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Insight of Saudi Women towards Breast Self-Examination in Qurayyat, Northern Saudi Arabia

Abdelbaset Mohamed Elasbali[1], Ziad Alonzi[2], Elyasa Mustafa Elfakia Mohammed[1], Dena Alshammar[2], Lamyaa Abdulaziz Mohammed Alkhalaf[1], Fawaz Mubrak Alsharai[1] Ahmed Hamed ALJadani[3] and Hussain Gadelkarim Ahmed[3,4]*

[1] Department of Clinical Laboratory Sciences, College of Applied Medical Sciences, Jouf University, Qurayyat, KSA

[2] Department of Clinical Laboratory Sciences, College of Applied Medical sciences, Jouf University, Sakaka , KSA

[3] Department of Clinical Laboratory Sciences, College of Applied Medical Science, University of Hail, Saudi Arabia

[4] Department of Pathology, College of Medicine, University of Hail, Kingdom of Saudi Arabia

[5] Department of Histopathology and Cytology, FMLS, University of Khartoum, Sudan

**Corresponding e-mail: hussaingad5@gmail.com*

ABSTRACT

Background: *Implementing early detection's sustainable programs of breast cancer is fundamental for better disease management. Therefore, the present study aimed to assess the insight of Saudi women towards Breast self-examination (BSE) in Qurayyat, Northern Saudi Arabia.* ***Methodology:*** *This descriptive study included 620 Saudi volunteers living in the city of Qurayyat, Northern Saudi Arabia. Women who denied to participate in the breast self-examination workshop were included for perception assessment.* ***Results:*** *A previous BSE was experienced by 217/620 (35%). "Previous knowledge about BSE", (response=536) good knowledge 217 (40%), poor knowledge 208 (39%), know nothing 111 (21%).* ***Conclusion:*** *There is relatively lower knowledge regarding BSE and its related factors in Northern Saudi Arabia. Saudi Northern women have positive attitudes towards health education and training on BSE.*

Keywords: BSE, Breast cancer, Saudi Arabia, Awareness, Prevention, Early detection

INTRODUCTION

Cancer is continuously increasing over the world due to the increase of its modifiable risks each year. Population growth with the growing age, lifestyle changes, overweight, physical inactivity, smoking and urbanization with economic development are significant factors [1]. The prompt growing of cancer morbidity and mortality necessitates the importance of implementing urgent cancer prevention efforts. Efforts are needed to facilitate the utility of new biomarkers in addition to the identification of barriers that reduce the outcomes of effective screening [2].

The success of effective early breast cancer detection is strongly dependent on the level of public awareness [3]. Implementing early detection's sustainable programs, rapid diagnosis, and appropriate management of breast cancer is fundamental to superior outcomes. With raised awareness, numerous women will detect breast cancer early signs themselves and facilitate the early intervention by healthcare professionals [4]. The diversity of breast cancer burden, increasing incidence, lower survival, as indicated by mortality-to-incidence ratio, call for better breast cancer awareness, and cost-effective screening with appropriate treatment, particularly in developing world [5].

In Saudi Arabia, breast cancer represents common cancer and acts as the second leading cause of morbidity after lung

cancer. In general, the incidence rates of breast cancer have dramatically increased in most Arab countries in recent years. Nevertheless, most patients still diagnosed with late stages of the disease [6-10]. Breast cancer accounts for 24% of all females' cancers identified in Saudi Arabia each year [11]. Awareness is crucial in combating this disease. In recent years, Saudi Arabia has introduced some national campaigns in order to raise the level of knowledge towards breast cancer early detection and prevention. Early campaigns had shown relatively lower levels of awareness, which necessitate the need for increasing such efforts [12]. Later campaigns, however, showed a definite improvement in the level of awareness toward breast cancer. Such outcomes are inspiring for a comprehensive community-based awareness program on how to screen themselves and guidance for health authorities to implement more effective breast cancer prevention and control programs in different regions of the country [13]. Therefore, the present study aimed to assess the insight of Saudi women towards breast self-examination in Qurayyat, Northern Saudi Arabia.

MATERIALS AND METHODS

The present study was a descriptive study that included 620 Saudi volunteers living in the city of Qurayyat, Northern Saudi Arabia. Participants were recruited in different public settings in the city. Participants were randomly selected by simple random method regardless of age, gender, education level or occupation. Women who denied to participate in the breast self-examination workshop were included for perception assessment. A purposeful questionnaire was designed and used for obtaining the necessary data. Beside demographical data of the study population, the questionnaire includes inquires; "Did a previous BSE", "Previous knowledge about BSE", "Period of learning about BSE", "Method of learning about BSE", Your perception about the preventive role of BSE", Suitable age to do BSE", "The suitable interval to do BSE", "The preferred method to do BSE", "The interval of breast clinical examination (BCE) for women their ages 20 to 39 years" "The interval of BCE for women after the age of 40 years".

Data Analysis

Statistical Package for Social Sciences (version 16) was used for analysis and to perform the Pearson Chi-square test for statistical significance (p-value). The study applied a 95% confidence level and confidence intervals. A p-value of less than 0.05 was considered statistically significant.

Ethical Consent

Each participant was asked to sign a written ethical consent during the questionnaire's interview. The authors designed an informed ethical consent form and approved by the ethical committee of the Applied Medical Science (Suraya. Jouf University, Saudi Arabia) Research Board.

RESULTS

Six hundred and twenty women aged 20 to 70 years and mean age of 35 years, underwent screening for their knowledge of BSE. "Did a previous BSE" was experienced by 217/620 (35%). "Previous knowledge about BSE", (response=536) good knowledge 217 (40%), poor knowledge 208 (39%), know nothing 111 (21%). "Period of learning about BSE," (response=457), before university study 84 (18%), during or after university study 177 (39%), don't remember 196 (43%). "Method of learning about BSE", (response=476), university program=99 (21%), seminars=111 (23%), scientific literature=52 (11%), media=115 (24%), family and friends=99 (21%). "Your perception about the preventive role of BSE," (response 620), "Yes"=455 (73%), "No"=64 (10%), "Don't know"=99 (17%). "Suitable age to do BSE", (response=533), at any age =52 (10%), at puberty=175 (33%), within 20-70 years=242 (45%), don't know=64 (12%), as shown in Figure 1.

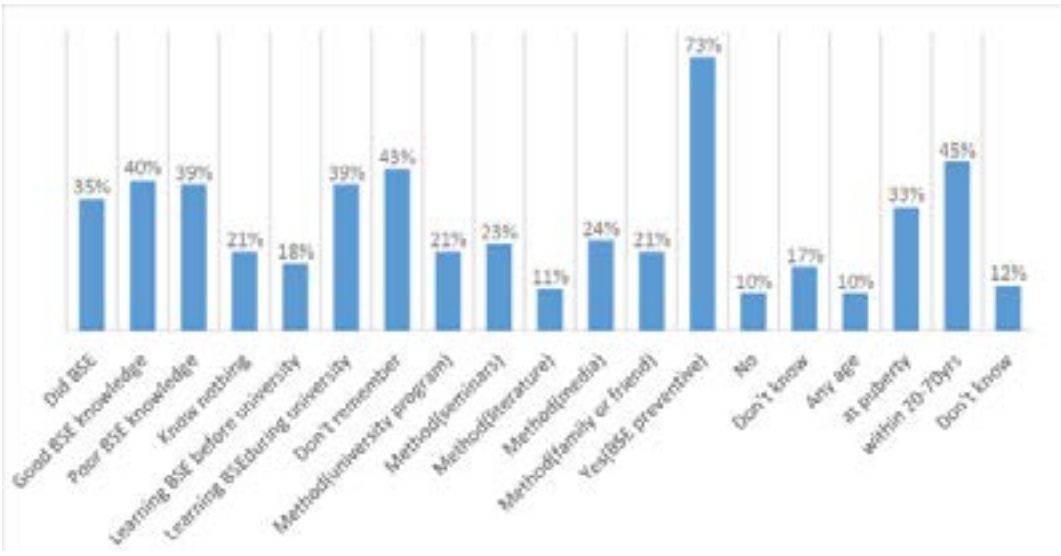

Figure 1 Perception of the study subjects about BSE

The inquiry "The suitable interval to do BSE," (response=535), monthly 179 (33.5%), every six months 244 (45.6%), annually 59 (11%), every three years 17 (3.2%), the duration differ according to the age 36 (6.7%). The inquiry "The preferred method to do BSE," (response=528), don't know 124 (23.5%), stand in front of the mirror 210 (39.8%), during the shower 120 (22.7%) on the bed 74 (14%). "The interval of clinical breast examination (BCE) for women their ages 20 to 39 years", (response=622), monthly 178 (29%), annually 318 (51%), every two years 83 (13%), every three years 43 (7%). "The interval of BCE for women after the age of 40 years", (response=620), monthly 236 (38%), annually 285 (46%), every two years 69 (11%), every three years 30 (5%), as shown in Figure 2.

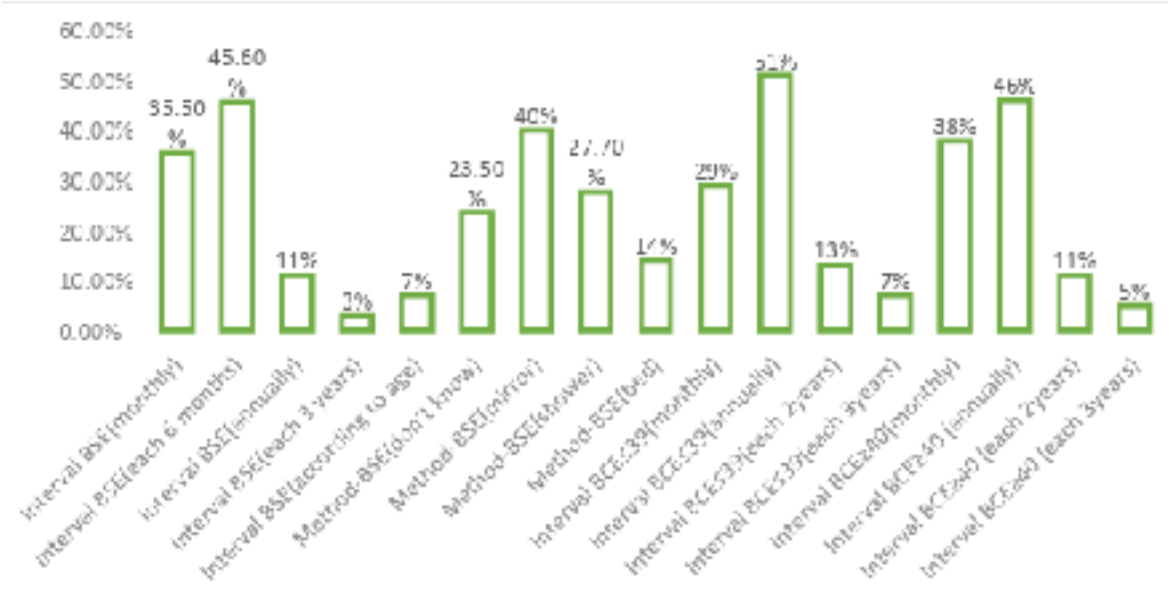

Figure 2 Perception of the study subjects by the timing of BSE and BCE

Table 1 and Figure 3 summarize the perception of the study subjects about BSE by age. As regards those did BSE (n=217), most of them were at the age group 26-35 years followed by 36-45 and 46-55 years instituting 77 (35.5%), 50 (23%), and 43 (20%), respectively. Those "Interested in BSE training" (n=463), most of them were at the age group 26-35 years followed by 36-45 and <25 years instituting 205 (44%), 105 (23%), and 75 (16%), correspondingly.

Those with good "Previous knowledge about BSE" (n=217), most of them were at the age group 26-35 years followed by 36-45 and <25 years instituting 92 (42%), 51 (24%), and 46 (21%), respectively. "Period of learning about BSE," the majority learned it at the age group 26-35 years, representing 86/177 (48.6%). "Method of learning about BSE", university program (n=99), predominantly at the age group 26-35 years 51/99 (51.1%), seminars (n=111), predominantly at the age group 26-35 years 54/111 (48.6%), scientific literature (n=52), predominantly at the age group 26-35 years 22/52 (42%), media (n=115), predominantly at the age group 26-35 years 60/115 (52%), family and friends (n=99), predominantly at the age group 46-55 years 34/99 (34.3%). "Yes, response" to the point "Your perception about the preventive role of BSE" (n=455), most of them were at the age group 26-35 years followed by 36-45 and <25 years instituting 197 (43%), 113 (25%), and 67 (15%), respectively.

For the opinion "Suitable age to do BSE," don't know (n=64), most of them were at the age groups 26-35 years 17/64 (26.6%) and 46-55 years 14/64 (22%). At puberty (yes, response n=175), most of them were at the age groups 26-35 years 86/175 (49%) and 36-45 years 47/175 (27%). Within the age of 20-70 years (yes response n=242), most of them were at the age groups 26-35 years 100/242 (41.3%) and 36-45 years 55/242 (22.7%). At any age (yes response n=52), most of them were at the age groups 26-35 years 30/52 (57.7%) and 36-45 years 14/52 (27%) (Table 1 and Figure 3). Percentages within entire groups were presented in Figure 3.

Table 1 Perception of the study subjects about BSE by age

Variable	<25 years	26-35	36-45	46-55	56+	Total
Did BSE	29	77	50	43	18	217
Didn't BSE	62	180	93	51	8	394
Total	91	257	143	94	26	611
Interested in BSE Training						
Yes	75	205	105	64	14	463
No	17	57	42	29	12	157
Total	92	262	147	93	26	620
Previous Knowledge about BSE						
Good	46	92	51	27	1	217
Poor	19	99	48	35	7	208
Nothing	7	42	29	20	13	111
Total	72	233	128	82	21	536
Period of Learning about BSE						
Before university	10	49	16	8	1	84
During and after university	40	86	40	10	1	177
Don't remember	15	71	46	51	13	196
Total	65	206	102	69	15	457
Method of Learning about BSE						
University program	27	51	11	7	3	99
Seminars	13	54	31	11	2	111
Scientific literature	5	22	13	11	1	52
Media	16	60	27	7	5	115
Family and friends	6	25	29	34	5	99
Total	67	212	111	70	16	476
Your Perception about the Preventive role of BSE						
Yes	67	197	113	66	12	455
No	5	27	13	10	9	64
Total	72	224	126	76	21	519
Suitable Age to do BSE						
Don't know	11	17	13	14	9	64
At puberty	20	86	47	19	3	175
Within the age of 20-70 years	41	100	55	40	6	242
At any age	1	30	14	4	3	52
Total	72	233	129	77	21	533

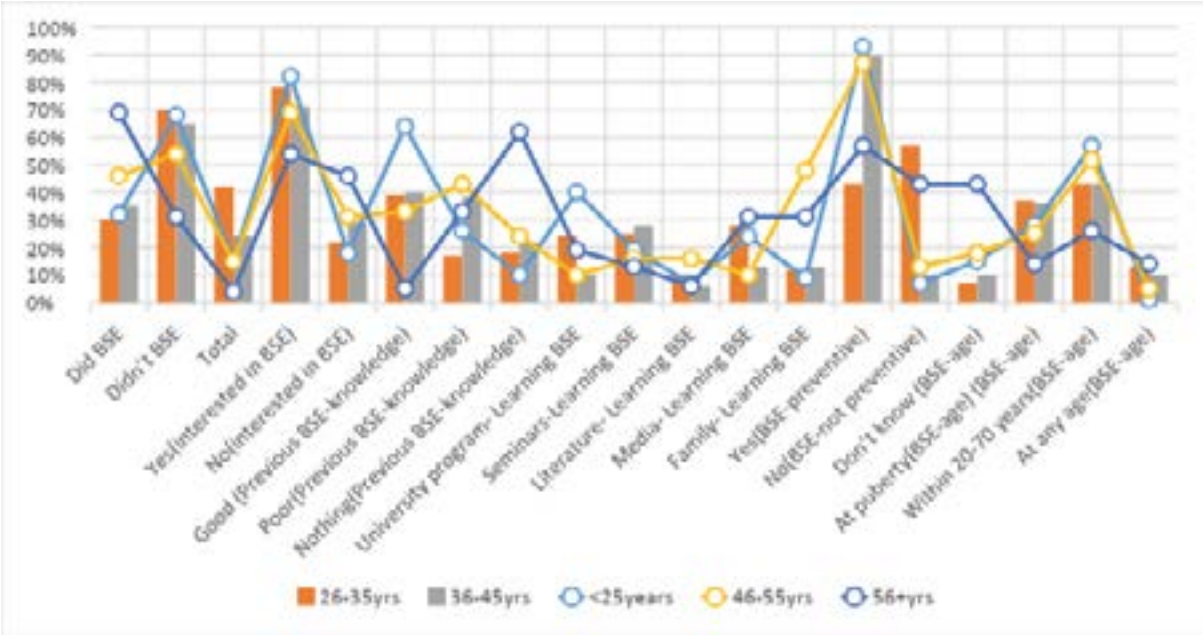

Figure 3 Perception of the study subjects about BSE by age

Table 2 and Figure 4 summarize the perception of the study subjects about BSE by education. The positive perception was significantly associated with higher levels of education in all raised inquiries.

Table 2 Perception of the study subjects about BSE by education

Variable	Illiterate	Basic	Secondary	University	Total
Did BSE	37	36	42	102	217
Didn't BSE	28	29	60	274	391
Total	65	65	102	376	610
Interested in BSE training					
Yes	52	48	77	284	461
No	14	21	22	99	156
Total	66	69	99	383	619
Previous Knowledge about BSE					
Good	22	10	16	167	215
Poor	18	22	47	121	208
Nothing	11	22	24	53	110
Total	51	54	87	341	535
Period of Learning about BSE					
Before university	0	9	10	65	84
During and after university	0	0	0	176	176
Don't remember	41	25	38	91	195
Total	41	34	48	332	455
Method of Learning about BSE					
University program	0	0	0	98	98
Seminars	0	16	15	79	110
Scientific literature	2	4	12	34	52
Media	4	6	23	82	115
Family and friends	33	12	15	38	98
Total	39	38	65	331	473
Your Perception about the Preventive role of BSE					
Yes	33	36	74	309	452
No	15	14	8	27	64
Total	48	50	82	336	516

Suitable Age to do BSE					
Don't know	8	16	12	28	64
At puberty	9	15	35	113	172
Within the age of 20-70 years	29	13	29	171	242
At any age	3	7	7	35	52
Total	46	51	83	347	532

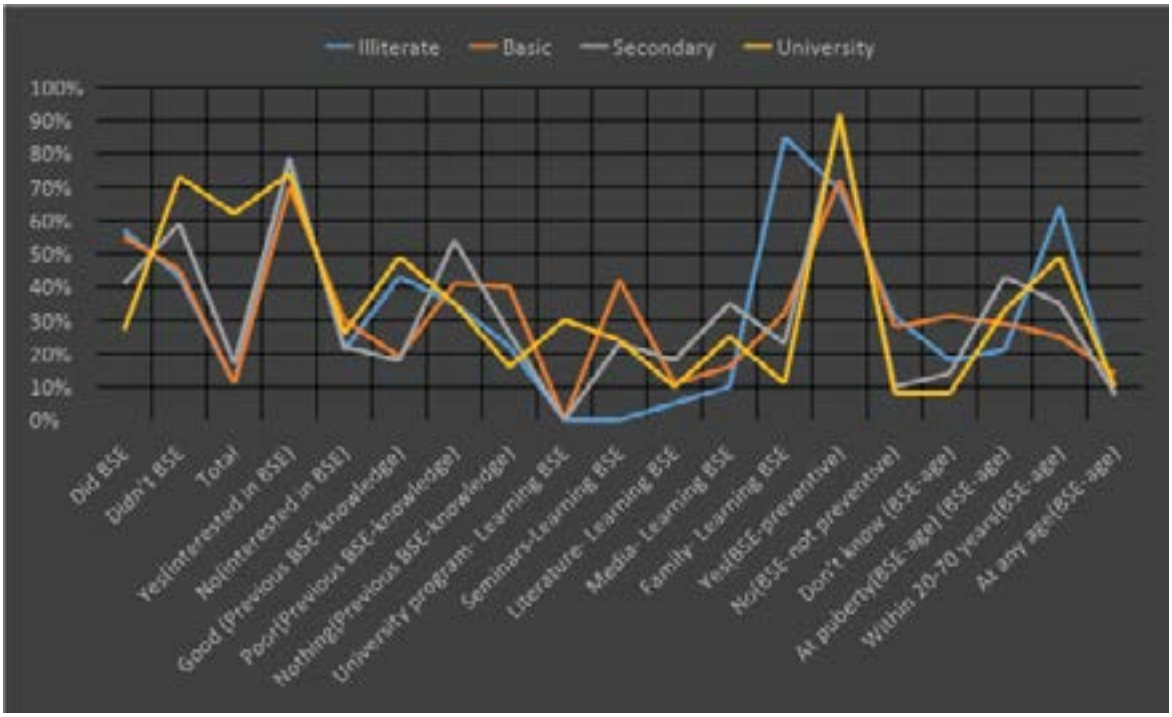

Figure 4 Perception of the study subjects about BSE by percentages with each education level

DISCUSSION

As breast cancer is one of the most prevalent females' cancers, and as it has respectable prevention and early detection outcomes, multiple efforts are needed to reduce the burden of the disease among different population settings. Consequently, the present study was highlighting the perception of Saudi women toward BSE, as an easy, cost-effective method that can be implemented in a public setting.

In the current study, 35% of the participants had experienced a previous BSE. Though it is a lower population percentage, it might be considered average in such a remote area with less exposure to awareness and media. Gaps in access to health education may be a contributing factor in awareness and knowledge regarding BSE. There is a massive inconsistency in the outcomes of the studies that assessed the women who experienced BSE. In one study from Africa, women revealed the low rate of awareness of BSE, as 25% (n=201) of home representatives recounted any knowledge of BSE; and amongst this only 15% (n=30) experienced BSE monthly [14]. Another study reported a level of BSE knowledge of 71.4% and 33.1% of the study contributors had practiced it [15]. A study from Saudi Arabia reported that Saudi women had poor knowledge of BC, conveyed a negative attitude towards BSE and their practice was poor. Working women and those with a family history of breast cancer have higher self-confidence and lower perceived barriers. Although most women heard about BSE (91.2%), only 41.6% reported ever practicing BSE, and 21% performed it regularly [16]. The current findings showed a much lower awareness level than those reported from some Saudi studies. "Previous knowledge about BSE," good knowledge about BSE (40%), poor knowledge 39%, and know nothing 21%. A study from Saudi Arabia reported a 41.5% heard about BSE and only 29.7% had performed it [11]. Another study from Riyadh (Saudi Arabia), reported a level of awareness towards BSE of 54% [17]. However, a study from southern Saudi Arabia had presented a low knowledge about breast cancer, BSE, mammogram, and BCE

was 54.4%, 56%, 90.4%, and 83.8%, correspondingly [18].

In this series, the methods of learning about BSE included; university programs (21%), seminars (23%), scientific literature (11%), media (24%), family and friends (21%). Media and seminars represent the best ways of delivering breast cancer awareness programs. Mass media are a crucial stimulus on the public's accepting health issues, including cancer risk. Elderly people were intensely concealed in the media representation of cancer and cancer knowledge [19]. These findings are useful for the development of breast cancer awareness programs with extensive involvement of media and seminars through cancer awareness campaigns.

In the present study, about 73% of the participants have a positive perception of the preventive role of BSE. This means that Northern Saudi women are largely accepting breast cancer prevention and early detection issues. In respect to the suitable age to do BSE; at any age (10%), at puberty (33%), within 20-70 years (45%), don't know (12%). The American Cancer Society (ACS) published guidelines for breast cancer screening (ACS, 2003). Although mammography guidelines were retained, the recommendations for breast BSE were revised significantly. The 1997 guidelines stated that starting at age 20, women should perform BSE monthly. New guidelines state that beginning in their 20s, women should be informed about the benefits and limitations of BSE [20].

"The preferred method to do BSE," don't know (23.5%), stand in front of the mirror (39.8%), during the shower (22.7%), and on the bed (14%). There a paucity of literature regarding the best method to perform BSE.

In the present study, the interval of BCE for women aged 20 to 39 years, monthly 29%, and annually 51%, Moreover, the interval of BCE for women after the age of 40 years, monthly 38%, and annually 46%. However, there is an argument about the significance of BCE in addition to mammography for breast screening. The addition of BCE to mammography would raise the total sensitivity and subsiding the specificity. BCE can be targeted to those women in whom it has the highest net advantage [21]. Recently published guidelines suggest that the start of breast cancer screening among women aged 40-49 years comprises a joined decision-making sequence. The breast cancer screening patient decision-aid (BCS-PtDA) enhanced knowledge but did not touch risk-based decision making concerning the age of initiation of breast cancer screening. These verdicts signpost the difficulty of altering manners to integrate actual risk in the medical decision-making course [22].

Concerning the age, most of the positive respondents were aged 36-45 years, and this was relatively the situation in all raised issues. This section of the population represents the most educated individuals (those with a university level of education), who may be expected to access more information than others. In a study to provide a baseline for national estimates for mammography screening in some Gulf counties, the proportions of females aged 40-75 years who had a mammogram were 4.9% in Saudi Arabia, 8.9% in Oman, 13.9% in the UAE and 14.6% in Kuwait. Socioeconomic status, education, nationality and place of residence are associated with screening uptake, with the lower educated, poor and unmarried having the lowest percentages of uptake. Health education campaigns and awareness programs that are entirely combined into the health system are needed to ensure women's expenditure facilities that are accessible to prevent breast cancer [23]. Concerning the influence of age, similar findings to the results of the present study were reported from Saudi Arabia, the level of knowledge showed a significant decline with age (>40 years) [24].

Although the present study has some limitations such as its cross-sectional settings, it provided essential data regarding breast cancer prevention and early detection for better health policy planning in Northern Saudi Arabia.

CONCLUSION

There is relatively lower knowledge regarding BSE and its related factors in Northern Saudi Arabia. Saudi Northern Women have positive attitudes towards health education and training on BSE. BSE may be a better substitute where mammography and other screening methods are unaffordable.

DECLARATIONS

Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

REFERENCES

[1] Torre, Lindsey A., et al. "Global cancer statistics, 2012." CA: *A Cancer Journal for Clinicians,* Vol. 65, No. 2, 2015, pp. 87-108.

[2] Dillner, Joakim. "Early detection and prevention." *Molecular Oncology,* Vol. 13, No. 3, 2019, pp. 591-98.

[3] Poehls, Uwe G., et al. "Awareness of breast cancer incidence and risk factors among healthy women in Germany: An update after 10 years." *European Journal of Cancer Prevention: The Official Journal of the European Cancer Prevention Organisation (ECP),* 2019.

[4] O'Mahony, Máirín, et al. "Interventions for raising breast cancer awareness in women." *Cochrane Database of Systematic Reviews 2,* 2017.

[5] Sharma, Rajesh. "Breast cancer incidence, mortality and mortality-to-incidence ratio (MIR) are associated with human development, 1990-2016: evidence from Global Burden of Disease Study 2016." *Breast Cancer,* Vol. 26, No. 4, 2019, pp. 428-45.

[6] Al-Saad, S., H. Al-Shinnawi, and N. Mahmood Shamsi. "Risk factors of breast cancer in Bahrain." *Bahrain Medical Bulletin,* Vol. 31, No. 2, 2009, pp. 1-11.

[7] Miller, Anthony B. "Screening for breast cancer in the Eastern Mediterranean Region." *Eastern Mediterranean Health Journal,* Vol. 16, No. 10, 2010, pp. 1022-24.

[8] Brown, Robert, et al. "Tackling cancer burden in the Middle East: Qatar as an example." *The Lancet Oncology,* Vol. 13, No. 11, 2012, pp. e501-e08.

[9] Othman, Areej, et al. "Knowledge, attitudes and practices of breast cancer screening among women in Jordan." *Health Care for Women International,* Vol. 36, No. 5, 2015, pp. 578-92.

[10] Saggu, Shalini, et al. "Recent incidence and descriptive epidemiological survey of breast cancer in Saudi Arabia." *Saudi Medical Journal,* Vol. 36, No. 10, 2015, pp. 1176-80.

[11] Al-Amoudi, Samia, et al. "Breast cancer knowledge among male high school students in Saudi Arabia." *Journal of Cancer Education,* Vol. 31, No. 4, 2016, pp. 784-88.

[12] Al Otaibi, Shibl, et al. "General breast cancer awareness among women in Riyadh city." *Asian Pacific Journal of Cancer Prevention: APJCP,* Vol. 18, No. 1, 2017, pp. 159-63.

[13] Binhussien, Bushra Fahad, and Medhat Ghoraba. "Awareness of breast cancer screening and risk factors among Saudi females at family medicine department in security forces hospital, Riyadh." *Journal of Family Medicine and Primary Care,* Vol. 7, No. 6, 2018, pp. 1283-87.

[14] Azemfac, Kareen, et al. "A community-based assessment of knowledge and practice of breast self-examination and prevalence of breast disease in Southwest Cameroon." *Journal of Cancer Epidemiology,* 2019.

[15] Ahmed, Ayesha, et al. "Breast self-examination awareness and practices in young women in developing countries: A survey of female students in Karachi, Pakistan." *Journal of Education and Health Promotion,* Vol. 7, 2018.

[16] Abolfotouh, Mostafa A., et al. "Using the health belief model to predict breast self-examination among Saudi women." *BMC Public Health,* Vol. 15, No. 1, 2015, p. 1163.

[17] Mahfouz, Ahmed A., et al. "Breast cancer knowledge and related behaviors among women in Abha city, south-western Saudi Arabia." *Journal of Cancer Education,* Vol. 28, No. 3, 2013, pp. 516-20.

[18] Alshahrani, Majed, et al. "Knowledge, attitudes, and practices of breast cancer screening methods among female patients in primary healthcare centers in Najran, Saudi Arabia." *Journal of Cancer Education,* 2018, pp. 1-6.

[19] Macdonald, Sara, et al. "Mass media and risk factors for cancer: The under-representation of age." *BMC Public Health,* Vol. 18, No. 1, 2018, p. 490.

[20] Auvinen, A., et al. "Breast self-examination: what now?" *Oncology Nursing Forum,* Vol. 30. No. 5, 2003, pp. 723-24.

[21] Jiang, Huan, et al. "Estimation of the benefit and harms of including clinical breast examination in an organized breast screening program." *The Breast,* Vol. 43, 2019, pp. 105-12.

[22] Schapira, Marilyn M., et al. "The impact of a risk-based breast cancer screening decision aid on initiation of mammography among younger women: Report of a randomized trial." *MDM Policy and Practice,* Vol. 4, No. 1, 2019.

[23] So, Vivian HT, et al. "Uptake of breast and cervical cancer screening in four Gulf Cooperation Council countries." *European Journal of Cancer Prevention: The Official Journal of the European Cancer Prevention Organisation (ECP),* 2018.

[24] Amin, Tarek Tawfik, et al. "Saudi women interest in breast cancer gene testing: Possible influence of awareness, perceived risk and socio-demographic factors." *Asian Pacific Journal of Cancer Prevention,* Vol. 13, No. 8, 2012, pp. 3879-87.