

# Clinical and sociodemographic analysis of people with ostomies: a cross-sectional study

*Análise clínica e sociodemográfica de pessoas com estomias: estudo transversal*

*Análisis clínico y sociodemográfico de personas con estomas: estudio transversal*

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## ABSTRACT:

**Objectives:** To analyze clinical and sociodemographic aspects of people with ostomies in the state of Minas Gerais. **Methods:** A cross-sectional study was conducted in 54 municipalities in 2016. Data were collected from 418 people with ostomies, registered from a structured questionnaire. Descriptive data analysis, the Pearson chi-square test and the Bonferroni correction were performed. **Results:** The majority of people with ostomies are elderly, male, have low schooling and low wage income. Colorectal malignant neoplasia was the main cause and 14.3% were treated with chemotherapy. Part of the ostomies is of the regular standing permanent colostomy type. The main complication highlighted is dermatitis, and 45.5% are not able to develop self-care. The type of ostomy was significantly associated with stomatal permanence, marital status and income ( $p < 0.05$ ). **Conclusion:** People with ostomies need assistance related to self-care orientation, prevention and treatment of their complications.

**DESCRIPTORS:** Ostomy; Health profile; Health services; Health evaluation; Nursing; Stomatherapy.

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## RESUMO

**Objetivos:** Analisar aspectos clínicos e sociodemográficos de pessoas com estomias no estado de Minas Gerais. **Métodos:** Estudo de corte transversal realizado em 54 municípios, em 2016. Os dados foram coletados de 418 pessoas com estomia cadastradas a partir de um questionário estruturado. Realizou-se a análise descritiva dos dados, o teste de qui-quadrado de Pearson e a correção de Bonferroni. **Resultados:** A maioria das pessoas com estomias é idosa, do sexo masculino, tem baixa escolaridade e baixa renda salarial. A neoplasia maligna colorretal foi a principal causa e 14,3% são tratados com quimioterapia. Parte das estomias é do tipo colostomias permanentes com forma regular. Destaca-se, como principal complicação, a dermatite, e 45,5% não estão aptos a desenvolver o autocuidado. O tipo de estomia associou-se significativamente com a permanência da estomia, o estado civil e com a renda ( $p < 0,05$ ). **Conclusão:** As pessoas com estomias necessitam de assistência relacionada à orientação para o autocuidado, prevenção e tratamento de suas complicações.

**DESCRITORES:** Estomia; Perfil de saúde; Serviços de saúde; Avaliação em saúde; Enfermagem; Estomaterapia.

## RESUMEN

**Objetivos:** Analisar aspectos clínicos y sociodemográficos de personas con estomas en el estado de Minas Gerais. **Métodos:** Estudio de corte transversal realizado en 2016 en 54 municipios. Los datos fueron recolectados de 418 personas con estoma registrados a partir de un cuestionario estructurado. Se realizó el análisis descriptivo de los datos, la prueba de chi-cuadrada de Pearson y la corrección de Bonferroni. **Resultados:** La mayoría de las personas con estomas es anciana, de sexo masculino, tiene baja escolaridad y baja renta salarial. La neoplasia maligna colorrectal fue la principal causa y 14,3% son tratados con quimioterapia. Parte de las estomas es del tipo colostomías permanentes con forma regular. Se destaca, como principal complicación, la dermatitis, y 45,5% no están aptos para desarrollar el autocuidado. El tipo de estoma se asoció significativamente a la permanencia del mismo, el estado civil y con el ingreso ( $p < 0,05$ ). **Conclusión:** Las personas con estomas necesitan asistencia relacionada a la orientación para el autocuidado, prevención y tratamiento de sus complicaciones.

**DESCRIPTORES:** Estoma; Perfil de salud; Servicios de salud; Evaluación de salud; Enfermería; Estomaterapia.

## INTRODUCTION

The person with an ostomy is the one who underwent surgery to make an ostomy. These include individuals of all ages and different sociodemographic profiles. The construction of an ostomy can be a therapeutic possibility of survival before clinical diagnosis, mostly of colorectal cancer, of fundamental importance for the physiological recovery and rehabilitation of this person<sup>1-3</sup>.

The most frequent elimination ostomies are urinary and intestinal. Urinaries are commonly referred to as urinary diversions, carried out in people with diseases involving the renal pelvis, ureters, bladder and urethra, and are intended to preserve renal function. Intestinal ostomies are indicated when some part of the intestine shows some dysfunction, obstruction or trauma. According to the anatomical location, the ostomy receives its own denomination, thus, the ileostomy is in the ileum and colostomy in the colon<sup>4-6</sup>.

The planning of care for the person with ostomy is based on the evaluation and monitoring of health practices, as well as knowledge of the sociodemographic and clinical characteristics of patients with ostomies, since this condition

can influence the care beyond specific caring demands with the ostomy, such as changing eating habits, dressing style and the practice of sexual activities<sup>7</sup>.

Given the relevance of the health situation analysis, epidemiological data that depict the profile of people with ostomies are still scarce, mainly due to difficulties in systematizing health information<sup>7</sup>. The description of health conditions, sickness or illness is a necessary measure in the management of the services, programs and daily practices of these services. Thus, this study sought to analyze the clinical and sociodemographic conditions of people with stomies attended in six Health Care Services for the Ostomized Person (SASPO) in the state of Minas Gerais, Brazil.

## METHODS

Cross-sectional study carried out in the western region of the state of Minas Gerais in 2016. This region covers 54 municipalities, with a total of 1,218,354

## RESULTS

inhabitants, and currently has six SASPO; of those, five are classified as type I and one as type II<sup>8</sup>.

Type I SASPO performs orientation actions for self-care, prevention of complications in the ostomies and supplies collecting equipment and adjuvants of protection and safety. Type II, in addition to developing the activities envisaged in the first, deals with complications that may arise and carries out training actions for professionals<sup>6</sup>.

The inclusion criteria for the data collection were: people with ostomies who were receiving care in the SASPO I and II and who had the cadastral record of the first nursing and medical evaluation at the time of insertion into the services, until the period of data collection, between January and April 2016. All records of patients with ostomies attended in the six services were analyzed, and the data were collected from their registry forms. These records contain information on sociodemographic variables (gender, marital status, age, schooling and family income), characteristics of the ostomies (ostomies, permanence, format, diameter and effluent disposal) and the conditions of these people (self-care, abdomen shape, cancer treatment and complications of the ostomies). A descriptive analysis of the data was performed, presenting the frequency distribution for categorical variables and position and dispersion measurements. The quantitative variable age has shown asymmetric distribution, according to the normality test Shapiro Wilk; thus, this was presented in median (P25 e P75). To compare proportions, the Pearson chi-square test was performed. It should be noted that, in order to identify the possible differences found, the 2 × 2 ratio analysis was used. In this analysis, we used the Bonferroni correction, which changes the level of significance (p) in order to avoid type I errors derived from multiple comparisons. The corrected level of significance after this procedure was  $p < 0,016^9$ .

The data were tabulated and analyzed with the help of the Epidata software (version 3.1) and the Statistical Package for the Social Sciences for Windows Student Version (SPSS), version 19.0. The level of statistical significance was set at 5%.

This study was conducted according to the ethical rigour of Resolution 466/2012, with an opinion no. 1,251,725, approved by the Ethics Committee on Human Beings Research of the Federal University of São João del-Rei.

Data from 418 people with registered and active ostomies in the services were analyzed, distributed in 52.1% (n = 218) in the SASPO I and 47.9% (n = 200) in the SASPO II. Their ages ranged from 8 months to 97 years, with a median age of 64 years (P25:0; P75:97). More than half (52.9%, n = 221) are males and 51.7% (n = 216) are married.

Regarding schooling, 42.6% (n = 159) attended elementary school, followed by 28.4% (n = 106) semi-illiterate students and 10.5% (n = 39) illiterate students. The income between one and two wages was the most expressive, with 68.8% (n = 234).

Colorectal cancer was the main cause of ostomy practice, with 74.1% (n = 310). Other causes were bladder cancer, uterine cancer, Crohn's disease, Fournier gangrene, obstruction and intestinal perforation, representing 14.4% (n = 60). It was observed the occurrence of 11.5% (n = 48) of people with ostomies without defined diagnoses.

The most frequent types were left colostomias (51.6%, n = 215), right colostomias (18.7%, n = 78) and ileostomias (17%, n = 51). More than half (56.6%, n = 237) had the definite ostomy and 73.2% (n = 271) had a regular shape. As for diameter, the largest occurrence was between 21-30 mm, with 29.9% (n = 118), followed by 28.7% (n = 113) of the stomies, with 31-40 mm. It was also found that more than half (62.4%, n = 261) showed effluent elimination with pasty consistency.

The majority of people with ostomies (88.3%, n = 369) used drainable pockets, with 56.8% (n = 222) of the one-piece type. Regarding the use of other equipment and adjuvants for the care, were registered the indications of protective paste, a synthetic resin plate, belt and also, powder and urinary collector, totalling 41.4% (n = 173).

Regarding the conditions of people with ostomies, 51.9% (n = 206) performed self-care with the ostomies and 23.4% (n = 93) needed assistance to perform care. Still, 94.4% (n = 368) were not bedridden and 22.8% (n = 60) underwent radiotherapy or chemotherapy. Among the most frequent complications are peristomal dermatitis (15.5%, n = 63), paraostomal hernia (11.6%, n = 48), prolapse (6.8%, n = 28) and retraction, 7%, n = 23

Table 1 shows the distribution of socio-demographic and clinical variables according to the type of ostomy. The

analysis showed that the type of ostomy was significantly associated with the marital status ( $p = 0.007$ ), income ( $p = 0.024$ ) and stomatal permanence ( $p = 0.001$ ). After Bonferroni's correction, a greater proportion of unmarried and widowed individuals were found among those with colostomy than those with a urostomy ( $n = 191, 45.8\%$  vs.  $n = 147, 35.1\%$ ). The proportion of definitive ostomies was higher, with  $88.2\%$  ( $n = 369$ ) among those with urostomy,  $59.8\%$  ( $n = 250$ ) with colostomy and  $36.4\%$  ( $n = 152$ ) with ileostomy.

Table 2 shows the percentage distribution of sociodemographic and clinical variables according to the type of SASPO, and the results indicated that this was significantly associated with income ( $p < 0.001$ ), self-care ( $p < 0.001$ ) and chemotherapy or radiotherapy ( $p < 0,040$ ). It was observed that people with SASPO I ostomies presented higher income than those of SASPO II, being the proportion of income above two minimum wages and that people with SASPO II stomies had a higher proportion of non-self-care

**Table 1.** Percentage distribution of sociodemographic and clinical variables according to the type of stomies of people with stomies in the western region of the state of Minas Gerais, 2016 ( $n = 418$ ).

Socio-demographic and clinical variables	Total	Ileostomy	Colostomy	Urostomy	p-value*
Age (years)					0.362
Under 20	18 (4.3)	1 (1.5)	14 (4.6)	3 (6.2)	
20 to 59	146 (34.9)	29 (40.9)	103 (35.2)	13 (25.0)	
60 or more	254 (60.8)	41 (57.6)	176 (60.2)	37 (68.8)	
Gender					0.079
Female	194 (46.5)	34 (47.9)	143 (48.8)	17 (32.1)	
Male	224 (53.5)	37 (52.1)	150 (51.2)	36 (67.9)	
Marital status					<b>0.007</b>
Married or amassed	246 (58.9)	46 (64.7)	159 (54.2)	41 (76.5)	
Single/widowed/others	172 (41.1)	25 (35.3) <sup>ab</sup>	134 (45.8) <sup>a</sup>	12 (23.5) <sup>b</sup>	
Scholarship					0.827
Illiterate	163 (38.9)	29 (41.3)	115 (39.2)	18 (33.3)	
Elementary school	178 (42.6)	32 (44.4)	121 (41.5)	25 (46.7)	
High school or college educated	77 (18.5)	10 (14.3)	57 (19.3)	10 (20.0)	
Income (minimum wage)					<b>0.024</b>
Up to 2	326 (77.9)	46 (64.9)	238 (81.4)	40 (75.0)	
More than 2	92 (22.1)	25 (35.1) <sup>a</sup>	55 (18.6) <sup>b</sup>	13 (25.0) <sup>ab</sup>	
Ostomy permanence					<b>&lt;0.001</b>
Definitive	249 (59.5)	26 (36.4)	175 (59.8)	47 (88.2)	
Temporary	169 (40.5)	45 (63.6) <sup>a</sup>	118 (40.2) <sup>b</sup>	6 (11.8) <sup>c</sup>	
Self-care					0.452
Yes	218 (52.0)	35 (49.2)	158 (53.9)	24 (45.1)	
No	200 (48.0)	36 (50.8)	135 (46.1)	29 (54.9)	
Bedridden patient					0.413
No	394 (94.3)	65 (92.2)	276 (94.2)	52 (98.0)	
Yes	24 (5.7)	6 (7.8)	17 (5.8)	1 (2.0)	
Undergoing chemotherapy or radiation therapy					0.283
No	323 (77.2)	49 (68.8)	233 (79.5)	40 (76.0)	
Yes	95 (22.8)	22 (31.3)	60 (20.5)	13 (24.0)	

Bold values meaning  $p < 0,001$ . \*Chi-square test. The proportions with common letters in the line are statistically the same according to Bonferroni's correction ( $p > 0.05$ ). Source: Health Service for the Ostomized Person (SASPO) of the western region of the state of Minas Gerais, 2016.

**Table 2.** Percentage distribution of sociodemographic and clinical variables according to the SASPO type of the western region of the state of Minas Gerais, 2016 (n = 418).

Socio-demographic and clinical variables	Total	Saspo I	Saspo II	p-value*
	n (%)			
Age (years)				0.325
Under 20	18 (4.3)	8 (3.9)	10 (5.1)	
20 to 59	146 (34.9)	83 (38.0)	62 (31.1)	
60 or more	254 (60.8)	127 (58.1)	128 (63.8)	
Gender				0.583
Female	194 (46.5)	98 (45.1)	96 (47.8)	
Male	224 (53.5)	120 (54.9)	104 (52.2)	
Marital status				0.663
Married or amassed	246 (58.9)	130 (60.0)	116 (57.8)	
Single/widowed/others	172 (41.1)	88 (40.0)	84 (42.2)	
Scholarship				0.659
Illiterate	163 (38.9)	81 (37.3)	82 (41.0)	
Elementary school	178 (42.6)	93 (42.8)	84 (42.2)	
High school or college educated	77 (18.5)	44 (19.9)	34 (16.8)	
Income (minimum wage)				<b>&lt; 0.001</b>
Up to 2	326 (77.9)	153 (70.0)	175 (87.5)	
More than 2	92 (22.1)	65 (30.0)	25 (12.5)	
Ostomy permanence				0.659
Definitive	249 (59.5)	131 (60.3)	116 (58.1)	
Temporary	169 (40.5)	87 (39.7)	84 (41.9)	
Self-care				<b>&lt; 0.001</b>
Yes	218 (52.0)	140 (64.4)	78 (39.2)	
No	200 (48.0)	78 (35.6)	122 (60.8)	
Pessoa com estomia acamada				0.496
No	394 (94.3)	204 (93.6)	190 (95.2)	
Yes	24 (5.7)	14 (6.4)	10 (4.8)	
Undergoing chemotherapy or radiation therapy				<b>0.040</b>
No	323 (77.2)	156 (71.4)	164 (82.1)	
Yes	95 (22.8)	62 (28.6)	36 (17.9)	

Bold values meaning  $p < 0,001$ . \*Chi-square test. The proportions with common letters in the line are statistically the same according to Bonferroni's correction ( $p > 0,05$ ). Source: Health Service for the Ostomized Person (SASPO) of the western region of the state of Minas Gerais, 2016.

## DISCUSSION

The data analysis revealed the occurrence of people with ostomies over 60 years, corroborating the national and international studies<sup>10-12</sup>. The elderly have unique characteristics and are more vulnerable to chronic-degenerative diseases, among them neoplasias, a disease of higher incidence in people over 50 years of age<sup>1</sup>. When it comes to the elderly, health professionals must understand that beyond the condition of having an ostomy, it

may also occur the presence of other changes related to ageing that may also interfere with self-care.

There were no differences regarding sex, although the highest occurrence of ostomies was among men, which indicates a change in the profile of these people's illnesses<sup>10-13</sup>. Other studies in Brazil showed a higher prevalence of female ostomies by 2012<sup>2,5</sup>. Still, regarding gender, it is added that men seem to have more difficulty

with emotional adjustment after surgery when compared with older women with ostomies<sup>14</sup>.

In this study, colorectal cancer was the main cause of stomatal confection, which is consistent with the diversity of national studies performed with ostomized people. In epidemiological terms, colorectal cancer represents the third most common neoplasm in both genders and the second leading cause of death in developed countries<sup>3,10,11</sup>. In Brazil, colorectal cancer is the second most frequent in women, with an estimated 17,620 new cases, and the third most incident in men, with 16,660 new cases. The estimated risk is 17.24 per 100,000 women and 15.44 new cases per 100,000 men<sup>15</sup>.

Regarding schooling, the results showed, on the one hand, the predominance of people with low schooling and, on the other, that the level of education does not interfere with the type of ostomy performed. This finding points to the importance of health practices aimed at promotional activities that strengthen the self-care of people with ostomies. It is known that the lower the schooling, the greater the knowledge deficit on self-care, preventive measures and early detection of complications<sup>4</sup>. The higher educational level can also influence people's attitudes towards the ostomy and adaptive mechanisms and thus facilitate their new living conditions<sup>16</sup>. In this regard, education is a necessary tool that guarantees the participative inclusion of ostomized people in society, developing skills to face new adaptations in the face of physical, psychological and social transformations<sup>17</sup>.

The socioeconomic situation may also interfere with the quality of life of a person with an ostomy<sup>5</sup>. The population with low purchasing power may find it difficult to acquire the equipment and adjuvants necessary for good life quality, especially when some of these products are costly and not supplied by SASPO. The social aspects include the participation of the family, especially the spouse, as essential support in the therapeutic process, rehabilitation and social reintegration of the person with the ostomy<sup>18</sup>.

One of the problems faced by couples is the condition of having an ostomy and how much it can interfere with the sexual activity of the couple. A study carried out in Brazil showed that 36.1% changed their sexual practices and 30.6% ceased the intimate relations after the confection of the ostomy<sup>19</sup>. For spouses who have a partner with an ostomy, the elimination of gas, the

presence of noise and odour exhaled by the ostomy are factors that disturb the intimacy of the couple.

With advances in technology, new collecting equipment and adjuvants of protection and safety to people with an ostomy are being developed, with the aim of reducing the problems related to the leakage of faeces, odours and gases that interfere in the activities of daily life and generate a feeling of fear and shame<sup>19,20</sup>. In addition, it becomes essential to familiarize with the new devices, selecting them appropriately according to the needs of each type of ostomy.

As for the kind of ostomy, there was a predominance of colostomy, followed by an ileostomy, corroborating national<sup>10,11</sup> and international<sup>3,12</sup> studies. The colostomy results from a surgical intervention performed in colorectal cancer treatments, usually of a definitive character and, therefore, has a great impact on the life condition of the stomatal carriers and their family<sup>5,11</sup>.

The greater occurrence of colostomized persons suggests the planning of a care routine that can reduce the presence of peristomal lesions and enable this person to perform irrigation, guiding how much time between feeding and evacuation, the condition of absorption of food and medication, among others<sup>21</sup>.

It is evident the association between definitive ostomies for colorectal and urogenital cancers and of temporaries associated with trauma<sup>10,12</sup>. The period of the permanence of the stomies is directly related to the diagnosis that indicated their confection. It is temporary when a certain period of time is established, which can be from months to years, due to the need to protect an intestinal anastomosis or abdominal trauma. It is definitive when the person with an ostomy will have to live with the ostomy indefinitely, performed to replace the loss of sphincter function resulting from a surgical treatment<sup>11,18</sup>.

Regarding the shape of the stoma, the regular type reduces complications, especially by promoting the adaptation of the collecting equipment<sup>13</sup>. In this study, most of the stomies were identified with a diameter of 21-30 mm. Identifying the diameter of the stoma is essential for the appropriate care plan that will enable proper selection of the equipment and adjuvant and the ideal adaptation of the adhesive base of skin barrier to the ostomy, avoiding peristomal cutaneous lesions and promoting greater comfort for the person<sup>10,18</sup>.

The making of an ostomy is potentially accompanied by complications, which are mostly underestimated. Studies have shown that rates of ostomy-related complications reach 60%<sup>12,13</sup>. From the postoperative complications presented in the stoma and the skin, dermatitis, hernia, and prolapse were recorded in the medical files of people with ostomies of the studied region. The origin of the complications may be a consequence of the absence of preoperative consults, especially in the lack of preoperative stomatal demarcation, since poor localization makes self-care difficult, as skin visualization and equipment exchange<sup>18</sup>. Such complications may result in discomfort due to frequent effluent leakage and inadequate adaptation of the plaque in the ostomy.

It was also identified the use of drainable or open collecting equipment of the one piece system type by ostomized people. In Brazil, another study has shown a similar result in that 94.4% of these people used the one-piece bag, and all bags were drainable or of open type<sup>13</sup>.

It should be noted that the indication of the collecting system must be individualized, so as to consider the characteristics of each person's ostomy, as well as their educational level. There is a greater recommendation of the one-piece system, because this equipment requires fewer instructions, being the most practical option for the health professionals, the person with the ostomy and the less educated caregiver. Even though this is the best option, this population still considers all the information very complex and considers themselves incapable of learning, since the majority of this public has low education<sup>8,10,13,18</sup>.

In the analysis, it was found that, in addition to the bags provided monthly by the service, people with ostomies receive other adjuvant materials, such as plaques, powders and pastes, which are also provided by the Unified Health System (Sistema Único de Saúde -SUS), and the indications of the equipment and adjuvants depend on the type of Stomatology, the consistency of the effluent and the surgical performed<sup>10,13</sup>.

The results indicated that half of the patients with stomies do self-care. However, the approach used in this research did not make it possible to investigate the quality of this care. Other studies carried out in different regions of Brazil indicated that most people with ostomies had difficulty performing it due to a lack of guidance or assistance from trained professionals

during this stage of treatment<sup>1,10</sup>. The emphasis on self-care has been described as an alternative for the person with the ostomy to actively participate in their own care, stimulating responsibility for continuing the care which can avoid complications and achieve rehabilitation.

Although there was statistical significance between the associations of sociodemographic and clinical characteristics with the type of ostomy, as well as the types of SASPO with self-care and the accomplishment of cancer treatment, these results are not clinically significant, meaning the interpretation of the results of the studies showed statistically significant but not clinically significant results because they were not useful in daily clinical practice.

As a limitation of this study is the fact that, because only persons with stomies linked to public health services (SUS) were surveyed, it is not possible to infer the real profile of this population in the region. Other limitations were related to the incompleteness of blank fields found in the records of the first evaluation of the Saspo team, at the time of insertion of people with ostomies to the services, and in the form standardized by the State Secretary of Health of Minas Gerais (SES/MG), which needs updating.

This information can support the development of proposals for health action strategies to improve health practices and, consequently, the quality of care for people with ostomies.

## CONCLUSION

The people with ostomies attended in the SASPO evaluated are mostly elderly, with a low level of education and low wage income. Colorectal malignant neoplasia was the main cause and the definitive colostomy type of ostomy was the most frequent. The most commonly used collectors are the drainable type, one-piece system, using adjuvants such as plates, pastes and powders.

This study presented as positive points: to reveal the results on the clinical and sociodemographic characteristics of people with ostomies, as necessary information for decision making facing the organization of local services; to advise on the need to review the standard form used by SES / MG, as well as the training

of professionals involved in service activities, improving the records of the assistance provided to these clients. Persons with ostomies needs assistance regarding guidance for self-care, prevention and treatment of complications of the stomies.

## CONTRIBUTION OF AUTHORS

Conceptualization, Moura RRA; Guimarães EAA e Moraes JT; Methodology, Guimarães EAA e Moraes JT; Investigation, Moura RRA e Moraes JT; Writing - First version, Moura RRA; Guimarães EAA e Moraes JT; Writing - Reviewing & Editing, Guimarães EAA e Moraes JT.

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