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Impact of Mastectomy on Quality of Life and Sexuality in Moroccan Women: About 100 Cases with a Mini Review of the Literature

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Abstract **Original Research Article**

It is well known that breast cancer treatment and especially mastectomy can affect body image, and sexuality of women with breast cancer, as well as to provide a general understanding of their quality of life .A descriptive exploratory study was conducted in department of Medical oncology in Morocco with a sample of 100 post mastectomy women. Disturbance of body image with loss of self-confidence was reported in 58% of our patients and the feeling of depression was found in 48% of the patients. Sexual unsatisfaction was reported in 50% of the patients. The results of this study could contribute to the medical oncologists and other physicians of the QOL and sexuel side of women with breast cancer.

Keywords: Breast cancer, mastectomy, quality of life, sexuality.

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INTRODUCTION

Despite the advanced therapeutic management in breast cancer, it remains one of the most common malignant cancers, and it affects women all over the world [1]. In Morocco, breast cancer is a significant public health problem and is the first leading cause of death by cancer in women. Indeed, it represents 35% of cancer cases in women [2]. The 2012 updated versions of the RCRC (Registre des Cancers de la Region du grand Casablanca) and RCR (Registre des Cancers de Rabat) have reported a standardized incidence of 39, 9 and 49, 2 per 100.000 women respectively. According to RCRC and RCR, women diagnosed with breast cancer are aged between 18 and 80 years old, and the mean age at diagnosis is 49.5 and 50 years respectively [2]. .Several treatment strategies are used: surgery such as mastectomy or lumpectomy, and systemic therapy such us radiotherapy, chemotherapy, targeted therapy, immunotherapy and hormonotherapy. Due to the increased survival of breast cancer patients, the impact of therapy on their quality of life (QOL) has become an important public health issue [3]. Various treatments can affect the quality of life (QOL) and sexuality of patients in the short or long term [4].

Although significant improvements have been made in recent decades regarding the detection and treatment of breast cancer, the disease still has a negative impact on social and physical functioning, especially in developing countries [5].

After mastectomy, women experience various functional and emotional disorders, such as depression, which leave serious psychosocial consequences [6].

Mastectomy is widely regarded as a destructive experience in a woman's life [7] resulting in a permanent change in their appearance [8]. In this regard, besides the complications arising from the illness (physical health problems like vomiting and pain), breast cancer and its treatment have repercussions caused by the total mutilation of the breast, often resulting in problems associated with body image (BI), self-image and sexuality. All of which have a negative impact on quality of life (QOL) and survival [9, 10].

Many women are afraid that they will lose their sexual attractiveness as a spouse after mastectomy and losing her husband that they will not be liked, they will be rejected and their sexual life will be destroyed

[11]. In General stated that sexual dysfunction affects up to 90% of women treated for breast cancer particularly with mastectomy [12].

Aim of our study

The aim of this study was to evaluate the psychopathological impact of mastectomy on the quality of life of Moroccan women, in terms of body image, personal and sexual satisfaction. In our country, sexuality is a taboo subject, and it remains less elucidated in our Moroccan patients.

Our goal was to know the degree of suffering of women's post mastectomy for breast cancer to improve their psychological care.

Material and Methods

Study Design

A descriptive study was carried out in Medical oncology department in Mititary Hospital MOHAMED V in Rabat, Morocco.

Setting

This study was conducted for 6 months between January and June 2021. Data for this cross - sectional study were collected using a questionnaire established by authors and psychologist from the questionnaires used in previous study. Female patients who were undergone a mastectomy (positive pathohistological finding of stage I or stage II breast cancer) were selected. Married women active sexually, naïve to any adjuvant therapy, during adjuvant therapy or after completion of therapy were included.

Exclusion criteria were patients younger than 18 years old, patients with a benign breast tumor, patients who refuse to participate to the study and patients with severe organic or psychiatric disease.

Tools: Two tools were used to collect data:

Tool 1: Socio- demographic and clinical history developed by the doctor

Tool 2: Quality of Sexual Life Scale and body image and it is developed by the investigator, it contains many items. The investigator started data collection by introducing himself to participants, explain to them the purpose of the study and assure confidentiality.

Data collected at the time of the study

- Sociodemographic data: age, marital status (married, widowed, divorced, single), number of children, level of education (illiterate, primary, secondary, university), housing (urban, rural), occupation (working or wife house), were collected by interviewers.
- Quality of life (QOL) and health data used: SF-36 questionnaire, QLQ C-30, EORTC QLQ-BR23,MFI 20, STAI, QLQ BR-23
- Medical data: patient's medical and psychiatric history, stage of breast tumor at diagnosis, treatments received after mastectomy and current treatments (chemotherapy, radiotherapy, targeted therapy, and hormonotherapy).

Ethical consideration

- The permission was obtained from the chief of the medical oncology department of Military Hospital MOHAMED V in Rabat, Morocco.
- Informed written consent from the patients was obtained.

Statistical Analysis

All data were analyzed using **SPSS** logiciel statistics. Demographic information and responses to the survey were analyzed using descriptive statistics.

Results

1. Socio demographic characteristics

In our study, the mean age of our patients was 49 years and 58% of them were <50 years. 67% of our patients were married and have an active sexual life. The majority of our patients were from urban areas. In our context, more than half of the patients were illiterate. Only 9% of the studied patients are working, the rest (91%) are a wife house.

Table 1 summarizes the main sociodemographic characteristics of studied population.

2. Site of mastectomy

In this study, the right breast was more affected by radical mastectomy than the left breast. Only 33% of the patients were preferred lumpectomy because they wanted to preserve their body image. For other women (77%), in breast cancer, mastectomy is preferable to lumpectomy in order to avoid recurrence of the cancer and its dissemination and therefore mastectomy has reassured our patients.

3. Clinical signs after mastectomy

The symptoms frequently reported by our patients were predominantly chronic intramammary pain in 51% of cases and pain at the site of the operative scar in 46% of cases. Furthermore, the presence of lymphoedema on the affected side and pain in the remaining breast were found in nearly 30% of cases.

4. Psychopathological signs after mastectomy

Postoperative denial of mastectomy was expressed in 48% of cases, especially in younger patients under 50 years old. The feeling of anxiety and fear of death was found in half of our patients. Disturbance of body image with loss of self-confidence was reported in 58% of patients. In addition, the feeling

of depression was found in 48% of the patients. We have anorexia and weight loss in 50% of patients and 80% reported a relief of her. The clinical signs of depression are summarized in figure 1.

5. Sociological impact of mastectomy:

Fear of facing one's surroundings (spouse, family, friends, work colleagues and neighbors) was expressed in 35% of our patients, loss of interest in usually pleasant activities (shopping, walking, travelling...) was found in 45 patients. On the other hand, all patients are afraid and avoid violent and/or prolonged efforts.

In our Moroccan context, the fear of going to the Moorish bath (Hammam) concerned 53% of the patients, and for good reason, they always mentioned the fear of people's eye. Concerning religious practice, 44% of the patients became more religious (prayers, wearing of the veil, desire to go to Mecca etc...).

6. Sexual impact of mastectomy

All of patients stated to not have received any information about effect of their breast cancer on sexuality. Half of them reported a need for information regarding sexuality espite the fact that this is a taboo subject in our society.

The sexual repercussions of mastectomy were discussed in married patients with an active sexual life. In our study, sexual difficulties were found in 40% of the patients in the form of loss of sexual interest and absence of sexual desire; the increase in previous sexual difficulties was expressed in 77% of the cases, but sexual satisfaction concerned only half of the patients.

Table 2 illustrates the frequency and percentage distribution of the studied patients with regard to quality of sexual life.

7. Psychological impact of adjuvant treatments after mastectomy

a. Chemotherapy

85 patients of this study received adjuvant chemotherapy by anthracyclines and taxanes, among them, 68% presented a depressive feeling following alopecia, 34% had memory problems, and only 24% complained of concentration problems. Anorexia had interested 75% of patients and chronic fatigue was reported in all cases.

b. Radiotherapy

In this study, 58% of the mastectomized women received adjuvant radiotherapy, and only 34% of them had radiodermatitis at the surgical scar. It was generally good tolerated.

c. Hormonotherapy

Adjuvant hormonotherapy (tamoxifen or antiaromatase) was administered in 39% of the hormone receptor positive women. The main side effects reported were hot flashes, which were experienced in 64% of cases, and night sweats in 41% of cases.

DISCUSSION

Breast cancer is the first cancer in Moroccan women. It represents 58.7% of gynecological cancers in Morocco. At the National Institut of oncolgy in Rabat, it is estimated that there are between 900 and 1000 new cases per year. In recent years, there has been great interest in the consequences of breast cancer and its treatment methods on the quality of life of patients [13]. Mastectomy disrupts a woman's body image and she must mourn the change in her body image [14]. Indeed, woman after mastectomy experiences a real crisis of feminine identity because she is constantly confronted with the fact that she no longer conforms to the standards of the society with regard to her physical integrity [15].

Body image (BI)

The breast is the symbol of femininity, feminine aesthetics, sexual life, and also of motherhood [16]. Removal of the breast, an organ full of meanings and social representations, can cause serious changes in women’s body perception [10].

Overall, the results of a review showed that mastectomy is a major impact factor on the BI of women with breast cancer, both in short and long term [10]. This mutilation will have repercussions on daily physical activities [14]. Also, some activities such as swimming or other sports will be very difficult with respect to body image. In addition, fatigue is often associated with adjuvant treatments and does not allow women to do their social activities.

Results of the current study revealed important features describing prevalence mastectomy problem and associated description of their quality of sexual life in a Moroccan sample of post- mastectomy women at Médical oncology department in Military Hospital MOHAMED V in Morocco. Results revealed that the mean age of mastectomy found was 49 years old and more than half of the studied patients (58%) had an age less than 50 years. This result is a very serious finding as it is shows high prevalence of mastectomy among the sexually active age, the highest work, marriage, and desire to have children.

In breast cancer, treatment can affect body image, as the loss of an organ full of symbols and identity brings to the survivors dissatisfaction with appearance, perceived loss of femininity and body integrity, reluctance to look at one’s self naked, as well as feeling less sexually attractive [10]. Furthermore, the perception of body image is a key determinant of QOL [8]. The psychological repercussions are of several types, those related to the cancer with all that a serious

disease can engender: the anxiety of death, fear, worry, social isolation, and those related to the mastectomy, which will require a work of mourning consecutive to the modification of the body image. This work can be more or less long and will go through several stages: the devaluation with the loss of femininity, maternity, self-disgust, aggressiveness: anger or refusal to communicate, guilt (God is punishing me? I did something wrong? Why it's me?...), anxiety about the future (fear of being abandoned, recurrence, treatments, death).

Regardless of the age at which the disease occurs, the repercussions on family, emotional and social life are always present. Fear of the gaze of loved ones and fear of rejection are feelings that are often found in such situations [14].

Sexuality

Sexuality involves the integration of various dimensions, including the individual, the physical, the affective, the culturel and the social dimension. As breast removal interferes in many of them, it also manifests itself as an amputation of sexuality, desire, orgasm, feeling of femininity and attractiveness [10]. Overall, mastectomy has proved to be a major impact factor in the sexual function (SF) of women with breast cancer. Moreover, breast reconstruction was correlated with a lower risk of in sexual dysfunction as reported by Hart and al [17].

Masterfully, 1.6% (18) of articles reported the presence of a positive correlation between SF and BI, and another study showed that supporting partners is also correlates with SF scores. Moreover, in 6.4% [19] of the publications, circumstances such as absence of partner, high level of education, absence of breast reconstruction, advanced age and marital status were associated with greater SD. Yet, another article (1.6%) showed that lower levels of education and having an older partner were contributing factors for worse SF. Furthermore, one article (1.6%) associated younger age, being married and elementary education level with worse SF. However, 1.6% [18] of the studies showed that SF improved as the education and income of women with mastectomy increased.

The sexual dysfunction in our study was correlated with study done by Markopoulos.and al., [20], who stated that (about 42%) of post mastectomy women reported feeling unsatisfied with regard to their sexual life. Similarly Alder and al. [21] reported that approximately one third of married couples experience sexual difficulties after mastectomy. Hazrati [22], also mentioned that sexual function and satisfaction with the sexual performance are common problems related to mastectomy.

In Samia Gamal Awad Hamed and al study [23] we report that there is significant relation between quality of sexual life and age. Then, the studied patients whose age is between 41and 50 years old have the lower scores quality of sexual life.

Another study reported the same correlation and concluded that increased age decrease sexual function after mastectomy [24] contrarly in Knobf study, who stated that younger women undergoing mastectomy are at a higher risk for alterations in sexuality than older women [25].

Despite divergences in the included studies on the impact of age on SF, Chang and al. [26] described that older women give less importance to the breasts and the deterioration of intimate relationships, and also less worry about their reproductive functions. Moreover, partner support was shown to be associated with better SF.

Quality of life (QOL)

The World Health Organization (WHO) defined quality of life (QOL) as "the individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals" [6]. We use different questionnaires developed by the European Organisation for Research and Treatment of Cancer (EORTC), and they were approved for evaluation QOL: The questionnaire EORTC QLQ-C30 was developed to assess the QOL of cancer patients and consists of 30 items including five functional scales: physical, role, cognitive, social functioning and emotional , three symptom scales: pain, fatigue, and nausea/vomiting; scales of the global health status/quality of life; and six individual items or symptoms usually associated with malignant disease: anorexia, dyspnea, insomnia, constipation, diarrhea and financial difficulties following disease treatment. Another questionnaire: the EORTC QLQ-BR23 is a disease-specific module for breast cancer. It consists of 23 items and four functional scales: body image functioning, sexual functioning, sexuality, future health function; and a symptom scale consisting of the side effects of treatment, breast and arm symptoms and hair loss [6].

In general, a lot of studies reported that mastectomy negatively influenced the QOL of patients with breast cancer [10].When compared to conservative surgery, mastectomy showed greater impact on women's QOL in most studies. The advantage of lumpectomy can be explained by its association with a good BI than total ablation of the breast [27].

The Cordova systematic review [28] showed that breast reconstruction is associated with great BI and improved QOL of patients explained by the aesthetic concern with their bodies.

Another factor associated with QOL levels was the age of the patients, however, there were controversies regarding the influence exerted by it.

Limitations of the study

Many different and sometimes generic questionnaires of QOL and sexuality after mastectomy were applied, which complicated the assessment and standardization of results.

In conclusion

Published data regarding BI, sexuality and QoL of mastectomized women were analyzed in this Moroccan study. In our knowledge, it is the first study evaluated the psychological impact of mastectomy in Moroccan women with breast cancer. The majority of studies pointed out evidence that mastectomy is the surgical modality that causes the major impact on body image, sexuality and QOL. These implications need to be considered during therapeutic choice.

Table-1: Socio_demographic characteristics of the study population (N=100)

characteristics	Percentage of patients
Number of patients (n)	100
Mean age (ans)	49 ans
Urban areas (%)	79 %
Rural areas (%)	21 %
Young Patients (between 18 and 50 years)	58 %
Married (%)	67 %
without profession (%)	91%
Illetrate (%)	58 %

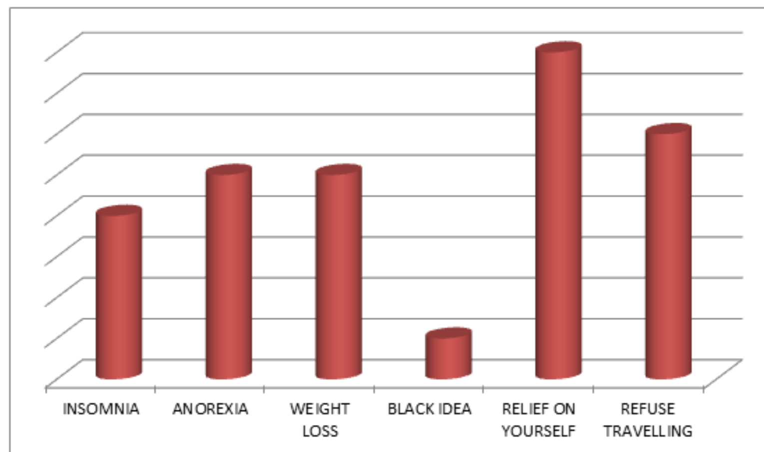

Fig-1: Clinical signs reported by depression patients

Table-2: Frequency and percentage distribution of the studied patients with regard to quality of sexual life

Quality of sexuel life in women patients after mastectomy	
Satisfactory quality of sexual life	**Unsatisfactory quality of sexual life**
50%	50%

Questionnaire: (*translated from Arabic version)*

After the patient's mandatory consent, and explanation of the study objectives clearly, the physician asks the following questions:

Circle the answers:

***Last name and first name**: ....*
***Tel number:**………………………………………………*
***Patient's age:** ....*
***Number of children**: ....*
***Their respective ages**:........................*
***Habitation**: urban rural*
***Level of education**: none primary secondary university*

***Work**: yes (type):……………………….*
no (housewife)

***Particular history of psychiatric pathology:** depression schizophrenia*

Other:...

***Mastectomy**: right breast left breast bilateral*

***Would you have liked a lumpectomy**? Yes No*

***If yes, why?** (Body image, ...).. explain:...*

Interval between mastectomy and patient interview*:…………………..months*

Current clinical signs:
**Pain in front of the scar: yes no*
**chronic intramammary pain: yes no*
**Sequelae of pain in the remaining breast: yes no*
**poor healing: yes no*
**lymphedema of the limb on the patey side: yes no*
**fear of touching the scar: yes no*

Psycho-pathological impact of mastectomy*:*
****denial of the mutilation****: yes no*
****Anguish****: yes no*
****Fear of death:*** *yes no*

****Disruption of self-esteem (loss and self-depreciation of femininity****): yes no*

****Disturbance of body image (difficulty seeing oneself in front of the mirror and looking at one's scar):*** *yes no*

****Feelings of guilt*** *(God is punishing me? did I do something wrong? why it's me?): yes no*

****Feeling of depression and sadness following the loss of the breast****: yes no*
If yes: psychologist follow-up OR TRT or general practitioner OR no follow-up

Clinical signs:
Anorexia Insomnia Weight loss Asthenia Dark thoughts

**** Mood disorder after mastectomy****:*
Anxiety tension nervousness aggressiveness Isolation

****Fear of confronting (spouse, family, neighbors, friends, colleagues):*** *yes no*
**** Loss of interest in activities that are usually pleasant (shopping, sports, traveling etc.):***
Yes no
****Fear and avoidance of prolonged physical effort:*** *yes no*
**** Fear of local or metastatic relapse****: yes no*
**** Fear of going to the Moorish bath (Hammam):*** *yes no*
If yes, ***why?*** *people's eyes: yes no*

**** Has become more religious (prayer, wearing the veil, going to the OMRA, HAJJ****): yes no*

Sexual impact of mastectomy
****Did you need information about possible intimacy or sexuality complaints due to breast cancer and treatment****? Yes no*
****Fear of losing her husband:*** *divorce betrayal*
**** Fear of changing her relationship with her husband****: yes no*
****Less of sexual interest after mastectomy****: yes no*
**** Absence of sexual desire for wife and husband****: yes no*
Clinical symptoms*: difficulty with orgasm dyspareunia insufficient lubrication*
****Increased sexual difficulties prior to patey or chemo****: yes no*
****do you have sexual satisfaction after mastectomy****: yes no*
****Loss of seduction of men (especially if the woman is young and single):*** *yes no*
****Fear of not getting married (question for single women****): yes no*

****Desire for breast reconstruction****: yes no*
If yes, immediate or delayed desire (circle the patient's choice)
If reconstruction done: satisfaction with aesthetic result? Yes no

****Do you talk about your breast cancer and your mastectomy:*** *(circle patient's choice)*
- *with your family with neighbors with children with friends*
- *if YES, did it relieve your anxiety: yes no*

**** If patient received adjuvant chemotherapy****: circle what is YES*
- *depressed feeling following alopecia*
- *memory problems concentration difficulties*
- *loss of appetite chronic fatigue*

****Did the patient receive adjuvant radiotherapy****: yes no*
If yes, cutaneous side effects on scar: radiodermatitis: yes no

****If patient has taken hormonotherapy****: type: tamoxifen, Antiaromatase*
Side effects: Hot flashes night sweats no side effects

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