variables

Discrete Variable: Determine the adolescent girls Knowledge about BSE.
Categorical Variable: Assess the Practice of BSE among Adolescent Girls.

Socio-Demographic Variables

Adolescent Girls sociodemographic traits are among the sociodemographic variables. Age, religion, place of residence, education, father occupation, mother occupation, family monthly income, Self-reported health status, Family history of Breast cancer, previous intervention related to BSE.

Setting of Study

Setting is the environment in which information is gathered. The current investigation was carried out at Akkamahadevi women's college, Bagalkot. The convenience of the investigator and the availability of Adolescent girls were taken into consideration when choosing the study setting.

Population

Target Population: This study refers to a group of girls in Bagalkot experiencing BSE.

Accessible Population:

This study refers to girls, who are in the state of Adolescent and members of Akkamahadevi women's college, Bagalkot, India.

Sample and Sample Size

Subjects drawn from units that make up the study's population constitute a sample. The sample size for this investigation is (n=60). Sample including Adolescent girls Studying in akkamahadevi women's college, Bagalkot, India.

Sample Technique

The sampling technique is the researcher's procedure to select the study samples. The sample for the present study is 60 Adolescent girls who are members of akkamahadevi women's college, Bagalkot, India. The convenient sampling technique was used to select samples for the present study. The Adolescent girls were selected conveniently according to duration and who met both the in-sampling technique and the procedure that the researcher adopted in selecting the inclusion and exclusion criteria of the study.

Data Collection Tool

The methods or equipment the researcher employs to measure or observe the important variables in the research problem are known as data collection tools. The data for this study were gathered using a common Knowledge and Practice instrument.

Procedure for Data Collection

Prior authorization was acquired from the principal of the Shri B.V.V.S. Institute of Nursing Sciences in Bagalkot, India, by formal authorization. The BVVS Sajjalashree Institute of Nursing Sciences, Navanagar Bagalkot's institutional ethical clearance committee has granted ethical approval. Individuals who met the requirements for inclusion were chosen by a straightforward random process. The subjects gave their informed consent after the researcher gave them an explanation of the study's objectives. At the conclusion of the design stage, a pilot study was conducted to investigate and evaluate the research components. A pilot study was conducted in B.V.V.S Science college, Bagalkot from July 21, 2024 to Aug 22, 2024 to determine the study design's feasibility and practicability. A study of 6 Adolescent Girls was conducted randomly using Multiple Choice questionnaires on Knowledge and practice.

Statistical Analysis

The methodical arrangement and synthesis of research data, as well as the application of the data to test research hypotheses, constitute statistical analysis. Both descriptive and inferential statistics were used in the analysis of the data. Distributions of percentages and frequencies were used to assess the demographic data. The Adolescent had their scores evaluated using the mean and standard deviation. Adolescent girls Knowledge and Practice levels were compared to a set of chosen sociodemographic characteristics using a chi-square test.

Ethical Approval

The ethical committee of B.V.V.S. Sajjalashree Institute of Nursing Sciences, Navanagar, Bagalkot, India, received and enclosed an ethical clearance certificate. Anonymity and confidentiality regarding the data and identification of adolescent girls were maintained.

RESULTS

Description of Socio- Demographic Characteristic of Sample

- Percentage wise distribution of adolescent girls according to their age in years that out of 60 adolescent girls, highest percentage (58.33%) of adolescent girls are in the age of 17-18 and (38.33%) of adolescent girls are in the age of above 19 years and poor percentage (3.33%).
- Percentage wise distribution of adolescent girls according to their religion shows that out 60 adolescent girls, highest percentage (88.33%) of adolescent girls are Hindu, (11.66%) of adolescent girls are Muslims, (0 %) of adolescent girls are Christians.
- Percentage wise distribution of adolescent girls according to their year of study out 60 adolescent girls, highest percentage (51.66%) of adolescent girls were first year students, and (8.33%) of adolescent girls were second year students. And (40%) of adolescent girls were third year Students.
- Percentage wise distribution of adolescent girls according to their Residence out 60 adolescent girls, highest percentage (58.33%) of adolescent girl's of urban area, and (41.66%) of adolescent girls of rural area.

Table 1: Frequency and percentage distribution of socio- demographic variables

Socio-demographic factor	Frequency	Percentage (%)
Age	2	3.33%
	35	58.33%
	23	38.33%
Religion	53	88.33%
	0	0%
	7	11.66%
	0	0%
Residence	25	41.66%
	35	58.33%
Year of study	31	51.66%
	5	8.33%
	24	40%
Mother occupation	50	83.33%
	8	13.33%
	0	0%
	2	3.33%
Father occupation	31	51.66%
	24	40%
	2	3.33%
	3	5%
Monthly Income	20	33.33%
	31	51.66%
	8	13.33%
	1	1.66%
Self-reported health status	57	95%
	3	5%
	0	0%
Family history of Breast cancer	4	6.66%
	56	93.33%
Intervention related to BSE previously	3	5%
	57	95%

Adolescent girls mean percentage of Knowledge score, mean and SD, show that the overall mean percentage of knowledge score was 11.483 with mean and SD of Knowledge 86.8, which are 11.483±86.8 (Table-2).

Table 2: Area-wise mean, SD, and mean percentage of Knowledge score

Area	Maximum score	Mean	SD	Mean (%)
Knowledge	**1800**	**11.483**	**86.8**	**38.277**

The overall mean percentage of BSE Practice score among Adolescent Girls was 58.33%, as demonstrated by the mean, SD, and mean percentage of BSE Practice score, which are 5.833 ±1.4633 on average (Table 3).

Table 3: Mean, SD and mean percentage of BSE Practice score.

Area	Maximum score	Mean	SD	Mean (%)
Practice	**600**	**5.833**	**1.4633**	**58.33**

The results of the investigation into the relationship between Adolescent Girls Knowledge and Practice of BSE, show that there is a positive association between the two, with a correlation coefficient (r) value of -0 (Table 4).

Table 4: Correlation between Knowledge and Practice of BSE among Adolescent girls

Correlation between knowledge and practice of BSE	
Correlation coefficient (r)	**-0**

The results of the study on the relationship between Adolescent girls Knowledge and Practice of BSE. they chose to analyse indicate that there is a significant correlation between Adolescent girls Knowledge about BSE and age ($\chi2=2.35$; $p=0.67$), Religion ($\chi2=2.44$; $p=0.87$), Residence ($\chi2=0.57$; $p=0.752$), year of study ($\chi2=3.71$; $p=0.44$) (Table – 5)

Table 5: Association of Knowledge of Adolescent girls with their selected socio-demographic variables

SI.NO	Socio-demographic variable	chi square	df	P
1	Age	2.35	4	0.6717
2	Religion	2.44	6	0.8751
4	Year of study	3.71	4	0.4467
5	Mother Occupation	2.55	6	0.8628
6	Father occupation	2.22	6	0.8984
7	Monthly income	5.07	6	0.5349
8	Self-reported health status	0.25	4	0.9928
9	Family history of Breast cancer	6.43	2	0.0402
10	Investigation of Breast self-examination previously	4.74	2	0.0935

The results pertaining to the correlation between adolescent girls Practice and the chosen socio demographic variables indicate that there is a noteworthy relationship between Adolescent girls practice of BSE and age ($\chi2=2.7$; $p=0.60$), Religion ($\chi2=1.4$; $p=0.96$), Residence ($\chi2=2.2$; $p=0.33$), year of Study ($\chi2=14.24$; $p=0.006$) (Table 6).

Table 6: Association of the levels of Practice among Adolescent girls with their selected socio demographic variables Socio-demographic variables

SI.NO	Socio-demographic variables	Chi-square valve	Df	P valve
1	Age	2.7	4	0.6092
2	Religion	1.4	6	0.9659
3	Residence	2.2	2	0.3329
4	Year of study	14.24	4	0.0066
5	Mother occupation	2.12	6	0.9083
6	Father occupation	7.15	6	0.3072
7	Monthly income	7.26	6	0.2975
8	Self-reported health status	1.76	4	0.7798
9	Family history of Breast cancer	4.4	2	0.1108
10	Intervention related to BSE previously	0.56	2	0.7558

DISCUSSION

This study aims to measure Knowledge and Practice of BSE among Adolescent girls studying in Akkamahadevi women's college, Bagalkot. We described this study to assess Knowledge about BSE and Practice of BSE among Adolescent girls. The discussion highlights the main findings of these study and how those findings compare with findings from similar study conducted on the subject of Breast cancer and BSE.

The present study examined the prevalence of knowledge, attitude, and practice of BSE among women. Further, KAP's association with general self-care and cultural factors was determined. This study is the first to consider the KAP of BSE with general self-care among women. The results found that more than 50% of the sample had inadequate knowledge, unfavourable attitudes, and poor practice of BSE, which is consistent with the literature [37, 38]. Specifically, the result aligned with a study conducted among women in the same age range, revealing that 89% had never carried out BSE, and two-thirds had poor knowledge [39]. Similarly, in another study with women aged between 20 and 49 years, 55.3% of them had poor knowledge, and 93% did not practice BSE [40]. Unfavourable attitudes toward BSE were also prevalent in women, as witnessed by the studies conducted in Ethiopia [41], and India [42]. The samples from all these research studies, including the present study, are from rural regions where various psychosocial and demographic factors are associated with carrying out BSE. They include education, area of residence, awareness about BSE, family history with breast cancer [43], health professionals' advice on BSE, ethnicity [44], and employment [45].

Evidence regarding the lack of awareness among women about their reproductive health, specifically breast health, is documented [47]. Women's risk of breast cancer is associated with several aspects of their reproductive system [48]. This may also explain the lower prevalence of poor KAP of BSE. Efforts to improve the KAP of BSE are essential in the face of this major public health issue. Further, BSE's knowledge, attitude and practice were significantly different based

on women's marital status, similar to that of Dadzi & Adam's study.

The ∠indings of the background characteristics show that 41.7% of participants were of 17 years of age and the mean age of 16.7 years with a standard deviation of 0.922. More than half (55.8%) of the participants were of Chhetri ethnicity.

The majority (66.7%) of the participants were students of science faculties and 53.3% of the students were from class 11. More than half (51.7%) of the source of information about breast self-examination were health personnel. A similar study done in Ahmadabad, India supports that Health professionals (34.4%) were the main source of information on the knowledge about BSE [17].

In our study, 25% of the participants had a family history of breast cancer, among them only 9.2% had a positive for maternal family history. Similar ∠indings were seen in a study done in Malaysia where about 20% of the participants had a family history of breast cancer [18]. In this study 67.5% of participants had knowledge about breast cancer and 40% had knowledge of breast self-examination. Another supporting data was similar to a study conducted in North West Ethiopia, subjects had a family history of breast cancer and were directly associated with breast self-examination practices [16]. This ∠inding is in contrast with a related study done at Abuja, Nigeria where 56% of participants had knowledge of breast cancer, while 75.6 had the knowledge of breast self-examination [19].

The reason for contradictory result could be due to difference in the knowledge level of respondents of both studies as this study is done among the participants of the higher secondary school students and the study of Nigeria is done on the participants who were secondary level students, and also because the main source of information in this study is health personnel and in Abuja, it is the mass media.

The result of the study showed that 27.8% of participants stated enlargement of the lymph nodes is abnormal breast as the breast cancer can spread to lymph nodes. This study also revealed that according to 29.8% of the participants the purpose of breast self-examination is to identify the early stage of breast cancer. This inding is also supported by the study done at Oyo State, Nigeria resulted as only 22% understood breast self-examination helps in early detection [20]. In this study 54.7% of participants answered that breast cancer is curable and preventable if diagnosed in the early stage of life. Regular breast self-examination is important to improve the quality of life was believed by 11.7% of the participants.

Nearly half of the participants strongly supported that women should perform monthly breast self-examination to detect early changes in the breast that help to reduce mortality and morbidity of females.

The ∠inding of the study showed that the majority of participants (61.7%) answered that the breast self-examination should be started after menarche, 32.5% stated. The ∠indings of the background characteristics show that 41.7% of participants were of 17 years of age and the mean age of 16.7 years with a standard deviation of 0.922. More than half (55.8%) of the participants were of Chhetri ethnicity.

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CONCLUSION

Breast self-examination is a key strategy to early detection of breast cancer and subsequently critical for effective treatment and cure of the disease. The findings this study have shown significant low levels of awareness and practice of breast self-examination among adolescent in akatsi south district of the vota region. This pattern may be similar to other rural communities across the region. The need to create awareness and to educate adolescent girls on importance of Breast self-examination as preventive measure of breast cancer is paramount.

This study will help raise awareness about BSE Knowledge and Practice among Adolescent girls, so with this in mind, we are using this study to measure Knowledge and Practice in older Adolescent girls. If we provide the necessary information and education to care for adolescent girls in the future, the risk of Breast cancer and many other problems will decrease.

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CONTRIBUTION OF AUTHORS

Research concept- Prof. Jayashree Itti
Research design- Mrs. Sharanamma B. Bantanur
Supervision- Mrs. Sharanamma B. Bantanur
Materials- All researchers
Data collection- All researchers
Data analysis and interpretation- All researchers
Literature search- All researchers
Writing article- All researchers
Critical review-. Mrs. Sharanamma B. Bantanur
Article editing- Mrs. Sharanamma B. Bantanur
Final approval- Prof. Jayashree G. Itti

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