FACTORS ASSOCIATED WITH SEXUAL HEALTH IN PATIENTS SUBJECTED TO BARIATRIC SURGERY

ABSTRACT

Objective: to investigate the factors associated with the sexual health of patients subjected to bariatric surgery. Methods: this is a cohort performed with 387 patients who were subjected to bariatric surgery between the years 2012 and 2014, in a general and private hospital in Minas Gerais. The information was collected through electronic medical records and the telephone. Results: women (87.60%); brown (self-declared) color (49.84%); with education from 11 to 14 years (32.57%); lived with a partner (69.06%); and average income of one to three minimum wages per household (54.79%). Median age was 36 years (IQ=30-43). When analyzing the improvement in sexual performance after the surgical procedure, 214 (71.33%) of the patients highlighted improvement in this aspect. Of these, 32 (14.95%) were male and 182 (85.04%) were female. Sociodemographic factors in the studied scenario, except for age in males, showed no statistical difference in the improvement of sexual performance after bariatric surgery. Conclusion: surgical treatment can have a positive impact on the patient's sexual life and these results can alert health institutions to optimize their assistance. Thus, health professionals, especially nurses, play a fundamental role in understanding what factors are associated with improving patients' sexual lives, allowing the prevention of complaints and effective intervention measures. Keywords: Bariatric Surgery; Obesity; Epidemiology; Sexual Health.
INTRODUCTION

Obesity is on the rise worldwide. The World Health Organization (WHO)\(^1\) estimates that 600 million people are obese, equivalent to 13.0% of the world population. In addition, obesity is the main nutritional problem in high-income countries, representing one of their biggest public health problems.\(^2\)

In Brazil, 18.9% of Brazilians are obese, with the prevalence of overweight being 57.7% in men and 50.5% in women.\(^3,4\) Data from the Risk Factors Surveillance System and Protection for Chronic Diseases by Telephone Survey (VIGITEL)\(^5\) reveal that the proportion of obese people in the Brazilian population grew 60.0% from 2006 to 2016 and that 55.7% of the Brazilian population were overweight and 19.8% of Brazilians had obesity.

The obese individual, fleeing from the imposed aesthetic standard, often feels marginalized in society, which directly affects their self-esteem and confidence in affective relationships.\(^5\) This marginalization also makes obesity an interference for the individual in the social role, as a subject and, particularly, in the experience of his sexual life - since the body is also conceived with the objective of affirming identity. Obesity is associated with several comorbidities, and much of the impact on the sexual health of obese patients is caused by aspects of the psychosocial realm, such as feelings of rejection, low self-esteem, feelings of inferiority and negative perception of body image. These issues can negatively influence the sexuality experienced by these individuals, thus affecting the emotional and, consequently, sexual health.\(^4\)

The WHO defines sexual health as a physical, emotional, mental and social state of well-being in relation to sexuality and is not merely the absence of disease, dysfunction or weakness. In addition to the body, sexuality involves feelings, life history, customs, affective relationships and culture. Therefore, it is a fundamental dimension of the lives of men and women. And when incorporated into health actions, it aims to contribute to improving people’s quality of life.\(^4\)

Sexuality in contemporary culture brings with it marks of standards and values, mainly associated with thin people.\(^7\) The body has become a capital, as advocated by Bourdieu, current fashion goes beyond designer clothes, the body itself is a fashion project and those who do not fit this aesthetic pattern are marginalized.\(^7\) Obesity becomes an interference for the individual to have recognized his/her social role, as a subject especially in the experience of sexual life.\(^6,8\)

In this context, it is emphasized that bariatric surgery (BS) is an effective measure for cases of severe obesity, with documented failure of clinical treatment. BS, according to the Federal Council of Medicine,\(^9\) is indicated in cases of body mass index (BMI) above 40 kg/m\(^2\) or above 35 kg/m\(^2\), in cases of patients with other diseases that worsen in the association with obesity.

BS can contribute to the improvement in the sexual health of patients submitted to it;\(^10\) with a positive impact on their quality of life.\(^9\) Surgery can also help the subject in his insertion in society, where he previously felt excluded.\(^6\) The weight reduction promotes increased satisfaction with body image, contributing to improve self-esteem and social life, reflecting positively on the experience of sexuality.\(^4\)

It is also emphasized that health professionals, especially nurse(s), need to be prepared to guide their patients about aspects of sexual life. Health professionals, in general, find it difficult to address aspects related to the sexuality or sexual health of their patients. This is an issue that raises controversy, as the understanding of sexuality is marked by prejudices and taboos and health professionals do not feel prepared or feel uncomfortable in dealing with the issue. This topic is often not discussed during the process of academic training of these professionals. And when it is, the focus is on anatomical and pathological aspects, and psychosocial factors or the sexual needs of individuals are not addressed\(^11\), even though they are essential issues to enable professionals to have a comprehensive view of
In this study, sociodemographic variables (gender, age, race, education, marital status and income), clinical variables (related to comorbidities and hospitalization - systemic arterial hypertension, diabetes mellitus, follow-up with a nutritionist, psychologist, postoperative time) were considered, epidemiological (weight, BMI) and lifestyle (nutritional habits, physical activity and physical inactivity), all existing in the data collection questionnaires in electronic medical records and in telephone interviews.

Data analysis was performed through the distribution of absolute and relative frequencies and the 95% confidence interval (95% CI) for categorical variables. Furthermore, for the comparison of the studied variables and the improvement in sexual performance after surgery (dependent variable) by sex, Pearson's chi-square test or Fisher's exact test was used. For continuous variables, the distribution symmetry was verified by the Shapiro-Wilk test. The results were presented by means and standard deviation (SD) for the variables that followed parametric and median distribution and interquartile range (IQ) for those with non-parametric distribution. To compare the median age and the outcome variable, the Mann-Whitney non-parametric test was used.

The results were presented in the form of tables. It is noteworthy that the totals of the numbers of the variables may vary, due to the absence of some data, for the variables studied.

The analyzes were performed using the Stata software version 14.0. The significance level of 5% (p<0.05) was adopted for all analytical procedures.

The study was approved by the Research Ethics Committee of the Universidade Federal de Minas Gerais (CAAE 52657115.2.0000.5149) and Opinion Report Nr. 1,503,789. All participants gave their verbal consent over the phone, in accordance with the ethical guidelines described in Resolution Nr. 466, of December 12, 2012, of the National Health Council, which involve research with human beings.

It is noteworthy that the signing of the Free and Informed Consent Term (ICF) was waived, since the second phase of the research took place by telephone, making it impossible to sign.
RESULTS

The sample consisted mainly of women (87.62%). The median age of the participants was 36 years old (IQ=30-43), the majority declared themselves to be brown (49.84%), had 11 to 14 years of study (32.57%), lived with a partner (69.06%) and had an average income per household of one to three minimum wages (54.79%) (Table 1).

In the studied sample, on average, 29.92 months (SD=± 10.67) had passed since the surgery and 159 (51.79%) patients had more than two and a half years after the operation.

When analyzing the improvement in sexual performance after the surgical procedure, 214 (71.33%) of the patients reported that there was an improvement in this area of their life. Of these, 32 (14.95%) were male and 182 (85.04%) were female (data not shown).

Among men, the majority (62.50%) of those who reported improved sexual performance after bariatric surgery lived with a partner. The median age of those who reported improved sexual performance was 33.50 years (IQ=28-41). Most did not have psychological counseling (87.50%), accepted their physical appearance (100%) and they were satisfied with themselves (100%). In addition, the largest proportion (92.86%) of these reported having a low frequency of negative thoughts (Table 2).

Of the group of women who improved their sexual performance after the surgical procedure, the majority (70.33%) lived with a partner. Their median age was 36 years (IQ 30-41). Most did not have psychological counseling (78.02%), accepted their physical appearance (98.35%) and were satisfied with themselves (98.13%). In addition, the largest proportion declared having a low frequency of negative thoughts (89.17%) (Table 2).

When comparing these factors with the improvement in sexual performance after bariatric surgery, male age showed a statistical difference (p-value <0.05) (Table 2).

Among the 214 patients who reported improved sexual performance, the perception of 170 is that the most common reason was identified as more energy and less tiredness (53.53%). Then, the improvement of self-esteem (25.29%), in all aspects (21.18%), will (10.00%) and physical capacity (2.35%), respectively. Three patients stated a decrease in

Table 1 - Sociodemographic characteristics of patients subjected to bariatric surgery - Contagem, MG, Brazil, 2016

| Variable                                | N    | %     | IC95%*     |
|-----------------------------------------|------|-------|------------|
| Gender                                  |      |       |            |
| Male                                    | 38   | 12.38 | 0912-1658  |
| Female                                  | 269  | 87.62 | 8341-9088  |
| Age in years**                          | 36   | 30-43 |            |
| Self-reported skin color                 |      |       |            |
| White                                   | 102  | 33.22 | 2815-3872  |
| Black                                   | 46   | 14.98 | 1139-1945  |
| Brown                                   | 153  | 49.84 | 4424-5544  |
| Yellow/Indigenous                       | 6    | 1.95  | 0088-0430  |
| Education (in years of study)           |      |       |            |
| 1 to 3                                  | 6    | 1.97  | 0088-0434  |
| 4 to 7                                  | 66   | 21.71 | 1741-2673  |
| 8 to 10                                 | 62   | 20.39 | 1621-2533  |
| 11 to 14                                | 99   | 32.57 | 2750-3807  |
| > 15                                    | 71   | 23.36 | 1891-2847  |
| Lives with a partner                    |      |       |            |
| Yes                                     | 212  | 69.06 | 6363-7400  |
| No                                      | 95   | 30.94 | 2600-3637  |
| Average income per household***         |      |       |            |
| No income or up to 1 minimum wage       | 28   | 9.59  | 0669-1356  |
| 1 to 3 minimum wage                     | 160  | 54.79 | 4901-6045  |
| 3 to 5 minimum wage                     | 69   | 23.63 | 1908-2887  |
| > 5 minimum wage                        | 35   | 11.99 | 0871-1627  |

Notes: *Interval of confidence. **Median (IQ). ***Average household income calculated based on the minimum wage of R$788.00.
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A previous study demonstrated an association between depressive symptoms and reduced sexual performance for men and women, differently from the results found in this research. The same study also shows a statistical association between marital status for men and worse sexual function, a result not found in our study. In the present study, a higher median age was associated with no improvement in sexual performance in men. Although there are changes in the sexual function of men after bariatric surgery, with an increase in sexual desire and which reflects in the improvement of the quality of sexual life, advanced age in men is associated with worsening sexual function.

Recent research reports the negative impact of psychological unpreparedness in the postoperative period on adherence to treatment and that some patients were unable to regain self-esteem, in addition to gaining weight again, favoring isolation and hindering the experience of sexuality. In our study, most of the sample showed improvement in sexual performance, but did not undergo psychological/psychiatric monitoring.

In this study, among the patients who showed improvement in sexual performance, one of the reasons was the decrease in the shame they felt about their bodies. It is known that more dissatisfaction with physical appearance implies a worse quality of sexual life. Non-acceptance of one’s appearance produces anxiety.

**DISCUSSION**

This study analyzed the potential individual factors associated with sexual health in patients subjected to bariatric surgery in a general and private hospital, explaining that sociodemographic factors in the studied scenario, except for age in males, did not show significant differences in the improvement in sexual performance. This fact reinforces that the assistance provided by the multiprofessional team and the success of the surgical treatment can bring benefits to the operated patient’s sexual life. It was also observed that the majority of patients reported improved sexual performance after bariatric surgery, reinforcing that successful surgery can have positive impacts on the sexual life of the operated people.

**Table 2 - Comparison of improvement in sexual performance with individual variables after bariatric surgery - Contagem, MG, Brazil, 2016**

| Variable                        | Male                                      | p-value | Female                                      | p-value |
|---------------------------------|-------------------------------------------|---------|---------------------------------------------|---------|
|                                 | Improvement in sexual performance after the surgical procedure |         |                                             |         |
| Lives with a partner*           | Yes (62.50) | 5 (83.33) | Yes (20.33) | 57 (71.25) | 0.67     | 0.88 |
|                                 | No (37.50)  | 1 (16.67) | No (29.67)  | 23 (28.75) |           |      |
| Age**                           | 33.50 (28.41)| 47.00 (44.60)| 0.03***    | 36.00 (30.00-41.00) | 38.00 (32.00-43.50) | 0.06 |
| Psychological/psychiatric monitoring* | Yes (12.50) | 1 (16.67) | Yes (21.98) | 22 (27.50) | 1.00     | 0.33 |
|                                 | No (87.50)  | 5 (83.33) | No (78.02)  | 58 (72.50) |           |      |
| Acceptance of physical appearance* | Yes (100.00) | 6 (100.00) | Yes (98.35) | 76 (95.00) | 1.00     | 0.15 |
|                                 | No (0.00)   | 0 (0.00)  | No (1.65)   | 4 (5.00)    |           |      |
| Self-esteem*                    | Yes (100.00) | 6 (100.00) | Yes (98.35) | 76 (95.00) | 1.00     | 0.36 |
|                                 | No (0.00)   | -         | No (0.00)   | -           |           |      |
|                                 | Yes (100.00) | 5 (100.00) | Yes (98.13) | 64 (95.52) | 1.00     | 0.05 |
| Negative thoughts (bad mood, despair, anxiety, depression)* | Yes (92.86) | 6 (100.00) | Yes (89.17) | 54 (79.41) | 1.00     | 0.05 |
|                                 | No (7.14)   | 0 (0.00)  | No (10.83)  | 14 (20.59)  |           |      |

Notes: *Pearson’s chi-square test or Fisher’s exact test; **median (IQ); ***p-value <0.05 (Mann-Whitney test).
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in the obese person about being accepted by others and anxiety is one of the main factors of sexual dysfunction, especially in women.\(^1\)

In this work, all the men in the sample and the majority (98.35%) of the women accept their physical appearance. It is emphasized that the alteration of body image can influence the appraisal of self-image, self-concept and, consequently, the subject’s self-esteem. The individual’s psychosocial behavior often benefits significantly after one year of surgery and the variation in behavior is directly related to the degree of weight loss.\(^2\) The weight reduction due to bariatric surgery makes women feel better about their bodies and themselves. This improvement in self-esteem and the decrease in anxiety can contribute to improvements in the sexual life of these women.\(^3\) In the speech of the women in this research who reported improvement in sexual performance after bariatric surgery, 25.29% attributed this difference to self-esteem. It is registered that, for a healthy and satisfactory sexual life, it is important to increase self-esteem through self-acceptance.\(^4\)

Finally, in the testimonies of the sample of this study, other physiological factors that could potentially cause an improvement in sexual performance after the surgical procedure were also identified (such as increased energy/mood/less tiredness, increased sexual performance and libido, interference with decreased weight and increased duration of the sexual act) and psychosocial factors (more self-esteem, willingness/interest and less shame). Biological issues, especially fatigue, are factors of great influence on sexual experience. However, psychosocial factors were also mentioned, as women claim to be ashamed of themselves and perceive parts of their bodies fleeing the aesthetic pattern, causing discomfort and decreasing the quality of sexual life.\(^5\)

Lastly, it is important to consider some limitations of this study, including sample loss during data collection, which may have influenced the absence of statistical significance in some of the results presented. In addition, to our knowledge, there is a shortage of national works in private hospitals focused on the theme that present a large sample such as this work, making it difficult to compare the results found with those of the available international studies. It is relevant to note that sensitivity analyzes were performed between the losses and the final sample and, except for the color, no significant differences were found between them.

CONCLUSION

This study undoubtedly contributes to alert health professionals and institutions about the importance of qualified care and that meets the individual needs of each patient, particularly in relation to the sexual health of patients subjected to bariatric surgery.

Understanding the factors associated with improving patients’ sexual life favors professionals to explore concepts and modify health policies and practices that aim at comprehensive care for people and, therefore, more resolutive.

Finally, it is expected that undergraduate courses in the health area implement, based on the National Curriculum Guidelines, a curriculum that promotes the training of professionals attentive not only to biological aspects, but also to the psychosocial factors that affect the health of individuals.
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