

Quality of life of adults with spinal cord injury: a study using the WHOQOL-bref

QUALIDADE DE VIDA DE ADULTOS COM LESÃO MEDULAR:
UM ESTUDO COM WHOQOL-BREF

CALIDAD DE VIDA DE ADULTOS CON LESIÓN MEDULAR:
UN ESTUDIO CON WHOQOL-BREF

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ABSTRACT

The objective of this study was to evaluate the quality of life (QOL) of adults with spinal cord injury and to identify the domains that may influence QOL. Data was collected using the WHOQOL-bref and a questionnaire with sociodemographic variables. Participants were 47 subjects, with a mean age of 42.95 years, 91.5% males and 8.5% females. The domains obtained the following scores: physical (58.59), psychological (63.82), social (68.79), and environmental (55.20). Through multiple linear regression, it was verified the correlation between domain scores and the perception of QOL: physical ($p < 0.187$), psychological ($p < 0.399$), social ($p < 0.000$), and environmental ($p < 0.008$). In conclusion, most participants (55.3%) are unsatisfied with their QOL, and the social and environmental domains showed a higher correlation with QOL.

DESCRIPTORS

Disabled persons
Quality of life
Rehabilitation nursing

RESUMO

Objetivou-se avaliar a qualidade de vida (QV) de adultos com lesão medular e identificar os domínios que podem influir na qualidade de vida. Para coletar os dados utilizou-se o WHOQOL-bref e um questionário com variáveis sociodemográficas. Participaram 47 sujeitos com média de idade de 42,95 anos, 91,5% do sexo masculino e 8,5% do feminino. Os domínios obtiveram os escores: físico (58,59%), psicológico (63,82%), social (68,79%) e ambiental (55,20%). Por meio de regressão linear múltipla, verificou-se a correlação dos escores dos domínios com a percepção da QV: físico ($p < 0,187$), psicológico ($p < 0,399$), social ($p < 0,000$) e ambiental ($p < 0,008$). Concluiu-se que a maioria (55,3%) dos participantes está insatisfeita com a QV e que os domínios social e ambiental apresentaram maior correlação com a QV.

DESCRIPTORIOS

Pessoas com deficiência
Qualidade de vida
Enfermagem em reabilitação

RESUMEN

Se objetivó evaluar la calidad de vida (QV) de adultos con lesión medular e identificar los dominios con influencia en su calidad de vida. Para recolectar datos se usó el WHOQOL-bref y cuestionario con variables sociodemográficas. Participaron 47 sujetos con media etaria de 42,95 años, 91,5% de sexo masculino y 8,5% femenino. Los dominios obtuvieron estos puntajes: físico (58,59), psicológico (63,82), social (68,82) y ambiental (55,20). Mediante regresión lineal múltiple, se verificó la correlación de los puntajes de los dominios con la percepción de la QV: físico ($p < 0,187$), psicológico ($p < 0,399$), social ($p < 0,000$) y ambiental ($p < 0,008$). Se concluyó en que la mayoría (55,3%) de los pacientes participantes está insatisfecha con su QV y que los dominios social y ambiental presentan mayor correlación con la QV.

DESCRIPTORIOS

Personas con discapacidad
Calidad de vida
Enfermería en rehabilitación

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INTRODUCTION

In Brazil, the number of collisions and other violence-provoked accidents stands out, as it results in deaths or disabilities due to spinal cord injury (SCI)⁽¹⁾. In a study developed in the Sarah Hospital Network between January and June 2009, in total, the researchers recoded 1,787 hospitalizations due to external causes, equivalent to 24.8% of all 7,211 hospitalizations occurred during the study period⁽²⁾.

The spinal cord injury can range from a mild spinal cord concussion to transitory dormancy or permanent tetraplegia. The most common sites this injury affects are: at the level of the neck vertebrae C₅, C₆ and C₇ and at the level of the chest and back vertebrae, T₁₂ and L₁⁽³⁾. SCI is an irreversible problem but, thanks to scientific and technological advances, the number of survivors has increased and, despite mild and/or severe disabilities, people with SCI obtain a better prognosis and are considered potentially productive.

As the spinal cord is responsible for conducting afferent and efferent stimuli between the periphery and the brain⁽³⁾, when this organ is injured, organic structures and functions are compromised, resulting in limitations to perform Activities of Daily Living (ADLs), aspects that affect victims' quality of life (QoL).

The World Health Organization Mental Health Division's Quality of Life Group considers QoL as the individual's perception about his position in life in the context of the culture and value systems he lives in, considering his objectives, expectations, standards and concerns⁽⁴⁾. This group elaborated the *World Health Organization Quality of Life - 100 (WHOQOL-100)* and its short version, called the *WHOQOL-bref*, in which a cross-cultural approach is adopted, as well as three aspects regarding the quality of life concept: subjectivity (individual perception of his life); multidimensionality (understanding about the different dimensions of life); both positive and negative assessment elements⁽⁴⁾.

The Brazilian scientific society became concerned with defining QoL in recent decades, due to the new paradigms guiding health policies in Brazil and which resulted from the Health Reform that occurred at the end of the 1970's. This movement culminated in the Eighth National Health Conference in 1986, which proposed health as a right of the citizen and a duty of the State, with universal access to all goods and services.

Quality of life has been a research theme. Nevertheless, studies do not usually correlate this theme with SCI patients. In Brazil, very few researchers are concerned with studying the living conditions of this social segment.

This research is justified given its possibility for knowledge production to contribute to rehabilitation programs for SCI patients and to offer managers support for care planning after rehabilitation, so as to improve these users' health and QoL.

LITERATURE REVIEW

Spinal cord injury can result from a spinal disease that interferes in the nervous pathways connecting the brain and muscles. The problems that can cause interference in these pathways include physical injury, hemorrhage, tuberculosis, tumors and syphilis; the most frequent causes of this injury, however, are related with urban violence, sports accidents and occupational accidents⁽⁵⁾.

The *American Spinal Injury Association (ASIA)*⁽³⁾ created an impairment scale based on the injury completeness and motor-sensory function, aimed at classifying spinal cord injuries as follows:

[...] ASIA A: complete injury, motor and sensory function absent in S4-5. ASIA B: incomplete injury, intact sensory function, but no motor function below neurologic level of the injury and inclusion of level S4-5. ASIA C: incomplete injury, motor function is preserved below neurologic level and more than half of the key muscle groups below neurologic level have a muscle grade less than 3, on a scale ranging from zero to five. ASIA D: motor function is preserved below neurologic level and at least half of the key muscle groups below neurologic level have a muscle grade 3 or higher. ASIA E: normal, intact motor and sensory functions⁽³⁾.

SCI patients are vulnerable to tissue rupture in all injury treatment and rehabilitation phases, ranging from the post-trauma to the community reinsertion phase. Problems that can affect these patients include pressure ulcers, which affect 35% of patients. Pressure ulcers result in severe medical and psychosocial complications, increased healthcare costs and interfere directly in individuals' QoL⁽⁶⁾. Other problems resulting from SCI are depression, affecting 25% of men and 47% of women; temporary amenorrhea, affecting 60% of women; neuropathic pain, which occurs in between 34% and 94% of victims. In patients with injuries at T6 or above this level, autonomic dysreflexia may occur, characterized by a dangerous blood pressure (BP) increase. Autonomic dysfunction may also occur, resulting in orthostatic hypotension, thermodynamical and vasomotor abnormalities⁽³⁾, a severe and impairing phenomenon that requires emergency care, as it can entail disabilities and lead to the patient's death⁽⁷⁾.

Spinal cord injury also triggers altered urinary and fecal elimination, resulting from the loss of urinary and anal sphincter control and the consequent changes in the pat-

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tern of these eliminations, as well as alterations deriving from clinical complications like urinary infections, calculus and hydronephrosis⁽⁸⁾. These problems not only alter human beings' physical and psychological conditions, but also hamper victims' sexual and reproductive capacity⁽⁹⁾.

Society tends to boost the impact of SCI. As a rule, researchers study the quality of life of SCI patients, addressing issues related to social relations and male reproduction⁽⁵⁾. Few rehabilitation institutions offer a sexual counseling program and, as literature reports, these programs focus on sexual education and information regarding the repercussions of SCI for the sexual function⁽¹⁰⁾; various therapeutic forms exist, however, to revert sexual dysfunctions, depending on the level and extent of the injury and the difficulty patients experience. Treatment requires continuous multiprofessional counseling. Both spinal cord injury patients and their partners need to get the opportunity to address this theme openly with Health professionals, so as to receive orientations with a view to mutual cooperation and reassessment of their sexuality and so that both sides achieve sexual satisfaction^(5,9).

To compensate for the limitations of disability of SCI patients, low, medium or high-complexity assistive technologies exist, according to each patient's degree of difficulties and affected performance area, with a view to helping to reach a better performance, equal opportunities, independence and improved QoL⁽¹¹⁾.

Disabled people have conquered Decree 3.298/99, which establishes the National Health Policy for Disabled People. Other legal instruments make the Unified Health System (SUS), public sectors and social actors members of partnerships with non-governmental social organizations responsible for developing actions aimed at health protection and rehabilitation of disabled people's functional capacity and human performance, so as to guarantee their full inclusion in all spheres of social life, besides preventing problems that determine the appearance of other disabilities. Literature reports mention, however, that difficulties exist to get access to these goods and services, although the legal capital is in full effect⁽¹²⁾.

METHOD

A descriptive and quantitative research was developed between August 2007 and July 2008. The population comprised adults with SCI who were registered at 61 Primary Family Health Care Units in Campina Grande-PB, during the study period.

The inclusion criteria were: 1) having participated in a rehabilitation program at a specialized institution; 2) having suffered a spinal cord injury more than three years ago, as this is considered sufficient time for the individual to experience more situations of adversity and/or adaptation; 3) presenting this problem in its complete or incomplete form, due to any cause; 4) adhering to the

study. The sample involved 47 adults with spinal cord injury, with a minimum age of 18 years and living in Campina Grande(PB).

To collect the data, the researcher went to each participant's home together with the Community Health Agent (CHA) responsible for the area. During the visit, two instruments were applied: one questionnaire with 12 objective multiple-choice questions, related to socio-demographic data, and the WHOQOL-bref. The latter comprised 26 questions, two of which refer to perceptions about QoL and Health, while 24 related to four domains and their respective facets. Physical domain: pain and discomfort, energy and fatigue, sleep and rest, activities of daily living, dependence on medications and treatments and work ability. Psychological domain: positive feelings, thinking, learning, memory and concentration, self-esteem, body image and appearance, negative feelings, spirituality, religiosity, personal beliefs. Social relations domain: personal relations, social support, sexual activity. Environment domain: physical safety and protection, home environment, financial resources, health care and social care (availability and quality), opportunities to gain new information and skills, participation, recreation and leisure opportunities, physical environment (pollution, noise, traffic, climate) and transportation⁽⁴⁾. Answers to the WHOQOL-bref scale were given on a Likert-scale, in which the respondent not only marked whether he agreed or not with the assertions about a given object, but also informed his level of agreement or disagreement. Each questionnaire answer received a number, which reflected the sense of the respondent's attitude towards each assertion. The total score of each respondent's attitude indicated the score obtained for each assertion. In each of these domains, the formulated questions received a score ranging from 1 to 5, according to the responses: not at all (1), a little (2), moderately (3), mostly (4) and completely (5)⁽⁴⁾.

The participants completed the socio-demographic questionnaire and WHOQOL-bref. If an interviewee could not read, assisted application was used, in which the researcher read the instruments and marked the correct option the participant informed with an X. This action was in line with WHOQOL-bref recommendations. According to the same recommendations, participants were oriented to answer the questionnaire based on the last two weeks. The collected data were grouped and analyzed in Epi Info software version 3.5.1. Instrument reliability (WHOQOL-bref) was verified through Cronbach's Alpha, using Statistical Package for the Social Sciences-SPSS software for Windows, version 17.0.

The socio-demographic data and domain scores were analyzed through descriptive statistics. Next, eight multiple linear regressions were developed to verify the correlation between QoL and the health of SCI patients, and the four domains: the physical, the psychological, social relations and environment. QoL and Health constituted the dependent variables, while the facets of each domain

served as the dependent variables. During the regressions, the following relations were established: QoL versus all facets of the physical domain; of the psychological domain; of social relations and of the environment. Health versus all facets of the physical domain; of the psychological domain; of social relations and of the environment. Statistical significance was set at 0.05.

Approval for the research project was obtained from the Research Ethics Committee at Universidade Estadual da Paraíba, Protocol No 0228.0.133.000-07. Participants' rights were respected, as they signed the informed consent term and the secrecy of the collected information, privacy and autonomy were guaranteed.

RESULTS

Socio-demographic profile

In Table 1, among the 47 participants, 91.5% (n=43) were male and 8.5% (n=4) female. These data appoint a great difference, in a relation from 10.75 to 1. The mean age in the group was 42.95 years (± 14.12 ; $x_{min}=19$, $x_{max}=73$). As one of the inclusion criteria was the fact that participants were adults, the majority was between 30 and 40 years old (29.8%) and had suffered the spinal cord injury in the age range from 13 to 30 years old.

As for education, the majority (61%) was literate, 17% were illiterate, 14% had finished Primary Education and 6.4% had already finished Secondary Education. A relatively uniform division was verified in the participants' ethnic origin. It should be highlighted that the majority was mulatto (38.3% - n=18). Regarding income, 70.2% gained between one and two minimum wages.

Urban violence was the cause of most injuries, as 31.9% presented injuries due to accidents with firearms, followed by falls (27.7%). Other percentages that stood out were spinal cord injury caused by car accident (6.4%) and resulting from schistosomiasis (4.3%).

Instrument reliability test – Cronbach's Alpha

The Cronbach's Alpha test revealed satisfactory reliability of the WHOQOL-bref = 0.73.

Domain scores

The WHOQOL-bref domains displayed the following scores and position measures: Physical domain (58.59 points; Median: 62.55; Standard error: 9.65). Psychological domain (63.82 points; Median: 65.95; Standard error: 7.64). Social relations domain (68.79 points; Median: 74.04; Standard error: 10.60). Environment domain (55.20 points; Median: 57.44; Standard error: 11.63).

Table 1 – Socio-demographic profile and etiology of adult participants' SCI - Campina Grande, PB, Brazil – 2007/2008

Variables	N	%
Gender		
Male	43	91.5
Female	4	8.5
Current Age Range		
19 – 29 years	8	17
30 – 40 years	14	29.8
41 – 51 years	11	23.4
52 – 62 years	11	23.4
63 – 73 years	3	6.4
Age Range at the Time of SCI		
13 – 30 years	23	49
31 – 48 years	19	40.4
49 – 64 years	5	10.6
Education		
Illiterate	8	17
Literate	29	61.7
Primary Education	7	14.9
Secondary Education	3	6.4
Race		
White	15	31.9
Black	14	29.8
Mulatto	18	38.3
Income		
Less than 1 minimum wage	5	10.6
Between 1 and 2 minimum wages	33	70.2
Between 3 and 4 minimum wages	6	12.8
More than 4 minimum wages	3	6.4
Etiology of SCI		
Injury by firearm	15	31.9
Fall	13	27.7
Impact of object on the body	5	10.6
After surgery	5	10.6
Tumor	3	6.4
Car accident	3	6.4
Schistosomiasis	2	4.3
Weight lifting	1	2.1

Source: Research data

Domains x QoL

The multiple linear regression tests between all facets of each domain: physical, psychological, social relations and environment and the perceived QoL variable (Table 3) evidenced that the social relations ($R^2= 0.28$; $p < 0.000$) and environment ($R^2= 0.71$; $p < 0.008$) domains are more strongly correlated with individuals' perceived QoL, to the detriment of the other domains, with social relations showing the strongest correlation. The other two domains (physical and psychological) showed no statistical significance in their interference with QoL ($p > 0.05$).

Table 2 – Statistical parameters resulting from multiple regression between QoL of SCI patients and the four domains (physical, psychological, social relations and environment) - Campina Grande, PB, Brazil – 2007/2008

Domains	Parameters					
	R ²	Standard error	Sum of Squares	Mean of Squares	F Statistics	P Statistics
Physical	0.5	28	18.75	0.67	0.637	0.187
Psychological	0.68	24	25.619	1.067	1.95	0.399
Social networks	0.28	12	10.67	0.889	1.12	0.0
Environment	0.71	30	26.586	0.886	1.281	0.008

Source: Research data

Domains x Health

Multiple regression was developed with individuals' perceived health and all facets of each domain (physical, psychological, social relations and environment). Results are shown in Table 4, which also displays the

social relations domain as the most strongly correlated with adult SCI patients' perceived health ($R^2 = 0.21$; $p < 0.000$). Among the facets included as independent variables, satisfaction with support from friends, a facet of the social relations domain, showed the strongest correlation.

Table 3 – Statistical parameters resulting from the multiple regression between SPI patients' health and the four domains (physical, psychological, social relations and environment) - Campina Grande, PB, Brazil – 2007/2008

Domains	Parameters					
	R ²	Standard error	Sum of Squares	Mean of Squares	F Statistics	P Statistics
Physical	0.68	28	36.36	1.299	1.351	0.504
Psychological	0.63	24	33.801	1.408	1.56	0.814
Social networks	0.21	12	11.308	0.942	0.756	0.0
Environment	0.85	30	45.778	1.526	3.098	0.1

Source: Research data

Facets of the social relations Domain and general issues

Although the WHOQOL-bref does not aim to assess facets separately, they suggested some possibilities to understand the situation. Thus, Table 4 offered data on isolated facets of the social relations domain and general issues.

When looking separately at the facets' percentage scores, sexual life (44.7%) revealed the worse satisfaction. Personal relations (76.6%), followed by support from friends (74.4%), presented more positive scores.

The participants' perceived QoL score was 61.70 points, with 44.7% and 55.3% of participants indicating QoL as good and bad, respectively. As for the perceived health status, the score corresponded to 58.29 points, with 46.8% indicating satisfaction and 53.2% dissatisfaction.

Table 4 – Self-perception of adult SCI patients regarding personal relations, sexual life, support from friends, QoL and health and Cronbach's alpha of the respective questions - Campina Grande, PB, Brazil – 2007/2008

Facets of Social relations domain	N	%	Cronbach's Alpha
Personal relations			
Satisfied	36	76.6	0.72
Dissatisfied	11	23.4	
Sexual life			
Satisfied	21	44.7	0.73
Dissatisfied	26	55.3	
Support from friends			
Satisfied	35	74.4	0.71
Dissatisfied	12	25.6	
General issues			
Understanding of QoL			
Good	21	44.7	0.71
Bad	26	55.3	
Satisfaction with health			
Satisfied	22	46.8	0.71
Dissatisfied	25	53.2	

Source: Research data

DISCUSSION

Most study participants had suffered the SCI in the age range from 13 to 30 years old (48.9%) and were men. This finding is in line with results from a study in Fortaleza (Ceará; Brazil)⁽¹³⁾ and another in Campinas (São Paulo; Brazil)⁽¹⁾, whose subjects presented the same characteristic. SCI events in young people of productive age represents a severe public health problem, as they affect health, limit individuals' ability to perform occupational activities and activities of daily living, and also entail economic and social implications for the victims and society, demanding increased public health spending, due to the need for long rehabilitation periods.

Although literature appoints traffic accidents as the main cause of SCI, the most common etiology in this study was accident by firearm (31.9%). This cause was also a majority (63.3%) in a study⁽¹⁴⁾ that aimed to assess QoL and self-esteem in a sample of 60 outpatients with SCI who lived in the South of São Paulo. Based on these results, it is inferred that younger men are more exposed to urban violence, which has considerably increased, contributing to increase the number of people with occupational limitations or disabilities and to the rise in public spending on these people's rehabilitation.

In Table 1, participants' low education level and income between one and two minimum wages stands out. Similar data were found in other studies, whose authors appoint the predominance of low education levels⁽¹⁴⁾ and income of one minimum wage⁽¹⁰⁾. Although these data suggest that most SCI involve with low instruction and income levels, they cannot be generalized, as the study samples are relatively small and reflect a punctual reality, without considering different heterogeneous locations. Low income definitely implies non-attendance to basic human needs and social inclusion. This means saying that, depending on the affected domains, SCI interferes in victims' wellbeing and rehabilitation conditions, an aspect that alters their lifestyle and compromises their QoL. An alert is due, however, that disabled people's low education level and professional disqualification does not derive from the restrictions the injury provokes, but from the social barriers that limit the development of these people's capacity and potential⁽¹⁵⁾.

In Table 2, low scores were shown for the physical, psychological, social relations and environment domain, which can be explained by the different limitations the spinal cord injury can entail. The low mean score in this table confirms the results from a study in São Paulo, also involving individuals after rehabilitation⁽¹⁵⁾.

A study developed in Turkey, which used the Barthel Index and SF-36 to compare the QoL of seven partners with SCI and 26 healthy controls demonstrated that the QoL of participants with SCI was affected due to impairments in all domains⁽¹⁶⁾. Other authors developed a litera-

ture review in MEDLINE, SciELO and LILACS, using publications for the period 1999-2009, and concluded that SPI compromises all domains, especially regarding social and physical aspects⁽¹⁷⁾. In Fortaleza (Ceará; Brazil), in a study of 32 SCI patients, mostly between 20 and 47 years old, great impairment of participants' QoL was identified in all domains, mainly concerning social aspects⁽¹³⁾.

In this study, the domain that scored worst was the environment. This comprises facets, (including: safety, education, leisure, housing, health service access and transportation), whose satisfaction depends on financial capacity. This result is not only related with SPI patients' assessment of their own economic capacity as not at all – very poor (80.9%), but also support the results of a study at Hospital Sarah in Brasília⁽¹⁸⁾, in which the WHOQOL – bref was used for QoL assessment, in which the worst assessment scores were related with the environment and health.

In Table 3, social relations was the domain the participants assessed best, demonstrating the support and assistance their relatives and friends are offering. This result confirms a research report with a sample of mostly young and single men, who had finished primary education and scored psychological health and social relations better⁽¹⁸⁾; but differs from the results of a study in Fortaleza⁽¹³⁾ and another developed in Australia and Sweden⁽¹⁹⁾. In those studies, the authors reported that social aspects received the lowest average score, due to SCI patients' dissatisfaction because they considered themselves at a social disadvantage.

Leisure-related difficulties can derive from activity intolerance, which is typical of SCI patients, and the social insertion obstacles these individuals face. This situation does not contribute to the rehabilitation of SCI patients, as sports, physical exercise and leisure are fundamental for this goal. Sports permits the development of physical and psychological aspects, enhances independence and broadens treatment and socialization alternatives⁽²⁰⁾. This phenomenon was identified in a study⁽²¹⁾ developed in Canada, in a sample of 90 SCI patients, which associated sports practice, community integration and QoL.

In line with the multiple linear regressions, social relations and environment were the score extremities and obtained the strongest correlation levels, and both were strongly correlated with QoL. The social relations domain was strongly related with health. Thus, these domains, mainly social relations, most strongly interfered in the sample's perceived QoL and health.

In the sexual life facet of the social relations domain, 55.3% of dissatisfaction and 44.7% of satisfaction were identified. As sexual dysfunction varies from person to person, in line with the level and severity of the injury, one may say the dichotomy this result expresses is related with the psychological factors and social relations attributed to men⁽²²⁾.

The authors⁽²²⁾ present two possibilities to situate paraplegic men and their sexuality. One is marked by the traditional representation of men and masculinity, including its corresponding sexuality. In this first possibility, not only the biological sex but also gender are determined:

man is born male and gender seems to be a gift of nature, manifested to culture at the moment of a child's birth. This entails strictness in the way sexuality is considered, in which the social and historical construction of gender is not taken into account⁽²²⁾.

As a result of this form of thinking and acting, disabled people continue being targets of social denial of their sexuality, while male sexuality is seen as an instrument of domination and power. Thus, disabled people themselves, influenced by myths and social people, see to the negative tone of their self-image, self-image and sexual self-discrimination; therefore, they need professional help to reconstruct their sexual identity.

The other possibility is the questioning of these dominant representations, in which the main difficulties of being a men and having a physical impairment are located⁽²²⁾. This practice needs events in which human sexuality-related issues are debated, with a view to supporting professional education and motivating rehabilitation professionals to include human sexuality care in their patients' treatment plan. It cannot be forgotten that, during the first years after the SCI, concerns focus on physical improvement and rehabilitation; sexual life, however, is fundamental for a healthy life and for men and women's identity. Sexuality is often expressed in the context of relations and involves biological, cultural, spiritual, social, relational and psychological factors⁽⁵⁾.

In the physical domain, which also scored low, the two most relevant facets were pain and locomotion. Due to their motor and walking conditions and the exercises performed in the context of rehabilitation programs regarding physical therapy activities, SCI patients end up complaining of pain⁽¹⁾. A study⁽²⁰⁾ developed in the USA found that the mean pain intensity was moderate, that no specific topographic area existed for the pain process and that lower limb pain was stronger.

The study participants need multiprofessional team care, maintaining a file with these users' background history, physical, laboratory and radiological exams to define limits and possibilities, and to set targets each patient should reach in terms of health conditions and abilities for activities of daily living. Besides, an occupational therapy program needs to be developed, providing orientations on their rights and duties, and a psychosocial support network so that, at the end of the medical care phase, these users can attend care institutions that help them in the social reinsertion process.

In community and home care, nurses can elaborate short and long-term functional objectives: monitor the patient's neurological status. Apply pressure ulcer dressings. Teach intestinal and urinary elimination care procedures to patients and caregivers. Teach daily skin inspection and position change care, including traction and immobilization devices for pressure ulcer prevention. If necessary, stimulate sexual counseling to enhance satisfaction in personal relations. Periodically assess the need to increase care and equipment levels as the patient ages, among others⁽³⁾.

The small sample size is considered the main study limitation, which makes it impossible to generalize the results. Other gaps refer to the QoL measurement order for people who cannot say or write what they feel (limitation of the research instrument) and the impossibility to check whether spinal cord injuries were complete or incomplete, thus impeding a comparison between both cases.

CONCLUSION

Based on this research, it can be inferred that the limitations resulting from the SCI significantly impair victims' ability to perform various activities of daily living. These disabilities negatively influence the health and QoL of SCI patients. Therefore, the interviewees' perception of their QoL in the last two weeks was marked by satisfaction (46.8%) or dissatisfaction (53.2%).

The statistical multiple linear regression test demonstrated that the domain most strongly correlated with participants' perceived health and QoL is social relations, with the highest statistical significance. Social relations was also the domain the injury affected least as, according to the participants' perception, it reached the highest global score among the four study domains. The environment domain, on the other hand, was the most impaired, due to the disabilities, reaching the lowest score; this study is not conclusive though.

Further research is suggested to recognize the epidemiological profile and health conditions of SCI victims in other cities, using the inclusion and exclusion criteria present in this study. The researchers hope the present study results will contribute to health policies, to enhance rehabilitation professionals' knowledge about these people's QoL, and will stimulate health education practices, orienting patients and relatives so as to minimize their confrontations with the clinical manifestations deriving from the SCI and seek the social support network with a view to social inclusion.

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