



Clean Intermittent Catheterization: Barriers and Adherence Issues in a Muslim population

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Abstract

Introduction: Clean intermittent catheterization (CIC) is the gold standard for the management of urinary retention. This act requires therapeutic education. The team in charge faces a lot of problems while teaching this procedure. It has a big impact on adherence to CIC. The objective is to analyse barriers and adherence issues of CIC in a Muslim Arabic population and to present some solutions to the problems found.

Material and Method: This is a prospective, descriptive and analytic study that lasts for 19 months. The patients were recruited at the service of Physical Medicine and Readaptation of CHU Ibn Rochd Casablanca during the neuro-uroconsult. Intermittent catheterization adherence scale (I-CAS) was administrated along with a questionnaire we made based on difficulties faced by patients. Results: Fifty patients were recruited. The mean age was 36.4 years, with a male predominance. Eighteen percent of the sample were child. Adherence to CIC was examined and showed that after only 1 month, 80% were compliant with this method of bladder emptying. Patients were followed up at regular intervals following CIC training for 19 months. The adherence rate was only 58% at 1.5 year. The most common difficulties while teaching this procedure were anxiety and fear of hurting themselves, and of losing their virginity (for women and girls)

Conclusion: There are several factors that may act as barriers to successful CIC. Adequate follow-up is essential, and patients should be reassured with a non-judgmental approach.

Keywords: Clean Intermittent; Catheterization; Adherence

Introduction

The International Continence Society defines clean intermittent catheterization (CIC) as drainage or aspiration of the bladder with subsequent removal of the catheter [1]. It means that the technique is clean, involving ordinary washing techniques, and the use of disposable or cleansed reusable catheters [2].

CIC is now considered as the gold standard for the management of urinary retention whether it is caused by neurological process, medical or surgical treatments. The aim of this procedure is to protect the upper urinary tract, improve urinary incontinence, decrease urinary tract infection, morbidity and mortality and improve the quality of life [3].

CIC requires therapeutic education, appropriate structures and a staff trained to teach this procedure. To obtain a perfect compliance, patients should understand the technique. The team in charge faces a lot of problems related to patients and the act itself.

So far, various urethral catheters are available in the market. Disposable catheters either with self-lubrication or with jelly injected into the urethra, are used to minimize urethral trauma and infection. They increase ease of use during catheterization [4,5].

Bactiruria leading to urinary tract infection, urethral stenosis, prostatitis, epididymitis and urinary lithiasis are common complications associated with CIC [1].

The objective of this study is to identify and analyse barriers and adherence issues of CIC in a Muslim Arabic population and to present some solutions to the problems we found.

Methods

This is a prospective, descriptive and analytic study that lasts for 19 months.

Permission of institutional ethical committee was obtained before starting the study.

Research subjects

The patients were recruited at the service of Physical Medicine and Readaptation of CHU Ibn Rochd Casablanca during the neuro-uro consult. They gave us an oral agreement to participate in this study.

Subjects were included if they had urinary retention that needs CIC.

Exclusion criteria was urinary tract infection and not needing CIC to empty the bladder.

Instruments

A questionnaire was used to gather:

- Demographic data including age, gender and employment status.
- Data about the reason for doing CIC and how it is performed, perceived barriers and difficulties faced by patients, and frequency of intermittent catheterization.

Adherence was defined as the extent to which participants follow the catheterization schedule prescribed by their physicians.

Intermittent catheterization adherence scale (I-CAS) was used to follow patient’s adherence to CIC.

Results

Fifty patients participated in the study (Figure 1).

Table 1 summarizes demographic characteristics of participants. The mean age of the sample was 36.4 years, 60% were men. 18% were kids. The median duration of CIC was 10 months.

Table 2 summarizes the reasons study participants used CIC.

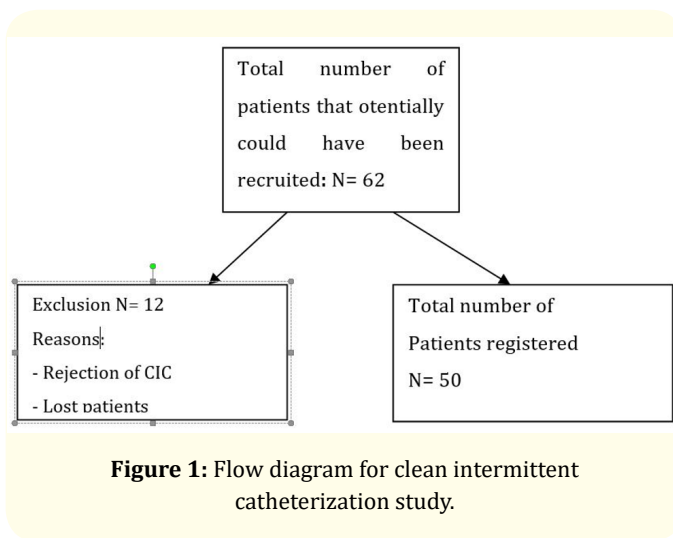


Figure 1: Flow diagram for clean intermittent catheterization study.

	N = 50
Age, mean, y	36.4
Duration of using CIC in months, median	10
	N (%)
Gender	
○ Female	20 (40)
○ Male	30 (60)
Working status:	
○ Working full – or part-time	15 (30)
○ Not currently working (disabled, retired, homemaker)	35 (70)

Table 1: sociodemographic characteristics.

Diagnosis	N (%)
Multiple sclerosis	16 (32)
Spinal cord injury	12 (24)
Spina bifida	6 (12)
Urinary tract infection	4 (8)
Benign Prostatic Hyperplasia	5 (10)
Tetraplegia	7 (14)

Table 2 : Reasons for Using Clean Intermittent Catheterization.

Participants were asked if they understood the act. All of them got the various stages of CIC, but at different degrees. 23 patients reported that they understood perfectly the act.

Participants were asked if they feared CIC, and if they did, what was the cause of this fear. 60% were scared of using a catheter to empty their bladder and reported more than 1 fear. The most common were anxiety of hurting themselves, and of losing their virginity (for women and girls).

About difficulties experienced while doing CIC, most of the patients reported at least one difficulty. The most frequent were positioning to insert the catheter, reported by 15 women (30% of the total sample and 75% of the women) and lack of dexterity reported by participants with multiple sclerosis and tetraplegia.

Cause of fearing CIC	N (%)
o Risk of infection	8 (16)
o Fear of not being able to do it	6 (12)
o Fear for virginity	12 (24)
o Fear for hurting themselves	15 (30)
Barriers to CIC	N (%)
o Dexterity	16 (32)
o Positioning	15 (30)
o Inadequate facilities : at work or in public bathrooms	15 (30)
o Type of catheter	4 (8)
o Cost of supplies	3 (6)
o - Pain felt when catheter being inserted	10 (20)

Table 3: Cause of fears and barriers to Clean Intermittent Catheterization.

At the beginning of the study, participants were told how often they should perform CIC. The number of catheterizations was fixed according to the medical indications. A minimum interval of 4 hours was recommended between two catheterizations. It was showed that after only 1 month, 80% were compliant with this method of bladder emptying. Patients were followed up for 19 months at regular intervals after CIC training. The adherence rate was only 58% after 1.5 year.

Adherence to CIC was examined thanks to the questionnaire ICAS: the "Intermittent Catheterization Adherence Scale" (Table 4) [6].

Results showed that the mean ICAS score was 2.725, which means low adherence.

Do you sometimes forget to selfcatheterize ?	Yes = 1 No = 0
Sometimes people do not self-catheterize for reasons other than simply forgetting.	Yes = 1 No = 0
Over the past 2 weeks, have there been days when you have not self-catheterized	Yes = 1 No = 0
Have you ever reduced the frequency of your self-catheterization, or have you ever stopped self-catheterizing altogether without informing your doctor, because you felt uncomfortable with the procedure?	Yes = 1 No = 0
When traveling or when leaving home, do you ever forget to bring your selfcatheterization kit with you?	Yes = 1 No = 0
Referring to yesterday, did you selfcatheterize according to your prescribed routine?	Yes = 1 No = 0
When symptom perception is diminished or absent, do you sometimes stop or decrease your self-catheterization routine?	Yes = 1 No = 0
Having to self-catheterize daily can be experienced as a real burden by some people. Is your self-catheterization routine and practice at times upsetting for you?	Yes = 1 No = 0
Do you sometimes have difficulty remembering when to perform your selfcatheterization, even though you may respect the prescribed frequency?	Never = 0 Sometimes = 0.25 Often = 0.5 Regularly = 0.75 Always = 1

Table 4: English version of the ICAS [6].
0: strong adherence; 1-2 : average adherence; 3-8: low adherence.

Discussion

This study collected data related to fears and barriers encountered by patients while performing CIC. After the first session of therapeutic education, many participants expressed their fears toward catheterization. Mothers were scared of harming their kids by hurting them or causing infection or breaking their hymen by mistake. Same case was observed with single women, who were scared of mistaking the vagina with urinary meatus. This specific issue was not found in the literature, as most of studies were conducted in non-Muslim countries or as this fear was not reported by female patients.

About the barriers, most of the patients reported at least one difficulty. The most frequent were lack of dexterity, position to insert the catheter, and lack of access to inadequate facilities. These findings were quite similar to results reported in a study by Bolinger and al. In this survey, the most commonly reported barrier was lack of access to a public toilet (34%). Other barriers included difficulty positioning to insert the catheter (25%) and problems with dexterity related to spasticity in 21% of patients [1].

In our study, the frequent reported barrier was lack of dexterity affecting 32%, specifically patients with multiple sclerosis, spinal cord injury and tetraplegia. This issue can be explained by spasticity or motor deficit. In this case, teaching a family member how to do CIC is a valuable alternative, in other not to stop catheterization.

Positioning to insert the catheter involves physical abilities. 30% of our patients found it difficult whether they suffer from neurological deficits or not. Other factors such as mobility, balance, obesity and urinary meatus localization for women, may interfere with positioning for introducing the catheter into the urethra.

The lack of access to a public toilet or to have the adequate facilities in these bathrooms had led the patients to perform CIC before leaving their house and drinking less water than usual when they are going outside. In a study, Shaw reported that the subjects needed to access to public restrooms because they provide clean facilities and water [7].

In the UK, there are 9000 locked public toilets for disabled people. It may be easier and cleaner to perform CIC there as they are less used by people [2,8].

The obligation of paying for catheters and associated supplies can be considered by the patient as a barrier. Moroccan health government and private health insurance don't refund these medical expenses.

Limitation

The size sample was small, and during the study, we had to exclude some participants who didn't come to the appointments set for them.

Solutions

All these barriers influence the patient's adherence to CIC. For this matter, solutions and suggestions should be found (Table 5).

Barriers	Suggestions and solutions
<ul style="list-style-type: none"> ○ Dexterity ○ Positionning 	Choosing the appropriate catheter Teaching a family member how to do CIC Use of mirrors
<ul style="list-style-type: none"> ○ Access to adequate facilities 	Provide facilities for people using CIC
<ul style="list-style-type: none"> ○ Fear and anxiety 	Provide adequate time for teaching, and many sessions as needed to understand CIC Regular follow up Optimazing communication between the patients and the care-giver

Table 5: Suggestions ans solutions to improve adherence to CIC.

Conclusion

This study helped to identify the difficulties encountering by patients while doing CIC. Some of these barriers are the same comparing to other surveys done in different countries. The ideas we suggested as solutions should be taken into consideration to improve the adherence to CIC and thus improve quality of life and reduce morbidity and mortality due to urinary retention.

Disclosure of Interest

The authors declare that they have no conflicts of interest concerning this article.

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