Impact of instructional intervention program upon women's psychological health status who undergo chemotherapy after mastectomy

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المستخلص

الهدف: تحديد أثر برنامج تداخل إرشادي على الحالة الصحية النفسية للنساء اللواتي يخضعن للعلاج الكيماوي بعد استئصال الثدي.

المنهجية: اختيرت عينة تتكون من (١٠٠) إمرأة اعتبرت (٥٠) امرأة من مجموعة الدراسة و(٥٠) إمرأة أخرى المجموعة الضابطة. تمّ إجراء إختبار قبلي لمجموعتي الدراسة والضابطة وبعدها تمّ تعريض عينة الدراسة إلى برنامج تداخل إرشادي وثلاث إختبارات بعدية وكانت المُدّة بين كل إختبارٍ بعدي ٢١ يوماً في معهد ومستشفى الإشعاع والطب النووي. تتكون إستمارة الاستبيان من ثلاثة أجزاء؛ أولاً المعلومات الديموغرافية وتشمل (العمر، المستوى التعليمي، نوع الأسرة، المهنة، الحالة الإجتماعية، وكفاية الدخل الشهري). ثانياً معلومات عن سرطان الثدي وتشمل (المُدّة التي تمّ تشخيص المرض فيها، نوع سرطان الثدي، طريقة إعطاء العلاج الكيماوي، مُدّة العلاج الكيماوي، ترتيب الجلسة الحالية للعلاج الكيماوي، عدد جلسات العلاج الكيماوي، مصدر معلومات الآثار الجانبية للعلاج. معلومات عن التأريخ المَرَضيّ السابق ويتألف من (المشكلة السابقة للثدي، نوع الإصابة، في أي جانب الإصابة، نوع الجراحة، مرحلة السرطان عند إكتشافه، أفراد الأسرة اللذين يعانون من سرطان الثدي. ثالثاً التأثيرات النفسية. أستعمِلَ إختبار قبليّ وبَعديّ لتحديد ثبات الاستبيان مع فاصلٍ زمني لمُدّة أكثر من ٣ أسابيع بين كل إختبار وكانت النتائج ($r = 0.8198$) للتأثيرات النفسية. تمّ تحليل البيانات من خلال الإحصاء الوصفيّ والإستدلاليّ.

النتائج: كشفت النتائج على أنّ هناك قلة ونقص في معلومات النساء اللواتي يُعالَجنَ كيماوياً بعد إستئصال الثدي قبل تنفيذ البرنامج فيما يتعلق بالتأثيرات الجانبية للعلاج الكيماوي والأعراض التي تظهر على المرضى ممّا يثير الكثير من القلق والأعراض النفسية السلبية ولكن بعد تنفيذ البرنامج الارشادي تحسّنت معلومات النساء بصورةٍ كبيرةٍ وملحوظةٍ في الحالة النفسية.

التوصيات: أوصت الدراسة بأنّ معهد ومستشفى الإشعاع والطب النووي يجب أن يتضمّن برنامج تداخل إرشادي للحالة الصحية النفسية للنساء اللواتي يُعالَجنَ كيماوياً بعد إستئصال الثدي.

Abstract

Objective(s): To determine the impact of instructional intervention program upon psychological health status for women who undergo chemotherapy after mastectomy

Methodology: The sample consisted of (100) women, (50) considered as study group, and another (50) the control group. A pre test was done for both groups (study and control), and then the study samples were exposed to an instructional intervention and three-dimensional post tests and the length of time between each test 21 days in the Institute and Hospital of Radiation and Nuclear Medicine. The questionnaire composed of three parts, first, demographic information; include (age, educational level, type of family, occupation, marital status, and adequacy of monthly income). Second, information about breast cancer include (the period in which the disease was diagnosed, the type of breast cancer, method of chemotherapy administration, the period of the chemotherapy, the order of the current session of chemotherapy treatment, the number of chemotherapy sessions, the source of information of chemotherapy side effects. Information on previous medical history and consists of (the previous problem of the breast, the type of injury, the site of disease, type of surgery, stage of the cancer when it was discovered, family members who suffer from breast cancer). Third, the psychological effects. Pre and post test was used to determine the reliability of the questionnaire with a time interval for a period of more than 3 weeks between each test, the results ($r = 0.9013$) for the psychological effects. Analysis of data was performed through the application of descriptive and inferential statistical data analysis approach.

Results: Revealed that there is lack of information in women treated with chemotherapy after mastectomy before the implementation of the program regarding the side effects of chemotherapy treatment, and the symptoms which appear on patients increase their anxiety and negative psychological symptoms but after the implementation of the program the information of women become well and their psychological status improved.

Recommendations: the study recommended that the Institute and Hospital of Radiation and Nuclear Medicine must include an instructional intervention program concerning the psychological health of women who are treated with chemotherapy after mastectomy

Keywords: chemotherapy, breast cancer, psychological health status, mastectomy, chemotherapy program.

Introduction:

Breast cancer is the most common fatal cancer among women. This disease and related treatments have serious psychological as well as physical consequences. As with any body part amputation, the loss of a breast through surgery, called mastectomy, can have devastating effects on a woman. The more she values her breasts the greater is the effect on her self-image [(1)]. Breast cancer comprises 10.4% of all cancer incidences among women, making it the most common type of non-skin cancer in women and the fifth most common cause of cancer death [(2)]. Chemotherapy is a cancer treatment that uses drugs to destroy cancer cells. It is also called "chemo." Systemic chemotherapy is delivered through the bloodstream, targeting cancer cells throughout the body [(3)]. *Cancer* is both a physical disease and a condition that has predominant psychosocial effects, contains uncertainties and threatens life leading to severe psychological problems in an individual. Patients with cancer face most of the stressors associated with diagnosis, illness and treatment. These stressors may generate coping strategy, which may affect the mental health. Cancer affects patients' lives and those of their families in different aspects. Cancer diagnosis and treatment brings changes in patients' personal paths of life, in their daily activities, work, relationships, and family roles, and it is associated with a high level of patient psychological stress. This stress shows up as anxiety and/or depression [(4- 5, and 6)].

Methodology:

A quasi-experimental design was carried out throughout the present study with the application of a pre- post tests approach for the study group and control group after implementation of instructional intervention program. The study was conducted at Institute and Hospital of Radiation and Nuclear Medicine which is located at the centre of Baghdad city, in Al-Rasafa sector. A convenient "Non-probability" sampling technique was used consisting of (100) women with mastectomy under chemotherapy treatment. Fifty (50) Women considered as (study group) and another (50) women were considered as (control group). The study group was exposed to instructional intervention program; the criterion of this sample was the women under chemotherapy treatment, who were seeking treatment for their health problem. Data for such assessment was collected from (50) women who were present at the Institute and Hospital of Radiation and Nuclear Medicine who have mastectomy and under chemotherapy treatment. An open- ended questionnaires was used, structured interviews by investigator, and group discussion were employed for the benefits of assessing the needs of women's for such knowledge to reduce their negative emotions towards themselves, during one month period before starting construction of program from 1st of March 2011to 1st April 2011). To make the instrument valid, it was presented to a panel of (13) experts in different fields of nursing, medical, statistical specialty. A questionnaire was constructed through the review of related literatures, previous studies, the use of information which had emerged of prior assessment, and it was applied before implementation of instructional program. The questionnaire was used as a means of data collection. The questionnaire Composed of three parts, first, demographic information, include (age, level of educational, type of family, occupation, marital status, and adequacy of monthly income). Second, information about breast cancer include (the period in which the disease was diagnosed, the type of breast cancer, method of chemotherapy administration, the period of the chemotherapy, the order of the current session of chemotherapy treatment, the number of chemotherapy sessions, the source of information of chemotherapy side effects. Information on previous medical history and consists of (the previous problem of the breast, the type of injury, the site of disease, type of surgery, stage of the cancer when it was discovered, family members who suffer from breast cancer). Third, the psychological effects consisted of (3) sections: Anxiety consisted of (9) items, Positive feeling and emotions consisted of (7) items and Negative feeling and emotions consisted of (10) items. The instrument was constructed through the use of (3) level type of Likert scale for the

assessment of the Impact of instructional intervention program upon women's psychological status who have mastectomy and under chemotherapy treatment. The rating score of the instruments was (3) for yes, (2) for some time, and (1) for never, with cut off point =2. Reliability of the questionnaire was determined through the use of test and retest approach, with interval period for more than three weeks, for the determination of interval consistency of Impact of Instructional Intervention Program upon Women's psychological Health Status Who Undergo Chemotherapy after Mastectomy. The reliability was (r= 0.8198).

Results:

Table 1. Participants' demographical characteristics

Variable	Sample	Groups	Frequency	Percent	Cum. Percent	P-value
Age Groups	Control	< 20	0	0	0	χ2= 25.4 P= 0.000 HS
		20 – 29	4	8	8	
		30 – 39	9	18	26	
		≥ 40	37	74	100	
	$\bar{x} \mp S.D.$		41.60 ∓ 6.26			
	Study	< 20	4	8	8	
		20 - 29	5	10	18	
		30 - 39	28	56	74	
		≥ 40	13	26	100	
	$\bar{x} \mp S.D.$		35.0 ∓ 8.33			
Education level	Control	Not read and write	9	18	18	χ2= 14.4 P= 0.013 S
		Read and write	6	12	30	
		Primary	11	22	52	
		Intermediate	5	10	62	
		Secondary	6	12	74	
		College	13	26	100	
	Study	Not read and write	3	6	6	
		Read and write	7	14	20	
		Primary	13	26	46	
		Intermediate	12	24	70	
		Secondary	12	24	94	
		College	3	6	100	
Type of family	Control	Nuclear	32	64	64	FEPT P=0.035 S
		Single	18	36	100	
	Study	Nuclear	41	82	82	
		Single	9	18	100	
Social Status	Control	Married	38	76	76	χ2= 6.585 P= 0.086 NS
		Single	6	12	88	
		Widow	6	12	100	
		Divorced	0	0	100	
	Study	Married	37	74	74	
		Single	10	20	94	
		Widow	1	2	96	
		Divorced	2	4	100	
Occupation	Control	Officer	11	22	22	FEPT P=0.007 HS
		Housewife	39	78	100	
	Study	Officer	2	4	4	
		Housewife	48	96	100	
Monthly Income	Control	Enough	10	20	20	χ2= 1.292 P= 0.524 NS
		Not enough	25	50	70	
		Mod	15	30	100	
	Study	Enough	6	12	12	
		Not enough	26	52	64	
		Mod	18	36	100	

HS= Highly significant; NS= Non-significant; P= Level of probability at p ≤0.05; S= Significant; SD= Standard Deviation; χ^2=chi- square

The table demonstrates that the highest percentage (74%) in control sample were in age group(≥40) years, while in the study sample (56%) were in age (30-39) years,(26%) of control sample were college graduates, while in study sample (26%) were primary school graduates. (64%) (82%) respectively in control and study sample were nuclear type of family, (76%) (74%) respectively were married, (78%) (96%) of them respectively were housewives, and (50%)

(52%) of them respectively their incomes were not enough. There are significant differences between control and study group in women's age (P=0.000), level of Education (P=0.013), type of family (P=0.035), Occupation (P=0.007).

Table 2. Distribution of information factors about breast cancer with comparison significant

Variable	Sample	Groups	Frequency	Percent	Cum Percent	P-value
Period when they had been diagnosed with the disease (Months)	Control	≤ 3	41	82	82	FEPT P=0.026 S
		4 ≥	9	18	100	
	Study	≤ 3	48	96	96	
		4 ≥	2	4	100	
Type of breast cancer who suffer from it	Control	Ductal carcinoma in situ	29	58	58	χ2= 9.134 P= 0.058 NS
		lobular carcinoma in situ	9	18	76	
		Infiltrating ductal carcinoma	4	8	84	
		Infiltrating lobular carcinoma	7	14	98	
		Inflammatory breast cancer	1	2	100	
	Study	Ductal carcinoma in situ	35	70	70	
		lobular carcinoma in situ	12	24	94	
		Infiltrating ductal carcinoma	3	6	100	
		Infiltrating lobular carcinoma	0	0	100	
		Inflammatory breast cancer	0	0	100	
The duration of chemotherapy session treatment (Hours):	Control	≤1	18	36	36	FEPT P=0.582 NS
		> 1	32	64	100	
	Study	≤ 1	18	36	36	
		> 1	32	64	100	
The order of chemotherapy session now:	Control	First session	10	20	20	FEPT P=0.009 HS
		Second session	40	80	100	
	Study	First session	22	44	44	
		Second session	28	56	100	
Number of sessions to take chemotherapy:	Control	Six times	29	58	58	χ2= 23.395 P= 0.000 HS
		Eight times	14	28	86	
		Twelve times	7	14	100	
	Study	Six times	49	98	98	
		Eight times	1	2	100	
		Twelve times	0	0	100	
Do you have information about chemotherapy and its side effects?	Control	Yes	14	28	28	FEPT P=0.322 NS
		No	36	72	100	
	Study	Yes	11	22	22	
		No	39	78	100	
If yes, from where you get information?	Control	Family and friend	7	50	50	χ2= 3.609 P= 0.165 NS
		Lecture	3	21.4	71.4	
		Media	4	28.6	100	
	Study	Family and friend	9	81.8	81.8	
		Lecture	0	0.0	81.8	
		Media	2	18.2	100	

Table 2. (Continued)

Variable	Sample	Groups	Frequency	Percent	Cum Percent	P-value
Do you have previous problem in your breast?	Control	Yes	6	12	12	FEPT P=0.056 NS
		No	44	88	100	
	Study	Yes	1	2	2	
		No	49	98	100	
If yes, what is the type of injury?	Control	Bursitis	3	6	50	χ2= 1.556 P= 0.459 NS
		Discharge from the nipple	2	4	83.3	
		Pain in one breast	1	2	100	
	Study	Bursitis	0	0	0	
		Discharge from the nipple	1	2	100	
		Pain in one breast	0	0	100	
In which side of the breast was injury?	Control	Right	19	38	38	χ2= 2.335 P= 0.311 NS
		Left	27	54	92	
		Both	4	8	100	
	Study	Right	17	34	34	
		Left	32	64	98	
		Both	1	2	100	
What is the type of surgery?	Control	Partial breast removal	5	10	10	FEPT P=0.500 NS
		Complete breast removal	45	90	100	
	Study	Partial breast removal	6	12	12	
		Complete breast removal	44	88	100	
In which stage of cancer the breasts removed?	Control	Early stage	37	74	74	FEPT P=0.163 NS
		Late stage	13	26	100	
	Study	Early stage	42	84	84	
		Late stage	8	16	100	
Is a family member suffering from breast cancer?	Control	Yes	15	30	30	FEPT P=0.247 NS
		No	35	70	100	
	Study	Yes	11	22	22	
		No	39	78	100	

HS= Highly significant; NS= Non-significant; P= Level of probability at p ≤0.05; S= Significant; SD= Standard Deviation χ^2=chi- square

This table depicts that the highest percentage (82%) (96%) for both samples (control and study) respectively were diagnosed in period (≤3) months of disease occurrence, (58%) (70%) respectively were diagnosed with Ductal carcinoma in situ, (64%) for both samples the duration of chemotherapy session was more than one hour, (80%) (56%) of them were in their second session of chemotherapy, (58%) (98%) respectively their session number were (6), (72%) (78%) respectively have no information about chemotherapy and its effects, (50%) (81.8%) respectively of those who have information about chemotherapy have their information from family and friends, (88%), (98%) respectively have no previous breast problems, (6%) of controls who have previous breast problem having Bursitis, while (2%) in study sample their previous problem were discharge from the nipple, (54%)(64%) respectively for both groups the effected side was the left ones, (90%) (88%) respectively for both groups complete breast removal were done, (74%) (84%) respectively in early stage of breast cancer, and (30%) (22%) respectively in both groups have family history of breast cancer. There are significant differences between study and control group in the period where they had been diagnosed with disease, and the order of chemotherapy session.

Table 3. Distribution of study sample according to Psychological effect's about breast cancer before intervention

Sub Dom.	Items	Psychological effects items	Sample	Control		Study (1st Period)		C.S.		Sig.
			f	MS	SD	MS	SD	Z	P-value	
Anxiety	1	I feel with comfort after taking chemotherapy dose.	50	2.10	0.81	1.88	0.9	-1.29	0.198	-
	2	I have a feeling that something will happen as a result ..	50	2.12	0.77	2.10	0.71	-0.19	0.853	-
	3	Chemotherapy did not affect my role in the family	50	2.02	0.82	1.88	0.77	-0.86	0.387	-
	4	I suffer from boredom due to chemotherapy	50	2.58	0.61	2.44	0.61	-1.30	0.194	-
	5	I feel with tense	50	2.54	0.71	2.48	0.71	-0.53	0.595	-
	6	I feel that I am not being able to sit safely	50	2.64	0.66	2.4	0.7	-2.05	0.041	S
	7	I feel that am unable to relax	50	2.48	0.74	2.5	0.71	-0.08	0.939	-
	8	I feel with loss of hope	50	2.18	0.8	2.3	0.71	-0.68	0.496	-
	9	I feel that my life has become abnormal	50	2.44	0.79	2.48	0.68	-0.02	0.981	-
Feelings and emotions (The positive side)	10	I have a feeling of getting better after taking chemotherapy	50	2.36	0.75	2.04	0.81	-2.02	0.044	S
	11	I feel that my role effective in the society after taking …	50	2.28	0.81	2.1	0.76	-1.25	0.213	-
	12	I feel that the life is beautiful	50	2.02	0.82	1.92	0.83	-0.61	0.541	-
	13	I feel that my disease like other diseases can be cured	50	2.26	0.69	2.06	0.79	-1.26	0.209	-
	14	The disease made me feel about the suffering of other patients	50	2.72	0.5	2.44	0.7	-2.08	0.038	S
	15	I feel the cooperation of my family with me	50	2.58	0.64	2.26	0.6	-2.84	0.050	S
	16	I feel with comfort when I talk with patients who have ….	50	2.52	0.74	2.06	0.79	-3.03	0.020	S
Feelings and emotions (The negative side)	17	I have nightmares disturbing me during my sleep after …	50	1.88	0.77	2.26	0.78	-2.40	0.016	S
	18	I hate mixing with others as a result of my case	50	2.04	0.9	2.16	0.84	-0.22	0.825	-
	19	I feel with internal fury after taking chemotherapy	50	2.48	0.79	2.5	0.68	-1.67	0.094	-
	20	I feel upset when I am taking the treatment	50	2.62	0.73	2.46	0.68	-0.76	0.445	-
	21	I feel afraid while taking the treatment	50	2.4	0.81	2.32	0.74	-2.14	0.032	S
	22	I feel uncomfortable after taking treatment	50	2.62	0.67	2.38	0.67	-2.03	0.043	S
	23	I am started to hate myself because of the side effects	50	2.12	0.82	2.44	0.76	-2.20	0.028	S
	24	I feel that I need to cry	50	2.56	0.76	2.24	0.82	-0.63	0.532	-
	25	I feel terrified when they talk about death in front of	50	2.12	0.9	2.24	0.82	0.0	1.00	-
	26	I think about death when have heavy side effect of …	50	2.2	0.86	2.2	0.86	-0.65	0.516	-

C.S= Comparative significance; f= Frequency; MS= Mean of scores; P= Level of probability at p ≤0.05; S= Significant; SD= Standard Deviation; χ^2=chi- square, Z= Z-Test

This table presents high mean scores in anxiety items in both groups (control and study) before program implementation (pre-test) except in items (1&3) in study group which

tends toward low mean score anxiety, with significant correlation in (feeling that they not being able to sit safely) (item 6). Regarding positive feeling and emotions the results demonstrated that there were high mean score in all items for both group except in item (12) (feeling that the life is beautiful in study group tends toward low mean score, with significant correlation between both groups in items (10,14,15,and 16). Regarding negative feelings and emotion the study presented that there were high mean score between both groups toward negative emotions and feelings except in item (17) having nightmares disturbing them during sleep after chemotherapy in control group tend to low mean score, with significant correlation in items (17, 21, 22, and 23).

Table 4. Distribution of study sample according to Psychological effect's about breast cancer after intervention

Sub Dom.	Item	Psychological effects items	Sample	Control		Study (3rd Period)		C.S.		Sig.
			f	MS	SD	MS	SD	Z	P-value	
Anxiety	1	I feel with comfort after taking chemotherapy dose.	50	2.10	0.81	2.26	0.53	-0.359	0.719	-
	2	I have a feeling that something will happen as a result...	50	2.12	0.77	1.76	0.59	-2.437	0.015	S
	3	Chemotherapy did not affect my role in the family	50	2.02	0.82	1.66	0.59	-1.833	0.067	-
	4	I suffer from boredom due to chemotherapy	50	2.58	0.61	1.64	0.6	-5.678	0.000	S
	5	I feel with tense	50	2.54	0.71	1.52	0.61	-5.444	0.000	S
	6	I feel that I am not being able to sit safely	50	2.64	0.66	1.62	0.67	-4.902	0.000	S
	7	I feel that am unable to relax	50	2.48	0.74	1.58	0.61	-5.071	0.000	S
	8	I feel with loss of hope.	50	2.18	0.8	1.66	0.63	-2.562	0.010	S
	9	I feel that my life has become abnormal	50	2.44	0.79	1.84	0.79	-3.464	0.001	S
Feelings and emotions(The positive side)	10	I have a feeling of getting better after taking chemotherapy	50	2.36	0.75	2.18	0.66	-1.278	0.201	-
	11	I feel that my role effective in the society after taking …	50	2.28	0.81	2.32	0.65	-0.338	0.735	-
	12	I feel that the life is beautiful	50	2.02	0.82	2.50	0.65	-2.228	0.026	S
	13	I feel that my disease like other diseases can be cured	50	2.26	0.69	2.66	0.59	-2.835	0.005	S
	14	The disease made me feel about the suffering of other patients	50	2.72	0.5	2.76	0.52	Bin.	0.804	-
	15	I feel the cooperation of my family with me	50	2.58	0.64	2.68	0.55	Bin.	0.839	-
	16	I feel with comfort when I talk with patients who have ….	50	2.52	0.74	2.66	0.56	Bin.	0.664	-

Table 4. (Continued)

Sub Dom.	Item	Psychological effects items	Sample	Control		Study (3rd Period)		C.S.		Sig.
			f	MS	SD	MS	SD	Z	P-value	
Feelings and emotions(The negative side)	17	I have nightmares disturbing me during my sleep after …	50	1.88	0.77	1.44	0.67	-2.739	0.006	S
	18	I hate mixing with others as a result of my case	50	2.04	0.9	1.50	0.58	-4.372	0.000	S
	19	I feel with internal fury after taking chemotherapy	50	2.48	0.79	1.50	0.58	-5.068	0.000	S
	20	I feel upset when I am taking the treatment	50	2.62	0.73	1.34	0.56	-4.998	0.000	S
	21	I feel afraid while taking the treatment	50	2.4	0.81	1.36	0.53	-5.367	0.000	S
	22	I feel uncomfortable after taking treatment	50	2.62	0.67	1.38	0.6	-3.748	0.000	S
	23	I am started to hate myself because of the side effects	50	2.12	0.82	1.38	0.57	-5.622	0.000	S
	24	I feel that I need to cry	50	2.56	0.76	1.34	0.52	-3.944	0.000	S
	25	I feel terrified when they talk about death in front…	50	2.12	0.9	1.44	0.58	-4.395	0.000	S
	26	I think about death when have heavy side effect of	50	2.2	0.86	1.26	0.56	-4.234	0.000	S

NS: No significant, S: Significant, HS: High significant, X^2:chi square, SD: Stander Deviation, MS: mean score.

This table shows high mean score in all items in control group, while all items in study group tend to low mean scores in anxiety after the implementation of instructional intervention program except in feeling with comfort after taking chemotherapy item (1), with significant correlation in all items between both group except in item (1and 3), which mean that there were great improvement in their psychological status after the implementation of the program. Regarding positive feelings and emotions the table points toward high mean score in both groups in all items, which mean that both groups having positive feeling toward their illness and their life, with significant correlation in items (12 and 13). Feeling life is beautiful and feeling that the disease can be cured. Regarding negative feelings and emotions the table depicts high mean scores in all items in control group except in item (17) of having nightmares disturbing them during sleep after chemotherapy, while all items in study group tends to low mean scores, which mean that their negative feeling and emotions were low toward their illness, while it was high in controls, which indicated the improvement after program implementation, with significant correlation in all items between both groups.

Table 4-1. Psychological effect's Anxiety items about breast cancer with assessments

Anxiety Items	Period	M.S.	S.D.	R.S.	Ass.
I feel with comfort after taking chemotherapy dose.	Pre	1.88	0.90	62.7	Bad
	Post1	2.02	0.84	67.3	Pass
	Post2	2.22	0.58	74.0	Pass
	Post3	2.26	0.53	75.3	Pass
I have a feeling that something will happen as a result of chemotherapy treatment.	Pre	2.10	0.71	70.0	Bad
	Post1	1.78	0.86	59.3	Pass
	Post2	1.76	0.62	58.7	Pass
	Post3	1.76	0.59	58.7	Pass
Chemotherapy did not affect my role in the family	Pre	1.88	0.77	62.7	Pass
	Post1	1.78	0.76	59.3	Pass
	Post2	1.76	0.72	58.7	Pass
	Post3	1.66	0.59	55.3	Pass
I suffer from boredom due to chemotherapy	Pre	2.44	0.61	81.3	Bad
	Post1	1.94	0.77	64.7	Pass
	Post2	1.60	0.49	53.3	Mod
	Post3	1.64	0.60	54.7	Mod
I feel with tense	Pre	2.48	0.71	82.7	Bad
	Post1	1.90	0.76	63.3	Pass
	Post2	1.48	0.50	49.3	Mod
	Post3	1.52	0.61	50.7	Mod
I feel that I am not being able to sit safely	Pre	2.40	0.70	80.0	Bad
	Post1	1.62	0.73	54.0	Pass
	Post2	1.30	0.46	43.3	Good
	Post3	1.62	0.67	54.0	Mod
I feel that am unable to relax	Pre	2.50	0.71	83.3	Bad
	Post1	1.84	0.71	61.3	Pass
	Post2	1.40	0.49	46.7	Mod
	Post3	1.58	0.61	52.7	Mod
I feel with loss of hope.	Pre	2.30	0.71	76.7	Bad
	Post1	1.66	0.75	55.3	Mod
	Post2	1.52	0.61	50.7	Mod
	Post3	1.66	0.63	55.3	Mod
I feel that my life has become abnormal	Pre	2.48	0.68	82.7	Bad
	Post1	1.82	0.83	60.7	Pass
	Post2	1.76	0.72	58.7	Pass
	Post3	1.84	0.79	61.3	Pass

Ass.= Assessment; MS= Mean of scores; SD= Standard Deviation; Cut-off-point =2; pos. Rs= relative sufficiency; Bad ≤66.66, Pass 66.67-77.77; Mod. 77.78-88.88; Good 88.89-100; Neg. Rs= Bad ≥66.67; Pass 55.56-66.66; Mod. 44.45-55.55; Good 33.33-44.44; Neg= negative; pos= positive; mod= moderate)

The finding of this table indicates that there was high mean of scores in most of psychological effects, anxiety items of women under chemotherapy after mastectomy in the pretest period with bad assessment (Rs) according to the items of anxiety (negative or positive),except for the item chemotherapy did not affect their role in family. While there were low mean scores in all the anxiety items in post test (1, 2, and 3) with (Rs) assessment (pass, mod., and good) according to the items of anxiety whether were negative or positive after implementation program.

Table 4-2. Psychological effects Feeling and emotions- positive) items about breast cancer with assessments

(Feeling and Emotions- Pos. items) Items	Period	M.S.	S.D.	RS	Ass.
I have a feeling of getting better after taking chemotherapy	Pre	2.04	0.81	68.0	Pass
	Post1	2.48	0.79	82.7	Mod
	Post2	2.16	0.65	72.0	Pass
	Post3	2.18	0.66	72.7	Pass
I feel that my role effective in the society after taking chemotherapy treatment.	Pre	2.10	0.76	70.0	Pass
	Post1	2.32	0.77	77.3	Pass
	Post2	2.30	0.61	76.7	Pass
	Post3	2.32	0.65	77.3	Pass
I feel that the life is beautiful	Pre	1.92	0.83	64.0	Pass
	Post1	2.34	0.87	78.0	Mod
	Post2	2.42	0.64	80.7	Mod
	Post3	2.50	0.65	83.3	Mod
I feel that my disease like other diseases can be cured	Pre	2.06	0.79	68.7	Pass
	Post1	2.50	0.76	83.3	Mod
	Post2	2.40	0.64	80.0	Mod
	Post3	2.66	0.59	88.7	Mod
The disease made me feel about the suffering of other patients	Pre	2.44	0.7	81.3	Pass
	Post1	2.64	0.63	88.0	Mod
	Post2	2.70	0.51	90.0	Good
	Post3	2.76	0.52	92.0	Good
I feel the cooperation of my family with me	Pre	2.26	0.6	75.3	Pass
	Post1	2.60	0.67	86.7	Mod
	Post2	2.58	0.57	86.0	Mod
	Post3	2.68	0.55	89.3	Good
I feel with comfort when I talk with patients who have similar disease.	Pre	2.06	0.79	68.7	Pass
	Post1	2.58	0.67	86.0	Mod
	Post2	2.64	0.6	88.0	Mod
	Post3	2.66	0.56	88.7	Mod

Ass.= Assessment; MS= Mean of scores; SD= Standard Deviation; Cut-off-point =2; pos. Rs= relative sufficiency; Bad ≤66.66, Pass 66.67-77.77; Mod. 77.78-88.88; Good 88.89-100; Neg. Rs= Bad ≥66.67; Pass 55.56-66.66; Mod. 44.45-55.55; Good 33.33-44.44; Neg= negative; pos= positive; mod= moderate)

The result of this table indicates that there was a high mean of scores in all items of psychological effects, positive feelings and emotions for women under chemotherapy after mastectomy in pre test with low (pass) (Rs) assessment. While (pass, mod., and good) after the implementation of instruction program in the 1st, 2nd and 3rd post-test.

Table 4-3. Psychological effect's feeling and emotions- negative about breast cancer with assessments

(Feeling and Emotions- Neg. items) Items	Period	M.S.	S.D.	RS	Assessment
I have nightmares disturbing me during my sleep after taking chemotherapy treatment	Pre	2.26	0.78	75.3	Bad
	Post1	1.52	0.68	50.7	Pass
	Post2	1.32	0.62	44.0	Good
	Post3	1.44	0.67	48.0	Pass
I feel with internal fury after taking chemotherapy	Pre	2.50	0.68	83.3	Bad
	Post1	1.86	0.73	62.0	Pass
	Post2	1.64	0.53	54.7	Mod
	Post3	1.50	0.58	50.0	Mod
I feel upset when I am taking the treatment	Pre	2.46	0.68	82.0	Bad
	Post1	1.94	0.65	64.7	Pass
	Post2	1.64	0.48	54.7	Mod
	Post3	1.50	0.58	50.0	Mod
I feel afraid while taking the treatment	Pre	2.32	0.74	77.3	Bad
	Post1	1.40	0.67	46.7	Mod
	Post2	1.56	0.54	52.0	Mod
	Post3	1.34	0.56	44.7	Mod
I feel uncomfortable after taking treatment	Pre	2.38	0.67	79.3	Bad
	Post1	1.84	0.71	61.3	Pass
	Post2	1.52	0.61	50.7	Mod
	Post3	1.36	0.53	45.3	Mod
I am started to hate myself because of the side effects of treatment	Pre	2.44	0.76	81.3	Bad
	Post1	1.80	0.81	60.0	Pass
	Post2	1.52	0.50	50.7	Pass
	Post3	1.38	0.60	46.0	Pass
I feel that I need to cry	Pre	2.24	0.82	74.7	Bad
	Post1	2.12	0.77	70.7	Bad
	Post2	1.62	0.57	54.0	Mod
	Post3	1.38	0.57	46.0	Mod
I feel terrified when they talk about death in front of me after taking doses of chemotherapy treatment.	Pre	2.24	0.82	74.7	Bad
	Post1	1.62	0.75	54.0	Mod
	Post2	1.36	0.60	45.3	Mod
	Post3	1.34	0.52	44.7	Mod
I think about death when have heavy side effect of chemotherapy.	Pre	2.20	0.86	73.3	Bad
	Post1	1.54	0.79	51.3	Mod
	Post2	1.42	0.67	47.3	Mod
	Post3	1.44	0.58	48.0	Mod
I hate mixing with others as a result of my case	Pre	2.16	0.84	72.0	Bad
	Post1	1.40	0.61	46.7	Mod
	Post2	1.42	0.67	47.3	Mod
	Post3	1.26	0.56	42.0	Good

MS= Mean of scores; SD= Standard Deviation; Cut-off-point =2; pos. Rs= relative sufficiency; Bad ≤66.66, Pass 66.67-77.77; Mod. 77.78-88.88; Good 88.89-100; Neg. Rs= Bad ≥66.67; Pass 55.56-66.66; Mod. 44.45-55.55; Good 33.33-44.44; Neg= negative; pos= positive; mod= moderate)

The finding of this table depicts that there were high mean of scores in all of the psychological effect negative feelings and emotions items of women under chemotherapy after mastectomy in pretest period which mean that their emotions was negative toward their health status with (Rs) assessment (Bad).while there were low mean scores in all negative feelings and emotions items in post test (1,2,and3) with RS assessment(pass, mod., and

Good), which indicates improvement in their negative feelings toward the positive ones after the implementation of the instructional program, the increase in the improvement and responses through test (1),(2) and (3).

Table 5. Psychological effect's Feeling and Emotions of sub domains about breast cancer

Psychological effects sub domains		Study			Ass.	Control			Assessment
	N	MS	S. D	RS %		MS	SD	RS %	
Anxiety	50	1.74	0.32	58.1	Pass	2.06	0.20	68.7	Bad
Feelings and emotions(The positive side)	50	1.46	0.37	48.8	Mod.	2.31	0.33	77.1	Bad
Feelings and emotions(The negative side)	50	1.39	0.32	46.5	Mod.	1.61	0.44	53.6	Pass
Psychological domain	50	1.53	0.24	51.1	Mod.	2.26	0.38	75.3	Bad

MS= Mean of scores; SD= Standard Deviation; Cut-off-point =2; pos. Rs= relative sufficiency; Bad ≤66.66, Pass 66.67-77.77; Mod. 77.78-88.88; Good 88.89-100; Neg. Rs= Bad ≥66.67; Pass 55.56-66.66; Mod. 44.45-55.55; Good 33.33-44.44; Neg= negative; pos= positive; mod= moderate)

The table finding for the psychological effects of subdominant in women under chemotherapy after implementation of instructional intervention program on study group shows that the psychological effect sub domains improved totally in the study group after the implementation of program which indicated their responses toward the improvement of their status which assessed in all sub domains as (Mod). While in control assessed (bad) with total psychological effects in study (Mod.) and in control (bad) which give as an indication of the impact of instructional program on women's health status physical and psychological.

Discussion:

Anxiety The study presented high mean scores in anxiety in both groups before program implementation (pre test) (control and study) except in items (I feel with comfort after taking chemotherapy dose, and Chemotherapy did not affect my role in the family) in study group which tends toward low mean score in anxiety, with significant correlation in (feeling that they not being able to sit safely) (Table3). While after the implementation of the instructional intervention program (Table 4). The study results showed high mean score in all items of control group, while all items in study group tend to low mean scores in anxiety after the implementation of instructional intervention program except in (feeling with comfort after taking chemotherapy), with significant correlation in all items between both group except in item (1and3), which mean that there were great improvement in their psychological status after the implementation of the program. The finding of this study also indicated that there was high mean of scores in most of psychological effects, anxiety items of women under chemotherapy after mastectomy in the pretest period with bad assessment (Rs) according to the items of anxiety (negative or positive),except for the item chemotherapy did not affect their role in family. While there were low mean scores in all the anxiety items in post test (1, 2, and 3) with (Rs) assessment (pass, mod., and good). Sarita, (2004) stated that anxiety is the most commonly seen in cancer patients. It can occur in four forms i.e. situational anxiety, disease related anxiety, treatment related anxiety and as an exacerbation of pre-treatment anxiety disorder [(7)]. Keller and Henrich, (1999) stated that a higher proportion of depression was observed in men compared to women, gender differences are also observed by other authors, though in other studies these are seen more in women[(8)] . Trask and other, (2003) stated that most importantly patients reported to have anxiety at the beginning were found to have higher anxiety at the end [(9)] . Rabin and others, (2001) Stated that symptom of anxiety and symptom experience in patients undergoing chemotherapy has been examined and significant

association were found with psychological symptoms but not for visible symptoms[10].

Positive Emotion and Feeling: Regarding positive feeling and emotions the results demonstrated that there were high mean score in all items for both group except in (feeling that the life is beautiful) in study group tends toward low mean score, with significant correlation between both groups in (I have a feeling of getting better after taking chemotherapy, The disease made me feel about the suffering of other patients , I feel the cooperation of my family with me , I feel with comfort when I talk with patients who have the same disease) (Table3) before the implementation of program. Regarding positive feeling and emotions after implementation of program pointed toward high mean score in both groups in all items, which mean that both group having positive feeling toward their illness and their life, with significant correlation in (feeling life is beautiful and feeling that the disease can be cured)(table4). Michael and others, (1996) In a comparison of the breast cancer and breast benign problem groups indicated that the breast cancer group reported; poorer physical health and functioning, no differences in psychological distress, and greater positive psychosocial adaptation, such as improved life outlook, enhanced interpersonal relationships, and deeper spiritual and religious satisfaction. Results support the theoretical position that cancer is a transitional event, that is, a traumatic event that alters an individual's assumptive world with the potential to produce long-lasting changes of both a positive as well as negative nature. This underscores the importance of using measures of both psychological distress and positive psychosocial adaptation when assessing psychological adjustment following transitional events such as breast cancer [11].

Nagative Emotion and Feeling : Regarding negative feelings and emotion the study presented that there were high mean score between both groups toward negative emotions and feelings except in (having nightmares disturbing them during sleep after chemotherapy) in control group tend to low mean score, with significant correlation in items(17,21,22,and23) before the implementation of instructional intervention program (Table3) .After the implementation of the program the study result depicted high mean scores in all items in control group except in (of having nightmares disturbing them during sleep after chemotherapy), while all items in study group tends to low mean scores, which mean that their negative feeling and emotions were low toward their illness, while it was high in controls, which indicated the improvement after program implementation, with significant correlation in all items between both groups (Table 4). Most cancer patients receiving chemotherapy experience psychological distress as a result of negative effects of chemotherapy agents, the uncertainty of post-treatment, and the occurrence of psychosocial problems. Anxiety is common at the initiation of treatment, worrying of the potential side effects of the agents and fear of recurrence after completion of treatment. Zuraida and others, (2010), pointed out that behavioral escape avoidance and cognitive escape-avoidance as the most important coping mechanisms which contribute to the psychological distress of the cancer patients receiving chemotherapy [12]. Lazarus and others, (1985) mentioned patients with anxiety symptoms used denial, behavioral disengagement and venting. Denial may not eliminate negative mood states but may help a woman with breast cancer distance herself from negative thoughts and feelings, thereby fostering feelings of hope for a positive health outcome. Denial in the form of avoiding all thoughts about the possible devastating effects of cancer may particularly benefit some patients at the time of diagnosis [13]. Carver and Scheier (1994) coping strategies were classified according to outcome in terms of their functional or adaptive value, and their effectiveness was assessed in terms of elimination of stressors and distress as well as preservation of social functioning and a sense of well-being [14]. The finding for the psychological effects of sub-domain in women under chemotherapy after implementation of instructional intervention program on study group shows that the psychological effect sub domains improved totally in the study group after the implementation of program which indicated their responses toward the improvement of their status which assessed in all sub domains as (Mod). While

in control assessed (bad) with total psychological effects in study (Mod.) and in control (bad) which give as an indication of the impact of instructional program on women's psychological health status (Table 5). All the previous studies was in agreement with the present study, the patients suffering from breast cancer they greatly experience negative emotion and feeling, even the mastectomy done as a treatment for removing the affected breast and the another treatment was chemotherapy to kill the effected cells in breast to prevent the metastasis, but they still having the fears and negative emotions toward the disease, and they need for instruction and support and information to reduce their fears toward their health status.

The present study concluded that there were high mean scores in anxiety in both groups before program implementation (pre test) (control and study). while all items in study group tend to low mean scores in anxiety after the implementation of instructional intervention program, which mean that there were great improvement in their psychological status after the implementation of the program.

In positive feeling and emotions the results demonstrated that there were high mean score in all items for both groups before and after the implementation of the program (pre & post test) , which mean that both groups having positive feelings toward their illness and their life.

Negative feelings and emotions presented high mean score between both groups toward negative emotions and feelings because of the side effects of the chemotherapy. While after the implementation of the program all items in study group tends to low mean scores, which mean that their negative feeling and emotions were low toward their illness, while it was high in control, which indicated the improvement after program implementation, with significant correlation in all items between both groups.

Recommendations:

1. Before starting chemotherapy treatment instructional intervention program about psychological problems should implemented to reduce the patient fear of the side effects after the treatment and increase their awareness about these effects.
2. Booklet of instructions should be published and distributed to all women who have breast cancer under chemotherapy after mastectomy.
3. All the patients under chemotherapy should be supported by hospital nursing team to reduce their fears.

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