



## Intermittent urethral catheterization—descriptive study at a Brazilian service



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### ABSTRACT

**Aims and background:** The rehabilitation process of patients with neurogenic bladder involves psychosocial, cultural, political and economic human factors, representing a challenge for patients/caregivers as well as health professionals. This study was aimed at characterizing patients with neurogenic bladder who use intermittent urethral catheterization and were going through rehabilitation at a teaching hospital.

**Method:** This descriptive study was undertaken in the interior of São Paulo State–Brazil. All ethical guidelines were complied with. To collect the data, interviews were held during nursing consultations with patients more than 18 years of age suffering from neurogenic bladder who used intermittent urethral catheterization. **Results:** Most patients had spinal cord trauma, are single, male and gain a low income. They have been using catheterization for several years, at irregular frequencies, using polyethylene catheters.

**Conclusions:** No standardization exists in the accomplishment of the practices used and strategies are needed to remodel the service.

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### 1. Introduction

Most bladder–sphincter dysfunctions are caused by neurogenic bladder, a condition with different causes whose prognosis is related to an early diagnosis and appropriate treatment. One of the main treatment alternatives used is intermittent urethral catheterization (Assis & Faro, 2011).

Intermittent urethral catheterization is a method that permits periodical bladder emptying, at routine intervals, by introducing a catheter through the urethra (Mazzo et al., 2011). It can be indicated at any age, used temporary or permanently and performed in a sterile (inside health institutions) or clean (at home) manner. It is a safe resource that improves the patients' self-esteem, causes urinary re-education and favors stimuli towards spontaneous urination (Bruni et al., 2004; Furlan, Ferriani, & Gomes, 2003; Magalhães & Chiochetta, 2002; Moroóka & Faro, 2002; Vahr et al., 2013).

Neurogenic bladder patients need permanent monitoring by competent professionals, who establish a relationship of care and

learning, offering opportunities for greater comfort and a better quality of life. Nurses are responsible for training the caregivers and/or patients to perform intermittent urethral catheterization, through orientations and care aimed at preventing urinary infection, managing material resources and achieving social readaptation (Assis & Faro, 2011; Center for Disease Control and Prevention, 2009; Moroóka & Faro, 2002; Vahr et al., 2013).

Against that background, through joint efforts by nurses and physicians working at a health service and a university, a multi-professional outpatient care service was recently implemented at the rehabilitation center of a teaching hospital in the interior of São Paulo State–Brazil, to attend patients with neurogenic bladder who were going through rehabilitation and were using intermittent urethral catheterization. The service was proposed to qualify care delivery to intermittent urethral catheterization patients at the hospital, considering that, until then, patients were attended in different clinical specialties and by different professionals, without any kind of planning and/or recognition of the clients and/or care and monitoring protocol.

The clinic offers a multiprofessional team, including nurses, physicians, a social worker, as well as faculty members, graduate and undergraduate students in the same areas from the university. It serves to support the rehabilitation process of neurogenic bladder patients with intermittent urethral catheterization, keeping in mind the particularities of each patient and promoting self-care, the theoretical background that supports the entire study (Orem, 2001).

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The multiprofessional work is based on medical consultations and mainly on nurses' work. Nurses are responsible for interventions ranging from individuals consultations and procedures to educative activities through group actions involving patients and caregivers, besides systematic training in simulators. Another function is the establishment of situational diagnoses and protocols and targets for the service.

In that context, to direct patient care and develop self-care, the aim in this study is to characterize neurogenic bladder patients who use intermittent urethral catheterization going through rehabilitation at a teaching hospital in the interior of São Paulo State–Brazil.

## 2. Method

This descriptive study was undertaken at the Rehabilitation Center of a university hospital in the interior of São Paulo–Brazil, after obtaining authorization from the Research Ethics Committee at the University of São Paulo at Ribeirão Preto College of Nursing (Opinion146/2012) (Creswell, 2010). The place of study is a referral institution in the region it is located in and receives patients from around the country. It is part of the public healthcare network, which is freely offered by the Brazilian government.

After receiving authorization from the Research Ethics Committee and after the participants had formally accepted to participate by signing the Informed Consent Form (ICF), data were collected from all patients more than 18 years of age attended at the service and who used intermittent urethral self-catheterization, between November 2011 and November 2012, during the nursing consultation that takes place after the medical consultation. Patients younger than 18 years and who did not agree to participate were excluded.

To collect the data, a semistructured questionnaire with 37 questions was applied, elaborated based on the literature on catheterization guidelines (Center for Disease Control and Prevention, 2009; Geng, Emblem, Gratzl, Incesu, & Jensen, 2006) and official data collection instruments used at the service. The instrument consists of open and closed questions to characterize the subjects and collect socioeconomic and family support data, besides data related to the diagnosis, clinical tests, use of medication treatment, intermittent urethral catheterization care and intestinal care. Five experts on the theme collaborated to determine the instrument's face and content validation. An agreement level of 70% among the judges was considered acceptable (Grant & Davis, 1997).

Before the data collection, a pilot test was undertaken to test the instrument. The first 20 patients who attended the Rehabilitation Center where the study was developed on a preset date were interviewed. All patients who complied with the inclusion criteria were included in the study. After the pilot test, questions were included related to the description of the material and the accomplishment of the procedure.

The research data were coded and included in Excel worksheets through double data entry, and then exported and analyzed in SPSS (Statistical Package for Social Science), version 15.0 (Windows). Exploratory statistical analysis was applied, considering frequencies

and percentages. The results of this analysis were discussed in the light of the literature and their relevance for the proposed objectives.

## 3. Results

Among the patients suffering from neurogenic bladder and using intermittent urethral catheterization at the service, 168 were attended and interviewed.

The primary diagnoses that led to the neurogenic bladder were: 57 (33.9%) spinal cord trauma, 36 (21.4%) myelomeningocele, 9 (5.4%) medullary compression secondary to disk herniation and/or tumor, 4 (2.4%) multiple sclerosis, 2 (1.2%) cerebral palsy, 2 (1.2%) post-surgery for prostate tumor resection, 2 (1.2%) tropical spastic paraparesis, 1 (0.6%) spina bifida, 1 (0.6%) microcephaly, 1 (0.6%) myelopathy, 1 (0.6%) meningitis, 1 (0.6%) Ochoa syndrome, 1 (0.6%) schistosomiasis, 1 (0.6%) transverse myelitis, 1 (0.6%) urethral stricture, 1 (0.6%) perineum tumor, 1 (0.6%) bladder trauma, 1 (0.6%) polyneuropathy, 1 (0.6%) cerebrovascular accident and 44 (26.2%) did not inform. Many patients justified that the delay to reach the primary diagnosis and the treatment time were triggering factors of the neurogenic bladder.

Among the interviewed patients, 109 (64.9%) were male and 59 (35.1%) female. Concerning the marital status, 90 (53.6%) were single, 50 (29.8%) married, 12 (7.1%) divorced, 9 (5.3%) widowed and 7 (4.2%) lived with a fixed partner. The study participants' distribution according to education, employment conditions and family income is displayed in Table 1.

When asked about where they received training to perform intermittent urethral self-catheterization, 164 (97.6%) indicated that they were trained during the hospitalization and 4 (2.4%) at the Primary Health Care Unit. As regards their autonomy to practice self-catheterization, 100 (59.5%) mentioned doing the procedure alone, 59 (35.1%) that they need help from their caregiver and 9 (5.4%) do it alone and/or the caregiver does the procedure.

Concerning the catheter type used, 146 (86.9%) use a polyethylene catheter; the remaining 22 (13.1%) patients a glass catheter. Among the patients who use a polyethylene catheter, only 1 (0.7%) uses a lubricated catheter and 11 (7.5%) reuse the disposable catheter.

Considering the polyethylene catheter caliber informed, 64 (43.8%) used number 12 Fr; 41 (28.1%) number 10 Fr; 17 (11.7%) number 8 Fr; 15 (10.3%) number 14 Fr and 5 (3.4%) number 6 Fr. Four patients (2.7%) did not inform the catheter caliber. All patients using a glass catheter are female and use a zero caliber probe.

Some patients indicated using other materials during the procedure, such as: gauze 39 (23.2%), procedure glove 45 (26.8%), sterile glove 4 (2.4%) and cotton 3 (1.8%). Most of the interviewees receive part of the material they use from municipal public entities.

Table 2 displays the year when the participants started the intermittent urethral catheterization treatment.

Table 3 shows the distribution of catheterization and catheter replacement frequencies.

Among the 22 (13.1%) subjects who used a glass catheter, the catheter hygiene practices were as follows: four (18.2%) washed the

**Table 1**

Study subjects' distribution according to education, employment conditions and family income (Ribeirão Preto, 2013).

Education	n <sup>a</sup> (%)	Employment conditions	n <sup>a</sup> (%)	Family income <sup>b</sup>	n <sup>a</sup> (%)
Illiterate	13 (7.7%)	Employed	10 (5.9%)	< 1 MW	6 (3.6%)
Unfinished primary	65 (38.7%)	Unemployed	15 (8.9%)	1 MW	50 (29.8%)
Finished primary	18 (10.7%)	Disease aid	34 (20.3%)	2 to 3 MW	34 (20.2%)
Unfinished secondary	15 (8.9%)	Retired	56 (33.3%)	3 to 4 MW	69 (41.0%)
Finished secondary	39 (23.2%)	Informal job	53 (31.6%)	5 to 9 MW	8 (4.8%)
Unfinished higher	7 (4.2%)	-	-	≥ 10 MW	1 (0.6%)
Finished higher	11 (6.6%)	-	-	-	-
Total	168 (100.0%)	-	168 (100.0%)	-	168 (100.0%)

<sup>a</sup> n number of individuals.

<sup>b</sup> MW Brazilian minimum wage R\$678.00 or USD 345.92 (exchange rate USD 1.00 = R\$1.96 Brazilian Central Bank. Date of exchange February 15 2013).

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