



Perception of patients about professional performance and procedures performed in the pre, intra, and postoperative period of abdominoplasty

Percepção das pacientes sobre a atuação profissional e os procedimentos realizados no pré, no intra e no pós-operatório de abdominoplastia

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■ ABSTRACT

Introduction: abdominoplasty is the third most performed cosmetic surgery in Brazil. Its surgical planning involves the pre, intra, and postoperative moments with the performance of several specialized professionals. Therefore, the objective of this study was to analyze the patients' perception of their professional performance and the procedures performed before, during, and after the abdominoplasty. **Methods:** This is a cross-sectional and observational study. Data collection was done through an online questionnaire made available digitally to women aged between 18 and 60 years, who underwent abdominoplasty in the last 12 months. **Results:** A total of 376 patients answered the questionnaire; however, 22 were excluded, totaling 354 questionnaires answered. It was observed that 63.5% reported having undergone abdominoplasty due to skin flaccidity, 53.3% had undergone abdominoplasty associated with liposuction, 61% reported that they had not undergone preoperative procedures, 59.9% reported not knowing whether there was a physiotherapist in the operating room during the intraoperative period. , 70.6% of the patients underwent postoperative procedures, 37.4% of whom were physiotherapists, the most common complication being edema representing 84.2%. **Conclusion:** The main indication for abdominoplasty was sagging skin, which is most often associated with liposuction. Most of the patients did not undergo preoperative procedures. They were performed after 1 to 3 days after the operation, with a physiotherapist, on the advice of an acquaintance, often three times a week, due to the complaint of edema. The most performed procedures were manual lymphatic drainage and therapeutic ultrasound.

Keywords: Postoperative complications; Physiotherapy modalities; Abdominoplasty; Lipectomy; Manual lymphatic drainage; Ultrasound therapy; Fibrosis; Edema.

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■ RESUMO

Introdução: A abdominoplastia é a terceira cirurgia estética mais realizada no Brasil, sendo que o planejamento cirúrgico envolve os momentos pré, intra e pós-operatórios com a atuação de diversos profissionais especializados. Portanto, o objetivo deste estudo foi analisar a percepção das pacientes sobre a atuação profissional e os procedimentos realizados no pré, no intra e no pós-operatório de abdominoplastia.

Métodos: Trata-se de um estudo transversal e observacional. A coleta de dados foi feita através de um questionário online, disponibilizado por meios digitais para mulheres com idade entre 18 e 60 anos, que realizaram a abdominoplastia nos últimos 12 meses. **Resultados:** Um total de 376 pacientes respondeu ao questionário; porém, 22 foram excluídos, totalizando 354 questionários respondidos. Observou-se que 63.5% relataram que realizou a abdominoplastia por flacidez de pele, 53.3% realizaram a abdominoplastia associada à lipoaspiração, 61% relataram que não realizaram procedimentos pré-operatórios, 59.9% relataram não saber se havia fisioterapeuta no centro cirúrgico durante o intraoperatório, 70.6% das pacientes realizaram procedimentos pós-operatórios, sendo 37.4% com fisioterapeuta, a complicação mais comum foi edema representando 84.2%. **Conclusão:** A principal indicação para a abdominoplastia foi por flacidez de pele, sendo mais frequentemente associada à lipoaspiração. A maior parte das pacientes não realizou procedimentos pré-operatórios e realizou pós-operatório iniciado após 1 a 3 dias, com fisioterapeuta, por indicação de um conhecido, com frequência de três vezes na semana, pela queixa de edema, sendo que os procedimentos mais realizados foram a drenagem linfática manual e o ultrassom terapêutico.

Descritores: Complicações pós-operatórias; Modalidades de fisioterapia; Abdominoplastia; Lipectomia; Drenagem linfática manual; Terapia por ultrassom; Fibrose; Edema.

INTRODUCTION

Since the 19th century, the female body pattern responds to skinny women, who continuously seek a beautiful and healthy body, accepting to undergo modifications to achieve what is understood as the current beauty standard¹. Thus, the field of plastic surgery in Brazil grows every year. The International Society for Aesthetic Plastic Surgery (ISAPS)² points out that Brazil occupies the second place in the world ranking of aesthetic surgical procedures. Abdominoplasty is a procedure that has shown a significant evolution in the last century due to the development of new techniques, in addition to a better understanding of the anatomy, physiology, and aesthetics of the abdominal wall. In 2018, the *Sociedade Brasileira de Cirurgia Plástica*³ reported that abdominoplasty is the third most performed cosmetic surgery in Brazil, representing around 15.9% of surgical procedures.

The progressive increase in the demand for plastic surgery has generated concern for the pre, intra, and postoperative moments. Therefore, a new concept of patient care for plastic surgery has emerged, which proposes that obtaining a more satisfactory final result of plastic surgery does not depend exclusively on the surgical planning and experience of the plastic surgeon, but is also directly related with pre, intra and postoperative care offered by various professionals who work in this context⁴⁻⁸. In the preoperative period, professionals will be able to assess the possible physical, motor, and sensory changes that already existed in patients before surgery, offering the patient adequate guidance to prevent postoperative complications, especially in those with risk factors⁹⁻¹¹. The intraoperative period involves the execution of surgical planning directed at the beginning of the treatment program for the patient's main complaint⁴. Furthermore, in the postoperative period, it is essential to subject the patient to the necessary care to improve

recovery after surgery, as well as to prevent, control, or minimize possible postoperative complications, to promote the well-being and quality of life of patients¹²⁻²⁰.

This research is relevant because it discusses the management of the moments that the abdominoplasty goes through, relates the different professionals who work in this context, understands how patients know these professionals, determines the guidelines given to patients, verifies the techniques that are used in the treatment of abdominoplasty and to know the satisfaction of the patient with the operation. Besides, it discusses the performance of the professionals following the legal competences according to the professional category in the pre, intra, and postoperative moments, presenting the resources and techniques used. This study will promote among professionals a reflection on their performance in monitoring and on the results to obtain a satisfactory aesthetic and functional result.

OBJECTIVE

The objective of this study was to analyze the perception of the patients about professional performance and the procedures performed in the pre, intra, and postoperative period of the abdominoplasty.

METHODS

Study type

This one is a cross-sectional and observational study.

Ethical considerations

The study began after the approval of the Research Committee of the Universidade Paulista (UNIP), in São Paulo/SP (protocol number: 13022019.8.0000.5512). To carry out the research, all the volunteers signed and accepted the elements specified in the Free and Informed Consent Form.

Sample

The sample consisted of women aged between 18 and 60 years who underwent abdominoplasty only or associated with another surgical procedure in the last 12 months.

Digital Questionnaire

A self-administered digital questionnaire was developed by the researchers in this study using the "Google Forms." The questionnaire was divided into six stages, which were:

- *Free and Informed Consent Term*: the objective of the research and the non-disclosure of the patient's personal data was explained. When answering "not accepted" in the Informed Consent Form, the questionnaire automatically ended, and when answering "accepted," the patient proceeded to the second stage of the questionnaire;

- *Gender*: the alternatives were "female," "male," and "I prefer not to say." The patient only proceeded to the third stage if she marked "female" as an answer, otherwise the questionnaire was closed;

- *Personal data*: information was collected such as name, age, race, email, cell phone number, marital status, region of Brazil in which she lives, body mass and height, educational level, if she had already become pregnant and how many pregnancies she had, the chief complaint for performing abdominoplasty, the age at which this procedure was performed and if there was another associated procedure;

- *Preoperative*: it was asked if preoperative procedures were performed, professional category of the person responsible for the procedure, if she had manual lymphatic drainage done (and how many sessions), respiratory physiotherapy and exercises with the physical therapist before surgery, if she received postoperative guidance and which professional made such guidelines;

- *Intraoperative*: it was asked if there was a physical therapist in the operating room during the surgery and if the procedures performed by the physical therapist during this period were important for the postoperative period;

- *Postoperative period*: currently postoperative time; whether postoperative procedures were performed and the professional category of the person responsible for the procedure; who recommended the professional; how long after surgery did treatment begin; how many times a week was this treatment performed. Each patient answered about the pain and edema they felt in the postoperative period and quantified these complaints according to the Visual Numerical Scale (VNS), which varies from zero to ten (0-10), with zero without complaint and ten higher levels of complaint. Furthermore, if there was a change in sensitivity, if there were complications, if the compression mesh was used in the immediate postoperative period and for how long, if it was difficult to change the dressings and if this change was done alone or with help; what was the team and/or manual techniques used by the professional who performed the postoperative treatment, if she was satisfied with the postoperative treatment, scoring her level of satisfaction with the treatment using the VNS.

The email address of the digital questionnaire was made available on the Internet platform and was sent to patients through social networks and

the WhatsApp® messaging application from June to December 2019.

Data analysis

The data were tabulated in an Excel® spreadsheet, and descriptive analyzes were performed with means and percentages of the responses obtained, which showed the most relevant values according to the questioned item.

RESULTS

A total of 376 patients showed interest in participating in the research. Of these, 354 patients answered the questionnaire thoroughly, and 22 patients were excluded for the following reasons: being male (n = 9) or preferred not to say gender (n = 4), and did not accept the Informed Free and Informed Consent Form (n = 9). Therefore, the final sample consisted of 354 patients who answered the digital questionnaire.

Demographic characteristics

The demographic characteristics of the patients are described in Table 1, whose analyzed variables are expressed in absolute and percentage values (%).

As for obstetric characteristics, it was observed that 89.5% (n = 317) have already become pregnant; of these, 37.6% (n = 133) had two pregnancies, 27.4% (n = 97) one, 18.4% (n = 65) three and 6.2% (n = 22) more than three. As for the motivation to perform abdominoplasty, 63.5% (n = 224) reported sagging skin, 53.7% (n = 190) due to abdominal diastasis, 45.5% (n = 161) due to localized adiposity, 20.6% (n = 73) due to hernias, 15.3% (n = 54) after bariatric surgery, 11.3% (n = 28) due to abdominal distension, 10.7% (n = 47) for different reasons and 7.9% (n = 28) due to multiple pregnancies. Only 24% of the patients underwent only abdominoplasty, the others associated with liposuction (53.3%, n = 188), mastopexy (20.4%, n = 72), augmentation mammoplasty (15.6%, n = 55), gluteus surgery (8.8%, n = 31), reduction mammoplasty (7.6%, n = 27), and other associations (5.3%, n = 18).

Preoperative

The vast majority of patients (61%, n = 216) reported that they did not perform preoperative procedures. However, of those who underwent preoperative procedures (39%, n = 138), 32.2% (n = 114) reported having done it with a doctor, 6.2% (n = 22) with an esthetician, and 5.4% (n = 19) with a physical therapist, with 18.9% (n = 67) of the patients who underwent the manual lymphatic drainage technique for

Table 1. Demographic characteristics of patients undergoing abdominoplasty.

Demographic characteristics	Sample (n=354)
Age	
18 a 25 years	24 (6.8%)
26 a 35 years	143 (40.5%)
36 a 45 years	144 (40.7%)
46 a 55 years	35 (9.9%)
56 a 60 years	5 (1.4%)
61 a 71 years	3 (0.8%)
More than 71 years	0 (0%)
Body mass (Kg)	
Less than 50 Kgs.	2 (0.6%)
Between 50 and 60 Kgs.	69 (19.5%)
Between 60 and 70 Kgs.	148 (41.8%)
Between 70 and 80 Kgs.	104 (29.5%)
More than 80 Kgs.	31 (8.8%)
Height (cm)	
Up to 150 cm	15 (4.2%)
Between 151 and 160 cm	136 (38.5%)
Between 161 and 170 cm	172 (48.6%)
Between 171 and 180 cm	30 (8.5%)
More than 180 cm	1 (0.3%)
Ethnicity	
White	221 (62.4%)
Black	34 (9.6%)
Mixed race	93 (26.3%)
Yellow	5 (1.4%)
Indigenous	1 (0.3%)
Marital status	
Single	78 (22.1%)
Married	246 (69.5%)
Divorced	18 (5.1%)
Separated	10 (2.8%)
Widow	2 (0.6%)
State of residence	
Acre	1 (0.3%)
Amazonas	1 (0.3%)
Bahia	3 (0.8%)
Distrito Federal	3 (0.8%)
Goiás	9 (2.5%)
Maranhão	1 (0.3%)
Mato Grosso	2 (0.6%)
Mato Grosso do Sul	5 (1.4%)
Minas Gerais	29 (8.2%)
Pará	4 (1.1%)
Paraná	28 (7.9%)
Pernambuco	3 (0.8%)
Rio de Janeiro	44 (12.4%)
Rio Grande do Sul	13 (3.7%)
Roraima	1 (0.3%)

Continue...

Continuation...

Table 1. Demographic characteristics of patients undergoing abdominoplasty.

Santa Catarina	13 (3.7%)
São Paulo	194 (54.8%)
Education	
Incomplete elementary school	7 (2%)
Complete elementary school	8 (2.3%)
Incomplete high school	13 (3.7%)
Complete high school	78 (22%)
Incomplete higher education	79 (22.3%)
Complete higher education	89 (25.1%)
Postgraduate studies	80 (22.6%)

Note: No responses were obtained from the following states: Alagoas, Amapá, Ceará, Espírito Santo, Paraíba, Piauí, Rio Grande do Norte, Rondônia, Sergipe and Tocantins.

more than 3 sessions (15.6%, n = 54). Regarding physical therapy, 92.7% (n = 328) and 93.8% (n = 332) reported not having performed respiratory physical therapy and exercises with the physical therapist, respectively.

Practically all the patients (97.7%, n = 346) reported that they received postoperative guidance, given by the doctor (90.1%, n = 317), by the nurse (21.6%, n = 76), by the physical therapist (19.3%, n = 68) and by the esthetician (8.5%, n = 30).

Intraoperative

Regarding the intraoperative, 59.9% (n = 212) reported not knowing if there was a physical therapist in the operating room, 32.8% (n = 116) answered “no” and 7.3% (n = 26) answered “yes”. Regarding the importance of the physical therapist in the operating room, 18.3% (n = 35) answered that the procedures performed by the physical therapist were important for postoperative recovery.

Postoperative

The variables related to the postoperative period are described in Table 2, which are expressed in absolute and percentage values (%). Postoperative time when answering the questionnaire was between 6 months and 1 year after surgery for 33.9% (n = 120), between 2 and 3 months for 17.6% (n = 62), and between 1 and 2 months at 15.3% (n = 54). Most of the patients reported having undergone postoperative procedures (70.6%, n = 250). Regarding the professional who performed these procedures, it was observed that 37.4% (n = 132) reported having done it with a physical therapist and 37.1% (n = 131) with an esthetician. Regarding the recommendation of this professional, 31.8% (n = 112) reported being an indication of an acquaintance, 30.7% (n = 108) of the doctor and 22.2%

(n = 78) found it on their own. Regarding the time to start postoperative treatment, it was observed that 36.4% (n = 119) started between 1 to 3 days and 27.8% (n = 91) between 4 to 7 days, with 35.7% (n = 115) performing treatment 3 times a week, 32.6% (n = 105) 2 times a week and 19.6% (n = 63) 4 or more times a week (Table 2).

Table 2. Outcomes of the responses related to the postoperative period of abdominoplasty.

Outcomes	Postoperative (n=354)
Postoperative time at the moment of the questionnaire	
Up to 5 days	9 (2.5%)
Between 6 and 10 days	22 (6.2%)
Between 11 and 15 days	13 (3.7%)
Between 16 and 30 days	43 (12.1%)
Between 1 and 2 months	54 (15.3%)
2 to 3 months	62 (17.5%)
4 to 5 months	31 (8.8%)
6 months to 1 year	120 (33.9%)
Performed postoperative procedures	
Yes	250 (70.6%)
No	104 (29.5%)
Category of professional who performed the postoperative treatment	
I did not perform postoperative treatments	38 (10.7%)
Doctor	39 (11%)
Physiotherapist	132 (37.4%)
Beautician	131 (37.1%)
Biomedic	4 (1.1%)
Nurse	6 (1.7%)
I do not know the professional category	2 (0.6%)
Nutritionist	1 (0.3%)
Who recommended the professional who performed the postoperative treatment?	
I did not perform postoperative treatments	36 (10.3%)
Nobody. I found it on my own	78 (22.2%)
The surgeon told me	108 (30.7%)
Indication of an acquaintance	112 (31.8%)
I found him/her on the internet or other channels	18 (5.1%)
Postoperative time when treatment started.	
1 to 3 days	119 (36.4%)
4 to 7 days	91 (27.8%)
8 to 9 days	36 (11%)
10 to 15 days	44 (13.5%)
15 days or more	37 (11.3%)
Postoperative treatment frequency	
Once a week	39 (12.1%)
2 times a week	105 (32.6%)
3 times a week	115 (35.7%)
4 or more times a week	63 (19.6%)

Regarding postoperative pain, 56.2% (n = 199) reported having felt postoperative pain, of these 11.6% (n = 41) obtained 3, 11.3% (n = 40) 5, 10.2% (n = 36) 8, 9% (n = 32) 10, 8.2% (n = 29) 1, 8.2% (n = 29) 2, 8.2% (n = 29) 4, 5.4% (n = 19) 7, 5.1% (n = 18) 6 and 4% (n = 14) 9 (Figure 1).

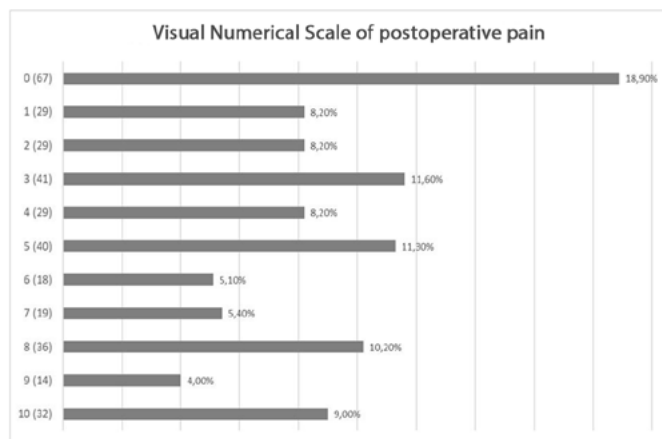


Figure 1. Visual Numerical Scale (VNS) of postoperative pain.

Most of the patients (96%, n = 340) reported having experienced postoperative edema; of these, 22.9% (n = 81) obtained 10, 20.6% (n = 57) 8, 12.4% (n = 44) 5, 10.5% (n = 37) 9, 10.2% (n = 36) 7, 6.8% (n = 24) 6, 6.8% (n = 24) 4, 4.4% (n = 15) 2, 3.4% (n = 12) 3 and 0.3% (n = 1) 1 (Figure 2).

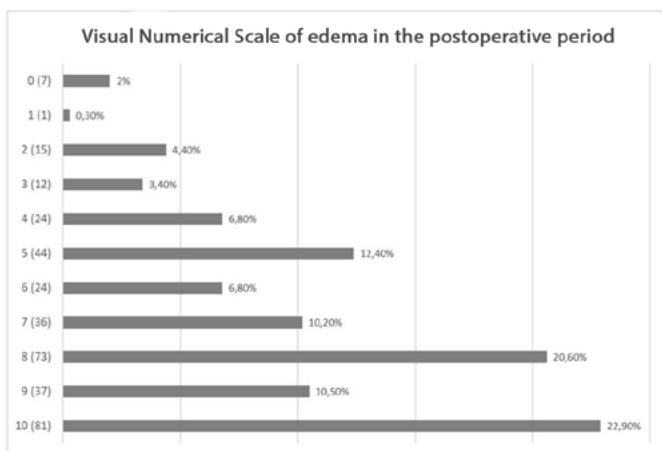


Figure 2. Visual Numerical Scale of edema in the postoperative period.

In relation to the change in sensitivity, 37% (n = 131) of the patients reported decreased sensitivity, 30.8% (n = 109), absent sensitivity, 17.5% (n = 62), normal sensitivity, and 14.7% (n = 52).) increased sensitivity.

Regarding postoperative complications, 84.2% (n = 298) reported that edema was a complication, 21.8% (n = 77) hematoma, 19.8% (n = 70) seroma, 15.8% (n = 56) scar dehiscence and 11.9% (n = 42) fibrosis (Figure 3).

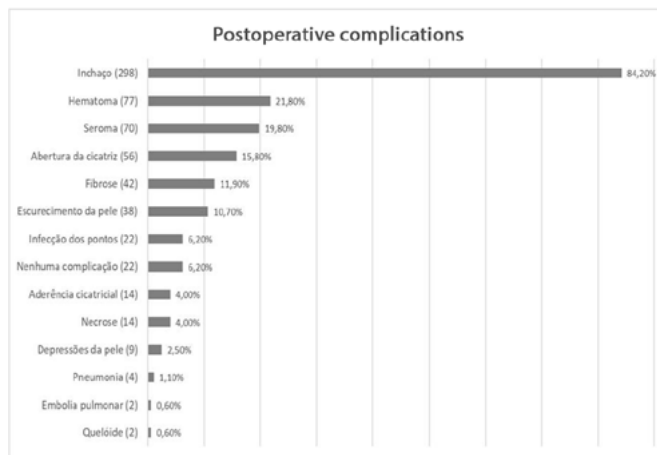


Figure 3. Number of patients who reported postoperative complications.

The majority of patients (95.5%, n = 338) reported the use of the compression mesh in the immediate postoperative period, with the recommended use for 3 months for 33.1% (n = 117), for 2 months for 26.3% (n = 93), for 4 months or more for 14.4% (n = 51) and only 12.7% of patients (n = 45) used it for 1 month.

About dressing changes, 83.9% (n = 297) reported having no difficulties. More than half of the patients (52.5%, n = 186) changed with the help of family members, 31.1% (n = 110) changed alone, and 16.4% (n = 58) changed with professional help.

Respect to the postoperative treatment, in relation to the use of equipment, only 16.5% (n = 54) reported not having undergone any equipment. Among the equipment used, it was observed that 51.7% (n = 183) reported the use of therapeutic ultrasound and 12.4% (n = 44) the use of radiofrequency. Most of the patients (83.1%, n = 294) reported the use of manual techniques, with manual lymphatic drainage used in 87% (n = 308) of the patients and 14.7% (n = 52) underwent a modeling massage, the other manual techniques did not obtain an expressive score. Regarding satisfaction with postoperative treatment, it was observed that 53.4% (n = 166) reported being satisfied and 33.8% (n = 105) reported that they were still under treatment. It was observed that 35.7% (n = 111) obtained 10, 16.1% (n = 50) 8, 14.5% (n = 45) 9, 10.6% (n = 33) 7, 9, 6% (n = 30) 5, 1.6% (n = 5) 3 and 1% (n = 3) 2.

DISCUSSION

The 2018 Census of the *Sociedade Brasileira de Cirurgia Plástica*³ points that the southeast region is the one with the highest number of plastic surgeries performed in Brazil (51.1%). This fact justifies the main number of responses obtained from the states of São Paulo, Rio de Janeiro, and Minas Gerais (75.4%). The age range of patients who undergo plastic surgery was

71% between 19 and 50 years old, and in the present study, 88% between 18 and 45 years old. The primary motivation for performing plastic surgery is aesthetics (60.3%), which corroborates the responses of patients on the motivation to perform abdominoplasty, being skin flaccidity, abdominal diastasis, and localized adiposity. Abdominoplasty is the most commonly performed procedure for the correction of deformities of the abdominal wall, due to the significant loss of weight after treatment for obesity, bloating, sagging skin, localized fat, hernia, tumor resection, pregnancy, multiple, previous surgeries and abdominal diastasis. The complaint of localized adiposity for abdominoplasty may justify the fact that liposuction was the frequently associated procedure⁷.

Most patients did not perform preoperative procedures, and those who did reported having done it with the doctor. The importance of performing non-preoperative respiratory physiotherapy is suggested, due to lipoabdominoplasty with negative repercussions on chest mobilization and recent non-postoperative lung function⁹. When carrying out a program of respiratory exercises, it could be reduced to intra-abdominal, non-intraoperative pressure^{10,12}. The intraoperative physical therapy performance is still recent, since 92.7% of the patients did not know or said they did not have a physical therapist during the surgery. Physiotherapy performed from the preoperative period reduces edema, ecchymosis, and fibrosis in the postoperative period, in addition to decreasing the number of physical therapy sessions and accelerating the patient's recovery in the postoperative period of abdominal surgeries, using manual lymphatic drainage, resources of electrothermal phototherapy and/or application of taping in the operated area⁴.

Virtually all patients reported receiving postoperative guidance given by the physician, reducing the risk of complications. The most-reported postoperative complication was edema (84.2%), which differs from the findings in the literature^{12,16,21}, presumably because it is an expected event due to the tissue injury caused, surveys do not include it as a complication^{4,5,7,8,14}. The most observed complication is seroma, around 15%^{12,13,21}, statistically more frequent in surgeries combined with other procedures^{12,16,21}. The sum of the responses of the patients in the present study obtained an index of 19.8%, close to the mentioned values. Infection occurs in approximately 1 to 3.8%^{12,21} of patients, while the questionnaire showed 6.2%. With an incidence close to 2%, the hematoma is the third most common complication in abdominoplasty^{12,21}. However, the prevalence shown here was 21.8%; possibly, such discrepancy may be justified because patients did not know how to report the difference between hematoma and ecchymosis.

Most of the patients reported having undergone postoperative procedures (70.6%), with a physical therapist (37.4%) and an esthetician (37.1%). The Brazilian Society of Plastic Surgery³ recommends that physiotherapists perform the postoperative period of cosmetic and restorative plastic surgery. The professional who worked in the postoperative period was indicated by an acquaintance (31.8%), the doctor (30.7%), or found him alone (22.2%). The surgeon must recommend the professional who will work with the patient in the postoperative period. Tacani et al., In 2005²², found that 84.8% of doctors indicated their patients to perform the postoperative period with the physiotherapist, and Flores et al., In 2011⁵, found that 63% said that they refer specifically to a dermatofunctional physiotherapist. Physiotherapy has a specialty recognized by the Council²³, "Dermatofunctional Physiotherapy" (COFFITO Resolution No. 362/2009)²⁴, that acts in the prevention, promotion, and recovery of the integumentary system, this includes professional performance in the pre and postoperative period. of plastic and cosmetic surgeries

There is no consensus on the ideal start for postoperative procedures. Patients started postoperative treatment between 1 and 7 days, considering an early onset. It is considered positive, since the later the treatment for tissue fibrosis begins, the worse its prognosis, with collagen disorganization, which makes reorganization even more difficult^{4,7,25}. The treatment was carried out with a frequency of 3 times per week (35.7%), corroborating the literature^{4,14}. Regarding the procedures used by the professional, the indication for manual lymphatic drainage (87%) and therapeutic ultrasound (51.7%) were used. Both are believed to be recommended for tissue recovery, the prevention and reduction of edema, fibrosis and adhesions, the prevention of scar retraction, and the elimination of postoperative pain^{4,5,14}. Manual lymphatic drainage is the technique most indicated by plastic surgeons^{8,22}.

It is important to note that the questions in the questionnaire were prepared after a bibliographic survey, considering the most common situations related to abdominoplasty. The sample was made up of patients from all regions of Brazil, but there was no evaluation of these by a professional in person, it is worth considering that the patient may not know precisely some data, such as the category of professional who attended the postoperative. Despite this, it is a pioneering study to characterize the management of patients undergoing abdominoplasty. It is suggested that more studies be developed to assess patients' perception of what professionals have been doing for the pre, intra and postoperative treatment of abdominoplasty. Based on these findings, a reflection of the professionals involved

in the care management of this patient is suggested, as well as it is recommended to carry out controlled and randomized clinical trials to verify the effectiveness of each of the items discussed here.

CONCLUSION

The primary indication for abdominoplasty was sagging skin, which is most often associated with liposuction. Most patients did not undergo preoperative procedures and performed postoperatively started after 1 to 3 days, with a physiotherapist, as indicated by an acquaintance, often three times a week, due to the complaint of edema. The most performed procedures were manual lymphatic drainage and therapeutic ultrasound.

COLLABORATIONS

NLS	Analysis and/or data interpretation, conception and design study, data curation, final manuscript approval, methodology, project administration, realization of operations and/or trials, writing - original draft preparation.
IGEO	Analysis and/or data interpretation, data curation, final manuscript approval.
RET	Analysis and/or data interpretation, data curation, final manuscript approval, methodology.
CSB	Conception and design study, final manuscript approval, writing - original draft preparation.
IFBM	Analysis and/or data interpretation, final manuscript approval, project administration, writing - original draft preparation.
TSF	Analysis and/or data interpretation, data curation, final manuscript approval, writing - original draft preparation.
AFPM	Analysis and/or data interpretation, conception and design study, data curation, final manuscript approval, methodology, project administration, writing - original draft preparation.

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