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Intestinal pattern and control measures adopted by patients with spinal cord trauma

Padrão intestinal e medidas de controle adotadas por pacientes com trauma raquimedular

Patrón intestinal y medidas de control adoptadas por pacientes con trauma raquimedular

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ABSTRACT

Objective: to raise the intestinal pattern and control measures adopted by adult individuals with spinal cord trauma. **Method:** exploratory descriptive study with quantitative approach. Sample of 14 adults with spinal cord trauma. The data collection was done through an interview in the domiciles of the participants. **Results:** predominance of men; the automobile accident was the main etiology of traumas. Most individuals demonstrated independence for intestinal self-care and the most frequent practices were digit-rectal stimulation, abdominal massage and manual extraction of faeces. 92.9% of the individuals attended or had already attended the Specialized Center in Rehabilitation. **Conclusions:** nursing exercises an important role in the teaching of patient and family self-care, so it needs skills and knowledge that allow the planning of actions for teaching the care of intestinal disorders, with appropriate interventions aimed at preventing potential complications and improving quality of life of these individuals.

DESCRIPTORS: Stomatherapy; Intestine neurogenic; Spinal cord traumas.

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RESUMO

Objetivo: Levantar o padrão intestinal e as medidas de controle adotadas por indivíduos adultos vítimas de trauma raquimedular. **Método:** Estudo descritivo exploratório com abordagem quantitativa. Amostra de 14 adultos com trauma raquimedular. A coleta de dados foi realizada por meio de entrevista nos domicílios dos participantes. **Resultados:** Predominância do sexo masculino; o acidente automobilístico foi a principal etiologia dos traumas. Os indivíduos, em sua maioria, demonstraram independência para o autocuidado intestinal e as práticas mais frequentes foram o estímulo dígito-retal, a massagem abdominal e a extração manual das fezes. 92,9% dos indivíduos frequentavam ou já haviam frequentado Centro Especializado em Reabilitação. **Conclusões:** A enfermagem exerce importante papel no ensino do autocuidado ao paciente e aos familiares, logo precisa de habilidades e conhecimentos que permitam o planejamento das ações para o ensino do cuidado das alterações intestinais, com intervenções adequadas visando à prevenção de potenciais complicações e à melhora da qualidade de vida desses indivíduos.

DESCRITORES: Estomaterapia; Intestino neurogênico; Traumatismos da medula espinhal.

RESUMEN

Objetivo: Relevar el patrón intestinal y las medidas de control adoptadas por individuos adultos víctimas de trauma raquimedular. **Método:** Estudio descriptivo exploratorio con abordaje cuantitativa. Muestra de 14 adultos con trauma raquimedular. La recolección de datos se realizó por medio de entrevistas en los domicilios de los participantes. **Resultados:** Predominancia del sexo masculino; el accidente automovilístico fue la principal etiología de los traumas. Los individuos, en su mayoría, demostraron independencia para el autocuidado intestinal y las prácticas más frecuentes fueron el estímulo dígito-rectal, el masaje abdominal y la extracción manual de las heces. 92,9 % de los individuos frecuentaban o ya habían frecuentado Centro Especializado en Rehabilitación. **Conclusiones:** La enfermería ejerce un importante papel en la enseñanza del autocuidado al paciente y a los familiares, después necesita de habilidades y conocimientos que permitan la planificación de las acciones para la enseñanza del cuidado de las alteraciones intestinales, con intervenciones adecuadas buscando la prevención de potenciales complicaciones y a la mejora de la calidad de vida de dichos individuos.

DESCRIPTORES: Estomaterapia; Intestino neurogénico; Traumatismos de la medula espinal.

INTRODUCTION

Spinal cord injury (SCI) is a serious problem that interferes with the functionality of the human body, leading the patient to a number of limitations and complications. The main manifestations are paralysis or paresis of limbs, changes in muscle tone and loss of sensitivity and sphincter control, and the degree of disability varies according to the level of spinal cord involvement[1].

The SCIs of traumatic origin, also called spinal cord trauma (SCT), are the most frequent, affecting mainly men of working age and usually caused by falling from great heights, shallow waters diving, firearm injury and automobile accident; the last is often observed as the main etiology[2,3].

The post-injury individual must learn to deal with a number of limitations that it did not have before; normal habits of daily life that were easily realized as its desires became extremely difficult and need of adaptations and help from other people that they could be realized. Simple acts of urinate and evacuate are not simple tasks for the person with spinal cord injury.

Urinary and fecal continences are basic conditions for living in society and the loss of these abilities can drastically affect the quality of life of the individuals who experience it, especially those in adult age[4]. People who have suffered SCT usually suffer loss of control of the bladder and anal sphincters, which does not allow controlling the elimination of urine and faeces1.

The neurogenic intestine is one of the most frequent complications of SCT, and can range from constipation, which is the accumulation of faeces in the intestinal tube, until incontinence, which leads to the loss of faeces involuntarily, and such situations cause in the individual the fear of living in social environment because they lead to feelings of shame and humiliation[5].

There are two patterns of neurogenic intestine: reflexive, in which peristalsis is maintained with failure of sphincter relaxation, and areflexic, in which peristalsis is reduced[6].

The rates of morbimortality from complications after SCT can be decreased when adequate care is provided as early as possible, so that a intestinal rehabilitation program should be started as soon as the first hospitalization[7].

The intestinal rehabilitation program should be worked by a multidisciplinary team, taking into account, in addition to the neurological level of the injury, information regarding the individuality of each individual, such as food and fluid

intake, beliefs, educational level and historic of previous gastrointestinal habit to SCT. The goal is to make the person have a satisfactory evacuation routine by performing techniques such as proper positioning, digit-rectal stimulation and abdominal massages, in addition to having adequate fluid and nutritional intake for their needs[6].

The nurse, as a member of a multidisciplinary team, exercises a fundamental role in the process of rehabilitation of the injured person, providing care directed to the care needs of the individual and the family members involved in the care process, through health education practices since hospital level until the home environment. Unfortunately, not all professionals are prepared to meet the needs of the person with spinal cord injury, which may be a reflection of insufficient investment in training and insufficient academic training in this area[8].

From this context, the study aims to raise the intestinal pattern and the control measures adopted by adult individuals who are victims of SCT.

It is believed in the relevance of this study, especially in the area of nursing, with the potential to corroborate to increase knowledge about the subject and to subsidize practices aimed at the care of patients with neurogenic intestine, providing an improvement in the quality of life of individuals with SCT.

METHOD

This is a cross-sectional, descriptive exploratory study with a quantitative approach and performed in the municipality of Chapeco, Santa Catarina, Brazil, in the domiciles of patients with SCT. The participants were recruited through an associative entity aimed at the disabled population based in the municipality chosen for the study, which provided the telephone contacts of patients with SCT.

In compliance with the inclusion criteria (majority and SCT) and exclusion (cognitive limitation that prevented the provision of information), 14 patients were chosen for the study. All received an invitation through telephone contact, explaining how the research and its goals would be given, and agreed to participate.

At the home visit, the Informed Consent Form (ICF) was read to the participant and all doubts were clarified. Following the signing of the ICF by the participant, the interview was realized with an instrument developed for this purpose, with information regarding epidemiological data, spinal cord injury data and data on intestinal function and measures adopted for its control. After responding to the interview, participants received a form with information that helps in intestinal control.

The data collected were tabulated in an Excel® worksheet, with the organization of one line per participant and one column per variable; thus, the data were presented descriptively in percentages and frequencies.

The study was approved by the Research Ethics Committee (REC) of the University of Extremo Sul Catarinense (UNESC), process number 62448216.8.0000.0119, and attended to investigations involving human beings, according to the Resolution of the National Health Council nº 466/12, guaranteeing to the participants subjects the anonymity and secrecy regarding the interviews.

RESULTS

It were interviewed 14 people with SCI, of which 12 (85.7%) were men and two (14.3%) were women; the ages ranged from 18 to 59 years, with a higher concentration of participants aged between 30 and 49 years. Regarding marital status, 64.3% (nine) were married, 28.6% (four) were single and 7.1% (one) were divorced. As for schooling, 35.7% (five) had incomplete elementary school and 28.6% (four) had complete higher education. Regarding the occupation, 85.7% (12) reported not have an occupation, and before the injury, 92.9% (13) worked. The majority of the participants (85.7% - 12) reported family income of two to five minimum wages. The automobile accident appears as the main etiology of the traumas (42.9% - six) and the majority of the participants had a thoracic injury (71.4% - 10). Regarding the duration of the injury, 71.4% (10) of the participants suffered SCT for more than five years.

As shown in Table 1, before SCI, the majority of the participants evacuated daily with fecal consistency 3 or 4 by the Bristol Scale. During the data collection period, participants' intestinal frequency ranged from once a day to once a week, and fecal consistency ranged from Bristol 1 to 6. The majority had no desire for intestinal movements, but feels the necessity to evacuate for some other physical sign Most evacuate within 10 minutes, but three participants take up to 60 minutes to complete

Table 1. Intestinal pattern and control measures adopted by individuals with spinal cord trauma. Chapecó, Santa Catarina, Brazil. 2017 (n = 14).

Variables	n	%
Intestinal habit before injury		
Evacuation 1 time/day	13	92.9
Evacuation 4 times/week	1	7.1
Most common faeces consistency prior to injury		
Bristol 2	1	7.1
Bristol 3	6	42.9
Bristol 4	7	50
Current evacuation frequency		
1 time/day	7	50
1 to 3 times/week	3	21.4
4 to 5 times/week	4	28.6
Most common faeces consistency today		
Bristol 1	2	14.3
Bristol 2	2	14.3
Bristol 3	4	28.6
Bristol 4	3	21.4
Bristol 5	1	7.1
Bristol 6	1	7.1
Evacuation desire		
Yes	1	7.1
No	13	92.9
Perception of intestinal functioning warning by anybody signal		
Yes	10	71.4
No	4	28.6
Approximate time to evacuate		
Up to 10 min	7	50
15 to 20 min	4	28.6
40-60 min	3	21.4
Manual faeces extraction	7	50
Digit-rectal stimulation	8	57.1
Use of chemical stimulant	3	21.4
Use of laxative medication	1	7.1
Abdominal massage	8	57.1
Valsalva maneuver	1	7.1
Position to evacuate		
Seated	11	78.6
Lying	3	21.4
24-hour fluid intake		
< 2 liters	6	42.9
2 to 3 liters	7	50
>3 liters	1	7.1
Common food		
Poor in fibers	6	42.9
Rich in fibers	8	57.1

intestinal care. With regard to self-care for intestinal functioning, the most commonly used practices were digit-rectal stimulation, abdominal massage and manual faeces extraction; the use of chemical stimulant was cited by 21.4% (three) of the participants. Regarding water and nutritional intake, in this study, 42.9% (six) of the participants reported a diet with low fiber; the same number of patients consumed liquids at a volume lower than recommended.

It was observed that most of the interviewees (71.4% - 10) presented independence, reporting that they did not need another person's help for intestinal care; 11 (78.6%) reported no difficulty in performing such care. When respondents were asked if their intestinal function had any effect on their lives, 11 (78.6%) participants said no.

In this study, 14 participants, 13 (92.9%) attended or already attended a Specialized Center in Rehabilitation.

Of the most frequent intestinal complications presented in Table 2, 28.6% (four) reported hemorrhoids; 21.4% (three), abdominal distension; 21.4% (three), frequent abdominal discomfort; and 7.1% (one), faeces on clothing often about once a month.

Table 2. Intestinal complications found in patients with spinal cord trauma. Chapecó, Santa Catarina, Brazil, 2017 (n = 14).

Complications	n	%
Loss of faeces on clothing		
Yes	1	7.1
No	13	92.9
Frequency of fecal loss		
Once a month	1	7.1
Hemorrhoids	4	28.6
Frequent abdominal discomfort	3	21.4
Abdominal distension	3	21.4

DISCUSSION

The results of the epidemiological data obtained corroborate with other studies, in which the majority of individuals with SCT are men and are of working age, besides the automobile accident appears as the main etiology of traumas[3,7,9,10]. Regarding the neurological

level of the lesion, most of the studies revealed a greater involvement of the cervical followings[3,7,9-11], whereas in the present study, 71.4% of the participants presented thoracic lesions.

Among the 14 participants in the study, 85.7% reported not having an occupation, and being that the injury 92.9%, worked. This reality was also shown in other studies, which revealed a concern with the issue of the individual as a social being, with the necessity for a role in society and contribution to family income[7,12,13].

Regarding marital status, a study realized in the city of Londrina, Paraná, with 32 people who were victims of SCT revealed that of the 78.1% of married individuals at the time of the accident, only 43.8% of them remained in this condition at the time of the interview[12]; In this study, the majority of participants (64.3%) were married.

Considering the level of lesion presented by the participants of this study (71.4% thoracic and 28.6% cervical), the expected intestinal pattern would be the reflex intestinal, in which there is colonic peristalsis and lack of sphincter relaxation. In this pattern, the main measure of emptying is the digit-rectal stimulus, adopted by the majority. However, it is worth mentioning the use of chemical stimulants, by three participants, for the presented intestinal pattern, and a well-done care would exclude the use of such products[6].

Concerning the evacuation desire, the majority of the participants (71.4%) can identify when the intestinal will function by some sign of the body. According to the literature[1], these signs are clinical manifestations characterized by discomfort, which may be associated with headache, sweating, piloerection, pupil dilation and facial flushing, related to autonomic dysreflexia, which frequently affects patients with SCT above T6. It is an increase in blood pressure levels, with the most common cause being distention of hollow viscera, such as bladder distension and intestinal constipation.

In this study, it was observed low consumption of fibers and liquids in six participants. The standard guidelines recommend an ingestion of fluids of 40 mil/kg body weight, plus an additional 500 mil/day[14]. A diet with fiber and adequate water intake are recommended and are part of a program for intestinal care, however it is necessary to evaluate the individual needs of each case, as not everyone needs high amounts of fiber in the diet. Increase or decrease in fiber intake should be done gradually, observing consistency and faeces frequency and reports of patient discomfort[14].

For the analysis of the faeces shape and consistency before and after the SCI, the Bristol Faeces Form Scale (BSFS), validated for Portuguese in 2012[15], was used and consists of an instrument whose purpose is to descriptively evaluate fecal shape and content by means of images illustrating seven types of feces together with their detailed description.

According to the International Guideline for Neurogenic Intestine Management in Spinal cord trauma[15], the goal for the reflux intestinal program is to achieve consistency of type 3 of the Bristol Scale, which are sausage-shaped faeces, but with cracks in the surface, and the goal for the reflexive intestinal is type 4, which are faeces in the form of sausage or snake, smooth and soft.

Despite changes in relation to the previous evacuation pattern (frequency and consistency), it is observed in the study that with proper intestinal care it is possible to maintain an intestinal emptying routine that allows the individual with neurogenic intestine a better quality of life.

In relation to intestinal complications, in other studies, the most commonly reported were constipation and fecal impaction[7,13]. In this study, the main complications were hemorrhoids (28.6%), abdominal distension (21.4%) and frequent abdominal discomfort (21.4%).

In this study, most of the participants (92.9%) attend or have attended a Specialized Rehabilitation Center, revealing that an adequate intestinal re-education program reflects good self-care practices, minimizing possible intestinal complications. A study realized with spinal cord injured patients in the city of Ribeirão Preto, São Paulo, identified that patients only participated in intestinal rehabilitation programs when they were admitted to Rehabilitation Centers; of the 27 study participants, only six (22%) received some information about intestinal functioning at the first hospital stay in general hospitals[13]. Another study also realized in the city of Ribeirão Preto identified that individuals with SCI up to 12 months post-injury, when compared

with individuals with time after injury over 13 months, presented a higher degree of functional impairment, which justifies a necessity for access information and services and rehabilitation[9].

All participants in this study had the lesion for more than a year, with 71.4% having had it for more than five years, a factor that made it difficult to collect data about the guidelines received about intestinal changes immediately after the trauma, since they did not remember if the information they received was about the intestine and which professionals were involved, but it was possible to identify that they could only establish an intestinal emptying routine after passing through a Specialized Center in Rehabilitation.

An intestinal re-education program aims at prevention and reduction of complications of the neurogenic intestine and includes measures such as rectal touch, high-fiber diet, laxatives and abdominal massages[6]; rehabilitation actions should be individualized and started as early as possible by a multidisciplinary team, from the acute stage, at the hospital level, to the home environment, with a view to their reintegration into the family and society1. However, unfortunately, many patients do not receive adequate information regarding changes and self-care practices to avoid possible complications inherent to SCI during hospital admission[17].

CONCLUSION

The present study reinforces most of the research that men continue to lead the SCT statistics and the automobile accident remains one of the major etiologies.

The neurogenic intestine is a condition that can lead to intestinal complications, which requires the person's involvement with SCI in order to obtain a routine of care for a satisfactory intestinal emptying. Nevertheless, in this study, most individuals argued that intestinal care does not interfere with their life routine. It was verified that individuals, for the most part, demonstrated independence for intestinal self-care and the most frequent practices were digit-rectal stimulation, abdominal massage and manual faeces extraction.

It is important to emphasize that the results obtained most probably have to do with the fact that the majority of the participants of the study had the SCI for more than five years, attended or already attended Specialized Centers in Rehabilitation and had the opportunity to participate in a program of reeducation intestinal. However, this research was performed with a small sample of individuals with SCI, and further research with larger samples is needed to obtain more data on the intestinal functioning of this population.

Nursing is a profession that works in all areas of care, in the public and private network, from the acute phase in hospital to rehabilitation in basic care, in the various levels of complexity, and exercises an important role in teaching self-care to the patient and the relatives; thus, nursing requires skills and knowledge that allow the planning of actions for teaching the care of intestinal changes, with appropriate interventions aimed at preventing potential complications and improving the quality of life of these individuals.

AUTHOR'S CONTRIBUTION

Conceptualization, Machado D; Methodology, Machado D and Assis GM; Investigation, Machado D; Writing – First version, Machado D; Writing – Review & Editing, Machado D and Assis GM; Acquisition of Financing, Machado D; Resources, Machado D; Supervision, Assis GM.

REFERENCES

1. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Ações Programáticas Estratégicas e Departamento de Atenção Especializada. Diretrizes de Atenção à Pessoa com Lesão Medular. Brasília, 2012.
2. Santos RA. Perfil clínico e epidemiológico de pacientes com traumatismo raquimedular. Fisioter Bras. 2013;14(3):215-20.
3. Castro DL, Leobas GF, Araújo MSTM, Coutinho IHLS, Figueiredo MAS. Casuística de trauma raquimedular tratado em hospital terciário de Palmas, Brasil. Coluna/Columna. 2015;14(3):214-7. doi: 10.1590/S1808-185120151403145004

4. Lima TGS, Santos VLCG, Lacombe DLP, Manso JEF. Atualização. Incontinência anal: tratamento conservador por meio de biofeedback. ESTIMA, Braz J Enterestomal Ther. 2010;8(3).
5. Vasconcelos AS, França ISX, Coura AS, Enders BC, Cartaxo HGO, Sousa FS. Autocuidado para intestino neurogênico em sujeitos com lesão raquimedular: revisão integrativa. Online Braz J Nurs. 2013;12(4):998-1010. doi: 10.5935/1676-4285.20133692
6. Furlan MLS, Caliri MHL, Defino HLA. Intestino neurogênico: guia prático para pessoas com lesão medular – Parte I. Coluna/Columna. 2005;4(3):151-7.
7. Campoy LT, Rabeh SAN, Nogueira PC, Vianna PC, Miyazaki MY. Práticas de autocuidado para funcionamento intestinal em um grupo de pacientes com trauma raquimedular. Acta Fisiátr. 2012;19(4):228-32. doi: 10.5935/0104-7795.20120036
8. Creôncio SCE, Rangel BLR, Moura JCM, Carreiro MAG, Lima Neto LB. Perfil dos enfermeiros atuantes em um hospital, quanto à abordagem ao traumatismo raquimedular. Rev Pesqui Cuid Fundam (Online). 2013;5(4):599-605. doi: 10.9789/2175-5361.2013v5n4p599
9. Rabeh SAN, Caliri MHL. Capacidade funcional em indivíduos com lesão de medula espinhal. Acta Paul Enferm. 2010;23(3):321-7. doi: 10.1590/s0103-21002010000300002
10. Rabeh SAN, Nogueira PC, Caliri MHL. Funcionamento intestinal e a relação com a independência funcional de indivíduos com lesão medular. Coluna/Columna. 2013;12(2):153-6. doi: 10.1590/s1808-18512013000200013
11. Morais DF, Spotti A R, Cohen MI, Mussi SE, Melo Neto JS, Tognola WA. Perfil epidemiológico de pacientes com traumatismo raquimedular atendidos em hospital terciário. Coluna/Columna. 2013;12(2):149-52. doi: 10.1590/s1808-18512013000200012
12. Venturini DA, Decésaro MN, Marcon SS. Alterações e expectativas vivenciadas pelos indivíduos com lesão raquimedular e suas famílias. Rev Esc Enferm USP. 2007;41(4):589-96. doi: 10.1590/s0080-62342007000400008
13. Furlan MLS, Caliri MHL. Complicações do funcionamento intestinal e práticas de auto-cuidado em pacientes com trauma raquimedular. Coluna/Columna. 2005;4(1):16-21.
14. Caliri MHL, Furlan MLS, Defino HLA. Tratamento do intestino neurogênico em adultos com lesão da medula espinhal: diretrizes para uma prática baseada em evidências. Coluna/Columna. 2005;4(2):102-5.
15. Martinez AP, Azevedo GR. Tradução, adaptação cultural e validação da Bristol Stool Form Scale para a população brasileira. Rev Latino-Am Enfermagem. 2012;20(3):583-9. doi: 10.1590/s0104-11692012000300021
16. Spinal Cord Injury Centres of the United Kingdom and Ireland. Guidelines for Management of Neurogenic Bowel Dysfunction after Spinal Cord Injury. Coloplast; 2009.
17. Nogueira PC. Sobrecarga do cuidado e qualidade de vida relacionada à saúde de cuidadores de indivíduos com lesão medular [tese]. Ribeirão Preto: Universidade de São Paulo, Escola de Enfermagem de Ribeirão Preto; 2010.