



## Original Article

# Health locus of control, body image and self-esteem in individuals with intestinal stoma



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## ABSTRACT

**Objective:** To evaluate the health locus of control, self-esteem, and body image in patients with an intestinal stoma.

**Method:** A descriptive, cross-sectional, analytical study conducted at the pole of the ostomates of the city of Pouso Alegre. The study was approved by Research Ethics Committee of Universidade do Vale do Sapucaí. Opinion: 620,459. Patients: 44 patients with an intestinal stoma. Four instruments were used: a questionnaire with demographic and stomatologic data, the Health Locus of Control Scale, the Rosenberg Self-Esteem Scale/UNIFESP-EPM, and the Body Investment Scale. Statistics: Chi-square, Pearson, Mann-Whitney and Kruskal-Wallis tests.  $p < 0.05$  was determined.

**Results:** The majority of patients were over 70 years, 16 (36.4%) were female, 30 (68.2%) were married, 31 (70.5%) were retirees, 31 (70.5%) had an income of 1–3 minimum wages, 32 (72.7%) did not practice physical activity, 18 (40.9%) had an incomplete elementary education, and 35 (79.5%) participated in a support or association group. 33 (75%) participants received the stoma because of a neoplasia; and 33 (75%) had a definitive stoma. In 36 (81.8%) participants, the type of stoma used was a colostomy, and 22 (50%) measured 20–40 mm in diameter; 32 (72.7%) participants used a two-piece device. With regard to complications, there were 29 (65.9%) cases of dermatitis. The mean total score for the Health Locus of Control Scale was 62.84; for the Rosenberg Self-Esteem Scale, 27.66; and for the Body Investment Scale, 39.48. The mean scores for the dimensions internal, powerful others, and chance of the Health Locus of Control Scale were 22.68, 20.68, and 19.50, respectively. With respect to the Body Investment Scale, for the dimensions body image, body care, and body touch, the mean scores were 11.64, 11.00, and 13.09, respectively.

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**Conclusion:** In this study, the participants showed changes in self-esteem and body image and also showed negative feelings about their body. Ostomized individuals believe that they themselves control their state of health and do not believe that other persons or entities (physician, nurse, friends, family, god, etc.) can assist them in their improvement or cure and, in addition, believe that their health is controlled by chance, without personal or other people's interference.

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## Lócus de controle em saúde, imagem corporal e autoestima nos indivíduos com estoma intestinal

### R E S U M O

#### Palavras-chave:

Estoma intestinal  
Qualidade de vida  
Autoestima  
Imagem corporal  
Lócus de controle

**Objetivo:** Avaliar o lócus de controle da saúde, autoestima e imagem corporal em portadores de estoma intestinal.

**Método:** Estudo descritivo, transversal, analítico; realizado no Polo de ostomizados da cidade de Pouso Alegre, aprovado pelo CEP da Universidade do Vale do Sapucaí. Parecer: 620.459. Casuística: 44 pacientes com estoma intestinal. Foram utilizados quatro instrumentos: questionário com dados demográficos e relacionados ao estoma, Escala de Lócus de Controle da Saúde, Escala de Autoestima de Rosenberg/UNIFESP-EPM e *Body Investment Scale*. Estatística: Testes do Qui-quadrado, Pearson, Mann-Whitney e de Kruskal-Wallis. Determinou-se  $p < 0,05$ .

**Resultados:** A maioria tinha idade acima de 70 anos, 16 (36,4%) eram do gênero feminino, 30 (68,2%) eram casados, 31 (70,5%) aposentados, 31 (70,5%) tinham renda de 1 a 3 salários mínimos, 32 (72,7%) não praticavam atividade física, 18 (40,9%) não completaram o ensino fundamental e 35 (79,5%) participavam de grupo de apoio ou associação. 33 (75%) das causas da confecção do estoma foram por neoplasia e em 33 (75%) o estoma era definitivo. Em 36 (81,8%) o estoma era do tipo colostomia, 22 (50%) mediam de 20 a 40 mm de diâmetro e 32 (72,7%) eram dispositivos duas peças. Com relação às complicações, 29 (65,9%) foram dermatite. A média do escore total da Escala para Locus de Controle da Saúde foi de 62,84; Escala de Autoestima de Rosenberg, 27,66; e *Body Investment Scale*, 39,48. Com relação à média do escore total das dimensões da Escala para Locus de Controle da Saúde, constatamos: Internalidade para saúde, 22,68; Externalidade "outros poderosos", 20,68; e Externalidade para saúde, 19,50. Com relação às dimensões da *Body Investment Scale*, constatamos: para Imagem corporal, média de 11,64; Cuidado corporal, média de 11,00; e Toque corporal, média de 13,09.

**Conclusão:** Os participantes do estudo apresentaram autoestima e imagem corporal alteradas e sentimentos negativos em relação ao corpo. Os ostomizados acreditam que eles próprios controlam o seu estado de saúde e não acreditam que outras pessoas ou entidades (médico, enfermeiro, amigos, familiares, Deus, etc.) possam ajuda-los em sua melhora ou cura e que sua saúde é controlada ao acaso, sem interferência própria ou de outras pessoas.

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## Introduction

Ostomy comes from the Greek word stoma, meaning opening or building a new mouth of surgical origin, which is made when there is a need to make a temporary or a permanent diversion from the normal transit of food or elimination. Considering the types of ostomy, the intestinal type is the most frequent. This type is characterized by the exteriorization of the colon through the abdominal wall, with the goal of fecal elimination; on the other hand, the artificial opening

between the ileum, in the small intestine, and the abdominal wall is called ileostomy.<sup>1</sup> Thus, the intestinal ostomies refer to an opening made in the abdominal wall, with the making of a new path, aiming the deviation of the fecal content to the external environment.<sup>2</sup> People subjected to the physical mutilation inherent to the process of an intestinal ostomy also begin to feel the emotional and psychological mutilation determined by this procedure. It is also emphasized that an ostomization can generate emotional, psychological and socio-cultural impact, for example, loss of self-esteem and of sexuality commitment, as a result of an altered body image,

which is defined as the image that every human being constructs of his/her own body throughout the life, and that keeps up with to his/her needs and to the environment in which this human being is living.<sup>3</sup>

When experienced by the ostomized person, sexuality manifests itself through negative feelings: worry, anguish, fear, shame, isolation, inferiority, and control of his/her desires. The reports show that ostomized persons refer to their body as not being the same as before, and betray the changes in their sexual activities due to physical discomfort, embarrassment, and the side effects of the adjuvant therapy.<sup>4</sup>

In addition to facing changes in self-image, changes in sexual activity, and social and family isolation, ostomized persons must confront other concerns: complications that may occur with the stoma, especially problems of loss of skin integrity around the stoma, changes in their elimination pattern, the fact that the person begins to evacuate through the abdomen, frequent occurrence of leakage of secretion around the bag, presence of odor and elimination of gases; changes in eating habits; and the need of peristomal skin-related hygiene (i.e., self-care).<sup>5,6</sup> It is often critical the understanding and support from family and friends, and especially from the professional who should guide the patient and his/her family with regard to self-care, that is, the care and hygiene of the peristomal skin, such as changing the bag, etc. In short, this is a period of difficult adaptation for the ostomized person in his new life.<sup>7-10</sup>

The adaptation process occurs with the adjustment of a whole life and in a new context, in which, in many cases, important factors need to be abandoned, replaced, or reduced.<sup>11</sup> Thus, this is an individual process that develops over time and involves a series of aspects, ranging from the help offered, to the way the ostomized person gets involved in self-care.<sup>11</sup>

As already noted, the lack of health control and the difficulty to perform self-care for the adaptation to this new life are some of the major problems for ostomized persons and for their socialization, and this process may take several months. Sociocultural, psychological and emotional aspects are related to these difficulties and to the lack of control. The Health Locus of Control, beliefs and psychological, emotional, and social changes are important aspects of doing self-care and for the individual's adaptation to his/her new way of life and socialization.

Locus of control is a model that proposes that the individual's belief (internal and external motivation) determines the action to be taken. Those who believe that the results, at least in part, are dependent on the actions taken, are considered to be internally oriented. Those who have external guidance generally do not believe, or have little faith, in the relationship between outcome and individual action.<sup>12</sup>

Autonomy and independence are good indicators for the health of the ostomized person, since the inability to intervene in its context can bring up a sense of failure. Thus, if the individual ascribe his/her failure to personal deficiencies in a generalized and lasting way, he/she may present with a feeling of ineffectiveness.<sup>13,14</sup>

The greater the sense of personal control and the ability to command and make decisions, the more intense will be the feeling of satisfaction. Self-esteem and self-image also depend

not only on the individual, but on his/her interaction with others and with society.<sup>15-19</sup>

Health professionals are fitted with technical and human skills that enable them to provide help to ostomized persons, who, in their daily lives, return to the outpatient clinic to continue their treatment. In many cases, these individuals arrive at the outpatient clinic with anxiety and frustration, not accepting self-care, and without a perspective of cure; in addition, they express feelings of loss. Thus, in these patients, the evaluation of self-esteem and self-image can result in subsidies, so that their care is improved and more appropriately directed to the individual needs of the ostomized person.

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## Objective

To evaluate the health locus of control, body image, and self-esteem in patients with an intestinal stoma.

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## Method

This is a descriptive, cross-sectional, analytical study. This study was conducted at the Pole of ostomized patients in the city of Pouso Alegre, after approval by the Research Ethics Committee of the Universidade do Vale do Sapucaí (opinion number: 620.459). Forty-four patients with intestinal stoma participated in the study. The data were collected after the signing of the Free Informed Consent Form by the patient, or by his/her accompanying person. Data were collected by the researchers themselves. The questions were asked during the interview. The sample was selected in a non-probabilistic manner, for convenience. The inclusion criteria for this study were: age  $\geq 18$  years and presence of an intestinal stoma. The criteria for non-inclusion were: patients with a dementia syndrome and/or other conditions that hamper the understanding and response of the questionnaires.

Four data collection instruments were used: a questionnaire on socio-demographic and stoma-related data, the Health Locus of Control Scale, the Rosenberg/UNIFESP-EPM Self-esteem Scale, and finally the Body Investment Scale.<sup>8</sup> The interviews lasted approximately 20 min and the data collection only started after the approval from the Ethics and Research Committee of the Faculdade de Ciências da Saúde "Dr. José Antônio Garcia Coutinho."

The Health Locus of Control (HLC) Scale was translated and validated for the Portuguese language by Rodriguez-Rosero.<sup>20</sup> The validation of this instrument, after its application in four samples, was verified by the reliability (internal consistency) by Cronbach's alpha, and the following values were found for the subscales: internal HLC, 0.62-0.71; chance HLC for h, 0.51-0.78, and powerful others HLC, 0.62-0.67. This scale is composed of three subscales, each containing six items, regarding to the dimensions: internal HLC (items 1, 6, 8, 12, 13, and 17), in which the scores indicate the degree to which the interviewee believes he/she controls his/her own health; powerful others HLC (Items 3, 5, 7, 10, 14, and 18), in which the scores indicate to what degree the interviewee believes that other persons or entities (doctor, nurse, friends, family, god, etc.) can control his/her health; and chance HLC for health

(items 2, 4, 9, 11, 15, and 16), in which the scores indicate to what degree the person believes that his or her health is controlled by chance, without interference from himself or from others. The scores for each dimension range from 1 to 5, with the following scores: for “I totally agree,” +5; “I partially agree,” +4; “I am undecided,” +3; “I partially disagree,” +2; and “I strongly disagree,” +1. The score obtained for each dimension will be the sum of the items in the subscale in question. The sum of the values of the items belonging to each of the three subscales represents the total score in relation to the locus of health dimension in question. The total value obtained for each subscale can vary between 6 and 30 and indicates that the larger the value, the greater the belief in this dimension. The scale is presented as unique, where the subscale items intersect.<sup>20</sup>

The Rosenberg-EPM Self-Esteem Scale was translated by Diniz<sup>21</sup> into the Portuguese language, with measurement properties such as reproducibility, validity and responsiveness. This scale is a specific instrument with psychometric properties only for a single characteristic, self-esteem. The scale consists of ten statements, which may represent disagreement or agreement, in which the person has four choices of response ranging from “I fully agree” to “I strongly disagree”. In items 1, 3, 4, 7 and 10, the option “I fully agree” refers to the highest self-esteem, and in items 2, 5, 6, 8 and 9, this option points to the lowest self-esteem. For each alternative, the patient examined should indicate only one response, according to what he/she is feeling at the moment of the test. Each response alternative receives a score ranging from 0 to 3, and these points, over the 10 questions, must be added together and represent the final score obtained from the questionnaire. The questionnaire scores range from 0 to 30, with 0 being the best result, and 30 being the worst state for self-esteem.<sup>21</sup>

The Brazilian version of the Body Investment Scale consists of 20 items, divided into three factors (body image, body care, and body touch). The responses are arranged in a five-point Likert scale, from “I totally disagree” (1 point) to “I strongly agree” (5 points). In order to obtain the final score of this scale, the scores of items 2, 5, 9, 11, 13 and 17 must be inverted, and then, all items are added up. The higher the score, the greater will be the positive feeling in relation to the body. The data obtained were submitted to an Exploratory Factor Analysis, with Varimax rotation. In the Brazilian scale, of the 24 original items, 20 were maintained, and 4 factors explained 36.3% of the total variance of the scale. For factor 1 (Body Image),  $\alpha = 0.81$ ; for factor 2 (Body Care),  $\alpha = 0.70$ ; and for factor 3 (Body Touch), there was internal consistency at  $\alpha = 0.66$ . For the fourth and last factor (Body Protection),  $\alpha = 0.37$ .<sup>22</sup>

In the evaluation of the results, the data were entered and analyzed by the statistical program SPSS-8.0. For the analysis of the findings, the following statistical tests were applied: Pearson's Chi-squared test for the distribution of absolute ( $n$ ) and relative (%) frequencies (this test determined whether the distribution was different from 5%, that is,  $p \leq 0.05$ ); Mann-Whitney test for comparison between two groups; Kruskal-Wallis test when there were more than two groups; and finally, the Spearman correlation for the correlation of continuous variables with semi-continuous variables.

## Results

Table 1 shows that the majority of the study participants were women, with age over 70 years, married, retired, with an income of 1–3 minimum wages, did not practice physical activity, and had an incomplete elementary education. Only 35 (79.5%) patients were engaged in a support or association group. Significance was noted in all variables.

Table 2 shows that, for the most part, colostomies were definitive, due to neoplasia, with 20–40 mm in diameter, and with 2-piece devices. The most frequent complication was dermatitis.

Table 3 presents the mean of the total score for the scales applied: Health Locus of Control Scale, 62.84; Rosenberg Self-esteem Scale, 27.66; and Body Investment Scale, 39.48. These means suggest that the ostomized patients who participated in the study exhibited altered self-esteem and body image, that is, these individuals presented negative feelings about their body; however, they believed that they could control their health and that, moreover, the people involved in their care and rehabilitation could not contribute to their improvement. There was no statistical significance in the variable “stoma diameter.”

Table 4 lists the mean of total score of the dimensions of the Health Locus of Control Scale: Internal HLC, 22.68; Powerful others HLC, 20.68; and Chance HLC, 19.50. These results demonstrate that our patients believed that they controlled themselves their health, and that they did not believe that other people or entities (doctor, nurse, friends, family, god, etc.) could help them, and that their health is controlled by chance, without interference from themselves or from others. With respect to the dimensions of the Body Investment Scale, the following means were obtained: body image, 11.64; body care, 11.00; and body touch, 13.09. There was statistical significance in all variables.

## Discussion

In the 21st century, chronic health conditions have become particularly important in health care services in Brazil; this new situation increases the life expectancy of Brazilians, who are then exposed to health problems, such as cancer, trauma, and chronic degenerative diseases. Many people undergo surgery to make the stoma, with a view to providing the patient with a better quality of life.<sup>4</sup>

After receiving the stoma, the patient face various shifts and changes in his/her life, such as the exposure to a number of social constraints, given the possibility of leakage of gas and/or excrement, thanks to the lack of voluntary control, and of failure in the safety and quality of the collection bag. All these conditions cause isolation, frustration, and fear of exposure in public. Such facts can have a strong impact on the patient's relationships with the physical, social and family environment where he/she lives, and the person may not adapt to a new lifestyle and, above all, to his/her self-care. As a consequence, such feelings can lead to changes in quality of life, self-esteem, body image, and spirituality, with the loss of hope of improvement or healing.<sup>1,6</sup>

**Table 1 – Sociodemographic characteristics of individuals with an intestinal stoma.**

Variable	N	% overall	% valid	% accumulated	p-Value
<i>Gender</i>					
Male	18	40.90	40.90	40.90	0.039 <sup>a</sup>
Female	26	59.10	59.10	100.00	
Total	44	100.00	100.00		
<i>Age group</i>					
38–49 years	11	25.00	25.00	25.00	0.455 <sup>a</sup>
50–59 years	06	13.60	13.60	38.60	
60–69 years	11	25.00	25.00	63.60	
70–87 years	16	36.40	36.40	100.00	
Total	44	100.00	100.00		
<i>Marital status</i>					
Married	30	68.20	68.20	68.20	0.041 <sup>a</sup>
Single	06	13.60	13.60	81.80	
Widowed	08	18.20	18.20	100.00	
Total	44	100.00	100.00		
<i>Occupation</i>					
Retired – “r”	31	70.50	70.50	70.50	0.049 <sup>a</sup>
Unemployed – “u”	05	11.40	11.40	81.80	
Working – “w”	08	18.20	18.20	100.00	
Total	44	100.00	100.00		
<i>Support group</i>					
Yes	35	79.50	79.50	79.50	0.037 <sup>a</sup>
No	09	20.50	20.50	100.00	
Total	44	100.00	100.00		
<i>Income</i>					
<1 minimum wage	02	4.50	4.50	04.50	0.048 <sup>a</sup>
1–3 minimum wages	31	70.50	70.50	75.00	
3–4 minimum wages	10	22.70	22.70	97.70	
≥5 minimum wages	01	2.30	2.30	100.00	
Total	44	100.00	100.00		
<i>Practices physical activity</i>					
Yes	12	27.30	27.30	27.30	0.043 <sup>a</sup>
No	32	72.70	72.70	100.00	
Total	44	100.00	100.00		
<i>Education</i>					
Incomplete elementary education	18	40.90	40.90	40.90	0.076 <sup>a</sup>
Complete elementary education	07	15.90	15.90	15.90	
Can read and write	19	43.20	43.20		
Total	44	100.00	100.00	100.00	

<sup>a</sup> Statistical significance; Pearson's Chi-squared test ( $p \leq 0.05$ ).

In this study, we verified that the majority of the participants were women, aged over 70 years, married, retired, with an income of 1–3 minimum wages, did not practice physical activity, and had an incomplete elementary education. Only 35 (79.5%) of the individuals studied were engaged in a support or association group. Such data are compatible with several studies previously published.<sup>23–26</sup>

It is important to note that the elderly exhibit peculiar biological characteristics and are more vulnerable to chronic-degenerative diseases, for example, neoplasia. Meirelles and Ferraz (2001) state that the occurrence of complications in the stoma has a multifactorial character, involving from the confection of the stoma, its location, to the obesity of the patient, with an influence of the age factor. Thus, when such factors are associated with the physiological alterations of aging, the

elderly are in greater vulnerability regarding the incidence of complications in the stoma.<sup>27,28</sup>

Women tend to take less time to rehabilitate, although showing significant degrees of despair, depression, and fear in the preoperative period. Men, especially those who develop sexual impotence, take a longer time to respond satisfactorily to their routine activities, including greater difficulty for self-care.<sup>24</sup>

Several studies have concluded that single, widowed, and separated individuals who received a stoma face greater difficulty in revealing their modified body image to an eventual sexual partner and find it difficult to engage in extramarital relationships after surgery, saying that the partner would be the only person to accept physical contact. These data agree with a study that observed affected sexuality in patients who

**Table 2 – Characteristics of the intestinal stoma.**

Variable	N	% overall	% valid	% accumulated	p-Value
<i>Cause of ostomy</i>					
Neoplasia	33	75.00	75.00	75.00	0.049 <sup>a</sup>
Inflammatory bowel disease	09	20.50	20.50	95.50	
Trauma	01	2.30	2.30	97.70	
Others	01	2.30	2.30	100.00	
Total	44	100.00	100.00		
<i>Type of stoma</i>					
Colostomy	36	81.80	81.80	81.80	0.043 <sup>a</sup>
Ileostomy	08	18.20	18.20	100.00	
Total	44	100.00	100.00		
<i>Stoma diameter (mm)</i>					
0–20	11	25.00	25.00	25.00	0.301 <sup>a</sup>
20–40	22	50.00	50.00	75.00	
40–60	08	18.20	18.20	93.20	
60–80	03	6.80	6.80	100.00	
Total	44	100.00	100.00		
<i>Complication</i>					
Dermatitis	29	65.90	65.90	65.90	0.011 <sup>a</sup>
Fistula	01	2.30	2.30	68.20	
Granuloma	02	4.50	4.50	72.70	
Bleeding	01	2.30	2.30	75.00	
Peristomal herniation	03	6.80	6.80	81.80	
Peristomal herniation + dermatitis	03	6.80	6.80	88.60	
Pseudo-verrucous injury	02	4.50	4.50	93.20	
Pseudo-verrucous injury + dermatitis	01	2.30	2.30	95.50	
No complications	02	4.50	4.50	100.00	
Total	44	100.00	100.00		
<i>Device type</i>					
One piece	12	27.30	27.30	27.30	0.049 <sup>a</sup>
Two pieces	32	72.70	72.70	100.00	
Total	44	100.00	100.00		
<i>Time of stoma use (in years) (range)</i>					
<1 year	08	18.20	18.20	18.20	0.047 <sup>a</sup>
1–10 years	27	61.40	61.40	79.50	
10–22 years	09	20.50	20.50	100.00	
Total	44	100.00	100.00		
<i>Stoma character</i>					
Definitive	33	75.00	75.00	75.00	0.045 <sup>a</sup>
Temporary	11	25.00	25.00	100.00	
Total	44	100.00	100.00		

<sup>a</sup> Statistical significance; Pearson's Chi-squared test ( $p \leq 0.05$ ).

**Table 3 – Results obtained for mean total scores of the Health Locus of Control Scale, Rosenberg Self-esteem Scale, and Body Investment Scale in individuals with an intestinal stoma.**

Descriptive level	Health Locus of Control Scale	Rosenberg Self-esteem Scale	Body Investment Scale
Mean	62.84	27.66	39.48
Median	63.00	29.00	38.00
Standard deviation	8.061	3.791	5.928
Minimum	45	19	27
Maximum	81	40	51
p-Value	0.038 <sup>a</sup>	0.049 <sup>a</sup>	0.045 <sup>a</sup>
Mann-Whitney test.			
<sup>a</sup> $p \leq 0.05$ .			

have recently received a stoma when they do not have a fixed partner, because they feel insecure and embarrassed for fear of not being accepted by the partner.

It is important that family members, caregivers, and professionals provide emotional and psychological support, because when the ostomized person receives a stoma, he/she becomes restrained in his/her sexual, leisure, social and professional life. The ostomized individual begins to see the ostomy as an anatomical mutilation. In this way, family members, caregivers and professionals become essential parts of the elaboration of a therapeutic, rehabilitation, and social reintegration plan.

In the present study, we observed a prevalence of definitive colostomy with 20–40 mm diameter in 75% of patients, and with the use of a 2-piece bag; and a neoplasm was the main cause for the ostomy. The main complication was dermatitis,

**Table 4 – Results obtained for mean scores of Health Locus of Control Scale, Rosenberg Self-esteem Scale, and Body Investment Scale dimensions in individuals with an intestinal stoma.**

	Mean	Median	Standard deviation	Minimum	Maximum	p-Value
<i>Health Locus of Control Scale</i>						
Internal HLC	22.68	23.00	2.466	16	28	0.038 <sup>a</sup>
Powerful others HLC	20.68	20.00	4.208	12	29	0.027 <sup>a</sup>
Chance HLC	19.50	20.00	4.995	10	30	0.035 <sup>a</sup>
<i>Body Investment Scale</i>						
Body image	11.64	11.00	1.753	10	16	0.021 <sup>a</sup>
Body care	15.00	13.50	4.666	10	28	0.019 <sup>a</sup>
Body touch	13.09	12.0	2.868	10	19	0.020 <sup>a</sup>
Kruskal-Wallis test.						
<sup>a</sup> $p \leq 0.05$ .						

and patients had been living with the stoma for 1 to 10 years. These results agree with several national and international studies.<sup>23–26</sup>

Regarding the Body Investment Scale and the Rosenberg Self-Esteem Scale, we observed a change in the score, indicating that the ostomized patients who participated in the study had low self-esteem and low self-image, that is, these individuals had negative feelings about their body.

The loss perceived by the person immediately after the confection of the ostomy is the loss of the physiological and anatomical function of defecating. With this, the ostomized individual is a person who will not sit in a toilet, because he must discreetly pour his/her stool and live with an artificial anus over which he/she no more has any control. Because of this experience, ostomized patients face feelings of frustration, uselessness, mutilation, and self-rejection, as well as mood swings and, especially, difficulties in self-care and in the adaptation to this new way of life. This results in changes in self-esteem and body image.<sup>29</sup>

In studies investigating the quality of life and self-esteem in patients with an intestinal stoma, the means of Rosenberg/UNIFESP-EPM Self-Esteem Scale and of Flanagan Quality of Life Scale (FQVS) were 10.81 and 26.16, respectively.<sup>16</sup>

Another study in which the sociodemographic and clinical factors were evaluated, its participants had a mean of 10.81 on the Rosenberg/UNIFESP-EPM Self-Esteem Scale. For the Body Investment Scale, a total score of 38.79 was obtained, and the means for the Body Image and Personal Touch domains were, respectively, 7.74 and 21.31. When we compared the stoma and sociodemographic-related data versus the Rosenberg/UNIFESP-EPM Self-Esteem Scale and the Body Investment Scale, we noticed that all patients showed declines in self-esteem and self-image. Those patients not informed that they would receive a stoma and in which the demarcation was not performed, presented a worsening in self-esteem and self-image, in relation to other lesion and sociodemographic-related characteristics. The patients who participated in this study presented declines in self-image and self-esteem in all the characteristics of the stoma and also in sociodemographic data; this means that these individuals had negative feelings about their own bodies.<sup>8</sup>

Ostomized individuals need to adapt their lifestyle and also incorporate therapeutic practices that involve changes

in eating patterns, hygiene, the practice of physical activities, self-care (including the exchange of the bag and peristomal skin hygiene), and a continuous monitoring by a multidisciplinary health team. Coexistence with a stoma implies adjusting oneself to the complex dynamics between family relationships, personal feelings, lifestyle, and changes in habits, routines' adequacy, and the implementation of care related to the prevention of complications. The way people perceive their condition influences the overall control of their state of health-illness, psycho-emotional aspect, since many of these people do not believe that they are able to control their health through self-care and daily activities and that those people involved in their care and rehabilitation cannot contribute to their improvement. With that in mind, many of these patients end up isolating themselves from society, family and leisure – in short, these are people who present themselves with impaired quality of life, well-being, self-esteem, and self-image.<sup>8,16,30,31</sup>

In studies that evaluated subjective well-being and quality of life in patients with an intestinal stoma, the results of the Flanagan Quality of Life Scale ranged from 16 to 22 points, indicating that these patients had their quality of life altered. Regarding the subjective well-being scale in the three domains: Positive affect – 43 (61.40%) individuals; Negative affect – 31 (44.30%) individuals, and Satisfaction with life – 54 (77.10%) individuals, all participants scored 3 points, characterizing a negative change in these domains. The mean of the Flanagan Quality of Life Scale was 26.16, and the means of the Subjective Well-being Scale domains were as follows: Positive affect, 2.51; Negative affect, 2.23; and Satisfaction with life, 2.77, suggesting that in this study, participants with intestinal stoma presented negative feelings related to self-esteem, and to the loss in their quality of life.<sup>32</sup>

With the application of the Health Locus of Control Scale, these results demonstrated that ostomized people believe that they control themselves their health, and that they do not believe that other people or entities (doctor, nurse, friends, family, god, etc.) could help them, and that their health is controlled by chance, without interference from themselves or from others.

Being constituted by beliefs, the locus of control has deep synchronization with the other variables reported. One of these variables is the perceived control, which places the individual simultaneously as agent-actor and agent-passive for

the effects caused by his/her perception in relation to the control of performances, competencies, and abilities: those individuals who attribute their success to personal efforts and personal attributes tend to develop more positive affects and better performance expectations; on the other hand, individuals who attribute their failures to an unfitnes or lack of ability often feel anxious, guilty, and fearful; and, in addition, they have less efficiency. Three areas are affected by the perceived control: behavior, cognitive abilities, and affective expressions. Within this same line, other studies relate the consensus of self-efficacy to learning and to the motivation necessary to achieve success in learning, indicating that learning difficulties arise in association with a low sense of self-efficacy, low motivation, unfitnes to perform tasks, inability of organization, and "maladaptive" behavior.<sup>12,33-36</sup> Such variables are necessary for the adaptation to the new way of life of ostomized individuals and for performing self-care.

The adaptive process occurs with the adjustment of a whole life, in a new context, in which important factors often have to be abandoned, replaced or shortened.<sup>28</sup> Therefore, this is an individual process that develops over time and which involves a series of aspects, ranging from the assistance offered to the way the ostomized person engages in self-care.

To prevent this from occurring, the multiprofessional team should provide global assistance, addressing biopsychosocial and emotional needs in order to improve the patient's living condition. In face of these facts, we consider that the care, concerns, and even the development of interpersonal relationship are not limited to psychiatry, but these aspects pertain also to any area where a need for human care is present. Thus, these relationships must occur in such a way that emotional, economic and cultural aspects are taken into account, where dialog is a primary factor, in an effort to achieve the integral health of the individual. When the professional realizes these feelings, will be able to implement the care, reviewing the treatment, the type of device used, and the bag, and eventually referring the patient to another specialist.

## Conclusion

With the accomplishment of this study, we can conclude that the ostomized participants had altered self-esteem and self-image and negative feelings regarding their body. Ostomized people believe that they control themselves their health, do not believe that other persons or entities (doctors, nurses, friends, relatives, god, etc.) can help them in their improvement or cure and that their health is controlled by chance, without personal or other people's interference.

## Conflicts of interest

The authors declare no conflicts of interest.

## REFERENCES

1. Reveles AG, Takahashi RT. Educação em saúde ao ostomizado: um estudo bibliométrico. *Rev Esc Enferm USP*. 2007;41:245-50.
2. Bellato R, Pereira WR, Maruyama SAT, Castro de Oliveira P. A convergência cuidado-educação-politicidade: um desafio a ser enfrentado pelos profissionais na garantia aos direitos à saúde das pessoas portadoras de estomias. *Rev Texto Contexto-Enferm*. 2006;15:334-42.
3. Almeida RLM, Meireles VC, Salimena AMO, Melo CSC. Compreendendo os sentimentos da Pessoa com Colostomia. *Rev Estima*. 2006;4:26-32.
4. Batista MRFF, Rocha FCV, Silva DMG, Silva J, Fernando JG. Autoimagem de clientes com colostomia em relação à bolsa coletora. *Rev Bras Enferm*. 2011;64:1043-7.
5. Martins PAF, Alvim NAT. Perspectiva educativa do cuidado de enfermagem sobre a manutenção da estomia de eliminação. *Rev Bras Enferm*. 2011;64:322-7.
6. Nascimento CMS, Trindade GLB, Luz MHBA, Santiago RF. Vivência do paciente estomizado: uma contribuição para a assistência de enfermagem. *Rev Texto Contexto-Enferm*. 2011;20:557-64.
7. Salomé GM, Carvalho MRF, Massahud Junior MR, Mendes B. Profile of ostomy patients residing in Pouso Alegre city. *J Coloproctol*. 2015;35:106-12.
8. Salomé GM, Almeida SA. Association of sociodemographic and clinical factors with the self-image and self-esteem of individuals with intestinal stoma. *J Coloproctol*. 2014;34:159-66.
9. Carvalho SORM, Budó MLD, Silva MM, Alberti GF, Simon BS. "Com um pouco de cuidado a gente vai em frente" vivências de pessoas com estomia. *Rev Texto Contexto-Enferm*. 2015;24:279-87.
10. Mauricio V, Souza NVDO, Lisboa MTL. O sentido do trabalho para o ser estomizado. *Rev Texto Contexto-Enferm*. 2014;23:656-64.
11. Menezes APS, Quintana JFA. Percepção do indivíduo estomizado quanto à sua situação. *Rev Bras Prom Saúde*. 2008;21:13-8.
12. Dela Coleta MF. Escala multidimensional de locus de controle de Levenson. *Arq Bras Psicol*. 1987;39:79-97.
13. Rotter J. Generalized expectancies for internal versus external control of reinforcement. *Psychol Monogr*. 1966;80:1-28.
14. Salgado PCB, Souza EAP. Variáveis psicológicas envolvidas na qualidade de vida de portadores de epilepsia. *Estud Psicol*. 2003;8:165-8.
15. Salomé GM, Almeida SA, Mendes B, Carvalho MRF, Massahud Junior MR. Assessment of subjective well-being and quality of life in patients with intestinal stoma. *J Coloproctol*. 2015;35:168-74.
16. Salomé GM, Almeida SA, Silveira MM. Quality of life and self-esteem of patients with intestinal stoma. *J Coloproctol*. 2014;34:231-9.
17. Salomé GM, Almeida AS, Ferreira LM. Association of sociodemographic factors with hope for cure, religiosity, and spirituality in patients with venous ulcers. *Adv Skin Wound Care*. 2015;28:76-82.
18. Pereira MTJ, Salomé GM, Openheimer DG, Espósito VHC, Almeida S, Ferreira LM. Feelings of powerlessness in patients with diabetic foot ulcers. *Wounds*. 2014;26:172-7.
19. Alves SG, Reis BC, Gardona RGB, Vilela LHR, Salomé GM. Associação dos fatores sociodemográficos e da lesão relacionado aos Sentimentos de impotência e Esperança em indivíduos com úlcera venosa. *Rev Bras Cir Plást*. 2013;28:672-80.
20. Rodríguez-Rosero JE, Ferriani MGC, Dela Coleta MF. Escala de locus de controle da saúde - MHLC: estudos de validação. *Latino-am Enfermagem*. 2002;10:179-84.
21. Dini GM, Quaresma MR, Ferreira LM. Adaptação cultural e validação da versão Brasileira da Escala de Auto-estima Rosenberg. *Rev Soc Bras Cir Plast*. 2004;19:41-52.
22. Domansky RC, Santos VLC. Cross-cultural adaptation and validation of the portuguese version of the bowel function in



- the community instrument. *J Wound Ostomy Cont Nurse*. 2007;34:671-7.
23. Knowles SR, Wilson J, Wilkinson AM. Psychological well-being and quality of life in crohn's disease patients with an ostomy: a preliminary investigation. *J Wound Ostomy Cont Nurs*. 2013;40:623-9.
  24. Pereira APS, Cesarino CB, Martins MRI, Pinto MH, Gomes Netinho J. Associação dos fatores sociodemográficos e clínicos à qualidade de vida dos estomizados. *Latino-Am Enfermagem*. 2012;20:93-100.
  25. Paula MAB, Takahashi RF, Paula PR. Os significados da sexualidade para a pessoa com estoma intestinal definitivo. *Rev Bras Coloproctol*. 2009;29:77-82.
  26. Silva AC, Silva GNS, Cunha RR. Caracterização de pessoas estomizadas atendidas em consulta de enfermagem do serviço de estomaterapia do município de belém-PA. *Rev Estima*. 2012;10:12-9.
  27. Macedo MS, Nogueira LT, Luz MHBA. Perfil dos estomizados atendidos em hospital de referência em Teresina. *Rev Estima*. 2005;3:25-8.
  28. Costa VF, Alves SG, Eufrásio C, Salome GM, Ferreira LM. Body image and subjective well-being in ostomists in Brazil. *Gastrointest Nurs*. 2014;12:37-47.
  29. Meirelles CA, Ferraz CA. Avaliação da qualidade do processo de demarcação do estoma intestinal e das intercorrências tardias em pacientes ostomizados. *Rev Latino-am Enfermagem*. 2001;9:32-8.
  30. Zilberstein B, Rodrigues JG, Habr-Gama A, Saad WA, Machado MCC, Cecconello I, et al. Cuidados pré e pós-operatórios em cirurgia digestiva e coloproctológica. São Paulo: Roca; 2001. p. 104.
  31. Salomé GM, Santos LF, Cabeceira HS, Panza AMM, Paula MAB. Knowledge of undergraduate nursing course teachers on the prevention and care of peristomal skin. *J Coloproctol*. 2014;34:224-30.
  32. Salome GM, Almeida SA, Mendes B, Carvalho MRF, Massahud Junior MR. Avaliação do Bem-estar subjetivo e da qualidade de vida nos pacientes com estoma intestinal. *J Coloproctol*. 2015;35:168-74.
  33. Oliveira G, Maritan CVC, Mantovanelli C, Ramalheiro GR, Gavilhinha TCA, Paula AAD. Impacto de laostomía: sentimientos y habilidades desarrolladas frente a lanuevacondición de vida. *Rev Estima*. 2010;8:19-25.
  34. Fernandes SCS, Almeida SSM. Estudo correlacional entre locus de controle e valores humanos. *Rev Interação em Psicologia*. 2008;12:215-22.
  35. Salomé GM, de Almeida AS, de Jesus PT, Massahud MRJ, de Oliveira MCN, de Brito MJA, et al. The impact of venous leg ulcers on body image and self-esteem. *Adv Skin Wound Care*. 2016;29:316-21.
  36. Moreira CNO, Marques CB, Salomé GM, Cunha DR, Pinheiro FAM. Health locus of control, spirituality and hope for healing in individuals with intestinal stoma. *J Coloproctol*. 2016;36:208-15.