

Awareness of Breast Cancer and Self-Examination among Women Working at Benha University

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Background: Breast Cancer is the most common malignancy and the second leading cause of cancer deaths among women. It is the most common invasive cancer as it affects about 12% of women worldwide. **The study aimed to** evaluate the effect of the program on improving women knowledge and practice regarding breast cancer and self-examination. **Research design:** A quasi-experimental research design was utilized in this study. **Setting:** The study was conducted at Benha University. **Sample:** A simple random sample included 375 women who were worked at Benha University. **Tools:** two tools were used. **I:** A structured interviewing questionnaire which consisted of two parts. **II:** An observation checklist to assess studied women` practices regarding breast self-examination. **Results:** There was highly statistically significant difference among all items of studied women knowledge about breast cancer pre and post implementation of educational program. There was highly statistically difference among all items of studied women practices about exercises, physical activities and smoking pre and post implementation of educational program. **Conclusion:** There was statistically significant relation between the studied women total knowledge and their total practices pre and post implementation of educational program $p > 0.05$. **Recommendations:** Continuous health educational program for women regarding breast cancer in Egypt building on the president's initiative to support women's health for early detection of breast cancer and future research is proposed to explore and generate the effect of health educational program to enhance breast self-examination among women.

Key words: Breast Cancer, Women & Breast Self Examination.

Introduction

Breast cancer is abnormal growth in the cells that normally line the ducts and lobules. Abnormal cells may develop in ductal epithelial cells and spread further in breast lobule or duct wall. Breast cancer is one of the concerns of societies especially for women and is the most prevalent women malignancy, and it is diagnosed about 266,120 new cases of invasive breast cancer, 63,960 new cases of non-invasive breast cancer annually worldwide and around

40,920 women will die from disease (American Cancer Society, 2018).

The most common symptoms of breast cancer are usually an area of thickened tissue in the breast, or a lump in the breast or in an armpit. An early diagnosis of breast cancer increases the chance of recovery. Other symptoms include pain in the armpits or breast that does not change with the monthly cycle, pitting or redness of the skin of the breast like the skin of an orange a rash around the nipples,

a discharge from a nipple, possibly containing blood, a sunken or inverted nipple change in the size or shape of the breast, peeling, flaking, or scaling of the skin on the breast or nipple (Henry et al., 2020).

Early detection is the best defense against morbidity and mortality from breast cancer and preventive measures as awareness and screening methods for early detection of breast cancer. The American Cancer Society recommends the following screening methods for early detection of breast cancer in asymptomatic women including: Breast self-examination, clinical breast examination and mammography (Bouya et al., 2018).

Significance of the study

In Egypt, breast cancer is the most prevalent cancer among women, representing 19% of total cancer cases. Breast cancer incidence is projected to increase by 1-2 % every year (Seif& Aziz , 2020).The World Health Organization statistics have alarmingly revealed the high incidence of breast cancer among Egyptian women, which constitutes 35% of all women cancer cases (World Health Organization, 2018).

According to World Health Organization (2020), the key in reducing breast cancer mortality is early diagnosis of disease, which with timely treatment will increase the survival rate of more than 90% of females. Thus, participation of women in diagnostic and screening programs is vital early screening means better outcomes, especially for women who tend to develop the more aggressive types of cancer, lives may thereby be saved therefore this study conducted to evaluate the awareness in improving women's knowledge and practice toward breast cancer and self-examination.

Aim of the study

This study aimed to evaluate awareness for breast cancer and self –examination among working women at Benha University.

- To assess women's knowledge regarding breast cancer and self-examination.
- To assess women's practice regarding breast cancer and self-examination.
- To design and implement program for women regarding breast cancer and self-examination.
- To evaluate the effect of the program on improving women knowledge and practice regarding breast cancer and self-examination.

Research hypothesis

Women knowledge and practices regarding breast cancer and self- examination will be improved after the implementation of the program.

Subject and methods

Research design:

Quasi experimental design was utilized to fulfill the aim of this study.

Setting:

This study was conducted at Faculties of Benha University and administration. Studied faculties were faculty of literature, physical education and commerce.

Sample size:

Sample type: The studied sample was randomly selected by computer from the total women worked at Benha University, Sample size according equation:

$$n = \frac{N}{1 + N(e)^2}$$

Sampling technique:

Faculty	Number
faculty of physical education	50 women
faculty of commerce	90 women
faculty of literature	90 women
University administration.	145 women

Tools of data collection:

Two tools were used for data collection:

Tool I: A structured interviewing questionnaire: which consisted of two parts.

Part I: Socio demographic characteristics of studied women as age – level of education, marital status, family member number, Nature of work, work hours, work years and monthly income.

Part 2: a); knowledge about breast cancer which includes closed questions about; women’s knowledge regarding breast cancer and breast self- examination it consisted of (definition of breast cancer, the causative factors of Breast cancer, types of breast cancer, signs and symptoms of breast cancer, benefits of early detection of breast cancer and the test used to detect breast cancer and treatment of breast cancer.

b); Knowledge about breast self – examination consisted of closed questions as; the importance of breast self-examination, the times when should do breast self- examination, the reasons for doing breast self-examination, the steps for doing Breast self- examination.

Scoring:

Each item was assigned a score of (2) given when the answer was complete correct answer, as core (1) given when the answer was in complete correct answer and a score (0) given when the answer wasn’t known. The total score of each section was calculated by summation of the score of its items. All items of knowledge scores were considered good if the score of the total knowledge is >75% while considered average if it is equal 50%-75% , and considered poor if it is less than 50%.

Tool (2): An observational checklist to assess studied women practices at Benha University regarding to breast self-examination. This checklist adopted from **long et al., (1993)** which includes practice breast self-examination in front of the mirror, on lying position and in the shower.

Scoring for practice ranged from 2 to 0 as follows, each statement took (2) degree if correctly done and (1) degree if incorrect done and (0) if not done. Total practice score was

- Unsatisfactory practice if it is less than 80% of total practice score.
- Satisfactory practice if it is more than 80% of total practice score.

Ethical consideration:

The agreements for participation of the studied women were taken after the purpose of the study was explained to them. Before data collection, the studied women were informed about the aim and nature of the study and what would be done with the results. They were given an opportunity to refuse to participate and they could withdraw at any stage of the study. Also they were assured that the information

would remain confidential and used for research purpose only. The researcher emphasized that participation in the study is entirely voluntary and anonymity of the women were assured through data coding.

Reliability and validity of the tools:

The tool validity was done by five of Facilities staff nursing experts from the Community Health Nursing specialties who reviewed the tools for clarity, relevance, comprehensiveness, reliability and applicability. The tools reliability was applied by the researcher for testing the internal consistency of the tools by administration of the same tools to the same subjects under similar condition on one or more occasion. The internal consistency of knowledge was 26, and for practice was 18.

Pilot study:

The pilot study was conducted on 10% of the studied sample size. The pilot study was aimed to test the feasibility, clarity, applicability of the tools and time needed to fill each sheet. No modifications were done, so the pilot study samples were included in the studied sample.

Field work:

The study was carried out over a period from the beginning of September 2019 to 1. March 2020, the data was collected from women through interview of them after taking their acceptance to participate in the study and explaining the aim of the study the researcher was attended two days/week for selected place from 9:00 am to 2.00 pm with application of sessions each session took about 30 to 45 minutes. Implementation of the program was

carried out at the previously mentioned settings and at the conference hall in Benha university hospital.

The researcher implemented the intervention through three phases as the following.

Preparatory phase:

Assess knowledge and practices of women working at Benha University about Breast cancer and self – examination.

Implementation phase:

The interview questionnaire conducted by the researcher for data collection in the selected setting after getting the necessary official permission; the researcher introduced herself and asked the questionnaire used simple Arabic language. Implementation of the program done through sessions, the number of sessions were 6 (4 theoretical and 2 practical), each session was discussed from 30 to 45 minutes, in the form of used group discussion also booklet utilized, with clearance of general and specific objectives as follow:

General objectives:

By the end of awareness program, the studied women who working at Benha University increase knowledge and improving skills related to breast cancer and self-examination.

Specific objectives:

- Improve knowledge of women regarding breast cancer and self-examination.
- Improve health practices of women toward breast cancer and self- examination.

The awareness program was done through 6 sessions as follow.

First session: At the beginning of the first session, the researcher introduced herself to

women working at Benha university, an orientation to the intervention was given, take oral informed consent of women, set an agreement on the number, time and duration of session. The researcher provided trust, warm and secured atmosphere women and relieved anxiety, tension and increased motivation for participate in all sessions of the nursing intervention provided introduction about meaning of program about its basic rules and the aim. And knowledge about Breast cancer as; definition, signs and symptoms, and risk factors of breast.

- **Second session:** covered the diagnostic methods of early detection of breast cancer.
- **Third session:** covered the knowledge about methods of treatment of Breast cancer.
- **Fourth session:** covered performing breast self-examination in front of the mirror.
- **Fifth session:** covered performing breast self- examination in the shower and in the lying down.

- **Sixth session:** covered health practices for preventing breast cancer as, nutrition, physical activities, smoking and follow up.

Evaluating phase:

Evaluating of the program was done immediately and after the end of the program by using the same pre/post test questions.

Statistical analysis:

The collected data were organized, tabulated and analyzed using appropriate statistical test. The data were analyzed by using the Statistical Package for Social Science (SPSS), version 21 that was used to calculate frequencies and percentages mean and standard deviation also statistical significant and associations by using chi-square test, it was test used to study association between two qualitative variables and matrix correlation to detect the relation between the variables for (P value).The observation difference and association were considered as following:

Highly significances (HS) $P < 0.001$

Significance (S) $P < 0.005$

Not significances (NS) $P > 0.005$

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Results

Table (1): Reveals socio-demographic characteristics demographic characteristics of the studied women, it shows 57.9% of the studied women were aged 45to > 60 years and 70.4% of the studied women had university education and above, 66.4% of them married. In addition to; 74.7% of the studied women had more than five member in family.

Figure (1): Revealed that 17.1% of studied women had good knowledge in pre educational program implementation this percentage was increasing to 47.7% in post program implementation.

Table (2): Clears that there was highly statistically significant difference among all items of studied women practices about nutrition pre and post implementation of educational program $p > 0.000$.

Table (3): Clears that there was highly statistically significant difference among all items of studied women practices about periodical examination pre and post implementation of educational program $p > 0.000$.

Table (4): Clears that there was statistically significant correlation between the studied women total knowledge and their total practices pre and post implementation of program $p < 0.05$

Table (1): Frequency distribution of studied women regarding socio demographic characteristics (n=375).

Socio demographic characteristics	No	%
Age		
20-< 25	7	1.9
25-< 35	68	18.1
35-< 45	83	22.1
45< 60	217	57.9
Educational level		
Intermediate education	111	29.6
University education or more	264	70.4
Marital status		
Married	249	66.4
Divorced	63	16.8
Widow	63	16.8
Family member number		
<5	95	25.3
More 5 and more	280	74.7

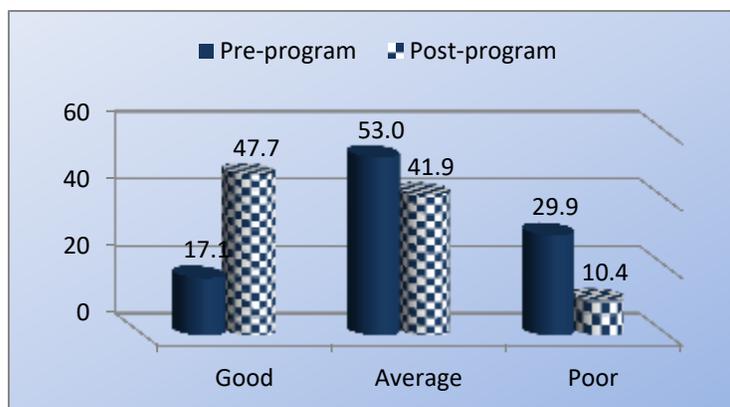


Figure (1): Percentage distribution of studied women regarding their total knowledge pre and post program

Table (2): Frequency distribution of studied women regarding their nutritional practices pre and post program

Nutritional practices	Pre				Post				X ²	p-value
	Done		Not done		Done		Not done			
	no	%	No	%	No	%	No	%		
Eat three regular meals a day that contain all the beneficial nutrients for the body	153	40.8	222	59.2	60	16.0	315	84.0	56.71	.000
Eat fish a weekly	248	66.1	127	33.9	133	35.5	242	64.5	70.55	.000
Eat fresh fruits and vegetables every week	280	74.7	95	25.3	115	30.7	260	69.3	145.61	.000
Using vegetable ghee or vegetable oil instead of ghee in cooking food	312	83.2	63	16.8	160	42.7	215	57.3	132.05	.000
Avoid eating preserved foods (such as canned food)	303	80.8	72	19.2	181	48.3	194	51.7	86.70	.000
Avoid eating fast food (ready-made) outside the home, such as pizza.	311	82.9	64	17.1	158	42.1	217	57.9	133.21	.000
Follow a diet to maintain weight	310	82.7	65	17.3	139	37.1	236	62.9	162.27	.000
Be sure to follow the weight constantly	344	91.7	31	8.3	156	41.6	219	58.4	212.06	.000
Reduce the intake of soft drinks (such as Coca-Cola Pepsi)	311	82.9	64	17.1	122	32.5	253	67.5	195.18	.000
Avoid drinking alcohol	311	82.9	64	17.1	123	32.8	252	67.2	193.28	.000

Table (3): Frequency distribution of studied women regarding their periodical examination practices pre and post program (n=375).

Periodical examination	Pre		Post		X ²	p-value
	No	%	No	%		
Doing a self-examination of the breast once a month						
Done	248	66.1	324	86.4	42.54	.000**
Note done	127	33.9	51	13.6		
If feel change in nipple, you will go to doctor						
Done	248	66.1	348	92.8	81.71	.000**
Note done	127	33.9	27	7.2		

Table (4): Correlation between total knowledge and total practices pre and post program

Total practices	Total knowledge			
	Pre		Post	
	r	p-value	R	p-value
	0.54	0.038*	0.68	0.04*

Discussion

Breast cancer is a serious and common malignancy among women with high morbidity and mortality rate. Each year, approximately one million new cases of breast cancer are diagnosed worldwide. According to **World Health Organization 2018**, there were about 519,000 women who die from breast cancer annually.

This study aimed to evaluate awareness for breast cancer and self-breast examination though assess women’s knowledge regarding breast cancer and self-breast examination, assess women’s practice regarding breast cancer and self-breast examination, design and implement

Program for women regarding breast cancer and self-breast examination and evaluate the effect of program on improving women knowledge and practice regarding breast cancer and self-breast examination.

Concerning personal characteristics of the studied women the results of the present study revealed more than half of the studied women were aged 45to <60 years and more than two thirds of the studied women had university education or more, about two thirds of them were married. In addition to, less than three quarters of the studied women had more than five individual in family.

These findings were in agreement with **Ozkan (2016)**, who studied “Effects of Educational Level on Breast Cancer Awareness: A Cross- Sectional Study in Turkey” (n=413) and found that most of participant women 89.5% were married. In the same line, **Arwa and Darawad (2017)** who studied “Impact of a Breast Cancer Educational Program on Female University Students’ Knowledge, Attitudes, and Practices” (n=110) and reported that majority of studied sample 93.2% had bachelor degree. Also, supported by **Dania et al., (2020)** who studied “Women’s

Breast Cancer Knowledge and Health Communication in the United Arab Emirates” (n=54) and reported that high percent of studied sample 57.8% were age 40+ and more than half of them 59.3% were married and had university education.

The results of the present study cleared that there was highly statistically significant difference among all items of studied women practices about nutrition pre and post implementation of educational program $p > 0.000$.

Moreover, these results came in harmony with **Mahmoud et al., (2020)**, who studied “Effect of The Health Belief Model-Based Education on Preventive Behaviors of Breast Cancer” and showed a statistically significant association between women's total practice scores and their age, educational level, and family history of breast cancer pre and post model implementation. Also, there was a statistically significant association between the women's total practice score and marital status (pre model implementation) and residence pre model implementation.

The results of the present study cleared that there was highly statistically significant difference among studied women practices about periodical examination pre and post implementation of educational program $p > 0.000$.

This result supported by **Toubasi et al., (2015)** who studied “Impact of simulation training on Jordanian women' performance of basic life support skills” and reported that there was highly statistically significant practices improvement regarding regular periodical examination post health education program.

Also, **Tuna et al., (2016)**, who studied “Effectiveness of online education in teaching breast self-examination” and reported that there was statistically differences in monthly self-breast examination. From the researcher point of view this might be related to the effectiveness of designed program. Therefore, developing educational programs for women emphasizing their weak points their improved studied women practices about periodical examination in post implementation of educational program.

The results of the present study cleared that there was statistically significant correlation between the studied women total knowledge and their total practices pre and post implementation of educational program $p > 0.05$ Table (13). In a similar study **Marinho et al., (2017)**, who found that about half 50% of participants under study from those who did not perform BSE had unsatisfactory knowledge. Also, **Fernandes (2017)**, who studied “Effectiveness of PTP on Knowledge of Breast Self-Examination among Nursing Students” (n=140) and mentioned that inadequate knowledge and the negative attitude about BC were found to be significant predictors of BSE practice.

Conclusion

The majority of women had good knowledge about breast cancer post program implementation, the majority of studied women had satisfactory practices at post program implementation, there were highly statistically significant differences among all items of studied women practices about nutrition pre and post program implementation, there were highly statistically significant differences among all items of studied women practices

about exercises, physical activities and smoking pre and post program implementation, the majority of studied women had unsatisfactory practice in pre program implementation regarding breast self-examination and health practices respectively but decreased to (19.2% and 8.8%) in post program implementation, there was statistically significant correlation between the studied women total knowledge and their total practices pre and post program implementation.

Recommendations

- The developed simplified and comprehensive Arabic booklet that can assist in decreasing barriers and clarifying any misconceptions about breast cancer and self-examination
- Increase appropriate knowledge about the importance of breast self-examination and early detection.
- Continuous health educational program for women regarding breast cancer in Egypt building on the president's initiative to support women's health for early detection of breast cancer
- Future research is proposed to explore and generate the effect of health educational program to motivate women toward breast self-examination.

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الوعي بسرطان الثدي والفحص الذاتي لدى السيدات العاملات بجامعة بنها

باسمة عاطف عبدالقادر حسن- عبدالرحيم سعد شولج - ابتسام محمد عبدالعال

يعتبر سرطان الثدي من الاورام الخبيثة حيث يبدأ في خلايا الثدي و يقوم بغزو الانسجة المحيطة او الانتشار الى مناطق أخرى حيث يعتبر الفحص الذاتي للثدي هو وسيلة مهمة وغير مكلفة للسيدات لاكتشاف سرطان الثدي. لذا هدفت هذه الدراسة إلى تقييم الوعي بسرطان الثدي والفحص الذاتي لدى السيدات العاملات في جامعة بنها. وقد تم تنفيذ الدراسة في كليات وادارة جامعة بنها علي ٣٧٥ سيدة وكانت ممثلة في كلية التربية الرياضية وكلية الاداب وكلية التجارة وادارة الجامعة. وقد اسفرت النتائج عن وجود دلالة احصائية كبيرة وتحسن ملحوظ بين معلومات السيدات وممارستهم للفحص الذاتي للثدي قبل وبعد تنفيذ البرنامج. كما اوصت الدراسة بضرورة تنفيذ برنامج تثقيفي صحي مستمر للسيدات فيما يتعلق بسرطان الثدي بناء على مبادرة رئيس الجمهورية لدعم صحة المرأة والاكتشاف المبكر لسرطان الثدي.