# EVALUATION OF SEXUAL FUNCTION IN A GROUP OF MASTECTOMIZED WOMEN

## *Avaliação da função sexual em um grupo de mastectomizadas*

## *Evaluación de la función sexual en un grupo de mastectomizadas*

**Original Article**

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**ABSTRACT**

**Objective:** To evaluate the sexual function of mastectomized women. **Methods:** cross-sectional descriptive study conducted between September and October 2012 with 34 mastectomized women, members of a support group, who were sexually active in the last six months. It was used an instrument for collecting sociodemographic (socioeconomic status, marital status and education) and gynecological data (parity, post-surgical time and type of surgery) in addition to the Female Sexual Quotient (FSQ) questionnaire. Results were analyzed using descriptive statistics, the Kruskal-Wallis and Spearman's test with $p \leq 0.05$. **Results:** It was verified a sexual performance that ranged from null to bad in 35.3% (n=12) of women, while only 11.8% (n=4) had a favorable score on FSQ. It was observed a higher percentage of women presenting difficulty in sexual arousal, 88.2% (n=30). Regarding marital status and education, 47.1% (n=16) were married and 55.9% (n=19) had studied up to elementary school. **Conclusion:** The investigated mastectomized women presented low and unsatisfactory sexual function according to the FSQ; they were married and studied up to elementary school.

**Descriptors:** Mastectomy; Sexuality; Women's Health.

***RESUMO***

**Objetivo:** *Avaliar a função sexual de mulheres mastectomizadas.* **Métodos:** *Estudo transversal e descritivo, realizado entre setembro a outubro de 2012, investigou 34 mulheres mastectomizadas e ativas sexualmente nos últimos 6 meses, participantes de um grupo de apoio. Utilizou-se um instrumento de coleta de dados sociodemográficos (condição socioeconômica, estado civil e escolaridade) e ginecológicos (paridade, tempo pós-cirúrgico e tipo de cirurgia), além do Questionário Quociente Sexual (QS-F) - versão feminina. Os resultados foram analisados através da estatística descritiva e dos testes Kruskal-Wallis e Spearman, considerando-se p≤0,05.* **Resultados:** *Encontrou-se um desempenho sexual de nulo a ruim em 35,3% (n=12) das mulheres, e apenas 11,8% (n=4) apresentaram um escore favorável no QS-F. Observou-se uma maior porcentagem de mulheres apresentando dificuldade na excitação com 88,2% (n=30), e quanto ao estado civil e escolaridade, 47,1% (n=16) eram casadas e 55,9% (n=19) apresentaram escolaridade até ensino fundamental.* **Conclusão:** *As mulheres mastectomizadas investigadas apresentaram função sexual baixa e insatisfatória de acordo com o QS-F, eram casadas e apresentavam até o ensino fundamental.*

**Descritores:** *Mastectomia; Sexualidade; Saúde da Mulher.*

***RESUMEN***

**Objetivo:** *Evaluar la función sexual de mujeres mastectomizadas.* **Métodos:** *Estudio transversal y descriptivo realizado entre septiembre y octubre de 2012, con 34 mujeres mastectomizadas, sexualmente activas en los últimos 6 meses y participantes en un grupo de apoyo. Se utilizó un instrumento para recogida de datos sociodemográficos (condición socioeconómica, estado civil y escolaridad) y ginecológicos (paridad, tiempo postquirúrgico y tipo de cirugía) además del Cuestionario Cociente Sexual (CS-F) – versión femenina. Los resultados fueron analizados a través de la estadística descriptiva y las pruebas de KruskalWallis y Spearman, considerando p≤0,05.* **Resultados:** *Se encontro un rendimiento*

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*sexual de nulo a malo en el 35,3% (n=12) de lãs mujeres y solamente el 11,8% (n=4) presentaron una puntuación favorable del CS-F. Se observó mayor porcentaje de mujeres con dificultad de excitación en el 88,2% (n=30), y respecto al estado civil y escolaridad, el 47,1% (n=16) eran casadas y El 55,9% (n=19) presentaron escolaridad máxima de educación básica.* **Conclusión:** *Las mujeres mastectomizadas investigadas presentaron baja e insatisfactoria función sexual según el CS-F, eran casadas y tenían escolaridad máxima de educación básica.*

**Descriptores:** *Mastectomía; Sexualidad; Salud de la Mujer.*

## INTRODUCTION

In Brazil, breast cancer is the most prevalent type of malignant neoplasms among women[1,2]. The *Instituto Nacional de Câncer – INCA* (The National Institute of Cancer) estimated 57,120 new cases for the year 2014, and the number of deaths in the year 2008 reached 12,098, including 11,969 women[1,2].

Because it is a disease whose diagnosis is still delayed, leading to advanced stages, the success of treatment is decreased, causing rates of breast cancer-related deaths to remain high despite the good prognosis when it is diagnosed and treated early[1].

One of the breast cancer treatments is the surgery, which can be breast conserving or mastectomy. Breast-conserving surgeries, characterized by the removal of part of the breast tissue, consist of tumorectomy and quadrantectomy[3]. On the other hand, mastectomies consist in the removal of the breast and can be divided into: modified radical mastectomy, found in two different versions (Patey's operation and Madden's operation); Halsted radical mastectomy; and total mastectomy[4]. Mastectomy, for being an aggressive and traumatizing procedure to women's life and health, causes alterations in the body image, identity and self-esteem, which can affect quality of life and hence sexuality even in patients who had a satisfactory sexual life before the disease[5].

The adverse effects of the treatment, mainly chemotherapy, lead to vulvovaginal atrophy, dyspareunia, vaginal itching and dryness, inhibited sexual desire and arousal, anorgasmia, early menopause, nauseas, vomits, fatigue and alopecia, which can hinder the satisfactory sexual activity. Although the physiological effects tend to decline with time, the impaired sexual function can persist for years in cancer survivors[5,6].

Sexual dysfunction is characterized by the loss of sexual desire, lack of orgasm, arousal disorder, discomfort and/or pain during sex, which hinders one or more phases of this cycle (desire, arousal, orgasm, resolution) and can even prevent it from happening in a certain moment[7]. Its main risk factors can be divided into physical, psychological, psychosocial and socio-demographic[8,9].

One of the forms to assess these dysfunctions is through the application of questionnaires, especially the Female Sexual Quotient (FSQ) questionnaire, which assesses the sexual function of sexually active women, developed for the Brazilian population. It can also be used for the stratification of patients in clinical and observational studies as well as the measurement of the efficacy of the intervention aimed at the treatment of women's sexual dysfunctions[8].

Knowing that sexual dysfunction is recognized by the World Health Organization as a public health problem[10], it is important to approach the sexuality of the mastectomized woman who suffered physical and emotional damages and injuries with consequences on quality of life, since she must be provided with integrated health care by public health professionals[11].

Therefore, this research aimed to evaluate the sexual function of mastectomized women**.**

## METHODS

This is a descriptive cross-sectional study whose data were collected from September to October 2012 in the medical records of participants of the *Grupo Mama Renascer – GRUMARE* (Breast Rebirth Group), a non-governmental organization located in the *Centro Especializado em Reabilitação Municipal (PAM) Salgadinho* (Municipal Specialized Center of Rehabilitation) in the city of Maceió, AL.

The work used a census sample that comprised all the women (n=63) who participated in the NGO at the time of data collection. Inclusion criteria included mastectomized women participating in GRUMARE, who were sexually active in the past six months. Women undergoing chemotherapy or radiotherapy for the treatment of breast cancer, women who adopted conserving techniques for the treatment, women who presented disease recurrence and women who were not found at the time of data collection were excluded from the research. Thus, of the 63 women participating in the NGO, nine did not have sexual relations in the past six months, 12 were not found, four were undergoing chemotherapy or radiotherapy, and four refused to participate in the study, resulting in a total of 29 exclusions. Therefore, the sample consisted of 34 women after inclusion and exclusion criteria.

After collecting medical records, women were contacted through two different ways: a monthly meeting that takes place on the first Wednesday of each month at the NGO headquarters or home visit.

The instruments for data collection were applied only in one meeting, where researchers explained the study objectives and the women willing to participate signed the Free Informed Consent Form.

The first instrument applied by the researchers assessed the following items: age, socio-demographics and education. For the characterization of gynecological and obstetrical data, the variables "parity", "time after surgery" and "type of surgery" were collected.

The type of surgery depended on the clinical staging and histological type of each woman, taking into account the characteristic of the tumor and the stage at the moment of diagnosis. They were classified as conserving surgeries (tumorectomy and quadrantectomy) and non-conserving surgeries (mastectomy, modified radical mastectomy and Halsted radical mastectomy) [12-14]. The modified radical mastectomy can be found in two different versions: Patey's operation, in which the pectoralis minor muscle, the mammary gland and intercostal spaces III, IV and V are not conserved and the axilla is emptied, and Madden's operation, in which pectoralis minor and major muscles, and intercostal spaces are conserved. This type of operation does not empty the axilla and is indicated for cases of ductal carcinoma *in situ*[12,13]. Regarding Halsted radical mastectomy, the breast, the papilla and the underlying pectoralis muscles (minor and major) are not conserved and it includes the axillary lymphadenectomy, often requiring the placement of skin grafts[13,14].

To define the socio-demographic level, this current research followed the guidelines of the *Critério de Classificação Econômica Brasil 2008*[15] (Brazil Criterion of Economic Classification), which takes into account household characteristics to generate a scoring system to define the socioeconomic class, which can be classified in A1, A2, B1, B2, C1, C2, D, E, where A1 corresponds to the highest score (42-46) and E corresponds to the lowest score (0-7)[15].

The socio-demographic form and the Female Sexual Quotient Questionnaire (FSQ) were applied by the researchers in a single 20-minute interview conducted in a reserved place. The FSQ[9] assesses women's sexual performance and domain by domain of this activity through the individualized consideration of the different issues assessed. This validated[9] questionnaire consists of 10 questions arranged into five domains (sexual desire and interest, foreplay, woman's arousal and being in tune with partner, comfort during sex and orgasm, and sexual satisfaction) that should be scored as follows: never (0), seldom (1), sometimes (2), nearly 50% of the times (3), most of the times (4) and always (5). To obtain the result, it is necessary to sum the scores assigned to each question, subtract five scores from question 7 and multiply the result by 2: 2 x (Q1 + Q 2 + Q 3 + Q 4 + Q 5 + Q 6 + [5-Q 7] + Q 8 + Q9 + Q 10) (Q = question) [5-Q 7] = this subtraction should be performed previously so the result can be added to the other questions[9].

The highest the score, the better the sexual performance: 82-100 scores, good to very good; 62-80 scores, regular to good; 42-60 scores, unfavorable to regular; 22-40 scores, bad to unfavorable; 0-20 scores, null to bad. During the validation the cutting point was set at 60 as a form to target female sexual dysfunction[9].

After the application of the instruments, the assessed women were invited to participate in a lecture at NOG on a previously scheduled date.

After the period of assessments, the data obtained were treated using descriptive statistics and presented in tables and graphics. The association between sexual function and secondary variables (type of mastectomy, age, socio-demographic level, marital status and time after surgery) was verified by Kruskal-Wallis nonparametric test and Spearman's correlation coefficient with a significance level of $p \leq 0.05$ using the program SPSS 17.0.

The current research was approved by the Research Ethics Committee of the *Universidade Estadual de Ciências da Saúde de Alagoas – UNCISAL* (State University of Health Sciences of Alagoas) under protocol No. 1870 and met the ethical principles of Resolution No. 196/96 of the *Conselho Nacional de Saúde, do Ministério da Saúde – CNS/MS* (National Health Council of the Ministry of Health).

## RESULTS

The mean age of the 34 women participating in the research was 52.3 (±11.1) years, with a minimum age of 25 and maximum of 72. Table I presents the characteristic of the sample concerning the socio-demographic aspect (socioeconomic status, marital status and education). Regarding marital status and education, 47.1% (n=16) were married and 55.9% (n=19) presented primary education.

There was a prevalence of class C, accounting for 50% (n=17) of the women. Another point verified was that higher social classes were associated with higher FSQ scores; class B presented a mean scoring of 50.6 (unfavorable to regular) and classes D (31.7) and C (22.5) ranged from bad to unfavorable (r=0.349; p=0.043). The comparison between FSQ scores presented significant difference between the distribution of means per social class (p=0.012).

Regarding the gynecological and obstetrical antecedents of the mastectomized women interviewed, Table II shows that parity stands out, with 67.7% (n=23) in women who had two children or less, and 50% (n=17) of the women reported they underwent mastectomy more than five years ago. Concerning the type of surgery, 41.2%

Table I - Socio-demographic characterization of the sample of mastectomized wome participating in the NGO *GRUMARE* of Maceió-AL. 2012.

| Variables | Category | n | % |
|---|---|---|---|
| Socioeconomic level | B | 10 | 29.4 |
| | C | 17 | 50.0 |
| | D | 7 | 20.6 |
| Marital status | Married | 16 | 47.1 |
| | Separated/divorced | 3 | 8.8 |
| | Single | 11 | 32.4 |
| | Widow | 4 | 11.8 |
| Education | Primary | 19 | 55.9 |
| | Secondary | 8 | 23.5 |
| | Higher education | 7 | 20.6 |

n= number of individuals; %= percentage

Table II - Characterization of the gynecological and obstetrical data of the total sample of interviewed mastectomized women of the NGO GRUMARE. Maceió-AL. 2012.

| Variable | Category | n | % |
|---|---|---|---|
| Parity | Up to 2 children | 23 | 67.7 |
| | 3 children | 8 | 23.5 |
| | More than 3 children | 3 | 8.8 |
| Time after surgery | Less than 1 year | 6 | 17.6 |
| | 1 to 5 years | 11 | 32.4 |
| | More than 5 years | 17 | 50.0 |
| Type of surgery | Total | 14 | 41.2 |
| | Halsted | 9 | 26.5 |
| | Others* | 11 | 32.4 |

N = number of individuals; % = percentage; *Patten, Madden and unknown

(n=14) underwent total mastectomy, followed by Halsted radical mastectomy, with 26.5% (n=9).

Of the 34 interviewees, 35.3% (n=12) presented an FSQ scoring that indicated null to bad sexual performance (Figure 1). According to the aspects assessed by the FSQ and the distribution of women's answers, it can be seen in Figure 2 that 88.2% (n=30) of women presented arousal difficulties, followed by the domain "sexual desire and interest", where 82.4% (n=28) of them presented a hypoactive sexual desire or interest.

Women who underwent total mastectomy presented the lowest FSQ scores – 15.9 (null to bad) - , whereas the ones who underwent Madden's modified radical mastectomy presented a mean scoring of 62.4 (regular to good) (p=0.004). This p value corresponds to the comparison between the distributions of means. Since type of surgery is not a numerical variable, it cannot be correlated to the FSQ scoring.

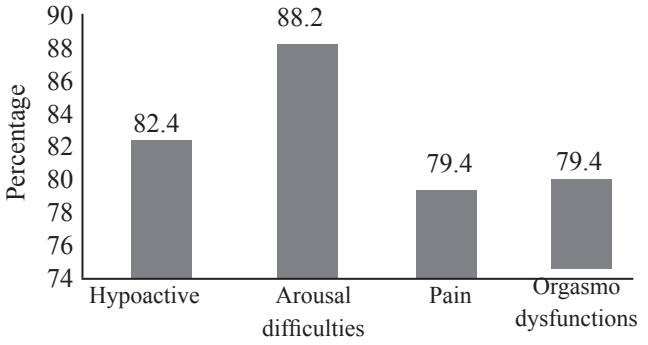


Figure 1 – Final Female Sex Quotient Questionnaire scoring of mastectomized women participating in the research. Maceió-AL, 2012.

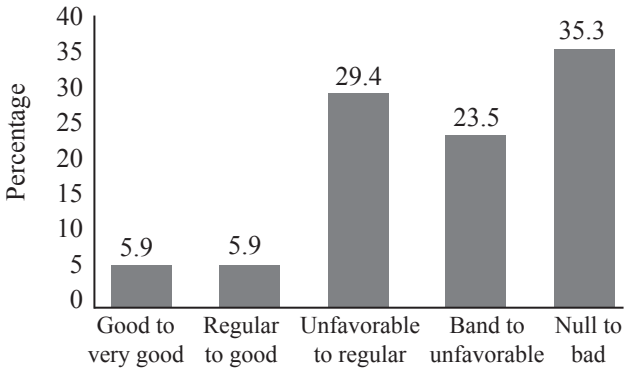


Figure 2 – Main sexual dysfunctions found in the sample studied. Maceió-AL, 2012.

Regarding patients' age, it was verified the existence of a weak negative correlation to the FSQ scoring, indicating that the older the patient is, the lower the score in this questionnaire is (r=-0.360; p=0.036). There was no significant difference between the time after surgery and FSQ scoring (r=-0.303; p=0.198).

## DISCUSSION

Studies on female sexuality and breast cancer have been conducted for years, and most of them assess the psychological impact and quality of life on women's health[2,4,16]. Other studies compare surgical techniques, that is, the benefits of breast-conserving surgeries (tumorectomy, quadrantectomy) vs mastectomies and breast reconstruction[17,18], and the consequences on woman's quality of life[4,19].

The mean age found in this current study was 52.3 years, corroborating with the findings of other studies[17,20,21] in which the age of diagnosis ranged from 45 to 60 years, descending with time and reaching 35 years[1]. From 2008, data indicated that breast cancer has a higher incidence among women over the age of 35, tending to increase and assume progressive characteristics from this age on[1].

Researches show that younger mastectomized women are more affected by sexuality problems[4,22], indicating that they present greater risk of developing psychological stress and sexual dysfunction and greater difficulty to adapt to their new body image – probably because of being unprepared to face this situation and for having their maternity plans abandoned or delayed[4]. This does not corroborate with this current research, which verified that the FSQ scoring lowers as age increases.

In this current study, 47.1% of the married interviewees presented an FSQ result corresponding to the category "unfavorable to regular". On the other hand, there was a prevalence of the score "null to bad" among single interviewees. Another study[4] found that women within a stable relationship presented better results when compared to women who did not have a stable relationship.

More than half of the interviewees (52.9%) studied up to primary school, being the ones who presented the worst FSQ scoring. The same result is observed in another research[20], which verified that 57% of the women presented a low education level, finding a statistical significant correlation in that aspect. In another study[17], most women had completed only primary school, a result that is similar to the one found in this research. It has also been verified in another study[4] that the education level can affect the sexual life of mastectomized women and that college women obtained better scores compared to high school women.

This research found a low socioeconomic status, with 70.6% of the women within class C and D. This can be explained by the fact that the NGO is located in a public medical health care center and these women face difficulties in the access to private care.

A study[22] showed that women from socioeconomic classes A and B obtained the best mean scoring for sexuality when compared to women from classes C and D/E, corroborating with the findings of this research, which verified that women from higher social classes presented higher FSQ scoring and better sexual performance. Half of the women participating in this research underwent the surgery more than five years ago. No significant difference was observed between the time after surgery and the questionnaire scoring, although there was a lowering in the scores as time went on after surgery. Another research[4] shows that the time elapsed after the surgery does not influence aspects of sexuality. On the other hand, another study[23] that followed 191 women undergoing breast cancer treatment observed an increased number of problems related to sexual activity and interest as time went on after surgery. This is explained by the body changes (alopecia, lymphedema, scar and breast amputation) which have not been assimilated by the woman yet, causing problems related to the self-image and hence affecting her sexual life.

All types of breast cancer treatment have a significant impact on self-image, resulting in sexual problems[24,25]; however, other authors[23,26] did not find significant effects on sexual problems when comparing the types of surgery and reported that the only consistent finding is that women who underwent any type of mastectomy – rather than conserving surgeries – present more problems related to body image.

In this current study, the patients who underwent total mastectomy obtained the lowest mean scoring in the FSQ, followed by the ones who underwent Halsted radical mastectomy, with 36.7. These data show that although total mastectomy is the procedure that leaves patients with fewer sequelae, it is still a traumatizing experience due to the changes in body image. Also, this may have occurred because of the prevalence of 47.1% of women with total mastectomy in the sample – characterizing a homogeneous sample – and due to the fact that the mean age of women who underwent this type of surgery was 56 years, the same mean age of the women who obtained the worst scoring, from null to bad.

Regarding the FSQ results for sexual satisfaction and performance, most of the women (35.3%) analyzed in this research were classified in the category null to bad, 29.4% as unfavorable to regular and just a few reached a scoring classified as good to very good and regular to good, with 5.9% in both. This differs from a study[20] that used the FSQ with 42 mastectomized women and found only 7.1% of them classified as null to bad and 40.5% as favorable to regular. Another research[26] conducted with 11 mastectomized patients revealed that 36.36% of the women presented an unfavorable to regular performance, whereas 45.46% were classified as regular to good, and none presented the worst category. This difference may have occurred because one of the studies[26] comprised only married women attending physiotherapy treatment in a clinic school and another[20] used data of patients who were under rehabilitation at a big hospital, which may have favored a better acceptance of their bodies and a reduction of sequelae due to the rehabilitation.

The literature confirms the high prevalence of sexual dysfunctions in mastectomized women, ranging from 50 to 90%[20,22,24,27,28], corroborating with the finding of this current research, in which 88.2% of the women presented at least one sexual dysfunction. Additionally, of the 34 women, 88.2% presented arousal difficulties, 82.4% hypoactive sexual desire, and 79.4% reported dyspareunia and anorgasmia.

Sexual dysfunction may follow physiological and surgical alterations and self-image changes. It can also be caused by medications or treatments that inhibit the sex drive or cause vaginal atrophy and dryness. These symptoms can coexist with the course of the disease and in the post-treatment period, and may be the reason why sexual dysfunctions are so frequent in cancer patients[5,6,29].

The limitations of this current study were the interviewees' social classes (unfavorable classes) and type of surgery (total mastectomy), which can cause worse prognosis and FSQ results. These results show how much the mastectomized woman holds back sex, making sex unpleasant due to her self-image and esteem that have been altered by the non-conserving treatment. New studies should be held using larger samples in order to demonstrate that mastectomized women's sexuality is negatively affected and hence promote a broad knowledge of the consequences of procedures and diseases on it, improving the objectives of public policies and performance of healthcare professionals.

## CONCLUSION

According to the results found in this study, most of the assessed mastectomized women showed a low and unsatisfactory sexual function according to FSQ, were married and studied up to primary school.

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