Knowledge, attitude, and practice of breast cancer and breast self-examination among female detainees in Khartoum, Sudan 2018

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Keywords

Breast cancer • Prevention • Breast self-examination • Awareness • Detainees

Introduction

Breast cancer is the common cancer among females and a leading cause of mortality among them globally, its rates are three times higher in developing countries. Breast self-examination (BSE) had an important role in early detection, increasing the survival rate of breast cancer patients, despite these benefits, the rates of practicing BSE are low, especially in developing countries. Objective. To assess the levels of awareness about breast cancer, and BSE among the detainees of Dar-Altaebat facility, a female’s detention facility in Khartoum, Sudan.

Methods. A cross-sectional study conducted at Dar-Altaebat a female imprisonment facility in Khartoum, Sudan. 354 participants were randomly selected from the total population of the facility. Data was collected using a self-administered structured questionnaire, which was composed of socio-demographic section, knowledge section, attitude section, and breast self-examination section. Data was analyzed using statistical package for social sciences (SPSS) software.

Results. 330 participants responded to the questionnaire, their mean age was (31, SD: 11.2) years, 126 (38.2%) of them were illiterate, 196 (59.4%) were married, and the majority of them 177 (76.3%) were housewives. their overall knowledge score revealed that 185 (56.2%) of them had poor knowledge about breast cancer, 218 (66.3%) of them had poor knowledge about breast self-examination, however 314 (95.3%) thought that it was important. 315 (95.5%) of the participants had poor practice towards breast self-examination.

Conclusion. Poor levels of knowledge about breast cancer were reported among the detainees. Additionally, their level of knowledge and practice of breast self-examination was also low, thus more health education campaigns are recommended in such facilities.
ing due to the lack of adequate substructure, trained personnel with regard to financial barriers [18]. Evidence suggests that practicing BSE depends on different factors including females’ knowledge, attitude, socio-demographic and sociocultural factors [19]. Other reasons for low rates of practice have been reported including lack of time, forgetfulness, and low level of education [20]. In Sudan, results from a previous study concluded that there are insufficient knowledge and practice of BSE among medical students [21].

Methods

Study Settings
This was a facility-based, descriptive, cross-sectional study, conducted at Dar-Altaebat Prison which is a female’s imprisonment facility located in Khartoum state and considered to be one of the largest female detention facilities in Sudan. This study was the first phase of a breast cancer prevention campaign conducted by SCOPH office. Detainees from all age groups and backgrounds were eligible to be included in this study.

Data Collection Tools
354 participants were randomly selected from the total population of the facility which is 820 persons, using a formula with prevalence of 0.5 and a confidence level of 95, by randomly picking 354 numbers out of 820 numbers list of the total population. Data was collected a self-administered structured questionnaire which was adopted from a previous study [26]. The questionnaire is divided into 4 sections; socio-demographic section, knowledge section, attitude section, and breast self-examination section. Nine items were used to assess the knowledge by asking about symptoms, signs, protective factors, diagnosis, risk factors and curability, and three items were used for the attitude section. In breast self-examination section two items were used to assess the knowledge about breast self-examination by asking about the reasons, place, steps of self-examination, two items were used for the attitude, and three items for the practice.

Copies were handed in person to participants. Codes were used instead of names to ensure confidentiality. The Scoring for knowledge, attitude and practice for breast cancer and self-examination items was performed by a consultant oncologist. Data was collected during July-September 2018.

Data Analysis
Statistical Package for Social Science 24.0 (SPSS) software was used for data entry and analysis. Categorical variables were presented as frequencies, and continuous Variables as means and standard deviations. Additionally, Chi-square test was used to test the association between categorical variables. P.value of less than 0.05 was considered statistically significant.

Ethical Considerations
An ethical approval was obtained from the institutional review committee at the radiation and isotopes center in Khartoum (RICK). In addition, a written consent was taken from the prison administration and verbal consent was obtained from each participant before conducting data collection.

Results
Out of 354 selected detainees, 330 participants responded to the questionnaire with a response rate of 93%, their mean age was (31, standard deviation (SD): 11.2) years, and the ages of more than half of them 185 (56.7%) are from 18-30 years. 126 (38.2%) of them were illiterate and 124 (37.6%) had primary education. Regarding their marital status, the majority of them 196 (59.4%) were married. Additionally, 177 (76.3%) were housewives, Table I demonstrates the demographic characteristics of the study participants. About the participants’ knowledge about breast cancer, the majority of them 201 (60.9%) agreed that breast cancer is the most common cancer among females, and 202 (61.2%) said that breast cancer is a curable disease. Moreover, nipple discharge was the most commonly chosen symptom by the participants 137 (41.5%), and smoking was the most commonly selected risk factor for breast cancer 175 (53%). Fur-

| Age | Frequency | Percentage |
|-----|-----------|------------|
| 18-30 | 185 | 57 |
| 31-40 | 89 | 27 |
| 41-50 | 34 | 10 |
| More than 50 | 13 | 6 |

| Educational level | Frequency | Percentage |
|------------------|-----------|------------|
| Illiterate | 126 | 38.2 |
| Khalwa | 11 | 3.3 |
| Primary | 124 | 37.6 |
| Secondary | 31 | 9.4 |
| University | 31 | 9.4 |
| Post-graduate | 7 | 2.1 |

| Occupation | Frequency | Percentage |
|-----------|-----------|------------|
| House wife | 177 | 76 |
| Employee | 55 | 24 |

| Marital status | Frequency | Percentage |
|----------------|-----------|------------|
| Single | 63 | 19 |
| Married | 196 | 59 |
| Divorced | 42 | 15 |
| Widowed | 29 | 9 |
thermore, 175 (53%) of the participants did not know the methods of breast cancer diagnosis. The overall score of the participants’ revealed that more than half of them 185 (56.2%) had poor knowledge about breast cancer, poor knowledge about breast cancer was significantly associated with low educational status (p-value: < 0.001), however it was not associated with the occupation of the participants (p-value: 0.82), and wasn’t associated with neither their marital status (p-value: 0.05), nor their age (p-value: 0.22) Table II shows the participants knowledge about breast cancer. Regarding the attitude of participants towards breast cancer, only 92 of the participants responded to the questions, 87 (95%) of them thought that hospitals are the best places to receive treatment for breast cancer and neither the Sheikh (local traditional healer), nor alternative medicine centers. Respondents were asked about the time appropriate to seek doctors when they sense the presence of a lump in the breast, and the majority 74 (80%) of them said that they would go to the doctor immediately. Overall assessment of the participants revealed that 69 (75%) of them had a good attitude regarding breast cancer. Attitude of the participants was not associated with their Educational status (p-value: 0.45), occupation (p-value: 0.45), and marital status (p-value: 0.45).

When the participants were asked about breast self-examination, more than half of them 181 (54.8%) said that they have never heard about it, and of the people who have heard about it, 77 (51.3%) of them said that health education campaigns were their primary source of information about breast self-examination.

| Question                                                                 | Frequency | Percentage |
|--------------------------------------------------------------------------|-----------|------------|
| Breast cancer is the most common cancer among females?                   | 201       | 61         |
| Yes                                                                      | 34        | 10         |
| No                                                                       | 95        | 29         |
| breast cancer is a curable disease?                                      | 202       | 61         |
| Yes                                                                      | 50        | 15         |
| No                                                                       | 78        | 24         |
| Early diagnosis of breast cancer increases the chances of treatment?     | 258       | 78         |
| Yes                                                                      | 19        | 6          |
| No                                                                       | 53        | 16         |
| Unequal breasts size after puberty is normal?                            | 209       | 63         |
| Yes                                                                      | 89        | 27         |
| No                                                                       | 32        | 10         |
| In most of the cases, breast cancer appears as non-painful lumps in the breast? | 195       | 59         |
| Yes                                                                      | 30        | 9          |
| No                                                                       | 105       | 32         |
| Normal breast feeding decreases the probability of acquiring breast cancer? | 153       | 47         |
| Yes                                                                      | 64        | 19         |
| No                                                                       | 113       | 34         |
| What are the symptoms of breast cancer?                                  | 127       | 39         |
| Axillary lymph nodes enlargement                                         | 128       | 39         |
| Breast redness or change in color                                         | 137       | 42         |
| Nipple discharge                                                         | 81        | 25         |
| Sever Weight loss                                                        | 123       | 37         |
| Breast cancer can be diagnosed using:                                    | 81        | 25         |
| Tissue biopsy                                                            | 86        | 26         |
| Ultra sound                                                              | 53        | 16         |
| Mammography                                                              | 175       | 53         |
| Risk factors of breast cancer include:                                   | 175       | 53         |
| Smoking                                                                  | 107       | 32         |
| Alcohol                                                                  | 89        | 27         |
| Aging:                                                                   | 58        | 18         |
| Late menopause                                                           | 83        | 25         |
| Family history of BC                                                     | 63        | 19         |
| Obesity                                                                  | 85        | 25         |
| Long term use of contraceptive pills                                     | 116       | 35         |


Tab. II. Participants knowledge about breast cancer.
The majority of the participants 218 (66.3%) had poor knowledge about breast self-examination, and poor knowledge was significantly associated with low educational status (p-value: < 0.001), with housewives as an occupation (p-value: 0.04), and with 18-30 years age group (p-value: 0.004), however it was not associated with the participants marital status (p-value: 0.27). When the participants were asked about their opinion regarding breast self-examination the majority of them 143 (95.3%) thought that it was important, their attitude was neither associated with their educational status, occupation, marital status, nor their age (p-values: 0.91, 0.15, 0.19, 0.11, respectively). In addition, 315 (95.5%) of the participants had poor practice towards breast self-examination, and their practice was neither associated with their educational status, occupation, nor marital status (p-values: 0.07, 0.71, 0.06, respectively).

Discussion
Breast cancer prevalence is dramatically increasing every year and so both mortality and morbidity of the disease do [10, 13, 20], for this reason early detection which improves the prognosis is becoming more important [22, 23]. These facts reflects the huge role of appropriate knowledge and attitude of women in community regarding the disease and participating in screening programs specially in under-developed countries with limited health care resources like Sudan.

The mean age in this study was 31 (SD: 11.2) which gives a good presentation of the risk group of breast cancer. Other previous studies had similar age groups, 30 is the mean in the study (Delta state – Nigeria 2013) [10], and 31.3 (north Iran, 2015), but higher ages in other studies, the mean age was 40.48 (Malaysia, 2010) [20], and 41 (Iran, 2018) and lower ages in other studies like in UAE with mean 23 [11]. Although all these ages are at risk for breast cancer [10], but the variation of age might affect the knowledge, attitude and practice of these women toward the disease.

The majority of our participants (60.9%) correctly answered that breast cancer is the most common cancer among females, and (61.2%) stated that it is a curable disease. Comparing these results with a similar previous study in Nigeria [10], higher percentage (84.6%) confirmed the same facts, this might be due to increasing the number of awareness campaigns regarding the breast cancer in the previous years before this study.

Regarding the participants’ knowledge about the disease symptoms, (41.5%) had chosen nipple discharge as the most common symptom however women of northern Iran had different opinions considering the presence of the breast mass as the most common symptom (75.4%) [23]. In addition, smoking was the most commonly selected risk factor of breast cancer (53%), however in another study it was the second most commonly chosen after alcohol consumption [23]. Furthermore, the overall participants’ knowledge about breast cancer in this study was poor, and it was associated with low education status. This association was also suggested in other studies [10, 22, 23].

More than half of our participants never heard about breast self-examination (BSE) before, the same thing was observed in previous study held in Nigeria [10]. The main source of the participants information about BSE was breast cancer campaigns, few of them get some knowledge from the media. Television was considered as the main source of information among younger participants with tertiary level of education among students in the university of Buea in Cameroon [24].

Overall knowledge about BSE was poor (66.3% of the participants had poor knowledge), similar results were reported in other studies, participants showed poor knowledge in Nigeria and Malaysia with (82.3%) and (86.2%) respectively [10, 20]. The association between the level of education and level of knowledge regarding BSE was positively concluded in our findings, higher level of knowledge about the disease was associated with higher level of education, similar observation was noticed in other studies [10, 20, 24].

Poor practice was the most common result among the majority of the participants in this study (95.3%). It was noted that the participants’ scores in questions regarding the knowledge about breast cancer general information like signs, symptoms and risk factors were as bad as their scores in BSE related questions. This was also noted in other study conducted in Nigeria [9]. In addition, a study conducted in Iran revealed that (74.8%) of women never practice BSE ever, and (9.8%) did the first breast examination after they felt pain in the breast [20], also (60.4%) was the percentage of community ignorance- specially the risk group- regarding BSE as it was found in Malaysian study [19]. Moreover, a study performed by Nde et al stated that only (30%) of university female students had practiced BSE at least once, however less than (3%) were practicing BSE regularly with monthly pattern [24]. So, all these studies agreed that there is a poor practice in general but with some degree of variation between communities due to different levels of education and breast cancer related knowledge.

Conclusion
One of the limitations of this study is that it took place in only one facility, which makes it difficult to generalize it’s results over the larger population of inmates in Sudan. Despite this limitation, our results revealed that more than half of the participants had poor knowledge about breast cancer and self-examination. The majority of the respondents think about breast self-examination as an important issue but they have poor practice. Thus, we recommend more health
campaigns and educational sessions in such facilities. Additionally, educational broadcasts and mini-videos illustrating the steps of breast-self-examination ought to be delivered via these imprisonments’ radios and televisions. Furthermore, more research projects are encouraged to address this issue in other amenities and geographical locations throughout Sudan, also a comprehensive breast cancer screening program is also recommended.

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Conflict of interest statement

The authors declare no conflict of interest.

Authors’ contributions

AOAM: study design, data acquisition, data interpretation, and manuscript writing. MMMN: study design, data acquisition, data interpretation, and manuscript writing. ASMA: data management, data interpretation, and manuscript writing. RAAA: study design, data acquisition, data interpretation, and manuscript writing. ESMK: study design, data interpretation, and manuscript writing. All the authors participated equally in all of the steps of this research.

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