



## ARTÍCULO ORIGINAL

### Characterization of post-surgical patients attended at the Luis Dávila Hospital and their perception and information on the healing process

Caracterización de pacientes posquirúrgicos atendidos en el Hospital Luis Dávila y su percepción e información sobre proceso de cicatrización

Sara Ximena Guerrón-Enríquez<sup>1</sup>✉, Jesly Vanessa Chamorro-Nazate<sup>1</sup>, Zuy Riviel Nazate-Chuga<sup>1</sup>

<sup>1</sup>Regional Autonomous University of the Andes. Tulcán. Ecuador.

**Received:** December 20, 2022

**Accepted:** April 24, 2023

**Published:** May 5, 2023

**Citar como:** Guerrón-Enríquez SX, Chamorro-Nazate JV, Nazate-Chuga ZR. Caracterización de pacientes posquirúrgicos atendidos en el Hospital Luis Dávila y su percepción e información sobre proceso de cicatrización. Rev Ciencias Médicas [Internet]. Año [citado: fecha de acceso]; 27(S1): e6009. Disponible en: <http://revcmpinar.sld.cu/index.php/publicaciones/article/view/6009>

#### ABSTRACT

**Introduction:** post-surgical care and the healing process are as important as the surgical act itself, as they are not exempt from complications.

**Objective:** to characterize post-surgical patients and their perception and information on the healing process.

**Method:** descriptive, observational and transversal research in post-surgical patients who were readmitted to the Luis Gabriel Dávila Hospital due to health complications during 2022. The sample consisted of 44 patients. Descriptive statistics were used for data analysis.

**Results:** 52 % were 30 years of age or older, Diabetes Mellitus (11,36 %) and arterial hypertension (11,36 %) were the most common comorbidities. The 38,64 % reported consuming cereals, vegetable dairy products and legumes in the postoperative period and 65,91 % of the patients used pharmacological treatment. 63,64 % of the patients received wound care by nursing personnel and 61,36 % reported that they did not perform any self-care. 45,46 % reported not receiving information on wound care for wound healing. 65,91 % did not attend medical check-ups; 79,55 % reported the need for a wound care education system.

**Conclusions:** post-surgical complications affecting the healing process are more frequent in adults over the third decade of life, with chronic diseases. Diet, therapeutic adherence, specialized wound treatment, self-care, attendance to follow-up visits and patient education are determinants in the healing process.

**Keywords:** Wounds and Injuries; Postoperative Complications; Self Care.

## RESUMEN

**Introducción:** la atención postquirúrgica y el proceso de cicatrización son tan importantes como el propio acto quirúrgico, al no estar exentos de complicaciones.

**Objetivo:** caracterizar a los pacientes posquirúrgicos y su percepción e información el sobre proceso de cicatrización.

**Métodos:** investigación descriptiva, observacional y transversal en pacientes postquirúrgicos que reingresaron al Hospital Luis Gabriel Dávila a causa de complicaciones en su salud durante el 2022. La muestra estuvo conformada por 44 pacientes. Se empleó estadística descriptiva para el análisis de los datos.

**Resultados:** el 52 % tenía 30 años o más, la Diabetes Mellitus (11,36 %) y la hipertensión arterial (11,36 %) fueron las comorbilidades más comunes. El 38,64 % refirió consumir cereales, lácteos vegetales y legumbres en el postoperatorio y el 65,91 % de los pacientes empleó tratamiento farmacológico. El 63,64 % recibieron cura de la herida por personal de enfermería y el 61,36 % refirió no realizarse ningún autocuidado. El 45,46 % refirió no recibir información sobre los cuidados para la cicatrización. El 65,91 % no asistió a controles médicos; el 79,55 % refirió la necesidad de un sistema de educación en el cuidado de las heridas.

**Conclusiones:** las complicaciones postquirúrgicas que afectan el proceso de cicatrización se muestran en mayor cuantía en adultos pasada la tercera década de vida, con enfermedades crónicas. La alimentación, adherencia terapéutica, tratamiento especializado de la herida, el autocuidado, la asistencia a las consultas de seguimiento y la educación al paciente constituyen determinantes en el proceso de cicatrización.

**Palabras clave:** Heridas y Lesiones; Complicaciones Posoperatorias; Autocuidado.

## INTRODUCTION

General Surgery as a profession from the beginning was classified more as a manual art than as a science, which gives rise to its etymological denomination derived from the ancient Greek, where surgeon means "to work with the hands" and this is any doctor who is able to prevent, diagnose and cure diseases by performing surgery.<sup>(1)</sup>

Wounds are a health problem affecting the skin, its structures and adjoining tissues. The skin is a vital organ for the life of the human being since it covers the entire body surface and not only acts as a protective barrier to the environment in which we live, but it is also a dynamic system formed by multiple epithelial, mesenchymal, glandular and neurovascular elements, which play an essential role in the life and health of people. For this reason, the ability of our organism to effectively repair and restore the function of damaged or lost tissues is an indispensable condition for the survival of people.<sup>(2)</sup>

The emergence of deepening the local and regional problem of wounds, events recognized in institutional indicators of clinical management, are the need for imminent professional updating and certified training for decision making with criteria of suitability, care safety and total quality.<sup>(3)</sup>

This knowledge results from the interpretation and explanation of paradigms and theoretical frameworks, protocols of approach of reference institutions and regulatory frameworks that support regulated practices. This documentation is based on the evidence obtained in daily surgical practice.<sup>(3)</sup>

Healing is a process of overlapping reactions, through which the repair of the injured tissue occurs, this process is divided into three phases, inflammation phases consists of preparing the wound for healing, then appears the proliferation phase to rebuild the structures and strengthen the wound, finally the maturation phase is the last phase where the scar tissue is modified until healing.<sup>(4)</sup>

The failures in the healing processes of any surgical wound are usually multifactorial, due to local and/or systemic factors that influence the normal healing process. However, it is considered that, to a great extent, the pathophysiology of this process is due to ischemia or microvascular involvement, bacterial colonization and infection, significant edema and excessive traction forces applied on the wound.<sup>(2,5)</sup>

The present investigation was carried out with the objective of characterizing the post-surgical patients attended at the Luis Dávila Hospital, as well as their perception and information on the healing process.

## METHODS

A descriptive, observational and cross-sectional research was carried out on post-surgical patients who were readmitted to the Luis Gabriel Dávila Hospital due to health complications during 2022.

The population consisted of patients who underwent surgery and were readmitted to the Luis Gabriel Dávila Hospital due to health complications. The sample consisted of 44 patients. Patients who agreed to provide informed consent were included in the study.

The following variables were studied: age (<30 and 30 or more), personal pathologic history, patients' diet, hospital stay, treatment, personnel who performed the treatment, home postoperative care, postoperative care materials reported by the patients, information on care and factors to achieve healing, attendance to medical controls and the need for an educational system.

A form was used to collect the data. The data were organized using the Microsoft Excel program and later analyzed using the SPSS program. Descriptive statistics were used for data analysis, using absolute and relative percentage frequencies.

## RESULTS

Forty-eight percent of the patients were under 30 years of age, and 52 % were 30 years of age or older. It was found that 54,55 % of the patients had no personal pathological history. Diabetes Mellitus and arterial hypertension were the most common, present in 11,36 % respectively, while the combination of both was identified in 9,09 % of the patients (Table 1).

**Table 1.** Personal pathological history of post-surgical patients.

Risk factor	No.	%
Diabetes Mellitus	5	11,36
Arterial hypertension	5	11,36
Obesity	4	9,09
Thrombocytopenia	1	2,27
None	24	54,55
Diabetes Mellitus + Hypertension	4	9,09
Alcoholism	4	9,09

The patients' diet after the postoperative period was analyzed, where 9,09 % consumed only cereals, 18,18 % only dairy products, and 34,09 % vegetables and legumes, while 38,64 % reported consuming all of the above.

Regarding hospital stay, 65,91 % were discharged in less than 5 days, 27,27 % (n=12) between the sixth and tenth day, 4,55 % between day 11 and day 15, and only one patient after 16 days.

Of the patients, 65,91 % used pharmacological treatment after surgery, 2,27 % used natural medicine, and 31,82 % used both variants.

It was found that 63,64 % of the patients reported that they received wound care from a nursing staff at home; where 43,18 % reported that hand washing, gloves and cleaning solutions were used in their care. With respect to self-care, 61,36 % reported not performing any.

**Table 2.** Characterization of postoperative home care

Variable	No.	%
<b>Who performed the treatment?</b>		
Physician	15	34,09
Nurse	28	63,64
None	1	2,27
Home postoperative care		
Watch for signs of infection	13	29,55
Monitoring for signs of bleeding	10	22,73
Do not apply topical antibiotics	7	15,91
None	27	61,36
<b>Supplies for postsurgical care referred by patients</b>		
Gloves only	2	4,55
Hand washing only	3	6,82
Cleaning solutions only	4	9,09
All of the above	19	43,18
None of the above	16	36,36

45,46 % of the patients reported not having received any information on the care and factors to achieve healing. When asked about the advantages of the consumption of vegetables for healing, 54,54 % said that they were not favorable, 13,64 % said that they were favorable, and 31,82 % did not have a position.

Regarding attendance to medical check-ups, 65,91 % did not attend medical check-ups, 20,45 % said they always attended, 2,27 % sometimes and 11,37 % almost never.

The perception of the need for an educational system regarding the necessary care for the healing process was explored. The 79,55 % said that this system would be very important, 6,82 % considered it important, 2,27 % not very important and 11,36 % did not consider it important.

## DISCUSSION

Post-surgical in-hospital complications are any deviation from the expected recovery process after a surgical intervention; they can be immediate, mediate or late. Among the most frequent complications are wound dehiscence, hematomas, seromas, infections, failure of healing, hernias and evertations.<sup>(2)</sup>

Age analysis showed a predominance of re-hospitalized patients older than 30 years. From the researchers' perspective, age is a relevant factor in the healing process, since the older the patient, the lesser the capacity of the organism to repair the damage. Likewise, the possibilities of rest decrease with age, due to the social and family responsibility of the individual, which is another element to be considered.

A study developed by Perdomo Pérez et al.<sup>(6)</sup> showed that 40 % of the patients presented venous affections and 32,30 % diabetes mellitus, being also the two personal pathological antecedents identified in the present study and others available.<sup>(7)</sup> Both affections affect the vascular system, diminishing the capacity of the organism to transport nutrients to the tissues, which is implicated as previously mentioned in the defects and complications of scarring.

The feeding of the patients after the postoperative period was analyzed. The negative medical-surgical effects caused by malnutrition in the organism have a negative nutritional repercussion, among them, defective wound healing due to dehiscence, fistulization, increase in the appearance of postoperative infection, significant weight loss, edema and generalized affectation of the immune system. Hence, proper nutrition and dietary education is a necessity in health services.<sup>(8)</sup>

Wound treatment should be prompt and individualized depending on each patient and the characteristics of the injury presented. Such coverings are useful in preventing infection, reducing pain and keeping the wound moist, particularly in severe burns.<sup>(9)</sup>

Wound care requires the integrative action of both the health care team and the patient and his support network. If a person takes proper care of his wound, recovery will be faster, his general condition will improve and possible readmissions to the hospital will be avoided. To this end, it is important to take into account a balanced diet, rest and avoiding contact with infectious entities.<sup>(10)</sup>

However, self-care by the patient cannot be effective if the adequate cognitive tools are not available. The patient must know his wound, to determine if he has signs of infection, the characteristics of the wound and the warning signs such as: discharge of purulent material or blood, redness and/or intense pain that does not subside with the medications that have been prescribed.<sup>(10)</sup>

The negative impact on the quality of life of patients with wounds represents a complex clinical problem, which is why it is considered a priority to establish new treatments and implement new technologies that promote the healing process, are easy to manage, improve patient satisfaction and reduce the costs of the health system.<sup>(11,12)</sup>

Educational actions aimed at surgeons, surgical staff, patients and their caregivers are essential elements for prevention and are nowadays required criteria for the accreditation of hospital quality management systems.<sup>(13,14)</sup> Hence, the existence of a percentage of patients who reported low information in this aspect is a negative element.

The importance of establishing, maintaining and strengthening preventive programs within hospitals is evident, as well as investing the necessary resources for their operation, all this in order to improve patient safety and reduce health care costs;<sup>(15,16)</sup> however, it also shows the need for an out-of-hospital perception aimed at reducing the number of readmissions and improving the quality of life of patients. Likewise, this orientation should go beyond the health sciences guild and become social practices, where the general population is trained to apply minimum care to avoid complications in the out-of-hospital post-surgical stage.

## CONCLUSIONS

Post-surgical complications that affect the healing process are more common in adults over the third decade of life, with chronic diseases that affect tissue perfusion such as arterial hypertension and diabetes mellitus. Diet is an element of great value in the healing process, as well as adherence to the indicated therapy, specialized treatment with asepsis and antisepsis standards, self-care of the surgical area and attendance to follow-up consultations. Patient education is presented as a factor of great value for an adequate recovery, making education systems on the subject necessary.

### Conflict Of Interest

The authors declare that there is no conflict of interest.

### Contribution of the Authors

All authors participated in the conceptualization, formal analysis, project management, writing - original draft, writing - revision, editing and approval of the final manuscript.

### Funding

The authors did not receive funding for the development of this research.

## BIBLIOGRAPHIC REFERENCES

1. Torres-Montes de Oca A, Campos-Muñoz M, Ramírez-López B. Historia de la Cirugía General en Cuba y el mundo. Rev Inf Científica [Internet]. 2022 [citado 11/10/2022]; 101(2): e5123. Disponible en: <https://revinfcientifica.sld.cu/index.php/ric/article/view/3552>

2. Viera LDCH, Contenido RIS, Egues JAN, Ramírez PMA. Falla en la cicatrización de herida quirúrgica. Reciamuc [Internet]. 2019 [citado 11/10/2022]; 3(3): 47–62. Disponible en: <https://reciamuc.com/index.php/RECIAMUC/article/view/266>
3. Lira Garibay M, Miguela López LR, Petro AV, Cristal DG, Utus Andray GM, Danesi MA, et al. Reseña del 1º Congreso transdisciplinar de abordaje de heridas: "Avanzando hacia la Transdisciplinariedad en el manejo de las heridas crónicas". Salud, Cienc y Tecnol [Internet]. 2022 [citado 11/10/2022]; 2: 148. Disponible en: <https://doi.org/10.56294/saludcyt2022148>
4. García Andrés I, Sisamón Marco I, Ponce Lázaro MJ, Delgado Guerrero B, Lozano Alonso S, Muñoz Solera C. Revisión sistémica: factores que afectan a la cicatrización de las heridas. Rev Sanit Investig [Internet]. 2021 [citado 11/10/2022]; 2021(9). Disponible en: <https://revistasanitariadeinvestigacion.com/revision-sistemica-factores-que-afectan-a-la-cicatrizacion-de-las-heridas/>
5. Cambronero Ulate P, Cerdas Fernández A, Chang Chen V. Fisiopatología de la cicatrización patológica. Rev Medica Sinerg [Internet]. 2022 [citado 11/10/2022]; 7(5): e820. Disponible en: <https://revistamedicasinergia.com/index.php/rms/article/view/820>
6. Perdomo Pérez E, Soldevilla Agreda J, García Fernández FP. Relación entre calidad de vida y proceso de cicatrización en heridas crónicas complicadas. Gerokomos [Internet]. 2020 [citado 11/10/2022]; 31(3): 166–72. Disponible en: [http://scielo.isciii.es/scielo.php?script=sci\\_arttext&pid=S1134-928X2020000300166&lng=es&nrm=iso&tlng=es](http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1134-928X2020000300166&lng=es&nrm=iso&tlng=es)
7. Moitinho MS, Yamachi CY, González CVS, de Gouveia Santos VLC, Gamba MA. Determinantes sociales y demográficos relacionados con la cicatrización de heridas en un centro de asistencia y educación en enfermería. J Wound Care [Internet]. 2020 [citado 11/10/2022]; 29(LatAm sup 3): 44–53. Disponible en: [http://www.magonlinelibrary.com/doi/10.12968/jowc.2020.29.LatAm\\_sup\\_3.44](http://www.magonlinelibrary.com/doi/10.12968/jowc.2020.29.LatAm_sup_3.44)
8. Valdivia García L. Evaluación del riesgo de desnutrición en pacientes ingresados en una Unidad de Cuidados Intensivos postquirúrgico. Rev Cuba Tecnol la Salud [Internet]. 2022 [citado 11/10/2022]; 13(2): 19–31. Disponible en: <https://revtecnologia.sld.cu/index.php/tec/article/view/3105>
9. Cordero Alvarado RL, Guaita Pintado TP, Mercado González AF, Quinde Morocho IG. Abordaje clínico y quirúrgico de las quemaduras en atención primaria. Salud, Cienc y Tecnol [Internet]. 2022 [citado 11/10/2022]; 2: 157. Disponible en: <https://doi.org/10.56294/saludcyt2022157>
10. Castellanos Diaz PA. Autocuidado y heridas quirúrgicas: una revisión integrativa de la literatura [Tesis]. Fundación Universitaria de Ciencias de la Salud; 2019 [citado 11/10/2022]. Disponible en: <https://repositorio.fucsalud.edu.co/handle/001/3138>
11. Sastre Valbuena L. Programa de educación para la salud: terapia de presión negativa para pacientes con heridas de difícil cicatrización [Tesis]. Universidad de Valladolid; 2021 [citado 11/10/2022]. Disponible en: <https://uvadoc.uva.es/handle/10324/47840>
12. Cardenal Martínez AJ, Arredondo Provecho AB. Cuidados de Enfermería durante el perioperatorio de la artroplastia de cadera. Conoc Enferm [Internet]. 2022 [citado 11/10/2022]; 5(15): 42–9. Disponible en: <https://www.conocimientoenfermero.es/index.php/ce/article/view/176>

13. Guanche Garcell H, Pérez Díaz CR, González Valdés A, Pisonero Socías JJ. Participación de los pacientes en la prevención de las infecciones del sitio quirúrgico. Rev Cuba Cir [Internet]. 2019 [citado 11/10/2022]; 58(2): e753. Disponible en: [http://scielo.sld.cu/scielo.php?script=sci\\_arttext&pid=S0034-74932019000200008&lng=es](http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0034-74932019000200008&lng=es).
14. Guanche Garcell H, Gutiérrez García F, Pisonero Socías JJ, Rubiera Jiménez R, Suárez Cabrera A. Prevención de infecciones quirúrgica en la formación de estudiantes de medicina y residentes de cirugía general. Educ Med Super [Internet]. 2020 [citado 11/10/2022]; 34(1): e1862. Disponible en: [http://scielo.sld.cu/scielo.php?script=sci\\_arttext&pid=S0864-21412020000100011&lng=es](http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0864-21412020000100011&lng=es)
15. Hernández Cantú EI, Esparza Dávila SP, Reyes Silva A, Karim S. Eficacia de un modelo de prevención de infección de sitio quirúrgico en un hospital de segundo nivel de atención. Index Enferm [Internet]. 2020 [citado 11/10/2022]; 29(1-2): 9-12. Disponible en: [http://scielo.isciii.es/scielo.php?script=sci\\_arttext&pid=S1132-12962020000100003&lng=es](http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1132-12962020000100003&lng=es)
16. Romero-Vallejos AD, Recalde-Marrés PL. Características, nivel de conocimiento y acciones de circulantes sobre prevención de infecciones del sitio quirúrgico. Memorias del Inst Investig en Ciencias la Salud [Internet]. 2022 [citado 11/10/2022]; 20(2): 93-100. Disponible en: [http://scielo.iics.una.py/scielo.php?script=sci\\_arttext&pid=S1812-95282022000200093&lng=es&nrm=iso&tlng=es](http://scielo.iics.una.py/scielo.php?script=sci_arttext&pid=S1812-95282022000200093&lng=es&nrm=iso&tlng=es)