

Nursing actions for prevention and treatment of complications in intestinal stomies

Ações de enfermagem para prevenção e tratamento de complicações em estomias intestinais

Acciones de enfermería para prevención y tratamiento de complicaciones en estomias intestinales

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HOW TO CITE

Perissotto S, Breder JSC, Zulian LR, Oliveira VX de, Silveira NI da, Alexandre NMC. Nursing actions for prevention and treatment of complications in intestinal stomies. ESTIMA, Braz. J. Enterostomal Ther., 17: e0519. https://doi.org/10.30886/estima.v17.638_IN

ABSTRACT

Objectives: To identify in the literature the main nursing actions for prevention and treatment of the most frequent complications in intestinal elimination stomies. **Methods:** Integrative review that followed the phases: identification of the theme and selection of the research question; establishment of criteria for inclusion and exclusion of studies; categorization of studies; evaluation of studies included in the integrative review; interpretation of results; and synthesis of knowledge. The period used was from January 2007 to June 2017, in the databases and in the portals Medical Literature Analysis and Retrieval System Online (MEDLINE), Biblioteca Virtual em Saúde (BVS), Excerpta Medica database (Embase), Web of Science, Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Scopus Info Site. The descriptors used were ostomy, nursing and postoperative complications. **Results:** Eleven articles answered the guiding question: which nursing actions can be used to prevent and treat complications in intestinal ostomies? The most commonly reported complications were a parastomal hernia, stenosis, retraction of the ostomy and mucocutaneous separation. The most cited nursing actions were preoperative demarcation and follow-up with specialist nurses in the pre- and postoperative periods. **Conclusion:** The role of the stomatherapist nurse is essential for the prevention and treatment of complications in the intestinal ostomies, but more studies of high impact are necessary to guide their actions.

DESCRIPTORS: Ostomy; Nursing; Postoperative Complications; Estomatherapy.

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Received: 28 Aug 2018 | Accepted: 28 Mar 2019

RESUMO

Objetivo: Identificar na literatura as principais ações de enfermagem para prevenção e tratamento das complicações mais frequentes nas estomias de eliminação intestinal. **Método:** Revisão integrativa que seguiu as fases: identificação do tema e seleção da questão de pesquisa; estabelecimento de critérios para inclusão e exclusão de estudos; categorização dos estudos; avaliação dos estudos incluídos na revisão integrativa; interpretação dos resultados; e síntese do conhecimento. O período utilizado foi de janeiro de 2007 a junho de 2017, nas bases de dados e nos portais Medical Literature Analysis and Retrieval System Online (MEDLINE), Biblioteca Virtual em Saúde (BVS), Excerpta Medica database (Embase), Web of Science, Cumulative Index to Nursing and Allied Health Literature (CINAHL) e Scopus Info Site. Os descritores utilizados foram estomia, enfermagem e complicações pós-operatórias. **Resultados:** Onze artigos responderam à questão norteadora: quais ações de enfermagem podem ser utilizadas na prevenção e tratamento das complicações em estomias intestinais? As complicações mais abordadas foram hérnia paraestomal, estenose, retração da estomia e separação mucocutânea. As ações de enfermagem mais citadas foram demarcação pré-operatória e acompanhamento com enfermeiro especialista no pré- e pós-operatório. **Conclusão:** A atuação do enfermeiro estomaterapeuta é essencial para a prevenção e tratamento das complicações em estomias intestinais, porém mais estudos de alto impacto são necessários para nortear suas ações.

DESCRITORES: Estomia; Enfermagem; Complicações Pós-operatórias; Estomaterapia.

RESUMEN

Objetivo: Levantar en la literatura las principales acciones de enfermería para la prevención y tratamiento de las complicaciones más frecuentes en las estomias intestinales. **Método:** Revisión integrativa que siguió las fases: identificación del tema y selección de la cuestión de investigación; establecimiento de criterios para la inclusión y la exclusión de estudios; categorización de los estudios; evaluación de los estudios incluidos en la revisión integrativa; interpretación de los resultados y síntesis del conocimiento. El período utilizado fue de enero de 2007 a junio de 2017 en las bases de datos y en los portales Medline, BVS, EMBASE, CINAHL y Scopus. Los descriptores fueron estomia, enfermería y complicaciones postoperatorias. **Resultados:** Once artículos respondieron a la cuestión orientadora: ¿qué acciones de enfermería pueden ser utilizadas en la prevención y tratamiento de las complicaciones en estomias intestinales? Las complicaciones más abordadas fueron hernia paraestomal, estenosis, retracción de la estomia e separación mucocutánea. Las acciones de enfermería más citadas fueron demarcación preoperatoria y acompañamiento con enfermero especialista en el pre y postoperatorio. **Conclusión:** La actuación del enfermero estomaterapeuta es esencial para la prevención y tratamiento de las complicaciones en estomias intestinales, pero más estudios de alto impacto son necesarios para orientar sus acciones.

DESCRIPTORES: Ostomía; Enfermeira; Complicaciones posoperativas; Estomaterapia.

INTRODUCTION

The term “ostomy” can generally be defined as surgical “construction” of an artificial orifice for external fistulization of a duct or vessel by insertion of a tube with or without support probe (Health Science Descriptors). Specifically, intestinal stomies may be classified as feeding or elimination stomies, the most common being, in the latter case, colostomies and ileostomies^{1,2}. The causes that usually lead to the manufacture of intestinal elimination stomies are colorectal tumors, inflammatory bowel diseases and abdominal traumas³. This scenario is worrisome because, according to the National Cancer Institute (INCA) estimate, 36,360 new cases of colorectal cancer arose in Brazil in 2018⁴; inflammatory bowel diseases progressively increase in incidence and prevalence in developing countries, including Brazil⁵, and studies show that abdominal trauma is the most prevalent type

among polytrauma⁶. Regardless of the evolution of surgical techniques and the assistance to this type of patient over the years, complications of intestinal stomies may arise and represent a reduction in the quality of life of the individual⁷ and increased spending on health services⁸.

Postoperative complications of the stomies are classified as immediate (occurring within the first 24 hours after surgery), early (between the 1st and 7th postoperative day) and late (after the 7th postoperative day)².

Immediate complications are hemorrhage, bleeding, edema, and necrosis. Edema is a natural response to the surgical procedure, but may also be associated with a very small hole opening in the abdominal wall and excessive manipulation of the loop in surgery². Stomach necrosis is tissue death due to reduced blood flow and can be superficial or deep².

Early complications include mucocutaneous separation, in which adjacent stomata separates from the skin that

may be caused by suture tension, scarring, infection or necrosis, and the retraction, disappearance, or major reduction of the ostomy in the skin line of the abdomen².

Finally, late complications include stenosis, loop prolapse and parastomal hernia. In stenosis, the stoma is contracted, preventing the passage of the effluent, and its cause may be the formation of excessive scar tissue, necrosis or hyperplasia. Loop prolapse is the exteriorization of the loop beyond the ostomy and may occur due to the incorrect attachment of the bowel to the wall of the abdomen at the smaller diameter of the loop relative to the abdominal wall or increased intra-abdominal pressure. The parastomal hernia is a defect in the abdominal wall muscles that facilitate the exit of the intestinal loop through the ostium where the stomach was performed and is caused by the absence of correct preoperative demarcation, inadequate stomatal fixation, muscular fragility and/or excessive intra-abdominal pressure².

The literature shows that patients attended by stomatotherapist nurses present less severe complications than patients who do not have this type of service, requiring fewer surgical hospitalizations, and a lower hospital admission rate^{1,9}.

Studies demonstrate the high incidence of complications related to intestinal elimination ostomies^{10,11}. In this scenario, the nurses' performance, especially the stomatherapist specialist, becomes increasingly necessary in the prevention and treatment to reduce these rates³. However, there are few publications that synthesize nursing actions to prevent and treat these complications.

OBJECTIVES

The objective of this study was to identify in the literature the main nursing actions for prevention and treatment of the most frequent complications in intestinal elimination ostomies.

METHODS

This is an integrative review, a method that provides the synthesis of knowledge and the incorporation of the applicability of meaningful studies in practice¹².

The integrative review was carried out following the phases: identification of the theme and selection of the research question; establishment of criteria for inclusion and exclusion of studies; categorization of studies; evaluation of studies included in the integrative review; interpretation of results; and synthesis of the knowledge of the main results evidenced in the analysis of the included articles¹².

The guiding question was: to identify and synthesize in the literature nursing actions and their effects in the prevention and treatment of complications of intestinal elimination ostomies.

Were searched the portals and databases: Medical Literature Analysis and Retrieval System Online (MEDLINE), Biblioteca Virtual em Saúde (BVS), Excerpta Medica database (Embase), Web of Science, Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Scopus Info Site. The following descriptors were used in Portuguese: estomia, complicações pós-operatórias e enfermagem; in Spanish: ostomía, complicaciones posoperativas e enfermería; and in English: ostomy, postoperative complications e nursing. The Boolean operator AND was used and different combinations were made, according to the specificity of each database.

The inclusion criteria for this review were studies on intestinal elimination stomatitis (colostomies and ileostomies) published in English, Portuguese and Spanish, from January 2007 to June 2017, in the selected databases.

Exclusion criteria were articles that dealt with other types of ostomies other than those of intestinal elimination (urinary ostomies, feeding ostomies, such as gastrostomies and jejunostomies, and respiratory ostomies, such as tracheostomies), articles dealing only with peristomal skin, review articles, studies sponsored by private companies, case reports, opinion articles and studies that were not related to nursing actions.

RESULTS

The selection of articles was done by two reviewers independently. At the first moment, the titles and summaries of the total sample were read and, taking into account the inclusion and exclusion criteria, 131 articles were selected from the 569 that returned from

the search. In the second moment, 87 duplicate articles were removed and the sample was 44 articles (Fig. 1). In the third moment, all 44 articles were read, 33 were excluded because they did not meet the inclusion criteria, reaching the final sample of 11 articles.

To describe and analyze the studies, it was decided to use a data synthesis and collection instrument that includes the following items: year of publication, study objective, type of study, complications and nursing actions (Table 1).

From 2007 to 2017, the average publication was one article per year, and in 2014, there was the largest number of publications on the subject (four articles). Most of the studies were conducted in the United States (five out of 11 articles) and in Sweden (two out of 11 articles).

Retention of the intestinal stoma was the most frequent complication (eight articles, 72.7%) followed by parastomal hernia, which appeared in seven of the 11 articles (63%). Stenosis, necrosis and mucocutaneous separation were addressed in five articles (45%). Abscess, bleeding and fistula were addressed in three articles (27%). Prolapse was cited in two articles (18%). Obstruction, granuloma, varicose veins and trauma were cited in one article. Adequate preoperative demarcation of the ostomy was the most cited preventive action (four articles, 36.3%). The care provided by the stomatherapist nurse was cited as an important factor in the prevention and treatment of complications in seven of the 11 articles (63%).

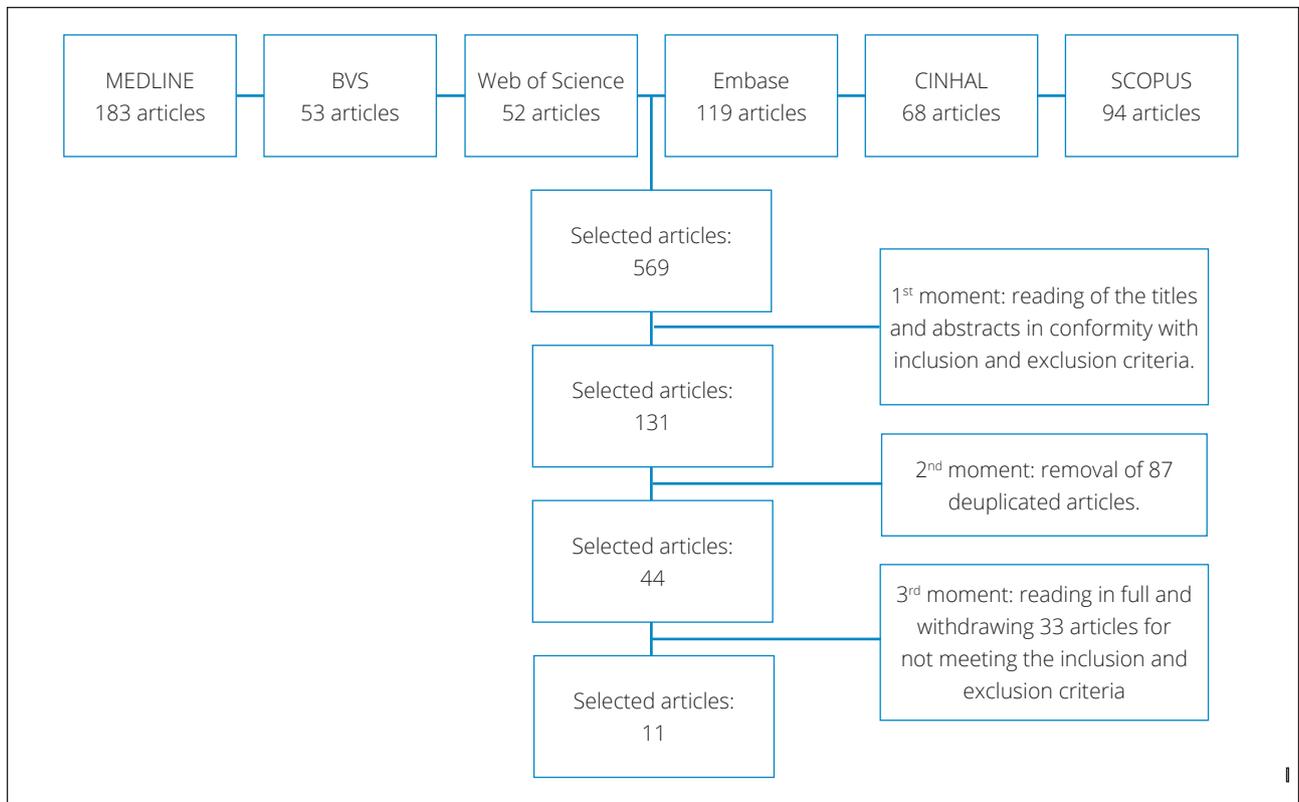


Figure 1. Articles found evaluated after application of the inclusion and exclusion criteria.

Table 1. Distribution of publications according to year, purpose, type of study, complications and nursing actions.

Year	Study goals	Study type	Complications	Nursing actions
2010 ¹⁰	To determine the type and incidence of ostomy-related complications and to identify associated factors in Korean patients	Retrospective cohort	1) Parastomal hernia	1) Correct preoperative demarcation (inside the rectus abdominis muscle), weight loss (obesity as a major risk factor)

....continue

Table 1. Continuation...

2011 ¹³	Develop a standard approach to diagnosis and treatment of complications of the ostomies that optimize the rehabilitation of patients and is easy to use for non-specialists	Methodological and algorithm construction	<ol style="list-style-type: none"> 1) Excessive bleeding 2) Deep necrosis 3) Retraction for an aponeurosis 4) High intestinal fistula 5) Abscess 6) Acute intestinal obstruction 7) Stenosis 8) Parastomal hernia 9) Prolapse 	<ol style="list-style-type: none"> 1-6) Referral for emergency surgery 7-9) Referral for elective surgery
2012 ¹⁴	To analyze the complications that can occur after the confection of intestinal stomies	Prospective cohort	<ol style="list-style-type: none"> 1) Retraction 2) Parastomal hernia 3) Bleeding 	<ol style="list-style-type: none"> 1-3) Demarcation and preoperative orientation of the patient by stomatherapist nurse
2013 ¹⁵	To evaluate prospectively the evolution and incidence of complications and to describe the configuration of the ostomies in patients submitted to emergency abdominal surgery	Of cohort, prospective	<ol style="list-style-type: none"> 1) Necrosis 2) Mucocutaneous separation 3) Stenosis 4) Prolapse 5) Parastomal hernia 6) Granuloma 	<ol style="list-style-type: none"> 1-6) Systematic follow-up for 2 years by stomatherapist nurse (1 to 2 times during hospitalization, 2 weeks after discharge and 3, 6, 12 and 24 months after surgery)
2013 ¹⁶	To evaluate the effect of telephonic follow-up by the stomatherapist nurse on the post-discharge adaptation after a colostomy	Of Intervention	<ol style="list-style-type: none"> 1) Retraction 2) Stenosis 3) Necrosis 	<ol style="list-style-type: none"> 1-3) Systematic follow-up by phone after discharge by stomatherapist nurse; connections 3 to 7 days after discharge and 14 to 20 days; an extra call (23 to 27 days) was made for patients with more difficulty in adapting
2014 ⁹	To evaluate the psicometric properties of an instrument to measure the incidence and severity of the immediate postoperative complications of the ostomies	Prospective cohort	<ol style="list-style-type: none"> 1) Retraction 2) Mucocutaneous separation 	<ol style="list-style-type: none"> 1, 2) Preoperative demarcation by stomatherapist nurse
2014 ¹⁷	Identify the optimal interventions for specific complications, based on the clinical judgment of specialist nurses	Transverse quantitative with qualitative components	<ol style="list-style-type: none"> 1) Parastomal hernia 2) Prolapse 3) Necrosis 4) Mucocutaneous separation 5) Retraction 6) Stenosis 7) Fistula 8) Trauma 9) Varicose veins 	<ol style="list-style-type: none"> 1) Supporting belt to the hernia. 2) Collector equipment that accommodates the entire length and width of the stoma. Cold compress to reduce the stoma. 3) Transparent pouch system for direct viewing. 4) Filling the separated area with absorbent material (skin barrier powder or paste, calcium alginate or hydrofiber). 5) Convex equipment and belt. 6) Increase of the liquid intake and diet with low content of residues. 7) Convex equipment. 8) Identify and eliminate the causal factor. Handle bleeding with direct pressure, cold compress. 9) Hemostasis with silver nitrate

....continue

Table 1. Continuation...

2014 ³	To monitor and describe the effect of demarcation on the complications of the ostomies and peristomal areas	Multicentric, retrospective.	1) Mucocutaneous separation 2) Retraction	1, 2) Correct preoperative demarcation, even in emergency surgeries; increase number of specialized units and nurses in stomatherapy
2014 ¹	To compare the immediate complications of patients with ostomies who received specialist nurse attention with those who did not receive it	Multicentric, almost experimental, prospective.	1) Parastomal hernia 2) Bleeding 3) Infection	1-3) Attendance by a specialist nurse
2016 ¹⁸	Prospective description of the prevalence of complications 1 year after surgery. Describe the configuration of the stoma and its influence on complications	Clinical prospective.	1) Retraction 2) Parastomal hernia	1) Use of convex equipment 2) Use of abdominal tape. Avoid abdominal exercises and carry weight within the first 3 months after surgery
2016 ¹⁹	Identify the best interventions for the selected complications, based on the judgment and expertise of the specialist nurses/stomatherapist	Transverse quantitative with qualitative components	1) Prolapse 2) Necrosis 3) Mucocutaneous separation 4) Retraction 5) Stenosis 6) Stomal fistula	1) Suitable bags, fastening straps and silicone rings for stabilization. Apply cold compress in dorsal decubitus for 10 minutes. 2) Use of a transparent two-piece pouch for better evaluation and indication of proper debridement. 3) Fill with absorbent material and covered with barrier material (moldable rings) 4) Use of support belt, convexity and referral for surgical revision 5) Low residue diet, stool softeners, increasing fluid intake (if permitted), dilation of the stomathole by a trained professional, and referral for surgical revision 6) Pouch system incorporating the omentum and fistula. Use of convexity

Adapted from Ursi and Galvão²⁰.

DISCUSSION

It was noted that the annual publication on the theme is small and that the countries with the highest level of socioeconomic development have published the largest number of articles. Only one article on this topic had a high level of evidence, which is an intervention study¹².

A large part of the actions for the prevention and treatment of complications in intestinal elimination

stomies is the responsibility of the nurse, be it a stomatologist or a trained generalist. The nursing action to prevent complications of greater occurrence in our review was the preoperative demarcation. The demarcation is considered the first stage for adaptation to the stoma and allows it to be performed in a suitable place, besides being a moment that allows the individuals to obtain information about the stoma manufacture, postoperative care, equipment and adjuvants that will

be used³. A multicenter retrospective study with a sample of 748 patients demonstrated that the complication rates were higher in patients not demarcated preoperatively³. This study showed that the reduction of complications in intestinal stomies is directly related to the greater number of stomatherapist nurses and specialized stomatherapy units³.

Systematic follow-up of the patient after hospital discharge by the specialist nurse, outpatiently or via telephone, especially in the first two years after surgery, has been shown to be a strategy to reduce complications¹⁸. Telephone follow-up can be an alternative to services that have high demand and demonstrates effectiveness in adapting the person to the ostomy¹⁶.

Ostomy retraction was the most frequent complication in our review, and the indication of treatment for this condition is the use of one or two pieces of convex flange equipment. Its effectiveness lies in its ability to exert pressure against skin peristomy, increasing the exteriorization of the ostomy and allowing effluent to flow into the equipment²¹. The association of the belt to the convex device guarantees its effectiveness and increases the safety of the patient²¹.

Parastomal hernia can be prevented with the use of abdominal strap, weight loss (since obesity is a great risk factor for this complication), orientation so that the patient does not carry weight in the first three months after the surgery and the accomplishment of correct preoperative demarcation, causing the stoma to remain inside the rectus abdominis muscle^{10,18}.

Increased water intake, low residue diets, use of drugs that make the effluent more softened, and dilatation of the ostomy by trained professionals are cited in the literature as measures to control stenosis of the ostomy in order to prevent its obstruction^{17,19}. For conduction of necrosis, the use of transparent pouch is indicated for better visualization and evolution, and mucocutaneous separation can be treated with filling with absorbent material (such as calcium alginate or hydrofibers) and

subsequent covering with barrier material (such as moldable rings of hydrocolloid)^{17,19}.

All of the actions described here are developed by the stomatherapist nurses directly or indirectly, which is in keeping with the results of this review. The studies analyzed show that the stomatherapist is the key professional in the prevention and resolution of complications in intestinal elimination stomies, acting in several phases of the trajectory of the person with ostomies, promoting, through specialized care, independence in their self-care and better quality of life^{3,16}.

CONCLUSION

In this study, it was possible to verify that the performance of the stomatherapist is present from the prevention to the treatment of the complications of intestinal elimination ostomies. The actions performed by the stomatherapist nurse have an impact on the reduction of complication rates.

We found that there is a shortage of publications with high impact and more methodological rigor on the subject, so it is necessary to carry out further studies to support the practice of nurses, mainly the specialists.

AUTHORS' CONTRIBUTION

Conceptualization, Perissotto S, Breder JSC, Zulian LR, Oliveira VX, Silveira NI and Alexandre NMC; Methodology, Perissotto S, Breder JSC, Zulian LR, Oliveira VX, Silveira NI and Alexandre NMC; Research, Perissotto S, Breder JSC, Zulian LR and Oliveira VX; Writing – First version, Perissotto S, Breder JSC, Zulian LR and Oliveira VX; Writing – Review & Editing, Perissotto S and Breder JSC; Supervision, Alexandre NMC and Silveira NI.

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