



Volume 7, Issue 4, April 2020, p. 404-412
Istanbul / Türkiye

Article Information

Article Type: Research Article

This article was checked by iThenticate.

Article History:

Received
15/03/2020
Received in revised form
08/04/2020
Available online
15/04/2020

**EFFECTS OF AN EDUCATIONAL PROGRAM ON
IMPROVING FEMALES' BREAST CANCER
KNOWLEDGE AND PRACTICES IN MADINAT
ELSALAM SETTINGS IN SINNAR STATE, SUDAN**

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Abstract

Breast cancer is the most common malignancy in women. In Sudan breast cancer mortality rate is high and most of the patients are detected at late stages of the disease due to the lack of awareness and absence of screening programs. Prevention and early detection are the best ways for women to lower their risk of dying from the disease. The overall purpose of this study is to assess the level of breast cancer knowledge and breast self-examination practice among females and find out the effect of an educational program regarding breast cancer knowledge and training about breast Self-examination. Experimental pre- and post-test was designed and implemented on 200 females in Madinat Elsalam Settings in Sinnar State. knowledge and practice regarding breast cancer, was measured by means of structured questionnaire pre- and post-test. An educational program was developed and to improve their related knowledge, and practice in form of lectures, posters, videos, and intellectual discussions. A pamphlet was prepared in simple Arabic language with simple local words. Data were analyzed by the use of SPSS program version 23. The results demonstrated very low females' knowledge and practice pre the intervention, with statistically significant improvements post the intervention. 184 (92.0) practiced breast self-examination compared to 5 (2.5)

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pre-tests chi = (369.529) and p-value (0.000). The study concluded that implementation of educational programs had positive effects on the female knowledge, and practices regarding BC and BSE.

Key words : Malignancy, mortality rate, morbidity, breast cancer, educational programs, self-examination, awareness .

Introduction :

Breast cancer is a global health concern and a leading cause of morbidity and mortality among women (Altheas, M.D.et al,2005). It has been identified as a major public health problem in both developed and developing nations because of its high incidence prevalence, over-burdened health system and added direct medical expenditure [Bray,F.et al,2013]. Trend analysis of breast cancer indicates a rise by 50-100% in the incidence of breast cancer in last 20 years (Abu Salem, O.et al,2007). In Sudan, breast cancer is the most common type of cancer. It forms 29 – 34.5 % of all cancers among females. It occurs at a younger age compared to Western women, about 40% of the patients are below the age of 45 years, mean age of 50 years. Most of the patients are present with stages 3 and 4 due to the lack of awareness and absence of screening programs (Abuidris, D.O. et al,2013). Prevention and early detection are the best way for women to lower their risk of dying from the disease ([ACS], 2014). To our knowledge, this study is the first reported community-based breast cancer education intervention among Females in *Madinat Elsalam* in Sinnar State. No reports of breast cancer education intervention or knowledge assessment among these subpopulations in the published literature. So, this study is to be conducted to find out how the knowledge and practice of females about breast cancer may improve out come and increase the percentage of female practice breast self-examination from pre- to post-interventional programs. Previous studies conducted by (Hussien, R.A.et al,2017) at Wad Nubai, in Omdurman locality, North Sudan demonstrated that significant improvement in knowledge regarding, over all knowledge, risk factors knowledge, and change in breast self-examination are practiced from pre- to post-interventional program (Hussien, R.A.et al,2017)

METHODS

Community based experimental pre- and post-test was designed and conducted in Madinat Elsalam, Sennar state, Sudan. A sample of (200) females (aged 18-90 years). The study was carried out in three phases.

Phase I pre-intervention Phase. Pretest/ assessment of female's knowledge and practices (breast self-examination) by using interview questionnaire Both close and open-ended questions were used. One (1) score is given to the correct answer and zero (0) score for incorrect one. Females who had total score equal or more than the median score were considered knowledgeable, while those with a score below the median were considered not knowledgeable Data collectors by researcher, nursing department students in the Faculty of Medicine and health science, University of Sinnar 50/student and three lectures were well trained by the researcher on period of seven days.

Phase II: Implementation Phase health education program was conducted by the researcher. in the form of Lectures, each participant attended 12/sessions three session per week/ for 4weeks, each session attended by the number of females (12/females) and spanned about 1 hours, ending with an open discussion the program was done for each group separately. The sessions mainly focused on Orientation about magnitude and impact of breast cancer, signs, symptoms and risk factors and frequency and suitable age for starting BSE, and mammography as screening tool as well as teaching them how to perform BSE and seek medical help when notice any change in their breasts. **Learning methods** used were lectures, poster, power point, and intellectual discussion. Video to educate females how to perform breast self-examination Also, Pamphlet were prepared in simple Arabic language with simple local words. The program conducted in different places (*Madinat Elsalam basic school, Khalwah, mosques and Abbie health care center*)

Phase III: Post intervention phase was carried out three months after the conduction of the intervention program from as a memory gap to study the effect of the program on the females' knowledge, assess the rate of continuation of BSE practice. Same preliminary questionnaire was used.

The data obtained by questionnaires were analyzed using (SPSS version 23) descriptive statistics with cross-tabulations. Frequencies were generated for Socio-demographic variables: age, occupation, marital status, education. chi-square tests were used to determine changes before and after the intervention in knowledge about breast cancer, BSE knowledge practice and performance. P value of <0.05 was considered significant. Verbal informed consent sought from all respondents to participate in the study. Names of respondents were not used in the report. The confidentiality of the information gathered assured. Their rights of refusal to participate in the study respected. Involved official parties like State Ministry of Health, informed with regards to data collection and aims of the research

Results

Table 1: Socio-demographic characteristics N=200

Characteristics		N(%)
Age in years	>20yearsold	17(8.5)
	20-39-year-old	127(63,5)
	<40 year -old	56(28)
Educational level	Ignorance	77(38.5)
	No formal education but can read and write	32(16)
	Primary	42(21)
	Secondary	31(15.5)
	Graduate	16(8)
	Post graduate	2(1)
Occupation	Housewife	141(70.5)
	Worker	23(11.5)
	Student	9(4.5)
	Employee	21(10.5)
	Not working	6(3)
Marital status	Married	171(85,5)
	Unmarried	29(14.5)
Monthly income	<500	70(35)
	500-1000	104(52)
	>1500	26(13)
Total		200

Table 2: knowledge level of the study participants regarding breast cancer and breast self-examination (pre/post program) N=200

Variable		Pre N(%)	Post N(%)	Chi	Df	Sig
Ever heard about breast cancer	Knowledgeable	199(99.5)	200(100)	.000	1	7.51
	Not Knowledgeable	0(0.0)	1(.5)			
all the tumors that may appear on the breast are cancerous?	Knowledgeable	173(86.5)	196(98)	18.498	1	.000
	Not Knowledgeable	27(13.5)	4(2)			
breast cancer is only for women	Knowledgeable	66(33)	153(76,5)	76.379	1	.001
	Not Knowledgeable	134(67)	47(23,5)			
Signs &Symptoms of breast cancer	Knowledgeable	98(49)	178(89)	29.986	4	.000
	Not Knowledgeable	102(51)	22(11)			
Knowledge related to breast self-examination						
Ever heard about breast self - examination	Knowledge	8(4)	200(100)	369.231	1	.000
	Not Knowledgeable	192(86)	0(0)			
Breast self-examination important	Knowledgeable	7(3.5)	200(100)	369.237	2	.000
	Not Knowledgeable	1(0.5)	0(0)			
	Not Applicable	192(0(0)			
Report cause for benefit of breast self -examination	Knowledgeable	5(2.5)	199(99.5)	369.278	3	.000
	Not knowledgeable	3	1(0.5)			
	Not applicable	192(86)	0(0)			
Proper time to do breast self-examination	Knowledgeable	8(4)	198(99)	369.246	2	.000
	Not Knowledgeable	0(0)	2(1)			
	Not Applicable	192(96)	0(0)			
Right position to perform breast self-examination	Knowledgeable	5(2.5)	137(68.5)	369.250	2	.000
	Not Knowledgeable	3(1.5)	63(31.5)			
	Not Applicable	192(96)	0(0)			
Equipment require to perform breast self-examination	Knowledgeable	8(4)	196(98)	365.252	1	.000
	Not Knowledgeable	0(0)	0(0)			
	Not Applicable	192(96)	4(2)			
Total		200(100.0)	200(100.0)			

Table 3: Source to receive information about breast self-examination among study participants, N=200

		Frequen cy	Percent	Valid Percent	Cumulative Percent
Valid	medical field	37	18.5	18.5	18.5
	Media	71	35.5	35.5	54.0
	Family	6	3.0	3.0	57.0
	friend or community	75	37.5	37.5	94.5
	School	10	5.0	5.0	99.5
	Other	1	.5	.5	100.0
	Total	200	100.0	100.0	

Table 5: practice of breast self-examination among study participants, before and after the study , N=200

Variable		Control		Interventional		Chi	Df	Sig
		Pre-N (%)	Post N (%)	Pre-N (%)	Post N (%)			
Practice of BSE	Practiced	0(0)	3(1.5)	5(2.5)	184(92.0)	369.529	2	.000
	Not practiced	1(.5)	3(1.5)	3(1.5)	16(8.0)			
	Not Applicable	199(99.5)	194(97.0)	192(96.0)	0(0.0)			
Total		200(100.0)	200(100.0)	200(100.0)	200(100.0)			

Discussions, results, Suggestions and Recommendations

This study was carried out to test the research hypothesis that the implementation of an educational program will improve females' knowledge and practices about breast cancer and breast self -examination. The study results lead to the acceptance of this hypothesis since female's knowledge improved significantly and practices has also improved due to the improvement of their knowledge. this study revealed an overall less-than-optimal level (i.e., correct answers to less than half of the questions) of baseline knowledge of breast cancer among study participants

Although breast cancer knowledge at baseline was low across breast cancer topics in our study, weaknesses were most prominent for “disease biology” and “factors associated with risk” among participants. These findings indicated that females in this area did not exposed to any structure educational programs with the aim of raising awareness, underscore the importance of our education intervention on these subpopulations. Other studies had also reported lack of prior education about breast cancer among university students and general population of women. A large surveyed college/university students about their breast cancer knowledge in the US (Moser, K.et al, 2007), (Early, J.et al,2011)

Assessment revealed that our education was effective in increasing knowledge and narrowing the range of percent correct answers across all educational levels. for example, item one see table (2) (women who believed that all tumor that may appear on the breast are cancerous) The response rates to the open-ended questions increase from 173(86.5%) at baseline to 196(98%) post intervention chi-esquire test =18.498 p-value (,000) similarly high percentage of correct answers achieved post-education in anther items. two international studies, conducted in an urban slum in Egypt (Kharboush, I.F.et al, 2011) and rural Turkey (Budakoglu, I.I.et al,2007) both found that education interventions dramatically improved participants’ breast cancer knowledge even among illiterate women with low levels of baseline information on breast cancer. The main source of breast cancer information in this study reported by participant, are friends and community 75(37.5) this agreed with other study (Abdel Fattah, M., 2000.) where the majority of the study group gained information of BSE technique from their friends or relatives (32.2%). Breast self-examination is very important and may be the only mean for identifying breast cancer at early stages in low- and middle-income countries, the study results illustrated that statistically significant difference in the knowledge beliefs and practice of BSE, between baseline and 3months follow, 184(92%) practiced (BSE`) compared to 5(2.5%) pre-tests chi esquire test =369.529 and p-value (0.000). compare to previous study conducted in Wad Nubai, Omdurman locality, North Sudan showed the rise in BSE practicing from 37 (53.6%) at baseline to 62 (89.9%) after intervention (Hussien, R.A.et al,2017) Those result reflected the appreciation of the participants to important of breast self-examination as early detection method.

In conclusion, our result demonstrated very low females’ knowledge and practice before the intervention, with statistically significant improvements after the intervention program. Health education programs through various channels should be implemented for the females to increase the awareness and knowledge about breast cancer and promote early presentation.

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