EFFECT OF A PREVENTIVE BREAST CANCER GUIDELINE ON ATTITUDE OF HEALTHY WOMEN WITH FAMILY HISTORY

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Abstract

Background: Worldwide, incidence of breast cancer is rapidly rising. Cancer prevention strategies can provide appropriate and cost-effective opportunities to reduce cancer mortality in the next decades. Aim: Assess the effect of a preventive breast cancer guideline on attitude of healthy women with family history. Study design: A quasi-experimental research design using pre-post one arm intervention study. Study Subjects: A purposive sample of fifty healthy women with family history of breast cancer attending the Oncology Center in Mansoura University Hospitals, Mansoura city, Dakahlia Governorate, Egypt. Tools of data collection: Three tools were used for data collection. The first was a Structured Interview Questionnaire to assess the woman's general characteristics, reproductive history and assessing risk factors, the second was Attitude Questionnaire regarding breast cancer; the third was Follow-up Card to check the participants' attendance. Results: The study findings revealed statistically significant improvement in the healthy women's attitude regarding BC prevention after implementing of the preventive guideline than before.   Conclusion: The study hypothesis was accepted which indicated that the preventive cancer guideline was an effective tool to improve the healthy women's attitude regarding BC. Recommendation: Applying further nursing programs to improve women's attitude regarding prevention of breast cancer especially for the high-risk group.

Keywords: Attitude Breast cancer, Guideline, Prevention.

I. Introduction

Cancer is a public health problem affecting all populations in the world **(Ferreira, 2020)**. Worldwide and in Egypt, cancer mortality and incidence display strong geographic patterns. In the United State of America, breast cancer is the second related cancer mortality among women **(Atashi, 2020).** Breast cancer is an international health problem in the world over. There were over 2.09 million new cases in 2018 **(Globocan, 2018)**. An estimated 268,600 new cases of invasive breast cancer diagnosed among women in 2019 **(Breast Cancer Facts &Figures 2019-2020)**. According to the American Cancer Society, approximately 41,760 women died from breast cancer **(The American Cancer Society, 2019)**. In Egypt, breast cancer represents 18.9% of total cancer cases 32.04% in women and 2.2% in men with an age-adjusted rate of 49.6 per 100 000 population. In its early treatable stage, breast cancer has a 97% probability of surviving 5 years **(Ibrahim et al, 2014)**. However, woman's likelihood of surviving 5 years decreases to 20% once

it spreads to other body parts **(Longley et al, 2015).**

Breast cancer is a group of diseases in which abnormal cells are mutated in the breast tissue and become uncontrolled, typically resulting in a lump or mass. Most breast cancers begin in the lobules or in the ducts that connect the lobules to the nipple **(Breast Cancer Facts & Figures, 2019-2020)**. Approximately 10% of breast cancers are inherited and associated with a family history, although this varies frequently by ethnicity and across countries in the context of early- onset and bilateral. Individuals with a first- degree relative who had breast cancer have an elevated relative risk (RR) of 3 of early- onset breast cancer (before 35 years of age) **(Harbeck et al, 2019)**.

The high rate of death is observed in women despite having a reliable screening method like breast self-examination for early detection **(Nirmal & Prabhu, 2019)**. Cancer prevention strategies may represent efficient and cost-effective opportunities to reduce cancer mortality in the next decades. World Health Organization (WHO) estimates that the cost of cancer will reach US$458 billion per year by 2030 and that implementing a basic package of cancer prevention initiatives to address tobacco use, alcohol consumption, dietary behaviors, and physical inactivity would only cost US$2 billion per year **(Alberts & Hess, 2019)**. However, it is important to consider that in addition to these healthcare costs, there are considerable human costs of cancer that cannot be quantified in economic units. The physical suffering and psychosocial burden associated with cancer diagnosis, treatment, and end-of-life care are inestimable. Globally, it is expected that there will be 22 million new cases of cancer diagnosed annually by 2030, with the greatest risk among low- and middle-income nations. It is crucial to ensure that public health and national priorities focus on cancer prevention efforts that address inequalities in healthcare access and delivery **(Bray et al. 2015)**.

Increasing the incidence of breast cancer in our Arabic rejoin, make an urgent need for developing a preventive breast cancer guideline for cancer prevention and health promotion of healthy women with family history. The preventive guideline consistent with our Arabic society lifestyle to reduce spread of breast cancer. To the best of our knowledge, this is the first study that assessed the effect of an Arabic preventive breast cancer guideline on attitude of healthy women with family history. Our preventive breast cancer guideline was developed after reviewing the international preventive guideline **(Rock, 2020 & World Health Organization, 2017 & Breast Cancer Facts &Figures 2019-2020 & American Cancer Society, 2019).**

The preventive guideline consisted of introduction about breast cancer, breast cancer symptoms, risk factors, and ways of breast cancer prevention such as maintaining a healthy weight, adopting a physically active lifestyle, consuming a healthy diet with an emphasis on plant-based foods which contain natural antioxidant substances, drinking enough water and not consuming more than one sugary drink per day. In addition, avoiding passive and active smoking, making breast self-examination monthly, and mammogram every two years for early detection of BC.

Breast cancer is a symptomatic and most easily treated when the tumor is small, this illustrates the important of

screening for early disease recognition. The most important physical sign is a lump which is painless. The lump that looks different from the rest of the breast tissue is the first noticeable symptom of breast cancer. More than 80% of the women discover cancer when feeling a lump **(Rinke, Veneracion and Walsh, 2017)**. Other indicators of breast cancer may involve breast thickening which differ from the other breast tissue, a changing in position, shape of the nipple or becoming inverted, one breast becoming larger or lower than the other one, skin puckering or dimpling, discharge from nipple, pain in part of the breast or armpit, and swelling under the axilla or around the collarbone **(Bentley and Gillian, 2017)**.

Cancer usually develops in older people; 80% of all cancers in the United States are diagnosed in people 55 years of age or older. Certain behaviors also increase risk such as smoking, having excess body weight, and drinking alcohol. In the US, approximately 39 out of 100 men and 38 out of 100 women will develop cancer during their lifetime. For most types of cancer, risk is higher with a family history of the disease. In addition, exposures to lifestyle or environmental risk factors among family members and negative attitude of women may increase the risk for BC **(American Cancer Society, 2019)**.

According to the American Cancer Society (ACS) guidelines, moderate intensity physical activity should be performed weekly and body mass index (BMI) should be maintained of \25 kg/m2 to prevent breast cancer. **(Kushi et al., 2012)**. It is well noted that adherence to these guidelines has been linked to lower overall mortality in average-risk populations but until now, it is not known if mortality reduction extends to women at higher risk given their family history of breast cancer **(Cloud et al., 2015)**. Meeting the guidelines for cancer prevention is associated with reductions in cancer incidence in low-income and African American populations. In addition, preventive guideline is associated with positive enrichment of women attitude regarding BC prevention **(Andersen et al., 2016).**

1.1 Significance of the study

Many studies had reported that adherence to health prevention guidelines for diet, physical activity, maintenance of healthy body weight and avoidance of environmental risks may decrease cancer incidence and mortality **(Kohler et al., 2016)**. There is a body of evidence that women who adhere to health prevention guidelines related to breast cancer on physical activity, and body size have better health outcomes including reduced risk of chronic disease, including diabetes, myocardial infarction, stroke, and cancer as well as reduced mortality **(Jones et al., 2016)**.

Prevention is better than cure. The cost of cancer treatment is exhausting for patients and for countries and depilating the health care system in Egypt. The prevention of breast cancer among those women is crucial and adding such service among the prevention program in Mansoura University Hospital at Oncology Center will add to the quality of care provided and to the quality of women's life. So, it is important to applying guideline to healthy women with a family history of breast cancer to prevent this disease by enhancing their attitude toward the preventive measures.

1.2 Aim of the study

The aim of the present study is to assess the effect of a preventive breast

cancer guideline on attitude of healthy women with family history.

1.3 Research hypothesis

There is a significant change in the attitude of healthy women with family history of breast cancer after implementing breast cancer preventive guideline.

II. Methodology

2.1 Study design:

A quasi-experimental research design using pre and post one arm intervention study.

2.2 Study Setting

Oncology Clinics of Mansoura University Hospitals Center for oncology, Mansoura city, Dakahlia Governorate, Egypt. The Oncology Clinics consists of two floors, the first-floor compromise of six surgery clinics and the second floor consists of six medical clinics. Surgery clinics are working every day and so are medical clinics except on Saturday and Tuesday. There are large rest rooms for patient and many seats for the patient relatives, the waiting area in which the patients and their accompanied relatives is very wide, clean and good ventilated.

2.3 Subjects of the study

A purposive sample of 56 healthy women with family history of breast cancer, after first phase of training program, 6 patients out of 56 refused to complete (The attrition rate was 10.7%) so the sample size included 50 women attending the Oncology Center as a close relative with breast cancer patient.

2.4 Sample size calculation

A previous study showed that educational intervention had improved the knowledge of the women from 83% at baseline to 99% after treatment. The used formula was $n = [2(Z_{\alpha/2} + Z_\beta)^2 \times p (1-p)]/(p1 - p2)^2$ where, n = sample size required in each group, p = pooled proportion (proportion of event in group 1 + proportion of event in group 2)/2, p1-p2 = difference in proportion of events in two groups, $Z_{\alpha/2}$: This depends on level of significance = for 5%;this is 1.96, Z_β. Based on the above formula the sample size required was estimated 56 participants.

2.5 Tool of Data Collection

Three tools were utilized for data collection:

Tool I: A Structured Interview Questionnaire, it was developed by the researcher after reviewing the related national and international literature using **(Mohammad, Murad& Hedaya, 2017) & (Ahenkorah, Osei & Samuel et al, 2018)**. It consisted of three parts; first part related to the socio-demographic data; second part concerned the menstrual and obstetric history; and the third part assessed the participants' risk factors for breast cancer.

Tool II: Attitude scale regarding breast cancer. It was adapted from **(Alsaraireh, & Darawad, 2018) & (Suleiman, A. K., 2014)**. Attitude questioner consisted of 20 items. Each item was assessed on three-point likert scale, ranging from 0 to 2, in which strongly agree attitude was given a score 2, agree attitude was a score 1 while 0 was given for disagree attitude. It was classified in to satisfactory if the total scores of participant attitude were more than 60%, and unsatisfactory if the total scores of participants' attitude were less than 60%.

Tool III: Follow-up card: This card included the schedule of appointments for chemotherapy during the study period. In this card the researcher checked the participant attendance with patient's or no.

2.6 Validity of the tool

After reviewing the national and international literature the tools were tasted for the content validity and reliability. Tools validity was reviewed by a panel of 3 experts in Maternity Nursing and 2 experts in Gynecological Medicine before introducing it to the participant women. Some modifications were done such as categorizing items related to lifestyle and paraphrasing of some sentences.

2.7 Reliability of the tool

Cranach's alpha test for reliability and internal consistency were (0.866) for attitude scale regarding breast cancer, hence the scale showed high reliability.

2.8 Pilot study

The pilot sample was excluded from the analyzed study sample. It done on 10% (5 participants), to estimate the time needed to complete each tool and assess their applicability.

2.8 Ethical Consideration

Informal consents were obtained from participants after explaining the purpose of the study. After obtaining the ethical approval from the Research Ethics Committee of the Faculty of Nursing – Mansoura University. Each woman has the right to withdraw from the study at any time without affecting on the care provided.

2.9 Field work

The researcher attends the Oncology Center after taking permission, the aim of the study explained to the study group and the voluntary consents obtained. The researcher met each participant individually and if it possible making a group of women from (1-5). Participants were asked to fill in the questionnaires (pre-test baseline assessment) which included the interview and attitude scale. Then the researcher *explained information about the breast cancer include (definition, early and late signs and symptoms, risk factors and healthy life-style to prevent breast cancer) in three separated sessions with the preceding follow-up visits after initial visit.* The preventive breast cancer guideline was given to the participants after the end of the first session. All participants followed about four months by a follow-up card to complete the explanation of the guideline and to make sure there is a change in their attitude, once every month according to the time they attended the clinics with the close relative to assess the changes occur in their attitude at the last session. After four months during the last visit, the researcher collected the data of the posttest to assess the change of the participants' attitude post the end of intervention (post-test).

2.10 Statistical analysis

All statistical analysis was performed using SPSS for windows version 20.0 (SPSS, Chicago, IL). Continuous data were normally distributed and were expressed in mean ±standard deviation (SD) Categorical data were expressed in number and percentage. Chi-square test was used for comparison of variables with categorical data. Statistical significance was set at $p<0.05$.

III. RESULTS

Table (1): Demographic data of the studied women (n=50)

Demographic data	No.	%
Age (years)		
$\leq$ 20	8	16.0
> 20 – 30	15	30.0
> 30 – 40	14	28.0
> 40 – 50	8	16.0
> 50	5	10.0
Range	17 – 67	
Mean ±SD	34.6 ±11.9	
Residence		
Urban	30	60.0
Rural	20	40.0
Marital status		
Married	38	76.0
Single	12	24.0
Educational level		
Read and write	8	16.0
Basic education	2	4.0
Secondary education	24	48.0
University education	16	32.0
Occupational status		
Not working	42	84.0
Administrative Sector	5	10.0
Health Sector	3	6.0
Family income		
Not enough	4	8.0
Enough	40	80.0
Enough and can save	6	12.0

Table (1) Reveals that slightly less than one-third (30%) of the studied women aged between twenty- first to thirty years, there-fifths (60%) of them were living in urban areas and slightly more than three-quarters (76%) of them were married. Almost half (48%) of the studied women had secondary education and more than four-fifths (84%) of them were housewives. Additionally, four-fifths (80%) of them had enough family income.

Table (2): Risk factors of breast cancer among the studied women (n=50)

Risk Factors related to the woman	No	%
1- Age of Menarche		
≤12	8	16.0
> 12	42	84.0
2- Status of menstruation		
Regular	40	80.0
Irregular	10	20.0
3- Start menopause		
No	41	82.0
Yes	9	18.0
4- Age of menopause		
None	41	80.0
< 45 years	1	4.0
45 to 50 years	6	12.0
>50 years	2	4.0
5- Age of marriage (years) (n=38)		
≤ 25	21	55.3
> 25	17	44.7
6- Use of hormonal contraceptives		
No	29	58.0
Yes	21	42.0
7- Duration of use hormonal contraceptives (n=21)		
12 months or less	2	9.5
13 – 24 months	4	19.0
25 – 60 months	6	28.6
More than 60 months	9	42.9
8- Age at first pregnancy (year) (n=35)		
≤ 25	13	37.1
> 25	22	62.9
9- History of Breastfeeding (n=35)		
No	6	17.1
Yes	29	82.9
10- Number of breastfeeding /day (n=35)		
None	5	14.3
Once	4	11.4
Twice	9	25.7
Three or more	17	48.6
11- Duration of breastfeeding (month) for each time (n=30)		
≤ 12	27	90.0
> 12	3	10.0
12- History of abscess or benign breast tumor		
No	45	90.0
Yes	5	10.0
13- Previous exposure to radiation or chemical substances		
No	36	72.0
Yes	14	28.0
14- Presence of chronic diseases		
No	43	86.0
Hypertension	4	8.0
Diabetes mellitus	1	2.0
Kidney disease	2	4.0

Continue Table (2): Risk factors of breast cancer among the studied women(n=50)

family-Related Risk Factors	No.	%
1- Degree of proximity with the women		
Sister	15	30.0
Mother	28	56.0
Daughter	3	6.0
Aunt (mother sister)	2	4.0
Aunt (father sister)	2	4.0
2- Duration of cancer of the patient		
12 months or less	29	58.0
13 -24 months	10	20.0
25 -36 months	4	8.0
37 - 48 months	2	4.0
More than 48 months	5	10.0
3- Family History of any other type of cancer		
None	38	76.0
Uterine cancer	5	10.0
Benign breast tumors	7	14.0

Table (2) Illustrates that the studied women were at risk for breast cancer at certain items.

Regarding risk factors related to the women

Part one: Reveals that more than two fifths (42.9%) of the studied women used hormonal contraceptives more than sixty months, more than three-fifth (62.9%) of the studied women had their first pregnancy after the twenty fifth years. Majority (90%) of the studied women breastfed their babies less than twelve months.

Regarding family related risk factors

Part two: Shows that more than half (56% & 58% respectively) of women, their mother had breast cancer and duration of cancer was twelve months or less, more than four-fifths (84% & 82% respectively) of them had menarche at the age more than twelve years, her period didn't stopped yet. Additionally, more than half (55.3%) of the studied women married at the age more than 25 years.

Table (3): Source of the patient knowledge regarding breast cancer

Source of knowledge	No.	%
Medical staff	9	18
Family and friends	35	70
Media	6	12

Table (3) Reveals that more than two-third (70%) of the studied women there source of information is family and friends and less than one-fifth (18%) of them there source of information is medical staff and only (12%) of them there information from media.

Table (4): Comparison of the studied women's attitude for breast cancer prevention and early detection pre and post intervention (n=50)

Items of attitude toward BC prevention and early detection	Pre-intervention						Post-intervention						Chi square test	
	Disagree		Not sure		Agree		Disagree		Not sure		Agree		X^2	P
	No	%	No	%	No	%	No	%	No	%	No	%		
1. Caring about breast is very important	19	38.0	24	48.0	7	14.0	2	4.0	17	34.0	31	62.0	30.115	<0.001**
2. BSE should be performed monthly	20	40.0	25	50.0	5	10.0	0	0.0	19	38.0	31	62.0	39.596	<0.001**
3. BSE is not anxious procedure	20	40.0	21	42.0	9	18.0	3	6.0	14	28.0	33	66.0	27.680	<0.001**
4. BSE is not embarrassing procedure	21	42.0	22	44.0	7	14.0	6	12.0	14	28.0	30	60.0	24.408	<0.001**
5. Any breast changes shouldn't treat by traditional healer.	19	38.0	22	44.0	9	18.0	3	6.0	18	36.0	29	58.0	22.563	<0.001**
6. Any breast changes should be treated by medical advice	20	40.0	25	50.0	5	10.0	0	0.0	18	36.0	32	64.0	40.842	<0.001**
7. Breast cancer is not a frightening disease	19	38.0	26	52.0	5	10.0	0	0.0	22	44.0	28	56.0	35.364	<0.001**
8. Breast cancer didn't affect breastfeeding women	19	38.0	24	48.0	7	14.0	2	4.0	17	34.0	31	62.0	30.115	<0.001**
9. Breast cancer women should be supported by the family and the community	19	38.0	26	52.0	5	10.0	0	0.0	22	44.0	28	56.0	35.364	<0.001**
10. Breast cancer women shouldn't be isolated	19	38.0	25	50.0	6	12.0	0	0.0	18	36.0	32	64.0	37.929	<0.001**
11. Eating fatty diet increase the risk of breast cancer	19	38.0	24	48.0	7	14.0	2	4.0	17	34.0	31	62.0	30.115	<0.001**
12. Avoid drinking carbonated drinks can decrease the risk of BC	19	38.0	26	52.0	5	10.0	0	0.0	18	36.0	32	64.0	40.157	<0.001**
13. Avoid passive smoking can reduce the risk of BC	19	38.0	24	48.0	7	14.0	2	4.0	17	34.0	31	62.0	30.115	<0.001**
14. Eating fast food increase the risk of BC	19	38.0	24	48.0	7	14.0	6	12.0	13	26.0	31	62.0	25.188	<0.001**
15. Eating fruits and vegetables low risk to BC	20	40.0	25	50.0	5	10.0	0	0.0	19	38.0	31	62.0	39.596	<0.001**
16. Making daily exercise low risk to BC	19	38.0	25	50.0	6	12.0	0	0.0	20	40.0	30	60.0	35.556	<0.001**
17. Daily drinking enough water (more than 8 cups) decrease	20	40.0	25	50.0	5	10.0	0	0.0	17	34.0	33	66.0	42.155	<0.001**

Items of attitude toward BC prevention and early detection	Pre-intervention						Post-intervention						Chi square test	
	Disagree		Not sure		Agree		Disagree		Not sure		Agree		X^2	P
	No	%	No	%	No	%	No	%	No	%	No	%		
the risk of BC														
18. Drinking sweetened juices frequently increase risk to BC	19	38.0	24	48.0	7	14.0	2	4.0	16	32.0	32	64.0	31.388	<0.001**
19. Taking of calcium supplements such as milk, cheese or eggs more than 3 times a week low risk of BC	19	38.0	26	52.0	5	10.0	0	0.0	20	40.0	30	60.0	37.640	<0.001**
20. Eating consistently any of this foods as tomatoes- cabbage- cauliflower- beet- potatoes to decrease the risk of BC	19	38.0	26	52.0	5	10.0	0	0.0	20	40.0	30	60.0	37.640	<0.001**

*<0.05 Statistical significant differences.
**<0.001 Highly statistical significant differences.

Table (4) Represents that, the studied women's attitude for BC prevention and early detection improved after the educational intervention than before. Almost two-thirds (66%, 66%, 64%, 64% &64% respectively) of the studied women post intervention agreed that, doing BSE make them feel pleasant, daily drinking enough water to decrease the risk of BC, they prefer to go for medical advice if there is a lump, breast cancer women shouldn't be isolated and avoidance sweetened juices to decrease the risk of BC compared to (18%, 10%, 10%, 12%& 0.14% respectively) with highly statistical significant differences between pre and post intervention p <0.001.
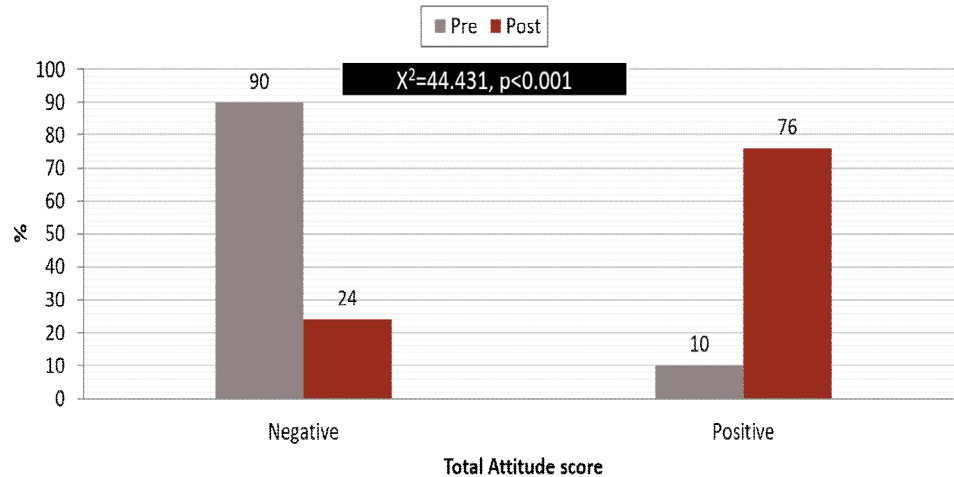

Figure 1: Women's total attitude regarding breast cancer pre and post-intervention

IV. Discussion

This study aimed to assess the effect of a preventive breast cancer guideline on attitude of healthy women with family history. The study aim was supported by the study findings. There was a highly statistically significant improvement in the attitude towards BC post implementing of the preventive breast cancer guideline than before with highly statistically significant difference.

Regarding the source of Information about breast cancer, the present study finding revealed that more than two-thirds of the studied women their source of information were family and friends and less than one-fifth of them their source of information was the medical staff. The present study finding was in agreement with two studies; the first study was conducted in Karachi, Pakistan by **Ahmed et al., (2018)** to assess breast self-examination awareness and practices in young women in developing countries, the second study; conducted in Jordan by **Suleiman (2014)** to assess awareness and attitudes regarding breast cancer and breast self-examination among Jordanian female students. They reported that, family and friends were the main source of their knowledge regarding prevention of breast cancer.

This study finding was in disagreement with the study conducted in Karachi, Pakistan by **Rasool et al., (2019)** to assess knowledge, attitude, and practice towards breast cancer and breast self-examination among female undergraduate students. They reported that the social media has played the most important role in spreading information. This disagreement may be attributed to their age and they spend more time in social media.

Regarding women attitude for breast cancer prevention. The present study finding indicated that, majority participants had negative attitudes and misconception toward BC pre-intervention. This result could be attributed to the horrible feelings of each participant toward disease (BC) of an unknown cause, non-specific treatment and the poor prognosis. The present study finding was in agreement with an Egyptian study conducted in Nigeria by **Ibitoye & Thupayegale-Tshwenegae (2019)** to assess impact of education on knowledge, attitude and practice of breast self-examination among adolescent girls at the Grammar School. They founded that the pre-intervention attitude towards BC and BSE was very poor. In the same line, an experimental Indian study conducted by **Kalliguddi et al (2019)** to assess participants Knowledge, attitude, and practice regarding breast self-examination. They founded that more than two-thirds of the respondents had negative attitude toward BSE and BC in the initial assessment of the program.

The present study finding was in disagreement with **Gangane & Sebastian, (2015)** who assessed women's knowledge, attitudes, and practices about breast cancer in a rural district of Central India. They reported both women from rural and urban areas demonstrated positive attitudes towards breast cancer. Additionally **Gilani et al (2010)** who assessed Knowledge, attitude and practice of a Pakistani female towards breast cancer. Who founded in this assessment program, the majority had a positive attitude. This contradiction may be attributed to participation of the respondents in other educational programs regarding BC prevention.

As regards women attitude for BC post implementation of the preventive guideline. The present study findings indicated that, more than three-quarters of the participant had positive attitude toward BC post implementation of the preventive guideline. This finding could be attributed to the effect of the simple preventable guideline provided to the participant and the effectiveness of the educational sessions conducted by the researchers. The present study finding was supported by **Rabbani et al, (2019)** who conducted an experimental study in United Arab Emirates to assess the impact of community-based educational intervention on raising the breast cancer awareness among the community. They stated that most participants had positive attitude towards BC after providing the community based educational intervention. Also, an experimental study conducted in the district of Gampaha by **Vithana et al., (2015)** who applied an educational intervention on breast cancer early detection. They reported that about more than two-thirds of the studied women had positive attitude to BC post implementation of the educational intervention with highly statistically significant differences.

Thus, the aim of the present study was achieved through the present study findings which revealed that majority of the high risk breast cancer women who participated in the preventive intervention sessions had positive attitude toward BC after the preventive breast cancer guideline than before.

V. CONCLUSION

The study hypothesis was accepted which indicated that the preventive cancer guideline was an effective tool to improve the healthy women's attitude regarding BC.

VI. Recommendation

Applying further nursing programs to improve women's attitude regarding prevention of breast cancer.

Acknowledgements

Conflicts Of Interest

The authors declare that there is no conflict of interest statement.

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