

Screening and knowledge of women about Breast Cancer in Great Wad Medani Locality Gezira state, Sudan (2016-2022)

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ABSTRACT

Background: Breast cancer screening is the medical screening of asymptomatic, apparently healthy women for breast cancer in an attempt to achieve an earlier diagnosis. The assumption is that early detection will improve outcomes.

Objectives: This study aimed to detect the prevalence of breast cancer and knowledge of women over forty about breast cancer in great Wad Medani locality.

Materials and methods: This study was community based cross-sectional interventional descriptive study. The Study area is Sudan, Gezira state, great wad Medani locality. The Study subjects were women in Gezira state Great Wad Medani locality aged 40 years and above. The study was include all women above 40 years who agreed to been involved in the study, and excluded women already diagnosed for breast cancer or on treatment.

Results: The results of the study showed that a number of 328 women have been screened with mammogram in Gezira institute for molecular medicine according to Birad classification 122 women were category 1 (37.2%) , 112 category 2 (34.1%) , 86 category 3 (26.2%) , 5 category 4 (1.5%) , 3 women category 5 (0.9%) .Women with category 4 and 5 (3+5) women were considered positive to have ca. breast according to Birade classification. However the prevalence of breast cancer was 2.4%. Most knowledge of breast cancer symptoms were breast swelling 41.2% followed by change in size 28% and breast pain 22.9%. The majority of women 63% did not know the mammogram.

Conclusion: This study concluded that breast cancer is prevalent among women over forty, majority of screened women were classified with breast problems which need follow-up. It can be recommends that valid programs for awareness about breast problems among women since early ages, availability of radiological diagnosis at the level of health centers and in services refresh training courses for the medical cadres about breast problems.

Keywords: *Screening, Breast cancer women, Gezira state, Sudan.*

Introduction:

BIRADS (Breast Imaging Reporting and Dated System) is today the communication tool in mammography reports in most of the countries which set up a breast cancer screening program. Initially, BIRADS was a system of quality assurance intended to homogenize the data collect and quality of mammographic reports, implemented in the United States, since 1995 [1]. This system, diffused by the ACR (American College of Radiology) is based on a national data base regularly enriched by new cases subjected by the physicians registered to the program [2]. At the beginning, BIRADS was only devoted to mammography, but the fourth version of the American edition version, published in 2003, is completed by ultrasonography and MRI lexicons. BIRADS is integrated in standard DICOM and will be soon implemented directly on the stations of digital mammography and in computer assisted diagnosis (CAD).

The Breast Imaging Report and Data System (BIRADS) of the American College of screening are implemented. It is a tool defined to reduce variability between radiologists when creating the reports in mammography, ultrasonography or MRI. Some changes in the last version of the BIRADS have been included to reduce the inaccuracy of some categories, especially for category 4.

The BIRADS includes a lexicon and descriptive diagrams of the anomalies, recommendations for the mammographic report as well as councils and examples of mammographic cases. BIRADS in mammography is a useful tool for the radiologists and the clinicians for the analysis and the characterization of mammographic images. The fourth American version, published in 2003, was largely applied and commented in the majority of the countries where the breast cancer screening programs exist. Apart from its imperfections, it allows a standardization of the mammographic reports and appears as an interesting tool for the training of the young radiologists [3]

Magnitude of the problem (globally): In 2020, there were 2.3 million women diagnosed with breast cancer and 685 000 deaths globally (WHO statistics) [4]. As of the end of 2020, there were 7.8 million women alive who were diagnosed with breast cancer in the past 5 years, making it the world's most prevalent cancer. There are more lost disability-adjusted life years (DALYs) by women to breast cancer globally

than any other type of cancer (WHO statistics). Breast cancer occurs in every country of the world in women at any age after puberty but with increasing rates in later ages.

Breast cancer is a worldwide disease resulting in many deaths. 1.7 million new cases diagnosed in 2012. Although breast cancer incidence is lower in Sub-Saharan African countries than in developed countries, African women are more likely than women in the developed world to be diagnosed at later stages of the disease and, thus, are more likely to die from it. This is due to the lack of awareness by women, accessibility to screening methods and availability of African-based research findings that would influence decision making at the governmental level according to the latest WHO data published in April 2011 Breast Cancer Deaths in Sudan reached 1,968 or 0.53% of total deaths. The age adjusted Death Rate is 16.31 per 100,000 of population. [5] The current study aimed to detect the prevalence of breast cancer and knowledge of women over forty about breast cancer in great Wad Medani locality.

MATERIALS AND METHODS:

Study design:

Community based Cross-sectional interventional study.

Study area:

Sudan, Gezira state, Great wad Medani locality.

Study subjects:

Women in Gezira state Great Wad Medani locality aged 40 years and above.

Inclusion criteria:

All women above 40 years who agreed to be involved in the study.

Exclusion criteria:

Women already diagnosed for breast cancer or on treatment.

Sample size:

The sample size was calculated according to the following formula;

$$n = \frac{Z^2 * P * q}{d^2}$$

This has been assigned by simple random method according to this equation:

The primary sample size is n

Prevalence in the community which is 50% is p .

q = is completing to $p = (1-p)$

Z is the level of accuracy it can be obtained from statistical tables which are the area under the normal curve.

$$n = 384$$

But the actual number is 328; this due to the constrains accompanied this study (most women were reluctant to do mammogram, mammography machine is exposed

many time to be not usable for unavailability of spare parts in addition to loss of two years due to corona outbreak and revolution).

Data collection plan:

Two units out of the six directorial units of great wad Madani locality have been chosen randomly to be the study areas. I depend on women gathering for coffee intake (Jabana). During the sitting I talked about breast cancer and the importance of early detection and early management.in every Jabana sitting registration of women above forty who were agreed to be included in the research a questionnaire was filled, every women was given a card to meet me in (Gezira institute for molecular medicine) for mammography screening.

All women referred to the National institution for screening by mammography. After screening. The result was interpreted by the radiological specialist, suspected cases confirmed by Ultrasound and classified according to Birad classification. The diagnosed cases referred for further management.

Statistical analysis and interpretation:

Techniques of Data Analysis:

The questionnaires were organized and tabulated and processed by computer; the programme which was used by the researcher was (SPSS). Percentage and tables were used to convey the statistical information, because it is simple for the readers to grasp besides its accuracy and effectiveness.

Ethical considerations

Scientific and ethical approval from the institute directors was ensured. Ethical approval from the ministry of health was taken. Also subject confidentiality was guaranteed and verbal patient consent was taken. The diagnosed cases were referred to oncologists for management.

RESULTS:

The results of the study in table 1 below showed that the prevalence of breast cancer was 2.4% (8/328). The mammography screening showed that a number of 122 women (37.2 %) women were classified as category (1), 112 (34.1%) women were category (2), 86 (26.2%) women are category (3), 5 (1.5%) women were category (4) and 3 (0.9%) women were category (5). According to Birad classification women at category 4 and 5 considered to have breast cancer.

Table 1. Result of mammography screening.

BIRADS classification	N	%
Category (1)	122	37.2
Category (2)	112	34.1
Category (3)	86	26.2
Category (4)	5	1.5
Category (5)	3	.9
Total	328	100.0

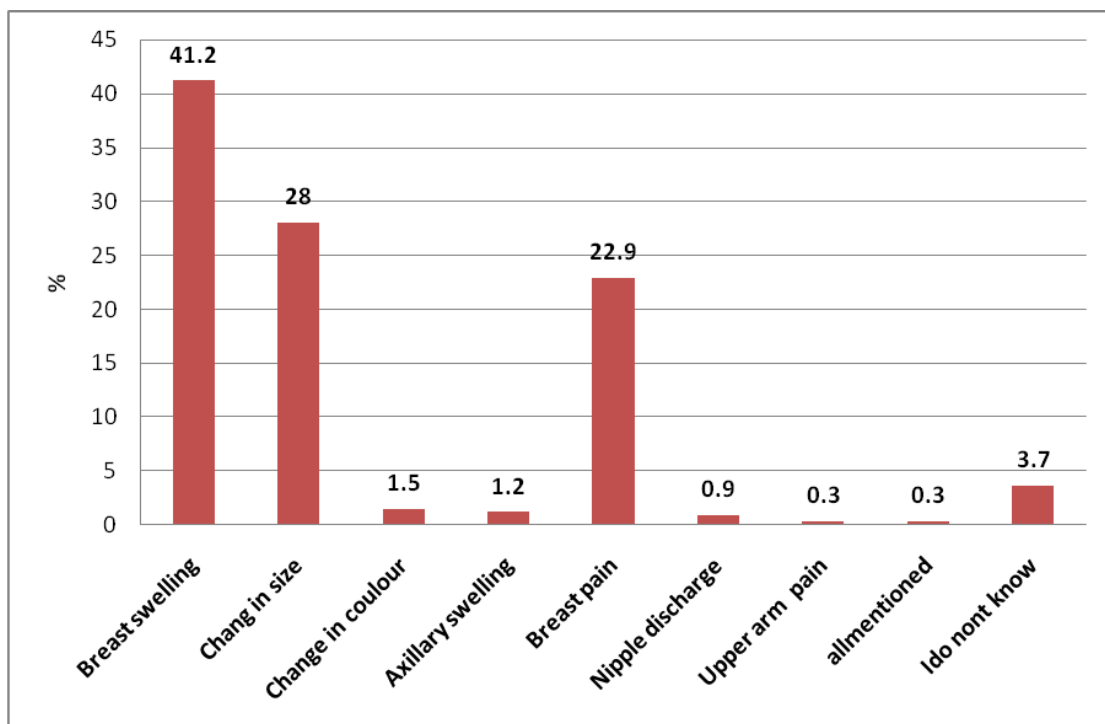


Figure 1. Knowledge of women about breast cancer symptoms.

Figure 1 shows that the most knowledge of breast cancer symptoms were breast swelling 41.2% followed by change in size 28% and breast pain 22.9%.

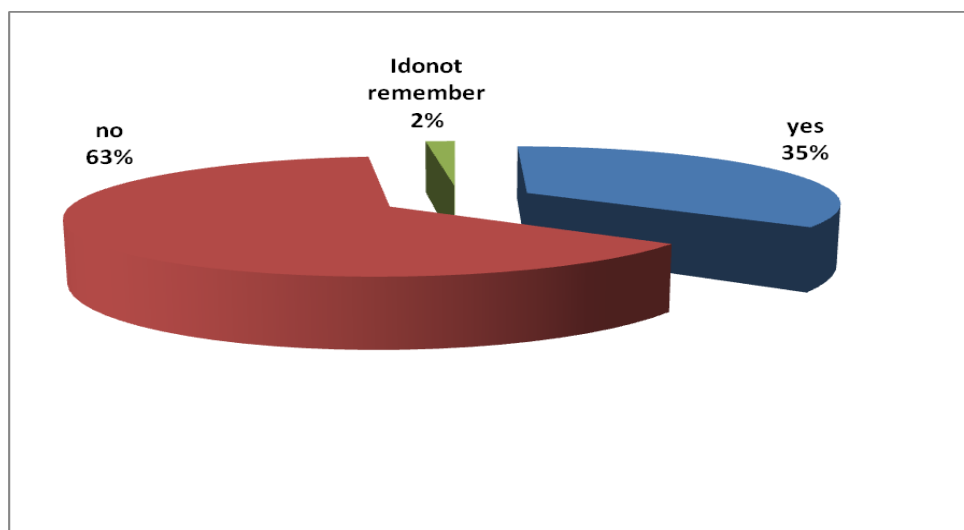


Figure 2. Knowledge of women about mammographic.

Figure 2 shows that the majority of women 63% did not know the mammogram, only 35% said that they know mammogram.

DISCUSSION:

The present study aimed to detect the prevalence of breast cancer and knowledge of women over forty about breast cancer in great Wad Medani locality. The study revealed that the prevalence of breast cancer among women aged 40 years and above was 2.4%. This finding is lower than study conducted in Bangladesh showed that the prevalence of breast cancer has been 32.8% for the last 5 years and is responsible for about 69% of women's death. [6] There were 12,764 new cases had detected only in the year 2018. A recent study found the overall incidence of breast cancer was 22.5 per 100,000 women. [7] However, women of reproductive age (15-49) are most vulnerable to developing breast cancer possessing an occurrence rate of 19.3 per 100,000. [8]

This study showed that most knowledge of breast cancer symptoms were breast swelling 41.2% followed by change in size 28% and breast pain 22.9%. The majority of women 63% did not know the mammogram. Similarly, a cross-sectional study done in Delhi, India found limited knowledge of women in breast self-examination. [9] However, this finding was opposite to a previous study conducted in rural Egypt where 91% of the participants were familiar with breast self-examination. [10]

However, another study demonstrated that 60% of the participants were not aware of the breast self-examination. [11] The most known symptom which was supported by the similar finding of a previous study in Pakistan. [12] On the other hand, a low percentage of women considered pulling inversion of the nipple, lump under the

armpit, discoloration of the breast, and change in shape as the symptom of breast cancer. The literature stated that the majority of the participants were not aware of changes in breast shape, nipple inversion, and change in color of the nipple, etc. as dangerous symptoms. [13] Nonetheless, a study in North India assessed that two-fourths of the population identified a change in shape, and less than half was detected nipple discharge. [11] A lump in the breast was found to be the most common symptom in another study conducted in Southeast Ethiopia among women. [14]

Limitations of the study:

The constraints accompanied this study were includes that most women were reluctant to do mammogram, mammography machine is exposed many time to be not usable for unavailability of spare parts in addition to loss of two years due to corona outbreak and revolution.

CONCLUSION:

The study finding revealed that breast cancer was prevalent among age group 40 years and above. However the knowledge of women about breast cancer not adequate.

ACKNOWLEDGEMENTS

The authors would like to acknowledge the supervisor Prof MagdaElhadi Ahmed Yousif and the Co-supervisor: Prof. Dafaah Allah Omer Abuedris. Also thanks extend to Dr. Taha Osman Taha and to all members of the Radiological Diagnostic department Of the National cancer institute for molecular Medicine University of Gezira.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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