




## NURSES' PERFORMANCE IN THE FACE OF SURGICAL WOUNDS IN MASTOPEXY WITH PROSTHESIS AND ABDOMINOPLASTY IN PLASTIC SURGERY

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### ABSTRACT

Introduction: Surgical wound infection is a most common adverse event in the healthcare area and results from the surgical site itself. Nurses play an important role in this intervention, whose objective is to treat the cause and promote healing, using their technical-scientific knowledge and systemic view of the patient. Objective: To investigate the knowledge and techniques that best support nurses, in their practice, for the process of evaluation and treatment of surgical wounds. Methodology: Integrative literature review with a qualitative approach. Results and Discussion: Through the selection of studies, it was possible to verify the importance of the knowledge and techniques used by nurses in the wound treatment process. Conclusion: The studies pointed out not only the importance of the nurse's role but also the need for technical-scientific knowledge to guide the best therapy

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## INTRODUCTION

Since the beginning of humanity, man has been concerned about the appearance of wounds, as it puts his physical integrity at risk (Baltazar, 2021).

Surgical wound infection is the most common complication and is usually manifested by the presence of purulent content in the surgical incision. They are commonly due to the surgical site itself and constitute a high rate of morbidity and mortality, prolonging the length of hospital stay. According to the *Guidelines for Assessment & Treatment of Surgical Wounds Healing by Primary and Secondary Intention in Adults & Children* - BCPNS & WC, the surgical wound, during the healing process, can present complications such as hematoma, infection, and even dehiscence (Baltazar, 2021).

Among the most common adverse events in the health area are surgical wound infections, which in turn are responsible for Surgical Site Infections (SSI), that is, infections from the site of the surgical procedure related to a local complication of the surgical region. In Brazil, the so-called HAI – Healthcare-Associated Infections cover 14 to 16% of hospitalizations (Câmara; Félix and Corgozinho, 2022).

The surgical wound is characterized by intentional disruption of the epithelial integrity of the skin and underlying structures. Healing of surgical wounds may occur by first, second and third intention. For the first intention, when the edges of the surgical incision remain united, with minimal or absent tissue loss, there is a lower risk of developing infection. By second intention, they are often traumatic incisions, with tissue loss and irregular borders, where the granulation tissue will gradually fill the injured area, resulting from major surgeries with loss of skin tissue. And, thirdly, it occurs in wounds that remain open indefinitely (Baltazar, 2021).

Brazil ranks second in the ranking of cosmetic surgeries, according to the *International Society of Aesthetic Plastic Surgery*, with silicone breast implants being the most popular (15.8%), followed by liposuction (14%) and abdominoplasty (7.4%). And, the biggest complications and complications are seroma, epidermolysis, and suture dehiscence (Cintra *et al.*, 2021; Scarbi; Secanho and Scarbi, 2021; Martinelli *et al.*, 2019).

Post-abdominoplasty seroma is a complication that bothers both the patient and the plastic surgeon, in addition to its high prevalence (between 10 and 15%) and occurs mainly in patients with a high body mass index, who had large weight loss and the presence of previous supraumbilical incisions (Martinelli *et al.*, 2019). Seroma is a frequent complication in abdominoplasty, resulting from plasma collections between the aponeurosis and the fat layer, occurring more frequently after large flap detachments (Rodrigues, 2017).

Photo 1 – Seroma



Source: Google, 2022.

Photo 2 – Dehiscence.



Source: Google, 2022.

Surgical wound dehiscence is characterized as the separation of tissue layers during the postoperative period, which can occur due to infection, use of inappropriate materials and threads, or excess resection, tension in the flap, ischemia, and interference in healing (Rodrigues, 2017). It is a significant problem, which affects many patients and has been undervalued; however, its impact can be considerable, since it implies an increase in the length of hospitalization, hospital readmission, the need for new surgery, changes in self-image, and impairment of psychosocial well-being (Baltazar, 2021; Gomes; Poveda and Puschel, 2020). In addition, it is related to SSI – Surgical Site Infection, which may be related to non-infectious causes such as seroma and hematoma collection, factors related to patients (diabetes, obesity) and mechanical causes, resulting from trauma, cough, vomiting crises (Gomes; Poveda and Puschel, 2020).

Umbilical epidermolysis or the loss of the superficial layer of the umbilical skin is usually associated with tension or trauma to the flap during the procedure and can be easily treated with ointments and dressings (Rodrigues, 2017). It is a variant of lesser severity, in which its natural course is spontaneous re-epithelialization (Scarbi; Secanho and Scarbi, 2021).

Photo 3 – Epidermolyse.



Source: Google, 2022

Camillo (2022) reports a study with 50 patients, with one case of unilateral and late seroma (2%) in the postoperative period, due to a technical error in the separation of the fascicles requiring surgical reintervention. In Cintra et al. (2021), a study with 29 patients resulted in one patient (3.4%) who presented suture dehiscence, requiring readmission, debridement, and resuture in the operating room. Two (6.9%) of them had minor dehiscence, treated with serial dressings, and another (3.4%) required serial seroma punctures in an outpatient clinic. Scarbi; Secanho and Scarbi (2022), of the 192 patients with mastopexy, 7 of them (3.6%) found postoperative seroma, and 1.5% persisted for 6 months despite treatment with compression mesh, corticosteroids, and antibiotic therapy. Rodrigues (2017), of the 57 patients analyzed, 22 had complications (38.50%), 9 (40.90%) with seroma, 1 (4.54%) with hematoma, 2 (9.09%) with umbilical epidermolysis, 3 with abdominal wound dehiscence (13.63%) and 4 (18.18%) with hypertrophic healing. Martinelli et al. (2019) in five studies met the inclusion criteria and were adhered to the meta-analysis, which when compared to the use of suction drain with adhesion sutures, they revealed a protective factor in the prevention of seroma.

Wound treatment aims to improve the appearance, treat the cause and promote healing, and the nurse is the health professional trained for this care, because in addition to their technical-scientific knowledge, they have a systemic view of the patient, which contributes to the healing process and their general well-being (Goularte *et al.*, 2021).

In view of the importance of these surgical wounds not only for the hospital environment, but also for the patient's recovery and well-being, and also because it is the nurse's competence, the objective of this study was to: Investigate the knowledge and techniques that best support nurses, in their practice, for the process of evaluation and treatment of surgical wounds.

## METHODOLOGY

The integrative literature review supported this research, having in the qualitative approach conditions to discover new facts or data, laws or paradigms, in the field of knowledge in question from scientific articles, electronic and/or printed journals. The structure indicated by Mendes; Silveira and Galvão (2008) establish six stages to be observed:

### SELECTION OF THE GUIDING QUESTION

The following guiding question was taken for the selection of literary materials: What are the nurse's actions in the face of complex mastopexy wounds with prosthesis and abdominoplasty?

### RESEARCH STRATEGY

Publications were searched in the following databases: *Latin American and Caribbean Literature on Health Sciences* (LILACS), *Scientific Electronic Library Online* (SCIELO) and *Virtual Health Library* (VHL), using the descriptors: Surgical wound infection; Surgical site infection. Seroma. Epidermolysis, Nursing.

### INCLUSION AND EXCLUSION CRITERIA

Articles published in the aforementioned databases between the years 2016 and 2022 were included. Articles that were not available in full, outside the described timeline, in non-mastered languages, that did not meet the proposed objective, were excluded.

### EVALUATION OF INCLUDED STUDIES

The initial selection was made by reading the titles and abstracts in accordance with the inclusion criteria. The selected articles were read in full. After evaluation, the articles were selected to be part of the content of this review. An Excel spreadsheet was structured, including data such as: authors, year of publication, title, journal, objective and main results.

### INTERPRETATION OF RESULTS

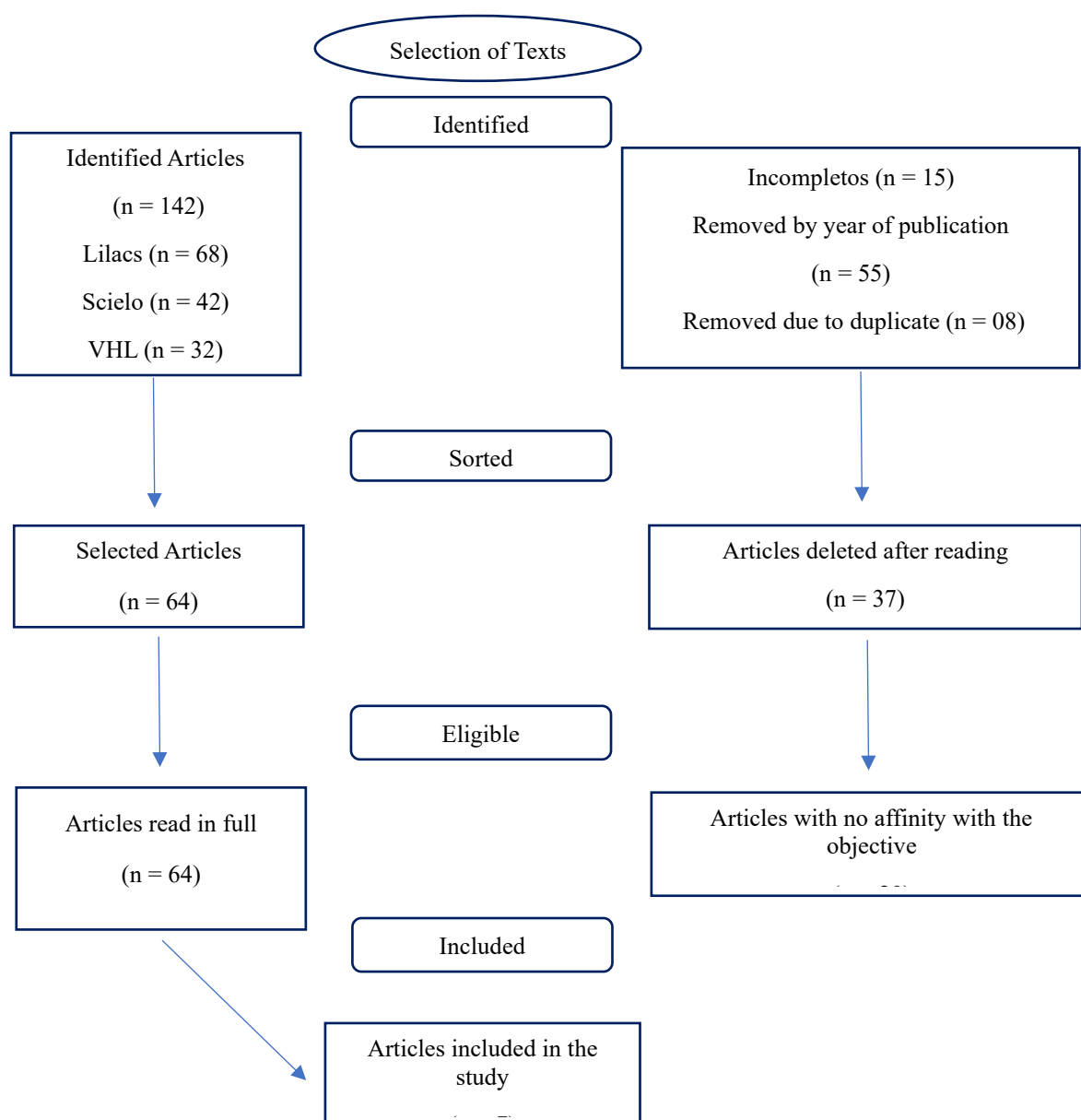
The articles found were analyzed, selected and, after a careful reading, the main information for the elaboration of the study was removed.

## REVISION/SYNTHESIS

The review was presented in order to compose a synthesis of knowledge on the subject with a scientific basis.

The initial sample raised 142 articles due to the crossing of descriptors in the databases in question. Subsequently, the publications were excluded in accordance with the criteria listed, such as outside the temporal criterion, in another language, not available in full, without affinities with the topic in question. Resulting in the final sample with 7 scientific articles, which fully met the object of the study, shown in Figure 1 - Flowchart for the selection of publications in the database.

Figure 1 - Flowchart of the selection of publications in the database.



Source: The Author, 2022.

## RESULTS

The selection of articles was based on the criterion for the inclusion of specific particularities between the articles and the guiding question. Seven articles were selected and made up this review, being characterized according to the year of publication, authors, title, journal, objective and type of research as presented in Table 1, below.

Table 1 – Studies included in the review after reading in full

Author/Year	Title	Magazine	Methodology	Objective	Main results
CÂMARA, M.V.S.; FELIX, C.A.; CORGOZINHO, M.M., 2022	Nursing in the context of surgical wound infection: an integrative review	HRJ - Health Residencies Journal	Integrative literature review	To describe the theoretical profile of publications on nursing in the context of surgical wound	Based on 3 thematic categories, the study was discussed based on 19 articles: surgical site infection (SSI), nursing and guidelines for SSI prevention and nursing in the context of surgical wound infection, with the nurse always being the main character.
GOULARTE, A.F. et al., 2021	Continuity of care: the role of hospital nurses in the transition of patients with wounds	Rev. Min. Enferm.	Qualitative study, based on grounded theory (GT)	To understand the role of nurses for the continuity of care for patients with wounds in the transition from the hospital to the services of the Health Care Network	The process of systemic analysis and integration reports that even though they are aware of the communication difficulties among the multiprofessional team that interferes in the continuity of care for patients with wounds, they seek initiatives to overcome them.
BALTAZAR, M.A.L., 2021	Surgical wound assessment	Master's Dissertation - Nursing	Qualitative descriptive study	To analyze nursing documentation prior to the diagnosis of dehiscence, which indicates surgical wound complications in abdominal surgeries	It was evidenced that the nursing records did not have uniformity of conduct. Scarce and non-specific, making it difficult to continue care and analyze it. It is important to reflect on safety in patient care and the responsibility of nurses.
SILVA, P.C. et al., 2021	The role of nurses in wound care	Brazilian Journal of Health Review	Integrative literature review	To analyze the role of nurses in wound care	The nurse's work in the treatment of wounds is daily, and this professional is qualified to perform all stages of the client's reception in order to solve the problem and ensure quality care.

GOMES, E.T.; POVEDA, V.B.; PÜSCHEL, V.A.A., 2020	Can nursing actions prevent dehiscence in the surgical wound?	Rev. Sobecc	Integrative literature review	To identify in the scientific literature useful nursing interventions for the prevention of dehiscence in surgical wounds	Of the 64 articles searched, 6 met the inclusion criteria and showed evidence of an association between dehiscence and infections, early initiation of rehabilitation exercises before drain removal, and the use of vacuum dressings in surgical wounds.
COLARES, C.M.P. et al., 2019	Wound healing and treatment: the interface between knowledge and nurse practice	Sick in Focus	Cross-sectional study in medical and surgical clinics	Determine the level of knowledge of nurses about wound healing/care and evaluate the indication/length of stay of the products used in the dressing	Of the 18 participants, most had less than 6 years of experience. Intermediate level knowledge of healing physiology was found: debridement, exudate, biofilm and signs of infection. Little knowledge about products (48.5%).
GALDINO, H. et al., 2018	Nursing process in the care of patients with healing wounds by second intention	Cogitare Nursing	Cross-sectional, descriptive, qualitative, observational and documental analysis study	To analyze nursing records regarding the presence of the stages of the nursing process in the medical records of patients with wounds	In 91.6% of the blocks of records, elements of the data collection stage were detected. On the other hand, the stages of nursing diagnosis, planning, implementation and evaluation of care were little contemplated.

Source: The Author, 2022.

It is observed that the publications were higher in 2021, in a total of 42.86% (n=3), while the years 2022, 2020, 2019 and 2018, presented a total of 14.3% (n=1) of the publications, respectively. There were no publications in 2016 and 2017. This small number of published articles demonstrates that studies related to wounds in plastic surgery have still been little addressed. Regarding the country of publication of the seven studies, 85.70% (n=6) are national and 14.30% (n=1) international, with 57.14% (n=4) developed in hospital environments and 42.86 (n=3) in academic environments. Regarding the professional category of the authors, considering only the first author of each production, nursing is positioned with 85.70% (n=6) and medicine with 14.30% (n=1) of the studies. Professionals in these categories are concerned about their knowledge in the treatment of post-surgical wounds, due to their consequences and possible sequelae, which may derive from incomplete evaluation and ineffective treatment by these professionals, which denotes a certain *deficit* of knowledge and continuing education. Reasoning that makes this theme emphasize the effective performance and continuous studies for the prevention of health (wounds) and for the good *performance* of the professional.

Regarding the approaches, they vary between qualitative research articles 42.86% (n=3), theoretical review studies 42.86% (n=3) and cross-sectional research 14.28% (n=1). Regarding the content available in each article, it is verified that all publications 100% (n=7) present the objectives of the study clearly, allowing the reader to easily understand. With this review, it is observed that nursing professionals were the ones who made the most publications on this topic, which demonstrates greater concerns regarding knowledge, the quality of the services provided and the well-being of patients.

## DISCUSSION

In everyday hospital life, surgical procedures are widely practiced and there are many risks, despite all the advances in research and technology. One out of every four patients develops postoperative complications within the first fourteen days of hospital discharge. These complications come from wounds and represent, on average, 4% of the costs of the health system (Câmara; Félix and Corgozinho, 2022).

The surgical wound resulting from the surgical act can become serious when it presents local complications (seroma, epidermolysis, and dehiscence, among others), which leads to an increase in the healing time period, which can take a few weeks to close (Baltazar, 2021).

For Silva *et al.* (2021) wound care and treatment consist of eliminating the factors that prevent healing, such as the presence of devitalized tissue, providing favorable conditions for its healing and healing. This process has a fundamental role in nursing as a professional, which aims at the integral and holistic care of the patient, contributing to the evolution of their health, using their scientific knowledge and empathy for life. What Baltazar (2021) refers to is a complex area, which requires an advanced intervention, centered on a holistic approach to the individual, requiring nurses to practice based on evidence, with integrated wound management and interdisciplinary work.

Silva *et al.* (2021) add that, according to Law 7,489 of 06/25/1986, the planning, organization, coordination, execution and evaluation of nursing care services is the exclusive activity of nurses; which implicitly includes wound care and the power to prescribe coverage and follow-up of the patient throughout their evolution, monitoring them, as well as their general condition.

This intervention by the nurse also occurs with the other professionals, with a view to being a key professional for the process of continuity of care, as well as organizing documents, when necessary, transportation for patient transfer, scheduling exams and being the contact with family members for clarification and guidance (Goularte *et al.*, 2021).

Baltazar (2021) also emphasizes that it is also essential for their correct and effective care practice to have documentation by nurses, recording all the necessary information about incisions, exudates/drained liquid, changes in their characteristics and the type of treatment performed, which aims to promote communication in nursing records; facilitate planning and ensure its continuity; evaluate the effectiveness of interventions and care provided; provide safety to the patient and the multidisciplinary team; allow an evaluation of their quality and promote evidence-based practice (Baltazar, 2021).

Among the necessary precautions, Câmara; Félix and Corgozinho (2022) that in the prevention or combat of surgical wound infection is the degermation of the patient's skin in the pre-surgical preparation, maintenance of their body temperature, care with surgical instruments, circulation of the operating room and assistance to the surgical team in general. Early recognition and diagnosis of infection should also be inserted, which are fundamental to the wound infection surveillance process. In the meantime, Gomes; Poveda and Püschel (2020) pay attention to the use of instruments to assess the risks of surgical wound infection, as well as to develop educational interventions for the patient in postoperative self-care. Chamber; Félix and Corgozinho (2022) also reinforce that, in perioperative care, patients need attention, care, and specific guidance to cope with these situations, and nursing is responsible for specific care for each type of surgery, infection control, and its risk factors.

What is worth considering cites Baltazar (2021), that the evaluation and monitoring of wounds are of great importance in the provision of nursing care, as it allows the evaluation of the initial state of the wound, which has not yet started treatment, and its success or failure, through the analysis of the evolution of the healing process. It also states that nursing performance has an important role in monitoring the evolution of the wound healing process, however, there are studies that reveal failures and lack of knowledge in this area of intervention, with an impact on the quality of care.

Galdino *et al.* (2018) point out that the evaluation of wounds by nurses in order to guide the selection of treatment, requires a technical and scientific framework in order to choose the best therapy, and inadequate treatment, resulting from low knowledge, can lead to the development of infections, delay the healing process, increase the hospitalization period, compromising patient safety and burdening care costs. Reinforcing, in Brazil, little has been studied in relation to the documentation carried out by the nursing team in the care of patients with wounds.

Colares *et al.* (2019) refer to studies that point to a low rate of recording of wound characteristics, which suggests incomplete assessment and *lack* of knowledge of

professionals, and another that corroborates, by suggesting that the *deficit* of knowledge comes from graduation, maintaining throughout the nurse's professional life.

Silva *et al.* (2021) also emphasize that nursing professionals have a legal practice on wound care that must also be recognized by the patient, as most see doctors as precursors of health and holders of it, when in reality this practice is the legal responsibility of nurses, with their prominence in wound care being notorious, taking into account their autonomy and scientific knowledge, which instigates them to always seek improvements and qualification in order to reduce the patient's hospitalization time and health budgets, without neglecting the patient's well-being.

## CONCLUSION

Wound treatment is interrelated with nursing, as it is this area of health that has the technical-scientific knowledge to care for patients affected by this pathology, while seeing them in a holistic way, aiming at their well-being.

It is important for nursing to evaluate and monitor the care provided in the treatment of the wound, being able to measure its evolution and healing process.

However, this entire process demands knowledge and dedication that are directly linked to the success or failure of the treatment, as the lack of knowledge and continued studies can affect the choice of treatment, the quality of care and the evolution of the professional.

## REFERENCES

1. Baltazar, M. A. L. (2021). Avaliação da ferida cirúrgica: documentação de enfermagem. (Dissertação de Mestrado). Escola Superior de Enfermagem de Coimbra, Coimbra, Portugal.
2. Câmara, M. V. S., Felix, C. A., & Corgozinho, M. M. (2022). Enfermagem no contexto da infecção da ferida cirúrgica: revisão integrativa. *Health Residencies Journal*, 3(14), 941-960.
3. Camillo, F. C. (2022). Plano intramuscular para mamoplastia de aumento com implante de silicone. *Revista Brasileira de Cirurgia Plástica*, 37(1), 45-52.
4. Cintra, W., et al. (2021). Abdominoplastia circunferencial simples e composta: evolução técnica, experiência de 10 anos e análise das complicações. *Revista Brasileira de Cirurgia Plástica*, 36(1), 21-27.
5. Colares, C. M. P., et al. (2019). Cicatrização e tratamento de feridas: a interface do conhecimento à prática do enfermeiro. *Enfermagem em Foco*, 10(2), 52-58. Universidade Federal de Goiás.
6. Galdino, H., et al. (2018). Processo de enfermagem na assistência a pacientes com feridas em cicatrização por segunda intenção. *Cogitare Enfermagem*, 23(4), e56022.
7. Gomes, E. T., Poveda, V. B., & Püschel, V. A. A. (2020). Ações de enfermagem podem prevenir deiscência em ferida operatória? *Revista Sobecc*, 25(2), 114-119.
8. Goulart, A. F., et al. (2021). Continuidade do cuidado: atuação do enfermeiro hospitalar na transição do paciente com ferida. *Revista Mineira de Enfermagem*, 25, e-1403.
9. Martinelli, K. G., et al. (2019). Incidência de seroma em abdominoplastia com e sem uso de drenos e pontos de adesão: revisão sistemática e metanálise. *Revista Brasileira de Cirurgia Plástica*, 34(4), 546-551.
10. Rodrigues, D. G. O. C. (2017). Complicações em abdominoplastia: experiência do serviço de cirurgia plástica do Hospital do Servidor Público Municipal de São Paulo. (Trabalho de Conclusão de Curso). Hospital do Servidor Público Municipal de São Paulo, São Paulo.
11. Scarbi, J. M., Secanho, M. S., & Scarbi, V. (2021). Mastopexia com splitting de músculo peitoral superior e cinta muscular inferior. *Revista Brasileira de Cirurgia Plástica*, 36(2), 115-121.
12. Silva, P. C., et al. (2021). A atuação do enfermeiro no tratamento de feridas. *Brazilian Journal of Health Review*, 4(2), 4815-4822.