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Practicing Breast Self Examination and Early Detection of Breast Cancer

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Abstract
Breast cancer is now the most common cancer both in developed and developing regions with approximately 690.000 new cases estimated each continent (population ratio 1:4). According to Bahia Hospital incidence in 2014 there was about women was detected as breast cancer. The recommendations by the American College of Obstetricians and Gynecologist (ACOG) and the American Cancer Society are for BSE to be performed monthly beginning at the age of 20 years. In fact, regular BSE has been suggested as part of an overall health promotion concept. The aim of the study was to identify the BSE practice of women in Helwan University. The design was applied is a quasi-experimental design. The sample was conducted at selected Faculties on Helwan University. A total of (100 adult women, some working in managerial system, employee and some was student in the previously mentioned place. Setting of the current study was Helwan University. The tools used for data collection were Self-administered knowledge assessment questionnaire & Breast self examination observation checklist. Results of the study revealed that there was a highly statistical difference between the pre and post satisfactory level of the study sample regarding their knowledge about BC and BSE and their performance of BSE, the same highly statistical significant difference between pre and follow up knowledge and practice. Conclusion: working women had deficient knowledge, and their practice of BSE is very low. The intervention program has a positive effect on women's knowledge and practice. The study recommended that continuous workplace educational health programs are recommended. Involvement of the medical staff in health education to prevent wrong information. Further studies are recommended in a broad work place and on the other sectors in the community.

1. Introduction

Breast cancer is the most frequent cancer among women. In 2008, worldwide, 1.38 million new cases were diagnosed (23% of all cancers). The same year in Europe, 425.147 women developed breast cancer and 128.737 women died from the disease. Breast cancer is now the most common cancer both in developed and developing regions with approximately 690.000 new cases estimated each continent (population ratio 1:4) (Globocan, 2011).

Breast cancer causes 376.000 deaths a year; about 900.000 women world over are diagnosed every year with the disease (WHO, 2006). Breast cancer is now a manageable disease. In Egypt, breast cancer ranked first among cancer affecting females and it constitutes around 29% of all female cancers (Elatter, et al, 2003, and Omar & Gaafer, 2003). The median age tends to be younger in the Arab countries than that of the western countries with almost half of the patients diagnosed below the age of 50 years (Azim,

2007). The Dakahlia Governorate, it was reported that the number of cancer patients is 522 i.e. 2.8% from the total number of cancer patients in Egypt (Elatter, et al, 2004). According to Bahia Hospital incidence in 2014 there was aboutwomen was detected as breast cancer.

The high incidence and fatality rate of breast cancer as well as the high cost of treatment require that is should be a focus of high attention for health authorities and policy makers. Thanks to early diagnosis and advances in surgical techniques, chemotherapy and radiation. The main thrust has been towards early diagnosis. The patient has a role to play in diagnosis by performing monthly breast self examinations. More than 90% of cases of cancers of the breast are detected by women themselves, thus stressing the importance of breast self examination (BSE) (Kayode et al, 2005 and Hogben, & Walsh, 2012).

BSE involves visualization and palpation of the breast by oneself for lumps, shape, texture, size and contour. The purpose of this is for a woman to learn the topography of her breast, know how her normal breasts feel and be able to identify changes in them should they occur in the future (Obaji et al, 2013).

Studies have shown that BSE has a positive effect on the early detection of breast cancer (Baines, 1992, and Yelton, 2007).The recommendations by the American College of Obstetricians and Gynecologist (ACOG) and the American Cancer Society are for BSE to be performed monthly beginning at the age of 20 years. In fact, regular BSE has been suggested as part of an overall health promotion concept (Plesnicar et al, 2004).

2. Methodology

2.1. Aim of the Study

The aim of the study was to identify the BSE practice of women in Helwan University.

2.2. Study Design

A quasi-experimental design, with pre, post and follow up assessment was utilized to conduct the study.

2.3. Setting

The study was conducted at selected Faculties on Helwan University.

2.4. Sample

A convenience sample of100 adult women, some working in managerial system, employee and some was student in the previously mentioned setting at the time of the study was recruited.

2.5. Tools of Data Collection

2.5.1. Two Tools Were Used for Data Collection

I. Self-administered knowledge assessment questionnaire was developed by the researchers in an Arabic language, based on literature review and experts' opinions. It covered woman's personal and job or studying characteristics, menstrual and obstetric history, previous practice of breast self-examination. It also includes a section of 20 multiple choice questions for assessment of woman's knowledge regarding breast cancer, incidence, symptoms, risk factors, and methods of early detection.

II. Breast self examination observation checklist developed by (Long et al, 1993) it was used for assessing women's' practice of breast self-examination. It involves 10 steps marked as not done. Done incorrectly, and done correctly.

2.5.2. Scoring System

- Knowledge: for the knowledge items, a correct response was scored 1 and the incorrect zero. For each area of knowledge the scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score. Knowledge was considered satisfactory if the percent score was 50% or more and unsatisfactory if less than 50%
- Observation checklist of breast self-examination: A three-point scale were used: not done= 0, done incorrectly=1 and done correctly=2. The total score of practice was 20 points. For successful performance of breast self-examination, the women must get 20 points.

2.6. Pilot Study

A pilot study was conducted on 10 women (10% of the total sample) from Faculty of Nursing- Helwan University.

The Aim of the pilot study was to test clarity and simplicity of the tools. Necessary modifications were carried out based on the finding of the pilot study and exper's opinion to develop the final form of the tools.

Field work:

After securing official permission to carry out the study, the researchers met with the women who met the criteria for inclusion (adult woman with no breast complain) in Helwan University. The aim of the study was explained to them and their informed consent was secured before collecting data. The field work was carried out along a period of six months starting from March 2015 to August 2015, 3 days weekly. The interview to fill in the tool, take an average 25 minutes. Post test were conducted at the end of the program, and at two months follow-up.

2.7. Statistical Design

Data entry done and statistical analysis was done using statistical package for the social sciences "SPSS" version 20.Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and stander division for quantitative variables, qualitative variables were compared using chi-square test. While, quantities variables were compared using independent T test.

3. Results

Table 1. *Sociodeographic characteristics of studied sample (n= 100).*

Item	Control (n=30)	
	No.	%
Age (years):		
20-29	56	56%
30-39	32	32%
≥ 19	12	12%
Mean ± SD	33.3±1.9	
Marital status:		
Married	46	46%
Single	34	34%
Widow	10	10%
Divorced	10	10%
Educational level:		
Basic education	65	65%
Secondary education	26	26%
Higher education	9	9%
Occupation:		
Employee	74	74%
Nursing students	26	26%
Husband smoking (n=66):		
Yes	46	69.7%
No	20	30.3%

Findings of this quiz experimental study clarifying the socio-demographic characteristics of the women in the sample in the table (1) the mean of age was (33.3±1.9 years). The majority (66%) wasmarried. Almost two thirds of the sample (65%) was basic educated, while just (9%) was higher educated. Also about three quarters (74%) were employee and about two thirds (69%) of the married women have smoking husbands.

Table 2. *Obstatric history of studied sample (n= 100).*

Item	Control (n=30)	
	No.	%
Age of menarche:		
9-11	16	16%
12-14	84	84%
≥ 14	0	0%
Regularity of menstruation:		
Regular	69	69%
Irregular	31	31%
Number of pregnancy (n=66):		
1	16	24.3%
2	29	43.9%
>3	21	31.8%
Number of children (n=66):		
1	17	25.8%
2	31	47.0%
>3	18	27.2%
Breast feeding (n=66):		
Yes all children	46	69.6%
Yes some of the children	10	15.2%
No	10	15.2%
Ways used of contraception(n=66):		
Oral	13	19.7%
Iodine tube	42	63.7%
Injections	1	1.5%
Others (natural)	1	1.5%
No	9	13.6%

In table (2)concerning obstetric history of studded sample, the majority (84%) started menstruation (Menarche) at age range from 12-14 years, and more than one third (69%) had a regular menstruation. Regarding number of pregnancies the majority (74.2%) of married women had more than one child, and about more than two thirds (69.6%) breast feed their child. And about three quarters (74.9%) use a contraceptive method.

Table 3. *The past and current illness history of studied sample (n= 100).*

Item	Control (n=30)	
	No.	%
Diabetes	18	18%
Hypertension	15	15%
Heart disease	8	8%
Endocrine disorder	4	4%
Obesity	11	11%
Tumors	3	3%
Others	4	4%
Not present	37	37%

Table (3) illustrate the past and current illness history, and revealed that (63%) has a past history or current chronic health problems.

Table 4. *Source of information about BSE as reported by women in the study sample(n= 106).*

Item	Pre		Post		t-test	X2	P
	No.	%	No.	%			
Heard about BSE:							
- Yes	25	25%	100	100.0%	9.6	12.3	0.00
- No	75	75%	0	0.0 %			
Source of information:							
- Media products	11	11%	26	26%	4.3	11.2	0.00
- Friends	85	85%	22	22%			
- Medical sector	4	4%	52	52%			

(HS) Statistically highly significant at p0.00

Table (4) shows that, (75%) of the women has no idea about breast self-examination. And the (85%) who has the information, gain this information from the friends.

As considering the satisfactory level of knowledge, the table (5) illustrate that (2%) has a satisfactory level on the pr-test phase related to knowledge about breast cancer. But there was a high statistical significant difference in the post (t -12.86, p 0.000) and follow-up phase (t -13.96, p 0.000). Also

(3%) has a satisfactory level of knowledge related to BSE in the pre-phase and also there is a high statistical significance difference in the post-phase (t -19.6, p 0.000) and also in the follow-up phase (t -22. 6, p 0.000)

Finally regarding practice of the women in the study the table (6) shows that (5%) of the women has a satisfactory level of practicing BSE in pre-phase, while there is a high significant difference marked in the post-phase (t -20.23, p 0.000) and in the follow-up phase (t -16.9, p 0.000).

Table 5. *Women's had a satisfactory knowledge about breast cancer and breast self-examination throughout program phases (n= 100).*

Items	Pre		Post		FU	
	No.	%	No.	%	No.	%
A- Physical condition						
- Definition	38	38%	100	100%	99	99%
- Incidence	22	22%	96	96%	99	99%
- Symptoms	12	12%	97	97%	98	98%
- Risk factors	1	1%	99	99%	94	94%
- Prevention	7	7%	99	99%	98	98%
T(P-value) pre-post	-12.8 with p 0.000HS					
T(P-value) pre-FU	-13.96 with p 0.000HS					
T(P-value) post-FU	0.1 with p 0.89NS					
B- Breast self-examination						
- Frequency	4	4%	95	95%	90	90%
- Importance	23	23%	98	98%	93	93%
- Position	33	33%	100	100%	97	97%
- Warning signs	14	14%	98	98%	89	89%
- Methods of early detection	10	10%	99	99%	91	91%
- Properties	29	29%	98	98%	99	99%
T(P-value) pre-post	-19.6 with p 0.000HS					
T(P-value) pre-FU	-22.6 with p 0.000HS					
T(P-value) post-FU	4.2 with p 0.05NS					

(NS) Statistically not significant at p>0.05
(HS) Statistically highly significant at p0.00

Table 6. *Women's practices of BSE throughout program phases(n= 100).*

Item	No.	%
Observed satisfactory practice of BSE:		
- Pre	5	5%
- Post	95	95%
- FU	91	91%
T(P-value) pre-post	20.23 with p 0.000 HS	
T(P-value) pre-FU	16.9 with p 0.000 HS	
T(P-value) post-FU	2.5 with p 0.05NS	

(NS) Statistically not significant at p>0.05
(HS) Statistically highly significant at p0.00

4. Discussion

Cancer currently remains among the leading three most prevalent, expensive and available of all health problems in the United State. Recent studies have shown that deaths from breast cancer for women in their forties can be reduced by 17% and by at least 30% for women ages 50-69, if they follow breast cancer screening recommendations, including routine mammography, regular examinations by a physician, and monthly breast self-examination *(Hoffman, 2004).* Thus the best way to fight breast cancer is through early on are far more likely to successfully defeat the disease *(Smith, 2006).* The present study was aiming to identify the BSE practice of women in Helwan University.

According to *Smigel, 1998* the ultimate goal of BC prevention strategies is to reduce the incidence of this disease among population. He added that early detection practices of BSE could be achieved by adding cognitive and emotional component to the existing scale. Nevertheless, *Reading et al, 1995* stated that the objective of breast health education aims to an increase of the public knowledge about BC and the benefits of screening. Also, they mentioned that to reinforce its importance and redemonstrate its technique.

The current study revealed that half of the women in present study were in the age group 30 to more than 40, which is the age of high risk of breast cancer. In the same line, *Hoskin and Makin (2003),* stated that age ways by far the most important risk factor for breast cancer, and that the risk increases tenfolds between 30 and 50 years. Age is one of the risk factors for breast cancer, woman risk for developing breast cancer increases as she gets older *(Sieri, et al, 2002).*

Several studies have proposed the chance of getting breast cancer goes up as a woman gets older *(Endelin et al, 2009, & Kuru et al, 2002).* Meanwhile, *Benedict et al, 1997* stated that it was essential that all women should be informed about BSE and be covered by systemic education. Moreover, *Person et al, 1995* recommended that in order to make BSE a habit, education about BSE ought to be started for girls at school age.

As regarding marital status the current study revealed that nearly about two thirds of the women was married. Moreover, all the respondents were educated; this would have given them the opportunity of reading educational materials of BSE. Also about two thirds of the women in the study was basic educated which reveal the most important and neglected sector of the women.

Findings from this study showed that more than one half was employee, and some of themwereconsidered obese. This results could be explained by the employee were having many unhealthy habits such as consuming large amount of carbohydrates and saturated fat (fast food). In addition, to lack of physical activity and sedentary nature of their work, that increase the liability to obesity which considered as a risk factor of breast cancer. Other studies were in accordance with this result *(Smith, 2009).* The association between obesity and increased breast cancer was investigated by the study carried out in USA by *(Standfard and Daling, 2000).* Also in congruent with a study done in Egypt by *Abdelaal and Gomaa, 2006*, that showed that overweight/ obese was associated with increased risk of breast cancer compared with normal body mass index.

In an attempt to husband smoking, about more than one third of them has a smoker husband, which considered a risk factor to developing a cancer. This study reviles that the majority of the women has a menarche in age of 12-14 years and also the majority of them has a regular menstruation.

Concerning the number of children, about more than one

third of them has more than one child and breast feed them which revealed a low risk for developing breast cancer. Also the family history and the past history of cancer was less than 10%. In line with this, *Manetta (2004)* claimed that the risk of breast cancer increased among women who have had no children. As for breast feeding, the *American Cancer Society (2008)* reported that it might slightly lower breast cancer risk, especially if breast feeding is continued for 1.5 to 2 years.

On the other hand about one half of the women use the Iodine tube as a contraceptive method and nearly most of them use contraceptive methods. This would constitute a risk factor for breast cancer if hormonal methods are used. The association between the use of contraception and the development of breast cancer has been documented previously *(Suzanne et al, 2006)*

The findings of the current study shows that the majority of the women in the study was employee with a chronic disease which indicate the expousure to stress (physical and psychological) which can affect tumor growth and spread *(Yan, 2009 & Seif and M. Aziz, 2000)*. Lettreature and researches proved that the chronic stress associated with a depressed immune response may promote cancer *(Nane, 2009)*.

Almost one quadrate only of the participants heard about BSE from different information sources. The majority of them weretaken the friends as a source of information; this could be due to the long time working women spent with each other at the work place. This result is congruent with *WHO, 1982* which reported that family and friends were significant motivators to practice BSE. Meanwhile, itswidely striking to find that who takes the information from a medical source was less than ten percent of the sample, while they could play a major role in teaching, counseling and convincing women to practice BSE. This result could be attributed to carelessness of the participants in seeking proper medical advice, or due to inevitability of the resource centers. However, *Person et al, 1995* reported that the nurse could help women to understand how they could get benefit from breast awareness and remind them to practice BSE.

As regards participants' level of knowledge, very few numbers of the participants showed the satisfactory level of knowledge which was evident at the pre test. However; there were statistically significant improvements in knowledge at the post and follow up phases of the intervention. This finding are in congruence with *Abdulbari et al, (2002)* who reported participants' knowledge was mostly low and unsatisfactory. Also *El-Hossiny (2002) and Nahla et al (2011)* reported slightly better results regarding definition of cancer breast, its signs and symptoms, and diagnostic methods, which represents nearly the same as current study.

Regarding participants' practice to BSE, the findings of the present study showed that a few of them had an adequate (satisfactory) level of practice in the pre phase. Meanwhile, statistically significant improvements were revealed at the post and follow up phases. This result is congruent with *(Leight et al, 2003, and Seif, and A. Aziz, 2002, and Jane, 2005)* who reported that an intervention program significantly increased both BSE frequency and accuracy among women in the study.

5. Conclusion and Recommendation

The study was conducted in managerial sector in Helwan university, to identify the breast self examination as the early detection of breast cancer The data collection conducted through personal interview within the academic year of 2014 – 2015, 2_ed. Term the study sample was 100 young, adult woman The result revealed that, there is the statistically significant effect of post training implementation on the knowledge & practice of women toward B. S. E. so the present study recommended that:

1. Health education program for early preventions of breast cancer through B. S. E. should be offered for adult women through mass media, specially television stressed on causes, predisposing factors, and how to early detection
2. There is aneed to improve the professional understanding of B.S.E.& and methods of practice | assessments
3. Improve awareness of adult woman concerning the benefits of seeking of scientific information source in order to improve their quality of life.

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