

Symptoms-Related Distress among Patients Receiving Adjuvant Therapy: Radical Mastectomy versus Lumpectomy

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Abstract

Background: Breast cancer is the most common cancer in women worldwide. Although adjuvant therapy after breast-conserving surgery or mastectomy reduces the risk of breast cancer coming back but it induces many of physiological and psychological effects. **The aim** of the current study was to compare the Symptoms-related distress among patients receiving adjuvant therapy: Radical Mastectomy versus Lumpectomy at a University Hospital. **Research Questions: Q1:** What are the symptoms related distresses among radical mastectomy and lumpectomy patients receiving adjuvant therapy? **Q2:** Is there a difference in symptoms related distress between radical mastectomy and lumpectomy patients receiving adjuvant therapy? **Design:** A comparative descriptive - non-experimental design was utilized to achieve the aim of the current study. **Tools: I)** Socio-demographic and medical data sheet: It included data related to the studied subjects such as age, gender, marital status, types of received chemotherapy,.....etc. **Tool II:** Rotterdam Symptom Checklist (RSCL); it is useful in measuring the symptoms reported by cancer patients. It aims to enhance the insight into the consequences of the disease and its treatment. **Setting:** The study was conducted at the Nuclear Medicine Unit at Kasr Al-Aini Educational Hospital; affiliated to Cairo-University-Egypt. **Subjects:** A convenient sample of 60 adult female patients divided into two equal groups, patients with radical mastectomy (n=30) and patients with lumpectomy (n=30) both groups received chemotherapy after surgery. **Results:** 80% of mastectomy and lumpectomy cases overall their age was between 40 and less than 60 years old. 33.3% of the study sample can read and write. The study pointed out that 48.3% of the sample had breast cancer between 2 and less than 6 months. While 50% of them between 6 to less than 12 months with Mean+SD= 5.65+2. There was a perfect correlation between total score of RSCL and physical total score =0.826, 0.829 & 0.828 for patients overall cases, mastectomy cases only & lumpectomy cases only respectively. Also there was a strong correlation between the RSCL total score and psychological total score=0.705, 0.747 & 0.668 for the patients overall cases, mastectomy cases only & lumpectomy cases only respectively. **Conclusion:** The lumpectomy cases scored generally their physical, psychological & activity level impairment status much better than the mastectomy cases. Also lumpectomy cases their general QOL was better than the mastectomy cases. **Recommendation of the study:** 1-More close physical, psychological support must endorse in nursing care for patients with mastectomy. 2-QOL advanced tool is recommended on survey scale to evaluate patients' condition with mastectomy & lumpectomy. 3-All patients with breast cancer must join a rehabilitation program before & after proceed in either mastectomy or lumpectomy surgical management. **Keywords:** Adjuvant therapy, Mastectomy, lumpectomy, symptoms related distress.

Introduction:

Breast cancer, is the most common and serious problem among women worldwide. Nearly 1.7 million new cases diagnosed in 2012 (second most common cancer overall). This represents about 12% of all new cancer cases and 25% of all cancers in women. The primary treatment modalities of breast cancer include surgical excision, radiation therapy (RT), surgery with concurrent chemoradiation therapy (CCRT), and hormone therapy (Liao et.al, 2015). Depending on the stage and type of the tumor, lumpectomy (removal of the lump only), or surgical removal of the entire breast (mastectomy) is performed (Sharma, Dave, Sanadya, Sharma & Sharma, 2010). Despite surgery is the essential management for breast cancer, the adjuvant therapies such as chemotherapy and radiotherapy are commonly used postoperatively with the purpose of inhibits metastasis and improves long-term survival rates. As well after lumpectomy surgery, patients typically need five to seven weeks of radiation therapy, five days per week, to destroy any cancer cells (Kummerow, Penson, Yu Shyr, & Hooks, 2015). Also Wang, et-al, (2015) added that breast conservative treatment in capable patients is as effective as Modified radical Mastectomy with respect to local tumor control.

Surviving breast cancer need to significant prolonged treatment by adjuvant therapy primarily radiation, chemotherapy and hormone therapy. These treatments, even though increasingly effective in improving patient survival intervals, but they are toxic in several ways and produce negative short- and long-term physiological and psychological effects including pain, decreased cardio respiratory fitness; cancer related fatigue, reduced daily activities and suppressed immune function (Rajarajeswaran, Vishnupriya, 2009). Virtually all cancer survivors experience several adverse physiological and psychological symptoms and side-effects related to the disease or its treatment (Brown, et al., 2012). Treatment-related symptoms, mood distress, reduced physical activity and/or patients' physically inactive during and after cancer treatment considered as the main problems

are faced with cancer patients (Yang, Tsai, Huang & Lin, 2011).

Furthermore, patients with breast cancer in the diagnostic stage, awaiting treatment, or during the treatment stage, may encounter a wide range of physical and psychosocial distress symptoms. Symptom distress is defined as “the degree of discomfort reported by patients in relation to their perceptions of the symptoms being experienced. Breast cancer patients undergoing cancer-related treatment might experience various distressful symptoms, such as musculoskeletal pain, headache, loss of energy, impaired limb movement, cognitive disturbances, changed sexual experience, lymphedema, upper body symptoms, weight problems, and nausea. In addition, fatigue was the most commonly reported symptom in breast cancer patients undergoing chemotherapy that can range from mild lethargy to feeling of completely wiped out and more likely to interfere with quality of patients' sleep (Liao, et.al, 2015). Apparently physical, psychological and social disabilities are worthy problems for patients undergoing cancer treatment either surgeries or/and adjuvant therapy. For that reason, practitioners of physical medicine and rehabilitation need to respond enthusiastically both to disease progression and various treatment that may contribute to impairments, disabilities, and handicaps, be it physiological or psychological in nature (Thomas & Pandey, 2012).

In spite of the important role of the oncology nurse in the rehabilitation of the patients with cancer as they frequently provide case-management, patient education services and facilitate support to maintain patient's optimal independent functioning; they need to devote their attention on the assessment of not only psychosocial symptoms related distress as most of research focus but also to focus on the physical symptoms as well; in both mastectomy and lumpectomy patients; therefore the aim of the current study was to compare the symptoms-related distress among patients receiving adjuvant therapy: radical mastectomy versus lumpectomy.

Significance of the study

Apparently cancer breast becomes one of the most common risky diseases all over the world as it is the most widespread type of cancer among women. Recently Fouladi, Poirfarzi, Mohammadi, Masumi, Mohammadi & Mazaheri (2013) reported that breast cancer is the highest ranked disease after lung cancer, moreover it is the most prevalent cause of cancer death in females. Also it is the major reason of cancer death in 20-59 aged women and the incidence rate for breast cancer in the studies undertaken around the world has been reported as 12.5%).

Additionally in Egypt, Ibrahim, Khaled, Mikhail, Baraka & Kamel, (2014) mentioned that incidence rates of cancer were calculated at a regional and a national level and revealed that age-standardized incidence rates per 100,000 were 166.6 (for both gender), 175.9 (males), and 157.0 (females). Commonest cancer sites have been ranked as follows; liver (33.6%) and bladder (10.7%) among men, while breast (32.0%) and liver (13.5%) among women. These data is the cancer rates at national and regional levels of Egypt.

On the other hand; mastectomy and/or lumpectomy are inevitable surgical management in several cases with breast cancer and all these cases are in need to receive adjuvant treatment as chemotherapeutic agent after the surgical treatment which increases their both physical and psychological suffering. In particular a lot of nursing research studies was focusing mainly on the patients with mastectomy from the psychological perspective. So it was crucial to dig down through this area on two levels; firstly: In order to find general preview about patients with breast cancer receiving both surgical and adjuvant treatment. Secondly: Comparing between mastectomy and lumpectomy cases to highlight differences between their physical and psychological complains. Thus, hopefully the current research highlights the symptoms-related distress among patients receiving adjuvant therapy; focusing on radical mastectomy versus lumpectomy.

Subjects & Methods

Aim of the study

The aim of the current study was to compare the symptoms-related distress among patients receiving adjuvant therapy: radical mastectomy versus lumpectomy at a University Hospital.

Research questions

1. What are the symptoms related distresses among radical mastectomy and lumpectomy patients receiving adjuvant therapy?
2. Is there a difference in symptoms related distress between radical mastectomy and lumpectomy patients receiving adjuvant therapy?

Theoretical definition

Adjuvant therapy: Means additional cancer treatment given after the primary treatment to lower the risk that the cancer will come back. Adjuvant therapy may include chemotherapy, radiation therapy, hormone therapy, targeted therapy, or biological therapy. (American National Cancer Institute, 2016).

Operational definition

Patients undertaking adjuvant therapy: For the current study the researchers defined the patients with adjuvant therapy are the breast cancer female patients who are undertaking chemotherapy after surgical management (mastectomy and lumpectomy).

Research design

A comparative descriptive -non-experimental design was utilized to guide and achieve the aim of the current research.

Setting

The study was conducted at the Nuclear Medicine Unit at Kasr Al-Aini Educational Hospital; affiliated to Cairo-University-Egypt.

Subjects

A convenient sample of 60 adult female breast cancer patients who fit the inclusion criteria was recruited. **The inclusion criteria** were as follows: 1) Patients with radical mastectomy and lumpectomy. 2) Received chemotherapy after performed the surgical management. The sample divided into two equal groups, patients with radical mastectomy (n=30) and patients with lumpectomy (n=30).

Tools

In order to accomplish the purpose of the research two tools were utilized in the current study as follows:

Tool I: Socio-demographic and medical data sheet: It included data related to the studied subjects such as age, gender, marital status, occupation & primary/secondary cancer, types of received chemotherapy, since when had breast cancer.....etc.

Tool II: Rotterdam Symptom Checklist (RSCL) Haes, Olschewski, Fayers, Visser, Cull, Hopwood & Sanderman (2012). RSCL tool was useful in measuring the symptoms reported by cancer patients. It aims to enhance the insight into the consequences of the disease and its treatment, indicate groups of patients at risk for developing high levels of distress, and enable the comparison of the effectiveness of different treatment modalities or care programs, and thus support decision making in clinical oncology. The RSCL was designed to cover, originally, four domains: physical symptom distress, psychological distress, activity level and overall global life quality. **The physical symptom distress scale** consists of 23 items referring to different physical symptoms. Some symptoms such as headaches or fatigue may be experienced by people in general as well as by cancer patients. Other symptoms are more specifically related to cancer or cancer treatment: e.g. gastro-intestinal and chemotherapy related symptoms...etc. It was scaled from (1 to 4); scored as following (1= Not at all: up to 23, 2= A little: up to 46, 3= Quite a bit: up to 69 & 4= Very much: up to 92). **The psychological distress scale** consists of 7 items regarding different symptoms that may be experienced by cancer patients as well as in other populations. None of these items refers to psychological symptoms that might be considered 'psychosomatic' (e.g. headaches or sleeping problems...etc). It was scaled from (1 to 4) scored as following (1= Not at all: up to 7, 2= A little: up to 14, 3= Quite a bit: up to 21 & 4= Very much: up to 28). **Total RSCL score** is the summation of physical & psychological distress scales only and its score is based on the following interpretation: (1= Unable: up to 30, 2= only with help: up to 60, 3= without help but with difficulty: up to 90 & 4= without help: up to 120). While **the activity level impairment scale** consists of 8 items regarding functional status. These items form a scale in which mobility as well as social and role activities are covered. The scale is not related to cancer specifically so the owner of the tool did not add it to the overall RSCL score. It was scaled from (1 to 4) scored as following (1= Unable: up to 8, 2= only with help: up to 16, 3= without help but with difficulty: up to 24 & 4= without help: up to 32). And **general quality of life** (sometimes called either global quality of life or *the overall evaluation of life*) is measured by one single item included in the checklist. The item is derived from research in the quality of life of the population in general. An affective operationalisation was chosen for this item as such approach proved, in line with theory, more sensitive to clinical change. Each patient selects only one of the following (excellent, good, moderately good, neither good nor bad, rather poor, poor & extremely poor) which ranged from (1 to 7). The RSCL had an established reliability based on Bijur, Latimer & Gallagher (2003) as it was pertain to (physical, psychological, activity level) scales which have adequate reliabilities establishing based on the internal consistency (Cronbach's alpha) of a scale (0.83, 0.87 & 0.88 respectively).

Ethical consideration

An official permission was taken from the hospital administrators. Each participant was informed about the nature and the purpose of the study. Then consent was obtained from all patients for participation in the study. The researchers emphasized that participation in the study is entirely voluntary; anonymity and confidentiality are assured through coding the data.

Pilot study

Once permission was granted to proceed with the proposed study, a pilot study was carried out before starting data collection on 10 of the targeted patients as follows: (5 mastectomy & 5 lumpectomy) patients to evaluate the clarity, feasibility and applicability of the tools as well as estimate the time needed to collect data. Also panel of juries' expertise were review the tools for its validity. No tool modification was needed.

Procedure

Once official permission was established from the head of the Nuclear Medicine; the researchers was started in data collection initiation. **Inclusion criteria:** *female adult patients who their age was over 18 years old, had lumpectomy or mastectomy, scheduled on the same chemotherapy regimen after the surgical procedure.* In the current study the researchers divided the sample into 30 patients per group as one group was diagnosed with lumpectomy and the other group was diagnosed with mastectomy. Patients who fulfilled the inclusion criteria were interviewed individually. The tool was filling by the researchers. Firstly the researcher started by the Socio-demographic and medical data sheet; then was followed by Rotterdam Symptom Checklist (RSCL). Each interview obtained around 20 minutes.

Statistical analysis

The data was coded and tabulated using a personal computer. Statistical Package for Social Science (SPSS) version 18 was utilized. Data was presented using descriptive statistics in the form of frequencies and percentage. Inferential statistics as compare of means, correlation were utilized. Statistical significance was considered at $p\text{-value} \leq 0.05$.

Results:

The results will be presented into two sections: I) Description of the study subjects' social characteristics and the medical related data (tables 1&2). While section II represents; A-Description of RSCL (physical, psychological, activity level impairment & general QOL) (table, 3). B-Comparative correlation result of RSCL for mastectomy versus lumpectomy patients regarding the following perspectives: (physical, psychological, activity level impairment & general QOL) (table, 4).

Section I:

Table 1:

Description of the study subjects' social characteristics (Mastectomy versus lumpectomy patients) (n=60); (30/each).

Socio-Demographic data	Mastectomy & Lumpectomy overall cases (n=60)		Mastectomy Cases only (n=30)		Lumpectomy Cases only (n=30)	
	No.	%	No.	%	No.	%
Age:	Mean±SD 45.7±7.7		Mean±SD 46.7 ±7.2		Mean±SD 44.7±8.1	
-20->30	2	3.3%	0	0%	2	6.7%
-30->40	9	15%	3	10%	6	20%
-40->50	27	45%	16	53.3%	11	36.7%
-50-60	22	36.7%	11	36.6%	11	36.7%
Total	60	100%	30	100%	30	100%
Marital Status:						
-Single	2	3.3%	0	0%	2	6.7%
-Married	46	76.7%	26	86.7%	20	66.7%
-Widowed	11	18.3%	3	10%	8	26.7%
-Divorced	1	1.7%	1	3.3%	0	0%
Total	60	100%	30	100%	30	100%
Educational level:						
-Cannot read or write	17	28.3%	8	26.7%	9	30%
-Read & write	20	33.3%	12	40%	8	26.7%
-Primary	12	20%	6	20%	6	20%
-Preparatory	5	8.3%	1	3.3%	4	13.3%
-Secondary	6	10%	3	10%	3	10%
Total	60	100%	30	100%	30	100%
Occupation:						
-House wife	52	86.7%	27	90%	25	83.3%
-Worker	2	3.3%	1	3.3%	1	3.3%
-Employee	2	3.3%	0	0	2	6.7%
-Farmer	4	6.7%	2	6.7%	2	6.7%
Total	60	100%	30	100%	30	100%
Number of person lives with:						
-1->3	15	25%	9	30%	6	20%
-3-≥5	45	75%	21	70%	24	80%
Total	60	100%	30	100%	30	100%

It was observed that age Mean±SD= 45.7±7.7, 46.7 ±7.2 & 44.7±8.1 of the patients with both mastectomy and lumpectomy, mastectomy cases only & lumpectomy cases only respectively. Regarding their marital status 86.7%, 76.7% & 66.7% was married; while 33.3%, 40% & 26.7% could read and write; concerning patients' occupation 86.7%, 90% & 83.3% was house wife and 75%, 70% & 80% was living with not less than three members at one place for the patients with both mastectomy and lumpectomy, mastectomy cases only & lumpectomy cases only respectively..

Table 2:

Description of the study subjects' medical related data (Mastectomy versus lumpectomy patients) (n=60) (30/each).

Socio-Demographic data	Mastectomy & Lumpectomy overall cases (n=60)		Mastectomy Cases only (n=30)		Lumpectomy Cases only (n=30)	
	No.	%	No.	%	No.	%
Since when had cancer:	Mean±SD 5.65±2		Mean±SD 5.77±1.7		Mean±SD 5.53±2.2	
-2->6 (Months)	29	48.3%	12	40%	17	56.7%
-6->12 (Months)	30	50%	18	60%	12	40%
-12->14 (Months)	1	1.7%	0	0%	1	3.3%
Total	60	100%	30	100%	30	100%
Chemotherapy:	Mean±SD 2.4±0.58		Mean±SD 2.3±0.60		Mean±SD 2.4±0.57	
-Doxorobcin	29	48.3%	13	43.3%	16	53.3%
-5-Flurouracil	27	45%	12	40%	15	50%
-Cyclophosphamide	27	45%	12	40%	15	50%
-Taxol	31	51.7%	17	56.7%	14	46.7%
-Carboplatin	28	46.7%	15	50%	13	43.3%
Other taken medications:	Mean±SD 3.4±0.48		Mean±SD 3.4±0.49		Mean±SD 3.3±0.48	
-Zofran	60	100%	30	100%	30	100%
-Zantac	58	96.7%	29	96.7%	29	96.7%
-Decadron	60	100%	30	100%	30	100%
-Avil	23	38.3%	12	40%	11	36.7%

**Total is not mutually exclusive for chemotherapy & antiemetic.*

Regarding patients' period of having cancer it was with a Mean±SD=5.65±2, 5.77±1.7 & 5.53±2.2 with percentage of 50%, 60% & 40% of having cancer which was between 6->12 (Months). While for the taken chemotherapy was 51.7%, 56.7% & 46.7 with a Mean±SD=2.4±0.58, 2.3±0.60 & 2.4±0.57 was taking taxol. And regarding receiving other medications; it was with a Mean±SD=3.4±0.48, 3.4±0.49 & 3.3±0.48 and with percentage of 96.7%, 96.7% & 96.7% who are taking zantac' for the patients with overall mastectomy and lumpectomy cases, mastectomy cases only & lumpectomy cases only respectively.

Section II:

Table 3:

Comparative description of RSCL (physical, psychological, activity level impairment & general QOL) result among patients with mastectomy and lumpectomy (n=60) (30/each).

Socio-Demographic data	Mastectomy & Lumpectomy Cases overall (n=60)		Mastectomy Cases only (n=30)		Lumpectomy Cases only (n=30)	
	No.	%	No.	%	No.	%
Total Physical Score:	Mean±SD 49.6±5.5		Mean±SD 49.9±5.2		Mean±SD 49.3±5.8	
-Not at all: (up to 23)	0	0%	0	0%	0	0%
-A little: (up to 46)	19	31.7%	6	20%	13	43.3%
-Quite a bit: (up to 69)	41	68.3%	24	80%	17	56.7%
-Very much: (up to 92)	0	0%	0	0%	0	0%
Total	60	100%	30	100%	30	100%
Total Psychological Score:	Mean±SD 14.4±4.4		Mean±SD 14±4.4		Mean±SD 14.8±4.4	
-Not at all: (up to 7)	7	6.7%	3	10%	1	3.3%
-A little: (up to 14)	26	43.3%	10	33.3%	16	53.3%
-Quite a bit: (up to 21)	30	50%	17	56.7%	13	43.3%
-Very much: (up to 28)	0	0%	0	0%	0	0%
Total	60	100%	30	100%	30	100%
Total RSCL Score:	Mean±SD 64±7.6		Mean±SD 63.8±7.6		Mean±SD 64.1±7.8	
-Not at all: (up to 30)	0	0%	0	0%	0	0%
- A little: (up to 60)	16	26.7%	9	30%	7	23.3%
- Quite a bit: (up to 90)	44	73.3%	21	70%	23	76.7%
- Very much: (up to 120)	0	0%	0	0%	0	0%
Total	60	100%	30	100%	30	100%
Activity Level Impairment:	Mean±SD 20.4±5.9		Mean±SD 20.1±5.8		Mean±SD 20.7±6.1	
-Unable: (up to 8)	0	0%	0	0%	0	0%
-With help: (up to 16)	20	33.3%	13	43.3%	7	23.3%
-Without help but with difficulty: (up to 24)	17	28.3%	6	20%	11	36.7%
-Without help: (up to 32)	23	38.3%	11	36.7%	12	40%
Total	60	100%	30	100%	30	100%
General QOL:						
-Excellent=1	0	0%	0	0%	0	0%
-Good=2	0	0%	0	0%	0	0%
-Moderately good=3	24	40%	6	20%	18	60%
-Neither good nor bad=4	31	51.7%	20	66.7%	11	36.7%
-Rather poor=5	4	6.7%	4	13.3%	0	0%
-Poor=6	1	1.7%	0	0%	1	3.3%
-Extremely poor=7	0	0%	0	0%	0	0%
Total	60	100%	30	100%	30	100%

Patients' physical score Mean±SD=49.6±5.5, 49.9±5.2 & 49.3±5.8; with 68.3%, 80% & 56.7% was at the level of quite a bit. While for the psychological score was found that Mean±SD=14.4±4.4, 14±4.4 & 14.8±4.4 with 50%, 56.7% was also at the level of quite a bit & 53.3% at the level of a little . Regarding total RSCL it was with Mean±SD= 64±7.6, 63.8±7.6 & 64.1±7.8 and the highest percentage was 73.3%, 70% & 76.6% at the level of quite a bit as well. Activity of level impairment found with Mean±SD= 20.4±5.9, 20.1±5.8 & 20.7±6.1 with percentage of 33.3%, 43.3% could do the activity but with help & 40% could do the activity without help. Finally their general QOL was 51.7%, 66.7% neither good nor bad & 60% moderately good. The above finding for the overall patients with both mastectomy and lumpectomy, mastectomy cases only & lumpectomy cases only respectively.

Table 4:
Comparative correlation result of RSCL (physical, psychological, activity level impairment & general QOL) among patients with mastectomy versus lumpectomy (n=60); (30/each).

Correlation variables	Mastectomy & Lumpectomy Cases overall (n=60)	Mastectomy Cases only (n=30)	Lumpectomy Cases only (n=30)
	Total score of RSCL	Total score of RSCL	Total score of RSCL
-Age	-.047	-.189	-.079
-Since when had cancer	-.077	-.376*	.147
-Chemotherapy total score	-.066	.103	-.25*
-Other taken medications total score	.304*	.287*	.323*
-Physical total score	.826**	.829*	.828**
-Psychological total score	.705**	.747**	.668**
-Activity Level impairment total score	-.201	-.150	-.251*

Comparative correlation results revealed that there was difference of finding in relation to total score of RSCL & (since when patients had cancer, chemotherapy total score, other medications total score (zofran, zantac, decadron & avil,) physical total score & psychological total score) and this was between "mastectomy & lumpectomy cases overall, the mastectomy cases only and the lumpectomy cases only" as follows: A negative moderate correlation between total score of RSCL and since when had cancer = $-.376$ for mastectomy cases only. And there was a negative weak correlation = $-.25$ between RSCL total score of lumpectomy cases and chemotherapy total score. Also there was a moderate correlation between total score of RSCL and other medications total score = $.304$, $.287$ & $.323$ for the patients with mastectomy and lumpectomy overall cases, mastectomy cases only & lumpectomy cases only respectively. While there was a perfect correlation between total score of RSCL and physical total score = $.826$, $.829$ & $.828$ for the patients with mastectomy and lumpectomy overall cases, mastectomy cases only & lumpectomy cases only respectively. In addition the study revealed that there was a strong correlation between the RSCL total score and psychological total score = $.705$, $.747$ & $.668$ for the patients with mastectomy and lumpectomy overall cases, mastectomy cases only & lumpectomy cases only respectively. Finally there was a negative weak correlation between RSCL total score and Activity Level impairment total score = $-.251$ for the patients with lumpectomy cases only.

Discussion

The research aim was to compare the Symptoms-related distress among patients receiving adjuvant therapy: radical mastectomy versus lumpectomy at a university hospital. regarding the social characteristics the current study revealed that nearly half of the mastectomy and lumpectomy patients' age was between forty and fifty years old; a study conducted by Rezende (2016) congruent with the current research finding as it reported that 59% of a survey study on 500 women who had mastectomy their age ranged between 40-59 years old; whereas for the lumpectomy sample around one third of them their age was between forty and fifty years old; while the other third of them was ranged between fifty and sixty years old. However the both studied groups (mastectomy & lumpectomy) cases their mean of age was almost matched and this was expected as the sample groups were homogenous. Concerning their marital status was found that the majority of the sample was married for both mastectomy and lumpectomy sample. Also the patients' education who could read and write was more than one third of the mastectomy sample versus around quarter of the lumpectomy sample. Relating to the majority of mastectomy and lumpectomy patients was house wife. Also the majority of mastectomy and lumpectomy patients were living with not less than three members at one place. A study done by Nascimento, Fonsêca, Andrade, Leite, Zaccara, da Costa (2014) for patients with preoperative breast cancer revealed that regarding the educational level, (14%) were illiterate, (57%) had incomplete primary education and two (29%) with higher education. The family income was less than the minimum wage for (14%) women.

Concerning patients' period of having cancer it was around two third of the mastectomy sample and more than one third of the lumpectomy sample was between 6->12 (Months); which reflected that the breast cancer became more advanced for patients with mastectomy until they figured out that they have breast cancer and it needed medical/surgical intervention and/or the waiting list which might take sometimes. And this congruent with Cancer Research UK (2016) as they mentioned to take the mastectomy decision it might depend on several patients' breast condition as follows "The size of the cancer in the breasts, whether it has spread to any other part of the body, the size of breasts and the personal wishes and feelings"

While for the taken chemotherapy it was more than half of the mastectomy patients and around half of

the lumpectomy patients were taking taxol. This finding was anticipated as Beaumont (2016) reported that in April of 1994, the FDA approved taxol for the treatment of metastatic breast cancer that did not respond to combination chemotherapy or breast cancer that had recurred within 6 months after the completion of initial chemotherapy. And this go on the same line of the current study as the study sample had another chemotherapeutic agents as (Doxorobcin, -5-Flurouracil; ...etc) in addition to taxol. And beside the chemotherapy there was other taken medication as anti-inflammatory, antacid...etc and it was recorded in the current study that the majority of both mastectomy and lumpectomy sample was taken zantac; which has a definite impact on block the histamine H2-receptor antagonist that inhibits gastric acid production as these patients categories are under psychological effect as they were hospitalized, had cancer and also was performed either mastectomy or lumpectomy surgical management. On the other hand the antacid could manage the physical effect which was as a result of the taken chemotherapeutic and anti-inflammatory medications which cause direct negative effect on the gastrointestinal system (GIT) generally and GIT mucosal tissue specifically. Ignoffo (2016) reported that taking zantac is highly effective in "preventing chemotherapy toxicities" nausea and vomiting are common side effects of chemotherapy drugs which are used to treat cancer. In almost cases, patients will be given anti-vomiting (antiemetic) and anti-nausea medication during administering chemotherapeutic course.

Patients' physical result was observed as the majority of the mastectomy sample was at the level of quite a bit versus more than half of the lumpectomy sample. Which means that patients with mastectomy suffered physically more than lumpectomy patients as quite a bit level was equal to the third level of the scale measurement; and this finding was significantly expected as removal of the breast with its lymphatic vessels was causing a physical burden higher than the lumpectomy procedure; these physical problems was as nausea, vomiting, headache, low back pain...etc. The following studies finding agreed with the current research finding; as a study done by Rahman, Ahsan, Monalisa & Rahman (2014) congruent with the current research finding as it reported that significant reduction of the scores found with means deterioration of function in physical well-being for patients with mastectomy and even they found that younger age group patients expressed much distress. Comparing to result reported by Land, Kopec, Julian, Brown, Anderson, Krag, Christian, Costantino, Wolmark & Ganz (2010) on a Longitudinal study done for patients with lumpectomy who revealed that patients were more likely to experience arm and breast symptoms, restricted work and social activity, and impaired QOL ($P < \text{or} = .002$ all items); from 12 to 36 months.

Also for the psychological result was found that more than half of the mastectomy cases were also at the level of quite a bit which was at the third level comparing to more than half of the lumpectomy cases at the level of a little which ranked at the second level. The psychological problems were as decreased sexual interest, difficulty sleeping, depressed mood...etc. The researchers interpreted that as the psychological problems for the lumpectomy category was much tolerated more than for the mastectomy patients. Moreover Nweze & Maureen (2012) after analyzing fifteen research articles that investigated the psychological impact of mastectomy and breast reconstruction patients; found that the most common psychological impact of mastectomy and breast cancer was low self-esteem, altered sexuality, and poor quality of life.

Concerning total RSCL the study revealed that the majority for both the mastectomy and lumpectomy cases was at the level of quite a bit as well. Actually same finding was cited by Schubart, Emerich, Farnan, Stanley, Kauffman & Kass (2014) as they mentioned in their research that high levels of distress in all domains associated with younger age and was for more extensive surgery (bilateral mastectomy versus unilateral mastectomy versus lumpectomy). Moreover in the current study the researchers found that activity of patients' level impairment was nearby half of the mastectomy patients could do the activity but with help but more than one third of the lumpectomy patients could do the activity without help. Lastly their general QOL was rated that two third of the mastectomy cases was neither good nor bad while more than half of the lumpectomy cases was moderately good. Cleeland, Mayer, Dreyer, Yim, Yu, Su, Mun, Sloan & Kaufman. (2014) reported that Limited data exist on the association of symptom burden, daily activity impairment, and work productivity in patients with advanced breast cancer and at the same time they figured out in their study that fatigue, decreased sexual interest, disturbed sleep, emotional distress, and drowsiness were the most common severe symptoms, and were of moderate-to-severe intensity in 38.8%-52.0% of the studied patients.

Comparing between correlation results for the both group mastectomy versus lumpectomy revealed that there was relation in some finding as follows:

There was a weak correlation between RSCL total score of lumpectomy cases and chemotherapy total score; while there was a moderate correlation between total score of RSCL and other medications total score for the patients with the overall cases, mastectomy cases only & lumpectomy cases only respectively. Actually it was strange to find even a weak correlation between the chemotherapeutic agents and the lumpectomy category. But from the researchers' point of view it was as much as the period of cancer increasing as much as patients with breast cancer will be under stress. And it was hardly to find a research conducted in this point but a study was found by Tatrow, Montgomery, Avellino & Bovbjerg (2004) which was matched with what reported in the

current study; as it was emphasized the importance of investigation of potential targets for distress-reducing interventions. Although apparently the taken medication of chemotherapy and other medications as antacid or anti-inflammatory put both patients with mastectomy and lumpectomy under symptoms distress because of its physical side effects and it alleviates their psychological distress symptoms as chemotherapy is well known about its body image disturbance as loss of hair...etc. prolonged anti-inflammatory increases gastro-intestinal problems. At the same line another recent study was conducted by Traeger, McDonnell, McCarty, Greer, El-Jawahri & Temel (2015) which supported the current research finding as they found that 50.8% of their participants reported ≥ 1 physical symptom, most commonly lack of energy (35.8%) and drowsiness (30.8%). And a randomized group interacted with emetogenic potential in predicting symptom distress ($\gamma = 0.43$; $P = .03$) and they recommended that early symptoms highlight the importance of continuing to examine strategies to improve symptom management during chemotherapy for nonmetastatic cancer disease.

While there was a perfect correlation between total score of RSCL and physical total score for the patients with the overall cases, mastectomy cases only & lumpectomy cases only. Also the study revealed that there was a strong correlation between the RSCL total score and psychological total score for the patients with the overall cases, mastectomy cases only & the lumpectomy cases only. The researchers interpreted that finding as both patients with mastectomy or lumpectomy surgical manipulation would cause a stressful impact on breast cancer patients on the physical and psychological levels; specially that those patients were undertaken adjuvant chemotherapeutic treatment after the surgical management which increased their physical and psychological negative complaining in relation to the overall related distress symptoms. Regarding the physical finding a study be in agreement with the current research finding as Bränström, Petersson, Saboonchi, Wennman-Larsen, Alexanderson (2015) reported that Less than one third of the participants in their study were sufficiently physically active at baseline; however physical activity decreased after surgery and increased at 8 month follow-up, and subsequently decreased slightly during the subsequent follow-up period. They explained that physical changing as physical inactivity was related to a reducing in the health, increased symptoms such as pain, depression, and anxiety. In addition and related to the psychological finding a similar study conducted by Bencová, Bella & Svec (2011) congruent with the current research finding as they revealed that intensity of psychological dysfunction symptoms in breast cancer patients (Modified radical mastectomy, breast-conserving surgery/lumpectomy) required greater attention related to the need for appropriate community-based psychosocial interventions and psychosocial prevention due to the negative impact of continuing and even accelerated psycho-social distress on the quality of life of surviving patients.

Once the mastectomy has been performed, the woman suffers too much due to the physical change which she has experienced, however the psychological pain can sometimes be hidden behind another element such as the fear of disease and its possibility of reappearance. Same drawback affects the patients with lumpectomy management but from different side as they have kind of overwhelming of having mastectomy in the future. So identifying symptoms related distress for both mastectomy and lumpectomy cases at one study was valuable not only for the magnitude of nursing body of knowledge but also to find out the symptoms distress for each different breast cancer management and to map the nursing care while dealing with different breast cancer patients category; especially for those patients who are receiving adjuvant therapy following the surgical management.

Conclusion of the study

In conclusion; the study results answered the two recommended research questions which have been revealed that there was a difference between mastectomy and lumpectomy studied cases in relation to RSCL and (chemotherapy, other taken medication as zantac, decadron,...etc, physical & psychological) total score. And apparently the lumpectomy cases scored generally their physical, psychological & activity level impairment status much better than the mastectomy cases. Also lumpectomy cases their general QOL was better than the mastectomy cases.

Recommendation of the study:

- 1-More close physical, psychological support must endorsed in nursing care for patients with mastectomy.
- 2- Further studies is recommended to examine the physical & psychological health status for both mastectomy & lumpectomy cases.
- 3-QOL advanced tool is recommended on survey scale to evaluate patients; condition with mastectomy & lumpectomy.
- 4-All patients with breast cancer must join a rehabilitation program before & after proceeding in either mastectomy or lumpectomy surgical management.

Nursing Implication of the study

The utilized tool was very clear and objective oriented which could enable the nurse to use it in chemotherapy cycle base to evaluate the patients' physical, psychological condition in order to limit their QOL deterioration and to enroll the patients in physical & psychological health program.

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