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# LOCUS OF HEALTH CONTROL, BODY IMAGE AND SELF-IMAGE IN DIABETIC INDIVIDUALS WITH ULCERATED FEET

## LOCUS DE CONTROLE DA SAÚDE, IMAGEM CORPORAL E AUTOIMAGEM EM INDIVÍDUOS DIABÉTICOS COM PÉS ULCERADOS

## LOCUS DE CONTROLE DE SALUD, IMAGEN CORPORAL Y AUTOIMAGEN EN INDIVIDUOS DIABÉTICOS CON PIES ULCERADOS

*Geraldo Magela Salomé[1], Lydia Masako Ferreira[2]*

**ABSTRACT**

***Objective***: to compare the locus of health control, self-esteem, and self-image in patients with diabetes mellitus with and without an ulcerated foot. ***Method***: this is a descriptive, controlled, analytical study performed in two outpatient clinics with 104 adult diabetic patients, 52 non-ulcerated patients and 52 patients with foot ulceration. The instruments were: Locus Health Control Scale, Rosenberg Self-Esteem Scale/UNIFESP-EPM and the Brazilian version of the Body Investment Scale. ***Results***: patients with and without ulcerated feet had a mean total score of 9.54 and 56.48, respectively, for the Health Control Locus Scale; 27,58 and 15,29, respectively, for the Rosenberg/UNIFESP-EPM Self-Esteem Scale; and 39.98 and 91.75, respectively, for the Body Investment Scale. ***Conclusion***: diabetic patients with ulcerated feet presented significantly lower levels of self-esteem, self-image, and locus of health control compared to diabetic patients without ulceration. ***Descriptors***: Diabetes Mellitus; Diabetic Foot; Leg Ulcer; Life Expectancy; Self Concept.

**RESUMO**

***Objetivo*:** comparar o locus de controle da saúde, autoestima e autoimagem entre portadores de diabetes mellitus com e sem pé ulcerado**.** ***Método*:** estudo descritivo, analítico controlado, realizado em dois ambulatórios com 104 pacientes diabéticos adultos, 52 pacientes sem ulceração e 52 pacientes com ulceração no pé. Foram utilizados os instrumentos: Escala de Locus de Controle da Saúde, Escala de Autoestima Rosenberg/UNIFESP-EPM e a versão brasileira da Body Investiment Scale. ***Resultados*:** os pacientes com e sem pé ulcerado apresentaram um escore total médio de 9,54 e 56,48, respectivamente, para a Escala de Locus de Controle da Saúde; 27,58 e 15,29, respectivamente, para a Escala de Autoestima Rosenberg/UNIFESP-EPM; e 39,98 e 91,75, respectivamente, para a Body Investment Scale. ***Conclusão***: pacientes diabéticos com pé ulcerado apresentaram níveis significativamente menores de autoestima, autoimagem e locus de controle de saúde em comparação com pacientes diabéticos sem ulceração. ***Descritores***: Diabetes Mellitus; Pé Diabético; Úlcera da Perna; Esperança de Vida; Autoimagem.

**RESUMEN**

***Objetivo*:** comparar el locus de control De la salud, autoestima y autoimagen entre portadores de diabetes mellitus con y sin pie ulcerado**.** ***Método*:** estudio descriptivo, analítico controlado, realizado en dos ambulatorios con 104 pacientes diabéticos adultos, 52 pacientes sin ulceración y 52 pacientes con ulceración en el pie. Fueron utilizados los instrumentos: Escala de Locus de Control de la Salud, Escala de Autoestima Rosenberg/UNIFESP-EPM y la versión brasilera del Body Investiment Scale. ***Resultados*:** los pacientes con y sin pie ulcerado presentaron un puntaje total medio de 9,54 y 56,48, respectivamente, para la Escala de Locus de Control de la Salud; 27,58 y 15,29, respectivamente, para la Escala de Autoestima Rosenberg/UNIFESP-EPM; y 39,98 y 91,75, respectivamente, para la Body Investment Scale. ***Conclusión***: pacientes diabéticos con pie ulcerado presentaron niveles significativamente menores de autoestima, autoimagen y locus de control de salud en comparación con pacientes diabéticos sin ulceración. ***Descriptores***: Diabetes Mellitus; Pie Diabético; Úlcera de la Pierna; Esperanza de Vida; Autoimagen.

[1]Nurse, Ph.D. Professor, Professional Master's Program in Applied Health Sciences, University of Vale do Sapucaí/UNIVÁS. Pouso Alegre (MG), Brazil. E-mail: salomereiki@yahoo.com.br; [2]Plastic Surgeon, Coordinator Medicine III CAPES, Full Professor and Coordinator of the Discipline of Plastic Surgery, Federal University of São Paulo/UNIFESP. São Paulo (SP), Brazil. E-mail: lydiamferreira@uol.com.br

## INTRODUCTION

Foot ulcerations reach about 15% of patients with diabetes mellitus throughout life and the treatment of these wounds is complex, especially those infected and with marked depth that contribute to an increased risk of amputation. Studies show that the annual population-based incidence can vary between 1% and 4.1%, and the prevalence of 4% and 10%.[1-2]

When diabetic people acquire the foot wound, often the lesion may present exudate, odor, and several changes of dressing are necessary during the day. The limb presents edema, causing the patient to have difficulty locomotion. The carriers of the wound often undergo amputation of the limb or part of it. Then, they also experience emotional and psychological mutilations determined by this procedure. It is emphasized that amputation can generate emotional, psychological and sociocultural impacts, such as loss of self-esteem, impaired self-image, and compromised sexuality. They are the result of the change in their body image that is defined as an image that every human being constructs of his own body throughout his life, adjusted to his needs and the environment in which he lives.[3-4] All these factors contribute to the patients have difficulty performing self-care, examination of the feet and their socialization.

Besides to facing changes in self-image, changes in sexual activity, social and familial isolation, the diabetic person with ulcerated feet has to face other concerns with adverse events that may occur with the wound, especially problems such as infection, loss of skin integrity around of the lesion, surgical debridement and the worst, living with the risk of amputation. It is essential the understanding and support of family and friends, especially the professional who should guide the patient and the family on how to perform self-care and prevention related to complications.[1]

As we have seen, lack of health control, difficulty in adapting to treatment, difficulty in self-care and prevention of complications are some of the greatest problems for diabetic individuals with foot ulcers. Adaptation to the new life for re-socialization can take months or even years. Socio-cultural, psychological and emotional aspects are related to these difficulties and the lack of control of the disease. The locus of health control and beliefs, psychological, emotional and social changes are important aspects of the performance of self-care and adaptation to the new way of life and participation in social life.

The locus of health control consists of expectations of control that individuals maintain about the events of daily life. Individuals whose locus orientation is internal believe they can exercise some control over these events; individuals whose orientation is external assign the control of events to external events - people, entities, fate, chance or luck.[5-8] Several authors consider that the locus of control is only one of the potential determinants of behavior and they draw attention to the importance of the reinforcement value. Any prediction of a given behavior must consider the value of the resulting reinforcement for the individual. In short, the occurrence of certain behavior in any specific psychological situation is a function of the expectation that this behavior will lead to a particular reinforcement and the value attributed to such reinforcement.[5]

Autonomy and independence are good health indicators for patients with diabetes with ulcerated feet since the inability to intervene in their context can bring about the sensation of failure. Thus, if individuals attribute their failure to personal impairment in a generalized and enduring manner, they may experience a sense of ineffectiveness.[9-10] The greater the sense of personal control and decision-making and command, the more intense are the feelings of satisfaction. Self-esteem and self-image depend not only on the individual but on his/her interaction with others and with society.[10]

Considering this current and relevant theme for the systematization of assistance to diabetic individuals with foot wound, it was chosen to identify the locus of control, body image and self-esteem of these patients, with the purpose of subsidizing the elaboration of strategies that assist the services and the team of professionals who provide assistance to diabetic foot-wound patients in planning and implementing assistance to them. Thus, the health professional must be prepared to provide assistance, meeting not only the patients' biological needs but also their psychosocial and emotional needs, leading them to overcome limitations and acquire coping mechanisms.

## OBJECTIVE

- To compare the locus of health control, self-esteem, and self-image in patients with diabetes mellitus with and without an ulcerated foot.

## METHOD

Article held with a Post-doctoral fellowship by the **Coordination for the Improvement of Higher Education Personnel** (CAPES) of the Postgraduate Program in Translational Surgery, Federal University of São Paulo.

This is a descriptive, analytical, control study conducted at the Municipal Center for Diabetes Education and Outpatient Clinic Santa Barbara Hill, Pouso Alegre City Hall, São João Primary Health Care Unit, and Pouso Alegre Sapucaí University, after approval by the Research Ethics Committee of the Faculty of Health Sciences "Dr. José Antônio Garcia Coutinho", under the opinion (CAAE) number 748.558. The study included 104 diabetic patients, 52 patients with ulcerated feet and 52 diabetic patients with ulcerated feet. The sample was selected in a non-probabilistic way, for convenience.

Inclusion criteria in the group of diabetic patients without ulcerated foot were: age above 18 years old, type 1 or 2 diabetes mellitus and without foot ulcer. To be included in the group of patients with ulcerated feet, the criteria were: being over 18 years old, type 1 or 2 diabetes mellitus and presenting foot ulcer. The inclusion criteria for both groups were: patients with mixed ulcer, arterial or venous ulcer.

For the data collection, the participants answered questions from four instruments: Demographic Questionnaire, Locus of Health Control Scale, Rosenberg Self-Esteem Scale/UNIFESP-EPM and the Brazilian version of the Body Investment Scale instrument.

The Health Control Locus Scale has been translated and validated into Portuguese. It is composed of three subscales, each containing six items, referring to the dimensions: internality for health (items 1, 6, 8, 12, 13 and 17), where the scores provide the level the subject believes that they control their state of health; (items 3, 5, 7, 10, 14 and 18) in which scores provide how much the individual believes other people or entities (for example, doctor, nurse, friends, family, God, etc.) and they can control their state of health; (items 2, 4, 9, 11, 15 and 16) where the scores indicate how much a person believes that his or her health is controlled at random, without their or other people interference.[11] The scores for each dimension vary from 1 to 5. The "totally agree" response is 5; "partially agree" is 4; "undecided" is 3; "partially disagree" is 2 and "totally disagree" is 1. The score obtained in the dimensions will be the sum of the items in the subscale. The sum of the values of the items belonging to each of the three subscales represents the total scores in the dimension of the locus in health. The total value obtained from each subscale can vary between 6 and 30 and indicates that the higher the value, the greater the belief in this dimension. The scale is presented as the only one, where the subscale items are intercalated.[11]

The Rosenberg/UNIFESP-EPM Self-Esteem Scale has been translated and validated into Portuguese.[12] This is a 4-point Likert scale (1 = strongly agree, 2 = agree, 3 = disagree, 4 = strongly disagree) , containing 10 items. From this total of items, 5 items evaluate positive feelings about oneself (In general, I am satisfied with myself; I feel that I have some good qualities; I am able to do things as well as most other people, since that I am taught, I feel that I am a person of value, at least on an equal plane to other people, I have a positive attitude towards myself) and 5 items evaluate negative feelings (Sometimes I think I'm not good at all; I do not feel satisfaction in the things I have done; I feel I have not much to be proud of; Sometimes I really feel useless, unable to do things; I wish I had more respect for myself; I almost think I'm a loser). For the score of the answers, the five items that express positive feelings have inverted values that, added to the other five, totalize a unique value for the scale. The possible range of values ranges from 10 to 40, with high values indicating high self-esteem.[12]

The Brazilian version of the Body Investment Scale or Body Investment Questionnaire (BIS) has been translated and validated into Portuguese.[13] It is composed of twenty items, divided into three factors (body image, body care, and body touch). Responses are arranged on a five-point Likert scale, ranging from "strongly disagree" (1 point) to "strongly agree" (5 points). To obtain the final score of the scale, the scores of items 2, 5, 9, 11, 13 and 17 must be reversed and all items added together. The higher the score, the greater the positive feeling to the body. The data were submitted to Exploratory Factor Analysis, with Varimax rotation. There were 20 of the 24 original items maintained in the Brazilian scale, with four factors accounting for 36.3% of the total variance of the scale. Factor 1 (called Body Image) presented a = 0.81. Factor 2 (called body care) had a = 0.70. Factor 3 (called corporal touch) obtained internal consistency at a = 0.66. The fourth and last factor (called corporal protection), obtained a = 0.37.[13]

The results and data were entered and analyzed with the statistical program SPSS 8.0. For the analysis of the obtained data, the following statistical tests were used: Pearson's

Chi-square test and Mann-Whitney test. For all statistical tests, significance levels 5% (P <0.05) were considered.

## RESULTS

Regarding the sociodemographic data, Table 1 shows that most of the participants in both groups were female and married. Regarding the education level, there were 23 (44.2%) patients without ulcerations with completed high school and 18 (34.6%) with complete elementary education. Regarding diabetic patients with foot ulcers, 22 (42.30%) were illiterate, 16 (30.80%) had completed elementary education and 14 (44.2%) had completed high school. Only the variable of gender did not present statistical difference between groups.

Table 1. Socio-demographic characteristics of diabetic individuals with and without ulcerated feet. Pouso Alegre (MG), Brazil.

| Variables | Group of patients with diabetes | | | | | | p-value |
|---|---|---|---|---|---|---|---|
| | With ulcerated foot (n = 52) | | Without ulcerated foot (n = 52) | | Total (n = 104) | | |
| | N | % | N | % | N | % | |
| Gender | | | | | | | |
| Male | 23 | 44.2 | 19 | 36.5 | 42 | 40.4 | 0.549 |
| Female | 29 | 55.8 | 33 | 63.5 | 62 | 59.6 | |
| Age group | | | | | | | |
| 18 to 49 years old | 1 | 1.9 | 15 | 28.8 | 16 | 15.4 | 0.001* |
| 50 to 59 years old | 8 | 15.4 | 9 | 17.3 | 17 | 16.3 | |
| 60 to 69 years old | 26 | 50.0 | 19 | 36.5 | 45 | 43.3 | |
| 70 to 88 years old | 17 | 32.7 | 9 | 17.3 | 26 | 25.0 | |
| Marital status | | | | | | | |
| Married | 25 | 48.1 | 36 | 69.2 | 61 | 58.7 | 0.002* |
| Single | 3 | 5.8 | 6 | 11.5 | 9 | 8.7 | |
| Divorced | 4 | 7.7 | 6 | 11.5 | 10 | 9.6 | |
| Widow | 20 | 38.5 | 4 | 7.7 | 24 | 23.1 | |
| Education level | | | | | | | |
| Illiterate/ Incomplete Elementary School | 22 | 42.3 | 11 | 21.2 | 33 | 31.7 | 0.010* |
| Complete Elementary Schol/Icomplete High School | 16 | 30.8 | 23 | 44.2 | 39 | 37.5 | |
| Complete High School/ Complete Higher Education | 14 | 26.9 | 18 | 34.6 | 32 | 30.8 | |
| Occupation | | | | | | | |
| Retired | 30 | 57.7 | 24 | 46.2 | 54 | 51.9 | 0.001* |
| Unemployed/Housewife | 13 | 25.0 | 3 | 5.8 | 16 | 15.4 | |
| Working | 9 | 17.3 | 25 | 48.1 | 34 | 32.7 | |

Pearson's Chi-square test. * Significance level P <0.05.

In Table 2, we can observe the response of the participants of the research related to the scales. With regard to diabetic patients with ulcerated feet, the mean scores were 9.54 from the Health Control Locus Scale, 27.58 for the Rosenberg/UNIFESP-EPM Self-Esteem Scale, and 39.98 for the Body Investment Scale Scale. Regarding the responses of diabetics without a ulcerated foot to median scores, it was 56.48 for the Health Control Locus Scale, 15.29 for the Rosenberg/UNIFESP-EPM Self-Esteem Scale, and 91.75 for the Body Investment Scale. There were significant differences between groups for all variables.

Table 2. Mean scores on instruments Health Locus Scale, Body Investment Scale and Rosenberg/UNIFESP-EPM Self-Esteem Scale for diabetic individuals with and without ulcerated feet. Pouso Alegre (MG), Brazil.

| Group of diabetic patients | Locus Health Control Scale | | | | | |
|---|---|---|---|---|---|---|
| | N | Mean | Median | SD | Minimum | Maximum |
| With foot ulcer | 52 | 9.54 | 9.0 | 2.200 | 6 | 15 |
| No ulceration | 52 | 56.48 | 58.0 | 9.735 | 36 | 74 |
| P value | 0.001* | | | | | |
| | Self-esteem Scale Rosenberg/UNIFESP-EPM | | | | | |
| With foot ulcer | 52 | 27.58 | 29.0 | 3.902 | 19 | 40 |
| No ulceration | 52 | 15.29 | 14.0 | 3.982 | 10 | 23 |
| P value | 0.001* | | | | | |
| | Body Investment Scale | | | | | |
| With foot ulcer | 52 | 39.98 | 38.5 | 5.979 | 27 | 51 |
| No ulceration | 52 | 91.75 | 97.0 | 13.913 | 10 | 100 |
| P value | 0.001* | | | | | |

Mann-Whitney test. * Level of significance P <0.05; SD = standard deviation

In Table 3, the dimensions of the Boby Investment Scale instrument were observed, and for diabetics, with ulcerated feet, the mean scores were 11.79 for the body image dimension, 15.06 for the body care dimension, and 13.35 for the personal care dimension. Regarding the diabetic patient without foot ulcer, the mean score was 18.23 for the body image dimension, 36.65 for the body care dimension and 17.96 for the personal care dimension. There were significant differences between groups for all variables.

Table 3. Average scores for the dimensions of the instrument Body Investment Scale. Pouso Alegre (MG), Brazil, 2014/2015.

| Group of diabetic patients | Dimensions | | |
|---|---|---|---|
| | Body image | Body care | Body Touch |
| With ulcerated foot | | | |
| N | 52 | 52 | 52 |
| Average | 11.79 | 15.06 | 13.35 |
| Medium | 11.0 | 13.0 | 12.5 |
| Standard deviation | 1.851 | 4.705 | 2.936 |
| Minimum | 10 | 10 | 10 |
| Maximum | 16 | 28 | 19 |
| No ulceration | | | |
| N | 52 | 52 | 52 |
| Average | 18.23 | 36.65 | 17.96 |
| Medium | 180 | 36.0 | 18.0 |
| Standard deviation | 2,812 | 2.678 | 4.533 |
| Minimum | 10 | 31 | 10 |
| Maximum | 26 | 40 | 30 |
| P value | 0.001* | 0.001* | 0.001* |
| Total | | | |
| N | 104 | 104 | 104 |
| Average | 15.01 | 25.86 | 15.65 |
| Medium | 14.5 | 29.5 | 14.0 |
| Standard deviation | 4.011 | 11.500 | 4.452 |
| Minimum | 10 | 10 | 10 |
| Maximum | 26 | 40 | 30 |

Mann-Whitney test. * Significance level P <0.05.

Table 4 shows the mean scores for the dimensions of the Health Control Locus Scale. Diabetic patients with foot ulceration had a mean score of 2.90 in the dimension Internality for health, 3.37 of the dimension Externality - other power, and 3.99 in the dimension Externality - a chance for health. Statistical differences were observed between groups in all dimensions. Diabetic patients without ulceration presented the mean score of 22.71 in the dimension Internality for health, 21.48 in the dimension Externality other powerful, and 12.58 in the dimension Externality - a chance for health, with statistical differences between groups in all dimensions.

Table 4. Mean score of mean score in the dimensions of the Health Control Locus Scale for both groups. Pouso Alegre (MG), Brazil, 2014/2015.

| Group of diabetic patients | Dimensions Internality for health | Externality - Other Power | Externality - chance for health |
|---|---|---|---|
| With ulcerated foot | | | |
| N | 52 | 52 | 52 |
| Average | 2.90 | 3.37 | 3.92 |
| Medium | 3.0 | 3.0 | 3.0 |
| Standard deviation | 0.934 | 1.456 | 4.181 |
| Minimum | 1 | 1 | 1 |
| Maximum | 5 | 8 | 32 |
| No ulceration | | | |
| N | 52 | 52 | 52 |
| Average | 22.71 | 21.48 | 12.58 |
| Medium | 22,0 | 22.0 | 13.0 |
| Standard deviation | 4.016 | 5.859 | 5.203 |
| Minimum | 10 | 6 | 6 |
| Maximum | 30 | 30 | 26 |
| P value | 0.001* | 0.001* | 0.001* |
| Total | | | |
| N | 104 | 104 | 104 |
| Average | 12.81 | 12.42 | 8,25 |
| Medium | 7.5 | 7.0 | 6.0 |
| Standard deviation | 10.366 | 10.044 | 6.400 |
| Minimum | 1 | 1 | 1 |
| Maximum | 30 | 30 | 32 |

Mann-Whitney test. * Significance level P <0.05.

## DISCUSSION

It was observed that in this study, most of the participants of the research were female and married. Regarding the education level, patients with foot ulcerations had complete primary education and were retired, and patients without ulcerated feet were illiterate or had incomplete elementary education and worked. Such findings resemble those found in previous studies.[1-2,14-6]

Level of education is an important factor for the need for self-care in patients with chronic disease, especially those with diabetes and foot ulceration, since they need to deal daily with medications, dressings and diets, self-care, foot exams, activities sometimes complex, as seen in other studies.[14-18] Level of education is an important strategy for health education to guide self-care practices because when the patient is illiterate he has difficulty performing self-care, examination of the feet and insulin application.

The diabetic individual, when acquiring an injury, experiences several changes in lifestyle, has difficulty locomotion, worsens self-esteem, self-image, and quality of life, hindering for them to exercise their social, family, leisure and professionals activities. When the patient realizes that the injury is worsening, he cannot control the glycemic rate, the patient begins to feel frustrated, helpless, scared and even lose faith in healing or improvement of injury, not to believe in treatment and that no one can help you.

Beliefs influence the individual with a wound in the perception and expression of hope for improvement or healing, courage to perform self-care, courage to react to fight the prejudices and stigma they will face in their daily lives, and how to cope with it with a human with injury.[13,18-21]

In this study, the mean scores of diabetic patients with the ulcerated foot for the Health Control Locus Scale were 9.54. Regarding the response of diabetics without ulcerated feet, the mean was 56.48 on the Locus of Health Control Scale. These findings characterize that these diabetic patients with ulcerated feet believe that wound improvement, self-care, and their health depend only on it and that professionals or others involved in its care at the moment are not contributing to its improvement, self-care and wound healing.

Because it is constituted by beliefs, the locus of health control presents deep attunement to the variables reported above. One of them is the perceived control that places the individual simultaneously as agent-actor and agent-passive to the effects caused by their perception in relation to the control of performances, competences and abilities: those who attribute their successes to personal efforts and attributes tend to develop more positive affect and better performance expectations; those who

attribute their failures to their inability or lack of ability often feel anxious, guilty, fearful and have lower incomes. Three areas are affected by perceived control: behavior, cognitive abilities, and affective expressions. In the same direction, studies relate a consensus of self-efficacy to learning and motivation necessary to achieve success in learning, indicating that learning difficulties are associated with a low sense of self-efficacy, low motivation, unfitness to perform tasks, inability to organize and "maladaptive" behavior.[22]

Such variables are necessary for the adaptation of the new way of life of diabetics with a ulcerated foot so they can do the self-care. To facilitate and assist the rehabilitation of these individuals, several products with innovative technology are offered, standing out footwear, medicines, coverage, laser treatment and skin protection that allow greater comfort and better quality of life for patients with diabetes and ulcerated foot. Besides to glycemic control, these patients require individualized care due to radical transformations occurring in their life.[13] Thus, the adaptation process occurs with the adjustment of a whole life in a new context, where important factors often need to be abandoned, replaced, or reduced.[23-24] Therefore, it is an individual process that develops over time and encompasses a range of aspects ranging from the assistance offered to how the diabetic patient with ulcerated foot engages in proper care.

Researchers examined the subjective well-being, spirituality, self-esteem, and quality of life of patients with venous ulcer and diabetic patients with ulcerated feet.[25-29] The authors concluded that individuals who participated in the study had negative feelings related to their body and fall self-esteem, self-image, spirituality and quality of life, and such feelings hinder the wounded to perform self-care and rehabilitation.[25-29]

In this study, the mean scores of diabetic patients with ulcerated feet were 27.58 for the Rosenberg Scale and 39.98 for the Body Investment Scale. With regard to diabetic patients without ulceration, the mean scores were 15.29 for the Rosenberg Scale and 91.75 for the Body Investment Scale. These findings characterize that these diabetic patients with ulcerated feet present a decrease in self-esteem and body image.

In another study, the authors evaluated the perception of the person with a chronic wound on their sexuality and concluded that the presence of the wound affected social, family and sexual life, leading to intense psychological effects regarding social isolation and alteration in the sexuality. They also reported that sadness, feelings of incapacity, melancholy, and embarrassment lead to relationship difficulty, distortion of self-image, and decreased self-esteem caused by altered body image.[4] In a study where self-esteem was assessed in individuals with diabetes mellitus with ulcers (n = 50) and without foot ulcers (n = 50), the authors concluded that foot ulcers have a negative impact on the lives of these individuals, besides to low self-esteem.[30]

Understanding the suffering of diabetic individuals with foot ulcers, caused by altered self-esteem and self-image, allows assuming that this population needs an individualized and systematized assistance that considers the integrality of the human being and provides a dignified and humanized treatment.

Given the scarcity of published studies that evaluate self-esteem and self-image and show the strategies to be adopted by professionals who provide assistance to these patients to deal with the psychological and emotional effects caused by the ulcer, there is a lack of knowledge, which reveals the need to invest in research on the topic.

With this research we can reinforce the need to redirect the health care of diabetic patients with ulcerated feet, seeking to identify in the daily life of the health services, be it ambulatory, Family Health Programs, hospitals, among others, the presence of alterations in the locus control of health, body image and self-image in diabetic individuals with ulcerated feet, recognizing the main needs of care to deal with the incapacities of the person assisted. Given the needs that have arisen in the last decades with the increase of chronic diseases and patients with wounds, it is essential to redirect the academic training and qualification of health professionals, such as physiotherapists, nurses, psychologists, and physicians, valuing not only the theoretical content but also the practice of care.

## CONCLUSION

Diabetic patients with ulcerated feet had a significant reduction in self-esteem, self-image, and locus of health control compared to diabetic patients without foot wound, directly interfering with the difficulties in managing this chronic disease.

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**Corresponding Address**

Geraldo Magela Salomé
Universidade do Vale do Sapucaí/UNIVÁS
Programa de Mestrado Profissional em Ciências Aplicadas à Saúde
Av. Francisco de Paula Quintanilha Ribeiro 280, Ap.134
Bairro Jabaguara
CEP: 04330-020 – São Paulo (SP), Brazil