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PERCEPTION OF MAMMOGRAPHY EXAMINATION BY MIDDLE-AGED WOMEN IN PUBLIC SCHOOLS IN NNEWI NORTH LOCAL GOVERNMENT AREA, NIGERIA.

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ABSTRACT

Background: The degree of acceptance of mammography examinations as breast cancer screening tool has not been fully documented in the locality despite the increasing incidence of breast cancer in Nigeria.

Purpose: To assess the knowledge and perception of female teachers in selected public schools in Nnewi LGA of Anambra State, Nigeria about mammography.

Method: This prospective cross-sectional study was carried out among the 449 female staff (aged 35-56 years) of the three public Primary and eight public Secondary Schools in Nnewi LGA. Simple random sampling was used to enlist 250 consenting female teachers from these schools for the study. A structured questionnaire containing fifteen research questions was used for data collection which was validated by two experts and a pilot study was done in one of the schools. The reliability coefficient obtained using the Cronbach alpha technique for the study was 0.71. The chi-square test statistics were used to analyze the data at a 0.05 level of significance.

Result: A total of 125 completed questionnaires were returned and used for the study. The study showed that 108(84.8%) of the respondents had knowledge of mammography before the study. 105(84%), 85(68%), 75(60), and 35(28%) of the respondents aged 46—56 years sourced information about mammography through social media, family/friends, radio, and awareness campaigns respectively. Out of the 125 respondents, only 8 (6.4%), have undergone mammography examination and out of these 7(5.6%) had a tertiary level of education. Age and educational qualification significantly influence the perception of the school teachers ($p < 0.05$) towards mammography examination.

Conclusion: There is a high awareness of mammography examination in the studied population through social media. The level of awareness and compliance to mammography examinations when medically indicated were affected by age, educational qualification ($p < 0.005$), and fear of possible breast cancer positive result respectively.

Introduction

According to WHO, breast cancer, is the most common cancer globally, accounting for 12% of all new cases of cancer. It is also the second most common cause of death in the world. [1,2] .

In Nigeria, there are more than 100,000 cases of breast cancer per year. It constitutes 12% of new cases of cancer in Nigeria and 25% of all cancers in women [2] . The more depressing thing about breast cancer in Nigeria is that it is on the increase. The incidence of breast cancer from 1966 to 1969 was 13.7%. Between 1998 and 1999, it rose to 24.7% while by 2009 to 2010 it has reached 54.3 %. [3]. As of 2012, Ibadan Cancer Registry (IBCR) gave age Standardized Rate (ASR) for breast cancer as 520 per 100,000 while the figure from Abuja Cancer Registry (ABCR) was 64.6% [3]. These figures are alarming and require urgent action

Most breast cancers are found in women over 50 years whose risk of developing cancer ranges from 1.6% to 3.6%[3]. In Nigeria, breast cancer cases are on the increase as a result of urbanization and lifestyle changes. It is the leading cause of cancer deaths in Nigeria. Breast cancer usually starts as small growths in the breast which are often too small to be felt. Some symptoms of the disease include pain in the breast, nipple discharge, irritation and dimpling of the breast skin, and changes in size or shape of the breast[1].

Risk factors for breast cancer include but not limited to being a female, exposure to oestrogen, increasing age, radiation therapy to the breast, family history of breast cancer and alcohol intake[4]
While breast cancer starts as small growths in one corner of the breast, (usually in the breast ducts or lobules), it can grow to affect the whole breast and even spread by both direct contact and metastasis (the commonest cause of death) to other organs of the body. Breast Cancer comes not only with high morbidity but also with high mortality. Survival rate after diagnosis was, in the time past, depressingly low. Improvement in treatment outcome from the early 1980s came with the introduction of a multi-modal approach to treatment anchored on early detection of the disease.

Early detection of breast cancer takes its root from awareness of the people of what the disease is all about, the presenting signs and symptoms, the fact that there is available cure, the need for and where to seek help as well as the accessibility, effectiveness and affordability of such help.

One of the earliest activities expected at the health facilities when patients come to seek help is early and correct diagnosis of the health condition. For cancer patients, this could make the big difference between survival and death.

For the health workers, the consulting room diagnostic procedure for lumps generally is by palpation. This unfortunately is not good enough for breast cancer the lump of which becomes palpable only after about the 30th division of the cancer cells which may take up to two years. In other words, by the time cancer growth becomes detectable by palpation, the disease is already two years old in the body. And this is greatly inimical to effective and complete recovery following treatment. There is thus a need for more sensitive modes for the early detection of cancer.

The leading tool for breast cancer screening which is detecting small lumps of cancer before they become palpable by hand is mammography [2]. Mammography is the process of using low-energy X-rays to examine the human breast. Other imaging modalities such as ultrasound, thermography, magnetic resonance, positron emission tomography (PET), scinti-mammography, optical imaging, electrical impedance based imaging and computed tomography (CT) can serve as a tool for screening, for diagnosis, staging, patient follow-up and for diagnosis of breast pathology. Ultrasound is used mostly as a useful tool in describing abnormalities detected in mammograms especially in the dense breasts but its sensitivity declines in detecting non-palpable tumours. Magnetic resonance imaging (MRI) is the best imaging modality for the diagnosis of breast cancer because it does not involve harmful radiation but it is more expensive than other imaging modalities and it lacks specificity. PET/CT increases the accuracy of images by adding atomic image registration and localization. Scinti-mammography and PET can be used as adjunct imaging tools for detecting and staging breast cancers but they lack sensitivity to detect small tumors. Optical imaging makes use of near infrared wavelength to detect lesions inside the breast. It is suitable for dense breasts, to image large and palpable abnormalities, and used when multiple tumors are suspected but it is expensive[5]. The added advantages mammography has over other breast examination modalities are that it is cheap, readily available and it helps in the detection of tiny-palpable tumors and small abnormal tissue growth confined to the milk duct in the breast. It has

reduced radiation risk and no side effect[5]. Also, mammography has proven to have a significant impact in screening asymptomatic individuals.

Despite awareness and availability of mammography, one of the things that can affect the patronage of the procedure by the population is their perception of the procedure. Like many others, the word "Perception" has multiple but closely related definitions depending on the source of the definition. Perception **can be said to be** "the ability to see, hear, or become aware of something through the normal human senses of sight, hearing, taste, smell and touch, Perception can also be seen as "the way that someone thinks and feels about a company, product, service". In psychology, it is a process by which individuals organize and interpret their sensory impressions in order to give meaning to their environment" [6].

Perception is of the mind. It is the outcome of a mental process that takes place in the thalamus and cerebral cortex of the brain utilizing selected, and not all, stimuli captured by the body's sense organs. All of these stimuli are not utilized in the process in which the outcome manifests as perception. Only those stimuli selected by the organs form the starting point of the process. This selection is based on so many factors which may include spatial configuration, pattern, brightness, loudness, intensity, peculiarity, and others. In addition, there are certain other attributes or dispositions of the perceiver which affect his perception of events, conditions or individuals. These will include the perceiver's interest, expectations, attitude, motive, mood, socio-cultural cum religious background, economic status, educational level and even cognitive structure.

The great importance of perception lies in the fact that it eventually transforms into realities forming the basis of the perceiver's actions. These actions may range from such everyday activities or choices such as what to eat or drink wear or live, to more serious choices like schools to attend, ventures and investments to embark upon, projects to engage in and even medical facilities or services to access or accept.

Before the advent of mammography, breast examination for any disease entity followed largely the standard medical physical examination sequence of inspection, palpation, percussion, and auscultation. While this served its purpose at a time, the peculiar nature of the breast and the seriousness of some of the diseases that may befall it clearly made it necessary that any device or procedure that could enhance the diagnosis of breast diseases will be much welcome. Mammography examination fell in that category. Mammography finds ready uto se in both screening and diagnosis of breast diseases, especially tumors. Knowing the ravages breast cancers cause, it is no surprising mammography found early use in cancer screening and diagnosis.

While the incidence of breast cancer in the developed world is as high as twice that of developing countries, Nigeria inclusive, mortality from breast cancer in developed countries is now on the downward trend while that of developing countries keeps rising. The difference takes its root from the fact that developed countries have developed and put into practice, programs aimed at diagnosing breast cancer at early stage when it is easily amenable to treatment while in developing countries patients still present in late stages of the disease. One of the tools used in this early diagnosis of breast cancer is mammography and this is known to reduce breast carcinoma mortality by 63%[7].

Studies have shown that the awareness of mammography among women has not been very encouraging. In the study conducted among women attending outpatient clinics of University College Hospital Ibadan, Western Nigeria, Obajimi et al (2013) [8] established that the proportion of patients who have knowledge about mammography was as low as 5%. However, in another similar study conducted among secondary school Teachers in Owerri Imo State Nigeria, 42.5% of the study population have heard about mammography[9] but another related study in Port Harcourt Rivers State, showed that average of 23.5% women have heard about Mammography as a breast cancer screening tool[10].The awareness of mammography is also poor among female health professionals and civil servants ranging from 5% to 40.5% [11, 12] but high awareness level of 80.7% has been reported[13] . It is important to note that hearing about mammography does not translate to having adequate knowledge of the procedure nor an inducement to the hearers to make use of mammography when medically indicated. In the study by Akhigbe and his group [13], while 80.7% have heard about mammography, only 23.7% of the respondent had a very good knowledge about the importance of screening mammography [13] and this is a very poor outcome. Also, the situation is not different even among some health

professionals. Similarly, in another related study conducted among female health professionals in Lagos state, only fourty- two (5.1%) of the women had previously heard of mammography. Of these, two women (4.8%) knew that mammography was a picture or photograph of the breast while one (2.4%) said that it is an X-ray taken to check the condition of the breast. There were six respondents (7.2%) who knew that it is used for breast cancer detection while the remainder 33 (78.6%) of those aware only heard about it as a screening method for breast disease but were unaware of what it is or how it is done [14].

The different levels of in-depth knowledge of mammography can be attributed to the quantum and accuracy of the different sources of information about mammography. Such sources would include family and friends, books, magazines, social media, Radio, Television, health awareness campaigns, talks at Clinic [9,13,8.]

This was also highlighted in a study conducted on breast cancer and mammography awareness among women attending General Out- Patient Clinics of Ain Shams University Hospitals Egypt. The researchers found out that Television (42.9%) was the greatest source of information on mammography. Others were Internet (23.9%), Clinic talks (22.6%), Radio and Newspapers (3.9% each) (Manzour et al, 2019)[7]. These findings collaborated an earlier study which found that television accounted for 68.2%, Newspapers (83.2%), Family and friends (28.6%), and Health care providers (14.1%) of the awareness on mammography[15]

There are factors that influence the sources through which information about mammography gets to the potential users. These would include cultural and religious factors as well as age, educational level, and socioeconomic status. This was collaborated by related studies which found out that 71.7% and 71.4% of the women who have heard of mammography actually had tertiary level of education respectively [13,12]. The whole essence of imparting the knowledge about mammography is to induce the hearers into making use of it either as a screening or diagnostic tool. In the study earlier referred to above, conducted among secondary school Teachers in Owerri Imo State Nigeria, 15.8% have undergone the procedure either as a screening or diagnostic tool [14].

Some members of the public may be afraid to undertake the mammography examination probably due to fear of radiation injury, incidental discovery of breast cancer or may find the procedure very embarrassing[7]. As a result, some people may have an indication to undergo mammography examinations but may not make themselves available for the procedure[8].

It is therefore obvious that the greatest factor influencing the acceptability or non- acceptability of mammography as a screening tool for breast cancer is the perception of the procedure by the women. This is because perception is the foundation of action or inaction. Therefore, the aim of this study is to assess the perception of mammography by middle-aged women in public schools in Nnewi LGA of Anambra State and the factors that influence such perception in other to enable stakeholders to understand the extent of awareness and acceptance of mammography examination in the locality as a breast cancer screening tool and to develop better strategies in the use of mammography as important diagnostic/screening tool in the fight against cancer in the society.

Materials and Methods

A descriptive survey design was adopted for this study. The study was carried out among 449 female staff (aged 35-60 years) of 11 Primary and Secondary Schools in Nnewi North L.G.A, of Anambra State, Nigeria. Ethical approval for this study was obtained from the Faculty of Health Science and Technology, College of Health, Nnamdi Azikiwe University, Nnewi Campus.

The target populations for this study were all the 449 female staff of the public Primary and Secondary schools in Nnewi North LGA of Anambra State. Returns from those outside the middle age group were discarded. For this study, the middle-aged group was taken to be from age 35 to 56 years as gathered from National Population Commission.

A simple random sampling technique was used to enlist 250 consenting female staff of the eleven primary and secondary public schools. A proportionate simple random technique was used in determining the number of questionnaires to be allocated to each school. The questionnaires were pre-tested using ten teachers in one of the selected Secondary Schools and validated by two lecturers in Enugu State University of Science and Technology and Nnamdi Azikiwe University Awka, Nigeria.

The primary source of data was obtained through pre-tested questionnaires distributed among all consenting female staff of all the public Primary and Secondary Schools in the LGA.

Permissions were first sought and obtained from the Headmasters/Headmistresses and the Principals of the Schools.

For each of the schools, the questionnaires were distributed by the researcher directly to consenting female staff of each school visited. They were then requested to fill and return them to the researcher who waited till the close of work each day to collect the completed questionnaires. A total of 250 questionnaires were distributed to the respondents out of which 220 questionnaires were completed and returned.

Result

Out of the 220 respondents that returned their questionnaire (table 1) 95 (41.2%) were outside the middle age group and were thus discarded in line with the exclusion criteria. Those eligible to be in the study group are those in age groups 35-45 years and 46-56 years. The total number (n) of questionnaires used for the study was thus 125 (table 2).

Age group	Respondents
Less than 35 years	95 (41.2%)
35-45 years	70 (31.8%)
46-56 years	55 (25%)
Over 60 years	0 (0%)
TOTAL	220 (0%)

Out of the 125 respondents, 104 (83%) have attained a higher level of tertiary education and 102(81.6%) were aware of mammography while 2(1.6%) have no awareness about mammography. Out of 21 (16.8%) who possess lower-level education, 4(3.2%) have awareness about mammography while 17(13.6%) have no awareness about mammography (Table 2).

Table 2: Respondents level of education and awareness of mammography

S/No	Educational level	I am aware that mammography is a cancer screening examination		Frequency
		Yes	No	
1.	Lower level (Primary and Secondary)	4(3.2%)	17(13.6%)	21(16.8%)
2	Higher level (Tertiary)	102(81.6%)	2(1.6%)	104(83 %.)
Total		106(84.8%)	19(15.2%)	125

55(44%) of the respondents in the 35-45 age group were aware that mammography is a screening tool for breast cancer while 15(12%) were not aware. Out of the 55 respondents aged 46-60 years, only 51(40.8%) have awareness of mammography and 4(3.2%) doedot have any awareness of the use of mammography (Table 3).

TABLE 3: Respondents' awareness of mammography before the study.

S/No	Response	Age		Total
		35-45	46-56	
1	Yes (n/%)	55(44%)	51 (40.8)	106(84.8%)
2	NO (n/%)	15(12%)	4(3.2%)	19(15.2%)
Total		70	55	125

105(84%), 85(68%), 75(60), and 35(28%) of the respondents sourced information about mammography through social media, family/friends, radio, and awareness campaigns respectively. 92(73.6%) and 74(59.2) of the respondents with high-level education sourced information about mammography through social media as well as family and friends while 18(14.4%),15(12%) of the respondents with a lower level of education obtained information about mammography through the radio and television respectively. 50(40%), 45(36%) and 65(52), 40(32) of the respondents between the ages of 46-60 and 35-45 were informed about mammography through the social media as well as family and friends respectively (table 4).

Table 4 : Source(s) of information about mammography to the respondents

S/No	Source	Age		Total	Educational level		Total
		35-45 n=70	46-56 n=55	n=125	Lower n=21	Higher n= 104	n=125
1	Family and friends	,	45(36)	85(68%)	11(8.8)	74(59.2)	85(68)
2	Social Media	65(52)	50(40)	105(84%)	13(10.4)	92(73.6)	105(84)
3	Hospital health talks	18(14.4)	38(30.4)	56(44.8%)	8(6.4)	47(37.6)	56(44.6)
4	Radio	45(36)	35(28)	75 (60%)	18(14.4)	57(45.6)	75(60)
5	Books	40(32)	22(17.6)	62(49.6%)	10(8)	52(41.6)	62(49.6)
6	Awareness campaigns	25(20)	30(24)	35(28%)	5(4)	30(24)	35(28)
7	Television	32(25.6)	16(12.8)	48(38.4%)	15(12)	33(26.4)	48(38.4)
8	Newspapers	25(20)	13(10.4)	38(30.4)	13(10.4)	25(20)	38(30.4)

105 (84.4%) of the respondents especially those with tertiary level of education 97 (77.6%) have the knowledge that mammography can be used to detect small lumps in the breast before it can be felt by hand. This knowledge is however shared equally by the two age brackets of 35-45 and 46-60 years (53, 42.4%).

Table 5 : Respondent's level of knowledge about mammography.

S/N	Mammography	Age				Educational level				Total	
		35-45 n=70		46- 56 n=60		Lower n= 21		Higher n=104			
		Yes	NO	Yes	No	Yes	No	Yes	NO	Yes	No
1	Can detect small lumps before they can be felt by hand.	53 (42.)	17 (13.6)	53 (42.4)	2 (1.6)	9 (7.2)	12 (9.6)	97 (77.6)	7 (5.6)	106 (84.8)	19 (15.8)
2	is very necessary for women above 40 years	49 (39.2)	21 (16.8)	49 (39.2)	6 (4.8)	4 (3.2)	17 (13.6)	94 (75.2)	20 (16)	98 (78.4)	27 (21.6)
3	increases the prognosis of breast cancer treatment	35 (28)	35 (28)	52 (41.6)	3 (2.4)	6 (4.8)	15 (12)	81 (64.8)	23 (18.4)	87 (69.6)	38 (30.4)
4	exposes the patient to some form of radiation	44 (35.2)	26 (20.8)	19 15.2%	36 28.8%	17 13.6%	4 3.2%	46 36.8%	58 46.4%	63 50.4%	62 49.6%
5	Is affected by Size and thickness of the breast.	28 (22.4)	42 (33.6)	29 23.2%	26 (20,8)	9 (7.2)	12 (9.6)	48 (38.4)	56 (44.8)	57 (45.6)	68 (54.4)
6	Can be used to treat cancer	18 14.4%	52 41.6%	10 8%	45 36%	16 12.8%	5 4%	12 9.6%	92 73.6%	28 22.4%	97 77.6%
7	Can be used to monitor the treatment of cancer	20 (16)	50 (40)	48 (38.4)	7 (5.6)	11 (8.8)	10 (8)	57 (45.6)	47 (37.6)	68 (54.4)	57 (45.6)
8	Can be used to check if a woman can breastfeed baby	32 (25.6)	38 (30.4)	8 (6.4)	47 (37.6)	5 (4)	16 (12.8)	35 (28)	69 (55.2)	40 (32)	85 (68)

Out of the 125 respondents, only 8 (6.4%), have undergone mammography examination. The respondents with tertiary level of education 7(5.6%) have undergone mammography examination (table 6).

Table 6: Utilization of mammography examination among the respondents

S/No	Response	Age		Total n(%)	Educational level / percentage		Total
		35-45 n(%)	46-56 n(%)		Lower n(%)	Higher n(%)	
1	Yes	2 1.6%	6 4.8%	8 6.4%	1 0.8%	7 5.6%	8 6.4%
2	NO	68 54.4%	49 39.2%	117 93.6%	20 16%	97 77.6%	117 93.7%
Total		70 (56%)	55 (44%)	125(100%)	21	104	125

101 (80.2%) of the respondents in this study had the fear that mammography will detect possible breast cancer positive results. This perception is more prevalent among the 35-45 age brackets 49 (39.2%) especially among respondents with a higher level of education 82 (65.6%) compared to those in the 46-56 years age group (Table 7).

Table 7: Respondents Perception of mammography

S/N	Level of Perception	Age				Educational level				Total	
		35-45 (n=70)		46-56 (n=55)		Lower (n=21)		Higher (n=104)		n=125	
		Yes	NO	Yes	No	Yes	No	Yes	NO	Yes	No
1	It is very painful	63 (50.4)	7 (5.6)	19 (15.2)	36 (28.8)	17 (13.6)	4 (3.2)	65 (52)	39 (31.2)	82 (65.6)	43 (34.4)
2	It is time-consuming	16 (12.8)	54 (43.2)	16 (12.8)	39 (31.2)	13 (10.4)	8 (6.4)	19 (15.2)	85 (68)	32 (25.6)	93 (74.4)
3	Possible cancer positive result of mammography frightens me	52 (41.6)	18 (14.4)	49 (39.2)	6 (4.8)	19 (15.2)	2 (1.6)	82 (65.6)	22 (17.6)	101 (80.8)	24 (19.2)
4	It is very expensive:	63 (50.4)	7 (5.6)	24 (19.2)	31 (24.8)	21 (16.8)	0 (0)	66 (52.8)	38 (30.4)	87 (69.6)	38 (30.4)
5	It intrudes into my privacy	40 (32)	30 (24)	26 (20.8)	29 (23.2)	15 (12)	6 (4.8)	51 (40.8)	53 (42.4)	66 (52.8)	59 (47.2)
6	It is a very useful procedure	40 (32)	30 (24)	55 (44)	0 (0)	14 (11.2)	7 (5.6)	81 (64.8)	23 (18.4)	95 (76)	30 (24)
7	It is meant for white women and not for black women	25 (20)	45 (36)	22 (17.6)	33 (26.4)	17 (13.6)	4 (3.2)	30 (24)	74 (59.2)	47 (37.6)	78 (62.4)
8	Strongly against the Radiographer being a male	55 (44)	15 (12)	24 (19.2)	31 (24.8)	14 (11.2)	7 (5.6)	65 (52)	39 (31.2)	79 (63.2)	453 (6.8)

Discussion

The majority of the respondents (84.8%) have the awareness that mammography is a breast cancer screening tool in the present study. This is similar to the findings of Akhigbe et al., (2017) [13] but contrary to the low levels of awareness in similar studies [11,12,9,10],. While Odusanya as well as Akinola and colleagues (2011) [11,12] recoded low awareness level between 5% and 40% , Mbaba et all (2021)[10] recorded a slightly higher level of awareness (44.4%) which was lower than the awareness of 80% reported by Akhigbe et al., (2017)[13] among various groups of women. The difference between the awareness levels of the earlier studies and the present study is attributed to the differences in the degree of enlightenment and literacy levels of the populations studied. The high level of awareness of mammography in the present study was expected

considering the fact that the population studied were drawn from an educational institution.

We also found in this study that the respondents with higher educational attainment have better knowledge of mammography (81.6%) compared to those with low educational attainment (Table 2) especially between the ages of 35-45 years (table 4). This also re-emphasis the fact that higher educational attainments may positively affect an individual's perception of mammography. It has been reported in related studies that educational qualification impacts knowledge and the use of mammography as a screening tool for breast cancer among female subjects (Akinola et al., 2011; Akhigbe et al, 2009) [12, 13]. We also noted that the respondents within the ages of 35 years to 45 years have awareness about mammography 55 (44%) compared to those aged 46-56 years (table 3) similar to the findings of Akinola et al., (2013) [12]. This trend may be connected to the fact that breast lumps or cancer is common among women above 50 years of age and they may have been informed either by their doctor, peer groups, relatives, media or through awareness campaigns in order to prepare them to face the threats of breast cancer as they approach the critical age of 51 years and above. This has been collaborated by a similar study which opined that most breast cancers are found in women over 50 years whose risk of developing cancer ranges from 1.6% to **3.6%** (Adebamowo et al,2000) [16].

The greatest source of information on mammography in this study was social media especially among respondents with higher educational qualifications between the ages of 35-45 years compared to those in the 46-56 years group. This is understandable knowing that; generally, younger age groups are more active on social media. Also, the respondents with higher educational qualifications are on higher academic and administrative ranks in the schools and as such earn more to enable them to purchase internet surfing devices and data bundles unlike those with low educational attainments. This finding is not in agreement with the findings of Manzour et al, (2019) [7] wherein they found out that television was the highest source of information on mammography among women in Egypt. In our study, we found that television was one of the least forms of disseminating information on mammographers among school teachers. This may be attributed to incessant power outages as well the tight and busy schedule of the teachers such as making of scripts, preparation of lesson notes, preparation of assignments for students which may not allow them to sit down and watch television but may use their mobile devices at their time to browse the social media. Social Media itself is a popular and easily accessible mode of communication that can easily be used by health care communicators to the advantage of the fight against breast cancer.

It is noted that those with lower educational qualifications have Radio as their main source of information (18, 14.4%). Radios are cheaper to procure and run thus meeting their economic considerations.

The most common knowledge the respondents have about mammography is the knowledge that it can be used to detect small lumps in the breast before they can be felt by hand 105 (84.8%). This knowledge is common among the two age groups of 35-45 years and 46-56 years 53 (42.4%) but teachers with tertiary education 97(77.6%) have more of this knowledge compared with those with lower education. This is contrary to the findings of Odusanya et al., (20001) [11] in a related study among health professionals where they opined that few health professionals (7.25%) were aware that mammography is used for breast cancer detection and another 78.6% were not aware of what mammography is used for. This means that more people are getting to know about mammography and its useful applications nowadays unlike in the past

The other very important knowledge about mammography high among the respondents is that it is very necessary for women above 40 years. However, one of the factors that militate against the utilization of mammography by the teachers is the negative perception that the size and thickness of the breast can affect mammography results 57(45.6%). There is a need for proper awareness and orientation of the public to eliminate all forms of negative perception that may reduce acceptance of mammography examinations.

This may be responsible for the very low utilization of mammography examinations among the teachers. Despite the fact that the majority of the teachers were above 40years of age and are literate, the number of respondents who have done mammography remained abysmally low at 7%. This compares favorably with the findings in the work done in health institutions in Lagos State, Nigeria where it was found that 8% of female health workers and 8% of nurses have had

mammography examinations (Odusanya et al,2001) [11]. Contrary to the findings of the present study, other similar studies have recorded the worst scenario (0%) of women not going for mammography examinations at University College Hospital Ibadan, Nigeria (Obajimi et al., 2013) [8] while another study recorded a high mammography utilization rate of 15% among school teachers in Owerri, Nigeria (Nnebue et al., 2018) [9]. The differences between the acceptance rate of mammography examination in the present study and the earlier studies is attributed to differences in cultural belief systems and geographical locations.

The commonest perception of mammography among the respondents in this study is the fear of a possible cancer-positive result. This fear of cancer-positive results about mammography examinations is more prevalent among the 35-45 age brackets compared to those in the 46-56 years age group. Moreover, the respondents with higher education exhibit greater freight more than those with lesser education attainment._One would have expected the respondents with higher educational qualifications to be more enlightened and have a better understanding of mammography examinations but the reverse is the case in this study. This finding is similar to the findings by Manzour et al., (2019) [7] where 68.6% of women attending Out-Patient Clinics were afraid something wrong with their breast may be found on mammography. Also, Donnelly and his group in their work found 15.5% were afraid Cancer may be discovered in their breast through mammography (Donnelly et al.,2013) [17]. This shows that fear that mammography will detect breast cancer when it is done is another factor that influences the respondent's low utilization of mammography even when mammography was medically indicated.

Conclusion

There is a high awareness of mammography examination in the studied population especially through social media but the level of awareness is influenced by age, level of educational qualification, negative perception, and fear of possible breast cancer positive results.

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