

Research Article

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Level of Knowledge regarding Breast Self-examination among Women of Reproductive age in Imenti North Sub County, Kenya.

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Abstract

Background information: Breast cancer is a global health problem and a leading cause of mortality and morbidity among women. Many patients seek healthcare when the disease is in an advanced stage when the prognosis is poor. Studies done in various parts of the world have demonstrated insufficient knowledge regarding breast self-examination. Breast self-examination is one of the methods recommended for early detection of breast cancer/abnormality. Study by Kenya National Bureau of statistics in 2014 revealed only one quarter of women of reproductive age practiced BSE in Kenya. In the period 2010 to 2015 approximately 62 cases of breast cancer were diagnosed in Meru teaching and referral hospital with 60 of the cases being diagnosed in late stages. Therefore, the aim of this study was to assess the level of knowledge regarding breast self-examination among women of reproductive age in Imenti North Sub County. **Methodology:** The study adopted a cross sectional descriptive design utilizing both qualitative and quantitative data. Multistage cluster sampling method was used and probability proportionate sample was calculated to allocate the samples to respective Sub locations. A sample size of 384 subjects was enrolled, self-administered questionnaires were used to collect information. However interview was conducted for those who could not read or write. Six data clerks were trained on the data collection tools. Ten percent of the questionnaires were pretested in Gatimbi location in Imenti Central Sub-County among a similar group for validity and reliability. Data management was done using SPSS version 23 computer software. **Results:** 100% of the questionnaires were returned. Majority of the respondents 38.8% were between the ages 20-29. Two hundred and ninety (75.5%) of the respondents had heard/were aware of BSE and 268(92.4%) identified the correct description of BSE from the choices. One hundred and ninety two (66.2%) of the respondents source of information concerning BSE was health workers, 177(60.1%) of the respondents had correct knowledge about BSE. **Conclusion and Recommendations:** There was high awareness of BSE among the respondents, they had correct and adequate information regarding BSE. However, more awareness and education on the benefits of BSE was important in order to increase the uptake of BSE. Inclusion of BSE in secondary school curriculum so that women grow knowing BSE and its benefits and a similar research in men since they are equally at risk of breast cancer and other breast abnormalities was recommended.

Keywords

Breast cancer,
knowledge,
self-examination,
reproductive age

Introduction

Breast self-examination is a systemic check-up where, a woman check herself on her breast at home to look any changes or problems affecting the breast tissue, it is a general approach to increasing breast health awareness that allow for early detection of any breast anomalies.(Oladimeji, Tsoka - gwegweni, & Igbodekwe, 2015).The concept of breast self-examination(BSE) was supported since 1950s by Cushman Haagensen, a breast surgeon from the United States of America when mammography had not been developed and many women were diagnosed with breast tumor when it had become large and inoperable (Thornton & Ram, 2008).

According to Maya.Y, Joann G., Yi-frazier et al., 2011, a large percentage of breast cancers are detected by the patients themselves as they perform the BSE. Breast tumors comes as results of breast grow in uncontrollably leading to development of lumps or masses. (American Cancer Society, 2015).

Having information on breast cancer is a medium that can impact and increase knowledge hence reduce mortality and morbidity rates from the disease (Stretcher & Rosenstock, 1997). Lack of adequate knowledge on breast self-examination has led to late diagnosis of the disease hence poor prognosis. Several studies reveal that the women's level of BSE knowledge vary from one group to another and this can potentially influence breast cancer detection and treatment. A study by Shahbaz & Nisa (2013) in a tertiary hospital in Pakistan among antenatal attendees revealed 88% of the antenatal women did not know about breast self-examination while only 18% knew about it, the level of awareness was 29% among those between 20 to 29years while lowest among those above 30 years of age. Nine percent of the respondents gave the view that breast self-examination should start at less than 19 years while 15.3% said that it should start after 19 years of age while 76% did not know about BSE at all. In the same study, the respondents also gave opinion on when BSE should be performed weekly(13.9 %),monthly (76.3%) and yearly (9.8%).Most of the respondents (66.7%) were of the opinion that BSE can be performed at any time in the month while 16.7% had a view that it should be done on every fifth day of menses while another 16.7% attendees did not know when it is supposed to be done, hence this study demonstrated poor practice based on lack of knowledge on BSE.

A study by Parsa, Kandiah, Zulkefli & Rahman, (2008) in Pakistan among female teachers to assess knowledge and behavior towards breast cancer screening revealed, there was low knowledge on breast cancer among the teacher. Only 55% of the teachers in the study were knowledgeable on the risks of breast cancer. In regard to symptoms of breast cancer, 69% of women identified a bloody discharge from the nipple was not normal, while only 16.6% knew that there is an association between nipple retraction and breast cancer. Regarding risk factors, only 10.9%, 13%, and 18.9% of respondents knew there was a relationship between breast feeding, age of menopause and menarche with breast cancer, respectively. Less than 20% knew about the correct palpation techniques for BSE. In Mulago hospital, a study carried out among nurses and midwives to assess their level of awareness concerning breast cancer and early detection measures revealed low level awareness of the risk factors to breast cancer which was at 6% while awareness of early breast cancer detection methods was 25.4 % (Ekong, 2009).

In a comparative study done in Zambia between women from rural and urban areas, level of knowledge on breast self-examination was reported at 58 percent among respondents in urban area compared to 18 percent of the rural area (Mukupu, 2007).In Gaborone, a similar study by Mbuka-ongona & Tumbo, 2013revealed that the mean duration from the onset of symptoms to seeking help at the hospital was 3 years, with a range between 1 and 10 years. Most of the participants presented with a painless lump followed by bloody nipple discharge. Majority were classified as stage three of the disease with cancer having spread to axillary lymphnodes. The finding also revealed that most of the patient had poor knowledge and awareness about the disease and BSE prior to their diagnosis and that contributed to their late diagnosis.

In another study carried out in a Kenyan university, the results revealed only 33% of the students were aware of BSE and symptoms of breast cancer they identified were, breast pain (29.4%), lump (13.1%), nipple discharge (2.5%) and skin colour change (1.9%). An analysis of knowledge on risk factors of the disease revealed inadequate knowledge on the relationship between breastfeeding and breast cancer. Sixty five percent of the respondents were not able to correctly identify the appropriate responses on

symptoms and knowledge. However, majority of students in the faculty of medicine positively identified that breast feeding reduces the risk, but in the faculty of pharmacy (62.5%), dental sciences (86.7%) and nursing sciences (70.0%) were not sure of the association between breast feeding and breast (Muthumbi & Kimani , 2008).

In Saudi Arabia, a study by (Jahan, Al-saigul, & Abdelgadir, 2006) discovered that, knowledge of the women regarding BSE was not adequate. Twenty six percent of the respondent did not know the presenting symptoms of breast cancer while 69.7% of the Respondents had never heard about BSE and this called for health education programs in the region. In regard to the procedure of performing BSE, a study by (Nwaneri et al., 2016) revealed that a significant proportion of women 29% did not follow any pattern when performing BSE and those that acknowledged following any pattern, reported to have done examination incorrectly. The study also revealed that high proportion of the respondents 39% knew BSE increases the survival rate by early detection of the abnormalities. A study by (Kifle et al., 2016) also revealed that only 12% of the respondents reported to know steps of BSE and wrote them correctly. Majority of the respondents 88% gave wrong steps or could not write the correct steps of BSE.

In Kenya, only one –quarter of women of reproductive ages between 15-49 years perform a breast-self-examination and only 14% had a doctor or health care provider perform an examination for breast cancer assessment (Kenya National Bureau of statistics, 2014). During the period 2010 to 2015, in Meru teaching and referral hospital, approximately 62 breast cancer cases were diagnosed from this figure, only 2 cases had been diagnosed at an early stage (MTRH, 2015) and the remaining 60cases reported to the hospital with advanced stage of the disease. This advanced stage diagnosis of the disease was an indication that majority of these women might not have had knowledge on BSE. Therefore, this study sought to understand whether knowledge on BSE was sufficient among women in Imenti North Sub County.

Justification

Cancer and deaths arising from cancer are on increase and more women are being diagnosed with breast cancer at advanced stages of the disease leading to poor prognosis, a probable indicator that women are not performing routinely BSE to ensure early detection

of any abnormality within their breast. When breast self-examination is regularly and correctly performed, and timely management and treatment is given the prognosis of breast cancer is usually good.

According to (Ozmen & Anderson, 2008), breast self-examination helps in early detection of breast cancer and this early diagnosis affords a better prognosis, hence increasing the survival rate and breast cancer outcome. Therefore, this study is designed to assess knowledge of breast self-examination among women of reproductive age in Imenti North Sub County. Based on recent observation, few facilities are equipped with ultra sound scan or mammogram machines. In ill-equipped health facilities, these machines and services are in-accessible and expensive for majority of the patients. Therefore, there is need for a quick and reliable screening technique to probable detect breast cancer/abnormality at an early stage. Breast self-examination can offer the best way for early detection of the disease, it is ideal, safe, cost free and quick method which can be done by every woman at her leisure time with little training. Increased awareness of women on breast self-examination will empower them to take responsibility for their own health even in absence of sophisticated equipment and clinical breast examination.

Materials and Methods

Data collection

A cross sectional descriptive study design was utilized where both quantitative and qualitative data was used to collect information on knowledge. This study was conducted in the households within Chaure, Gitugu and Ngonyi sub-location of Ntima West wards in Imenti North Sub County of Meru County in the month of Aug 2017. Imenti North Sub County borders Buuri and Tigania West to the North, Tigania west to the East, Buuri and Central Imenti to the West and Central Imenti to the South .Imenti North has 5 wards namely, Ntima East, Ntima West, Municipality, Nyaki East and Nyaki West.

The study was approval and authority was sought from Meru University of Science and Technology Ethical committee .Permission to get into the study site was sought from the office of County Public Health under the ministry of public health, where a letter was issued allowing the research to be carried in said area. The researcher explained to the respondents the purpose of the study and the participation was voluntary.

The respondents were not coerced to participate in the study. The objective of the study was clearly spelt out to the respondent before collecting any information to ensure transparency. Informed consent was obtained from the guardian/individual participants which included explanation of the risks and benefits of the study Confidentiality was highly maintained in handling all the information with strict standard of anonymity.

Probability sampling method was utilized, where a multistage cluster sampling method was employed with proportionate allocation of the sample size to the 3 randomly selected sub-location: Ngonyi, Chaure and Gitugu sub-locations (Table 1).

First Stage: Randomly, one ward was selected from five wards of Imenti North Sub-County.

Second Stage: A total of three sub-locations were selected through simple random sampling from the 8 sub-locations of Ntima West ward.

Third Stage: A total of 384 households were selected using systematic random sampling from 2378 households of the 3 chosen sub-locations (Chaure, Gitugu and Ngonyi) the chiefs guided in identification of these households.

Fourth Stage: Eligible participants within the households were chosen at random thus 1 person per household. The sample size proportionate was determined by dividing the number of households in each sub-location / total number of households in the three of the selected sub-locations× the sample size to get the proportion.

Table 1 Sample size proportions

Sub-Location	No. of households	Proportion	Eligible households
Ng'onyi	964	$964/2378 \times 384 = 155$	155
Chaure	927	$927/2378 \times 384 = 150$	150
Gitugu	487	$489/2378 \times 384 = 79$	79
Total	2378	384	384

The selection of the participants was based on the following inclusion and exclusion criteria: Participants were women of reproductive age 15 to 49 years, who were residents and had been living in Imenti North Sub County for more than six months, and consented to participate in the study. Those women below 18 years and assented to participate in the study and their guardians consequently gave consent for their participation were included in the study. Women who did not consent to participate in the study, women below 18 years whom their guardian declined to give consent for their dependents to participate in the study, women below 15 years and above 49 years, women who were not residents of the study area or women who had not resided in the study area for more than six month and women of unsound mind were excluded from the study.

A total of 384 participants were enrolled into the study. Fishers et al formula was used in the calculation

of the sample size. A semi structured questionnaires was used in data collection, self-administered. However, interviews were conducted for those who could not read or write. The questionnaire covered a range of socio-demographic characteristics and BSE knowledge which included; BSE awareness, family history of breast cancer, presumed signs of breast cancer/ abnormalities, predisposing factors to breast cancer and other methods of breast cancer/abnormality detection.

Data analysis

The acquired data by the researcher was analyzed using descriptive statistics using statistical package for social sciences (SPSS) version 23 software for analysis. Descriptive statistics were then performed and average score for the multiple items of each attribute were computed. The results were presented in tables, pie charts, figures and narration.

Results

Demographic Information

This study looked at the following demographic data: age marital status, educational level, religion and

occupation of the respondents. The following were the findings as shown in Table 2.

Table 2: Demographic Information.

Variable	Frequency(n=384)	Percentage (%)
Age		
19 and below	48	12.5
20-29	149	38.8
30-39	113	29.4
40-49	74	19.3
Marital Status (N=384)		
Married	223	58.1
Separated	35	9.1
Single	112	29.2
Windowed	14	3.6
Education level (N=384)		
College	226	58.9
Secondary	100	26.0
Primary	48	12.5
No Formal Education	10	2.6
Religion of Respondents (N=384)		
Protestant	240	62.5
Catholic	107	27.9
Muslim	32	8.3
Atheists	5	1.3
Occupation of Respondents (N=384)		
Formal employment	131	34.1
Informal employment	172	44.8
Students	30	7.8
Housewives	51	13.3

Table 2 indicated the social demographic factors of the respondents who participated in the study. About 48(12.5%) of the respondents were aged below 19 years, 149(38.8%) between 20-29 years, 113(29.4%) between 30-39 years while 74(19.3%) were aged between 40- 49 years. The study showed that the highest proportion of respondents 149(38.8%) were found to be in the age group 20-29 years. In regard to marital status, the findings showed that 223(58.1%) of the respondents were married, 35(9.1%) were separated, 112(29.2%) were single women while 14(3.78%) were windowed. The findings revealed that majority of the respondent were married. On Education level, the study revealed that 226(58.9%)

had reached college level, 100(26%) had completed form four certificates, 48(12.5%) had completed Kenya certificate of primary education while 10(2.6%) had not undergone any formal education. The results showed that majority 240(62.5%) of the respondents were protestants, 107(27.9%) were Roman Catholic, 32(8.3%) were Muslims while 5(1.3%) were atheists. Pertaining the occupation of respondents, about 131(34.1%) of the respondents had formal employment 172(. 44.8%) informal employment, 51(13.3%) housewives while 30(7.8%) of the respondents were students. This revealed that majority of the respondents were in informal employment.

Knowledge about breast self-examination.

Awareness about BSE

The respondents were asked to indicate whether they had ever heard or were aware of BSE, those who were

aware of BSE were further asked to tick the statement that best describe BSE from the two options provided .The respondents were also asked to indicate their source of information concerning BSE which was an open ended question. The following were the findings as shown in the **Table 3**.

Table 3: BSE awareness among women

S/N	Variable	Total	Percent
1	Awareness of BSE (n=384)		
	Aware	290	75.5%
	Not Aware	94	24%
2a	Description of BSE(n=290)		
(a)	Assessment made by the nurse/doctor to check for lumps	22	7.6%
(b)	Self-assessment using fingers to palpate and feel for any abnormality	268	92.4%
2b	Source of information(n=290)		
	Health workers	192	66.2%
	Books	14	4.8%
	Teachers	31	10.7%
	Media	29	10%
	Friends	24	8.3%

According to **table 3**, majority of the respondents 290 (75.5%) had heard about BSE at one time or another, only 94(24%) had never heard about BSE. Two hundred and sixty eight (92.4%) of those respondents who were aware of BSE and identified the correct description of BSE according to the questionnaires presented to them while 22(7.6 %) were not able to identify the correct description from the two choices presented. When asked about their source of information concerning BSE which was an open ended question, the following was a cluster of responses from the respondents; Health Care providers

192(66.2%), books 14(4.8%), teachers 31(10.7), media 29(10%) and friends 8.3%). This shown that, health care workers were the main source of information to the respondents.

Family History of Breast Cancer

The respondents were asked to indicate whether anybody in their family had ever or was suffering from breast cancer and the following were the findings as shown in Figure 1.

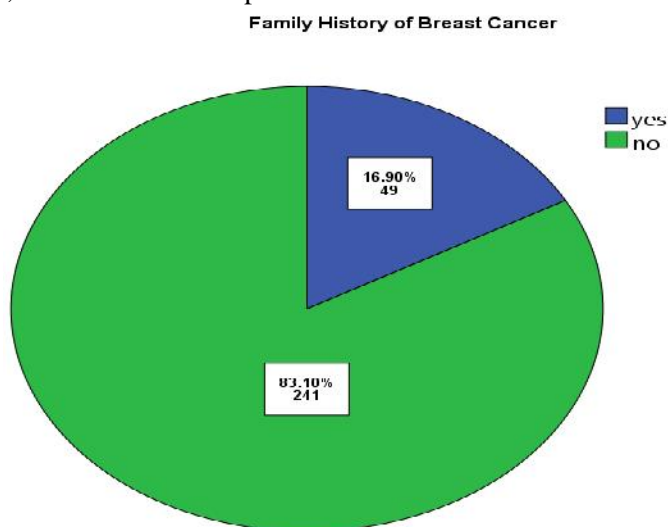


Figure 1: Family history of breast cancer

From the report findings, only 49(16.9. %) acknowledged that a family member had suffered breast cancer while for 241 (83.1%) of the respondents reported that no family member had ever suffered from breast cancer.

Presumptive Signs of breast abnormality

The respondents were assessed on their knowledge regarding the presumptive signs of breast abnormality that are checked out when performing BSE and the following were the finding as shown in Table 4.

Table 4: Presumptive Signs of breast abnormality

#	Signs	Frequency (#)			Percentage (%)		
		True	False	Don't Know	True	False	Don't Know
1	Painless breast lump	231	42	17	79.7	14.5	5.8
2	Immobile breast lump	209	35	46	72.1	12.1	15.9
3	Nipple retraction	162	34	94	55.9	11.7	32.4
4	Milky discharge in absence of lactation	197	33	60	54.9	9.1	20.7
5	Bloody/watery discharge	203	37	50	70	12.8	17.2
6	Dimpling of the skin like an orange peel	181	25	84	62.4	8.6	29.0
7	Lump under the armpit	111	108	71	38.3	37.2	24.5
8	Change in size and shape of the breast	161	67	62	55.5	23.1	21.4

Table 4 shows the responses of the respondents in regard to their knowledge on presumed signs of breast abnormality that a woman is supposed to look out for when performing BSE. There were eight question addressing the signs of breast abnormality, these enabled the researcher to identify whether the respondents had either: correct knowledge, incorrect knowledge or no knowledge regarding presumed signs of breast abnormality.

Two hundred and thirty one (79.7%) of the respondents appeared they had correct information that painless breast lump is a sign of breast abnormality 59(20.3%) of the respondents either had incorrect information or no information on the sign. For Immobile breast lump, 209(72.1%) of the respondents had information as correct sign of breast abnormality while 81(27.9%) had either incorrect information or no information about the said sign.

Regarding nipple retraction 162(55.9%) of the respondents seemed to have correct information while 128(44.1%) of the respondents seemed to have either incorrect information or no information at all concerning the said sign. Milky discharge in absence of lactation was a sign that 197(67.9) of the respondent correct information about while 93(22.1%)

of the respondents had either incorrect information no information about as assign of breast abnormality. Two hundred and three (70%) of the respondents appeared to have correct knowledge on bloody/watery discharge as a sign of breast abnormality while 87(30%) of the respondents had either incorrect information or no information about the said sign. one hundred and eighty one (62.4%) of the respondents seemed to have correct knowledge information on dimpling of breast skin like an orange peel while 109(37.6%) of the respondents had incorrect or no on formation about this sign. Presence of a lump under the armpit: 111(38.3%) of the respondents had correct information about it while 179(61.7%) of the respondents had incorrect information or no information. Lastly 161(55.5%) of the respondents appeared to have correct information regarding change of breast size unlike 129(44.5%) who had incorrect information or no information regarding the said sign.

Methods used in early detection of breast cancer

The investigator sought to know whether the respondent are informed on other methods that can be used in early detection of breast cancer. The following were the findings as shown in Table 5.

Table 5: Methods of early detection of breast abnormality

Methods	Frequency (#)			Percentage (%)		
	True	False	Don't Know	True	False	Don't Know
BSE	290	0	0	100	0	0
Mammography	209	16	65	72.1	5.5	22.4
Clinical Breast Examination	253	20	17	87.2	6.9	5.9

From **Table 5**, it is observed that majority of the respondents were aware of the various methods used in early detection of breast abnormality. Two hundred and ninety (100%) of the respondents were informed about BSE. Two hundred and nine (72.1%) of the respondents were correctly informed on mammogram while 81(27.9%) of the respondents either did not have informed or had incorrect information on mammogram as method. Clinical breast examination was correctly identified by 253(87.2%) as other methods of early detection of breast abnormality while

37(12.9%) of the respondents had either no information or incorrect information on clinical breast examination as a method used in early detection of breast abnormality.

Predisposing factors to breast cancer

The respondents were asked to indicate whether the statement provided were true, false or no information regarding predisposing factors to breast cancer. The following were the findings as shown in Table 6.

Table 6: Predisposing Factors to Breast Cancer

Risk factors	Frequency (#)			Percentage (%)		
	True	False	Don't Know	True	False	Don't Know
Age	193	59	38	66.6	20.3	13.1
Diet	134	108	48	46.2	37.2	16.6
Positive family history of cancer	257	13	20	88.6	4.5	6.9
Prolonged breast feeding lowers breast cancer risk	160	72	58	55.2	24.8	20.0
Giving birth many times lowers breast cancer risk	34	156	100	11.7	53.8	34.5
Lack of physical exercise	76	117	97	26.3	40.3	33.4
Tobacco smoking.	242	18	30	83.4	6.2	10.4
Early maturity	81	133	76	27.9	45.9	26.2
Use of hormonal contraceptive	94	116	80	32.4	40.0	27.6

Table 6 displays the predisposing factors to breast cancer. One hundred and ninety three (66.6%) of the respondents had correct information on age as predisposing a factor to breast cancer however the other 97(33.4%) seemed not to have correct information or any information on this as a risk factor. Concerning diet as a risk factor, 134(46.2%) of the respondent had correct information while 156(53.8%) of the respondents had either incorrect information of no information on this risk factor. Majority of the respondents 357(88.6%) had correct information of genetical predisposition to breast cancer unlike the 11(11.4%) of the respondents who did not have correct information on the said risk factor or did not have any information. Prolonged breast feeding lowers breast

cancer: parting this factor 160(55.2%) of the respondents had correct information while 130(44.8%) of the respondents did not have correct information or no information about it. Regarding giving birth many times lowering breast cancer risk, only 34(11.7%) of the respondent had correct information, 156(53.6%) had incorrect information while 100(34.5%) had incorrect information about the risk factor. Majority of the respondents 214 (73.7%) did not have correct information or any information on lack of exercise as a risk factor, only 76(26.3%) had correct information on the risk factor. Tobacco smoking as a risk factor was popularly known by many respondents with 242(83.4%) demonstrating to have correct information about the risk factor while

48(16.6%) of the respondents either did not have correct information or had no information about the said risk factor. Minority of the respondents 81(27.9%) had correct information on early maturity being a risk factor to breast cancer however majority of the respondents 209 (72.1%) had incorrect or no information concerning the risk factor. Lastly only 94(32.4%) of the respondents appeared to have correct information on the use of hormonal contraceptive as a predisposing factor to breast cancer, majority of the

respondents 116(40.0%) did not have correct information while 80(27.6%) had no information on the this factor.

BSE may improve the breast cancer treatment

The respondents were asked whether early breast cancer detection through BSE could improve the breast cancer treatment and the following were the findings as shown in Figure 2.

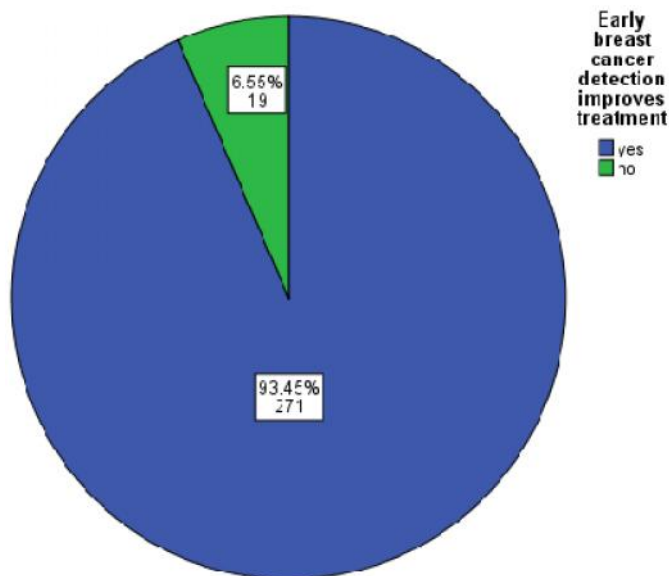


Figure 2: BSE may improve the breast cancer treatment

According to **figure 2**, majority of the respondents 271 (93.5%) were for the opinion that early breast cancer detection through BSE could improve the breast cancer treatment while 19 (6.5%) of the respondents were in centrally with the statement.

average score for the multiple items were therefore computed to arrive at a composite value and this is what was used in further descriptive. A likerts scale of 1 to 3 was used to ascertain overall knowledge where, 1 represented correct knowledge, 2 incorrect knowledge and 3 no knowledge.

Respondent’s Overall knowledge Level on BSE

This was achieved or measured by using a combined total of eight questions addressing knowledge. An

Table 7: Distribution of women as per their knowledge level regarding BSE

Knowledge levels	Frequency(n=290)	Percentage (%)
Correct knowledge	177	60.1
Incorrect knowledge	79	27.2
No knowledge	34	11.7

The study findings revealed that, majority of the respondents 177(60.1%) who were aware of BSE appeared to have correct knowledge in regard to BSE, 79(27.2%) had incorrect information about BSE while 34(11.7%) had no knowledge regarding BSE (Table 7).

Discussion

This study revealed that, majority of the respondents 290 (75.5%) were aware of BSE. However a study results by Shahbz & Nisa (2013), 88% of women attending antenatal clinic in a Pakistan hospital did not know about BSE. The results revealed further that, the age group that was more aware of BSE was between 20-29 years, which agrees with this study results where awareness was more in the age group 20-29 years. In contrarily, this study results showed that, the lowest BSE awareness was noted in the ages between 15 to 19 years unlike in the latter where lowest BSE awareness was reported in group above 30 years. Regarding the overall knowledge of the respondents towards BSE, it was found that majority of the respondents 177(61%) had correct knowledge concerning presumed signs of breast abnormality which contradicts with results of a study by Nde, Assob, Kwenti, Njunda, (2015) which cited low knowledge on BSE as the reason which contributed to participants not performing BSE. Another study by Mbuka-ongona & Tumbo (2013) also revealed, most of the patient had limited awareness about BSE, this disagree with this study results where majority of the respondent(75.5%) were aware of BSE and were able to identify the correct description of BSE as indicated in Table 4.2 respectively, this contrasted also with other studies by Jahan, Al-saigul, & Abdelgadir(2006) & Shahbaz & Nisa (2013) where their findings revealed majority of respondent had never heard about BSE and could not be able to identify correct description BSE. The source of information regarding BSE for majority of the respondents 192 (66.2. %) from this study was the healthcare workers. This could mean health care workers had played a key role in creating BSE awareness to the women in the subcounty, this differs with the study results by Nemenqaniet et al (2014) and (Kifle et al., 2016) that revealed the highest source of information on BSE was media as reported by 46.3% of the respondents. This study also revealed that, the respondents of this study could be passive learners given that very few (1%) were able to get information about BSE through

books despite the fact that majority of them are literates as shown in Table 4.1 and 4.2 respectively. In regard to knowledge on presumed signs of breast abnormalities, which are the important signs to check out for when performing BSE, majority of the respondents 177(61%) in this study had correct knowledge however this contradicts results in with study by Muthumbi & Kimani, 2008 among university student that revealed 33% of the respondents did not know the signs of breast abnormality which could be contributing to late diagnosis. Painless breast lump was the most known sign of breast cancer as reported by 79.7% of the respondents in this study which contrasts the study findings by Parsa, Kandiah, Zulkefli & Rahman, (2008) where only 16.6% of the respondents knew there was a relationship between painless breast lump and breast cancer. Lump under the armpit was the least known sign of breast cancer where only 38.3% of the respondent had knowledge about it.

The respondent's awareness on various methods used in early detection of breast abnormality was high as indicated in the findings on Table 4.7, unlike the finding from a study by (Ekong, 2009) where awareness of early breast cancer detection methods were not known by the majority of the respondent (25.4%). Moreover this study findings revealed BSE is known by majority of the respondents 290(75.5%) which is cheap, reliable and convenient.

Respondent's knowledge on the predisposing factors to breast cancer revealed only three factors were known by majority of the respondents: positive family history of cancer (86.6%), tobacco smoking (83.4%) and advanced age factor (66.6%) as shown in Table 4.5. This study findings coincides with the findings by Parsa, Kandiah, Zulkefli & Rahman, (2008) where knowledge on the risk factors was below low. When respondents were asked whether BSE improves breast cancer outcome, majority of the respondents from this study (72%) answered positively which agreed with a study results by (Zare et al., 2015) that revealed BSE would have positive effect in diagnosis of breast cancer, however, findings from a study by (Nwaneri et al., 2016) only minority of respondents (39.3%) agreed to this assertion. This further reveals that, majority of the respondents involved in this study maybe aware of the benefit of BSE in early detection of breast abnormalities hence embracing the practice.

Conclusion

From this study, majority of the respondents are aware of BSE with the main source of information being healthcare workers. Despite the high awareness level some of the respondents were not aware of the presumptive signs of breast abnormality that a woman is supposed to look for as she examines herself. The knowledge of the respondents on the risk factors to breast cancer was also inadequate. Generally, BSE knowledge among the respondents was adequate. There was also a high probability that all the respondents may embrace BSE since majority of them were for the idea that early breast cancer detection through BSE may improve the breast cancer outcome.

Recommendations

- The County director of public health too organize forums where healthcare workers have an opportunity to interact with women and educate women on breast cancer and use of BSE in early detection of any abnormality of the breast. These forums will give women a chance to understand the benefits of BSE in early detection of breast abnormality as well as learn correct techniques and skills of BSE right from age of adolescence inform of formal education as well as informal education for women and men using planned programs.
- There is also need for more utilization of Media as important source information on BSE in order to disseminate information to the wider community.
- Breast self-examination may also be included in secondary school curriculum so that women can grow understanding BSE as a reliable way of detecting any abnormality and this will help women to seek medical attention early hence good prognosis.
- In efforts to intensify BSE awareness, healthcare providers to provide BSE information during their every contact with every female client within eligible age when they come to hospital for other services.
- Men also suffer breast cancer just as women, therefore, there is need for further research to be carried out among men to assess their knowledge regarding towards BSE.

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