



Original Article

# Health locus of control, spirituality and hope for healing in individuals with intestinal stoma



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ABSTRACT

**Objective:** To assess the health locus of control, spirituality and hope of cure in patients with intestinal stoma.

**Methods:** This study was conducted at the Polo of Ostomized People in the city of Pouso Alegre, Minas Gerais. Participants were 52 patients with intestinal stoma. Three questionnaires were applied for data collection: a questionnaire on demographic and stoma-related data; the Scale for Health Locus of Control; the Herth Hope Scale, and the Self-rating Scale for Spirituality.

**Results:** Most ostomized subjects were women aged over 61 years, married and retired. As to the stoma, in the majority of cases these operations were definitive and were carried out due to a diagnosis of neoplasia. Most ostomized subjects had a 20- to 40-mm diameter colostomy, 27 showed dermatitis as a complication, and 39 (75%) used a two-part device. The mean total score for the Scale for Health Locus of Control, the Herth Hope Scale, and the Self-rating Scale for Spirituality were 62.42, 38.27, and 23.67, respectively. Regarding the dimensions of the Scale for Health Locus of Control, the dimension "completeness of health" = 22.48, dimension "externality-powerful others" = 22.48, and dimension "health externality" = 19.48. **Conclusion:** Ostomized patients participating in the study believe they can control their health and that caregivers and individuals involved in their rehabilitation can contribute to their improvement. The cure or improvement has a divine influence through religious practices or beliefs.

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## Locus de controle em saúde, Espiritualidade e Esperança de cura nos indivíduos com estoma intestinal

### R E S U M O

#### Palavras-chave:

Estoma intestinal  
Controle interno-externo  
Espiritualidade  
Religiosidade  
Esperança

**Objetivo:** Verificar o locus de controle da saúde, espiritualidade e esperança de cura em indivíduos ostomizados.

**Métodos:** Este estudo foi realizado no Polo dos ostomizados da cidade de Pouso Alegre, Minas Gerais. Fizeram parte do estudo 52 pacientes com estoma intestinal. Foram utilizados para coleta de dados três questionários: questionário sobre os dados demográficos e relacionados ao estoma; Escala para Locus de controle da saúde; Escala de Esperança de Herth e Escala de auto-classificação para Espiritualidade.

**Resultados:** A maioria dos ostomizados era do gênero feminino com idade acima de 61 anos, casados e aposentados. Com relação ao estoma, a maioria desses dispositivos era definitiva e as causas para a sua confecção do dispositivo foram, em sua maioria, um diagnóstico de neoplasia. A maioria dos ostomizados tinha uma colostomia com diâmetro de 20 a 40 mm e apresentavam dermatite como complicação; e 39 (75%) utilizavam dispositivos de duas peças. A média do escore total da escala para Locus de controle da saúde, Escala de Esperança de Herth, e Escala de Auto-classificação para Espiritualidade foi de, respectivamente, 62,42, 38,27 e 23,67. Com relação às dimensões da Escala para Locus de Controle da Saúde, foram obtidos os seguintes valores: dimensão integralidade “saúde” = 22,48, dimensão externalidade “outros poderosos” = 20,48 e dimensão externalidade “saúde” = 19,48.

**Conclusão:** Os pacientes ostomizados que participaram do estudo acreditam que podem controlar sua saúde, e que as pessoas envolvidas no cuidado e em sua reabilitação podem contribuir para sua melhora. A cura ou melhora tem influência divina por meio das práticas ou crenças religiosas.

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## Introduction

An ostomy is an artificial communication between organs or viscera and the external environment for obtaining food and for drainage and disposal. The making of an intestinal ostomy is a medical-surgical procedure in which a change in bowel habits occurs, changing anatomically the patient, with externalization of a hollow viscus (in this case, the intestine) through his/her body, and which is inserted into the external abdominal wall. Taking into account the origin of the disease, the ostomy may be temporary or definitive.<sup>1,2</sup>

The individual, after being submitted to a stoma, not only lose a segment of his/her body but also undergoes a change in physical appearance and goes on living with the loss of control of elimination of feces and gases, which now occur through the abdomen, and this type of control is a paramount condition for life in society.<sup>3,4</sup> Patients are faced with a challenge, which is the self-care, which includes the exchange of the collector device and skin and peristomal hygiene.

Self-care is a process that is part of the acceptance process, by the stoma user, of his/her new physical and physiological condition. This condition must be seen as a necessary therapeutic treatment that aims to improve the pathological picture, in order to cure the patient, where the purpose is not to diminish the quality of life of those ostomized, but to prioritize their health in all areas.<sup>4-9</sup>

Thus, some changes in the daily lives of these individuals occur, ranging from physiological, anatomical and gastrointestinal alterations to the achievement of self-care. In addition to these physical changes, psychological, emotional and social changes also occur; these individuals may feel incompetent, useless to develop day-to-day activities, and especially self-care. Often the patient ends up suffering changes in his/her religiousness, losing faith and the hope of recovery or improvement, for fear that he/she will not be able to perform self-care (which consists of cleaning the peristomal skin and of exchanging and cleaning the bag). Consequently, this fact promotes changes in quality of life, self-esteem, spirituality, self-image, sexuality, family and social life and leisure activities of the individual.

Spirituality can be defined as a belief system that includes intangible elements that convey vitality and meaning to life events. Such a belief can mobilize extremely positive energies and initiatives, with unlimited potential to improve the person's quality of life. Religious people are physically healthier, have more healthful lifestyles and require less health care. There is an association between spirituality and health that is probably valid and possibly causal. It is fully recognized that the health of individuals is determined by the interaction of physical, mental, social and spiritual factors.<sup>10,11</sup>

Hope is a state associated with a positive outlook for the future, a way to cope with the situation that one is experiencing,<sup>12,13</sup> in which the individual has faith and the hope of his/her recovery or improvement. Hope induces the

individual to act and gives strength to solve problems and confrontations, such as loss, tragedy, loneliness and suffering.<sup>14</sup>

Health locus of control is a set of beliefs that individuals lay on the source of control of usual behaviors or events that occur to themselves or to the environment in which they are inserted, indicating the existence of a control of internal-external reinforcement, with regard to the degree to which the individual believes that the reinforcements are contingent on his/her conduct.<sup>15,16</sup>

The construct “health locus of control” is designed as a multidimensional variable. External beliefs can be divided into random expectations (the reinforcement would be determined by luck, by fate) and expectations that the reinforcements would be dependent on the action of powerful others (such as family, teachers or doctors). The subjects who believe that powerful others control their lives can act differently, in comparison with those who believe that the events of their lives emerge chaotically and unpredictably.<sup>17,18</sup>

The evaluation of the health locus of control and spirituality and hope of cure can become an essential instrument in guiding health actions for ostomized people, considering that this provides subsidies for a better understanding of the psychosocial and emotional factors involved with the difficulties of living with the stoma and in the achievement of self-care.

The study of aspects of spirituality and hope of cure will provide relevant information which may influence the self-care by the ostomized individual and his/her acceptance of being an ostomized patient and in living with the stoma. Thus, this study aims to determine the health locus of control, spirituality, and hope of a cure in patients with an intestinal stoma.

## Methods

This is a descriptive, cross-sectional analytical study.

This study was conducted at the Polo of Ostomized People in the city of Pouso Alegre, Minas Gerais. 52 patients with intestinal stoma were included.

The inclusion criteria were age  $\geq 18$  years and being an intestinal stoma carrier, and exclusion criteria were patients with dementia syndromes and other conditions that could prevent them from understanding and answering to the questionnaires.

Data were collected after approval by the Ethics Committee on Research of the Faculdade de Ciências da Saúde “Dr. Jose Antonio Garcia Coutinho” and after the Free and Informed Consent Form was signed by the patient or his/her caregiver (opinion number: 620462). Data were collected by the researchers themselves. The inclusion of the patient in the study followed the order of arrival at the outpatient clinic. The sample was selected in a non-probabilistic, by convenience, way.

For data collection, three questionnaires were applied: first, a questionnaire on demographic and stoma-related data; then the Scale for Health Locus of Control; the third questionnaire was the Herth Hope Scale and, finally, the Self-rating Scale for Spirituality. Each interview lasted approximately 25 min.

The Scale for Health Locus of Control has been translated and validated for the Portuguese language. The instrument validation, after application in four samples, was verified as

to the reliability (internal consistency) through Cronbach's alpha, and the values found for the subscales were: *Internality for health*, 0.62–0.71; *Externality-chance for health*, 0.51–0.78; and *Externality-powerful others*, 0.62–0.67. This scale consists of three subscales, each containing six items regarding the following dimensions: *Internality for health* (items 1, 6, 8, 12, 13 and 17), wherein the scores reflect the degree to which the subject believes that he/she himself controls his/her state of health; *externality-powerful others for health* (items 3, 5, 7, 10, 14 and 18), wherein the scores reflect the degree to which the subject believes that other persons or entities (doctors, nurses, friends, family, God, etc.) can control his/her health; and *Externality-chance for health* (items 2, 4, 9, 11, 15 and 16), in which the scores indicate the degree to which a person believes that his/her health is controlled at random, without his/her interference or the interference from other people. The scores for each dimension range from 1 to 5; for the alternatives “I totally agree,” “I partially agree,” “I am undecided,” “I partially disagree,” and “I strongly disagree,” the following values are respectively added: 5, 4, 3, 2, and 1. The score obtained for the dimensions will be the sum of the items of the subscale at issue. The total value of items belonging to each of the three subscales represents the total scores with respect to the dimension of the health locus in question. The total amount obtained from each subscale may vary between 6 and 30 and indicates that the higher the value, the stronger the belief in this dimension. The scale is presented in its entirety, in which the items of the subscales are interleaved.<sup>12,19</sup>

The *Escala da Esperança de Herth* (EEH), that is, the Portuguese version of the Herth Hope Scale, is a tool which consists of 12 items with a total score of 12–48 points, with responses produced in a Likert-like scale, with scores from 1 to 4 points for each one of these items. The higher the score, the greater the hope. The items 3 and 6 have an inverted score.<sup>18,20</sup>

The Self-rating Scale for Spirituality is a self-report instrument consisting of six items that assess aspects of the individual's spirituality. Respondents must mark one of five options ranging from 1 – “I strongly agree,” 2 – “I agree,” 3 – “I partially agree,” 4 – “I disagree,” and 5 – “I strongly disagree,” and the answers should be produced according to the individual's perception at the time of answering the questions. For its use, one must sum up the points, whose total range from 6 to 30. To do this, one must previously recodeify each item of this instrument (for example, a score = 5 becomes 1, 2 becomes 4, and so on). The recoded responses are summed to produce the total score, and this, in turn, represents the level of spiritual guidance. To make a comparison of scores between groups, one should work with the averages obtained in each group, applying an appropriate statistical test to check for differences between them. The summing of items allows the reading of scores, that is, the higher the score, the higher the levels of spiritual guidance. The items in this scale refer to divine intervention in the patient's daily life and the practice of religious rituals like praying. This scale, which evaluates the levels of spirituality, was validated in Brazil. The scale reliability test involving the two scales had a Cronbach's alpha coefficient of 0.86, a value which was considered acceptable, which validates its use in the Brazilian context.<sup>21,22</sup>

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

## Results

Table 1 shows that 33 (63.5%) patients were female, and 20 (38.5%) were aged over 61 years. 36% of the participants in this study were married, 34 (65.4%) were retired, 40 (76.9%) participated in a support group or association. The variables gender, marital status, and occupation had statistical significance.

Table 2 shows that the main cause of making the stoma was the presence of a neoplasm in 40 (76.9%) patients, and 40 (76.9%) stomata were definitive. 44 (84.6%) patients received a colostomy, and in 27 (51.9%) the stoma measured 20–40 mm. 31 (51.7%) of the participants showed dermatitis, and 39 (75%) used two-piece devices. All these variables were statistically significant.

Table 3 shows that the mean total score of the Scale for Health Locus of Control was 62.42; for the Herth Hope Scale, it was 38.27; and for the Self-rating Scale for Spirituality, it was 23.67. These results were statistically significant.

Table 4 shows the dimensions of the Scale for Health Locus of Control: 22.48 for the dimension "Completeness of health", 20.48 for the dimension "Externality-powerful others", and 19.48 for the dimension "Externality-health", all with statistical significance.

## Discussion

Regarding sociodemographic characteristics of the 52 patients with intestinal stoma included in this study, most were elderly women aged over 60, retired, married, and participating in a support or association group, which is in line with other investigations whose subjects had an intestinal stoma.<sup>5,9</sup>

The gender of the stomized individual can influence his/her social adaptation. Women tend to require less time to rehabilitation but show significant degrees of despair, depression and fear in the preoperative period. Men, especially those who develop impotence, take a longer time to respond satisfactorily to their routine activities, and exhibit more significant difficulties for self-care.<sup>23</sup> It is important to point out that the elderly have unique biological characteristics and that this age group is more vulnerable to chronic diseases, for instance, neoplasms.

The occurrence of stoma complications is multifactorial, involving from the making of the stoma till its location, obesity, and influence of the age factor. Thus, when these factors are associated with the physiological changes of aging, the expected outcome is a greater vulnerability of the elderly with respect to the incidence of complications in the stoma.<sup>24</sup>

In this study, most participants were illiterate and retirees. This result reveals a disturbing profile, when one thinks in terms of citizenship and respect for individual rights, taking into account that it is known that the lower the educational level, the more unfavorable is the linguistic capital of the individual to the questioning of professionals and leaders with respect to his/her health problems, the care to be offered, and the rights that are inherent to each person. It is important to note that this situation does not affect the performance with these people because the interaction between user, service and health professionals have made possible to overcome the difficulties imposed by this variable.

Data relating to the stoma indicate that, in most of the participants, neoplasia was the main causal factor to the stoma; the type of ostomy performed was colostomy, and the ostomy was of the definitive type; the users were provided with a 2-piece bag, and most had dermatitis as a complication. With respect to the stoma size, most averaged 20–40 mm. These findings agree with several studies published.<sup>7,25–28</sup>

It is worth noting that the time spent with the stoma will depend on the causative factor and on the clinical outcome after its making. Thus, an originally temporary stoma may become permanent, depending on the impeditive factors to the reconstruction of intestinal transit, taking into account that in many cases the diseases of the gastrointestinal tract lead to a radical surgery, resulting in a temporary, or even definitive, ostomy.<sup>24</sup>

Another study examined the knowledge of the ostomized individual regarding the proper self-care after hospital discharge and the incidence of complications related to the stoma. This is a qualitative, exploratory, field study with quantitative data contribution. In our study, we applied a semi-structured interview as a technique for data collection. Ten patients with an intestinal stoma (colostomy/ileostomy) participated in this study, and the results demonstrated that most patients had difficulty with self-care, thanks to a lack of proper guidance and/or the help of professionals trained to work in this phase of treatment.<sup>29</sup>

One should also consider that some complications increase with age and also in patients without demarcation of the stoma. Considering that no stoma demarcation was carried out in the study population (predominantly composed of elderly), it can be said that this fact was one of the factors that may have contributed to the development of complications, such those aforementioned, thus confirming the findings in other studies.

Generally, dermatitis in an injury resulting from an improper use of collector equipment, more precisely by excessive cutting of the hole in the protective barrier relative to the stoma (thus, the skin is exposed to the action of the effluent), or by inadequate indication of equipment with respect to the type of stoma at issue. Collectors and adjuvants on the market should be presented in detail to ostomized patients. In some services, the equipment used is recommended based on the results of the assessment made at the time; but over time, the device can be replaced. Thus, a continuous assessment is in order.<sup>30</sup>

Although in most cases the making of an ostomy is aimed to save lives, this procedure includes numerous and varied adaptations that result in additional problems for the

**Table 1 – Socio-demographic characteristics of individuals with intestinal stoma.**

| Variable                         | N  | % Overall | % Valid | % Pooled | p     |
|----------------------------------|----|-----------|---------|----------|-------|
| <i>Gender</i>                    |    |           |         |          |       |
| Male                             | 19 | 36.5      | 36.5    | 36.5     | 0.003 |
| Female                           | 33 | 63.5      | 63.5    | 100.0    |       |
| Total                            | 52 | 100.0     | 100.0   |          |       |
| <i>Age group</i>                 |    |           |         |          |       |
| 32–49 years                      | 15 | 28.8      | 28.8    | 28.8     | 0.057 |
| 50–60 years                      | 17 | 32.7      | 38.5    | 67.3     |       |
| >61 years                        | 20 | 38.5      | 32.7    | 100.0    |       |
| Total                            | 52 | 100.0     | 100.0   |          |       |
| <i>Marital status</i>            |    |           |         |          |       |
| Single                           | 8  | 15.4      | 15.4    | 15.4     | 0.035 |
| Married                          | 35 | 67.3      | 67.3    | 82.7     |       |
| Widower                          | 9  | 17.3      | 17.3    | 100.0    |       |
| Total                            | 52 | 100.0     | 100.0   |          |       |
| <i>Occupation</i>                |    |           |         |          |       |
| Retired                          | 34 | 65.4      | 65.4    | 65.4     | 0.003 |
| Unemployed                       | 6  | 11.5      | 11.5    | 76.9     |       |
| Working                          | 12 | 23.1      | 23.1    | 100.0    |       |
| Total                            | 52 | 100.0     | 100.0   |          |       |
| <i>Support group/association</i> |    |           |         |          |       |
| Yes                              | 40 | 76.9      | 76.9    | 76.9     | 0.075 |
| No                               | 12 | 23.1      | 23.1    | 100.0    |       |
| Total                            | 52 | 100.0     | 100.0   |          |       |

Pearson's Chi-squared test and  $p \leq 0.05$ .

ostomized patient. These difficulties concern the acceptance of changes in body image, lifestyle, social relationships and sexual performance – which can lead to psychological and social disorders, often difficult to overcome.<sup>29</sup>

In recent years, the increase in life expectancy has contributed to the worldwide increase in the incidence and prevalence of chronic diseases, especially diseases in which people receive stomata. Thus, the needs of people who have to live in this condition are significant and affect many aspects of their lives, with the incorporation of new habits, as well as, of necessity, a review and adaptation of social roles.

In this study, the results related to the Scale for Health Locus of Control revealed that ostomized individuals participating in the study believe that they can control their health, and that the people involved in their care and rehabilitation can contribute to their improvement. But this improvement and the cure have no direct interference in people involved in the treatment.

Often the adaptation of ostomized individuals occurs with the adjustment of life in a new context, in which important factors such as the way of life, social life and feeding habits have to be abandoned, replaced or diminished in a great number of cases. Thus, this is an individual process that develops over time and that involves a number of aspects, ranging from the help provided, to the way the person gets involved in his/her own care.<sup>31</sup>

With an intestinal stoma, the patient experiences moments of conflict, concerns and difficulties in dealing with this new situation. This leads the individual to visualize

his/her limitations and to face the changes in his/her daily life.<sup>32</sup> Thus, it is important that the patient receives support from family, friends and even from those professionals who are helping. With this support, the patient will find strength to overcome the difficulties and barriers related to self-care and the changes that are being experienced in his/her daily live.

The health locus of control is a model that questions whether the beliefs of the individual, that is, motivation (internal and external), determine the action to be taken. The individual who believes that the results, at least in part, are dependent on the actions taken, is considered as internally oriented; on the other hand, those with an external orientation generally do not believe, or scarcely believe, in the external relation of the outcome, and in the individual action.<sup>33</sup> The beliefs influence the individual with a stoma on the perception and expression of hope and faith in his/her cure or improvement, and on how to handle these values in the interaction with a stomized human being.

The study aimed to assess the care that permeates the experiences of ostomized people in a countryside city in the state of Minas Gerais. Ours is a qualitative and descriptive study. This study showed the presence of care in the day-to-day lives of ostomized people; the changes in their life are evident and are related to social conviviality, the way to take care of themselves, and their eating habits. Ostomized people learned to live with these changes and seek to return to their daily activities and to engage with their everyday chores. The events of his life arise chaotically.<sup>34</sup>

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

| Variable                   | N  | % Overall | % Valid | % Pooled | p      |
|----------------------------|----|-----------|---------|----------|--------|
| <i>Cause of ostomy</i>     |    |           |         |          |        |
| Neoplasia                  | 40 | 76.9      | 17.3    | 76.9     | 0.003  |
| Inflammatory bowel disease | 9  | 17.3      | 17.3    | 94.2     |        |
| Trauma                     | 2  | 3.8       | 3.8     | 98.1     |        |
| Other                      | 1  | 1.9       | 1.9     | 100.0    |        |
| Total                      | 52 | 100.0     | 100.0   |          |        |
| <i>Stoma type</i>          |    |           |         |          |        |
| Colostomy                  | 44 | 84.6      | 84.6    | 84.6     | 0.007  |
| Ileostomy                  | 8  | 15.4      | 15.4    | 100.0    |        |
| Total                      | 52 | 100.0     | 100.0   |          |        |
| <i>Stoma diameter</i>      |    |           |         |          |        |
| 0-20 mm                    | 12 | 23.1      | 23.1    | 23.1     | 0.056  |
| 20-40 mm                   | 27 | 51.9      | 51.9    | 75       |        |
| 40-60 mm                   | 10 | 19.2      | 19.2    | 94.2     |        |
| 60-80 mm                   | 3  | 5.8       | 5.8     | 100.0    |        |
| Total                      | 52 | 100.0     | 100.0   |          |        |
| <i>Complication type</i>   |    |           |         |          |        |
| Dermatitis                 | 31 | 51.7      | 51.7    | 51.7     | 0.0023 |
| Fistula                    | 2  | 3.3       | 3.3     | 55       |        |
| Granuloma                  | 2  | 3.3       | 3.3     | 58.3     |        |
| Bleeding                   | 2  | 3.3       | 3.3     | 61.7     |        |
| Peristomal hernia          | 6  | 10.0      | 10.0    | 71.7     |        |
| Pseudo-verrucous lesions   | 5  | 8.3       | 8.3     | 80.0     |        |
| Allergic reaction          | 9  | 15.0      | 15.0    | 95.0     |        |
| Allergy                    | 3  | 5.0       | 5.0     | 100.0    |        |
| Total                      | 60 | 100.0     | 100.0   |          |        |
| <i>Type of device</i>      |    |           |         |          |        |
| One-piece system           | 13 | 25        | 25      | 25       | 0.043  |
| Two-piece system           | 39 | 75        | 75      | 100.0    |        |
| Total                      | 52 | 100.0     | 100.0   |          |        |
| <i>Stoma character</i>     |    |           |         |          |        |
| Temporary                  | 12 | 23.1      | 23.1    | 23.1     | 0.003  |
| Definitive                 | 40 | 76.9      | 76.9    | 100.0    |        |
| Total                      | 52 | 100.0     | 100.0   |          |        |

Pearson's Chi-squared test and  $p \leq 0.05$ .

**Table 3 – Results obtained in the mean score for the Scale for Health Locus of Control, Herth Hope Scale and Self-rating Scale for Spirituality in patients with intestinal stoma.**

| Descriptive level  | Scale for Health Locus of Control | Herth Hope Scale | Self-rating Scale for Spirituality |
|--------------------|-----------------------------------|------------------|------------------------------------|
| Mean               | 62.42                             | 38.27            | 23.67                              |
| Median             | 63                                | 38               | 24.5                               |
| Standard deviation | 7.944                             | 3.515            | 5.279                              |
| Minimum            | 45                                | 32               | 11                                 |
| Maximum            | 81                                | 47               | 30                                 |
| P-Value            |                                   | 0.023            |                                    |

Mann-Whitney test, Kruskal-Wallis test and  $p \leq 0.05$ .

In these studies related to the dimensions of the Scale for Health Locus of Control, the patients responded as follows: (22.48) related to the dimension "Completeness-health," (20.48) related to the dimension "Externality-powerful others," and (19.48) related to the dimension "Externality to health," with statistical significance, thus characterizing that the ostomized individuals participating in the study believe

that they can control their health and that the people involved in their care and rehabilitation can contribute to their improvement. However, this improvement and the cure do not interfere directly in the people involved in their treatment.

In this study, the values of "Total internality" of the locus of control and that of "Powerful others" revealed that the stomized individual shows a trend to believe that the health

**Table 4 – Results obtained in the mean score for the Scale for Health Locus of Control, Herth Hope Scale and Self-rating Scale for Spirituality in patients with intestinal stoma.**

| Descriptive level  | Dimensions             |                                 |                        |
|--------------------|------------------------|---------------------------------|------------------------|
|                    | Internality for health | Externality – “powerful others” | Externality for health |
| Mean               | 22.48                  | 20.48                           | 19.48                  |
| Median             | 22.5                   | 20                              | 20                     |
| Standard deviation | 2.646                  | 4.444                           | 4.881                  |
| Minimum            | 16                     | 12                              | 10                     |
| Maximum            | 28                     | 19                              | 30                     |
| p-Value            | 0.031                  |                                 |                        |

Mann-Whitney test, Kruskal-Wallis test and  $p < 0.05$ .

care depends more on others than on himself. It was found that the dimension “Internality” and that of the index “Total internality” influence the adherence to treatment and to self-care and rehabilitation of ostomized people, that is, ostomized individuals with more “Internality” adhered less to their treatment. These results demonstrate the importance of beliefs in the therapeutic management, and in the rehabilitation and self-care; and that specific interventions, aimed at increasing the adherence, should be tested.

The diseased person can experience situations of powerlessness stemmed from several factors, ranging from changes related to the disease to the interaction with the health team. The locus of control influences the patient’s behavior in the face of the health problem, by directing the awareness to factors dependent on him/herself or on other external forces. Knowing the orientation of the patient’s locus of control is important, in order to foresee the changes that the patient will need to promote, with a view to a better control of his/her treatment.<sup>35</sup>

In this study, assessed ostomized patients showed total means of 38.27 and 23.67 for Self-Rating Scale for Spirituality and Herth Hope Scale, respectively. These findings show that these individuals have hope and faith in God that they will improve and that they pray to God for obtaining help to face the difficult situations they are experiencing.

Spirituality and religion are related to each other, but although these concepts are often used interchangeably, they do not share the same characteristics. Spirituality is something broader and more personal, and is related to a set of inner values, inner wholeness, harmony, and connection with others; it stimulates an interest in others and in ourselves and looks for a unity with life, nature, and the universe. Spirituality is what gives meaning to life, regardless of one’s religion, and thus, generates the capacity to endure debilitating feelings of guilt, anger and anxiety; furthermore, spiritualist aspects can mobilize positive energies and improve the quality of life.<sup>10</sup> When it comes to ostomized people, spirituality can be contemplated as one of the coping resources in performing self-care and rehabilitation.

In one study, the authors report that one of the ways of coping with the disease and with death is directly linked to the intensity of faith and religious beliefs - that is, ways of expressing spirituality. The authors concluded that one of the ways of coping with adverse and favorable situations is in the feeling of faith in God. Faith in God is a deep-seated feeling in our culture and is as necessary as the other ways of coping;

the discourse shows that the spiritual dimension occupies a prominent place in people’s lives and also shows that it is that it essential to be aware of the spirituality of the users to plan a nursing care.<sup>35</sup>

Spirituality contributes to the well-being of ostomized people, favoring their resilience in the success of self-care and rehabilitation. Certain religious and spiritual behaviors and beliefs are directly related to overall happiness and physical health, considering that they discourage an engagement in unhealthy behaviors. Through this study, we conclude that ostomized patients believe that can control their health and that those people involved in their care and rehabilitation can contribute to their improvement. They believe in a divine influence on the cure or improvement, through religious practices or beliefs.

### Conflicts of interest

The authors declare no conflicts of interest.

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