



Colostomies: A Brief Review

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JAMMR/2021/v33i2131131

Editor(s):

(1) Dr. Chan-Min Liu, Xuzhou Normal University, China.

Reviewers:

(1) Yaser Hussain Wani, University of Kahmir, India.

(2) Wijayanti, Universitas Kusuma Husada Surakarta, Indonesia.

Complete Peer review History: <https://www.sdiarticle4.com/review-history/75423>

Mini-review Article

Received 09 August 2021

Accepted 19 October 2021

Published 25 October 2021

ABSTRACT

Aims: To carry out a brief review of the literature on the theme of ostomy, focusing on colostomies.

Study Design: A review study.

Methodology: The papers, in English, Portuguese and Spanish were collected in Scielo database in January 2021. After reading the abstracts, a selection of papers related to the theme was made. Full-text papers that were not available were excluded.

Results: Twenty papers and three books were used. It was observed that ostomized patients show changes in their routines and they also presents body changes, due to the stoma attached to the abdomen. Other problems of these patients were: discomfort with physical appearance, lack of control over noise caused by bowel movements and gases elimination, the possibility of leakage of fecal content, as well as rejection and shame of the new image. Colostomized patients need

special care, such as psychological and family supports, to improve their self-esteem, as well as an orientation to colostomy devices use and their periodical hygiene, which should be provided by the multidisciplinary health team. In addition, the team must encourage the patients to avoid social isolation, in order to improve their self-esteem and quality of life.

Conclusion: The use of the stoma leads the ostomized patient to a social isolation, alterations in sexual life and changes in lifestyle, which causes worse quality of life for these patients.

Keywords: Ostomy; colostomy; intestinal stoma; ostomized.

1. INTRODUCTION

The term ostomy refers to the surgical opening performed through the skin, with the objective of exteriorizing the hollow viscera of the human body [1,2], communicating temporarily or permanently, an organ to the external environment [3]. The ostomies are intended to promote breathing, feeding or elimination [4].

Worldwide, one in each 10,000 people is ostomized. In Brazil, there are 120,000 ostomized patients, with 15,000 new cases annually [5]. According to the Brazilian Presidential Decree n° 5,296/2004, ostomized patients are recognized as physically handicapped [6]. The GM/MS Ordinance n° 793 of 2012 [7] described the importance of an integrated, articulated and effective service network in the different points of care, to assist people with disabilities [8], as well as to start early rehabilitation and early prevention of disability [7]. Health care of ostomized people is composed by a group of actions developed in primary care and actions developed in the Health Care Services of ostomized patients, with reference and counter-reference services [4]. In Brazil, 75% of ostomized patients receive free ostomy devices through the Unified Health System (SUS) [5].

Colorectal cancer is the most responsible for an ostomy worldwide, as it has a high incidence and prevalence, which makes it an major important public health problem [9,10]. According to the Brazilian National Cancer Institute (INCA), in 2020, it has been estimated 40,990 new cases of colorectal cancer, being 20,520 in men and 20,470 in women [11]. Ostomized patients present changes in their routines and in their body physiology, which culminate in social isolation, changes in sexual life and changes in lifestyle [12,13], causing a worse quality of life for these patients [14,15].

The aim of this study was to carry out a brief literature review on colostomies.

2. METHODOLOGY

The search was carried out in January 2021, in the Scielo database, using the terms: ostomy, colostomy, colorectal cancer, ostomy, colostomy, among others. Papers in Portuguese, English and Spanish were included, with no restriction on the year of publication. Papers not available in their complete form in any other database, in addition to simple literature review papers were excluded. After reading the abstracts, papers related to the subject were selected, and the full texts were searched in other databases. Classic books were also used, in addition to data from Brazilian and international organizations.

3. RESULTS

After selecting and reading the abstracts, a total of 21 papers, and also three books were used in this work. Six sites were visited.

3.1 Types of Ostomies

The terminology of the ostomy is presented according to the externalized body segment. Thus, the breathing ostomy is called tracheostomy and is intended to provide oxygen; feeding ostomy is called gastrostomy (in the stomach) and jejunostomy (in the jejunum). Elimination ostomies, which eliminate physiological effluents to the external environment, are called colostomy, ileostomy and urostomy [4,16].

Breathing Ostomy: A breathing ostomy or tracheostomy is a surgical procedure in which an opening is made in the respiratory tract, allowing direct communication of the trachea with the external environment, in order to improve the respiratory flow, through the insertion of a cannula [4,17].

Feeding ostomy: The gastrostomy is a surgical procedure performed to communicate the stomach with the external environment, being

indicated for people who need a supplementary feeding route [4]. The jejunostomy is also considered a feeding ostomy, and the tube is placed in the small intestine [16].

Elimination ostomy: The elimination ostomy in the urinary tract, with a diversion of urine flow, is called urostomy [4].

Among the main functions of the digestive system are the absorption of small molecules of nutrients produced by digestion into the bloodstream and the elimination of unabsorbed and undigested food. Intestinal ostomies are the best known as elimination ostomies, which can be temporary or permanent [3]. Temporary ostomies are performed to preserve an anastomosis and in the future to reconstruct the intestinal transit [18]. Definitive or permanent ostomies are indicated when bowel reconstruction is impossible, as in malignant neoplasms [19].

The elimination ostomies of the gastrointestinal tract, depending on the affected intestinal segment are called: ileostomy, the ostomy of the distal segment of the ileum, in the small intestine. Large intestinal ostomies are known as colostomy, with the transverse and sigmoid colon being the most appropriate segments for making them [20]. Elimination ostomies promote the elimination of feces from the body [3] and, since feces of ostomized patients are released involuntarily, they depend on a stoma (to collect feces) adapted to the abdomen [12,13].

3.2 Indications of Colostomy

Among the main causes associated with the need for an intestinal ostomy in adults and elderly in Brazil are chronic intestinal diseases, especially colorectal cancer (the main cause of ostomy surgery) [11], inflammatory diseases (Crohn's Disease, Chagas' disease, ulcerative colitis and diverticulitis) and abdominal trauma [12,20]. In addition, intestinal ostomies (ileostomy and colostomy) are also performed for therapeutic purposes in other different diseases, such as congenital diseases and in abdominal injuries [11,19].

Cancer or malignant neoplasm includes more than 100 diseases that present the disordered/unorganized growth of cells, which invade tissues and organs. Bowel cancer involves tumors that start in the colon (large intestine), the rectum (the terminal part of the

intestine, just before the anus), and the anus. It is also known as colon and rectal cancer or colorectal cancer. For the year 2020, it was estimate 40,990 new cases of colorectal cancer, being 20,520 in men and 20,470 in women [11].

Colorectal cancer is the most responsible for an ostomy worldwide, with high incidence and prevalence, which makes it a major public health problem for developed and developing countries [9,10].

The abdominoperineal resection is a surgical procedure performed in patients with cancer of the medium or low rectum, in which a definitive colostomy is necessary, as the rectum is amputated, leaving the patient without an anus [14,21]. A complication resulting from abdominoperineal resection that can occur in colostomized patients is parastomal hernia, which occurs in 40% of patients. In most cases, this complication can be treated by laparoscopic surgery [22].

Regarding inflammatory diseases, Crohn's Disease is an inflammation of all layers of the wall of the gastrointestinal tract, mainly the small and large intestines, generally affecting the terminal ileum [23] and the ascending colon, with concomitant involvement of the upper gastrointestinal tract in almost 50% of cases [3]. The main pathological aspects that characterize Crohn's disease are multifocal segmental involvement of the gastrointestinal tract, designated as sautéed lesions, and transmural inflammation, which extends through all layers of the wall of the gastrointestinal tract, resulting in fissures, fistulas, and abscesses in the abdominal cavity [23]. Ulcerative colitis (or rectocolitis) is a recurrent ulcerative and inflammatory disease of the superficial mucous and submucosal layers of the colon and rectum, which makes them swollen. It is characterized by multiple ulcerations, diffuse inflammation and detachment of the colonic epithelium, causing bleeding as a result of ulcerations [3]. Ulcerative colitis is a diffuse and nonspecific inflammation, superficial and restricted to the mucosa [23]. A diverticulum is a saccular herniation of the lining of the intestine, that extends through a defect in the muscle layer. It can occur in small intestine or colon, but are most commonly seen in the sigmoid colon (approximately 95% of cases). Diverticulitis occurs when food and bacteria trapped in a diverticulum cause infection and inflammation, which can impede drainage and lead to perforation or abscess formation [3].

Abdominal trauma results from a sudden, unexpected and violent action exerted against the abdomen, causing injuries in the intra-abdominal region, being classified as open (penetrating) or closed (blunt). The penetrating trauma occurs when the agent penetrates through the skin into the peritoneal cavity. It is most often caused by firearms or bladed weapons, exerting its effects directly on the viscera. The most injured organs are the small and large intestines [24,25] and the liver. In closed trauma (blunt), there is no penetration of the aggressor agent into the peritoneal cavity and the skin remains intact. The effects of this agent are transmitted to the viscera through the abdominal wall (mainly caused by falls, direct blows and traffic accidents) [26]. Abdominal trauma is more common in men, affecting a proportion of three men for each woman. Abdominal trauma generally affects the left colon, with colostomy being the procedure most frequently performed [25]. Intestinal perforation may also occur as a result of intentional or unintentional ingestion of a foreign body [27].

4. DISCUSSION

In Brazil, ostomized patients are considered people with disabilities [6,8], and the SUS provides free assistance to 75% of ostomized patients, with distribution of ostomy devices in reference services [5].

There are different types of ostomy, according to the purpose and the affected body organ [4,16]. Among the main causes associated with an intestinal ostomy in the adult and elderly population in Brazil are chronic intestinal diseases as colorectal cancer; inflammatory diseases (such as Crohn's disease, Chagas disease, ulcerative colitis and diverticulitis) and abdominal trauma [12,20]. The most frequent abdominal traumas are penetrating wounds affecting more men, in the left colon. Colostomy (53.1%) was the most frequently performed procedure in those cases [24,25]. Ostomies resulting from colorectal cancer are the most common worldwide. This type of cancer has a high incidence and prevalence, which makes it a major public health problem [9,10]. For 2020, according to the Brazilian National Cancer Institute (INCA), it is estimated 40,990 new cases of colorectal cancer, 20,520 in men and 20,470 in women [11]. Bellato et al. [1] found major prevalence of ostomized women in their study. In work of Marques et al. [21] men with low rectal adenocarcinoma were more prevalent than women.

Most patients with colorectal cancer will undergo surgery. A surgical approach called laparoscopic ultra-low anterior rectal resection with coloanal anastomosis, in which the patient's sphincter is preserved, may avoid the need for a permanent colostomy. This technique was performed in 53 Cuban patients with cancer of the inferior rectum (which is 5cm from the anal margin). Considering all stages, the five-year survival of these patients was 80.3%, an excellent result in terms of rectal surgery [28]. However, in abdominoperineal resection, by laparotomy or videolaparoscopy, there is amputation of the rectum, leaving the patient without anus. This approach was the most prevalent for lower rectal cancer, being performed in 77.5% of patients at a Brazilian hospital and only 22.5% of the patients had their sphincter preserved [21]. It demonstrates different realities between these two countries. Also, in the evaluation of 39 Chilean patients with cancer of the medium or low rectum, it was found that the majority (71.8%) had sphincter preservation and only 11 underwent definitive colostomy, with abdominoperineal resection [14].

The care of ostomized patients must be carried out by a multidisciplinary team composed by physicians, nurses, social workers, psychologists, nutritionists, speech therapists and occupational therapists [8,29], who must provide holistic care to them. Ostomized patients present changes in their routines and body alterations, due the stoma. They presents discomfort with physical appearance, lack of control over noise (caused by bowel movements and the elimination of gases). There is also the possibility of fecal content leakage, as well as the patients have poor body image perception (rejection and shame of the new image), which culminate in social isolation, changes in sexual life and in their lifestyle [12,13]. causing a worse quality of life [15]. According to Mota et al. [13] women adapt their way of dressing to minimize the appearance of colostomy because they are ashamed to use it. The presence of family members throughout the therapeutic process is essential, as they can provide important information about the patient for the better implementation of therapeutic, rehabilitation and reintegration plans into society. In addition they constitute an important social support due to disruption and alienation of the ostomized patient [29]. However, the patient must constantly be encouraged to perform self-care, and be more independent. And over time, this self-care becomes collective, with the participation of family members and health professionals, in a

social context [30]. According to Bellato et al.[1], the lower education level of the patients, the more unfavorable is linguistic ability to question health professionals about their problems and the care to be provided.

5. CONCLUSION

Ostomized patients must receive specialized multiprofessional care. Due to change in their lifestyle, ostomized patients present self-esteem problems and the stoma makes them socially isolate and alter their sexual life, worsening their quality of life.

The nursing team, being present at all stages of the disease that caused the ostomy, is better able to provide information in order to resolve any doubts of the patient or family. In addition, health services should focus more attention on risk factors for the prevention of colorectal cancer, in order to avoid an ostomy.

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the authors.

CONSENT

As per international standard or university standard, Participants' written consent has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Bellato R, Pereira WR, Maruyama SAT, Oliveira PC. [The convergence of care-education-politics: a challenge to be faced by professionals in assuring the health rights of ostomized people]. *Texto Contexto Enfermagem*. 2006;15(2):334-42. Portuguese.
2. Houaiss A. [Houaiss Dictionary of the Portuguese Language]. Rio de Janeiro: Objetiva; 2009. Portuguese.
3. Hinkle JL, Cheever KH. Brunner & Suddarth's Textbook of Medical-Surgical Nursing. 13th Ed. (2 Vol.). Philadelphia: Lippincott Williams & Wilkins (LWW); 2013.
4. Brazil. Ministry of Health. [Ordinance N°. 400, of November 16, 2009]. Portuguese. Accessed: 21 Feb. 2020. Available: http://bvsms.saude.gov.br/bvs/saudelegis/sas/2009/prt0400_16_11_2009.html.
5. Brazilian Association of Ostomates (ABRASO). [Recent News, the challenges for patients using collection bags in Brazil, 2020]. Portuguese. Accessed: 15 Feb. 2021. Available: <https://saude.abril.com.br/blog/com-a-palavra/os-desafios-para-os-pacientes-que-usam-bolsas-coletoras-no-brasil/>.
6. Brazil. Ministry of Health. [Presidential Decree N°. 5,296/2004]. Portuguese. Accessed: 25 Feb. 2020. Available: http://www.planalto.gov.br/ccivil_03/_ato2004-2006/2004/decreto/d5296.htm.
7. Brazil. Ministry of Health. [Ordinance N°. 793 of April 24, 2012]. Portuguese. Accessed: 21 Feb. 2020. Available: http://bvsms.saude.gov.br/bvs/saudelegis/gm/2012/prt0793_24_04_2012.html.
8. Brazil. Ministry of Health. [Health of the person with a disability. 2020]. Accessed: 9 March 2021. Available: <https://www.gov.br/saude/pt-br/assuntos/saude-de-a-a-z-1/s/saude-da-pessoa-com-deficiencia>.
9. Habr-Gama, A. [Colorectal cancer: the importance of its prevention]. *Arquivos Gastroenterologia*. 2005;42(1):2-3. Portuguese.
10. Gomes CIMR, Furtado PCF, Silva CSF, Coelho M, Rocha DC, Coutinho FLS. [Study on the accuracy of colonoscopy in detecting colorectal câncer]. *Revista Médica Minas Gerais*. Portuguese. 2013;23(3):307-10.
11. National Cancer Institute-INCA. Ministry of Health. [National Cancer Institute: Estimate 2020: incidence of cancer in Brazil]. Portuguese. Available: <https://www.inca.gov.br/numeros-de-cancer/>. Accessed: 21 Feb. 2020.
12. Barbutti RCS, Silva MCP, Abreu MAL. [Ostomy, a difficult adaptation]. *Revista SBPH*. 2008;11(2):1-13. Portuguese.
13. Mota MS, Silva CD, Gomes GC. [Life and Sexuality of Ostomized Women: Nursing Subsidies]. *Revista de Enfermagem do Centro Oeste Mineiro*. 2016;6(2):2169-79. Portuguese.
14. Moreno NB, Bocic GA, Carrillo KG, López SN, Abedrapo MM, Sanguinetti AM et al. Evaluación comparativa en calidad de vida de pacientes con RAUB, RAUBIE vs RAP por cáncer de recto: Informe preliminar.

- Revista de Cirugía. 2019;71(1):22-8. Spanish.
15. Silva JO, Gomes P, Gonçalves D, Viana C, Nogueira F, Goulart A, Leão P, Mota MJ, Peixoto P, Rodrigues AM, Martins SF. Quality of Life (QoL) Among ostomized patients: A cross-sectional study using Stoma-care QoL questionnaire about the influence of some clinical and demographic data on patients' QoL. *Journal of Coloproctology (Rio de Janeiro)*. 2019;39(1):48-55.
 16. Santos JS, Kemp R, Sankarankutty AK, Salgado Junior W, Tirapell LF, Silva Junior OC. [Gastrostomy and jejunostomy: aspects of technical evolution and expansion of indications]. *Medicina (Ribeirão Preto)*. 2011;44(1):39-50. Portuguese.
 17. Avelino MAG, Maunsell R, Valera FCP, Lubianca Neto JF, Schweiger C, Miura CS et al. First clinical consensus and national recommendations on tracheostomized children of the Brazilian Academy of Pediatric Otorhinolaryngology (ABOPe) and Brazilian Society of Pediatrics (SBP). *Brazilian Journal of Otorhinolaryngol*. 2017;83(5):498-506.
 18. Pinho SL, Henriques R, Guerreiro N. [Fournier's gangrene: a urological emergency that we must recognize: referring to a clinical case]. *Revista Portuguesa de Medicina Geral e Familiar*. 2020;36(4):369-73. Portuguese.
 19. Gemelli LMG, Zago MMF. [The meaning of ostomy care to nurses: a case study]. *Revista Latino Americana Enfermagem*. 2002;10(1):34-40. Portuguese.
 20. Rocha JJR. [Stomas (Ileostomy and Colostomy) and intestinal anastomosis]. *Medicina (Ribeirão Preto)*. 2011;44(1):51-6. Portuguese.
 21. Marques TAM, Lucena MT, Silva MJM, Carvalho JHC, Carvalho ARM, Barros JS. Critical assessment of the surgical treatment of low rectal adenocarcinoma in a reference hospital in Recife. *Journal of Coloproctology (Rio de Janeiro)*. 2019;39(2):163-168.
 22. Bananzadeh A, Jaweek I, Rezazadehkermani M, Ghahramani L, Bahrami F, Hosseini SV, Izadpanah A, Tadayon SMK. Parastomal hernia following abdominoperineal resection. *Journal of Coloproctology (Rio de Janeiro)*. 2020;40(4):311-314.
 23. Brasileiro Filho G. [Bogliolo's Pathology]. 8th Ed. Rio de Janeiro: Guanabara Koogan; 2011. Portuguese.
 24. Pinilla González RO, Gutiérrez García F, Morales Martínez, NA. Prognostic value of severity indices in traumatic colon and rectal injuries. *Revista Cubana de Cirugía*. 2019;58(3):e808.
 25. Pinilla González RO, Morales Martínez NA, Gutiérrez García F. Resultados terapéuticos en pacientes con traumas de colon y recto tratados con sutura primaria o colostomía.
 26. *Revista Cubana de Cirugía*. 2019;58(2):e766. Spanish. Ribas-Filho MJ, Malafaia O, Fouani MM, Justen MS, Pedri LE, Silva LMA et al. [Abdominal trauma: study of the most frequent wounds of digestive system and its causes]. *ABCD Arquivos Brasileiros de Cirurgia Digestiva*. 2008;21(4):170-4. Portuguese.
 27. Hernández-Agüero M, Quiroga-Meriño LE, Gómez-Agüero E, Estrada-Brizuela Y. Perforación del colon descendente por cuerpo extraño: Presentación de un caso. *Revista Archivo Médico de Camagüey*. 2020;24(6):e7192. Spanish.
 28. Barreras González, JE, Pereira Fraga JG, Llorente Llano F, Martínez Alfonso MÁ, Torres Peña R. Resección anterior del recto ultrabaja laparoscópica con anastomosis coloanal en cáncer del recto bajo. *Revista Cubana de Cirugía*. 2019;58(2):e802. Spanish.
 29. Stumm EMF, Oliveira ERA, Kirschner RM. [Profile from ostomized patients]. *Scientia Medica*. 2008;18(1):26-30.
 30. Sasaki VDM, Teles AAS, Silva NM; Russo, TMS, Pantoni LA, Aguiar JC et al. Self-care of people with intestinal ostomy: Beyond the procedural towards rehabilitation. *Revista Brasileira de Enfermagem*. 2021;74(1):e20200088.

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Peer-review history:
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