

Self-care practice for bowel functioning in a group of patients with spinal cord injury

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ABSTRACT

This was a descriptive and exploratory study. **Objective:** To characterize individuals with spinal cord injuries (SCI) treated at a rehabilitation center in a tertiary hospital in the interior of São Paulo state, and to identify their self-care practices related to bowel management. **Method:** After being approved by the Research Ethics Committee and receiving consent from the participants, the data was collected through an interview and by analyzing their medical records. Thirty individuals were interviewed, most of whom were male, single, had a complete secondary education, and a mean age of 35 years. **Results:** The main cause for the SCI was automobile accident with a prevalence of cervical injuries. The most common self-care practices were nutritional management followed by abdominal massage. Regarding the bowel problems, fecal impaction predominated followed by fecal incontinence. **Conclusion:** The bowel rehabilitation program should be instituted for individuals with SCI as early as possible to minimize complications.

Keywords: activities of daily living, neurogenic bowel, rehabilitation, spinal cord injuries

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INTRODUCTION

Spinal cord injuries (SCI) cause serious multifactorial disabilities depending on the neurological level of the injury and they bring severe biopsychosocial consequences to those afflicted by them. This is why it is fundamental to monitor these patients in services specializing in rehabilitation.^{1,2}

Studies recommend that rehabilitation be initiated as soon as the spinal cord injury is stabilized and the sooner the care, the better the impact of the process of facing it and reaching the appropriate solutions for each individual.^{1,2} Therefore, the rehabilitation process must begin at the acute phase, as soon as the post-injury clinical conditions have reached some balance, even while in the intensive care units, to minimize complications that may be catastrophic and onerous.^{2,3}

The SCI complications that stand out include respiratory, cardiocirculatory, orthostatic hypotension, autonomic dysreflexia, urinary dysfunction (neurogenic bladder), gastrointestinal (neurogenic bowel), and pressure ulcers, among others. The functional losses need to be addressed so as to prevent such complications and secondary disabilities.²⁻⁵

In this study we address the practices of self-care and the complications relating to intestinal function, stemming from a neurogenic bowel. A neurogenic bowel is a colon dysfunction that comes from loss of control from the central nervous system. The motility and sphincter control alterations together with reduced mobility become a great physical and psychological problem for individuals with SCI.^{6,7}

In response to the intestinal problems of individuals with SCI, directives focused on preventing complications were established whereby the expert nurse has a preponderant role in evaluating signs and symptoms shown by the patient and in the care plan proposal, involving family members/caregivers in dynamic assistance.⁸

According to the Consortium for Spinal Cord Medicine (CSCM),⁸ the guide "Neurogenic Bowel Management in Adults with Spinal Cord Injury," translated into Portuguese,⁹ a Bowel Management Training Program must be created so that health professionals may work with patients and caregivers, right after the spinal shock stabilization, considering their home environment and resources available.

Recommendations indicate that for bowel re-education, it is necessary to prepare a program that, beyond the neurological level of the injury, will also consider the types of food

ingested, cultural and educational differences, and habits and bowel function frequency before the SCI. The establishment of an efficient bowel re-education program can minimize the development of intestinal complications.^{6,10}

It is believed that many problems could be avoided if there were greater integration and organization of activities among the health professionals involved with this group of individuals.

OBJECTIVE

This study aims to characterize adult and elderly individuals who suffered spinal cord injuries, attended at the Rehabilitation Center (CER) of a tertiary public hospital located in the countryside of São Paulo state, considering the socio-demographic and clinical variables; and to identify and describe the bowel self-care practices reported by those individuals.

METHOD

This is an exploratory, descriptive study, with a quantitative analysis approach, made with the approval of the Research Ethics Committee from the *Hospital das Clínicas da Faculdade de Medicina de Ribeirão Preto da Universidade de São Paulo - HCFMRP/USP (Clinics Hospital of the School of Medicine of Ribeirão Preto of the University of São Paulo)* (nº 4632/2010). Data was collected after explaining the research and getting consent from the participants, who signed the Free and Informed Consent Form, in agreement with Resolution 196/96 from the National Health Council.

In the project there were 30 participants, who met the following inclusion criteria: they were attended at the CER rehabilitation center, had suffered a spinal cord injury, were 18 years old or older, and were able to answer questions pertinent to the study.

The data was collected between January and April of 2011, through the analysis of medical histories and interviews with the patients. The interviews were made during the appointments made by the multi-professional team with the post-spinal cord injury individuals after their outpatient follow-up at the CER. A three-part, semi-structured questionnaire was used, validated in a previous study.¹¹ The first part contained information on the patients age, gender, marital status, family income, schooling, and occupation.

The second part included data on their clinical conditions such as the spinal cord injury's etiology, neurological level of the SCI, classification according with the American Spinal Injury Association (ASIA), date of when the injury occurred, and data on the patient's participation in rehabilitation programs. The third part has information on the self-care practices for bowel functioning and any intestinal complications that may have occurred after the spinal cord injury.

As for the self-care practices for bowel functioning, the questions were based on the clinical practice directives recommended by the Consortium for Spinal Cord Medicine (CSCM),⁸ focusing on the Practice Based on Evidence for Neurogenic Bowel Treatment, in agreement with the World Health Organization disease consequence classification. Such directives have a version for people with spinal cord injury and their caregivers, translated into Portuguese and validated by patients and professionals at the HCFMRP/USP, with the approval of the Paralyzed Veterans of America that validated the translation and authorized its publication.⁹ The variables were investigated by dichotomous questions (yes/no), as follows: ingestion of liquids, nutritional control, digital-rectal stimulation, manual extraction of feces, enemas, abdominal massage, abdominal exercises, Valsalva maneuver, and the use of suppositories and laxatives.

The occurrence of intestinal complications was investigated also with the dichotomous question (yes/no), taking as a reference the bowel function before and after the SCI. Among those complications, the variables were feces impaction, hemorrhoids, bleeding, fecal incontinence, constipation, diarrhea, and pain.

The data collected was typed into Microsoft Excel spreadsheets, with dual entries to verify typing errors. A descriptive analysis was made and is shown in distribution tables for absolute and relative frequency (percentage).

RESULTS

Table 1 shows the socio-demographic and clinical characteristics of the SCI patients who participated in the study.

In Table 2, self care practices for bowel management are shown, referred by the participants in the study.

Among the intestinal complications reported by some patients there were: fecal impaction (43.3%), fecal incontinence (30%), bleeding (20%), hemorrhoids (16.7%), among others such as malaise and colic.

Table 1. Characterization of the SCI patients attended at the CER, in Ribeirão Preto, 2011

Variables	Total	
	N	%
Gender		
Male	25	83.3
Age bracket (years)		
≤ 35 years	22	73.3
Marital Status		
Single	15	50.0
Married	13	43.0
Other	02	6.7
Level of Schooling		
Incomplete Junior High School	02	26.7
Complete Junior High School	08	6.7
Incomplete High School	02	23.3
Complete High School	07	33.3
Incomplete College	10	3.3
Complete College	01	6.7
Family Income		
≤ 5 minimum salaries	26	86.7
Occupation after SCI		
none	27	90.0
supervisor	01	3.3
Artisan	01	3.3
Athlete	01	3.3
Etiology of the injury		
Automobile accident	17	56.7
Fall	07	23.3
Firearm	03	10.0
Knife	01	3.3
Diving	01	3.3
Bicycle accident	01	3.3
Neurological level of the injury		
Cervical	20	66.7
Thoracic	07	23.3
Lumbar	03	10.0
Time with injury		
< 01 year	09	30.0
From 1 to 5 years	18	60.0
> 05 years	03	10.0

Table 2. Self care practices for bowel management referred by the individuals with SCI, Ribeirão Preto, 2011

Self-care Practices	Frequency (%)	N = 30
Nutritional control	53.3	16
Abdominal massage	50	15
Digital-rectal stimulation	40	12
Laxative	20	6
Manual extraction	10	3
Enema	6.6	2
Suppository	3.3	1
Mineral oil	3.3	1

All the patients who participated in the present study reported being re-hospitalized after suffering SCI. As for a specialized rehabilitation service follow-up, 50% were referred to some rehabilitation service after being released from their first hospitalization, and only 13.3% of them participated in a bowel rehabilitation program. Of the 30 interviewed patients, 16 (53.3%) reported not having received any information about bowel management.

DISCUSSION

The socio-demographic and clinical profile of the SCI patients found in this study is confirmed by other domestic and international studies made with the same population, especially males, with age bracket below 35 years, single, and "with no occupation" after the injury.^{1,3,5,12,13}

In a study made with SCI victims in the city of Maringá, PR, authors identified that before the injury, most of the victims (81.3%) had worked regularly and contributed to the family income, and afterwards, only four individuals (12.5%) worked (as artisans, street vendors, or volunteers), and two (6.3%) studied.¹⁴ The lack of employment after SCI is a worrying factor not only due to the need to have and contribute with income to the family, but also for the individual to play a role in society. In our study, 90% of the individuals did not have an occupation after the injury.

In this study, it is noteworthy that the main cause of SCI were automobile accidents, followed by falls, causing complete neurological injuries according to ASIA,¹⁵ especially at the cervical and thoracic levels. Studies made it evident that automobile and work-related accidents have been the main causes for disability in Brazil, especially in medium to large-scale urban centers.^{13,16-18}

As for the neurological classification to evaluate the level of the injury, studies highlighted how important it is to know the specificities of the injury, so that the professionals who work as rehabilitators may dimension the patient's needs, and develop an action and intervention plan in accordance with the patient's potential.^{2,13,19}

For bowel self care, there are varying degrees of functional independence associated with many factors such as, level and degree of the injury, behavior of the individual, and motivation of his or her family. Patients with SCI at the lumbar level are capable of being independent managing their own bowel

function. Their bowel management generally happens by the contraction of abdominal muscles and manual extraction of feces; suppositories are not efficient due to the loss of sacral reflexes. However, patients with cervical and thoracic injury maintain reflex activity that helps to empty their bowels.^{9,12,20}

Among the bowel self-care practices mentioned by the patients interviewed as most frequent, are those in conformity with the literature, considering the clinical characteristics of the most recurrent injury.^{7,9,12,20,21}

International studies show that fiber-rich diets may not cause the same effect in patients with spinal cord injury as in individuals with normal bowel function, possibly causing intestinal incontinence, which is why this practice must often be coupled with another practice so that the results are efficient.^{12,22}

It is also noteworthy that in the international literature, the use of techniques to irrigate and to electrically stimulate skeletal muscles is mentioned as a frequently-used non-pharmacological practice, as well as the pharmacological and surgical ones.^{6,22}

As for intestinal complications, only four patients reported having them. The findings corroborated a study made with the same methodological design in which the intestinal complications were similar.²³

Studies show also, that there is a contingent of individuals with SCI who were not informed about the possible post-injury complications or who were not referred to specialized rehabilitation services. These people returned to their homes without the due orientation on the potential of bowel function alteration, on the possible complications, and on the self-care practices to help the bowel function, and without knowing that it could create more severe aggravations.^{3,11,23,24}

In a multi-centric, retrospective study made in five rehabilitation centers in the United Kingdom, researchers evaluated, among other things, what led people with spinal cord injuries to undergo colostomy surgery; they obtained answers such as prolonged bowel care, fecal incontinence, autonomic dysreflexia, chronic constipation, pain, difficulties in the bowel self-care practice, and the recurrence of perianal abscesses as some of the main reasons leading these individuals to choose colostomy - that is, due to unresolved recurrent complications, individuals with spinal cord injuries chose to have colostomy surgery.²⁵

In another study made in a countryside city in São Paulo state, the researcher identified and described the self-care practices of a patient with SCI for bowel func-

tion and its complications; she also related the patient's hospitalizations with the information offered. It became evident that in 27 patients, only 22.2% used the recommended self-care practice to help in the reflexive intestine function: digital-rectal stimulation. Most patients eliminated their feces daily and 82.9% of the self-care practices were done in the bathroom. The most frequent intestinal complication was impaction, found in 50% of the sample. All the patients who went to rehabilitation centers received orientation on the self-care bowel practices, while of the patients who went to the general hospital, only one reported having been oriented. These results show the need for more professional preparation to serve the needs of this group of patients.¹¹

The appropriate assistance to SCI patients demands an interdisciplinary health team, in which the nurse develops various activities, depending on the context of his or her function. The actions of this professional may be collaborative and/or independent and seek to favor recovery and adaptation to the limitations imposed by disability, so as to meet the needs of each patient and family.^{26,27}

This is why it is imperative that the nurse participates effectively in the decisions of the multi-professional and interdisciplinary team focusing on those activities pertinent to holistic care, safety and quality. This professional must know the patient's clinical data, socio-economic conditions, psycho-spiritual aspects, and evaluate the patient functionally, so as to identify his or her potential for self care, as well as to meet his or her basic daily needs.^{26,27} Based on this process, the professional plans interventions centered on the individual needs, and if possible, in partnership with other members of the team.

It is possible to confirm how relevant the offering of information and evidence of updated knowledge is, as is making known the prevention strategies and treatment of complications that afflict the individual with spinal cord injury, so as to address the needs presented by this group of patients.

To offer orientation about intestinal alterations and bowel self-care practices is fundamental, and the nurse has a preponderant role in this educational activity. According to the Consortium for Spinal Cord Medicine⁸ guide "Neurogenic Bowel Management in Adults with Spinal Cord Injury," translated into Portuguese,⁹ a Training Program for Bowel Function Control must be created for all health professionals, patients and caregivers, soon after the spinal shock is stabilized, considering home environment and available resources.

CONCLUSION

The results of this study showed that the individuals with spinal cord injury were mostly male, 35 years old on average, single, completed high school, and had no occupation after the injury. The main cause for SCI was automobile accidents, followed by falls, with the predominance of complete injury at the cervical level, with time of injury from one to five years. Among the self-care practices for bowel function reported by the individuals, nutritional control, abdominal massage, and digital-rectal stimulation are highlighted. Fecal impaction, fecal incontinence, and bleeding were some of the intestinal complications reported.

To avoid complications and improve the quality of life of individuals with SCI, the bowel rehabilitation program must be initiated as early as possible, as soon as the patient recovers from the spinal shock in the course of the first hospitalization.

Thus, the nurse participates in the rehabilitation process for the bowel function of patients with SCI, which includes the planning and preparation of both patient and caregiver since the first hospitalization, seeking to continue the care at home, through educative strategies that explain the possible alterations in the functional pattern, intestinal complications, and the self-care practices.

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