Clean intermittent self catheterization in spinal cord injury

AUTOCATETERISMO VESICAL INTERMITENTE NA LESÃO MEDULAR

AUTOCATETERISMO VESICAL INTERMITENTE EN LA LESIÓN MEDULAR

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ABSTRACT
The clean intermittent self catheterization is an effective and safe technique for the treatment and prevention of urinary tract disease that result from spinal cord injuries. Although it has been described as of 1972, there is still resistance from health professionals for its utilization. The present study presents a report about the method used for training and encouraging of the patients towards using the technique, in a project of clinical and voluntary nursing care, performed in at a philanthropic association in the city of Curitiba. Our objective was to disseminate the experience that was learnt, to encourage professionals who assist people with spinal cord injuries towards recommending this technique.

KEY WORDS
Wounds and injuries.
Spinal cord.
Urinary catheterization.
Nursing care.

RESUMO
O autocateterismo vesical intermitente-técnica limpa é uma técnica efetiva e segura para o tratamento e a prevenção das complicações vesico-urinárias decorrentes da lesão medular. Embora tenha sido descrita desde 1972, ainda existe resistência por parte dos profissionais de saúde em relação à sua utilização. Relataremos, no presente estudo, a metodologia utilizada no treinamento e na motivação dos pacientes para a utilização da técnica em um projeto de assistência de enfermagem clínica e voluntária, realizado em uma associação de caráter filantrópico, na cidade de Curitiba. Objetivamos divulgar a experiência adquirida a fim de que mais profissionais que atendem pessoas com lesão medular sejam motivados a indicar essa técnica.

DESCRITORES
Ferimentos e lesões.
Medula espinal.
Cateterismo urinário.
Cuidados de enfermagem.

RESUMEN
El Autocateterismo vesical intermitente - técnica limpia, es una técnica efectiva y segura para el tratamiento y la prevención de las complicaciones vésico-urinarias derivadas de lesión medular. A pesar de haber sido descripta ya en 1972, aún existe resistencia por parte de los profesionales de la salud para su utilización. Relataremos, en este estudio, la metodología utilizada para entrenamiento y motivación de pacientes para el uso de la técnica, en un proyecto de atención de enfermería clínica voluntaria, realizado en una asociación de carácter filantrópico en la ciudad de Curitiba. Objetivamos divulgar la experiencia adquirida, a fin de que más profesionales que atienden pacientes con lesión medular sean motivados a indicar esta técnica.

DESCRIPTORES
Heridas y traumatismos.
Médula espinal.
Cateterismo urinario.
Atención de enfermería.

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Received: 06/02/2009
Approved: 05/15/2010

Portuguese / English: www.scielo.br/reeusp

INTRODUCTION

The spinal cord injury may be defined as an aggression to the spinal cord, a severe and disabling syndrome that may result in damages related to the motor, sensory, visceral, sexual and trophic functions[1].

It constitutes a severe social problem, as it affects mainly young individuals, in productive age, who start to depend on an expensive and complex process of rehabilitation to keep a better quality of life.

Nursing interventions to people with spinal cord injury are complex and must be based upon the changes resulting from the injury, which may be transitory or permanent[2]. One of the changes of great relevance is the dysfunction of the vesico-urinary system, as it may result in complications that, if not treated, tend to evolve to the loss of the kidney function, considering that this is still a cause of death among people with spinal cord injury[3].

The vesico-urinary dysfunction of neurological origin results from the interruption in the communication between the bladder and the urination center in the brain, and the main point to be considered in the treatment of this dysfunction includes the preservation of the upper urinary tract, the control and prevention of urinary infections, the social reintegration of the patient, the improvement of the life quality, the regression promotion or the stabilization of the present wounds, besides the important anatomic changes, such as the vesico-ureteral reflux[4-7]. Among the interventions pertinent to the treatment of the vesico-urinary dysfunction in the person with spinal cord injury, it is important to emphasize the clean intermittent catheterization (CIC), which consists in the insertion of a lubricated catheter into the bladder through the urethra, in pre-established daily periods with its removal after the urinary drainage, being an effective intervention for the prevention and treatment of complications[4,8-11]. The CIC was suggested in studies from 1966 for patients with traumatic spinal cord injury as an alternative to the vesical emptying in cases of urinary retention[6,9-11]. In 1972, it was proved that this procedure does not need to be executed with sterile technique, but with the clean technique, considering that, if the vesical hyper-distension is prevented, the resistance of the host is the greatest barrier against the infection[4,8-13]. Besides the physiological benefits provided by the execution of the CIC, it is necessary to consider the promotion of autonomy involved in the process, since it contributes significantly to the reintroduction of the individual into his family and social life[4,9-11].

Among the interventions pertinent to the treatment of the vesico-urinary dysfunction in the person with spinal cord injury, it is important to emphasize the clean intermittent catheterization (CIC), which consists in the insertion of a lubricated catheter into the bladder through the urethra, in pre-established daily periods with its removal after the urinary drainage, being an effective intervention for the prevention and treatment of complications.

Although the CIC has been described for over three decades, the technique has been more broadly diffused in the urological practice and in studies developed in Brazil, especially by nurses in the areas of rehabilitation and urology in the last fifteen years[9-11]. Nevertheless, it is possible to state that this procedure is still not well mentioned in the programmatic content of nursing graduation courses. Therefore, the present report is justified by the need to disclose the experience acquired through the use of the CIC and by the announcement of the results, which may be used in teaching as well as tested in other studies aimed at achieving better evidences for the urological care to people with spinal cord injury[9-11].

OBJECTIVES

Reporting the experience of care for the use of CIC in patients with spinal cord injury in the reeducation of the neurogenic bladder.

Describing the systematization for enabling the patient with spinal cord injury to perform the clean intermittent self-catheterization (CISC).

METHOD

This is a report of experience about the use of the CIC for patients with spinal cord injury assisted at an outpatient clinic bonded to a civil association, of philanthropic character, located in the city of Curitiba (PR). This institution has a multi-professional technical team that, besides the voluntary and weekly nursing care, provides services of Physiotherapy (association to the university), Psychology, Social Service, Occupational Therapy, Music Therapy, Dentistry and a doctor who develops voluntary work every 15 days.

The present report is part of a Final Paper for the Graduation Course in Nursing submitted to the Committee of Ethics of the institution under the number 405/07 CEPPUCPR[14].

The researcher, together with the other professionals, evaluated the patients based on the classification of the North American Nursing Diagnosis Association (NANDA)[15], observing the diagnoses that indicated interventions for enabling the patient to execute the CISC. The holistic evaluation of the patients was performed with the theoretical referential of Horta's Theory of Basic Human Needs and the Nursing Process[16]. Therefore, the care implemented during the teaching experience will be reported and discussed as it follows.

RESULTS AND COMMENTS

Report of experience

Nursing appointments were performed with patients who had spinal cord injury and attended the scheduled activities of the service. In total, at least four appointments were performed with adults to teach the CIC or CISC procedure. A care plan was designed for each nursing diagnosis aimed at the established goal.

In the early rehabilitation of people with spinal cord injury, since the acute stage, the CISC is the appropriate nursing intervention for the resolution of health problems resulting from the spinal cord injury and that respond to the nursing diagnosis: Impaired urinary elimination, Urinary retention, Total urinary incontinence, Reflex urinary incontinence, Urinary incontinence by overflow, Predisposition for improved urinary elimination, Deficient recreational activities, Deficit in self-care, Predisposition to increase self-care, Low situational self-esteem, Tension of the caregiver role, Risk of autonomic dysreflexia, Risk of infection and Social Isolation. The CISC favors the recovery of the self-care, facilitating the re-socialization since it constitutes a simple method, which is easy to be executed and learned both by the patient and the family caregiver. It is safe, effective and, if well indicated and executed, few complications are observed[9-13,17]. It presents low cost and short time for execution, besides it may be performed in several places by the caregiver or the patient himself. In order to enable the patient, a journal that has already been described in several studies was used to register the times of catheterization, urinary volume and characteristics of the urine. This practice promotes benefits such as the functional continence, independence, reduction of the hospital stay, social acceptance, social inclusion, improvement of the body image, reduction of the nursing time and infections in the urinary tract, reduction of kidney complications in the long term[6,9-18].

In the present report of experience, regarding people with spinal cord injury in an outpatient clinic, the authors preconize a minimum number of four nursing appointments to each patient that starts the CISC program, with weekly frequency, resulting in a follow-up of at least one month. If the patient presents special needs regarding the cognition or psychomotor ability, the number of appointments is increased to as many as necessary until he can perform the technique with dexterity and confidence, with the monitoring of a family caregiver, if necessary.

Undoubtedly, the first appointment demands more time and dedication from the nurse. The authors preferred to schedule it only for the training and motivation to the technique, leaving the execution of other actions to another occasion, for instance the intestinal reeducation, the treatment of wounds and other instructions. It is recommended that this moment be preserved only for the beginning of the training of the patient and/or caregiver.

Initially, the patient is oriented, considering his level of understanding, lifestyle, social and economical conditions, urinary physiology and changes resulting from the spinal cord injury, hands and intimate hygiene care, handling of sterile and clean material, step-by-step procedure, facilitating thus the comprehension of the benefits of the clean intermittent catheterization, which are explained as it follows.

Afterwards, the technique is clearly explained, step-by-step, with the demonstration of the necessary material and how to use and reprocess it in the case of the clean technique. The authors used an illustrated handbook that describes each step of the technique. This handbook is provided to the patient and was developed based on the results of the application in a group of patients with spinal cord injury[14].

The patient's questions are answered during the explanation of the technique and, after that, the patient executes the technique in the clinic.

The execution of the technique on a wheelchair is preferred most of the times, since it facilitates its development in several locations, besides increasing the patient's autonomy. Women initiate the training partially sitting on a mat, which is as high as a bed, because they frequently mention difficulties to locate the urinary canal at the mirror. In this case, a jar with water and a container for the drainage must be added to the necessary material, so that they can wash their hands in the technique place.

The patient's skills and difficulties are observed during the execution of the technique and discussed afterwards. Whenever necessary, adaptations may be made, especially in their position, as long as the technique cleaning principles are maintained.

The patient that mentions spontaneous and involuntary urinary elimination is oriented to execute the technique once a day, right after the spontaneous urination and to write down the drained volume for seven days, in order to evaluate the residual diuresis. Urine volumes higher than 50 ml constitute an indication for intermittent catheterization[9,10-11,13].

If the patient presents urinary retention or high pressures to urination, documented by an urodynamic exam, the study of the residual diuresis is not necessary for the indication of the CISC. In this case, it is initiated with intervals of four hours.

The second appointment is scheduled for the following week. At this occasion, the patient presents the difficulties and skills perceived during the week. In case he has presented difficulties to execute the technique in the previous appointment, it is performed again.

Still in this appointment, a urinary journal is provided to the patient, who is explained on how to fill it in. The urinary journal contains information about the volume and characteristics of the urine at each catheterization, besides information such as urinary losses in the intervals and hydric ingestion.

The first instruction of assignation is of 4 hours, adapted at the following appointment, based on the evaluation of the urinary journal. The hydric ingestion of 1.5 to 2 liters of liquid a day must be encouraged, since besides reducing the risk of urinary infection, its reduction may induce the journal misinterpretation[4,9-13].

At the third appointment, the urinary journal is evaluated. Patients generally get well adapted to the interval of four hours between the catheterizations, but there are cases in which it is necessary to readjust the intervals to higher or shorter periods. In case of an interval adjustment, a new urinary journal is provided for posterior re-evaluation.

If the patient presents urinary loss in the intervals of the catheterizations, he is sent to a urologist to evaluate the possibility of associating anticholinergic drugs, since in case of hyper-reflex neurogenic bladders, the bladder contracts to small volumes, which may be controlled by the medication[4].

The fourth appointment is reserved to evaluate the adjustments made and to discuss the questions and difficulties that may still persist.

If a patient reports any lack of confidence or does not present enough psychomotor skills to be discharged from the program, additional appointments are scheduled in order to motivate and enable him at the technique.

The therapeutics success includes motivation, dexterity and mental ability, concluding that the CIC is easily learned and accepted by most of the patients of both genders and in broad age ranges, proving to be effective and safe[19].

Regarding the iatrogenic infections in the urological practice, the antibiotic prophylaxis was found as not recommended for both the CIC and the CISC[20].

A comparative study between the clean and the sterile techniques observed that 43% of the patients developed infections in the urinary tract, with 37% of them belonging to the CIC group and 45% to the group performing the sterile technique[21]. The most common microorganisms found in the cultures were *Enterococcus species* and *Klebsiella*.

CONCLUSION

The nursing care in the rehabilitation of people with spinal cord injury is a complex and multifactorial experience, since it involves the patient, the family, the caregiver and several professionals intermingled by sociocultural, economical and financial aspects. The results of the best nursing practices in the rehabilitation of people with spinal cord injury, highlighting the CIC and the promotion of the CISC, evidence visible benefits, mainly for the patients. Studies about the CIC, both in the report of experience and in direct or indirect studies, are necessary to make public the procedure considered by the evidences in national studies, considering the social and economical problems of the population that use this procedure, as gold standard in the reeducation of the neurogenic bladder[9-13]. The fundamental objectives to systematize actions for enabling the patient for the CISC are to promote the social inclusion, facilitate the handling of limitations, recover the self-esteem and the independence.

This experience of care among patients with spinal cord injury was relevant for the initial qualification in nursing and mainly for the possibility to make public an intervention of great relevance to settle the knowledge areas of nursing in the care to people with spinal cord injury.

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