African Multidisciplinary
Journal of Sciences and Artificial Intelligence

ISSN : 3434-9871

Index: Harvard, Boston, Sydney University, Dimensions, Lens, ResearchGet Scilit, Semantic, Google Scholar, Base etc

https://doi.org/10.58578/AMJSAI.v2i1.4856

Practice and Determinants of Breast Self-Examination Among Women in Chereponi District, Northern Region of Ghana

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

Article Info:

Submitted:	Revised:	Accepted:	Published:
Dec 30, 2024	Jan 13, 2025	Jan 26, 2025	Jan 31, 2025

Abstract

Breast cancer is a public health problem in Ghana and early detection is a key determinant to the survival rate of the disease. It is a preventive measure usually encouraged among women to examine their breasts by feeling them several times a month for any lumpiness or hardness. The study was conducted to find out the practice and determinants of BSE among women in the Chereponi district in the northern region of Ghana. 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. Participants were recruited using a multistage sampling technique with a structured questionnaire and Key Informant Interviews for data collection. The descriptive and inferential data were analysed using the SPSS and NVIVO. Results: The finding reveals that the participants were abreast with Breast self-examination (BSE) techniques. The bivariate correlation study of the level of knowledge and BSE also indicated strong positive relationship between the two variables. In other words, a two-tailed Pearson correlation coefficient of 0.777 shows positive significant relationship between the two variables at 0.01 level. Conclusion: The practice of BSE was found to have a direct relationship with the knowledge. Though the practice was commendable among those who

AMJSAI Journal is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License

had the knowledge, there were still challenges of cultural and social norms that mitigated against the practice of breast self-examination. It is important to empower women, promote supportive relationships and maximise women's social networks to promote BSE uptake at the community level.

Keywords: Practice, Determinants, Breast, Self-Examination, Women, Chereponi, District, Northern Ghana

INTRODUCTION

Breast cancer is the most common cancer in women in many parts of the world, and still the most important public health issue globally, according to the World Health Organization [1]. Early detection is a risk factor for an improved level of survival. The most recommended exam for the early identification of breast anomalies is BSE and is performed by all women [2].(American Cancer Society, 2023). The practice of BSE in the population varies substantially, especially in low and middle-income countries (LMICs), where the numbers in Ghana are considerably lower. Breast cancer in LMICs like Ghana is often discovered at late stages, and there is a poor understanding regarding risks, screening and follow-up care resulting in worse prognosis and fewer treatment options. Breast Self-Examination is an inexpensive, simple early detection method that is known to improve outcomes through early diagnosis and timely intervention.

It also provides useful data that could be used to design appropriate interventions for improving the early detection of breast cancer in Ghana and ultimately decreasing breast cancer mortality. The Global Cancer Observatory Report (2020) ranked Ghana's breast cancer incidence second in West Africa, with an estimated age-standardised rate of 46.4 per 100,000 women are expected to increase in increased population growth and urban remained the challenge for most cases of breast cancer; the majority of cases are diagnosed at late stages, when treatment options are limited, and survivals are low. (Osei-Afriyie et al., 2021)

Breast self-examination is safe, easy technic which gives a woman the opportunity to examine her breasts or any abnormal sign for against. Based on the recent finding, it is suggested that breast self-examination can boost early detection and then treatment for breast cancer. In their review, Yeshitilla et al (2021), said that self-exam typically leads to early detection of cancers and typically increases prospects of cure. As cited by Mihret et al

(2021), Breast self-examination has role to lower anxiety and empower women to take care own breast.

The United Nation suggests it can have many benefits. Even though this practice has the potential to benefit women, breast self-examination practice in Ghana is of low magnitude. In Ghana, little uptake in breast self-examination has been found, with reported practices as low as 12 percent among women. There are many factors contributing to this low magnitude practice including a lack of knowledge regarding breast self-examination, sociocultural beliefs and lack of access to information regarding health care and health education.

Cultural beliefs and taboos may also speak against breasts and breast cancer, thus preventing women from performing BSE. Studies have reported women express fear and reluctance associated with self-touching due to the belief that it can cause immorality or misfortune (Amoah et al., 2019). The perception of breast cancer as a fatal disease forms another critical barrier in performing BSE. Studies have documented fear and reluctance to performing BSE due to the perceived fatal outcome if diagnosed with breast cancer (Kudzawu et al., 2016). Lack of knowledge on breast self-examination is another critical barrier in implementing BSE. Several women are not informed how BSE can be performed and the benefits of performing BSE correctly (Amoah et al., 2019). Inadequate access to healthcare services and qualified health care providers contribute to fill knowledge gaps and could contribute to inability to perform and adopt BSE. Since breast cancer is increasing in Ghana, this research us expected to unravel on the Practice and determinants of BSE among women in the Chereponi district in the northern region of Ghana. The Aim of this research work is to determine the Practice and Determinants of Breast Self-Examination Among Women in Chereponi District, Northern Region of Ghana.

The results would provide a clear picture as to the level of BSE among women in Chereponi and the factors that influence their BSE adoption. From the barriers identified, lack of awareness, cultural beliefs as well as access to healthcare services would inform the development of an effective, tri-factor intervention and community-based programmes to increase breast health awareness and the adoption of regular BSE at the community level. The knowledge dissemination and empowerment of women in Chereponi on breast health would lead to early detection of breast cancer and reduced mortality, as well as improving the prognosis and outcome of treatment.

METHODS

Research Design

A community-based cross-sectional research design with a mixed methods approach was utilized in assessing the practice and determinants of breast self-examination among women in Chereponi District, Northern Region of Ghana.

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. We can also trace the origins of inhabitants of the district to the Lobi of Burkina Faso, who brought the farming skill and trade craft to Chereponi. Add the Mossi of Burkina Faso and the Bakari Kombonalis of Southern Mali to this mix, and you get today's Chereponi District: full of culture, diverse ethnos linguistic groups, rich natural resources, magnificent landscapes, and most of all, the people who prides themselves in their harmony as they engage in agricultural activities that drive the district's economy. Chereponi, according to its structure, sits within the rural and semi-urban landscape within the Northern Region, with its nucleus and economy rooted in vibrant market centres, traditional settlements and agricultural activities.

Based on the information provided by Ghana 2021 Population and Housing Census, the people living in Chereponi District are 87,176, 42,834 are males and 44,342 females. The population size indicates Chereponi District is a moderate-sized community.

From elaboration, we deduced that Chereponi District accounted for males in a greater number that female counterpart. This as certify that the district is well balanced both on gender and number of peoples. chereponi district people size is mitigated people.

Similarly, many other districts in northern region have the same categories.

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. Subsistence farming and rearing of livestock are the main economic activities in the district. The sustainable productivity of Maize, Millet, Yam,

Vegetables, etc in Chereponi District support food security and economic sustainability. The soil fertility and climate potentially favour agricultural activities.

Chereponi district is equally revered for its gorgeous vegetation, vast hills, and streams and rivers. These natural resources complement each other to beautify and enrich the area providing greenery and shelter for farming purposes, to mention a few.

The district is naturally beautiful with fantastic cultural heritage, playing host to so many diverse ethnic groups. However, there are several development difficulties facing the area as intervention in some areas are below expectation. These challenges included lack of access to health facilities, poor educational infrastructure, and socio economical gap existing in the district. These issues are being taken seriously by the sub metro, district government and civil society organisations as it reflects the state, wellbeing of the residents of the area.

The medical care system in the district of Chereponi is organised in tiers with Community Based Health Planning and Services (CHPS) compounds at the village level, health centres and a district hospital. The services it provides range from preventive care including vaccinations, treatment for common illness and injury, and, potentially, some maternal and child health services. Rural areas in general, and Chereponi in particular, are subject to a set of constraints to access. These include distance (patients have to travel long distances to receive care), mobility (transportation becomes problematic), and labour (facilities are understaffed).

Population for the study

The study was carried out among female population residing in Chereponi District, Northern Ghana. This group will serve as the primary focus for data collection and analysis regarding BSE practices, awareness, and determinants within the district.

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.

Validity/Reliability of Instrument

After developing the questionnaire and interview guide, we reviewed the existing literature on sexual behaviour practices and determinants of BSE to verify that the instruments adequately cover all of the relevant constructs and dimensions. We also sought and incorporated feedback from experts in the areas of women's health and research methodology.

Firstly, to ensure the clarity and usefulness of the questions and level of detail in the interview guide before fully deploying the study, both instruments were pre-tested with a small sample of study subjects. This was to help identify possible ambiguities, inconsistencies, or other issues in question wording or format. We then drew on the pre-test participant feedback to make necessary improvements to the instruments.

Secondly, the internal consistency reliability of questionnaire items was calculated with Cronbach's alpha coefficient of 0.734 based on number of the items which was satisfactory for the study.

Ethical Consideration

Ethical approval for this study was sought from the University of Port-Harcourt Ethics Committee. Permission was also obtained from the Cherponi District Health Authority and the various selected Community Heads to study in their communities. Informed verbal consent was obtained from each woman before participating in the study. This included the assurance of confidentiality, a description of the study objectives, and a specific request for permission to conduct the interview. Consent was obtained in the local dialect and English language.

RESULTS

Table 1: Sociodemographic distribution of respondents

Variable	Frequency	Percentage (%)
Age		
10-19 years	6	1.56
20-29 years	170	44.27
30-39 years	190	49.48
40-49 years	18	4.69
Educational level		
Primary	20	5.2
Secondary	32	8.3
Tertiary	332	86.5
Religion		
Islam	368	95.8
Christianity	16	4.2
Marital status		
Single	248	64.6
Married	130	33.9
Divorced/Separated	6	1.6
Income level		
Less than ₵ 500	84	21.9
₵ 500 - 999	50	13.0
₵1,000 - 1,999	68	17.7
₵2,000 – 2,999	72	18.8
₵3,000 or more	110	28.6
Employment status		
Student	78	20.3
full-time	198	51.6
Part time	44	11.5
Self-employed	28	7.3
Unemployed	36	9.4

Table 2: Source of health information about Breast Self-Examination of respondents

Health Information source	**Frequency**	**Percentage**
Healthcare provider	186	48.4
Internet	144	37.5
Television/Radio	38	9.9
Friends/Family	16	4.2
Total	**384**	**100**

DISCUSSION

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 (Smolarz et al.,2022). 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 (Baiyewu,2021).

From table 1, it was revealed that most respondents fell into the age groups of 20-29 years (44.27%) and 30-39 years (49.48%), with smaller proportions in the 10-19 years (1.56%) and 40-49 years (4.69%) categories. This distribution indicates that the study predominantly captured women in their reproductive and early adult years, potentially reflecting the target demographic for interventions promoting breast health awareness.

Regarding educational level, the data shows that a significant majority of respondents (86.5%) had tertiary education, followed by a smaller proportion with secondary education (8.3%) and an even smaller proportion with primary education (5.2%). This suggests a relatively high level of educational attainment among the participants, which could influence their health-seeking behaviours and awareness of preventive measures such as BSE.

In terms of religion, the majority of respondents identified as Muslim (95.8%), with a minority identifying as Christian (4.2%). This religious distribution mirrors the predominant religion in the region.

In terms of marital status, most respondents were single (64.6%), while 33.9% were married. A small minority of respondents are divorced or separated (1.6%). This

distribution helps to understand the marital status of the population surveyed, highlighting that a significant portion of the respondents are single

The table indicates a varied distribution of household incomes among the respondents. The largest group (28.6%) has a household income of ₵3,000 or more, while the smallest group (13.0%) has a household income between ₵500 and ₵999. The data provide a clear overview of the socio-economic status of the respondents based on their household income levels.

In terms of employment status, the data reveals that the majority of respondents (51.6%) work full-time, followed by students (20.3%). Part-time workers account for 11.5% of respondents, while the unemployed make up 9.4%. The smallest group is self-employed people, who account for 7.3% of all respondents. This distribution provides insight into the employment status of the questioned population, showing full-time employment as the most prevalent position among respondents.

Lastly, the primary sources of healthcare information were predominantly healthcare providers as shown in Table 2. (48.4%) and the internet (37.5%), followed by television or radio and friends or family. This suggests a reliance on both traditional healthcare channels and digital platforms for health information dissemination, which could inform strategies for promoting BSE awareness and education among the target population.

Thus, the analysis of the data provides insights into the demographic characteristics and Source of health information about Breast Self-Examination of respondents' potential determinants of BSE among women in Chereponi District, Northern Region, Ghana. These findings can guide the development of targeted interventions to promote BSE practices and improve breast health outcomes in the community.

Conclusion:

The data offer important information about knowledge and awareness towards breast cancer and the importance of breast self-examination among women. Overall, it can be said that the women in the survey had an overall high level of awareness and understanding. This indicates that the majority of women have adequate understanding of breast cancer and their subsequent willingness to avail themselves to various prophylactic

and early detection programs. these results show that women have a good knowledge on risk factors and symptoms associated with breast cancer.

The socio-demographic determinants of BSE practice for women reveals some patterns about the socio-demographic determinants which affect the women who are practising BSE of their breasts or not. It has been found that there are really noticeable patterns about who practises the BSE and who not, there are certain connection between socio-demographic factors and BSE practice which influences the motives, age and habits of women who are practising or not practising BSE.

There is also an age-related pattern, where BSE practice increases in more advanced age categories. Mean BSE practice score turns to be higher in women aged 30-39 years and 40-49 years when compared to younger age groups, which make us assume that older age group and BSE are somehow connected, and women over 30 years old desire to perform BSE more frequently.

Woman's years of education is also associated with practice of BSE, with woman with secondary education having the highest mean BSE practice scores, and followed by those with tertiary education, while woman with primary education have the lowest mean BSE practice scores, which reflect an inverse gender inequity in education and BSE practice.

Religious belief was another factor that predicted BSE practice; a higher proportion of Christian women regularly engaged in BSE than Muslims. This could potentially be due to religious dictates.

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

REFERENCES

1. World Health Organization. (2023). Global breast cancer initiative implementation framework: assessing, strengthening and scaling-up of services for the early detection and management of breast cancer. World Health Organization.American Cancer Society, 2023
2. Sung, H., Ferlay, J., Siegel, R. L., Laversanne, M., Soerjomataram, I., Jemal, A., & Bray, F. (2021). Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA: a cancer journal for clinicians, 71(3), 209-249.
3. Yu, Z., Bai, X., Zhou, R., Ruan, G., Guo, M., Han, W., ... & Yang, H. (2024). Differences in the incidence and mortality of digestive cancer between Global Cancer

Observatory 2020 and Global Burden of Disease 2019. International Journal of Cancer, 154(4), 615-625.

4. Ferlay, J., Colombet, M., Soerjomataram, I., Parkin, D. M., Piñeros, M., Znaor, A., & Bray, F. (2021). Cancer statistics for the year 2020: An overview. International journal of cancer, 149(4), 778-789.
5. Osei-Afriyie, S., Addae, A. K., Oppong, S., Amu, H., Ampofo, E., & Osei, E. (2021). Breast cancer awareness, risk factors and screening practices among future health professionals in Ghana: A cross-sectional study. PloS one, 16(6), e0253373.
6. Yeshitila, Y. G., Kassa, G. M., Gebeyehu, S., Memiah, P., & Desta, M. (2021). Breast self-examination practice and its determinants among women in Ethiopia: a systematic review and meta-analysis. PloS one, 16(1), e0245252.
7. Mihret, M. S., Gudayu, T. W., Abebe, A. S., Tarekegn, E. G., Abebe, S. K., Abduselam, M. A., ... & Kebede, G. W. (2021). Knowledge and practice on breast self-examination and associated factors among summer class social science undergraduate female students in the University of Gondar, Northwest Ethiopia. Journal of cancer epidemiology, 2021, 1-9.
8. Amoah, J., Arhin-Nunoo, J., &Owiredu-Acheampong, K. (2019). Practice, determinants and practice of breast self-examination among women in the Cape Coast Metropolis, Ghana. International Journal of Women's Health, 11(4), 279-289.
9. Kudzawu, E., Agbokey, F., &Ahorlu, C. S. (2016). A cross-sectional study of the knowledge and practice of self-breast examination among market women at the makola shopping mall, Accra, Ghana. Advances in Breast Cancer Research, 5(3), 111-120.