

Assessment of Clinical Breast Examination Practice among Clinical Health Care Workers of Lagos State University Teaching Hospital Ikeja, Lagos State, South-West, Nigeria

Bankole, Titilade Oyenike¹, Ajao, Ezekiel², Ogundare, Temilade Tunrayo³, Akinwale, Oladayo Damilola⁴, Bankole, Adebambo Olalekan⁵

¹School of Nursing, Babcock University, Ilishan-Remo, Ogun State, Nigeria

²School of Nursing, Babcock University, Ilishan-Remo, Ogun State, Nigeria

³School of Nursing, Babcock University, Ilishan-Remo, Ogun State, Nigeria

⁴Department of Nursing, Osun State University Teaching Hospital, Osun State, Nigeria

⁵Department of Surgery, General Hospital, Gbagada, Lagos, Nigeria

Corresponding Author: Bankole, Titilade Oyenike

School of Nursing, Babcock University, Ilishan-Remo, Ogun State, Nigeria

Abstract

Background: Clinical breast examination (CBE) is a systematic method that involves physical examination of the breast by a health worker which may detect breast abnormalities for onward referral to the next level of care. It is a cost-effective screening and diagnostic tool for rural and remote communities where access to expensive technological resources is limited.

Methods: This study adopted descriptive research survey design. 356 respondents were selected using convenient sampling. A self-developed structured questionnaire was used to collect data. Data were analysed using the statistical package for the social sciences (SPSS) version 23. Descriptive statistics of tables and percentages were used to analyze data collected.

Result: The finding showed high level of knowledge and competency of CBE among clinical health care workers (94.6% and 92.1% respectively). The barriers to the practice of CBE among clinical health workers were cultural and religious belief, fear of missing the diagnosis. Moreso, There is a positive and strong significant relationship between the knowledge of Clinical health care workers and their competency. There is a significant relationship between the year of experience of Clinical health care workers and their practice of CBE ($X^2 = 37.321$; $p = 001$).

Conclusion: This study emphasized the significance of CBE and has demonstrated that majority of healthcare worker have had both formal and informal training of CBE but a large proportion are yet to develop competency in the practice. It also identified the important barriers to the practice of CBE by clinical health workers. However, despite the barriers observed, the Clinical health care workers (CHCWs) still adequately performed their roles as health practitioners

Key words: Clinical breast examination, Clinical Healthcare workers, Competency, knowledge.

Date of Submission: 06-05-2021

Date of acceptance: 20-05-2021

I. Introduction

Clinical breast examination is a simple, non-invasive and cost effective way of assessing for diseases of the breast by health care workers. The role of this very simple clinical practice in unraveling breast lesions and encouraging prompt intervention can never be over emphasized. Clinical breast examination (CBE) is identified as one of the components of the triple assessment tests performed on the patient's first encounter with a health professional for evaluation of breast lumps¹. A routine yearly clinical breast examination ensures early detection of any abnormality and assures breast health and an important step in the diagnosis and surveillance of a number of benign and malignant breast diseases². However, when used as part of a multimodal evaluation, the breast examination provides important information that is utilized in both the workup and management of many diseases of the breast such as breast cancer among others.

Breast cancer (BC) is the most common tumor in the globe and a worldwide public health dilemma which has been identified as the most prevalent cancer in women, the first most common cancer diagnosed worldwide³. It represents 23% of all cancers in women worldwide^{4,5}. According to global Burden of Disease Cancer Collaboration, one in 18 women developed breast cancer in their life time⁵. The worldwide incidence rate of breast cancer is estimated to reach 3.2 million by 2050^{5,6,7}. The incidence rate of BC in developed

countries is 89 per 100,000 women and it is below 40 in developing countries⁸. There is higher mortality rate in developing countries results from late presentation, misdiagnosis, and poor health seeking behavior, among other factors, of the African population in general⁸.

According to⁹ the screening rates of BC is low among Nigerian population, ranging from 3.1% to 10.2%, for reasons ranging from cost, quality assurance and fear of radiation. Early diagnosis which is the secondary protection and treatment of breast cancer is effective in extending the length of life and reducing mortality¹⁰. Moreover, the most effective methods used for early diagnosis of breast cancer are breast self-examination (BSE), clinical breast examination (i.e physical examination carried out by the doctor or nurses) and mammography or ultrasound^{6,7} identified clinical breast examination as one of the essential standard triple test for breast cancer detection.

Clinical Breast Examination (CBE) as the first line tools to detect breast cancer has various techniques that can be used to train diverse groups of health workers in CBE⁶. The main considerations for a standard CBE include clinical history, visual inspection, palpation and interpretation and reporting of findings⁷. Some techniques such as using silicone breast models and adopting objective structured clinical examination training tools have been reported to increase the sensitivity of the tool¹¹. Unlike mammography, the judicious use of proficient clinical examination can also identify small tumors leading to early detection and reduced morbidity.

Current recommendations for breast cancer screening intervals and tests vary; however, many guidelines agree that a clinical breast examination is warranted for women with abnormal findings on mammography and as part of annual screening for certain groups of women at increased risk for breast cancer¹². Nevertheless, CBE seeks to detect palpable breast cancers at an earlier stage of the disease, when treatment is more effective and treatment options are more than for later stage disease and may contribute to the earlier detection of breast cancer in women under the age of 40, for whom mammography is not recommended¹¹.

Furthermore, Clinical health care workers are the major source of knowledge about health issues and they contribute to improving awareness, educate and also stimulate the general population on performing clinical breast examination on them¹². Studies have shown that there are gaps in knowledge of nurses on use of CBE as early diagnosis tool for breast cancer¹³. Lack of confidence and anxiety were also identified as barrier to practice of CBE⁶. It is upon this background that this study assessed clinical breast examination practice among health workers In Lagos State University Teaching Hospital, Ikeja, Lagos State, South-West Nigeria. To

1. To determine the level of knowledge of CBE among Clinical health care workers;
2. To assess self-reported competency among Clinical health care workers;
3. To identify the barriers to the practice of CBE among Clinical health care workers.

II. Material and Methods

This study used descriptive research survey design. Purposive sampling technique was used to select clinical health workers form Lagos State University Teaching Hospital, Ikeja . A total number of 356 female clinical health workers were purposively selected for the study.

Study design: Descriptive Research Survey Design

Study location: This was in Lagos State University Teaching Hospital, Ikeja

Study Duration: January 2021 to May 2021

Sample Size: 356 Respondents

Sample Size Calculation: sample size was determined using Leslie Kish formula. 324 was actually obtained, 10% attrition rate was added to make 356

Subject and Selection Method: Purposive Sampling Technique was used to select clinical health workers in Lagos State University Teaching Hospital, Ikeja

Instrumentation: A self-developed structured questionnaire was consisting of four (4) sections was used to collect data.

Section A: This section focused on the socio-demographic variables of the clinical health care workers (such as age, gender, religion, years of experience, educational level, and current unit of practice)

Section B: this elicited information on knowledge of clinical breast examination, it is a 13 items scale using "Yes" And "No" format yes was graded 1 and No was graded 0 lowest score for respondent is 0 while highest score was 10. 0-4 was graded poor knowledge 5-8 was moderate knowledge while 9-13 was graded as good knowledge.

Section C: this elicited information on competency in clinical breast examination, consists of twelve (12) items

Section D: elicited information on barriers to clinical breast examination. Consists of thirteen (13) items

Inclusion criteria:

1. wiliness to participate after gaining verbal consent
2. Female clinical health workers (Doctors and Nurses).

Exclusion criteria:

Exclusion criteria include women clinical health workers (Doctors and Nurses) that were not present at the time of collecting data and those that were not willing to participate.

Procedure methodology

Ethical approval for the study was obtained from Babcock University Health Research Ethics Committee (BUHREC) with approval reference number BUHREC250/21b on April,21st, 2021. Babcock University Ref. number NHREC/24/01/2020. The researcher had obligation to the subjects by getting their informed consent consistent with the principle of individual autonomy. Their voluntary participation, anonymity, privacy and confidentiality when collecting the data was guaranteed. Their right to participate and not to participate was also respected. Data was collected over a period of 8 weeks.

Statistical analysis

Firstly, the entire structured questionnaires were checked for completeness. Data generated were coded and entered into Epi data; the statistical analysis program used for data analysis purpose was (Statistical package for service solution (SPSS), version 23. Descriptive statistics such as frequency counts, percentage, tables, mean score and standard deviation were used to analyze demographic data of respondents and research objectives. Inferential Statistics of chi-square, Pearson correlation, and independent t-test were used to test the hypothesis at 0.05 level of significance

III. Result

Table no 1 shows that majority 128 (36.6%) of the respondents were within the age 31-40 years, nearly all 311(88.9%) of the respondents were female, above two-third 241 (68.9%) were Christians, and one-third 122 (34.9%) have worked for 11-15 years. The table also shows that majority 294 (84.0%) of the respondents were nurses.

Table no 1: Socio-demographic data of the respondents

SN	Variable (N =350)	Frequency	Percent (%)	
1	Age	21-30yrs	89	25.4
		31-40yrs	128	36.6
		41-50yrs	100	28.6
		51-60yrs	33	9.4
		Total	350	100.0
2	Gender	Male	39	11.1
		Female	311	88.9
		Total	350	100.0
3	Religion	Christianity	241	68.9
		Islam	109	31.1
		Total	350	100.0
4	Years of Experience	1-5yrs	43	12.3
		6-10yrs	69	19.7
		11-15yrs	122	34.9
		16-20yrs	78	22.3
		21yrs above	38	10.9
		Total	350	100.0
5	Category	Nurse	294	84.0
		Doctor	56	16.0
		Total	350	100.0

Table no 2 shows that majority 299 (85.4%) of the respondents had high knowledge of Clinical breast examination. The result further shows the knowledge means score of 16.08 equivalents to 94.6%.

Table no 2: Level of knowledge of CBE among Clinical health care workers (CHCWs)

level of knowledge of CBE among Clinical health care workers (CHCWs)	Category of scores		
		Freq.	%
Low	1-6	-	-
Average	7-12	51	14.6
High	13-18	299	85.4
Total		350	100.0
Mean		16.08 (94.6%)	
Standard dev.		2.91	

Table no 3 shows that high level of competency in CBE among clinical health workers. Majority 278 (79.4%) of the respondents had high level of competency with the mean score Of 14.73 equivalent to 92.1%.

Table 4.3: Level of competency of CBE as reported by (CHCWs)

level of competency of CBE as reported by (CHCWs)	Category of scores		
		Freq.	%
Low	1-5	10	2.9
Average	6-10	62	17.7
High	11-16	278	79.4
Total		350	100.0
Mean		14.73 (92.1%)	
Standard dev.		2.98	

Table no 4 shows that majority of the respondents indicated that some cultural belief that discourage CBE by opposite sex (79.4%), religious belief affect readiness to submit oneself to CBE (68.3%), and fear of possible missing the diagnosis affect the practice of CBE (57.4%). The table further shows that despite the barriers identified clinical health workers still practice clinical breast examination.

Table 4.4: Barriers to the practice of CBE among (CHCWs)

Variable (N = 350)		Frequency	%
Religious belief affect readiness to submit oneself to CBE	Yes	239	68.3
	No	111	31.7
Some cultural belief discourage CBE by opposite sex	Yes	278	79.4
	No	72	20.6
Can fear of possible missing the diagnosis affect the practice of CBE	Yes	201	57.4
	No	149	42.6
I am committed to my client who needed clinical Breast examination	Yes	350	100.0
	No	-	-
Clinical breast examination is done on demand	Yes	-	-
	No	350	100.0
Clients are not comfortable exposing their breasts to male health workers, therefore I do not like to performing it on client	Yes	-	-
	No	350	100.0
I do not have clinical training for clinical breast examination	Yes	-	-
	No	350	100.0
The workload in the hospital is much so I do not have time for clinical breast examination	Yes	-	-
	No	350	100.0
The work environment is not conducive to carry out CBE	Yes	-	-
	No	350	100.0
Clinical breast examination is not part of routine gynecological examination	Yes	-	-
	No	350	100.0
There is no standardization in the performance of clinical breast examination	Yes	350	100.0
	No	-	-
I am not allowed to perform CBE for clients	Yes	-	-
	No	350	100.0
I cannot encourage patient to undergo clinical breast examination because it is not effective for the detection of breast cancer	Yes	-	-
	No	350	100.0

Table no 5 showing correlation between knowledge of clinical health care worker and their competency. The result shows that the correlation calculated is 0.857 and p-value is 0.00, which is less than 0.05. The null hypothesis (Ho) that states "There is no significant relationship between the knowledge of Clinical health care workers and their competency", was rejected while the alternative hypothesis (H₁) accepted. Based on the result above there is a positive and strong significant relationship between the knowledge of Clinical health care workers and their competency.

Table no 5: Showing the Pearson Correlation between knowledge of Clinical health care workers and their competency

		Knowledge of CBE	Competency of CBE
Knowledge of CBE	Pearson Correlation	1	.857
	Sig. (2-tailed)		.000
	N	350	350
Competence of CBE	Pearson Correlation	.857	1
	Sig. (2-tailed)	.000	
	N	350	350

Table no 6 shows a significant relationship between the year of experience of Clinical health care workers and their practice of CBE ($X^2 = 37.321$; $p = 001$). Therefore, the null hypothesis that stated "There is no significant association between the year of experience of Clinical health care workers and their practice of CBE" was rejected while the alternate one is accepted.

Table no 6: Showing the Chi-square relationship between the year of experience of Clinical health care workers and their practice of CBE

Years of Experience and Practice of CBE		Freq.	%	X^2	P
	1-5yrs	43	12.3	37.321	.001***
	6-10yrs	69	19.7		
	11-15yrs	122	34.9		
	16-20yrs	78	22.3		
	21yrs above	38	10.9		
		350	100.0		

Table no 7 shows that the correlation calculated is 0.508 and p-value is 0.00, which is less than 0.05. The null hypothesis (H_0) that states "There is no significant association between the level of competency reported by Clinical health care workers and barrier practice of CBE", is rejected while the alternative hypothesis (H_1) is accepted. Based on the result above there is a significant association between the level of competency reported by Clinical health care workers and barrier practice of CBE.

Table no 7: Showing the Pearson Correlation between the level of competency reported by Clinical health care workers and barrier practice of CBE

		Barrier of Practice	Competency of CBE
Barrier of Practice	Pearson Correlation	1	.508
	Sig. (2-tailed)		.000
	N	350	350
Competence of CBE	Pearson Correlation	.508	1
	Sig. (2-tailed)	.000	
	N	350	350

Table no 8 shows that there is no significant difference between the CBE practice between the doctors and nurses ($t = 1.103$, $p = 265$, $df = 348$). Going through the knowledge mean scores as shown above, one can say that the doctors' mean score of 14.76 is not significantly different from the nurses' mean score of 14.88. Hence the set null hypothesis was accepted while the alternate hypothesis is rejected.

Table no 8: Independent t-test showing the difference between the CBE practice between the doctors and nurses in Lagos State University Teaching Hospital Ikeja

	N	Mean	Std. Deviation	Std. Error Mean	Df	T	Sig
Doctor	39	14.76	3.001	0.926			
Nurses	311	14.88	2.982	0.881	348	1.103	.265

IV. Discussion

Finding from the study shows that nearly all the clinical health workers have high level of knowledge about CBE. This is similar to¹⁴ who showed high level of knowledge about CBE. Moreso, ¹⁰reported high level of knowledge about early diagnosis of breast cancer through breast self examination and clinical breast examination among nurses and midwives in Primary Health Care.

Finding from the study also shows high level of competency among clinical health workers. However, ⁴reported that in many areas of medicine, lack of confidence is most often attributed to the small numbers of cases encountered during training. ⁴further suggested that it is essential to examine education when striving for safer primary care. Having an adequate and well-trained primary care health workforce is essential for providing safe, high quality care, provide the health system with competent primary care provider, and further improve

patient outcomes^{4,7}. Pre-service and in-service education prepares an individual to perform their required duties, thereby reducing errors due to gaps in knowledge or skills. This study contradicts the findings of that many⁶ health professionals have little experience on CBE, and this lack of experience impairs negatively on their performance of CBE. The outcome of this study lends credence from the previous findings of^{6,7,10} on the impact of the training intervention in breast cancer detection on knowledge and skills among health center nurses and community health workers (CHWs). They reported a very high level of competency of CBE among health practitioners especially nurses.

The result further reveals the barriers to the practice of CBE which are cultural belief that discourage CBE by opposite sex, religious belief affect readiness to submit oneself to CBE, and fear of possible missing the diagnosis affect the practice of CBE. This finding shows that despite of these barriers, the Clinical health care workers (CHCWs) still adequately performed their roles as health practitioners. For instance, all the Clinical health care workers (CHCWs) are committed to many clients who needed clinical Breast examination. The implication of this finding is that healthcare workers are willing to do their job as they were trained to do but they were being incapacitated by cultural and religious belief residents in the patients themselves that may negatively affect their practice.

Therefore, cultural and religious belief, as well as fear of possible missing the diagnosis affect the practice of CBE are the barriers. The socio-cultural factors were found to predict the practicing of breast examination. This finding supports the work of previous researchers that some women felt they were violating their bodies by palpating their breasts^{15, 16} some believe of not having any symptom/ problem with their breasts¹¹. This result is consistent with that of⁹ on the significance of social and cultural factors influencing behavior such as cancer screening participation and playing an important role in explaining cancer screening disparities in racial and ethnic groups.

Discussion of the hypothesis

The result showed a positive and strong significant association between the knowledge of Clinical health care workers and their competency. There is no significant association between the year of experience of Clinical health care workers and their practice of CBE. The result revealed a significant association between the level of competency reported by Clinical health care workers and barrier practice of CBE. Results indicate no significant difference between the CBE practice between the doctors and nurses.

V. Conclusion

There is high level of knowledge about clinical breast self examination among clinical health workers which translated to their level of competency. Despite the barrier to practice of clinical breast examination the health workers Clinical health care workers (CHCWs) still adequately performed their roles as health practitioners on patient requiring clinical breast examination. There is strong association between the knowledge of clinical health care workers and their level of competency. Therefore, this study emphasized the significance of CBE and has demonstrated that majority of healthcare worker have had both formal and informal training of CBE which resulted into high level of competency in the practice. It also identified the important barriers to the practice of CBE by CHCWs such as religious and cultural factors.

VI. Recommendation

Based on the findings from the study these are recommended;

- There is need to sustain or improve the knowledge of CHCW on CBE by periodic training and retraining.
- CHCWs should undergo early training in their professional lives to achieve competency early in their professional carrier which will have a positive impact on their clients' breast health.
- Psychological assurance of CHCWs to boost their confidence in practice of CBE and remove fear of failure of practice of CBE.
- Education of religion leaders and custodians of culture on importance of CBE

Compliance with ethical standard

Conflict of interest: (Nil)

Financial disclosure: (No Financial support)

Funding/support: (No financial support)

References

- [1]. Heena H, Durrani S, Riaz M, AlFayyad I, Tabasim R, Parvez G, Abu-Shaheen A. Knowledge, attitudes, and practices related to breast cancer screening among female health care professionals: a cross sectional study. *BMC women's health*. 2019 Dec;19(1):1-1.
- [2]. Henderson JA, Duffee D, Ferguson T. Breast examination techniques. *StatPearls* [Internet]. 2020 Jul 31. Akram M, Iqbal M, Daniyal M, Khan AU. Awareness and current knowledge of breast cancer. *Biological research*. 2017 Dec;50(1):1-23.

- [3]. Akram M, Iqbal M, Daniyal M, Khan AU. Awareness and current knowledge of breast cancer. *Biological research*. 2017 Dec;50(1):1-23.
- [4]. World Health Organization. (2020). WHO report on cancer: setting priorities, investing wisely and providing care for all.
- [5]. Olasehinde O, Boutin-Foster C, Alatisse OI, Adisa AO, Lawal OO, Akinkuolie AA, Adesunkanmi AR, Arije OO, Kingham TP. Developing a breast cancer screening program in Nigeria: evaluating current practices, perceptions, and possible barriers. *Journal of global oncology*. 2017 Oct;3(5):490-6..
- [6]. Veitch DE. A Tactile Correct (Biofidelic) Teaching Model for Training Medical Staff to Diagnose Breast Cancer: Detecting Breast Disease using Palpation.
- [7]. Veitch D, Goossens R, Owen H, Veitch J, Molenbroek J, Bochner M. Evaluation of conventional training in Clinical Breast Examination (CBE). *Work*. 2019 Jan 1;62(4):647-56.
- [8]. Mahmoud MH, Sayed SH, Ibrahim HA, Abd-Elhakam EM. Effect of Health Belief Model-Based Educational Intervention About Breast Cancer on Nursing Students' Knowledge, Health Beliefs and Breast Self-Examination Practice. *International Journal of Studies in Nursing*. 2018 Jul 30;3(3):77.
- [9]. Adeniji AA, Dawodu OO, Habeebu MY, Oyekan AO, Bashir MA, Martin MG, Keshinro SO, Fagbenro GT. Distribution of Breast Cancer Subtypes Among Nigerian Women and Correlation to the Risk Factors and Clinicopathological Characteristics. *World Journal of Oncology*. 2020 Aug;11(4):165.
- [10]. Bulut A, Bulut A. Knowledge, attitudes and behaviors of primary health care nurses and midwives in breast cancer early diagnosis applications. *Breast Cancer: Targets and Therapy*. 2017;9:163.
- [11]. Sayed S, Ngugi A, Ochieng P, Mwenda AS, Salam RA. Training health workers in clinical breast examination for early detection of breast cancer in low-and middle-income countries. *The Cochrane Database of Systematic Reviews*. 2017 Jan;2017(1).
- [12]. Provencher L, Hogue JC, Desbiens C, Poirier B, Poirier E, Boudreau D, Joyal M, Diorio C, Duchesne N, Chiquette J. Is clinical breast examination important for breast cancer detection?. *Current Oncology*. 2016 Aug;23(4):e332.
- [13]. Oluwatosin O. Primary health care nurses' knowledge practice and client teaching of early detection measures of breast cancer in Ibadan. *BMC nursing*. 2012 Dec;11(1):1-8.
- [14]. Allagoa DO, Uwaezuoke SC, Kotingo EL. Knowledge, practice and attitude of breast self, clinical breast and mammographic examinations amongst medical doctors in Bayelsa State. *Port Harcourt Medical Journal*. 2017 Jan 1;11(1):26.
- [15]. Gakunga R, Kinyanjui A, Ali Z, Ochieng E, Gikaara N, Maluni F, Wata D, Kyeng M, Korir A, Subramanian S. Identifying barriers and facilitators to breast cancer early detection and subsequent treatment engagement in Kenya: A Qualitative Approach. *The oncologist*. 2019 Dec;24(12):1549.
- [16]. Khiyali Z, Aliyan F, Kashfi SH, Mansourian M, Jaihooni AK. Educational intervention on breast self-examination behavior in women referred to health centers: Application of Health Belief Model. *Asian Pacific journal of cancer prevention: APJCP*. 2017;18(10):2833.