



# Evaluation of Long-Term Sexual Satisfaction in Women Submitted to Laparoscopic Sacrocolpopexy: Retrospective Tertiary Center Study

## *Avaliação da Satisfação Sexual a Longo Prazo de Doentes Submetidas a Sacropexia Laparoscópica: Estudo Retrospectivo de um Centro Terciário*

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### Abstract

**Introduction:** Traditional treatments for apical compartment prolapse and multicompartiment prolapse, such as open sacrocolpopexy, have been associated with concerns regarding sexual function. In recent years, laparoscopic or robotically assisted sacrocolpopexy has emerged as an alternative with potential benefits, including enhanced visualization, symptom relief, and comparable anatomical results. However, the impact of laparoscopic sacrocolpopexy (LSP) on long-term sexual satisfaction in women remains an important area of investigation.

This retrospective tertiary center study aimed to evaluate the long-term sexual satisfaction in women who underwent LSP for the treatment of POP. The objective was to assess postoperative sexual satisfaction among patients with a history of active sexual life before the surgery.

**Methods:** A total of 30 patients who underwent laparoscopic sacrocolpopexy between August 2014 and December 2016 were included in the analysis. The patients' sexual satisfaction was assessed using The New Sexual Satisfaction Scale, a validated questionnaire in the Portuguese language with a mean follow-up of 7 years. Baseline characteristics, surgical and function outcomes were also evaluated.

**Results:** Among the participants, 70% remained sexually active after the surgery. The mean score on The New Sexual Satisfaction Scale was 75.1, indicating a moderate to very satisfied level of sexual satisfaction. Out of the patients who reported a change in their sexual satisfaction after surgery, 69.2% would still recommend the procedure to others. The mean rate of global satisfaction with the surgery was 6.97 out of 10, with 83.3% of the patients recommending the surgery to someone else.

**Conclusion:** The study provides valuable insights into the impact of laparoscopic sacrocolpopexy on sexual well-being in women

with POP. Despite potential changes in sexual function, the majority of patients remained sexually active and perceived the procedure as beneficial, expressing overall satisfaction and recommending it to others. The findings highlight the importance of considering sexual function in the management of POP and suggest that LSP can be an effective treatment option that preserves sexual activity. However, further studies with larger sample sizes and comprehensive assessments are warranted to better understand the complex relationship between pelvic organ prolapse surgery, sexual function, and patient outcomes.

**Keywords:** Laparoscopy; Patient Satisfaction; Pelvic Organ Prolapse/surgery; Sexual Behavior; Urologic Surgical Procedures

### Resumo

**Introdução:** O tratamento tradicional para o prolapso apical e multicompartimental, como a sacrocolpopexia aberta, tem sido associado a preocupações relacionadas à função sexual. Nos últimos anos, a sacrocolpopexia laparoscópica ou assistida por robot tem surgido como uma alternativa com potenciais benefícios, incluindo melhor visualização, alívio de sintomas e resultados anatómicos comparáveis. No entanto, o impacto da sacrocolpopexia laparoscópica (LSP) na satisfação sexual de longo prazo em mulheres é uma área de investigação importante.

Este estudo retrospectivo num centro terciário teve como objetivo avaliar a satisfação sexual a longo prazo de mulheres submetidas a LSP para o tratamento do POP. O objetivo foi avaliar a satisfação sexual pós-operatória em doentes com vida sexual ativa antes da cirurgia.

**Métodos:** Foram incluídas na análise 30 pacientes submetidas a sacrocolpopexia laparoscópica entre agosto de 2014 e dezembro de 2016. A satisfação sexual das pacientes foi avaliada através do questionário *The New Sexual Satisfaction Scale*, um questionário validado em língua portuguesa, com uma média de *follow-up* de 7 anos. Características demográficas, resultados cirúrgicos e funcionais foram avaliados.

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**Resultados:** Entre as participantes, 70% permaneceram sexualmente ativas após a cirurgia. A pontuação média em *The New Sexual Satisfaction Scale* foi de 75,1, indicando um nível moderado a muito satisfeito de satisfação sexual. Entre as pacientes que relataram uma mudança na sua satisfação sexual após a cirurgia, 69,2% ainda recomendariam o procedimento a outras pessoas. A taxa média de satisfação global com a cirurgia foi de 6,97 em 10, e 83,3% das pacientes recomendaram a cirurgia a outras pessoas.

**Conclusão:** O estudo oferece *insights* valiosos sobre o impacto da sacrocolpopexia laparoscópica no bem-estar sexual em mulheres com POP. Apesar das possíveis mudanças na função sexual, a maioria das pacientes permaneceu sexualmente ativa e reconheceu o procedimento como benéfico, expressando satisfação geral e recomendando-o a outras pessoas. Os resultados destacam a importância de considerar a função sexual no tratamento do POP e sugerem que a LSP pode ser uma opção de tratamento eficaz que preserva a atividade sexual. No entanto, estudos adicionais com tamanhos de amostra maiores e avaliações abrangentes são necessários para compreender melhor a relação complexa entre a cirurgia de prolapso de órgãos pélvicos, função sexual e resultados do paciente.

**Palavras-chave:** Comportamento Sexual; Laparoscopia; Prolapso de Órgão Pélvico/cirurgia; Procedimentos Cirúrgicos Urológicos; Satisfação do Doente

## Introduction

Pelvic organ prolapse (POP) is a prevalent condition among older women that can significantly affect bladder, bowel, and sexual function.<sup>1</sup>

Transvaginal mesh has been criticized, at least in young women, as major complications may occur including serious sexual dissatisfaction.

While sacrocolpopexy has been considered the gold standard treatment for apical compartment prolapse and multicompartiment prolapse, there are concerns regarding its potential impact on sexual function.<sup>2</sup>

Although the procedure has traditionally been performed as an open surgery, recent evidence suggests that laparoscopic or robotically assisted sacrocolpopexy can be successful alternatives, offering benefits such as enhanced visualization of fine structures, symptom relief, lower morbidity rates, with comparable anatomical results.<sup>3</sup>

Sexual satisfaction is a crucial aspect of overall well-being and quality of life for women even among elder women. Pelvic organ prolapse (POP) is a common condition that can negatively impact sexual function due to anatomical changes and associated symptoms.<sup>4</sup>

However, the impact of LSP on sexual satisfaction in women remains an important area of investigation.<sup>2</sup>

Improving the quality of life is a critical objective in managing pelvic organ prolapse in women. Surgical interventions, as well as non-surgical approaches such as lifestyle optimization, physical therapies, and pessaries, aim to address symptoms and improve overall well-being. Various questionnaires and instruments have been utilized to assess the impact of POP treatment on quality of life, with some specific to sexual function.<sup>5</sup>

Identifying factors that contribute to sexual satisfaction after LSP can guide surgical decision-making and postoperative care.

It can help healthcare professionals report potential concerns and develop appropriate interventions to optimize sexual well-being in women undergoing LSP. Additionally, assessing sexual satisfaction can provide valuable insights into the overall success of LSP as a treatment for POP.

Considering the importance of sexual function in adult life, it is essential to address the impact of pelvic organ prolapse treatment on sexual well-being. Research has shown a negative influence of symptomatic POP on sexual function in women, and sexual concerns are among the top priorities for patients undergoing reconstructive surgery.

However, data regarding the impact of POP surgery on sexual function are limited.

We aim to evaluate the long-term sexual satisfaction in women submitted to laparoscopic sacrocolpopexy, applying the new sexual satisfaction scale.

## Material and Methods

This study employed a retrospective cohort design to evaluate the long-term postoperative sexual satisfaction of patients who underwent laparoscopic sacrocolpopexy (SCO).

The objective was to assess the long term postoperative sexual satisfaction among patients with a history of active sexual life before the surgery.

The study was conducted at the University Central Lisbon Hospital Center. The sample consisted of patients who underwent laparoscopic sacrocolpopexy from August of 2014 until December of 2016.

Out of the 71 patients operated, a total of 30 patients had an active sexual life before the surgery. All patients were operated by the same surgeon. This surgeon has experience in more than 100 procedures.

The selection of participants was based on the availability of complete data regarding preoperative and postoperative sexual function (twenty-two patients without data in regards to pre-operative sexual function and 4 patients did not reply to questionnaire).

The presence of preoperative active sexual life was determined by reviewing the clinical records of the patients.



To assess the current sexual satisfaction, the patients with sexual activity in present completed a telephonic survey called The New Sexual Satisfaction Scale (Fig. 1). The phone calls were made by an external person.

This questionnaire has been validated in the Portuguese language.<sup>6</sup>

This questionnaire is a instrument that measures global sexual satisfaction regardless of gender, sexual orientation, or relationship status.<sup>7</sup>

Besides that, all three more questions were applied to patient: “In a scale of 0 to 10, how satisfied are you with the surgery?”; “Do you think that the surgery changed your sexual satisfaction? If yes, negative or positively?”; “Would you recommend this surgery to someone else that has the same disease?”

The primary variable of interest was the long-term postoperative sexual satisfaction of the patients.

The data collected from the telephonic survey were analyzed

using statistical analysis using SPSS version 29. Descriptive statistics, such as means, frequencies, and percentages, were used to summarize the data.

In regards to continuous variables, the between-group differences will be assessed using different statistical hypothesis tests according to the number of samples to compare, the population data distribution (parametric if normally vs non-parametric if not normally distributed) and type of samples (independent vs related).

In regards to categorical variables, that were expressed in frequencies and percentages, the between-group differences were assessed using Chi-square test or Fisher’s Exact test.

The two-tailed tests will be considered statistically significant at a *p* value of less than 0.05

### Results

All patients were submitted to laparoscopic SCO from August of 2014 until December of 2016.

## The New Sexual Satisfaction Scale

Thinking about your sex life during the last six months please rather your satisfaction with the follow aspects:

	1 Not at all Satisfied	2 A Little Satisfied	3 Moderately Satisfied	4 Very Satisfied	5 Extremely Satisfied
1. The intensity of my sexual arousal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The quality of my orgasms.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. My “letting go” and surrender to sexual pleasure during sex.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. My focus/concentration during sexual activity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. The way I sexually react to my partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. My body’s sexual functioning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. My emotional opening up in sex.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. My mood after sexual activity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. The frequency of my orgasms.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. The pleasure I provide to my partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. The balance between what I give and receive in sex.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. My partner’s emotional opening up during sex.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. My partner’s initiation of sexual activity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. My partner’s ability to orgasm.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. My partner’s surrender to sexual pleasure (“letting go”).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. The way my partner takes care of my sexual needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. My partner’s sexual creativity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. My partner’s sexual availability.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. The variety of my sexual activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. The frequency of my sexual activity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 1: The New Sexual Scale



Thirty patients with sexual activity previous to surgery were selected and 21 remained sexually active (70% of patients).

The baseline characteristics were presented in Table 1.

Two patients had been submitted to previous POP surgery (anterior colporrhaphy) and after SCO they do not have sexual activity.

Just one patient had an intra-operative complication, that was a bladder perforation with primary suture. Three patients had POP recurrence and two of them were submitted to transvaginal colporrhaphy during the follow-up.

One of the patients who underwent transvaginal colporrhaphy mentioned experiencing dyspareunia before the surgery, and this

symptom persisted after the procedure. However, the surgery did not affect her overall sexual satisfaction. She rated her level of sexual satisfaction as 40 on the new scale of sexual satisfaction of 0 to 100. Nonetheless, she would recommend the surgery to others and rated her overall satisfaction with the surgery as 7 on a scale of 0 to 10.

The other two patients with recurrence are currently not sexually active, and both reported that the surgery negatively impacted their sexual satisfaction. One of them would not recommend the surgery to others, while the other patient would.

The mean rate of global surgery satisfaction was 6.97 (0.32), on a scale from 0 up to 10, and twenty-five patients (83.3%) recommended this surgery to someone else.

**Table 1.** Baseline demographics

	Sexually active after surgery	Not sexually active after surgery	p value
N (%)	21 (70%)	9 (30%)	
Follow-up, Mean (SD)	90.5 (12.2)	84.0 (5.6)	0.86
Age Y, Mean (SD)	56.9 (6.6)	60.6 ± 3.2	0.126
Smoker (%)	Yes 1 (5.6%) No 17 (94.6%)	Yes 2 (22.2%) No 7 (77.8%)	0.250
DM (%)	Yes 5 (25%) No 15 (75%)	Yes 3 (33.3%) No 6 (66.7%)	0.675
BMI, Mean (SD)	28.4 (4.3)	28.7 (3.1)	0.842
Previous HT (%)	Yes 4 (19%) No 17 (81%)	Yes 2 (22.2%) No 7 (77.8%)	0.600
UUI (%)	Yes 4 (20%) No 16 (80%)	Yes 2 (28.6%) No 5 (71.4%)	0.633
SUI (%)	Yes 8 (60%) No 12 (40%)	Yes 5 (62.5%) No 3 (37.5%)	0.410
Concurrent HT (%)	Yes 11 (52.4 %) No 10 (47.6 %)	Yes 3 (66.7%) No 6 (33.3%)	0.440
N° child-birth, mean (SD)	2.6 (0.8)	2,4 (0.9)	0.799
Global satisfaction with surgery, mean (SD)	<b>7.6 (1.3)</b>	<b>5.6 (1.6)</b>	<b>0.001</b>
Changes in sexual satisfaction (%)	Yes 12 ( 57.1%) No 9 (42.9 %)	Yes 7 (77.8 %) No 2 (22.2 %)	0.419
Positive versus negative changes (%)	Positive 6 (50%) Negative 6 (50%)	Positive 0 (0%) Negative 7 (100%)	<b>0.044</b>
Recommendation of the same surgery to someone else	Yes 20 (95.2%) No 1 (4.8 %)	Yes 5 (55.6 %) No 4 (44.4 %)	<b>0.019</b>



In fact, the sexually active women active after surgery were younger, but there was not a statistically significant difference.

Also, the mean of The New Sexual Satisfaction Scale was 75.1 (2.8) (between the moderate satisfied to very satisfied, on a scale from 0 up to 100).

In fact, nineteen patients (63.3%) answered that the surgery changed their sexual satisfaction, for thirteen of them the change was negative and for six was positive.

The patients that the change of their sexual satisfaction was negative, nine patients (69.2%) would recommend the same surgery to someone else.

### Discussion and Conclusion:

In this study, we aimed to evaluate the long-term sexual satisfaction in women who underwent laparoscopic sacrocolpopexy (LSP) for the treatment of POP. Our findings provide valuable insights into the impact of LSP on sexual well-being and can guide surgical decision-making and postoperative care.

The study sample consisted of patients who underwent LSP between August 2014 and December 2016, and the selection was based on the availability of complete data regarding preoperative and postoperative sexual function. Out of the 71 operated patients, 30 patients with an active sexual life before the surgery were included in the analysis. The sexual satisfaction of these patients was assessed using The New Sexual Satisfaction Scale, a validated questionnaire in the Portuguese language.

Our results showed that 70% of the patients remained sexually active after the surgery. This indicates that LSP does not necessarily have a negative impact on sexual function and supports the effectiveness of the procedure in addressing POP symptoms while preserving sexual activity.

The New Sexual Satisfaction Scale was utilized in this study to assess sexual satisfaction, and the mean score of 75.1 indicates a moderate to very satisfied level. This aligns with the findings of Christmann-Schmid *et al*, (2018), where the most participants reported improved orgasmic function and reduced sexual distress, suggesting an overall positive impact on sexual well-being.

In studies of Lucot *et al*, (2022) and Perez *et al*, (2011), the participants reported enhanced sexual satisfaction despite potential changes in sexual function.

Interestingly, 63.3% of the patients in this retrospective reported a change in their sexual satisfaction after the surgery. Out of these patients, 69.2% who experienced a negative change would still recommend the same surgery to someone else.

This finding suggests that although some patients may experience a decrease in sexual satisfaction, they still perceive the surgery as beneficial and would recommend it to others.

It is important to note that the mean rate of global satisfaction with the surgery was 6.97 out of 10, indicating a generally positive perception of the procedure. Additionally, 83.3% of the patients

recommended the surgery to someone else, further highlighting the overall satisfaction and perceived benefits of LSP for POP treatment.

Several baseline characteristics were evaluated to assess their potential influence on sexual satisfaction. Age, smoking status, diabetes mellitus, body mass index, urinary incontinence, and previous hysterectomy did not show statistically significant differences between sexually active and inactive patients after surgery. This suggests that these factors may not be strong predictors of postoperative sexual satisfaction in women who undergo LSP.

In terms of baseline characteristics, the percentage of patients who remained sexually active after surgery (70%) aligns with the outcomes reported in literature,<sup>5,11,12</sup> where an improvement in sexual function was observed post-sacropexy. The mean rate of global surgery satisfaction (6.97) in this study is also in line with the high satisfaction reported in Okcu *et al*,<sup>13</sup> where participants experienced enhanced sexual desire and overall sexual satisfaction.

Limitations of the study should be acknowledged to provide a comprehensive understanding of its findings. Firstly, one important limitation is the small sample size. The study included a total of 30 patients with an active sexual life before laparoscopic sacropexy, which may limit the generalizability of the results. A larger sample size would have provided more statistical power and a better representation of the population.

Another limitation is the lack of evaluation regarding simultaneous oophorectomy during laparoscopic sacropexy and its impact on sexual activity. Oophorectomy can have potential effects on hormonal balance and sexual function.<sup>14</sup>

Considering that some patients may have undergone oophorectomy along with sacropexy, it is essential to recognize that this additional procedure could have influenced the postoperative sexual outcomes. The study did not specifically address this aspect, which is an important consideration in the interpretation of the results.

Despite these limitations, the study contributes valuable insights into the long-term sexual satisfaction of women undergoing laparoscopic sacropexy.

By identifying the impact of the surgical procedure on sexual well-being and utilizing a comprehensive sexual satisfaction scale, the study sheds light on an important aspect of patient outcomes. Future studies with larger sample sizes and the inclusion of oophorectomy assessment would provide further understanding of the complex relationship between pelvic organ prolapse surgery, sexual function, and hormonal factors.

### Responsabilidades Éticas

**Conflitos de Interesse:** Os autores declaram a inexistência de conflitos de interesse na realização do presente trabalho.

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**Proteção de Pessoas e Animais:** Os autores declaram que os procedimentos seguidos estavam de acordo com os regulamentos estabelecidos pelos responsáveis da Comissão de Investigação Clínica e Ética e de acordo com a Declaração de Helsínquia revista em 2013 e da Associação Médica Mundial.

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