



CLÍNICA

Quality of life in patients with spinal cord injury and pressure ulcers

Qualidade de vida em portadores de lesão medular com úlceras por pressão

Calidad de vida en portadores de lesión medular con úlceras por presión

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Palabras clave: Enfermería; calidad de vida; traumatismo espinal; úlcera por presión

ABSTRACT

Objective: To identify the prevalence of pressure ulcers in patients with spinal cord injuries and analyze their quality of life.

Methods: A descriptive cross-sectional study conducted in a specialized institution for rehabilitation of patients with major disabilities. WHOQOL-bref (0 to 100; higher scores indicate better quality of life), and a profile form were used for data collection.

Results: Of the 118 patients with spinal cord injuries admitted during the data collection, 58 (49.1%) had pressure ulcers. Among these, 40 answered the instruments. Analysis of the WHOQOLbref showed very low score for the Physical Domain (53.04), followed by the psychological (60.94) and environmental (63.52) domains. The social domain was the only one with a satisfactory score (70.21).

Conclusion: A high prevalence of pressure ulcers among people with spinal cord injuries was observed. The evaluation of quality of life elucidates a significant dissatisfaction of the participants, especially regarding the physical domain.

RESUMO

Objetivo: Identificar a prevalência de úlceras por pressão em portadores de traumatismos da medula espinhal e analisar sua qualidade de vida.

Métodos: Estudo descritivo, transversal realizado em uma instituição especializada em reabilitação de pessoas com grandes incapacidades. Para coleta foram aplicados o WHOQOL-bref (0 a 100; quanto maior o escore, melhor a qualidade de vida) e questionário de caracterização sociodemográfica e clínica.

Resultados: Dos 118 portadores de traumatismos da medula espinhal internados no período de coleta de dados, 58 (49,1%) apresentaram úlceras por pressão. Dentre esses, 40 responderam aos instrumentos. A análise do WHOQOL-bref evidenciou escore muito baixo no Domínio físico (53,04), seguido dos domínios psicológico (60,94) e ambiental (63,52). O único domínio com escore satisfatório foi o social (70,21). De modo geral, tais escores são preocupantes

Conclusão: Observou-se uma elevada prevalência de úlceras por pressão entre pessoas com traumatismos da medula espinhal. A avaliação da qualidade de vida elucida uma insatisfação significativa dos participantes, principalmente quanto aos aspectos físicos.

RESUMEN

Objetivo: Identificar la prevalencia de úlceras por presión en portadores de traumatismos de la médula espinal y analizar su calidad de vida.

Métodos: Estudio descriptivo, transversal realizado en una institución especializada en rehabilitación de personas con grandes incapacidades. Para colecta se aplicaron el WHOQOL-bref (0 a 100; cuanto mayor la puntuación, mejor calidad de vida) y cuestionario de caracterización sociodemográfica y clínica.

Resultados: De los 118 portadores de traumatismos de la médula espinal ingresados en el periodo de colecta de datos, 58 (49,1%) presentaron úlceras por presión. De estos, 40 respondieron los instrumentos. El análisis del WHOQOL-bref evidenció puntuación muy baja en el Dominio físico (53,04), seguido de los dominios psicológico (60,94) y ambiental (63,52). El único dominio con puntuación satisfactoria fue el social (70,21). De modo general, estas puntuaciones son preocupantes.

Conclusión: Se observó una elevada prevalencia de úlceras por presión entre personas con traumatismos de la médula espinal. La evaluación de la calidad de vida revela una insatisfacción significativa de los participantes, principalmente respecto a los aspectos físicos.

INTRODUCTION

Injuries to the spinal cord (SCI) can cause changes in sensitivity and motricity. The impairment due to SCI varies from one individual to another, however, in a generalized way, the performance in the abilities of the activities of daily living is greatly impaired, which predisposes the person with a loss in the mobility state to live with disability regarding personal hygiene, limitation in food intake, carrying out household activities, and sexual activity, among others¹.

Among the comorbidities that most affect patients with SCI are pressure ulcers (PU). Such wounds are defined as localized injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear². It appears that they can occur in any patient; however changes resulting from SCI make such areas become susceptible to ischemic skin phenomena, facilitating its appearance³.

The magnitude of this complication is revealed by the scientific literature. Among individuals with SCI hospitalized in a Brazilian reference hospital, PU prevalence was of 65.1% (n = 82)⁴. Data from the National Pressure Ulcer Advisory Panel indicated a prevalence of PU equal to 15% and an incidence of 7% in a North American hospital². One could suppose that the presence of complications from SCI as pressure ulcers would not interfere in the lives of people with SCI, since they often have sensitivity and decreased motility. However, there are indications that such complications profoundly influence the quality of life of these people.

The World Health Organization Quality of Life Group Health defined the quality of life (QOL) as an individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns⁵.

Quality of life has received increased attention within human and biological sciences in order to enhance broader parameters than symptom management, reduced mortality or increased life expectation⁶. Patients with SCI report being dissatisfied with their QOL, and the worst QoL scores are related to the physical and environmental domains⁷. To date, there are only a few studies on QoL in patients with SCI and pressure ulcers.

Faced with the high risk of developing PU in patients with SCI, the possible evolutions of these lesions to more severe stages and the lack of studies that investigate the prevalence of PU, the characteristics of patients with SCI and quality of life of this population in Brazil, the present study was conducted. The study aimed to identify the prevalence of pressure ulcers in patients with spinal cord injuries and analyze the quality of life of these people.

METHODS

This is a descriptive cross-sectional study with a quantitative approach, conducted at the Rehabilitation Center and Rehabilitation Dr. Henrique Santillo (CRER), between July of 2011 and February of 2012. The study was approved by the local Ethics Committee (Protocol N °. 019/2011) and by the Board of CRER.

The population consisted of inpatients with SCI and PU at any stage, aged 18 years and able to show acceptance to participate in the study.

Health records (medical records, schedules, attendance, and contact with service professionals) of the patients at the study site were screened for attendance of inclusion criteria every week. When identified, they were invited to participate. The total number of patients admitted to the unit during the data collection period was recorded.

The records of all hospitalized patients were analyzed to confirm the diagnosis of SCI. Data collection instruments were completed by the researcher through interviews and physical assessment of the participants. The instruments used for assessment were a form of socio-demographic and clinical characterization and the WHOQOL BREF.

The characterization form, prepared by the researchers, included the gender, age, education level, employment status, position occupied by SCI carrier in the family, family income and the practice of any religious action, impairment due to the SCI (Rating ASIA) etiology of SCI, time for SCI evolution (Tetraplegia / paraplegia), body mass index (BMI), presence of urinary and fecal continence and characteristics of pressure ulcers.

The American Spinal Injury Association scale (ASIA) was used to classify the degree of impairment faced by the individual with SCI. The rating indicates ASIA A complete spinal cord injury and the absence of motor or sensory function; ASIA B corresponds to incomplete injury, preserved motor function and lack of motor function below the neurological level extending to the sacral segments; ASIA C is equivalent to the

complete injury, and motor function is preserved below the neurological level; ASIA D, the lesion is incomplete and are preserved motor function; and the last classification matches ASIA E, in which the sensory and motor functions are normal⁸.

The WHOQOL BREF, constructed by the World Health Organization Quality of Life group, assesses the perception of quality of life through 26 items, divided into four domains: physical, psychological, social and ambiental⁶. The score of each domain ranges from 0 to 100 and the higher the score, the better the perceived quality of life. The instrument was translated and validated for use in Brazil⁹.

Prevalence was calculated as the ratio between the number of cases of spinal cord injury with PU and the total number of patients admitted to CRER with the diagnosis of SCI during the data collection period. The patient's profile was analyzed in a descriptive manner. The qualitative data was presented in absolute numbers and percentages, and quantitative data was expressed as mean, standard deviation, median, minimum and maximum values. The calculation of WHOQOL-BREF scores was performed by program proposed by researchers from the Federal Technological University of Paraná – UTFPR¹⁰.

RESULTS

A total of 118 adults with SCI were identified during the data collection period. Of these, 58 showed PU. From this information, we observed that the prevalence of PU was 49.1%. Some patients were discharged before being evaluated, therefore 40 patients with PU and SCI participated of the study and their sociodemographic and clinical profile is shown in Table 1.

Table 1. Sociodemographic and clinical characteristics of patients with spinal cord injuries. Goiania, GO, 2012

Variables	N (n=40)	(%)
Sex		
Male	33	82,5
Marital status		
Married	21	52,5
Not married	15	37,5
Widowed/divorced	4	10,0
Age (mean, SD, min-max)	37,4; 14,5; 18-73	
Years of study (média, SD, min-max)	8,8; 3,8; 1-17	
Religion		
Catholic	19	47,5
Evangelical	12	30,0
Outers	9	22,5
Family head	23	57,5
Work situation		
Not inserted	28	70,0
Unemployed	3	7,5
Away / license	9	22,5
Family income (mean, SD, min-max)	1721,7; 1299, 8; 350,0-6000,0	
Household members	3,7; 1,7; 1-9	

Per capita income	465,3; 130,3; 350-6000	
Spinal cord injury time (mean, SD, min-max)	956,3; 1760,6; 10-8030	
ASIA Classification		
A	29	72,5
B	3	7,5
C	5	12,5
D	2	5
Not rated	1	2,5

It was observed that most were male and young adults. All subjects had some degree of literacy, and the mean years of study was greater than elementary school. Many were not active in the market; they were students, pensioners, self-employed, in sick leave, retired or were performing household activities. Family income was moderate, though the average per capita income was less than the minimum wage.

Regarding clinical data, it was noted that more individuals with PU are classified as ASIA A. This information is related to the fact that most of SCI have reached the chest (55.0%) and cervical (40.0%) segments, progressing to paraplegia (55.0%) and tetraplegia (42.5%). The main causes of SCI resulted from automobile / motorcycle accidents (50.0%), trauma caused by firearm projectiles (17.5%) and falls (17.5%). The other causes found in the sample were run over, myelitis, object fall on the body and trauma caused by surgery. Regarding urinary / fecal continence and nutritional profile, it was observed that only two patients (5%) had urinary and fecal continence, the others were incontinent or reported urinary incontinence and occasional fecal incontinence.

The characteristics of the PU are shown in Table 2. It was noted that despite the high prevalence, the appearance of PU was mainly referred to as being noticed while the patient was at another health facility or at home. Still, it was realized that the development of PU occurred soon after the trauma (median = one month) for many patients. As for the stage, the results showed a higher prevalence of wounds in stage four (43.2%), in which there is extensive destruction of tissue, muscle damage and / or exposure of bone structures, followed by those classified in stage two (33 , 8%), in which there is partial skin loss involving epidermis, dermis, or both.

Table 2. Characterization of pressure ulcers in patients with spinal cord injuries. Goiania, GO, 2012

Description of PU	N (n=40)	(%)
Place of appearance PU		
Hospital	28	70
CRER	2	5
N° total PU	74	
Time between SCI and appearance PU in months (mean; SD; min-max)	4,8; 12,2; 0,03-72	
PU prévia	11	27,5
N° PU por participante (mean; SD; min-max)	1,85; 1,0; 1-5	

Stages of PU

Stage 1	6	8,1
Stage 2	25	33,8
Stage 3	11	14,9
Stage 4	32	33,2

We raised the hypothesis that patients with SCI with ASIA A and PU had worse quality of life scores than those with ASIA C and D. The quality of life scores are presented in Table 3.

Table 3. Classification ASIA and relationship to the quality of life of people with spinal cord injuries. Goiania, GO, 2012

WHOQOL-Bref Domínios	Total (n=40)	ASIA A (n=29)	ASIA C/D (n=7)
Physical	53,0	52,5	60,2
Psychological	60,9	60,6	54,8
Social	70,2	66,1	80,9
Environmental	63,5	61,2	78,1

By observing the domain scores for all participants, it was found that the physical domain was assessed more negatively. On the other hand, regardless of ASIA, the social sector was assessed more positively by all participants. When comparing scores among participants according to ASIA, it was noted that those with ASIA A achieved lower scores in all areas of quality of life than those with ASIA C / D, except in the psychological domain. Still, it was highlighted that the most important difference between the groups was in the social field.

DISCUSSION

This survey showed new data on the prevalence of pressure ulcers in adults with spinal cord injury in our country. The present results give more evidence about one of the main indicators of quality of nursing care, which is the pressure ulcer, and shows that there is still need of greater dedication of professionals to obtain better care results.

The high prevalence of PU (49%) corroborates other studies. Literature review on prevalence of PU in patients with developing countries SCI shows an average prevalence of 35.2%, ranging between 26.7 and 46.2%¹¹. In the American study of 1400 patients with similar profile to the population in question, 39% of people reported having at least one pressure ulcer after SCI and 20.4% reported having a wound at the time of research¹².

The high prevalence of PU, the presence of more than one PU, and the high number of wounds in the fourth stage is a particular concern, since it prolongs hospitalization of the patients, generates high costs because of treatment, and might demand surgery for the PU in severe stages. In addition to all these factors, there is a negative impact on rehabilitation, since the rehab activities only start after the healing of wounds, there is interference with the activities of daily living, self-esteem of the patient and the likely

burden of caregivers.

The data found in relation to gender and age are common characteristic of individuals with spinal cord injury. These individuals (young males) are in greater risk for accidents and violence¹³. The high level of education caught our attention in view of the high rate of illiteracy and functional illiteracy in our country. In a study where the investigated population was also victim of SCI, most individuals were literate and a minority attended higher education^{14, 15}.

As for the employment status and income, the data show the impact caused by spinal cord trauma, since most of the victims were of working age and after evolution to paraplegia or quadriplegia now are not part of the labor market. In regards to religion, most of the sample claimed to be Catholic and Evangelical, and a few denied being religious. This data also resembles the general Brazilian population and is also an issue in which nursing can find strategies for coping with bio-psycho-social-spiritual suffering.

Whereas most patients presented with urinary / fecal incontinence, characteristic able to influence the emergence of PU, it draws attention to the need for constant nursing care, whether in conducting interventions, guidance on the change of decubitus and guidance to the caregiver, which is active and vital in helping to support people with SCI.

As for body mass index (BMI), although it has been found that many subjects were normal, it would be important to assess in more detail the nutritional status because patients may be adequate weight but undernourished in terms of vitamins and minerals, among others.

The instrument used to assess quality of life, WHOQOL-BREF, was adequate for the group investigated because it was able to portray people as the clinical evaluation performed during data collection.

When we looked at the distribution of the presence of PU according to ASIA classification, it was found that patients with more severe paralysis, those with ASIA A, have a greater chance of developing PU which is a major challenge to treatment and healing thereof. This finding was expected since these there is a complete lesion and motor and sensory functions do not exist in the segments ranging from S4 to S5², this loss of sensitivity, motility and absence of sphincter control is aggravating to the appearance of wounds and its healing.

It was intriguing to note that the score of the psychological domain among people with ASIA C / D, people with some degree of sensory and motor, was lower than those with complete spinal cord injury, ASIA A. There are no studies which allow more extensive discussion of this result; however, analyzing the items of the psychological domain, it was found that the item is related to positive feelings received lower scores among people with ASIA C / D. It is worth mentioning that the social domain had a high score in relation to others, which indicates that the participants hold support and relatively satisfactory social relations.

The study's contributions are many. Noteworthy is the data that relate the ASIA classification and the quality of life, the profile of the participants with SCI and the characterization of the PU, one of the common complications in this population. We

recognize limitations such as sample size; however, it is noteworthy that due to the fact that the profile of the participants resemble the profile of other studies, nationally and internationally, the results here have external validity.

Although no statistical analysis was carried out, a description of the relationship between quality of life and variable ASIA is unprecedented and provides outlook for the action of health professionals, especially nurses, based on evidence. New research should seek to elucidate the factors associated with quality of life of patients with spinal cord injury and pressure ulcers and also other complications resulting from the reduction or absence of sensory and motor.

CONCLUSION

In this study, it was observed that approximately half of the patients had pressure ulcers, showing that the PU remain a major complication of spinal cord trauma. The evaluation of quality of life elucidates the negative impact of more severe quadriplegia and possibly also related to the PU. The dissatisfaction of patients regarding their quality of life, especially in the physical domain was evident, reinforcing the need for health staff have information to patients and caregivers who make explicit preventive measures PU and adopt effective treatments for their healing.

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