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Descriptive Knowledge About Breast Cancer and the Importance of Breast Self-Examination Among Women

Joseph Oteng
Ghana Health Services, Public Health Department, Ghana
otengjoseph1989@gmail.com

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Abstract

Numerous studies regarding the efficacy of publicly advocated breast self-examination in the literature have suggested that it could contribute to an early diagnosis of breast anomalies and increased survival rates. Method: A community-based cross-sectional research design with a mixed methods approach was utilized among 384 women aged 18 - 49 years in the Chereponi district. Multistage sampling technique with a structured questionnaire and Key Informant Interviews for data collection. data were analysed using the SPSS and NVIVO. Results: The research work showed that the participants were abreast with Breast self-examination (BSE) techniques. And that majority of our respondents have a significantly positive impression of BSE. This tallies with the outcome of a study on affected perception of BSE among female secondary school teachers with high perception of BSE (95.5% in the study) by 95.6% of the respondents. Thus, it was also observed that the respondents gave a mean response of 4.04 (SD 0.884), indicating an average but strong sense of knowledge pertaining to where they could seek additional support. Conclusion: It is evident that the majority of the respondents view breast self-examination (BSE) as a significant component of the entire health care regime and also believe the regular practice of BSE can aid greatly in the early

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detection of breast cancer thereby increase the chances of early cure and furthermore have good confidence in their ability to examine themselves properly

Keywords: Descriptive, Knowledge, Breast Cancer, Importance, Self-Examination, Women

INTRODUCTION

Breast cancer remains a leading cause of mortality worldwide, with early detection is a very important factor to improve the treatment response and decrease the mortality rate of breast cancer patients [1]. Breast self-examination is a simple non-invasive procedure performed by women for regular self-checking of their breast health by a thorough inspection of the breasts to identify any abnormality and changes [2]. This literature review will examine breast self-exam practice practice among women, the factors influence breast self-exam and the impact of breast self-examination in detecting breast abnormalities.

An overview of the existing literature will show that different factors influence women's behavior regarding breast self-examination, such as knowledge and awareness, sociodemographic, cultural attitudes and health facilities access. According to various studies, women who are well-educated and aware of breast cancer practice breast self-exam more regularly [3]. Societal factors such as perceived risk of breast cancer, social support and cultural attitudes on breast health also play significant role in determining breast self-exam performing [4]

Numerous studies regarding the efficacy of publicly advocated breast self-examination in the literature have suggested that it could contribute to an early diagnosis of breast anomalies and increased survival rates. However, some studies question its potential as an efficacious breast cancer screening tool because of concerns over false positives around breast self-examination, over diagnosis, and the excessive use of unnecessary biopsies. For instance, some researchers attributed decline in breast cancer incidence to widespread mammographic screening in the past decades and controversially speculated that the screening has also yielded high false positive rates and a high rate of overdiagnosis (doing surgery or other treatments on those who do not really need them). [5].

Bashirian et al. [6], [7,8]. Culturally tailored educational intervention for breast cancer prevention and culture-health integration based on the BASNEF model intervention: a randomized control trial among Iranian women. The health promotion needs assessment in the context of psycho-social factors, were adopted through "a randomized control trial among 200 Iranian women in the age group from 20 to 65. The intervention group received a culturally adapted educational program according to the BASNEF model; and the control group receiving no intervention. Self-administered questionnaire was used to gather data and assess how cultural factors impacted BSE practice. Through logistic regression analysis, the presented study described the impact of culturally tailored BSE programs on female Iranian population who were at risk. The study indicated that the culturally tailored educational intervention significantly influenced on the increased BSE practice. The identified important determinants of the BSE included cultural beliefs, attitudes, and perceived barriers.

Barriers to the adoption of breast self-examination among women was also reported by Olowokere [9], [10] they carried out a cross-sectional study with 400 market women in Ibadan, Nigeria, to identify the barriers to BSE, utilising a researcher-administered questionnaire (using a semi-structured interviewer administered questionnaire). The data were analysed using logistic regression and predictor variables such as level of education, occupational setting and religion. The findings revealed that 62.5% of the subjects did not perform BSE. Lack of knowledge, forgetfulness, fear of finding a lump and embarrassment were shown as significant barriers to BSE practice.

Thus, the aim of this study is to study the descriptive knowledge about breast cancer and the importance of breast self-examination among women.

MATERIAL AND METHODS

Study Area

Chereponi District lies within the Northern Region of Ghana. It is a part of a cultural frontier and is bordered by the Dagbamba, Gonjas, Mamprusis, Yankras, Nanumbas, Kanjajas and fringe groups like the Dagartis, Kasuenas, Fulanis and the Bimobas. The district is inhabited by different ethnic groups including the Konkombas, Nanumbas, Dagombas and other minorities. Each ethnic group plays a role in the diversification of cultural heritage and social fabrics of Chereponi, creating a cycle of livelihood and

structures of togetherness. Agriculture remains the driving force of Chereponi District's economy

Inclusion and Exclusion Criteria

The inclusion criteria, women eligible for participation in this study were those aged 18-49 years and reside within the Chereponi District of the Northern Region in Ghana.

The study on breast self-examination among women in Chereponi District in the Northern Region of Ghana will exclude individuals with physical limitations that prevent them from performing breast self-examination effectively, women who are pregnant or breastfeeding. Women unable to understand the question or give consent due to cognitive impairment and Women who residents of Chereponi are not, to maintain the study's geographic focus.

Sample Size

The sample size for the survey questionnaire was be determined using the Cochran formula for determining sample size for infinite populations, with a 95% confidence level and a 5% margin of error.

Formula:

n=(Z^2*pq)/d^2

Where,

n= sample size required

Z = Z score

p = Practice of breast self-examination

q = 1-p

d = margin of error

Using a practice of breast self-examination (p= 37.6%) from a similar study in Akatsi South district of Volta region of Ghana among reproductive women, Z=1.96 at 95% confidence level, p=0.376, q= 1-0.376=0.624, and d= 0.05 into the sample formula.

n=(〖1.96〗 ^2 x 0.376(0.624))/ 〖0.05〗 ^2

n=(3.8416 x 0.234624)/ 〖0.05〗 ^2

n =360.53262

Accounting for a 10% non-response rate, 0.1*360.53262 = 36

The minimum estimated sample size will be 360.53262+31= 396

Therefore, a total of three hundred and nine-six adult women will be recruited for the study.

Sampling Techniques

The sampling technique utilized for this study was multi-stage. First, 4 councils (Tombu, Tambong, Wenchiki, and Nansoni) were randomly selected from the 6 councils in Chereponi district. Secondly, a simple random sampling technique by balloting was used in selecting 4 communities, one apiece for each of the selected councils giving a total of 16 communities within Chereponi district. Thirdly, the sample size for each council chosen was determined by proportionate random sampling, using the estimated population of the selected council. Finally, one eligible woman was chosen from randomly selected households. where there was no eligible woman, the next contiguous household was visited.

Qualitative Data: In addition to administering the survey, the qualitative component of the research entailed determining a small subset of participants from the survey sample to conduct Key Informant Interviews to use semi-structured interviews, which will afford a deeper exploration of the dynamics and reasons behind gender-based sexual violence experiences, perceptions and attitudes by women towards BSE, and the contextual factors that influence their BSE practice. Each participant will be subjected to two interviews, one at the onset of the study and the other after the study. A purposive sampling technique was employed, whereby participants representative of different aspects of the study were selected for the interviews based on various characteristics, such as age, level of education, gender, occupation, and ethnicity. This will allow for a thorough exploration of the phenomenon by focusing on key aspects and understanding how it varies across different dimensions. These cases will be purposefully chosen to shed light on how women view practices of BSE from their perspective. Interviews can go forward altogether in a single session or through a virtual platform where participants can access sites that are more convenient as opposed to making a trip to a physical office to participate. In sum, 15 participants were selected for the qualitative study.

Study Tools

The study tools for this study were both quantitative and qualitative information.

Quantitative data consisted of numerical information gathered through structured questionnaires, focusing on factors such as demographic characteristics, awareness of breast self-examination, frequency of practice, and potential barriers to performing BSE.

Qualitative data were sourced through in-depth one-on-one interviews to allow the researcher to provide in-depth insight into how the respondents experienced and perceived breast self-examination (BSE). This in-depth interview will enhance the richness of insight into the determinants of BSE practice and help to interpret the quantitative findings.

Methods of Data Collection/Instrumentation

The study utilized a mixed methods of data collection: For quantitative data, structured questionnaires consisting of items on demography, awareness, knowledge of BSE, frequency of BSE practice, and perceived barriers to BSE were self-administered to the convenience sample of the researcher among eligible females within the Chereponi district of the Northern Region of Ghana.

Similarly, qualitative data was collected through exchanges with participants based on an interview guide developed by the researcher, which could allow for a more detailed exploration of participant experiences, feelings, and perceptions regarding BSE. Like the questionnaire, a semi-structured approach was adopted that encouraged ease of probing and following up on important emerging themes

Data Management and Analysis

The quantitative analysis consists of descriptive statistics, such as frequencies, percentages, means, and standard deviations to summarise the participants' sociodemographic profile and the practice of BSE behaviour. Inferential statistical tests such as chi-square testing or logistic regression analysis were further explored to assess the associations between sociodemographic variables (e.g. age, education, socioeconomic level) and BSE behaviour. The SPSS (Statistical Product and Service Solutions) software was the statistical package used for quantitative analysis.

Thematic analysis was carried out to analyse the qualitative data from the semi-structured interviews. This included systematically coding the data, and identifying patterns and themes related to the factors affecting BSE practice from the interview transcripts.

Coding: The interview transcripts were coded line by line to identify recurring patterns, concepts, or ideas. Codes were organised into themes, which represented big-picture ideas of what matters to people concerning BSE, encapsulating their experiences, beliefs, and attitudes around BSE. All in all, 15 participants were interviewed. Participants were coded to maintain confidentiality; (R1, R2, R3 and R15) and their age was between 19 and 45

Interpretation: The identified themes from the qualitative content were interpreted together with the quantitative findings, to provide a better understanding of the determinants of BSE among women in Chereponi district. The piece of software used for this qualitative analysis was NVivo. NVivo provides a space for organising, analysing, and understanding qualitative data such as text, audio, video, and/or images.

RESULTS AND DISCUSSION

The main barrier that was found to impair self-examination (BSE) rates tends to revolve around a lack of awareness, such as women not knowing that BSE should be done or not knowing how to do it properly [11]. This lack of awareness was also due to the lack of educational resources being available to certain women, particularly if they were from ethnic or migrant communities, and were unable to read many of the awareness campaigns or information [12].

Concerns that performing BSE will lead to the discovery of a lump among young women are misplaced, but they reflect underlying beliefs about the effectiveness of BSE as a strategy for early cancer detection, along with fear about a cancer diagnosis. Misconceptions about breast cancer might be influenced by perceptions of cancer risk that are susceptible to imprecise statements in news media coverage or that stem from the exaggerated leanings of politicians who promote a wellness message supported by ill-gotten funds from private interests like the Texas alcohol industry. Additional risk factors identified include feelings about one's own breasts, with modesty concerns or taboos about talking about one's breast health restricting open dialogue and information-seeking behaviours.

It is evident from table 1 that the majority of the respondents view breast self-examination (BSE) as a significant component of the entire health care regime and also believe the regular practice of BSE can aid greatly in the early detection of breast cancer thereby increase the chances of early cure and furthermore have good confidence in their ability to

examine themselves properly. This is a welcome development as reported by researcher [12, 13]; the majority of our respondents have a significantly positive impression of BSE. This tallies with the outcome of a study on affected perception of BSE among female secondary school teachers in Ilorin, Nigeria, which reported a high perception of BSE (95.5% in the study) by 95.6% of the respondents.

On the other hand, unfortunately, the proportion of participants who scored low on the importance of BSE for early detection of cancer was alarmingly high. This is in harmony with Suleiman [13] survey, who reported a mean level of breast cancer awareness (49%) amongst 150 female hospital staff in Jordan. Ahmed et al [14], [15] revealed a relatively low perception toward breast cancer among 411 Jordanian women aged 18-70 from Amman, Jordan's capital.

Table 1: Summary Table Showing Responses on Women's Perception of Breast Self-Examination

Items	**Mean**	**SD**	**Decision**
I perform breast self-examination at regular interval	3.62	1.155	high perception
I learnt the right technique for performing breast self-examination.	3.96	1.006	high perception
I am confident in my abilities to undertake proper breast self-examination. perception	3.8	.946	high
Breast self-examination is an important part of my overall healthcare routine.	4.0	.902	high perception
Breast self-examination may aid in early detection of breast cancer.	4.46	.791	high perception
Due to a family history of breast cancer, I Often conduct self-examination Perception	1.92	1.187	low
I have had a healthcare provider recommend that I perform breast self-examination.	1.98	1.243	low perception
I have discussed the importance of breast self-examination with my friends or family members.	3.14	1.216	low perception
I have access to resources to learn about breast self-examination.	3.64	1.03	high perception
I have a reminder system (e.g., calendar, app) that helps me remember to perform breast self-examination.	3.65	1.238	high perception
I feel comfortable discussing breast self-examination			

with my healthcare provider.	2.58	1.298	low perception
I plan to continue performing breast self-examination in the future.	3.83	.901	high perception

Table 2: Descriptive Statistics for Knowledge About Breast Cancer and the Importance of Breast Self-Examination Among Women

Descriptive Statistics			
	N	Mean	Std. Deviation
I have a good understanding of what breast cancer is and how it develops.	384	4.06	.822
What are the risk factors that may raise a women's chance of acquiring breast cancer.	384	3.95	.800
I am familiar with the most frequent breast cancer signs and symptoms that women should be aware of.	384	3.94	.782
I recognise the significance of early identification in increasing the likelihood of successful treatment for breast cancer.	384	4.20	.762
I am familiar with the various screening methods for breast cancer, such as mammograms and breast self-examination.	384	3.58	1.249
I believe that breast self-examination is an effective way to detect breast problems early.	384	4.08	.887
I am familiar with the right technique for performing breast self-examination.	384	3.49	1.105
I am aware of the recommended frequency for performing breast self-examination (e.g., monthly).	384	3.58	.998
I understand the limitations of breast self-examination and the need for additional screening methods.	384	3.83	.895
I am confident in my ability to recognize changes or abnormalities in my breasts during self-examination.	384	3.72	.887
I know where to seek medical advice or support if I notice any concerning changes during breast self-examination.	384	4.04	.884
I feel that improving understanding and awareness of breast cancer and breast self-examination is critical for women's health.	384	4.36	.904
Average Scores	**384**	**3.9**	**0.915**

Field Survey: June 2024

Table 2. shows the descriptive statistics on breast cancer knowledge and the perception about why breast self-examination is important given in the table shows that, the mean score and standard deviation (SD) corresponding to the specific statement. The knowledge and awareness levels about each topic are referred by mean scores and the red bars depict the range of variances in responses.

For have a good knowledge what breast cancer is and how it develops the mean was 4.06(SD 0.822), which is quite a good level according to the respondents in their answer regarding breast cancer and the development process. The awareness on risk factors for breast cancer is rather moderate, with a mean of 3.95(SD 0.800) according to the respondents.

Likewise, respondents scored a mean of 3.94(SD 0.782) for symptoms and signs, which is considered a moderate level of knowledge on the symptoms that women should look for; a mean of 4.20(SD 0.762) for early detection, which is considered a strong level of understanding concerning the significance of early detection on treatment outcomes on breast cancer; but for familiarity with types of screening methods such as mammograms and BSE (Breast Self-Examination), respondents scored a mean of 3.58(SD 1.249), which is considered a lower level of familiarity and more of a scope for variability in responses.

Answering the question about their belief regarding the ability of BSE to detect breast pathology early (How much would you say that breast self-exam is a real telly effective way to detect a breast cancer at an early stage, so you can cure it more efficiently?), they responded with an average of 4.08(SD 0.887), which show a strong belief in BSE effectiveness.

Respondents aware of the correct way they should perform BSE (How much would you say that you know the correct way you should perform a BSE), responded with a mean average 3.49(SD 1.105), which indicate a moderate knowledge regarding how to do it right.

Questing about their awareness of the right frequency they should perform BSE (How much would you say that you are aware of the right frequency a woman should do in order to do a BSE), they responded with a mean average 3.58(SD 0.998), which indicate a moderate awareness.

Replying to the question of current knowledge in acknowledging the limitations of BSE and therefore, the need for additional screening methods, respondents gave a mean response of 3.83 (SD 0.895) on a scale of five, indicating an average but moderate sense of

understanding. Similarly, in their response to the question of how confident they would be in recognising any changes or abnormalities they might feel during BSE, respondents gave a mean response of 3.72 (SD 0.887), again indicating average but moderate confidence. In response to being asked about present knowledge on where one should seek medical advice or support if they feel any concerning changes during BSE, respondents gave a mean response of 4.04 (SD 0.884), indicating an average but strong sense of knowledge pertaining to where they could seek additional support. Lastly, in their answers to the importance of increased knowledge and awareness about breast cancer and BSE for the health benefits of women, the respondents were given the highest mean 4.36 (SD 0.904) of five in a scale of five indicating their strong belief in the importance of increased breast cancer and BSE awareness.

Overall, the participants had different degree of knowledge and Awareness for Brest cancer as well as disagreement with associate degree variations among the participants that are shown by standard deviation degree.

CONCLUSION

The adoption of breast self-examination (BSE) among women is crucial for early detection and prevention of breast cancer, yet numerous barriers impede its widespread practice. Section examines the challenges inhibiting the adoption of BSE among women, focusing on three key themes: knowledge and awareness, healthcare system factors, cultural and social influences. Below are the respondents' views on the barriers to the adoption of breast self-examination among women in the Chereponi District of Ghana. Successive health care understanding such as breast cancer examination by women at all level should be encourage through the Community-based work, including peer support groups, can help circumvent cultural barriers to address positive health behaviours. 'There is power in the networks of the social structures we live in,' he says. 'When we can empower women to share resources and access to care, we can diminish some of these barriers to care.'

These traditions are also reflected in the ways religion influences everyday attitudes towards health and illness: 'We have to also harness religious leadership and communities in order to promulgate messages around health and prevention.

Conflicts of Interest: The authors declare no conflict of interest.

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