

Nursing care for feeding and ventilation stoma: Literature review

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Abstract

Ostomy means the opening of an empty organ through the body. The term ostomy describes the surgical exteriorization of an organ, diverting its usual path. The difference between tracheostomy, gastrostomy, and jejunostomy has to do with the location of the opening. A tracheostomy is an artificial opening made by surgical means or percutaneous dilation in the anterior wall of the trachea performed in critically ill patients to clear the airways and allow gas to flow. Gastrostomy is an opening in the stomach, performed by a physician, in which a silicone tube or probe is placed that is externalized through the skin. Its purpose is to allow feeding and hydration for patients who cannot eat normally. Since the implementation of a gastrostomy imposes a new condition on the individual, and a need to adapt to the current situation, people in this condition may experience negative feelings and reduced levels of self-esteem. This is a descriptive, qualitative study of the reflective analysis type, a narrative review. Articles published in the last five years, in Portuguese, English, and Spanish, that addressed the topic were selected and analyzed to acquire greater depth and approximation with the object of study to support the reflections. Four categories were developed: Concepts and definitions of respiratory ostomy: Tracheostomy; Concepts and definitions of feeding ostomy: Gastrostomy; Concepts and definitions of feeding ostomy: Jejunostomy; Main nursing care with ventilation and feeding ostomies. Therefore, the study aims to reflect on nursing care with feeding and ventilation ostomy.

Keywords: care, ostomy, nursing, gastrostomy, tracheostomy.

Cuidados de enfermagem com estomia alimentar e ventilatória: Revisão de literatura

Resumo

Estomia significa abertura de alguma víscera vazia através do corpo. O termo estomia é designado para a exteriorização cirúrgica de uma víscera, desviando o seu trajeto habitual. A diferença entre traqueostomia, gastrostomia e jejunostomia tem a ver com o local da abertura do orifício. A traqueostomia é uma abertura artificial feita por meio cirúrgico ou dilatação percutânea na parede anterior da traqueia realizada em pacientes críticos visando desobstruir as vias aéreas permitindo o fluxo dos gases. A gastrostomia é uma abertura no estômago, realizada pelo médico, no qual é colocado um tubo de silicone ou sonda que se exterioriza na pele, seu objetivo é permitir a alimentação e hidratação de pacientes que não conseguem se alimentar normalmente. Como a concretização da eustomia impõe uma nova condição ao ser, uma necessidade de adaptação à atual situação, as pessoas nesta condição podem apresentar sentimentos negativos e níveis de autoestima diminuídos. Trata-se de um estudo descritivo, qualitativo do tipo análise reflexiva, uma revisão narrativa. Foram selecionados e analisados artigos publicados nos últimos cinco anos, nos idiomas Português, Inglês e Espanhol e que abordassem o tema e no intuito de adquirir maior aprofundamento e aproximação com o objeto de estudo para

subsidiar as reflexões. Foram elaboradas 4 categorias, sendo, respectivamente: Conceitos e definições sobre a estomia respiratória: Traqueostomia; Conceitos e definições sobre a estomia alimentação: Gastrostomia; Conceitos e definições sobre a estomia alimentação: Jejunostomia; Principais cuidados de enfermagem com as estomias de ventilação e alimentação. Sendo assim, o estudo tem como objetivo refletir sobre cuidados de enfermagem com estomia de alimentação e ventilação.

Palavras-chave: cuidados, estomia, enfermagem, gastrostomia, traqueostomia.

1. Introduction

The word ostomy comes from the “Greek stomoum”, which originally meant the opening of an empty organ through the body (Mareco et al., 2019). The term ostomy describes the surgical exteriorization of an organ, diverting its usual path. As the implementation of an ostomy imposes a new condition on the individual, and a need to adapt to the current situation, people in this condition may experience negative feelings and reduced levels of self-esteem (Melo et al., 2019).

Ostomy means “mouth” or “opening”. A surgical measure to connect a hollow organ to the external environment, canceling the function of the affected organ, which may be temporary or permanent. The most common ones are in the gastrointestinal tract, intestinal elimination, called colostomy, ileostomy, and wet colostomy (Faria et al., 2018).

Some studies define the surgical procedure of a stoma as traumatic because it causes serious changes in the lifestyle of ostomized patients who require exclusive help and specialization (Carvalho et al., 2019). The physical aspects are related to the changes in anatomy and physiology that have repercussions on the social, psychological, and spiritual aspects of the patient. Self-rejection, insecurity, feelings of incapacity, and disbelief in spiritual values are feelings that commonly accompany ostomized patients during their process of adapting to their new condition (Gemelli; Zago, 2002).

Ostomized patients face multiple physical, psychological, spiritual, social, and sexual changes, which can create significant limitations in their daily lives. Health, in its holistic view, focuses on the need for care of ostomized patients, focused not only on their new health situation but also on the representation of this stoma to society, because it is tough for patients to face the prejudice coming from people who are not prepared to live with the ostomized patient (Couto et al., 2018).

Changes in body image are decisive in the patient's quality of life in the various phases of their rehabilitation. Most ostomized patients feel mutilated after undergoing surgery and live in a period of mourning with their bodies. Several factors influence the patient's self-care, as well as adherence and motivation for treatment. Knowing these factors is essential to understanding the challenges of the care process in stomatherapy (Couto et al., 2018).

The difference between tracheostomy, gastrostomy, and jejunostomy has to do with the location of the opening of the orifice. Tracheostomy is an artificial opening made by surgical means or percutaneous dilation in the anterior wall of the trachea, often performed in critically ill patients to clear the airways and allow gas to flow or in cases of injuries caused by trauma (Silva Souza et al., 2021).

The interest in developing this study on nursing care for feeding and ventilation stomas is motivated by the growing need to optimize the management of these patients in clinical settings. With the increase in surgical interventions that require the creation of stomas, whether for feeding or ventilation, nursing professionals must be well-informed and prepared to provide appropriate and individualized care. Previous studies have shown that lack of knowledge and inadequate care can lead to complications, such as infections and malnutrition, negatively impacting patients' recovery and quality of life. In addition, the existing literature often does not comprehensively address best practices for stomal care in different settings, which highlights the importance of a systematic review that identifies effective guidelines and recommendations. With this, the study aims not only to improve the skills of nursing professionals but also to contribute to the formulation of care protocols that ensure safer and more effective care, thus promoting better patient outcomes.

2. Materials and Methods

2.1 Systematic review

This is a descriptive, qualitative study of the reflective analysis type, developed from a literature review on nursing care for patients with feeding and ventilation stoma. To this end, a narrative review was conducted. Thus,

the review was conducted in a non-systematic manner, with a random search for material in the databases of the Virtual Health Library, Google Scholar, Scopus, and Web of Science to answer the following question: What is the nursing care for patients with feeding and ventilation stoma? The following descriptors were used to search for studies: Care; Ostomy; Nursing; Gastrostomy; and Tracheostomy.

Articles published in the last five years in Portuguese, English, and Spanish that addressed the topic were selected and analyzed to gain greater depth and understanding of the object of study to support the reflections. A qualitative synthesis of the analyzed works was then carried out and it is considered that the search and selection criteria established were satisfactory to meet the objective of this work. Through the search procedure, thirty-two articles with the potential to support this manuscript were identified. After evaluating the titles and abstracts, thirty articles were considered for full reading and, meeting the inclusion criteria, were able to support this reflection.

3. Literature review

3.1 Category 1 – Concepts and definitions of respiratory ostomy: Tracheostomy

Respiratory ostomy was created to improve patient comfort, reduce the need for sedation and airway resistance, and, consequently, facilitate its care and maintenance. It consists of opening the trachea by placing a cannula inside it, promoting communication between the trachea and the external environment, with the main purpose of maintaining airway permeability (Pereira, 2022).

It is generally indicated for critical patients who require prolonged mechanical ventilation, presenting benefits such as increased lung mechanical capacity, decreased need for laryngeal or tracheal stimuli, reduced need for sedatives and analgesics, and easier oral hygiene and nutrition (Khammas; Dawood, 2018).

Tracheostomy (TQT) is a very old surgical procedure, performing a total or temporary laryngectomy, for the processes of airway clearance and/or orotracheal intubation. Reestablishing breathing and contributing to the proper functioning of the organism. It is worth mentioning that it is very frequently used as the most common surgical procedure in intensive care units (ICU), among the processes of respiratory failure, tracheal trauma, handling of patients with difficult ventilatory weaning, and for airway hygiene by releasing excessive tracheobronchial secretion (Donoso et al., 2021).

It is a procedure that is over 2 thousand years old, from which urgent measures to clear the airways, ensuring assisted ventilation and bronchial hygiene are inevitable. It is complex and multifactorial, including the severity of airway obstruction and the impossibility of extubation. Essentially, it is used in situations where there is obstruction of the upper airway, accumulation of tracheal secretions, weakness of the respiratory muscles or to provide a stable airway in patients with prolonged tracheal intubation (Esteves, 2022; Ghiani et al., 2022).

The indication for this procedure is related to the person's need for prolonged mechanical ventilation, generally associated with critical patients who require assisted support; however, it is present in patients who have neoplastic pathologies (Lima et al., 2022).

3.2 Category 2 – Concepts and definitions about feeding ostomy: Gastrostomy

A gastrostomy is an opening in the stomach, made by the doctor, in which a silicone tube or probe is placed that comes out through the skin. The objective is to allow feeding and hydration for patients who cannot eat normally. It can be temporary and with several tube models (Lopes et al., 2023).

Among the indications for creating a gastrostomy are swallowing disorders of muscular or neurological origin, metabolic diseases, severe gastrointestinal reflux, nutritional deficiencies, esophageal trauma, esophageal atresia, esophageal strictures, congenital or acquired encephalopathy and cystic fibrosis of the pancreas, for children, and adults, usually oncological diseases (Lino, 2014).

Studies indicate that gastrostomy is also considered a stoma, where it is performed in the abdominal wall to allow access to the gastric chamber to provide a route for administering enteral nutritional therapy and drug therapy. They are used to replace nasogastric tubes, with the alternative being jejunostomy, also used for nutritional therapy (Rodrigues et al., 2018; Silva et al., 2021).

It is also confirmed that a flexible polyurethane or silicone catheter is inserted into the stomach, temporarily or permanently, to replace food or perform digestive decompression. This surgery can be performed by a surgical incision in the abdominal wall or endoscopically to assist in the feeding process, which can be liquid or pasty

and will last depending on the needs of each patient (Silva Souza et al., 2021; Esteves, 2022).

It can be performed on patients with neurological disorders, esophageal atresia, or as a caloric supply to correct innate metabolism, and can be temporary or permanent, with a flexible tube inserted into the abdominal wall or endoscopically, to meet the patient's needs. In this sense, it can be temporary or permanent and aims to provide adequate nutrition for the functioning of the organism of a patient who needs an alternative route, since the functional route is not supplying the patient as it should (Rodrigues et al., 2018; Santos et al., 2021; Alsunaid et al., 2021).

3.3 Category 3 – Concepts and definitions about feeding ostomy: Jejunostomy

A jejunostomy is a surgical procedure that establishes access to the lumen of the jejunum, where a catheter is placed directly into the small intestine in the jejunal portion. It is performed when there is an obstruction in the upper digestive tract that makes swallowing and digestion difficult in the stomach, requiring a stoma in the jejunum to provide nutritional support for the patient. The access routes for this ostomy are laparotomy, laparoscopy, and endoscopy. A probe (flexible tube) is positioned in this opening in the small intestine through which food or medication is introduced or an artificial exit of feces is made (MS, 2018; Silva Souza et al., 2021).

A jejunostomy can be performed by laparoscopy or open surgery and is considered a safe and effective procedure for enteral feeding of patients who are unable to eat through the mouth. Furthermore, this method has advantages such as a lower risk of pulmonary aspiration, reduced length of hospital stay, and lower cost compared to total parenteral nutrition (Esteves, 2022). A feeding stoma and tube are placed in the small intestine, an opening in the abdomen for communication between the internal and external environment for the feeding process, which can be liquid or pasty depending on the needs of each patient. Jejunostomy is a common surgical practice in those patients who require nutritional support for a prolonged period. The presence of feeding tubes involves the advantage of contributing to good therapeutic management (Bailey et al., 2021).

3.4 Category 4 – Main nursing care for ventilation and feeding ostomies

Nursing acts as a guide for the re-establishment and quality of life of the patient's health through the implementation of educational practices in daily life and care that value self-care. The practice of educating the patient can be seen as an instrument that results in care. Thus, through health education, the nurse can act as a mediator of learning that leads the patient to develop skills and competencies for self-care, which impacts their independence and autonomy (Ribeiro; Andrade, 2018; Zelga et al., 2021; Björn et al., 2022).

In gastrostomy and jejunostomy, food is administered through a tube, which can receive a homemade or ready-to-eat, industrialized diet. In this case, nursing care is focused on the importance of taking precautions to preserve the permeability of the tube and avoid obstruction (Ribeiro; Andrade, 2018).

In gastrectomized patients, good hand hygiene practices should be maintained; Clean the gastrostomy tube insertion site with 0.9% saline solution or warm water whenever necessary and dry thoroughly after washing; inspect the skin around the gastrostomy daily, paying attention to signs of inflammation at the tube insertion site; Dilute medications thoroughly before administering; Wash the tube with 20 to 50 mL of filtered water after feeding; keep the tube closed at all times when not in use; During and 60 minutes after feeding, keep the patient in the Fowler position; observe for leakage of food through the gastrostomy orifice. If this is observed, immediately notify the multidisciplinary team (Zustiak et al., 2020; Nascimento, 2021; Kim; Hall, 2021).

In the case of patients with tracheostomy, they are advised to eat sitting down, eat slowly, and chew well before swallowing. In addition, it is necessary to encourage water intake to contribute to the fluidification of pulmonary secretions. The nurse should promote hygiene care whenever it is obstructed by secretions; replace the external cannula, according to the protocol defined at the level, location, and frequency indicated by the manufacturer or by clinical indication; ensure that the external cannula fixation material is changed whenever it is wet, with loss of integrity or impregnated with secretions and/or blood content; assess the permeability of the cannula every 4 hours; observe the permeability of the airways; detect signs and symptoms of respiratory difficulty; keep the head of the bed in a semi-sitting position; perform aerosol therapy with a specific device (thick and/or blood secretions) to prevent mucous plug; promote follow-up for a reassessment of self-care, prevention, and detection of complications of the peri-stoma skin and stoma and assessment of adaptation to ostomy accessories, introducing changes whenever necessary (Sharp et al., 2020; Pereira, 2022).

Nursing intervention should also include teaching regarding communication with the user with a respiratory

ostomy, ensuring that the person with a cannula without an inflated cuff should be taught and trained to communicate with a cannula; and the person with a cannula with an inflated cuff should be taught alternative communication techniques, sign language, facial expressions and writing (Pereira, 2022; Yan; Li, 2023).

4. Conclusions

The difference between tracheostomy, gastrostomy, and jejunostomy has to do with the location of the opening. Gastrostomy is when the opening is located in the stomach and is used for feeding or administering medication when the patient has some impairment that prevents them from eating orally.

Tracheostomy is an artificial opening made by surgical means or percutaneous dilation in the anterior wall of the trachea, often performed in critically ill patients to clear the airways and allow gas to flow or in cases of injuries caused by trauma. Caring for a person with a tracheostomy requires an intense level of constant care, staff training, and available resources, making it a difficult task in environments with limited resources, such as the home environment.

The quality of life of the patient who has undergone a stoma is affected by different aspects, and results in loss of self-esteem and social isolation, hindering the rehabilitation process and encouragement in the face of the disease. Therefore, to reduce the effects of this procedure on patients' lives and also help them adapt to their new living conditions, the help of family and friends is considered very important. Nursing professionals have a unique role in health education practices, as they are considered the facilitators and coordinators of actions due to their proximity to users. They work in promotion, prevention, treatment, and rehabilitation, assisting people in a multidimensional way, including biological, psychological, spiritual, and socioeconomic aspects.

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6. Authors' Contributions

Wanderson Alves Ribeiro: ideas, formulations, oversight, and leadership responsibility for the research activity planning and execution, including mentorship external to the core team. *Ana Fagundes Carneiro*: conducting a research and investigation process, and development or design of methodology. *Érica Motta Moreira de Souza*: conducting a research and investigation process, and development or design of methodology. *Gabriel Nivaldo Brito Constantino*: conducting a research and investigation process, and development or design of methodology. *Gabriel Nivaldo Brito Constantino*: conducting a research and investigation process, and development or design of methodology. *Viviane Cortes Cruz de Souza*: conducting a research and investigation process. *Daiane Lopes dos Santos*: conducting a research and investigation process. *Ane Raquel Oliveira*: conducting a research and investigation process. *Pietro Henrique Benevides Pedrosa*: conducting a research and investigation process. *Loren Costa Klein*: conducting a research and investigation process. *Tarsila Reis Pinto Pires*: conducting a research and investigation process. *Cristal dos Santos Grassel*: conducting a research and investigation process. *Milena Rangel Siqueira*: conducting a research and investigation process, and preparation, creation, and/or presentation of the published work. *Miriam Maria Ferreira Guedes*: conducting a research and investigation process and preparation, creation, and/or presentation of the published work.

7. Conflicts of Interest

No conflicts of interest.

8. Ethics Approval

Not applicable.

9. References

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