International Journal of Community Medicine and Public Health
Odhiambo FB et al. Int J Community Med Public Health. 2023 Jun;10(6):1994-2000
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20231673

Original Research Article

Knowledge, attitude, and practice towards breast cancer and breast cancer screening among women in Homa Bay County, Kenya

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Received: 08 March 2023
Revised: 26 April 2023
Accepted: 01 May 2023

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ABSTRACT

Background: Late diagnosis of breast cancer lowers survival rates in resource-poor nations like Kenya. Due to a lack of screening programs, breast cancer awareness, and modern cancer treatment treatments. Rural areas, where most poor people live, are worse. The study examined breast cancer knowledge, attitude, and practice among Homa Bay County women.
Methods: A cross-sectional study included 340 samples from two sub counties chosen for their rural nature. 170 women were randomly selected from from each sub county. Questionnaires collected data. Four significant informants were interviewed. Only descriptive statistics were used in data analysis.
Results: The results showed lower level of breast cancer screening of 9.7%. Average knowledge was 44.39%. The average score in attitude was 1.7 showing a positive attitude towards breast cancer. The mean age of the participants was 44.30±14.32 in Ndhiwa and 45.16±14.35 in Kasipul. The general knowledge for breast cancer screening was considerably poor. Majority scored below 60% was considered low. In in terms of attitude, women had a positive attitude towards breast cancer screening and thought these was contradicted by key informant who said most had negative attitude. In terms of practice toward breast cancer screening services, only a paltry 9.7 % had gone for screening.
Conclusions: Clinical breast examination was preferred over mammography. This study will educate Kenyan public health implementers on ways to improve screening for rural women. Education on early screening towards breast cancer can help in improving breast cancer screening uptake. Breast cancer awareness was considerably lower. Health policymakers can use this findings to improve on cancer management.

Key Words: Breast cancer, Screening, Knowledge, Attitude, Practice

INTRODUCTION

Breast cancer is a prevalent cancer (WHO, 2017).[1] Near 1.7 million cases were detected in 2016, making it the second most frequent after lung cancer (WHO, 2016).[2] This is 13% of all new cancer cases and 25% of female cancers. Breast cancer is the fifth most prevalent cause of cancer mortality in women, following lung, liver, colorectal, and stomach cancers. Developing nations have more breast cancer mortality than industrialized ones despite greater occurrences (Eleanor Wragg, 2016).[3]

Regionally, breast cancer incidence in Eastern Africa is 19.3 per 100000 women compared to 89.7 in Western Europe (WHO, 2017).[1] In Kenya, breast cancer is the third leading cause of morbidity and death, with 34 per 100,000 individuals (MoH, 2015).[4] It causes 7% of yearly fatalities, according KNCO, 2016.[5] It tracks infectious illnesses and

CVD (Kenya Network of Cancer Organization, 2016).[5] High breast cancer rates must be managed.

In terms of screening, currently there exist higher screening for breast cancer in developed countries at 78% but this is not the same for developing countries where screening is at 18%.[1-6] As result of higher screening in developed countries, it has resulted into early treatment. But many patients succumb to the disease in developing countries including Kenya due to low survival rates associated with late diagnosis and late onset of treatment of breast cancer patients.[1] Moreover, there exists a variation in screening uptake for breast cancer between urban and rural women in response to breast cancer screening services in Kenya (Bishwajit and Kpoghomou, 2017).[7] Women in urban areas have a higher probability (90% odds) of access to breast cancer screening compared to their rural counterparts in Kenya.[7] This inadequate knowledge on breast cancer and low breast cancer screening results into late cancer diagnosis hence lots of death. In addition, Homa Bay County recorded lower screening levels of 7.8%.[7,8] Furthermore, no cancer center exists in Homa Bay. These factors therefore means that most people who die of breast cancer may not have known what was ailing them having not been diagnosed with the disease.[8] Late diagnosis of breast cancer makes it almost impossible for curative care for breast cancer patients. For example, the current screening rate in Kenya is about 14% nationally for breast cancer.[8] The objective of this study was therefore to establish the Knowledge, Attitude, and Practice towards Breast Cancer and Breast Cancer Screening among Women in Homa Bay County, Kenya.

METHODS

This was a cross study that was done among two sub counties to determine the knowledge attitude and practice towards breast cancer among women in Homabay county Kenya as part of baseline study to an upcoming intervention to breast cancer screening. Women were selected from the households was done using systematic random sampling with a sample frame consisting of a list of households obtained from the sub county administrator who met the inclusion criteria. The study was done in April to May 2019. Women who have been resident of the county for not less than 2 years (this was verbally affirmed) and agreed to participate in the study were selected

Sample size determination

The following sample size calculation formula was used to calculate the sample size (Charan and Biswas, 2013).[9] This is for two separate populations with similar characteristics

$$n = 2(Z \propto 2 + Z\beta)\, 2 * P\,(1 - P)/(P1 - P2)2$$

Where $Z_{\propto 2}$= $Z_{0.05/2}$=$Z_{0.025}$=1.96at 5% level of significance and Z_{β}=$Z_{0.02}$=0.842 from the table at 80% power, P1-P2 is the effect size. $Z_{\alpha/2}$ is the critical value of the normal distribution at α/2 (e.g. for a confidence level of 95%, α is 0.05 and the critical value is 1.96), Z_{β} is the critical value of the normal distribution at β (e.g. for a power of 80%, β is 0.2 and the critical value is 0.84) and p_1 and p_2 are the expected sample proportions of the two groups. If the rate of screening for breast cancer is 48% as reported by in response to their screening event.[8,10] It was then projected that SMS would improve screening uptake to at least 64% as previously done by Kerrison et al.[10] This therefore makes the available effect size to be 16%.Thus sample size according to mentioned formula was calculated to be 153. So at least 153 participants were recruited plus a 20% to cover for non-response rate. This was additional 17 participants. Hence the total number of the women per arm were 153+17=170 women per arm. In total, 340 participants were enrolled into the study. They were uniformly allocated into the two sub counties of the study.

Data collection techniques

Data was collected using pretested questionnaires to obtain knowledge, demographic and social economic characteristics of the participants. Interviews were used to collect key informant's opinions on breast cancer and its screening in Homa Bay County.

Data analysis

Data analysis consisted of descriptive statistics for summary of research outcomes. Most of the analysis was done in by combining data from the two sub counties. Group differences for continuous data were analyzed by independent sample t tests.[10] Test of association for categorical variables was done using chi-square test. Data analysis was done using SPSS version 26.0. Qualitative data were analyzed through thematic characterization of the of the study. Confidentiality was maintained by ensuring that the questionnaires were safely kept by the principal investigator.

RESULTS

Knowledge on breast cancer and breast cancer screening

The (Table 1) shows the average scores that was obtained for each of the variables testing knowledge on breast cancer and breast cancer screening at both the pre intervention and the post intervention stages. The highest score was obtained by a score of 60.9% on the clipping of the skin as an abnormal breast change. Five variables had their scores below 50%. The average score was 43.7%. Knowledge was categorized using Bloom's cut-off point, as good (80-100%), Moderate (60-79%) and poor <60%.[12] "I think the knowledge levels of women on breast cancer is very low". (Health official in Ndhiwa). This therefore means there was poor knowledge on the breast cancer and breast cancer screening. The knowledge score on different known breast cancer control strategies is described in (Table 2). All the breast cancer control strategies that were registered scored above 60% mark, indicating above

average knowledge on cancer control methods. Healthy dies scored the highest on what was considered the highest cancer control strategy.

Table 1: Knowledge on breast cancer and breast cancer screening.

Knowledge variable	Score (%)
How often post menopausal women should perform SBE	21.8
Breast Lumps are found by	5.8
Effect of regular breast cancer screening on curing breast cancer	59.4
A woman who feels her breast regularly is doing one of the most effective methods of breast detection	55.2
Mammography can detect that which cannot be felt during CBE	53
At what age should a woman start doing start doing SBE	55.8
If a woman gets regular mammography, she does not need to do SBE or have physical examinations	52.7
Mammography is recommended yearly if a woman is over 40years	43
Using palm of your hand is the most effective way of detecting breast lump	34.5
SBE should be done during your period when lumps are most easily	40.9
An important part of SBE is looking at yourself in the mirror	13
Is it necessary to look at your breast during SBE	38.8
Some Nipple discharges are expected as you grow older	51.8
Squeezing the nipple is important during SBE	53.6
When feeling or palpitating your fingers, you should use	53.6
Abnormal breast change: Discharge	57
Abnormal breast change: Lump	48.2
Abnormal breast change: Clipping of the skin	60.9

"The knowledge levels in this county in terms of cancer may be low. But I know majority are aware of breast cancer screening exercises that sometimes are conducted in the county. Though many women may not have the exact knowledge on breast cancer. Even educated women may not have that knowledge unless you had come into closeness with cancer victim".

Attitude toward breast cancer screening

The participants were also asked their attitude towards breast cancer. A mean score of less <2.5 was considered a good attitude, while a mean score of more than 2.5 was considered a bad attitude. All the variables scored good attitude at both pre and post intervention levels. This this was contrary to the finding from the interview with one of the county health official who indicated that there is poor attitude towards breast cancer screening (Table 3-4).

Table 2: Knowledge on prevention practices for breast cancer.

Breast cancer prevention practice		N	%
Public health education	Yes	224	77.8
	No	62	21.5
Tobacco control	Yes	222	77.1
	No	65	22.9
Healthy diet	Yes	229	79.5
	No	58	20.5
Avoidance of alcohol	Yes	219	76
	No	68	23.9
Early screening	Yes	220	76.7
	No	66	23.3
Use of condoms	Yes	105	36.5
	No	182	63.5

Table 3: Attitude toward breast cancer screening practices.

Attitude towards breast cancer screening	N	Mean	SD	SE
When I get a recommended breast cancer screening, I feel good about	278	1.33	0.693	0.042
When I get breast cancer screening, I don't worry as much about cancer	276	1.55	0.845	0.051
Having a routine breast cancer screening of the breasts would make me	279	1.89	0.840	0.050
Having a health officer examine the breasts will help me find lumps early	274	1.54	1.158	0.070
Having a health officer examine the breasts would be embarrassing	275	2.08	0.930	0.056
Having breasts screened would take too much time.	274	2.11	0.923	0.056
Having a breast screened will decrease my chances of dying from breast.	275	1.38	0.747	0.045

The attitude score based on the blooms classification is depicted in (Table 4). Among those given the

questionnaires and responded in Ndhiwa, 68.2% of them had positive attitude while 31.8 % had negative attitude towards breast cancer screening compared to 77.8% who had positive and 22.2% who had negative attitude in Ndhiwa. The test difference between the two sub counties did not show a statistical difference (t=12.12, df =2, p value=0.2500).

Table 4: Summary of attitude about breast cancer and breast cancer screening.

Parameters	Pre intervention	
	Ndhiwa (N=157)	Kasipul (N=162)
	% (Frequency)	% (Frequency)
Positive attitude	68.2 (107)	77.8 (126)
Negative attitude	31.8 (50)	22.2 (36)

Table 5: Utilization of various screening methods.

Parameters		Ndhiwa		Kasipul	
		Screened for BC		Screened for BC	
		Yes	No	Yes	No
SBE	Yes	5	46	1	8
	%	9.8	90.2	11.1	88.9
	No	10	103	14	133
	%	8.8	91.2	9.5	90.5
BCE	Yes	4	50	5	7
	%	7.4	92.6	41.7	58.3
	No	11	99	10	134
	%	10.0	90.0	6.9	93.1
MMG	Yes	4	45	0	10
	%	8.2	91.8	0.0	100.0
	No	9	103	11	131
	%	8.0	92.0	7.7	92.3

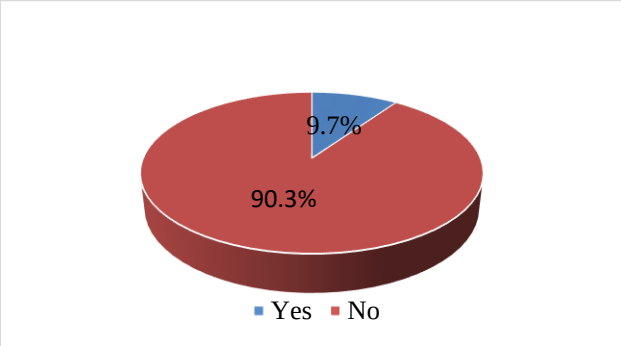

Figure 1: Level of breast cancer screening.

This the difference in in attitude compared in the two sub counties was not statistically significant. "There is a generally poor attitude towards breast cancer screening among women and even men in terms of screening services and this is not exclusive to breast cancer. We hope this will change over time as the screening services are scaled -up. The county will start a breast awareness in all the sub counties this will help in changing their attitude"- County health official. "Women are very responsive towards health services in this area including breast cancer screening"- County health official- Kasipul.

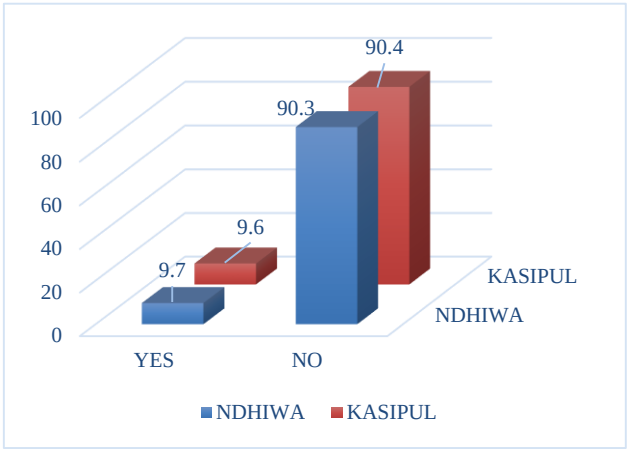

Figure 1: Proportion women who have gone for any of the breast cancer screening methods among women in Homa Bay county-Kenya.

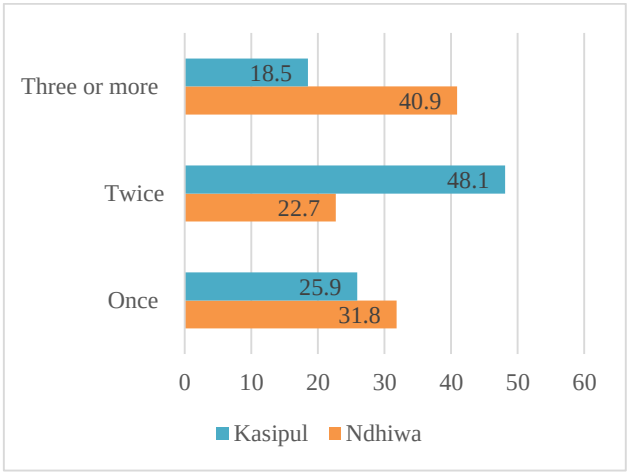

Figure 3: Number of times a woman has been screened.

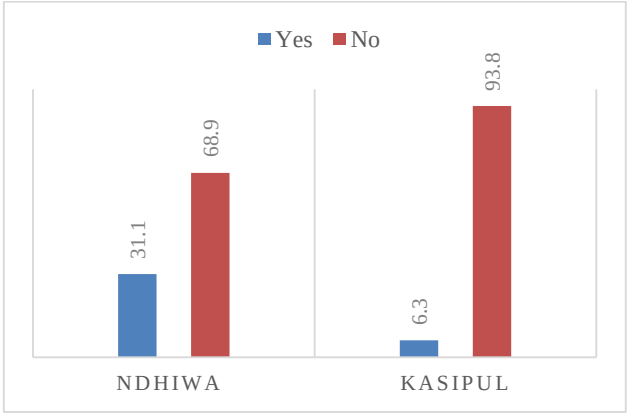

Figure 4: Proportion of those who have done self breast examination.

Level of breast cancer screening is shown in (Figure 1). In general there was a low screening levels of breast cancer among women in Homa Bay County following the interventions. The average screening was at 9.7% in both the sub counties. The number of those who had been screened per Sub County is depicted in (Figure 2). The levels of screening in both Ndhiwa and Kasipul sub counties were almost the same at 9.7% and 9.6 % respectively. Clinical breast examination (CBE) is the most sought after screening method in these sub counties at 35.1% among those who had been screened. Most of the Women who had gone for breast cancer screening had gone through the clinical breast examination i.e., 35.1% and 38.2% in Ndhiwa and Kasipul respectively. The number of times a woman has been screened for breast cancer. Is shown in (Figure 3). The data is extracted among the women who had undergone breast cancer screening. The proportion of those had undergone self-breast examination is shown in (Figure 4). Ndhiwa sub-county had more women doing self-breast examination compared to Kasipul. The proportion of those who had undergone clinical breast examination is shown in (Figure 5). Ndhiwa Sub County had more women doing clinical breast examination compared to Kasipul.

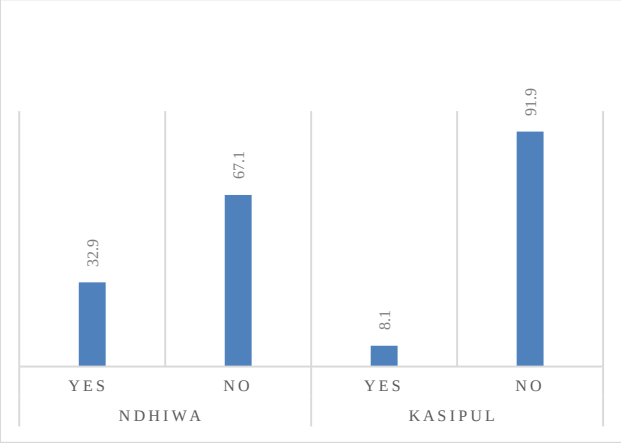

Figure 5: Clinical breast examination levels among the women in Homa Bay County.

Reasons for not screening for cancer

Reasons why women may not go for breast cancer examination was sought and the results given in figure seven above. Most of the women thought that screening was a dangerous idea (96.8%) in Kasipul while another substantive number (93.6%) thought that screening is not profitable in the same sub county. Even in Ndhiwa, majority (77.7%) thought it was a dangerous exercise followed by the view that it may not be profitable (73.2%).“Majority of women who may go for breast cancer screening usually do it by themselves. They probably have gone for screening before and now they are able to it alone. The challenge with mammogram is that we currently don’t have it here in the referral hospital so unless was recommended by a doctor then the patient can seek it. But once in while we have mobile ones which come to offer free screening especially in October during the breast cancer awareness month, though the turn has not been very high.”

DISCUSSION

Level of breast cancer screening uptake

This study sought to establish knowledge, attitude, and practices towards breast cancer and breast cancer screening among women in Homa bay county, Kenya. The findings revealed low level of uptake in breast cancer screening in both sub counties. The screening levels was 9.7% for both sub counties. This demonstrates low breast cancer screening in this county. It is noteworthy that screening levels in rural areas of Kenya is very low as had been reported.[8] Besides, in Kenya, there happens to be a gap in cancer screening uptake between rural and urban women, particularly in Homa Bay County, which has lower screening levels.[7,8] This low screening for breast cancer was in congruent to a study done by Antabe et al in Kenya.[13] They found out that women’s geographic location, specifically, living in a rural areas were associated with lower odds of women being screened for breast cancer.

Knowledge on breast cancer and breast cancer screening

Additionally, the respondents' levels of knowledge were investigated. The abnormal breast change that involved the clipping of the skin received a score of 60.9%, which was the highest possible score. There were five factors whose scores were lower than fifty percent. The overall average was a score of 43.7%. It was clear from this information that women in this rural setting had a limited understanding of breast cancer. According to Bloom's cut-off point on knowledge score, where good (80 -100%), moderate (60 - 79%), and poor (less than or equal to 60%) are the categories, the average score on knowledge was 43.7%, indicating that the respondent had a poor knowledge of the subject matter.[12] All of the variables received low scores, with the exception of the question regarding whether or not women were aware that clipping the skin on the breast can indicate an abnormal breast change (6.09%), indicating that the women were aware that this was a sign of breast abnormality. According to study done in Nigeria by Bunker et al, knowledge is the most important indicator of breast cancer screening availability.[14] This finding was verified by Naanyu et al who highlighted a lack of breast cancer knowledge as one of the hindrances to screening for breast cancer in western Kenya. Wachira et al and Busakhala have also supported this finding.[15,16] Moreover, a research conducted in Kenya by Jones et al revealed low knowledge of breast cancer symptoms and risk factors as a factor associated with breast cancer screening.[17]

Practices on breast cancer screening

It was abundantly clear that individuals who had undergone breast cancer screening had a wide variety of

access experiences to the numerous breast cancer screening services that were available. It was clear that there was a significant gap in access to breast cancer screening. The highest detection rate was achieved through self-breast cancer examination (31.1%), followed by clinical breast examination (26.8%), and finally mammography (25.2%). A good illustration of this is the Ndhiwa constituency. For instance, in the Kasipul constituency, the rate of clinical breast examination was the highest, coming in at 24.8%. This was followed by the rate of self-breast cancer examination, which came in at 16.0%, and mammography, which came in at 15.6%. The findings of another study carried out in Ethiopia were almost in agreement with these findings. According to the findings of that study, three of the most common screening procedures-self-breast examination, clinical breast examination, and mammographic examination were carried out by respectively 24.3%, 7.6%, and 3.8% of respondents Abeje at al.[18] This low breast cancer screening can be scaled up using personalized mobile phone-based text messaging.[19] In Choi, Um and Lee study, they aimed to see if a combination of personalized directed text message reminders and cancer education messages may improve women's knowledge as well as attitudes about breast cancer, resulting in more women attending for screening.[19]

Limitations

The study was restricted to women living in the rural areas of Homa-bay County in Kenya whixh was the limitation of current study.

CONCLUSION

From the results it can be concluded that there was low level of breast cancer screening among women of rural in Ndhiwa and Kasipul sub counties. It is also indicative that there was poor knowledge on breast cancer and breast cancer screening practices among the women in Homa County, Kenya. It is also evident that clinical breast cancer examination is the most preferred type of breast cancer.

Recommendations

The findings of this study make it abundantly clear that there is a pressing requirement for improved and coordinated breast cancer education across all segments of society, including women, men, community leaders, and health care professionals at all levels. In the future, research should be encouraged to find effective strategies to achieve this goal of having a higher proportion of women in this area get screened for breast cancer. It is possible for the women who use the local facilities to have access to screening services by making these services available to them. The desire to get screened for breast cancer can be increased through health education provided by community health workers.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee of Kenyatta University

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Cite this article as: Odhiambo FB, Oyore JP, Agina B. Knowledge, attitude, and practice towards breast cancer and breast cancer screening among women in Homa Bay County, Kenya. Int J Community Med Public Health 2023;10:1994-2000.