Derna University Journal of Medical Sciences (DUJMS)

UNIVERSITY OF DERNA

Volume 2 | Issue 1 | 2024 | Pages 49-62
ISSN: 2789-7389 (Online) | **DOI:** https://doi.org/10.58987/e9tbmd11

Original Research

Knowledge and Practices of Breast Cancer Screening Methods among Female Patients in Breast Clinic in Tobruk Medical Center

Nagat .F.A. Bolowia

Radiography Department, Faculty of Medical Technology, University of Tobruk. Tobruk, Libya
E.mail: nagat.bolowia@tu.edu.ly

Received: 14 February 2024 **Accepted:** 25 March 2024 **Published:** 30 June 2024

ABSTRACT:

Breast cancer is one of the most frequently diagnosed cancers in Libya. Breast cancer screening programs result in a decrease in mortality rates among women. In this study, knowledge, and practice towards mammography and ultrasound were investigated among females attending breast clinic in Tobruk Medical Center Tobruk, Libya. This evaluation was carried out using a well-structured questionnaire from February 2022 to July 2022. There

were 120 female participants in total, ranging in age from 15 to 75. The information obtained led to the following findings: 110 (91.7%) applicants had proper knowledge about mammography and US breast cancer screening methods and 63 (52.5%) developed their knowledge levels through the use of social media. There was a significant correlation between good practices and the martial statues of the applicants (p=0.011). Regarding practices and attitude, 42.5% of the respondents have not had mammography or ultrasound experiences. Despite having a high degree of knowledge, they defended their lack of experience with the following reasons: 39.2% were afraid of the results, 32.5% did not have lump or pain, and 23.3% had insufficient knowledge about mammogram. According to this study, women have an inadequate attitude toward mammography and ultrasonography. As a result, pertinent educational programs are necessary to change how women think about breast cancer.

KEYWORDS: Breast Cancer/ Knowledge/ Practice , Ultrasound/ Mammography, Screening Methods.

INTRODUCTION

Breast cancer is a major public health issue. It has been identified as the second most common malignant neoplasms among women worldwide (1, 2). Male breast cancer is rare and accounting for only 0.1% of all breast cancer cases and around 0.3% of all cancers in men globally (3). Many studies have indicated that male patients with breast cancer had worse overall survival than their female counterparts due to the delays in diagnosis (4).

In 2012, approximately 1.67 million new cases of female breast cancer have been diagnosed around the world (5), whereas the women diagnosed in 2020 were 2.3 million representing nearly 11.7% of all new cancer cases globally (6). The incidence of breast cancer is higher in developed countries than developing ones, with rates as much as 92 per 100,000 people in USA compared with 27 per 100,000 people in Eastern Asia and Middle Africa (7). However, recently breast cancer becomes epidemic in developing countries as the incidence and mortality rate are increasing in a dramatic way (8), due to this growing the number of cases predicted to double by 2030(9,10).

Breast cancer is the second cause of mortality among all cancers (11). In 2004, breast cancer caused 519,000 deaths globally (12). According to the World Health Organization (WHO) in 2020 probably 685,000 females died due to the breast cancer. It considers the world's most widespread cancer, as there were 7.8 million women alive who were diagnosed with breast cancer at the end of 2020 (13).

In Libya, the number of reported breast cancer cases accounted for 25% of all types

of cancer among female with mortality rate of 10.9 per 100,000 (14). Most of cases in young pre-menopausal age compared with developed countries with average age of 46 years in Libyan women as compared to 58.8 years among European women (15,16).
In 2010, a comparison study of the clinic-pathological features of breast cancer in Libya, Nigeria, and Finland has stated that nearly 51% Libyan women are commonly diagnosed with breast cancer in the advanced stages (17-19). This could be attributed to the non-effective promotion of early detection and diagnosis of breast cancer.

Cancer that is diagnosed at an early stage, when it isn't too large and hasn't spread, is more likely to be treated successfully (20). Therefore, early detection of breast cancer and promote treatment play a critical role in reducing the mortality rate in the women with range of 50-74 and offer a great chance of long term survival(21,22).

To approach an effective fight against breast cancer, developing and implementing successful screening system such as breast self-examination (BSE), clinical breast examination (CBE), and mammography is required (23).

In Libya, many studies were conducted regarding knowledge of breast cancer methods. Numerous reports showed that breast cancer screening behaviors among women is limited compared to women in Western countries (24). Another studies conducting in western of Libya demonstrate that Libyan women have an acceptable level of knowledge regarding breast cancer (25, 26). However, to date, knowledge and practice of breast cancer screening pattern has not been assessed among the female population in in eastern Libya (Tobruk).
Due to the fact that, breast clinic is the first basic level of contact. Herein, the knowledge and practice of breast cancer screening methods was evaluated among female patients attending the breast clinic in Tobruk Medical Center, Tobruk, Libya.

MATERIALS AND METHODS

Study Design and Participants

The cross-sectional, and self-administered questionnaire approach was conducted in the current study. This study was carried out among female patients who attend the breast clinic in Tobruk Medical Center, Tobruk, Libya over a 6 months period from February 2022 to July 2022.

Inclusion Criteria

All the examined women were Libyan nationals, aged 14 years old or above, and gave their consent to be involved in the research were included.

Date Collection

A total of 120 participates were included. Respondent's right to refuse and remove from the study any time was accepted. Respondents were given an explanation of the objectives of the study. Confidentiality of the respondents was strictly maintained. Women's awareness and attitude levels about different features of breast cancer including high risk factors, signs, symptoms, and the best time for performing breast examination were investigated in this

study.

Questionnaire Structure

Data were collected via a designed questionnaire which was derived from the literature review based on previous published articles (27-34). The questionnaire structure was divided into three distinct sections, each one recognized with appropriate heading indicating its content. The first part comprised of socio-demographic questions including applicants' age, marital status, educational level, weight and the family history of breast cancer. Second section contained 9 to evaluate respondent's knowledge levels regarding mammography and ultrasound as breast cancer screening tools. In the last section, 4 questions were provided to estimate the practice of the participants about mammography and ultrasound as breast cancer screening methods.

Data Analysis

All the data collected from the survey was entered and analyzed using the statistical package for social science (SPSS) (IBM SPSS Statistics for Windows, Version

23.0.). Frequencies, percentages, descriptive statistics, cross-tabulation, and frequency were used to describe study variables. The Chi-square test was applied to assess the association between socio-demographic variables and breast cancer knowledge and practice. A p-value 0.05 was considered significant for all the statistical analysis**.**

RESULTS AND DISCUSSION

A total number of 120 responses were collected through distributed questionnaires among female applicants that attend the breast clinic in Tobruk Medical Center, in the period from February 2022 to July 2022.

The mean (± standard deviation) age of the participants was 31.16 (±12.36) years with the aged in the range of 15-75. Socio-demographic information is shown in Table 1.

Based on collected date, the majority of participates (72.5%) were married. In addition, 32.5% of the contributors were in the age range of 46 to 55 years old. Approximately half of the participants demonstrate a high level of education (64/120, 53.3%) and quarter of the participants (30) 25% was in weight greater than 90. Regarding the breast cancer risk factor, about 39.2% of participates reported a family history of breast cancer and 63.3% never used Contraceptive pills.

Table1. Demographic Characteristics of the Participants (n = 120).

Age Range (year)	Frequency	Percentage %
15-25	22	18.3
26-35	22	18.3
36-45	21	17.5
46-55	39	32.5
Higher than 55	16	13.3
Educational Level	**Frequency**	**Percentage %**
Higher Level	81	67.5
Secondary school	31	25.8
Uneducated	8	6.7
Marital status	**Frequency**	**Percentage %**
Married	87	72.5

Not-married	19	15.8
Divorced	8	6.7
Widow6	5.0	
weight (kg)	Frequency	Percentage %
less than 60	13	10.8
60-70	26	21.7
71-80	24	20.0
81-90	27	22.5
Higher than 90	30	25.0
Family history of breast cancer		
	Frequency	Percentage %
Yes	47	39.2
No	73	60.8
Use of contraceptive pills	Frequency	
	Percentage %	
yes	44	36.7
no	76	63.3

Details of the applicants' knowledge towards breast cancer screening tools are listed in Table 2. Based on the performed analysis, a total of 91.7% of women who attended the breast clinic had a high level of breast cancer knowledge and agreed that mammography and ultrasound are diagnostic tools of breast cancer. Among these participants, 63(52.5%) approximately half gained their knowledge from social media. while, 29(24.2%) and 28(23.3%) women obtained it by television/ radio or newspaper and family or friends, respectively. 74 (61.7%) applicants not considered late marriage ages enhance breast cancer probability.

65 (54.2%) respondents agreed that only female groups must do breast screening imaging. Furthermore, 74 (61.7 %) of contributors declared that mammogram perform after 50 years old.

45 (37.5%) women agreed that breast cancer screening techniques must be carried out annually, whilst 39 (32.5%) stated its essential performance every 4 months. More than 86.5% of women displayed that ultrasonography and mammography are necessary for early detection of breast cancer. In addition, the majority of applicants 77 (64.2%) approved that both mammography and ultrasound could be used as a screening tool of breast cancer.

Table2. Participant's Knowledge of Breast Cancer and Screening Methods.

Have you heard about breast mammography and U/S imaging?	Frequency	
	Percentage %	
yes	110	91.7
no	10	8.3
How did you hear about it?	Frequency	
	Percentage %	
Family & or friends	28	23.3
Television/ Radio or Newspaper	29	
	24.2	
Social media	63	52.5
Breast cancer awareness campaigns	0	0
Do you think that the late age of married enhance the probability of breast cancer?		
	Frequency	Percentage %
Yes	33	27.5
No	74	61.7
Don't know	13	10.8

Who should perform mammography?

	Frequency	Percentage %
Both male& female	55	45.8
Female	65	54.2

At what age should mammography be performed?

	Frequency	Percentage %
After 40 Years old	74	61.7
Before 40 years old	46	38.3

How often should mammography/ ultrasound be performed?

	Frequency	Percentage %
Annually	45	37.5
Every 4 months	39	32.5
Every 6 months	36	30.0

Mammography/ ultrasound is necessary for early detection of breast cancer?

	Frequency	Percentage %
Yes	104	86.7
No	16	13.3

What is better for you if you want to perform a breast checkup?

	Frequency	Percentage %
Mammography	22	18.3
Ultrasound	21	17.5
Both	77	64.2

In the last knowledge distribution, applicants were also requested to list at least one symptom or sign of breast cancer had known or heard of. 30.8% and 30% applicants were aware of that breast pain and mass were a major symptom of breast cancer, respectively. On the other hand, knowledge of other symptoms and signs were mostly poor; 8.3% and 3.3% changes in skin breast and nipple as signs of breast cancer (Fig 1). Majority of the participants were little known to the signs and symptoms of breast cancer that include underarm pain, rash around the nipples, nipple retraction, and discoloration of nipple skin.

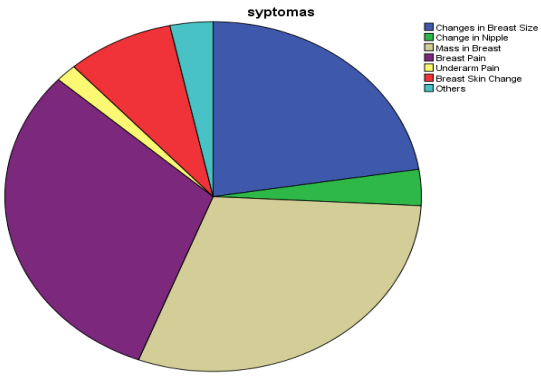

Fig 1. Evaluation of the Knowledge and Awareness of the Participants about Breast Cancer Symptoms and Signs.

Attitudes and practices of participants attending the breast clinic towards the breast screening methods are shown in Table 3. As shown in the table, (69) 57.5 % of the women have performed either ultrasound or mammography. Among the applicants who did these imaging techniques, 22.5% tried them twice and 21.7% practiced these tools only once.

Based on the statements of respondents, the following results were also reported: 38.3% women experienced the diagnostic tools because of pain and lump and 37.5% tried the methods because of the request of their doctors. Moreover, 12.5% of applicants performed the tools due the fear from breast cancer.

In the women cases that did not practice any screening tools, the following results were

obtained: 39.2% were afraid of the result, 32.5% did not have pain or swelling, 23.3 % did not have enough awareness about the breast screening methods.

Table 3. Evaluation of the Applicants' Attitudes Practices towards the Breast Screening Methods.

Have you experienced Mammography or Ultrasound, before?	Frequency	Percentage %
Yes	69	57.5
No	51	42.5
If yes, how many times?	Frequency	Percentage %
One Time	26	21.7
Twice	27	22.5
More than Two	16	13.3
Total	69	57.5
Why did you do Mammography or US?	Frequency	Percentage %
Lump/pain	46	38.3
Requested	45	37.5
Fear from breast cancer	15	12.5
Follow up	12	10.0
Discharge	2	1.7
If you don't have breast screening before, what is the reason?	Frequency	Percentage %
Afraid from the result	47	39.2
Lack of knowledge about mammography	28	23.3
I am feeling shame from the result itself	2	1.7
I haven't pain or swelling	39	32.5
Painful examination	4	3.3

Association between socio-demographic variables and breast cancer knowledge and practice are listed in Tables 4&5. As can be noticed, marital status represented a significant effect on the performance of mammography or U/S imaging tools (p-value=0.011). Moreover, there was a significant correlation between Age and participants performance of mammography or ultrasound before (p=0.038).

Table 4. Correlation between Applicants' Marital Status and the Experience of Mammogram and Ultrasound before.

Marital Status	Have you performed mammography or U/S, before?		Frequency	Asymp. Sig.(2-sided)
	yes	no		
Married	57	30	87	
Non-married	6	13	19	
Divorced	2	6	8	0.011
Widow	4	2	6	
Total	69	51	120	

Table 5. Age Impact on the Applicants' Practice toward Beast Screening Tool(mammogram/ US).

Age	Have you experienced Mammography or U/S, before?		Frequency	Asymp. Sig.(2-sided)
	yes	no		
15-25	10	12	22	

26-35	10	12	22		
36-45	15	6	21	0.038	
46-55	28	11	39		
Higher than 55			6	10	16
Total	69	51	120		

DISCUSSION

According to the World Health Organization, breast cancer is one of the most prevalent diseases worldwide and associated with high morbidity and mortality rate globally. Over the next two decays, breast cancer cases are predicted to rise higher in the Middle East (35).

Breast cancer in Libyan women has been growing over the years. The cause of this increasing is probably because of a changes in lifestyle and genetic factors (36). It affects Libyan women at an early age compared with developed Countries. Additionally, most cases are diagnosed at later stages causing lower rates of recovery. Such delayed in detection considered as a too serious issue in Libya and is associated with complex interactions between advanced stages and many factors; for instance, lack of knowledge and fear from result (37).

In general, awareness of breast cancer and regular a practice of breast cancer screening tools promote early detection, and improves the chances of survival and improve health outcomes (38).

Despite the fact that Libyan health authorities make significant efforts to national breast cancer screening programs, there is still uncertainty on the suitable age for beginning of screening methods (39). Women at high risk are strongly advised to undertake screening by mammography annually (40).

For the reason that breast clinics are an ideal places to promote breast cancer knowledge and encourage screening and early detection of the disease and hence increase survival. In the current study, questionnaire distributed among female patient attending the breast clinic in Tobruk Medical Center, Tobruk, Libya.

According to the obtained results, participants reported overall proper knowledge level of 91.7% regarding mammography and ultrasound breast cancer diagnostic tools. Our finding is consistent with the Marinho LA, et al. (41) investigations, which showed a high-level knowledge for 93.5% of the respondents. Furthermore, this study presented that 52.5% of the participants gained their knowledge from social media. Whereas, 24.2. % achieved it via watching TV and 23.3% heard about breast cancer tools from friends and family, which is in agreement with the outcomes of the study conducted by Ahmed RM, et al. indicated that 40.37% of the contributors have

known of breast cancer screening by social networking (42). This finding might assist the Ministry of Health in Libya to use social media to increase the awareness and encourage the population to perform breast cancer screening methods.

The obtained results also showed that, the majority of applicants (86.7%) listed that mammograms and/or US are essential screening tools for early detection of breast cancer. This finding is in accordance with a similar study, in which the level of awareness of the importance of screening tools for detecting breast cancer was 92.6%. (42).

According to this investigation, 61.7%% declared that these screening tools should begin after the age of 40 years. As well, 37.5% preferred to perform screening tests yearly. This result was consistent with the recommendation of The United States Preventive Services Task Force that declare women having age greater than 40 years should perform mammogram annually.

The awareness of breast cancer symptoms and signs play an important role in the early detection of breast cancer. In this study, pain (30.8%) and mass in the breast (30.0%) were described as the major symptoms of breast cancer which indicated that women had inadequate knowledge about breast cancer symptoms. This is consistent with a reported study in Bangladesh where 30.5 % of women incorrectly associated breast pain with early sign of breast cancer (43). In the current study, participants do not recognize the other signs of breast cancer including nipple retraction, discoloration of nipple skin, and underarm pain. Similar outcomes were stated in previous study from Malaysia presented poor knowledge regarding nipple retraction, discoloration of nipple (44). As can be seen from this findings, Libyan government with public-private partnerships should organize continuous awareness programs regarding breast self-examination(BSE) and clinical breast examination (CBE) that can assist raising the knowledge about signs and symptoms of breast cancer.

In terms of attitudes related to breast cancer screening. In this study about one half (57.5%) of the applicants had practiced mammography or US tests, before. Among them, 22.5% tried the methods twice, whereas, 21.7% experienced them only ones in their lives. The majority of applicants who had heard of breast cancer screening tools reported lower rates of practicing mammograms and US compared with other literatures (45,46,47). From this study outcome, the limited level of practice of breast cancer screening could be one of the main reasons for late diagnosis of breast cancer among Libyan women.

Moreover, 38.3% of participants who attended the breast clinic were because of pain and lump and 37.5% performed mammography and U/S due the request of clinician. . This result indicates that applicants had a negative attitude towards screening tools, which might be because of most of them have no breast cancer symptoms.

Therefore, more promotions are required to encourage breast cancer screening and stated that pain and lump are not the only signs of breast cancer (48).

Even though the Libyan government provides mammograms for free, still the majority of women do not perform this service. Barriers preventing women from seeking breast screening programs were: afraid from the result (39.2%%), not having breast lumps (32.5%) and lacking knowledge of breast cancer tools (23.3%). Similarly to another study, women were not gaining access to the screening program due to numerous factors, and most importantly, lack of awareness recent (49).

Moreover, this study revealed a significant correlation between performing mammography / ultrasound and marital status ($p=0.011$), as well as the age among participants ($p=0.038$). Married women attending breast clinic experience breast cancer screening tools more than single

women. Data in this study were in concordance with the previous study which indicated that marital status has a strong impact on women performance toward breast cancer screening. Out of 71 studied female, 54.4% of married women did mammogram, while only 1% of single women performed mammogram (50). It might be the reason for this low level of practice that most of single female have no breast cancer symptoms (52). Screening practice was influenced by age. Although the American Cancer Society recommended screening all women aged ≥40 years with no upper age limit, older participants (more than 55 years old) had worse practice screening methods to a greater extent than younger ones. This finding is not agreed with other study that showed better practice screening tools by older women than younger female (38).

Furthermore, there is no significant correlation between educational level and performing checkup, which was in agreement with the other studies shown poor knowledge and a great negative attitude towards mammography in all educational levels (42,51).

The incidence of breast cancer is increasing in Libya as well as globally. Unfortunately, there is a significant lack of knowledge about breast cancer signs and symptoms in Tobruk. In addition, the majority of applicants still do not utilize breast cancer screening services.

CONCLUSION

The main conclusions of the experimental work should be presented. The contribution of the work to the scientific community and its economic implications should be emphasized.

ACKNOWLEDGEMENT

The researcher would like to thank all the participants involved in this study.

ETHICS

This study was conducted to all females attending breast clinic in the Medical Tobruk Center in Tobruk, Libya and considered the consent of all the contributors involved in the questionnaires. All applicants participated in the evaluation on a voluntary basis; there was no compensation.

REFERENCES

1. Ferlay J, Colombet M, Soerjomataram I, Mathers C, Parkin DM, Piñeros M, et al. Estimating the global cancer incidence and mortality in 2018: GLOBOCAN sources and methods. Int J Cancer. 2019; 144(8):1941-53.

2. Fearly, J., Shin, H.R., Bray, F., Forman, D., Mathers, C. and Parkin, D.M. Estimates of World Wide Burden of Cancer in 2008: GLOBOCAN 2008, International Journal of Cardiology. 2010; 127; 2893-2917.

3. National Cancer Institute. SEER Cancer Statistics Review (CSR), 1975-2015. https://seer.cancer.gov/csr/1975_2015/. Updated September 10, 2018. Accessed January 31, 2019.

4. Wang F, Shu X, Meszoely I, et al. Overall Mortality After Diagnosis of Breast Cancer in Men vs Women. *JAMA Oncol*. 2019; 5(11):1589–1596.

5. Alshahrani M, Alhammam SYM, Al Munyif HAS, et al. Knowledge, Attitudes, and Practices of Breast Cancer Screening Methods Among Female Patients in Primary Healthcare Centers in Najran, Saudi Arabia. J Cancer Educ. 2019; 34(6):1167-1172.

6. Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, et al. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. 2021; 0: 1–41.

7. Al-Wassia RK, Farsi NJ, Merdad LA, Hagi SK. Patterns, knowledge, and barriers of mammography use among women in Saudi Arabia. Saudi Med J. 2017; 38(9):913-921.

8. Todd A and Stuifbergen A. Breast cancer screening barriers and disability. Rehabil Nurs. 2012; 37; 74-79.

9. Rizvi A. Middle East cancer rates expected to double in 20 years, says WHO. The National, UAE. 2016.

10. Chaudhary SB. Cancer cases to double by 2030 in Middle East. Gulf NewsHealth. 2018; 13:28.

11. Suleiman AK. Awareness and attitudes regarding breast cancer and breast self-examination among female Jordanian students. Journal of basic and clinical pharmacy. 2014; 5(3):74–8.

12. Ferlay J, SoerjomataramI, Dikshit R, Eser S, Mathers C, RebeloM, Parkin DM, Forman D, Bray F (2015) Cancer incidence and mortality worldwide: sources, methods and major patterns in GLOBOCAN 2012. Int J Cancer 136:E359–E386.

13. WHO. Breast cancer 2021 [cited 2021 4 April]. https://www.who.int/news-room/fact-sheets/detail/ breast-cancer.

14. El Mistiri M, Pirani M, El Sahli N, El Mangoush M, Attia A, Shembesh R, Habel S, El Homry F, Hamad Sand Federico M. Cancer profile in Eastern Libya: Incidence and mortality in the year 2004. Annals of Oncology. 2010; 21:1924-26.

15. Elzouki AN, Buhjab SI, Alkialani A, Habel S, Sasco AJ. Gastric cancer and Helicobacter pylori infection in the Eastern Libya: A descriptive epidemiological study. Arab J Gastroenterol. 2012;13:85-8.

16. Boder JME, Abdalla FBE, Elfageih MA, Abusaa A, Buhmeida A, Collan Y. Breast cancer patients in Libya: Comparison with European and central African patients. Oncology Letters. 2011; 2:323–330.

17. Elzouki, et al. Cancer Incidence in Western Region of Libya: Report of the Year 2009 from Tripoli Pathology ‐ based Cancer Registry Libyan Journal of Medical Sciences. 2018; 2(2); 45-50.

18. Taha Beyased, Firyouz Altrjoman, Nabil Enattah , FaragnEltaib, Nureddin Ashammakhi, Adam Elzagheid, Cancer Incidence in Western Libya: First Results from Tripoli Medical Center, Ibnosina J Med BS. 2017; 9(2); 37-45.

19. Ermiah E, Abdalla F, Buhmeida A, Larbesh E, Pyrhönen S, Collan Y. Diagnosis delay in Libyan female breast cancer. BMC Research Notes. 2012;5:452.

20. Cancer Research UK. Why is early diagnosis important? 2016. http://www.cancerresearchuk.org/about-cancer/cancer-symptoms/why-is-early diagnosis important. Accessed March 2, 2017.

21. Da Costa Vieira RA, Biller G, Uemura G, Ruiz CA, Curado MP. Breast cancer screening in developing countries. Clinics. 2017; 72(4):244-53.

22. Ewaid SH, Shanjar AM, Mahdi RH. Knowledge and practice of breast self-examination among sample of women in Shatra/Dhi-Qar/Iraq. Alexandria J Med. 2018;54(4):315-7.

23. Breast Cancer Risk Assessment and Screening in Average-Risk Women. WHO. WHO position paper on mammography screening. WHO position paper on mammography screening [cited 2019 Nov 15]. Available from: https://www.who.int/cancer/publications/mammography_screening/en.

24. Ziuo FY, Twoier A, El-Khewisky FS. Awareness of women about breast self-examination and risk factors for breast cancer in Benghazi, Libya. European Journal of Cancer. 2014;50:e60-e61.

25. El-Hamadi, M. R., Gusbi, M., Aisa, M., & Elkout, H. Breast Cancer Awareness, Knowledge and Beliefs among Libyan Women. Journal of Scientific Research and Reports 2019, *24*(1), 1-8.

25. Taher YA*, Samud AM, Benhusein GM. Knowledge towards breast cancer among Libyan women in Tripoli. Libyan International Medical University Journal 2016; 01(01): 58-68.

26. Yadav P, Jaroli DP. Breast cancer: Awareness and risk factors in college-going younger age group women in Rajasthan. Asian Pacific J Cancer Prev. 2010; 11: 319–322.

27. Islam RM, Bell RJ, Billah B, Hossain MB DS. Awareness of breast cancer and barriers to breast screening uptake in Bangladesh: A population based survey. Maturitas. 2016; 84: 68–74.

28. Tazhibi M, Feizi A. Awareness Levels about Breast Cancer Risk Factors, Early Warning Signs, and Screening and Therapeutic Approaches among Iranian Adult Women: A large Population Based Study Using Latent Class Analysis. Biomed Res Int. 2014; 2014.

29. Hassan EE, Seedhom AE, Mahfouz EM. Awareness about breast cancer and its screening among rural Egyptian women, Minia District: A population-based study. Asian Pacific J Cancer Prev. 2017; 18: 1623–1628.

30. Ahmed RM, A.Elkhader B, Hassan WB, Elsamani M, Eisa RA. Knowledge and Practices towards Breast Cancer Screening. Int J Pharm Res Allied Sci. 2021;10(2):21-8

31. Alshahrani, M., Alhammam, S.Y.M., Al Munyif, H.A.S. *et al.* Knowledge, Attitudes, and Practices of Breast Cancer Screening Methods Among Female Patients in Primary Healthcare Centers in Najran, Saudi Arabia. J Canc Educ. 2019; 34, 1167–1172.

32. Alshareef B, Yaseen W, Jawa W, Barnawe Y, Alshehry W, Alqethami H, et al. Breast Cancer Awareness among Female School Teachers in Saudi Arabia: A Population Based Survey. Asian Pacific journal of cancer prevention: APJCP. 2020; 21(2):337.

33. Biswas S, Syiemlieh J, Nongrum R, Sharma S, Siddiqi M. Impact of Educational Level and Family income on Breast Cancer Awareness among College-Going Girls in Shillong (Meghalaya), India. Asian Pacific Journal of Cancer Prevention. 2020; 21(12):3639–46.

34. Liu N, Li P, Wang J, Guo P-p, Zhang X-h, Yang S, et al. Factors influencing breast cancer awareness: across-sectional study in China. Journal of Comparative Effectiveness Research. 2020; 9(10):679–89.

35. O. E. Gabriel, O. A. Ajetunmobi, O. M. Shabi et al.,"Awareness and practice of self-breast examination among female nurses at the Federal Teaching Hospital Ido-Ekiti, Nigeria," Journal of public health in Africa. 2016; 7:528.

3636. Elzouki I, Benyasaad T, Altrjoman F, Elmarghani A, Abubaker K, Elzagheid A.

Cancer incidence in western region of Libya: Report of the year 2009 from Tripoli pathology-based cancer registry. Libyan J Med Sci 2018; 2:12-5.

37. Ermiah E, Abdalla F, Buhmeida A, Larbesh E, Pyrhönen S, Collan Y. Diagnosis delay in Libyan female breast cancer. BMC Res Notes 2012; 5:452.

38. Nehad M. Ayoub, Ghaith M. Al-Taani, Basima A. Almomani, Linda Tahaineh, Khawla Nuseir, Areej Othman, Kofi Boamah Mensah, "Knowledge and Practice of Breast Cancer Screening Methods among Female Community Pharmacists in Jordan: A Cross-Sectional Study", International Journal of Breast Cancer. 2021; 13.

39. Giordano SB, Gradishar W. Breast cancer: Updates and advances in 2016. Curr Opin Obstet Gynecol. 2017; 29:12‑7.

40. Saslow D, Boetes C, Burke W, Harms S, Leach MO, Lehman CD, *et al*. American Cancer Society guidelines for breast screening with MRI as an adjunct to mammography. CA Cancer J Clin 2007; 57:75‑89.

41. Marinho LA, Cecatti JG, Osis MJ, Gurgel MS. Knowledge, attitude and practice of mammography among women users of public health services. Rev Saude Publica. 2008 Apr; 42(2):200-7.

42. Ahmed RM, A.Elkhader B, Hassan WB, Elsamani M, Eisa RA. Knowledge and Practices towards Breast Cancer Screening. Int J Pharm Res Allied Sci. 2021; 10(2):21-8.

43. Alam NE, Islam MS, Ullah H, et al. Evaluation of knowledge, awareness and attitudes towards breast cancer risk factors and early detection among females in Bangladesh: A hospital based cross-sectional study. PLoS One. 2021;16(9):e0257271.

44. Al-Dubai SAR, Qureshi AM, Saif-Ali R, Ganasegeran K, Alwan MR, Hadi JIS. Awareness and knowledge of breast cancer and mammography among a group of malaysian women in shah alam. Asian Pacific J Cancer Prev. 2011; 12: 2531–2538.

45. Chong PN, Krishnan M, Hong CY, Swah TS. Knowledge and practice of breast cancer screening amongst public health nurses in Singapore. Singapore Med J. 2002; 43: 509–516.

46. Ozmen V, Nilufer Ozaydin A, Cabioglu N, Gulluoglu BM, Unalan PC, Gorpe S, et al. Survey on a mammographic screening program in Istanbul, Turkey. Breast J. 2011; 17: 260–267.

47. Al-Naggar RA, Bobryshev YV. Practice and barriers of mammography among Malaysian women in the general population. Asian Pac J Cancer Prev. 2012;13(8):3595-600.

48. Islam RM, Bell RJ, Billah B, Hossain MB DS. Awareness of breast cancer and barriers to breast screening uptake in Bangladesh: A population based survey. Maturitas. 2016; 84: 68–74.

49. Abulkhair, O.A., Al Tahan, F.M., Young, S.E., Musaad, S.M. and Jazieh, A. R.M. The First National Public Breast Cancer Screening Program in Saudi Arabia. Annals of Saudi Medicine.2010; 30, 350-357.

50. Aljohani, Somaya & Saib, Israa & Noorelahi, Muatasim.Women's Performance of Breast Cancer Screening (Breast Self-Examination, Clinical Breast Exam and

النتائج، و32.5% لا يعانين من أي كتلة أو ألم، و23.3% لديهنّ معلومات غير كافية عن تصوير الثدي بالأشعة. تشير هذه الدراسة إلى وجود موقف غير مناسب لدى النساء تجاه تصوير الثدي بالأشعة والموجات فوق الصوتية. لذا، تُعدّ البرامج التثقيفية المناسبة ضرورية لتغيير نظرة النساء إلى سرطان الثدي.

الكلمات المفتاحية: سرطان الثدي، المعرفة، الممارسة، الموجات فوق الصوتية، تصوير الثدي بالأشعة، طرق الفحص.

Mammography). Advances in Breast Cancer Research. 2017. 16-27.

51. Khadiga F. Dandash and Abdurrahman Al-Mohaimeed. Knowledge, attitudes, and practices surrounding breast cancer and screening in female teachers of Buraidah, Saudi Arabia. Int J Health Sci. 2007; 1(1):61-71.

.52. Islam RM, Bell RJ, Billah B, Hossain MB DS. Awareness of breast cancer and barriers to breast screening uptake in Bangladesh: A population based survey. Maturitas. 2016; 84: 68–74.

53. Mack DS, Lapane KL. Screening Mammography Among Older Women: A Review of United States Guidelines and Potential Harms. J Womens Health (Larchmt). 2019; 28(6):820-826.

الملخص

يُعد سرطان الثدي من أكثر أنواع السرطان شيوعًا في ليبيا. وتساهم برامج الكشف المبكر عن سرطان الثدي في خفض معدلات الوفيات بين النساء. هدفت هذه الدراسة إلى تقييم المعرفة والممارسات المتعلقة بالتصوير الشعاعي للثدي والتصوير بالموجات فوق الصوتية لدى النساء المراجعات لعيادة الثدي في مركز طبرق الطبي، طبرق، ليبيا. أُجري هذا التقييم باستخدام استبيان مُحكم التنظيم خلال الفترة من فبراير 2022 إلى يوليو 2022. بلغ عدد المشاركات 120 امرأة، تتراوح أعمارهن بين 15 و75 عامًا. أظهرت النتائج أن 110 من المشاركات (91.7%) لديهن معرفة جيدة بأساليب الكشف المبكر عن سرطان الثدي باستخدام التصوير الشعاعي للثدي والتصوير بالموجات فوق الصوتية، وأن 63 منهن (52.5%) طورن معرفتهن من خلال وسائل التواصل الاجتماعي. وُجد ارتباطٌ ذو دلالة إحصائية بين الممارسات الجيدة والحالة الاجتماعية للمشاركات (p=0.011). وفيما يتعلق بالممارسات والاتجاهات، لم يسبق لـ 42.5% من المشاركات الخضوع للتصوير الشعاعي للثدي أو التصوير بالموجات فوق الصوتية. على الرغم من امتلاكهنّ مستوى عالٍ من المعرفة، إلا أنهنّ برّرن نقص خبرتهنّ بالأسباب التالية: 39.2% منهنّ يخشين