



KNOWLEDGE OF BREAST CANCER RISK FACTORS AND PRACTICE OF BREAST SELF EXAMINATION AMONG FEMALE STUDENTS OF SORAN TECHNICAL INSTITUTE

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ABSTRACT

Background and objectives: Worldwide, breast cancer is a considerable health-threatening factor among women. Students are very important part of community and encourage them to regular practice breast self examination would be a good avenue to share useful information to population. The purpose of this study was to find out knowledge of breast cancer and practice of breast self examination among female students.

Methods: A descriptive, cross-sectional study was carried out from January through May 2018, involving 100 female students which selected by simple random sampling.

Results: This study revealed that 50% of samples were within the age group 20 - 25 years, mostly (93%) single, and majority (86%) indicated no family history of breast cancer. Near half (48%) of students had average knowledge of breast cancer, while large number 64% had poor breast self examination knowledge. A significant association were found between age and academic level with knowledge of students regarding breast cancer, while there was no significant association between breast self examination and selected variables.

Conclusions: According to study findings lack of knowledge and poor practice of breast self examination were founded among female students. Therefore, it is advisable assessing barriers of practicing breast self exam and improving students' awareness about importance of performing breast self exam on a regular basis for early detection of breast cancer and reducing risks.

Key Words: Knowledge, Breast Cancer, Breast Self Examination, Female Students

1. INTRODUCTION

Breast cancer is a serious disease affecting many women worldwide and Kurdistan Region too (Majid *et al.*, 2009). It is an uncontrolled growth of malignant tissue that arises in the breast. According to the Centers for Disease Control and Prevention, 2014 breast cancer is the most common cancer among women and it is the second leading cause of death among women in the United States. Each year more than 1.6 million women are diagnosed with breast cancer worldwide (American Cancer Society, 2015). Even with advanced technology, 40,000 women still die every year from this disease worldwide (Houshian, 2017). Stewart and Kleihues in year 2003 indicated that in North America, Western Europe and Australia, breast cancer mortality rates have declined, mainly due to improvements in early detection and treatment, and high breast cancer awareness levels in the population, surveys and national screening programs. However the fall of death from breast cancer in western nations is particularly explained by earlier diagnosis as a result of early presentation, in most of the developing countries patient comes for treatment in an advance stage when little or no benefit can be derived from any sorts of therapy (Mia, 2007). Painless lump or thickening in the breast indicated as the first and common sign of breast cancer. Less common signs and symptoms include breast pain or heaviness, changes in breast size and shape, swelling, and nipple abnormalities such as spontaneous discharge (especially if bloody), erosion, or retraction (American Cancer Society, 2014). The earliest signs of breast cancer are usually observable on mammograms, often before lumps can be felt (Agbonifoh, 2016). Multiple risk factors associated with breast cancer including family history/genetic background, hormonal exposures, early age at menarche, late age at menopause, fewer number of children and null parity, late age at first birth, little or no breastfeeding and long-term use of hormone replacement therapy (Younis *et al.*, 2016).

World Health Organization (WHO) has emphasized on raising awareness among women for early detection and reporting of breast cancer cases (Al Junaibi and Alam Khan, 2011).

Previous medical literature strongly suggested that all women practice breast self examination which is an important, cheap and easy method for early diagnosis of breast cancer. It suggested monthly beginning at the age of 20 years and usually performed one week to ten days after the first day of the menstrual cycle, when the breasts are smallest and not tender or swollen (Muchirevesi, 2016).

Study of Godfrey *et al* in year 2016 carried out among female students of Makerere University in Uganda indicated that inadequate knowledge about breast cancer is an important factor in women's poor participation in screening procedures, delay treatment and raising mortality rates. Lack of basic information about breast cancer, ignorance about signs and symptoms, and the lack of knowledge about diagnostic screening for early detection threaten the life of women (Plichta and Kelvin, 2013).

Iheanacho *et al.* 2013, in a study in Nigeria concluded that there is need to assess the knowledge level and practice of breast cancer screening methods as breast self examination among women. Students as important part of community are perfect medium for further education in their family and rest of population. Teaching students and their responsiveness regarding awareness and practice of breast self examination is of crucial importance for early detection of breast cancer. Therefore, the current study was undertaken to find out what female students know about breast cancer risk factors as well as to evaluate practice of breast self-examination.

2. SUBJECTS AND METHODS

Descriptive, cross-sectional study design was carried out, in Soran Technical Institute which is belonged to Erbil Polytechnic University. The study conducted between the periods of January to May 2018 and out of three hundred eighty six (386) female students for the academic year 2017-2018 a sample of one hundred female students was selected from different departments of (nursing, lab technique, midwifery, information technology, accounting and business administration) to ensure even representation. Simple random sampling method was used with probability of proportional to size. The sample size of the study represents more than 25% of all female students. Participants who were present in classes on the days of data collection and agreed to participate were included in the study. Verbal consent was taken from each participant and excluded who refused participation. Data were collected using a structured questionnaire prepared by the authors for the purpose of study. The questionnaire consists of three main parts: Part I was related to socio-demographic characteristics (which includes age, marital status, and academic data), and history of disease in family , Part II was involved 25 questions related to students' knowledge about breast cancer's risk factors (16 questions), signs and symptoms (6 questions), and early detection methods (3 questions). Part III was related to knowledge and practice of breast self examination. Categorical responses Yes, No, Don't know were applied for the question items. We assigned one point to a correct answer and zero either for don't know or an incorrect answer. The overall knowledge score was computed by summing all scores of all questions with a possible range of scores from 0 to 25. Scores were divided into three categories of poor knowledge means less than score ≤ 12 , average knowledge or score 13-18, and good knowledge score ≥ 19 . Students' knowledge on breast self examination were assessed by another part of questionnaire that contains 9 items with three options of Yes, No, don't know. One point was given for each correct answer, and zero either for incorrect or don't know answers. The total

knowledge scores of breast self examination for each participant calculated by summation of correct responses with range of 0 to 9 which divided into two categories. Good knowledge level was defined by a score of at least 6 and more while score 5 and less were regarded as poor knowledge level. Using Statistical Package for Social Science (SPSS, version 15), frequency, percentage and Chi Square was used for data analysis. (A value of $p \leq 0.05$ was considered as statistically significant).

3. RESULTS

In the present study half of the students were within the age group 20 - 25 years old. Mostly (93%) were single. Regarding academic level 52% of participants were in second level. Concerning family history of breast cancer the majority (86%) of students hadn't history of breast cancer followed by 14% which indicated previous history of breast cancer among their families as shown in Table 1.

Three quarter of risk factors correctly pointed by more than 60% of students. The highest rate (85%) of participants indicated never breast feeding as a risk factor followed by gender and positive family history 81% and 80% respectively. Majority (76%) of the participants known that lack of physical activity and exposure to radiation are risk factors of breast cancer. On the other hand, knowledge about some risk factors was very low, and results confirmed lowest rate 14% for early menarche followed by late first pregnancy and late menopause which represented by proportions of 28% and 38% respectively.

Good knowledge was noticed about breast cancer signs and symptoms perceived by students and the most frequent correct response 86% was painless breast lump, followed by change in the breast size 83% and breast shape 79%. Among the participants, 82% correctly indicated to mammography as a method for early detection of breast cancer followed by 62% and 53% which

indicated to clinical breast examination and breast self examination respectively as shown in Table 2.

As it presented in table 3 near half (48%) of the students had average breast cancer knowledge and more than one third (35%) shown good knowledge level.

Table 4 shows there was significant statistically association between breast cancer's knowledge and age ($X^2=12.378$, $p < 0.05$) and academic level ($X^2=9.771$, $p < 0.05$).

Table 5 illustrates that 77% of respondents previously heard about BSE and 80% known that it can help in early detection of breast cancer. Among participants 39% had previous training on BSE but almost all (92%) of them are interested to know or training more about it. There is a considerable gap in practice and correct knowledge of performing BSE among students and nearly to half (47%) of them didn't knew how to perform and 32% actually performed BSE.

More than 60% of students didn't knew BSE and few participants correctly indicated that BSE should be performed monthly 25%, using three middle finger pads (24%), at proper time of 5-7 days after first day of menstrual cycle (23%). The most common reasons for not performing BSE were don't know how to perform 43% followed by 21% and 4% which related to don't expect to get breast cancer and don't think it is important respectively.

Media indicated by 38% of students as the main source of information and 31% mentioned health care providers. Table 6 included findings of study which revealed poor breast self examination level of knowledge by approximately two third 64% of the students while only 36% were knowledgeable about it.

From the Table 7, there were no statistically significant association between students BSE knowledge and selected variables.

4. DISCUSSION

Recognition and identifying any scarceness in community knowledge and health system shortcomings will guide to plan properly and act more effectively. Findings of present study revealed that majority of students correctly knew about three quarter of risk factors, in agreement with Amasha, (2013a) in Jordan while in contrast with studies of Karayurt *et al.*, in (year 2008), and Sama *et al.*, 2017. In the present study painless breast lump, change in breast size and change of breast shape respectively were reported by 86%, 83% and 79% as sign and symptoms of breast cancer. Findings of Al-Sharbatti *et al.* (2012) in Ajman, and Younis *et al.* (2016) in UAE are almost similar to this study results.

Study of Abdoul Salam *et al.* (2016) in Morocco found that the most of students indicated mammography as a method for early detection of breast cancer, this finding are quite different with two studies one done among female students in UAE by Al-Sharbatti *et al.* (2012) and other carried out by Fotedar *et al.* (2013) in India.

Throughout the course of present study, it demonstrated that only one third (35%) of participants shown overall good knowledge level of breast cancer, similar findings founded in a study of Alharbi *et al.* (2018) in Saudi Arabia which indicated 34.3% good knowledge level.

In our study it is clear that there is a considerable gap in knowledge of correct performing BSE among students. Concerning BSE our findings are in agreement with Morse *et al.*, 2014, Ojewusi and Arulogun, 2016, and Minasie *et al.*, 2017. Participants' lack of knowledge was the most common reasons for not performing BSE, similar to findings of recent study of Alharbi *et al.* (2012) in Kuwait. According to results in this study media pointed by students as the main source of information followed by Health care providers. These findings supported by results of Karayurt *et al.*, 2008, and Iheanacho *et al.*, 2013.

Present study found that there was association between academic level ($X^2=9.771$, $p <0.05$), age ($X^2=12.378$, $p <0.05$), and knowledge of students regarding breast cancer and no association were found between other selected variables and breast cancer knowledge and BSE knowledge.

These results agree with those of a study done in Jordan by Amasha, (in year 2013b), however contrasted with studies done in Nigeria by Ojewusi and Arulogun, (2016) and Karayurt *et al.* (2008) in Turkey which founded statistically significant association between knowledge of BSE and selected variables.

5. CONCLUSION

In regard to our findings only one third of female students of Soran Technical Institute had good level of knowledge about different aspects of breast cancer, in addition majority of them had poor knowledge of BSE and they were not familiar with frequency and appropriate time to practice BSE.

TABLES

Table 1. Socio-demographic characteristics of study population

Socio-demographic characteristics	No.	(%)
Age		
<20	47	47 %
20 – 25	50	50 %
26 – 30	2	2 %
> 30years	1	1 %
Marital Status		
Single	93	93 %
Married	7	7 %
Academic Level		
First Year	48	48 %
Second Year	52	52 %
Family history of breast cancer		
Yes	14	14 %
No	86	86 %

Table 2. Distribution of study population by knowledge about different aspects of breast cancer

Knowledge of Breast cancer risk factors	Yes	No
	No %	No %
Gender	81 %	19 %
Increasing Age	48 %	52 %
Positive family history	80 %	20 %
Positive personal history	68 %	32 %
High fat diet	67 %	33 %
Smoking	68 %	32 %
Exposure to radiation	76 %	24 %
Alcohol consumption	70 %	30 %
Late first pregnancy (> 30 year)	28 %	72 %
Early menarche (< 12 year)	14 %	86 %
Late menopause (> 55 year)	38 %	62 %
Lack of physical activity	76 %	24 %
Obesity (post menopause)	75 %	25 %
Hormone replacement therapy	64 %	36 %
Never breast feeding	85 %	15 %
Oral contraceptive use	60 %	40 %
Knowledge of Breast cancer Signs and Symptoms		
Painless breast Lump	86 %	14 %
Nipple discharge	78 %	22 %
Change in the breast size	83 %	17 %
Change in the breast shape (asymmetry)	79 %	21 %
Inversion/pulling in of nipple (nipple retraction)	69 %	31 %
Lump and Swelling in the armpit	78 %	22 %
Knowledge of Breast Cancer early detection methods		
Breast Self Examination (BSE)	53 %	47 %
Clinical Breast Examination (CBE)	62 %	38 %
Mammography (MMG)	82 %	18 %

*Multiple responses

Table 3. Distribution of the study population by level of Knowledge about Breast Cancer

Knowledge Level	Category Score	No. %
Poor Knowledge	≤ 12	17 %
Average Knowledge	13-18	48 %
Good Knowledge	≥ 19	35 %

Table 4. Distribution of the study population by their Breast cancer knowledge level in association with selected variables

Variable	Knowledge Level						Chi-square (X²)	p
	Poor Knowledge		Average Knowledge		Good Knowledge			
	N.	(%)	N.	(%)	N.	(%)		
Age								
<20	13	27.7	20	42.6	14	29.7	12.378	0.011
20 - 25	3	6	28	56	19	38		
26 - 30	1	50	0	0	1	50		
> 30years	0	0	0	0	1	100		
Marital Status								
Single	15	16.1	45	48.4	33	35.5	0.723	0.757
Married	2	28.6	3	42.8	2	28.6		
Academic Level								
First Year	14	29.1	19	39.6	15	31.3	9.771	0.008
Second Year	3	5.8	29	55.7	20	38.5		
Family History of Breast Cancer								
Yes	1	7.1	9	64.3	4	28.6	2.022	0.44
No	16	18.6	39	45.4	31	36		

Table 5. Distribution of the study population by knowledge about breast Self Examination

Knowledge of Breast Self Examination	Yes	No
	No %	No %
Have you ever heard about BSE?	77 %	23 %
Can BSE help in early detection of breast cancer?	80 %	20 %
Do you know how to perform BSE?	53 %	47 %
Previous training on BSE?	39 %	61 %
Do you want to know (training) more about BSE?	92 %	8 %
Have you ever performed BSE?	32 %	68 %
How is Breast Self Examination done?	No %	
The whole of the fingers	6 %	
Three middle finger pads*	24 %	
Palpate with one or two fingers	8 %	
Don't know	62 %	
Frequency of Breast Self Examination?		
Weekly	8 %	
Monthly*	25 %	
Yearly	5 %	
Don't know	62 %	
Appropriate time for Breast Self Examination?		
At the beginning of every month	14 %	
Few days before menstrual cycle	3 %	
5-7 days after first day of menstrual cycle*	23 %	
Don't know	60 %	
Reasons for not performing BSE?		
Don't know how to perform	43 %	
Don't expect to get breast cancer	21 %	
Don't think it is important	4 %	
Sources of information on breast cancer and BSE		
Health care providers (doctor, nurse...)	31 %	
Family	19 %	
Friends	12 %	
Media (TV, radio, newspaper...)	38 %	

Table 6. The study population by level of Knowledge about Breast Self Examination

Knowledge Level	Category Score	No. %
Poor Knowledge	≤ 5	64 %
Good Knowledge	≥ 6	36 %

Table 7. Distribution of the study population by their BSE knowledge level in association with selected variables

Variable	Knowledge Level				Chi-square (X²)	p
	Poor Knowledge		Good Knowledge			
	N.	(%)	N.	(%)		
Age						
<20	34	72.3	13	27.7	3.541	0.242
20 - 25	28	56	22	44		
26 - 30	1	50	1	50		
> 30years	1	100	0	0		
Marital Status						
Single	59	63.4	34	36.6	0.180	1.000
Married	5	71.4	2	28.6		
Academic Level						
First Year	28	58.3	20	41.7	1.287	0.257
Second Year	36	69.2	16	30.8		
Family History of Breast Cancer						
Yes	10	71.4	4	28.6	0.390	0.532
No	54	62.8	32	37.2		

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