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REVIEWS

Nursing care for adults and the elderly in the postoperative period following total laryngectomy: scoping review

Cuidados de Enfermería a adultos y ancianos en el postoperatorio de laringectomía total: revisión de alcance

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ABSTRACT:

Introduction: Total laryngectomy is the surgical treatment for removal of laryngeal tumors. This procedure can cause permanent changes and significant functional impairments, such as irreversible loss of speech, permanent use of a tracheostomy, and changes in essential functions such as breathing, swallowing, and communication, which will affect patients' quality of life, making nursing care focused on their basic health needs essential.

Objective: to map the evidence on nursing care for adults and the elderly in the postoperative period of total laryngectomy.
Material and method: scoping review, conducted between April and July 2024, according to the guidelines of the Joanna Briggs Institute. The guiding question was: what nursing care is directed at adults and the elderly in the postoperative period of total laryngectomy? The search was conducted in: US National Library of Medicine, Latin American and Caribbean Health Sciences Literature, Scopus, Web of Science, Cumulative Index to Nursing and Allied Health Literature, Scientific Electronic Library Online, Nursing Database, and gray literature. There were no language or time restrictions.
Results: 710 articles were identified and 20 included in the review. Nursing care was directed at psychobiological needs: oxygenation, skin-mucosal integrity, and nutrition; and psychosocial needs: communication, participation, and health education.
Conclusion: Nursing care focuses on psychobiological and psychosocial needs. There were no recommendations for psychospiritual needs.

Keywords: Nursing; Nursing care; Laryngectomy; Nursing theories.

RESUMEN:
Introducción: la laringectomía total es el tratamiento quirúrgico para la extirpación del tumor de laringe. Este procedimiento puede generar alteraciones permanentes y comprometer significativamente las funciones: pérdida irreversible del habla, el uso definitivo de una traqueotomía, alteraciones en funciones esenciales como la respiración, la deglución y la comunicación, lo que afectará la calidad de vida de los pacientes, por lo que es imprescindible que la Enfermería se centre en sus necesidades básicas de salud.
Objetivo: mapear las evidencias sobre los cuidados de Enfermería a adultos y ancianos en el postoperatorio de laringectomía total.
Material y método: revisión de alcance, realizada entre los meses de abril y julio de 2024, de acuerdo con las directrices del *Joanna Briggs Institute.* La pregunta orientadora: ¿qué cuidados de Enfermería se prestan a adultos y ancianos en el postoperatorio de una laringectomía total? La búsqueda se realizó en: *US National Library of Medicine, Literatura Latinoamericana y del Caribe en Ciencias de la Salud, Scopus, Web of Science, Cumulative Index to Nursing and Allied Health Literature, Scientific Electronic Library Online*, Base de Datos de Enfermería y la literatura gris. No hubo restricciones de idioma ni de intervalo temporal.
Resultados: se identificaron 710 artículos y se incluyeron 20 en la revisión. Los cuidados de Enfermería se centraron en las necesidades psicobiológicas: oxigenación, integridad cutánea y mucosa y nutrición, y en las psicosociales: comunicación, participación y educación sanitaria.
Conclusión: los cuidados de Enfermería se centran en las necesidades psicobiológicas y psicosociales. No hubo recomendaciones sobre las necesidades psicoespirituales.

Palabras clave: Enfermería; Atención de Enfermería; Laringectomía; Teorías de Enfermería.

INTRODUCTION

Head and neck cancer (HNC) ranks seventh among the most common types of neoplasms in the global population, representing a significant public health problem due to its high prevalence and the substantial impact on patients' quality of life. This type of cancer encompasses a heterogeneous group of diseases that affect the head and neck region, characterized by tumors originating in the oral cavity, lips, nasopharynx, oropharynx, larynx, and thyroid. The subdivisions of this neoplasm are related to etiology, epidemiological trends, and specific therapeutic approaches[1,2].

Studies indicate that the incidence and mortality from HNC have shown a significant increase in Brazil. In 2020, 27,026 new cases and 14,425 deaths related to the disease were recorded, highlighting its growing epidemiological relevance. Considering the anatomical distribution of these types of cancer, lip and oral cavity tumors were the most common, totaling 9,839 cases, and were responsible for 4,198 deaths, making it the most prevalent type concerning mortality. Secondly, there is laryngeal cancer, with an incidence of 7,995 cases and 5,368 deaths[3].

Squamous cell carcinoma is the main histological type of laryngeal cancer, which can originate in one of the three subsites of the larynx: supraglottis, glottis, and subglottis. About two-thirds of tumors arise in the true vocal cords, located in the glottis, while one-third affects the supraglottic region. The incidence and mortality of laryngeal cancer have been increasing rapidly worldwide, particularly affecting men in their seventh decade of life. The main etiological factors associated are smoking and alcohol consumption[2].

Laryngeal cancer causes various consequences in the lives of those affected. Although there are treatments such as chemotherapy, radiotherapy, and surgery, all can cause adverse effects that significantly impact the quality of life of these individuals[3,4].

Total laryngectomy, a surgical treatment indicated for laryngeal cancer, involves the complete removal of the larynx, resulting in a definitive separation between the airways and the digestive tract, which can lead to permanent anatomical changes and significant functional impairments, such as the irreversible loss of laryngeal speech and the need for a permanent tracheostomy, affecting essential functions such as breathing, swallowing, and communication. Additionally, it brings psychosocial implications arising from bodily changes and social stigmatization that harm the quality of life of patients[5].

As a result, systematic planning of nursing care based on the integration of theoretical, technical, and scientific competencies becomes essential, supporting the nurse's role in identifying the basic human needs of each individual in the postoperative period of total laryngectomy, from Horta's perspective, aiming to minimize the adverse effects of this surgical treatment[6].

Wanda Aguiar Horta's Conceptual Model proposes that nursing care should focus on addressing the basic human health needs[7,8], emphasizing the construction of knowledge as an essential element for providing assistance based on actions directed towards comprehensive, systematic, and resolutive care, centered on the real demands of individuals undergoing total laryngectomy[3].

In light of this premise, this study is justified by the need to establish guidelines to systematize and qualify the nursing care provided to adult and elderly patients undergoing total laryngectomy, taking into account the specificities of postoperative care. Given the specificities of postoperative care, the lack of evidence-based protocols hinders safe, effective practice by nursing professionals, potentially compromising the quality of nursing assistance provided.

Thus, to fill this gap, this research aims to contribute to the development of a clinical protocol for nursing assistance to adult and elderly patients undergoing total laryngectomy, guided by Horta's conceptual model. In this context, the objective of this review is to map the evidence regarding nursing care for adults and the elderly in the postoperative period of total laryngectomy.

MATERIAL AND METHOD

This is a scope review developed between April and July 2024, conducted according to the structuring recommendations of the Joanna Briggs Institute Manual for Evidence Synthesis[8] and the PRISMA-ScR[9] checklist. The steps in conducting the research

were: (1) formulation of the research question, (2) literature search, (3) removal of duplicate articles, (4) selection of studies, (5) data extraction and summarization, (6) assessment of risk of bias, and (7) reporting of results.

Thus, to guide the collection of scientific evidence, the following question was formulated: "What are the nursing care considerations for adults and elderly patients in the postoperative period of total laryngectomy?" The mnemonic strategy PCC (Population, Concept, and Context) was used, with the population consisting of adults and elderly patients in the postoperative period following total laryngectomy; the concept refers to nursing care, and the context is the hospital setting.

To structure the search strategy, an analysis was initially conducted via *National Center for Biotechnology Information (NCBI/PubMed) and Latin American and Caribbean Health Sciences (LILACS),* by testing terms from *Medical Subject Headings* (MeSH) and Health Sciences Descriptors (DeCS). Subsequently, the titles, abstracts, and keywords of the retrieved articles were read to identify the most frequently used terms in studies on the topic. Thus, cross-referenced terms were selected using the boolean operator "AND", specifically for MeSH: *Laryngectomy AND Nursing Care AND Adult*; and for DeCS: *laringectomia AND enfermagem AND adulto OR idoso*, as detailed in Table 1.

Table 1. Initial selection of the most frequent terms in the studies. João Pessoa, Paraíba, Brazil, 2024.

Database	**Search Strategy**	
PubMed / Medline	*Laryngectomy and Nursing Care and adult*	*("laryngectomy"[MeSH Terms] OR "laryngectomy"[All Fields]) AND ("nursing"[Subheading] OR "nursing"[All Fields] OR ("nursing"[All Fields] AND "care"[All Fields]) OR "nursing care"[All Fields] OR "nursing care"[MeSH Terms]) AND ("adult"[MeSH Terms] OR "adult"[All Fields])*
LILACS	laringectomia *and* enfermagem *and* adulto *or* idoso	laringectomia *AND* enfermagem *AND* adulto *OR* idoso *AND* (db:("LILACS"))

Source: Prepared by the authors, 2024.

In the next stage, respecting the refinement of the search strategy and the specificities of each database or virtual library, the most frequent terms were incorporated using the boolean operators "AND" and "OR". Thus, in addition to the aforementioned databases, the following were consulted: *Scopus, Web of Science* (WoS), *Cumulative Index to Nursing and Allied Health Literature* (CINAHL), *Scientific Electronic Library Online* (SciELO), and Nursing Database (BDENF). The search for gray literature was conducted through *Google Scholar* and the Brazilian Digital Library of Theses and Dissertations (BDTD). It is noteworthy that no limits were established regarding the publication period or the language of the studies (Table 2).

Table 2. Search strategy based on the most recurring terms identified. João Pessoa, Paraíba, Brazil, 2024.

Database	Search Strategy
Pubmed	*Laryngectomy and Nursing Care and adult*
CINAHL	*Laryngectomy and Nursing Care and adult*
SciELO	laringectomia *and* enfermagem *and* adulto *or* idoso
Scopus	*Laryngectomy and Nursing Care and adult*
Web of Science	*Laryngectomy and Nursing Care and adult*
LILACS	laringectomia *and* enfermagem *and* adulto *or* idoso
BDTD	laringectomia *and* enfermagem *and* adulto *or* idoso
Google Scholar	laringectomia *and* enfermagem *and* adulto *or* idoso

Source: Prepared by the authors, 2024.

Considering the purpose of the study, studies addressing nursing care provided to patients in the postoperative period of total laryngectomy, conducted in surgical clinics of public or private hospital institutions, involving adults and elderly individuals, were considered. Studies with quantitative, qualitative, or mixed approaches published in any language were included. Investigations with descriptive methods, literature reviews, narratives, and other documents classified as gray literature were also included.

Studies addressing the roles of other health professionals, as well as those discussing care in home or outpatient settings, opinion articles, editorials, duplicate studies, or those that did not answer the research question were also excluded.

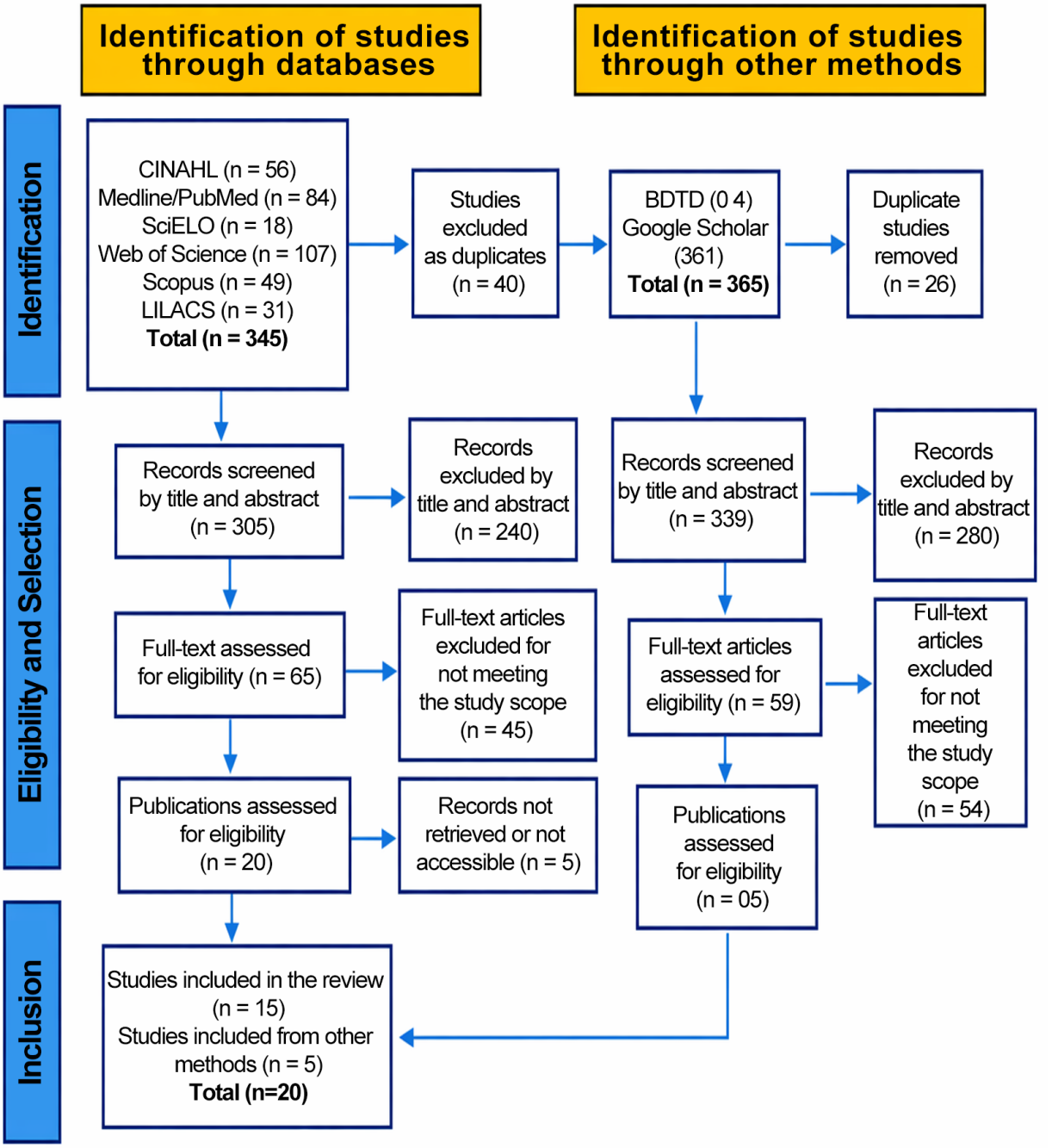
To ensure methodological rigor, the search structure followed the guidelines established by the PRISMA-ScR manual specifically for scoping reviews, illustrated by a flowchart (Figure 1). The screening of references was conducted by two reviewers independently. In cases of disagreement, the final decision was made with the participation of a third reviewer. It is emphasized that there was no conflict of interest in conducting the research. The study protocol was registered on the *Open Science Framework* (OSF), under the registration osf.io/4uy8n.

In the data extraction stage, a specific form was used, as proposed by the model of the *Joanna Briggs Institute* (JBI)[11], suitable for the type of study, which included the main information regarding the articles, including: title, objective, country of conduct, year of publication, study design, and the main nursing care listed.

RESULTS

In this research, 710 scientific productions were eligible; 645 were excluded, of which 579 did not answer the review question and 66 were due to duplication. Thus, a full reading of 65 articles was conducted, of which 20 comprised the final sample. The distribution of these publications by database was as follows: *Web of Science* with 107 (15.07%), *PubMed/Medline* with 84 (11.83%), CINAHL with 56 (7.89%), *Scopus* with 49 (6.90%), *LILACS* with 31 (4.36%), and *SciELO* with 18 (2.53%). The gray literature repositories totaled 365 records (51.40%), of which 361 (50.84%) were from *Google Scholar* and 4 (0.56%) from BDTD, as presented in Figure 1.

Figure 1: Flowchart of the process of identification, screening, eligibility, selection, and inclusion of studies, adapted from the PRISMA-ScR model - João Pessoa, Paraíba, Brazil, 2025.



Source: Prepared by the authors, 2024.

Table 3 presents the characterization of the studies included in the sample of this scoping review, containing information regarding the article title, authors, country of origin, year of publication, and study design, providing an overview of the profile of the analyzed scientific productions.

Table 3. Characteristics of the studies that were part of the scoping review (n=20). João Pessoa, Paraíba, Brazil, 2024.

Title	Objective	Country/year	Design
(E1) The Intervention of the Specialist Nurse in Rehabilitation Nursing in Promoting Self-Care for Individuals with Respiratory Ostomy [12]	Identify the interventions of the specialist nurse in Nursing rehabilitation that promote self-care in individuals with ostomy respiratory.	Portugal 2023	Narrative literature review
(E2) Effective communication in individuals who have undergone laryngectomy [13]	Understand the nursing interventions and therapeutic strategies that promote effective communication in people subjected to total laryngectomy.	Portugal 2022	Integrative review of the literature
(E3) Nursing interventions for promoting self-care in tracheostomy: a scoping review [14]	Map nursing interventions for nursing, their characteristics and outcomes, in promoting self-care for individuals with tracheostomy.	Brazil 2021	Scoping review
(E4) Analysis of postoperative efficacy and healing of pharyngeal fistula in patients with laryngeal cancer treated with postoperative enteral nutritional support combined with early oral feeding [15]	Analyze the effects of nursing on the postoperative enteral nutritional support combined with early oral feeding on postoperative efficacy and healing of pharyngeal fistula (PF) in patients with laryngeal cancer (LC). Retrospective quasi-experimental study	China 2020	Retrospective quasi-experimental study
(E5) Factors influencing readiness for hospital discharge among patients undergoing laryngectomy [16]	Identify factors that influence readiness. for hospital discharge among Chinese patients undergoing laryngectomy and provide evidence for the development of future processes.	China 2020	Cross-sectional descriptive study
(E6) Post-Operative Management After Tracheostomy and Laryngectomy: Enhancing Nursing Knowledge with *posters* at the Bedside [17]	Check if a sesión didactic and informative posters confer improvement in knowledge about surgically altered airways (tracheostomy and laryngectomy) among nursing workers.	United States 2020	Quasi-experimental study
(E7) Head and Neck Cancer Surgery: the specificity of care for individuals with pharyngostomy and esophagostomy [18]	Describe the care specific to the person with pharyngostoma and esophagostoma, drivers of the improvement of clinical practice and the quality of life of the person.	Portugal 2020	Literature review

Title	Objective	Country/year	Design
(E8) Optimize the communication of the person with laryngeal cancer, undergoing total laryngectomy - nursing interventions in the perioperative period: *scoping review* [19]	Identify the evidence scientific available in the literature on the interventions promoting effective communication for the person undergoing total laryngectomy in the perioperative period.	Portugal 2020	Scoping review
(E9) Perioperative Nursing of Patients with Reoperation of Recurrent Parathyroid Carcinoma Invading the Upper Digestive or Respiratory Tract [20]	Summarize the nursing care perioperative for patients with recurrent parathyroid carcinoma. Retrospective study	China 2020	Find the best
(E10) Bibliographic investigation on nursing care in total laryngectomy [21]	To find the most better evidence of healthcare that nursing should provide to patients.	Spain 2019	Systematic review
(E11) A Therapeutic Education Program for patients who have undergone temporary tracheostomy and total laryngectomy: leading to the improvement of the "Diagnostic, Therapeutic, and Care Pathway [22]	To lead patients and caregivers to an efficient level of self-care.	Italy 2019	Methodological study
(E12) Pharyngocutaneous Fistula in Oncological Patients: Implications for Nursing [23]	To describe the main implications of the fistula complication pharyngocutaneous to support nursing care.	Brazil 2013	Integrative review To present the profile
(E13) Daily care for adult men hospitalized with tracheostomy due to laryngeal cancer [24]	Present the perfil of socioeconomic adult males hospitalized with tracheostomy due to cancer in the larynx, describe the nursing care received and analyze the care needs in health and nursing.	Brazil 2012	Mixed
(E14) Difficulties in verbal communication of the laryngectomized client [25]	Analyze the importance of verbal communication for the stoma patient, assess whether they have been informed about the change in speech and describe their feelings regarding the difficulty in verbal communication.	Brazil 2009	Descriptive and qualitative study
(E15) Uncertainties of the patient to undergo total laryngectomy surgery [26]	Identify the uncertainties of the patient regarding the laryngectomy surgery total.	Brazil 2008	Descriptive/observational

Title	Objective	Country/year	Design
(E16) Looking at laryngeal cancer: learn how to support your patient through the physical and emotional challenges of diagnosis, treatment, and rehabilitation [27]	Provide the nurse with an overview of laryngeal cancer.	United States 2007	Descriptive study
(E17) Pharyngocutaneous fistula after total laryngectomy: systematic review [28]	Identify the main treatments for the fistula pharyngocutaneous after the total laryngectomy and develop recommendations for nursing interventions in the care of patients undergoing total laryngectomy, with the pharyngocutaneous. fistula complication	Brazil 2004	Systematic review
(E18) Nursing care for laryngectomized patients in the postoperative period [29]	Identify the nursing diagnoses in the late postoperative period of total laryngectomy and outline a nursing intervention plan for the identified diagnoses.	Brazil 2002	Case series
(E19) Care for patients with laryngeal carcinoma [30]	Identify the care for patients with laryngeal carcinoma.	United States 1989	Literature review
(E20) Nursing care after laryngectomy [31]	Describe the nursing care for the nursing in the post-operative period after laryngectomy.	United States 1949	Review

Source: Research data, 2024.

The results of this research showed that the publication period of the studies varied from 1949 to 2023. Regarding the location of the studies, seven studies (35%) were conducted in Brazil, four (20%) in Portugal, four (20%) in the United States, three (15%) in China, one (5%) in Spain, and one (5%) in Italy.

In addition to the nursing care provided during the postoperative period of total laryngectomy, the main nursing diagnoses associated with this clinical profile, as mapped in this review, were identified, with the most frequent highlighted in bold in Chart 4. This analysis allowed the identification of the relationship between care and the main nursing diagnoses, according to the taxonomy of the North American Nursing Diagnosis Association International (NANDA-I)[32]. The concepts of Horta's theory were used[33], combined with the professional experience of the researchers, to ensure a consensual clinical judgment and greater diagnostic accuracy. The main findings are demonstrated in the following table (Table 4).

Table 4. Main nursing diagnoses and care for adult and elderly patients in the post-operative period of total laryngectomy, based on Wanda Horta's Theory of Basic Human Needs (n=20), João Pessoa, Paraíba, Brazil, 2024.

Nursing Diagnosis - NANDA-I	Nursing Care
Psychobiological Needs - oxygenation	
Ineffective airway clearance Risk of aspiration	- Position the patient in an elevated Fowler's position [12,17,27,31] - Assess airway patency [4,12,20,23,25,28] - Deflate the cuff of the tube at least once per shift [23,26,29,30] - Perform suctioning of the tracheostomy cannula [20,30,31] - Ask the patient, during the suctioning of the tracheostomy cannula, to breathe deeply before and after the suctioning [30] - Change the suction set daily [28] - Perform diaphragmatic breathing exercises [12] - Administer and monitor oxygen therapy [24] - Provide comfort measures [24] - Guide early ambulation [27,30] - Place the patient in a room close to the nursing station [27,30] - Monitor vital signs [12,24,27,28] - Remove and clean the internal cannula of the tracheostomy [28,30] - Instill 2-3 ml of 0.9% saline during the suctioning of the cannula [28] - Provide supplemental humidification through a tracheostomy mask or by using a universal adapter connected to the tracheostomy tube [21,27,30] - Remove the tube every 4 to 6 hours or more frequently as needed and clean with 0.9% sodium chloride solution or tap water [27] - Instruct the patient on self-care regarding the cleaning of the internal tracheostomy cannula at home [23,28] - Keep the *cuff* of the tracheostomy cannula inflated [29] - Check the positioning, securing of the tracheostomy cannula, and change the tape [28]
Psychobiological Needs - skin-mucosa integrity	
Impaired skin integrity Risk of surgical wound infection	- Clean the periesophageal or perilaryngeal stoma site, tracheostomy with 0.9% sodium chloride [14,18,23,28] - Use a skin protection film or barrier cream in the peristomal area [18] - Avoid saliva accumulation at the stoma site [18] - Control bleeding [24] - Promote hydration of the skin and oral mucosa [23,28,29] - Wash the skin in the neck area only with water, if possible use neutral soap [29] - Perform body and oral hygiene care [23,24,28,29] - Assess the surgical wound [17,23,28] - Clarify the presence of the extensive bilateral cervical surgical incision [24,27] - Perform dressings [15,18,21,23,31] - Monitor for hematoma formation at the surgical site [23,24] - Indicate appropriate coverings for the surgical wound dressing [23,28] - Control pain [24,28,29]

Nursing Diagnosis - NANDA-I	Nursing Care
	- Be cautious with intravenous therapy, surgical incision, tubes, drains, and catheters [24] - Inspect the skin and oral cavity to monitor for clinical signs of infections [23] - Guide attempts at laryngeal voice emission to avoid suture rupture at the surgical site and the emergence of a fistula [23]
Psychobiological Needs - nutrition	
Impaired swallowing	- Check the positioning of the NGT before administering feeding [18,28] - Administer enteral nutrition [18,21,24,27,28,31] - Strictly control the nutrient infusion rate to 25 ml/h for the first 6 hours of the first postoperative day [15] - Keep the head of the bed elevated at 30-45 degrees to prevent choking and aspiration during feeding [15,17,28,31] - Administer feeding and medications, then flush the tube with 20 ml or more of water as needed [28] - Perform food polyfractionation [18,28] - Keep the gastric tube secured and unobstructed [18,15,23] - Secure the nasogastric tube to the nose and cheek, replacing the tape every 48 hours or as needed [28] - Change the nasogastric tube periodically, according to the protocol established in the clinic [28] - Provide care at the beginning of oral feeding [23,24,27,28,29,31] - Educate about permanent changes such as decreased sense of smell and taste [25] - Stay by the patient's side during meals in the first few days, as they may experience pain or difficulty chewing and swallowing, and may still require suction during feeding [28] - Monitor blood glucose levels [24] - Maintain fluid and electrolyte balance [23,24,28]
Psychosocial Needs - communication	
Impaired verbal communication	- Discuss alternative communication methods with the patient and family [13,29] - Guide them to write: loose sheets, notepads, magic boards, or dry-erase boards with markers [13] - Teach sound production through obstruction of the tube [12] - Teach lip reading and facial expressions [13,15,19,26,29] - Instruct on the use of portable electronic devices that have software installed for communication and that allow for artificial speech output [13,19] - Provide alternative non-verbal communication methods, for example: using a paper pad, letters of the alphabet, hand signals, blinking, nodding, bell signals, making posters with pictures or words [13,25,26,29] - Use colored cards, for example, green for affirmative and red for negative [26] - Encourage the use of sound devices such as bells or small horns when no one is nearby [13].

Nursing Diagnosis - NANDA-I	Nursing Care
	- Use appropriate language at the socio-educational level of the patient and family [23]. - Advise that as a consequence of the removal of the larynx, the patient will lose their ability to produce voice [29]. - Clarify to the patient that if they cannot learn esophageal speech, there are alternatives such as the use of an electronic larynx and voice prosthesis [29]. - Provide guidance on the ability to produce voice [17]. - Guide on communication and vocal rehabilitation [17,21,22,23]. - Seek appropriate means for interaction [21,24]. - Encourage the patient to attend speech therapy and psychotherapy [29] - Promote a calm and conducive communication environment [19].
Psychosocial Needs - participation	
Maladaptive coping Excessive anxiety Disturbed body image	- Maintain the physical and emotional safety of the patient [25,27,31]. - Seek measures to reduce anxiety [23,24,25]. - Employ strategies that preserve hope and positive coping with the future situation [20,24,25,29]. - Value the patient's feelings and encourage the patient and family to participate in support groups [27,29]. - Reinforce their positive capabilities and encourage them to accept their feelings [29]. - Encourage the patient to express how they see themselves and how they face changes in their self-image [29]. - Discuss the difficulties that other family members may have with physical changes [24,29].
Psychosocial Needs - Health Education	
Inadequate health knowledge Decreased self-care ability syndrome	-Teach, through illustrative brochures, the surgical procedure performed and the consequences of laryngectomy [25,29] -Explain to the family and the patient the importance of follow-up evaluations throughout the treatment [25,29,28] -Teach care to prevent tumor recurrence, such as eliminating alcohol consumption and smoking [23] -Provide guidance for self-care [21,22,23,28,30,31] -Provide written instructions and specific printed materials for each patient [22,30] -Develop the educational program with the patient and/or caregiver [28] -Teach stoma camouflage techniques [27] -Teach to sleep with the head elevated [29] -Guide on care and implications regarding tracheostomy [14,25] -Guide on bathing to prevent water from entering the stoma [27] -Guide on careful oral hygiene [15,23,28,29]

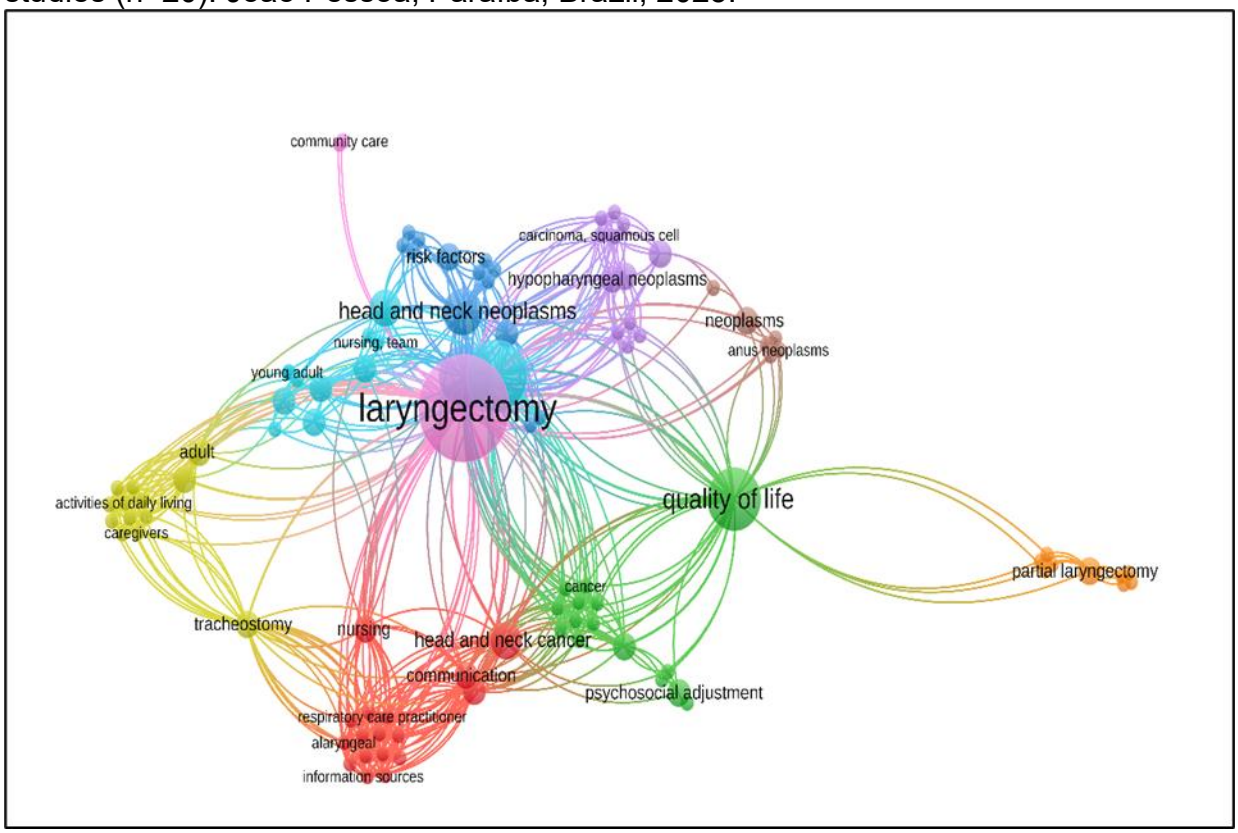
Source: Research data, 2024.

The analysis of the studies in this review revealed that the most frequent nursing care recommendations are related to psychobiological needs, primarily those related to oxygenation, with 19 recommendations, followed by psychosocial needs, with

communication accounting for 16 recommendations. There were also 14 recommendations listed related to both skin-mucosal integrity and nutrition. Regarding the recommendations for care focused on psychosocial needs, eight are associated with the individual's participation in the recovery process and 11 with health education. It is emphasized that no specific care was found for psycho-spiritual needs.

Thus, based on these results, a graphical representation (Figure 2) of the most frequent keywords in the included studies was created. To achieve this, the *VOSviewer* software was used. The words were grouped by similarity into networks, allowing the identification of the most relevant terms related to nursing care for adults and the elderly in the postoperative period of total laryngectomy.

Figure 2: Graphical representation of the most frequent keywords in the selected studies (n=20). João Pessoa, Paraíba, Brazil, 2025.



Source: Research data, 2024

From this representation, it was observed that the highlighted care is interconnected through the terms *"tracheostomy", "laryngectomy", and "partial laryngectomy"*, highlighting the importance of respiratory interventions, management of tracheostomy, prevention of respiratory complications, and guidance on self-care. Psychosocial and communication aspects gained relevance with terms such as *"psychosocial adjustment", "communication", and "quality of life",* indicating that the communicative limitations and emotional impact resulting from laryngectomy require a comprehensive approach. In addition, the family and community dimension was highlighted by the connection between the terms *"caregivers", "community care"* and *"information sources",* emphasizing the need for self-care and training of caregivers (Figure 3).

Figure 3: Graphical representation of the most frequent Nursing Care provided to the laryngectomized person, *in the selected studies (n=20). João Pessoa, Paraíba, Brazil, 2025.*

Source: Research data, 2024.

DISCUSSION

The data mapped in this research were categorized according to the psychobiological, psychosocial, and psycho-spiritual needs of Horta's Conceptual Model, but the outcome revealed nursing care focused only on psychobiological needs (oxygenation, skin-mucosal integrity, and nutrition) and psychosocial needs (communication, participation, and health education).

Regarding the oxygenation component, the identified nursing care involves suctioning secretions, cleaning and securing the cannula and subcannula. Regarding the cutaneous-mucosal integrity component, care includes management of the tracheostomy stoma and treatment of the surgical wound. As for the nutrition component, it focuses on administering nutritional therapy.

In the realm of psychosocial needs, the communication component includes care aimed at implementing effective communication strategies. The participation component involves actions that promote the individual's engagement in strategies for recovering their own health. Finally, in the health education component, guidance on self-care is highlighted.

The findings of this study indicated that the most common nursing care[14, 20,21,23-31] is centered on assisting individuals with tracheostomy, with an emphasis on airway suctioning, which involves the removal of secretions from the lower respiratory tract to maintain airway patency and prevent complications[34]. Suctioning should be performed

using sterile technique[20,21,28,30]. In indicated situations, the importance of administering and monitoring oxygen therapy is also emphasized[24].

These recommendations regarding airway suctioning are aligned with the Clinical Practice Guidelines. However, the use of 2 to 3 ml of 0.9% saline solution for humidifying secretions, as pointed out in one of the studies[28], is not recommended by the guideline due to its potential to cause a drop in oxygen saturation, excessive coughing, bronchospasm, tachycardia, and dyspnea[35].

Humidification through adapters connected to the tracheostomy, mentioned in some studies[21,27,30], was not included in the guidelines of the American Association for Respiratory Care (AARC). However, a comparative study conducted in Japan on the efficacy of heat and moisture exchange devices in laryngectomized individuals showed that new devices that have emerged on the market have brought significant benefits to this population, such as a reduction in pulmonary infections, improvement in sleep quality, coughing, and breathing[36].

Regarding the cleaning of the cannula and subcannula, some studies [20,30,31] highlighted the importance of this care, but did not specify which solutions should be used in the cleaning process. Only one study [27] mentioned the use of saline solution or running water. In turn, a randomized controlled clinical trial evaluated the cleaning of internal cannulas used by laryngectomized patients with tracheostomy, comparing the use of detergent and sterile water in the decontamination of these devices. The results demonstrated that sterile water was not less effective than detergent in reducing bacterial load, indicating its viability for the safe reuse of internal cannulas[37].

This review also addressed the care related to securing the tracheostomy tape, but did not specify the type of fastener used[28]. However, a qualitative study indicated that the use of Velcro straps is preferable, as it offers greater comfort to the patient compared to laces, which can cause skin injuries. Additionally, it was recommended to maintain a two-finger space between the securing tape and the patient's neck to avoid excessive compression[38].

Daily care of the stoma presents a significant challenge, as this area, in particular, is vulnerable to the occurrence of injuries and moisture from tracheobronchial secretions. Such a condition requires specialized nursing intervention aimed at preserving skin integrity, preventing infections, as well as promoting the comfort and safety of the patient[18].

Bittencourt and Graube[38] highlighted that dressings in the peristomal area should be changed at each shift or as needed by the patient. They recommended regular assessment of the presence of hyperemia, firmness, and integrity of the skin around the stoma. They added that the use of gauzes is indicated for absorption of secretions and prevention of irritations; however, it is essential that they are not cut, in order to avoid accidental inhalation of tissue fragments. Bleeding in the stoma area may occur as a result of the aspiration procedure [39].
Patients undergoing laryngectomy may also experience complications at the surgical site, such as the formation of pharyngocutaneous fistulas, which consist of an abnormal communication between the pharynx and the skin and may compromise their recovery. This type of complication may arise due to impaired healing or dehiscence of the mucosal sutures increasing the risk of local infection and delayed healing[40,41]. Thus,

the main recommendations for the care of this category emphasized the assessment of the surgical wound[17,23,28], performing dressings[15,18,21,23,31], indicating appropriate coverings[23,28], pain control[24,28,29] and the inspection of intravenous devices, tubes, drains, and catheters[24].

In this context, nursing assistance should be based on skin care, performing dressings, and assessing the surgical wound in order to promote the healing process and minimize the risk of fistula formation and infections that may compromise surgical recovery and prolong hospitalization[41].
Regarding the nutrition component, the findings of this study highlight recommendations for care focused on the administration of nutritional therapy[15,18,21,24,27,28,31]. These results corroborate those of a systematic review, which demonstrated that patients in the postoperative period of total laryngectomy often cannot resume feeding in a short period after surgery. Swallowing impairment and dysphagia are common. Additionally, the perception of odors is compromised due to olfactory deprivation caused by the interruption of nasal airflow[40,42].

Reinforcing the essentiality of this care, an international study highlights that enteral nutritional support through a nasogastric tube (NGT) constitutes the main route of feeding in the post-laryngectomy period. This resource is fundamental to preserve the integrity of the surgical area, prevent infections, dehiscence of sutures, and formation of fistulas, as well as to ensure adequate nutritional intake during the healing process and prevent other complications[43] that require specific interventions and impact the quality of life of these individuals[44].

Regarding the communication component, the recommendations for care are focused on the rehabilitation of speech through the learning of esophageal voice and the use of auxiliary communication devices[13,17,19,21,22,23,25,26,29]. It was observed in another study that the rehabilitation of oral communication after laryngectomy constitutes a fundamental step in the functional and psychosocial recovery of the patient. The loss of natural voice can have significant impacts, such as feelings of isolation, frustration, and difficulties in social interactions[45].

In this sense, nursing assistance should focus on the communicative reintegration of the patient, with guidance on alternative communication methods, family involvement in encouraging communication, as well as rehabilitation and support from speech therapy and psychotherapy[13,23,29]. Technological alternatives for vocal emission should be suggested, in order to expand communicative possibilities[17,21,22,23]. Furthermore, environmental conditions, family involvement, and the provision of emotional support are fundamental conditions[19].

In the context of non-verbal communication, the results of this study recommend the use of lip reading and facial expressions as auxiliary strategies[13,19,25,26,29]. Moreover, handwriting should be encouraged, using simple resources; however, in the immediate postoperative period, it may be difficult due to the post-anesthetic period[13]. The use of colored cards[13,26], portable electronic devices, and specific applications can be adopted[13,19], along with the formulation of direct questions, guidance on simple gestures for affirmative or negative responses, and the use of simple sound devices to request assistance in situations where the patient is alone[13].

A study reveals that these interventions can be developed to optimize the communication of laryngectomized individuals, as the loss of laryngeal voice is associated with a worse quality of life, and postoperative communication options include surgical voice restoration, electrolarynx, esophageal speech, silent articulation, writing, and text-to-speech applications[45].

Regarding the participation component, the recommendations were directed towards acceptance, hope, and strengthening coping abilities, incorporating self-care as a fundamental tool to contribute to health maintenance and improve quality of life[20,23,24,25,29]. The appreciation and acceptance of expressed feelings and their correlation with symptoms and significant changes in the patient's life should be identified and understood as part of comprehensive care, enabling more assertive interventions that facilitate coping with illness[29].

It also emphasizes the need to encourage the patient to express how they perceive themselves, their self-image, and the difficulties that other family members may face in light of physical changes[13,29]. The patient and their family should seek means that favor adaptation and reintegration into social life [24]. Thus, encouraging them to participate in support groups will contribute to the sharing of experiences and the building of support networks[27,29]. Similarly, adherence to speech therapy and psychotherapy are essential resources for communication rehabilitation and mental health care[29].

As revealed by data from another investigation, patients who received early speech therapy rehabilitation with the use of a voice prosthesis showed better emotional states compared to those who did not undergo this intervention[46]. A complementary study identified that emotional support and interaction are fundamental in the rehabilitation process of the laryngectomized individual. Psychological follow-up, participation in support groups, and involvement in therapeutic activities contribute to emotional adaptation to the changes imposed by surgery[47].

In the health education component, the implementation of educational strategies in the preoperative phase and the involvement of the patient and family members represent fundamental pillars in the recovery process. For this education to be effective, it is necessary to ensure that the patient understands their diagnosis and proposed therapeutic plan[13].

This study presents, as a limitation, the absence of evidence on nursing care focused on psycho-spiritual needs, which represents an important gap in knowledge, especially regarding the comprehensiveness of care.

It is recommended that future research address the psycho-spiritual dimension, essential for the completeness of care and the well-being of laryngectomized patients throughout the rehabilitation process.

CONCLUSIONS

Based on the results of this review, the main care and recommendations for nursing assistance to patients in the postoperative phase of total laryngectomy were identified. These were grouped based on the psychobiological and psychosocial needs for adult

and elderly patients in order to contribute to the qualification of care in a comprehensive, resolutive, and humanized manner.

The identified nursing care addressed crucial aspects of recovery, including maintaining oxygenation and skin integrity, ensuring adequate nutritional support, rehabilitating communication, encouraging active participation in treatment, and providing health education to promote self-care, autonomy, and adaptation to the new health condition. These actions contribute to improving the patient's quality of life, offer support to families, and strengthen evidence-based nursing practice.

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