

# Causes attributed to stoma or peristomal skin complications in northeast Brazil

## ABSTRACT

**Problem statement** To identify the causes attributed by people with stomas or by their caregivers to complications arising in the stoma and peristomal skin.

**Method** A qualitative study performed in the period March–June 2018 on a group of 19 people with intestinal stomas. The data were collected through the process of structured interviews and were analysed by applying a content analysis technique.

**Results** It was possible to perceive that the causes attributed to complications of the stoma and peristomal skin were alterations associated with or related to: the use of the ostomy appliance; personal conditions; knowledge about self-care; and the condition of the stoma or surgical technique.

**Conclusions** People who live with a stoma can identify the possible causes for the complications to which they are predisposed. These are described by: the use of the ostomy appliance used; personal conditions; knowledge of the person on self-care of their stoma; condition of the stoma and peristomal skin; and the surgical technique employed.

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## INTRODUCTION

A stoma consists of an opening created by surgical techniques that allows visceral shunting through the skin at a point other than the natural insertion site in order to promote breathing, feeding or elimination<sup>1</sup>.

Stomas are identified according to the section of the body where the stoma is placed and associated tissue that is segmented or averted to form the stoma and are known as tracheostomy (respiratory), gastrostomy and jejunostomies (feeding) and urinary or intestinal (elimination). With regard to the period the stoma may be required, they can also be classed as temporary or permanent according to the possibility, or not, of re-establishment of the habitual route of elimination<sup>2</sup>.

Among the different types of ostomies, intestinal (ileostomy and colostomies) deserve a special mention, given that several situations can lead to the necessity for intestinal tract diversion such as inflammatory bowel disease, trauma, diverticulitis, cancer and congenital diseases<sup>3</sup>. In Brazil, the main causes for intestinal stomas in the adult and elderly population are colorectal neoplasias<sup>4</sup>. The Instituto Nacional do Câncer (National Cancer Institute, INCA), estimates for each year of

the 2018–2019 biennium over 17,380 new cases of colon and rectum cancer in men and 18,980 in women will occur<sup>5</sup>.

There are many clinical contexts which contribute to the occurrence of complications in the stoma and / or peristomal skin, among which the most frequent are prolapse, retraction, ischaemia, parastomal hernias and peristomal dermatitis<sup>6</sup>. It is worth highlighting that these complications negatively influence the general quality of life of the person with a stoma, causing sexual problems, depressive feelings, flatulence, constipation, dissatisfaction with appearance, frequent change of clothes or style of clothes, difficult gait, fatigue, and concern with noise. Thus these factors can adversely affect personal and professional relationships as well as lead to withdrawal from the social environment<sup>7</sup>.

In view of these problems, the stomal therapy nurse is an essential health professional in order for the assessment and appropriate plans of management for the individual and their stoma to be implemented in an effective way. Therefore, from the time of the creation of the stoma to the ambulatory and domiciliary care phases of the patients' rehabilitation, the stomal therapy nurses' goals and actions are to assist the patient with the stoma to prevent or facilitate early identification of complications related to the ostomy<sup>8</sup>.

Considering this context, this study aimed to identify the causes attributed by people who live with a stoma or by their caregivers in the northeast of Brazil as to the complications related to the ostomy and /or peristomal skin. Comprehending these issues from this perspective and the causes attributed to these complications can assist the stomal therapy nurse to provide individualised plans of care. Such specialist nursing assistance can help people with stomas to better adapt to the modifications required and experienced by them as a result of their new health condition.

## METHOD

This descriptive study with a qualitative approach was performed March–June 2018 in a rehabilitation centre located in a state in the northeast region of Brazil.

In the Serviço de Atenção à Saúde da Pessoa Estomizada (Service of Healthcare of the Stoma Person, SASPO) of the Secretaria Estadual de Saúde do Estado do Ceará (State Department of Health of the State of Ceará, SESA) 57 people are registered with a stoma. Among these, 26 people did not accept an invitation to participate in the survey, which resulted in a total of 31 people in the study cohort. However, by the criterion of theoretical saturation – where no new information is being extracted from participants' responses, duplication or repetition of responses is observed and the study aims have been met<sup>9</sup> – 19 participants were interviewed, 11 with an intestinal stoma and eight caregivers.

The data collection was performed through interviews with a structured script which included questions related to complications of the stoma and peristomal skin. The

interviews were recorded in audio, while the answers were later transcribed in full and coded by the letter 'E' for patients with intestinal stomas and 'C' for caregivers followed by Arabic numerals.

The data analysis was performed using Bardin's Content Analysis technique following the stages of pre-analysis, material exploration and treatment of results, inference and interpretation. Content analysis corresponds to a set of methodological tools that aims to analyse different ways of communication, verbal or non-verbal, obtained through interviews or through direct observation, whose material, extracted after complete and exhaustive analysis, is classified / separated into themes or categories<sup>10</sup>.

## Ethical considerations

Consent to participate in the study was voluntary, through the signing of the Term of Free and Informed Consent paying respect to the national and international ethical precepts for research involving human beings. In this sense, the participants were guaranteed in their anonymity, as well as their privacy and the right of autonomy regarding the freedom to participate or not in the research project. The research was appraised and approved by a Research Ethics Committee regulated in Brazil, under opinion no. 2,542,686 and CAAE registration no. 83103518.4.0000.5052.

## RESULTS AND DISCUSSION

### Participant demographics

Nineteen participants aged 22–75 registered to take part in the study. Of these, 11 participants were employed with companies and eight were managers with an average wage of 950 reais. All were living in cohabitation with others. Of the participants with stomas, four of them were females and seven were males. In this group, nine of them had completed elementary education and one had completed higher education, the other were unknown. Among the caregivers, six were female and two were male, all of whom hold elementary education.

In regard to the clinical characteristics of participants' stomas, 10 participants had a permanent stoma and nine had a temporary stoma. Among them, 15 had colostomies and four ileostomies. Regarding the cause of the stoma, 10 participants had colorectal cancer, seven were the result of trauma, and two had an acute abdomen.

### Participants' perceptions of the causes of stomal or peristomal skin complications

After transcription and analysis of the audio-taped interviews, it was possible to group participants' perceptions of how they attributed the development of complications of the stoma and / or peristomal skin into four categories:

- Alterations relating to ostomy appliance usage.
- Alterations relating to personal conditions.
- Alterations relating to knowledge about self-care.
- Alterations relating to the ostomy condition or to the surgical technique.

### Alterations relating to ostomy appliance usage

Regarding the ostomy appliance, the participants pointed out that the development of the complications identified are related to the type of equipment available in the service, the quality of the material in the appliances received, the adhesiveness of the appliances and, consequently, the period of adhesion. Comments from participants to substantiate this perceptions were:

*When I removed the bag, her skin was very white, very sensitive, I noticed that the skin became red / What caused this problem was the type of bag [C1, C2, C3, C4, C6, C7, C5, C8].*

*I think what they use to stick to the skin is not at all efficient. Because it is easy degreasing, it burns the skin of the person. They are supposed to do something that would stick more and that would not hurt so much the skin of the person. I think it's totally related to the bag [E19].*

There is no ideal type of ostomy appliance which adapts to all people, all stomas, and all situations. However, there are several types of products that can be used to meet the individual needs of patients with stomas due to the different types and structural changes that occur in the stoma as the stoma matures after surgery and the patient resumes their normal activities of daily living. These factors imply a change of conduct in relation to the selection of equipment and the prescription of specific care according to the individual needs of each person<sup>11,12</sup>.

Furthermore, regarding the ostomy appliance, it must be noted that if this equipment is used permanently on the abdomen of the individual, it may affect their body image. In these circumstances, the prescription of equipment becomes a complex task. The stomal therapy nurse needs to know with clarity the products available as well as their indications, advantages and disadvantages. Integral to the ostomy appliance selection process is an evaluation of the individual who requires the appliance – this should take into account the physical, emotional and social dimensions of the individual as well as considering other factors such as their manual dexterity, visual acuity, clothing, family support, lifestyle, personality, cognitive ability and user preferences<sup>13</sup>.

The Política Nacional de Saúde da Pessoa com Deficiência (National Health Policy of the Person with Disabilities), instituted by directive no. 400/09 of the Brazilian Ministry of Health, determines the criteria and provision of ostomy equipment for stomas and adjuvant materials for peristomal skin conditions based on an evaluation of the characteristic of the stoma and peristomal skin<sup>14</sup>. A diverse range of equipment and adjuvant materials are available. However, around the world there are wide variations in relation to the care provided and to the quantity and quality of materials distributed to people with an ostomy, despite there being specific recommendations for this audience. It is noteworthy that in Brazil these differences are present in several regions, directly interfering in the satisfaction of the person with ostomies regarding the supply of collecting and adjuvant equipment<sup>12</sup>.

### Alterations relating to personal conditions

People with stomas frequently report that issues related to their stoma and skin are related to changes in their personal condition. Regarding this aspect, study participants report the non-acceptance of the skin to the constituent materials of the ostomy appliances:

*... At times, it is itchy ... so I think it's due to the skin, which doesn't fit on bags that gets red, scratching, but it's just a matter of adaptation, but I think that the problem is my skin itself [E9, E11, E10, E12].*

The removal of any body part is considered an experience that provokes a sense of vulnerability and lack of mastery over its existence. For this reason, it is necessary to actively listen to fortify the link between the health professional and patient in order to identify their concerns, and then to develop intervention strategies that help people with stomas and/or the caregiver to self-care<sup>15</sup>.

In another study, which evaluated the perception of patients who suffer from intestinal stoma, it was reported that people experienced changes in their lives during the ostomy rehabilitation process ranging from uncertainty of feelings, fear of lack of awareness, to lack of information, which makes it difficult to return these individuals to their usual activities of daily routine<sup>16</sup>.

Therefore, the introduction of strategies that will lessen their vulnerabilities and fortify their self-belief is important. Educational technologies such as video lessons, interactive programmes through the internet, telephone support and group therapy can assist with this. These activities are of fundamental importance in facilitating processes of rehabilitation and adaptation of people who live with a stoma. Such strategies also aid in the early recognition and notifications of complications which results in a better quality of life<sup>17</sup>.

### Alterations relating to knowledge about self-care

The interviewees' responses indicated a lack of knowledge regarding their condition, suggesting that this situation is one of the factors responsible for triggering stomal and peristomal complications. One of the major concerns expressed was the difficulty in managing the ostomy appliance, especially in relation to the cutting of the adhesive portion of the appliance to the size and shape of the stoma.

*... the skin was very irritated, hurt, painful and irritated around, I wanted a medicine to heal it, but I have no idea that it took that bleeding and that red skin around [E16, E15, E13, E14].*

Effective counselling and teaching across the continuum of care is therefore a necessity to effectively satisfy the holistic needs of individual patients, their families and the community. Thus, the stomal therapy nurse needs to also promote educational and counselling practices so that the family and the patient are heard, involved, and reassured for their new life situation<sup>18</sup>.

According to the Brazilian Ministry of Health legislation, the healthcare of people who suffer from ostomies must be composed of actions developed from the context of basic healthcare at the hospital, passing through the specialised services (for example Health Care Service of Ostomized People: Attention to Ostomized People I and Attention to Ostomized People II) in a framework of collaborative multidisciplinary practice<sup>14</sup>. Nursing is represented in all health services; however, it is preferable that a stomal therapy nurse with the requisite skills will guide the self-care of the patient with a stoma, assist in the prevention of complications, and advise on the provision of ostomy equipment and adjuvants for safe peristomal skin protection. In addition, the stomal therapy nurse should train other health professionals so they understand the criteria for and can dispense ostomy equipment more effectively<sup>14</sup>.

However, in reality, within the entire territory of Brazil, there are insufficient stomal therapy nurses to meet the needs of patients with stomas, which implies difficulties in the implementation of the ostomy guidelines for self-care and the management of the stoma and peristomal skin and, consequently, can lead to complications<sup>19</sup>. Complications related to stoma and peristomal skin are decreased when the stomal therapy nurse can interact with the patient preoperatively. Preoperative care includes marking the stoma site, determining the ostomy appliances to be used in the immediate postoperative period, and discussing lifestyle changes as the result of having a stoma. Postoperatively, the stomal therapy nurse continues to guide the patient and caregiver on how to care for the stoma and peristomal skin and apply the ostomy pouch. The patient and/or care-giver are advised how to recognise stomal or skin complications and to seek assistance from the stomal therapy nurse in how to resolve these complications<sup>20</sup>.

#### *Alterations relating to the ostomy condition or to the surgical technique*

Some of the participants described that the cause of the complication was in relation to how the stoma was constructed, which was a reason for the low duration of wear time of the ostomy bags and, consequently, the development of complications:

*... because the stoma is that withdrawn. It is that convex bag that makes you exposed. We were using the other one, and it was when we suffered more because it was not suitable and it used to leak a lot. It did not stimulate the gut to get out. And until we noticed that, we had to buy a lot of bags. After it has been evaluated, and the convex was indicated. And when we just we stick the bag on the gut comes out [E18, E13, E17, E16, E14].*

Ostomy surgery can cause significant morbidity or mortality when the factors related to the underlying disease, as well as whether the indication for surgery was an elective or emergency procedure, are taken into consideration. Clinically, the fashioning, appearance and location of the stoma may be

influenced by the patient's abdomen in terms of abdominal scarring, contours or obesity and location of the stoma. Surgical issues relate to the complexity of the surgery, the degree of difficulty in creating and extruding the stoma through the abdominal wall without undue tension, and the skill of the surgeon. One or more of these factors may trigger the development of stomal or peristomal complications in an early or late form<sup>7</sup>. For example, the following comment from a participant points to the surgical procedure as the cause of their stomal complication:

*Man, I cannot tell you the reason why. I do not know if it was a well done or poorly done surgery, but I know it was not good because the colostomy mouth closed on its own [E17].*

The most common immediate postoperative ostomy complications are bleeding, ischaemia, necrosis, oedema, retraction, mucocutaneous detachment, and peristomal sepsis. Later complications are retractions, stenosis, prolapse and herniation<sup>21</sup>. The surgical technique chosen influences the emergence of these complications – several techniques are described for the opening of the stoma, and all have a set of complications. However, laparoscopic colostomy is safe and effective, with faster return of bowel function, shorter hospital stay and decreased pain, therefore avoiding wound and stoma-related complications.

Surgical intervention therefore requires preventive guidance from a variety of health professionals. In this context, the stomal therapy nursing consultation presents an excellent opportunity for the development of care in a systematic and individualised manner, as well as support for the promotion of actions and direct monitoring of the person, preventing stoma-related complications and helping them to cope with the difficulties caused by changes after surgery<sup>21,22</sup>.

#### *Limitations*

It is important to state that this study was limited by the difficulty of the stoma patients' access to SASPO as access to public transportation was not provided. Additionally, the healthcare professionals had difficulty in accessing the self-care and development guidelines of an individualised and personalised care plan.

#### **CONCLUSIONS**

People post-ostomy surgery who participated in this study were able to identify the possible causes for the ostomy complications they were experiencing. Further, they attributed these complications to the type of ostomy appliances being used, personal conditions, their knowledge of and their ability to self-care for their stoma, the condition and/or appearance of the stoma, and the surgical technique used to create the stoma that may have contributed to the complications being experienced.

In view of these causative factors as indicated by the users of a specialised stomal therapy nursing service within health services in northeastern Brazil, it may be concluded that the



presence of any stomal and/or peristomal skin complications arising from surgical techniques or from a poorly fitting or an incorrect ostomy appliance may affect a person's ability to manage the stoma. Self-management and self-adjustment to living with the stoma may also be compromised by lack of advice or failure of the person with the stoma or the carer to adhere to the advice provided. Another important factor is having access to quality ostomy appliances and accessories that can assist with the management of ostomy complications. In addition, the appliances must be reliable in terms of their ability to mould and adhere to the skin and prevent leakage.

Thus, we suggest that the correct choice of the ostomy appliance should be based on an evaluation of the individual's needs, the adoption of educational technologies such as video lessons or interactive programmes on the internet as well as telephone monitoring and group therapies to enhance teaching strategies to improve self-management of the stoma. Further, compliance with the Brazilian legislation that recommends the services of either a stomal therapy nurse or staff well trained in all aspects of ostomy care is vital to facilitate optimal ostomy care pre and postoperatively. In this way, potential or actual stomal and peristomal skin complications can be detected earlier. The correct preventative and rehabilitation measures can then be initiated and evaluated in conjunction with the patient and/or carer. This approach, it is hoped, will reduce the incidence of intraoperative and postoperative ostomy surgery complications.

## CONFLICT OF INTEREST

The authors have declared that there are no political and / or financial conflicts of interest associated with the provision of materials that were used in the study, nor any type of funding for their realisation.

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