LENTISMED

CS 3

Importance of the right catheter selection for intermittent catheterisation and patient's quality of life

Clinical evidence
Overcome challenges with knowledge

Lentismed
Education

Importance of the right catheter selection for intermittent catheterisation and patient's quality of life

Patient adherence to intermittent catheterization (IC) is a key factor for ensuring a good clinical outcome, while nonadherence has been identified as a major health problem.[1]

Decreasing the burden associated with IC can increase patient's acceptance of catheter use and thus increase their compliance with the recommended number of catheterizations per day.[2] Patients can perceive the combination of IC and an active social life as difficult, and they seem to choose between avoiding activities or not complying with the prescribed IC frequency.[3]

In patients with a spinal cord injury, the dissatisfaction with IC decreases by approximately 5% every year since their injury, and patients who are not able to establish a routine are more likely to move on to a different bladder management strategy soon after the injury.[4]

Catheter types are related to the level of satisfaction and can cause difficulties in performing IC. There are many reported obstacles and concerns associated with intermittent catheterization which must be considered in order to ensure a positive outcome of the therapy.

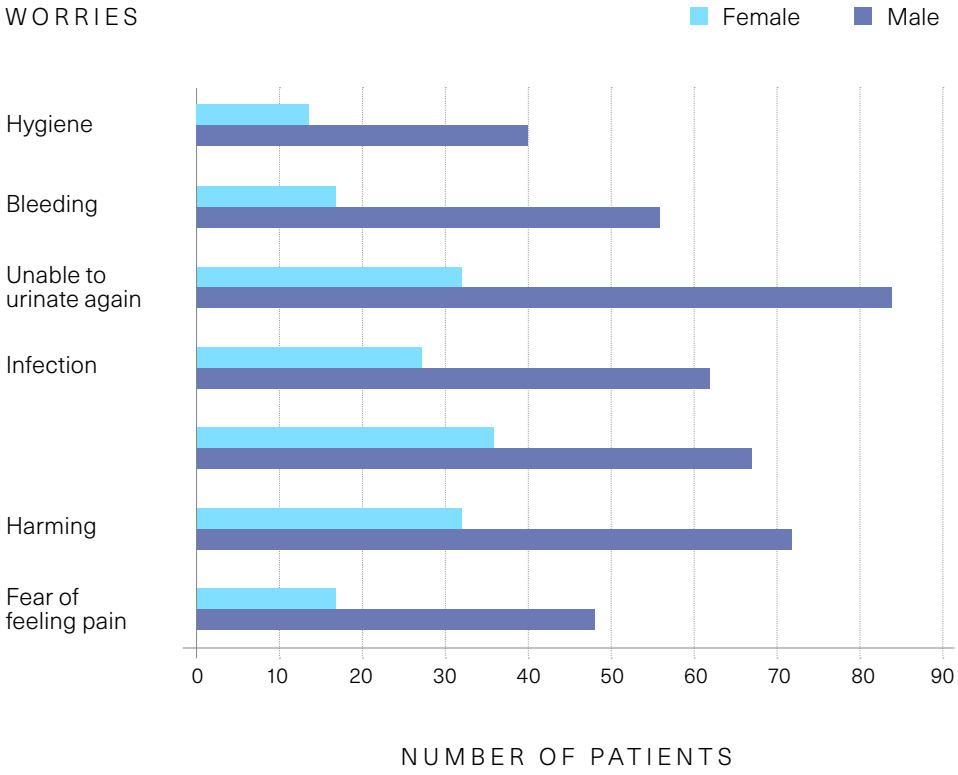
Problems

1. increasing compliance with the recommended number of catheterizations per day
2. avoiding activities and deterioration of social life
3. switching to a different bladder management strategy.

1 Vermeire et al., 2001
2 Chartier-Kastler et al., 2013
3 Van Achterberg et al., 2008
4 Crescenze et al., 2019

Research results:

The worries patients have when starting catheterization are the fear of being dependent on intermittent catheterization (50.2%), accidentally injuring themselves (43.8%), embarrassment (43.2%), causing an infection (40.2%), bleeding (32.7%), fear of feeling pain (30.2%) and hygiene (24.7%).



Source: Intermittent catheterization in patients with traumatic spinal cord injury: obstacles, worries, level of satisfaction (Yilmaz et al.)[5]

5 Yılmaz et al., 2014

Catheter design effects user experience and can contribute to decreasing the burden of catheterization. Most common catheter attributes described by patients are the insertion grip – hygienic aspect, the catheter being ready to use, foldable – easy to carry around, and its hydrophilic coating. Frustration can also occur with the opening of the packaging, portability, finding water and ability to be discrete.[6]

No-touch insertion grip

Patients want to perform catheterization as quickly as possible and do not want to lose time.[7] Catheterization with the no-touch method using an insertion grip shortens the catheterization time and, importantly, provides a method for less sterility errors, which reduces the risk of catheter contamination as well as the risk of urinary tract infections in a hospital setting and in homecare.[8]

The no-touch method provides a long-term benefit to patients by reducing the introduction of bacteria into the urinary tract.[9] Koeter et al. noted that 32 % (N = 57) of patients have touched the coated part of their previous catheter during catheterization and could benefit from an insertion grip. Most patients (N = 305/358; 85%) perceived the hydrophilic-coated catheter as hygienic due to the insertion grip.[10]

Even though the fear for potential urethral damage is present and justified in terms of catheter stiffness, some male patients report that greater rigidity was important because of the faster insertion through the urethra.[6] Patients should be warned of possible urethral injuries. The no-touch grip can make the insertion and handling the catheter easier, allowing a firm squeeze on the catheter tube without compromising sterility.[8]

6 Kelly, Spencer, and Barrett, 2014
7 Chartier-Kastler et al., 2013
8 Goessaert et al., 2012
9 Hudson and Murahata 2005
10 Koeter et al., 2019

Classical catheterization method vs. no-touch method

N=171	Classical method m±SD	No-touch method m±SD
Sterility errors (number)	2.8* ± 2.2	1.0* ± 9
Duration (seconds)	218.5* ± 57.6	126.3* ± 23.5
Comfort (score)	6.4* ± 1.5	8.2* ± 0.1

*P < 0.001; m, mean; SD, standard deviation; Source: Goessaert et al., 2012 (8)

Packaging design

There are numerous ways in which the packaging of a catheter may impact user experience. Frustration with product packaging was expressed regarding its portability as it could burst in a bag. Poorly designed packaging could result in lubricants leaking and soiling clothes or bags.[6] Koeter et al., (2019) pointed out that the foldable feature of the catheter is important for 67% (N = 236/351) of patients, while 89% (N = 309/349) of them thought that the slim catheter design is appealing and important. Some catheter packaging has an adhesive sticker facilitating a hands-free preparation of the catheter.[5]

Patients experience a degree of shame concerning IC. Most patients perceived a level of taboo and stigma towards urinary problems in society.3 43.2% of patients reported feeling embarrassment when they started with intermittent catheterisation.[5] Therefore, patients felt the need for secrecy and discretion, which sometimes complicated or prevented the performance of IC in public restrooms or during social visits to other peoples' houses.[3] Patients pointed out several aspects of catheter variability that impacted discretion including concealment, e.g. size of the catheter and disposability, and branding issues, e.g. labelling and packaging.[5]

Hydrophilic coating and ready-to-use packaging

The overall satisfaction with hydrophilic-coated catheters has shown to be higher than the satisfaction with uncoated catheters.[10,11]

11 Cardenas et al., 2011

Both hydrophilic and uncoated catheters show the lowest satisfaction on the parameter "preparation of catheter outside usual surroundings".[12] Pre-lubricated and ready-to-use catheters are less time-consuming and more convenient, particularly when used outside the home.[5,6]

Catheters with hydrophilic coating prolong the time until first complications such us urinary tract infections and microtraumas and lower their incidence.[11,13]. They do not require manual lubrication, so they are more sterile and thus less likely to cause an infection. Most of them are pre-packaged in sterile water, or with a pouch of sterile water. If not, there is still the danger of contamination by water pouring and contaminated water.[14]

Catheter reuse increases the risk of IC-related complications, which affects the acceptance of intermittent catheterization. Single-use hydrophilic-coated catheters improve quality of life and are preferred over catheter reuse.[15]

Conclusion

At the beginning of the intermittent catheterization process patients have a lot of worries regarding this bladder management method and their adherence is a key factor for ensuring a good clinical outcome.

Also, later on, negative feelings and experiences from the past may lead to low motivation and they may view IC as a task they must perform, rather than a technique that brings choice and freedom in resolving urinary problems.[16]

To assure compliance with the recommended number of catheterizations per day, involvement in daily activities, and active social life we must think about catheter size, type, and material that can influence the comfort of catheterization. It is crucial, that the patient selects a catheter with which they are competent and comfortable using.

Some catheter characteristics such as no-touch insertion grip, hydrophilic coating and smart packaging of the product may benefit patient satisfaction and increase a level of confidence by performing IC.

12 Li et al., 2013
13 De Ridder et al., 2005
14 Medical Advisory Secretariat, 2006
15 Newman et al., 2020
16 Seth, Haslam, and Panicker, 2014

References:

1. Vermeire E, Hearnshaw H, Van Royen P, Denekens J. Patient adherence to treatment: three decades of research. A comprehensive review. J Clin Pharm Ther. 2001; 26(5): 331-42.
2. Chartier-Kastler E, Amarenco G, Lindbo L, et al. A prospective, rand omized, crossover, multicenter study comparing quality of life using com pact versus standard catheters for intermittent self-catheterization. J Urol. 2013; 190(3): 942-7.
3. Van Achterberg T, Holleman G, Cobussen-Boekhorst H, Arts R, Hee sakkers J. Adherence to clean intermittent self-catheterization proce dures: determinants explored. J Clin Nurs. 2008; 17(3): 394-402.
4. Crescenze IM, Myers JB, Lenherr SM, Elliott SP, Welk B, O'Dell D, Qin Y, Presson AP, Stoffel JT. Predictors of low urinary quality of life in spinal cord injury patients on clean intermittent catheterization. Neurourol Uro dyn. 2019; 38(5): 1332-8.
5. Yılmaz B, Akkoç Y, Alaca R, Erhan B, Gündüz B, Yıldız N, Gök H, Köklü K, Çınar E, Alemdaroğlu E, Ersöz M, Karapolat H, Demir Y, Bardak AN, Turna I, Çatalbaş N, Güneş S, Tunç H. Intermittent catheterization in patients with traumatic spinal cord injury: obstacles, worries, level of satisfaction. Spinal Cord. 2014; (52): 826–30.
6. Kelly L, Spencer S, Barrett G. Using intermittent self-catheters: experi ences of people with neurological damage to their spinal cord. Disabil Rehabil. 2014; 36(3): 220-6.
7. Chartier-Kastler E, Amarenco G, Lindbo L, et al. A prospective, rand omized, crossover, multicenter study comparing quality of life using com pact versus standard catheters for intermittent self-catheterization. J Urol. 2013; 190(3): 942-7.
8. Goessaert AS, Antoons S, Van Den Driessche M, Tourchi A, Pieters R, Everaert K. No-touch Intermittent Catheterization: Caregiver Point of View on Sterility Errors, Duration, Comfort and Costs. Journal of Ad vanced Nursing. 2012; 69(9): 2000–7.
9. Hudson E and Murahata RI. The 'no-touch' method of intermittent uri nary catheter insertion: can it reduce the risk of bacteria entering the bladder? Spinal Cord. 2005; (43): 611–4.

10. Koeter I, Stensröd G, Nilsen AH, Lund R, Haslam C, De Sèze M, Sriram R, Heesakkers J. User perception of a new hydrophilic-coated male urinary catheter for intermittent use. Nursing Open. 2019; (6): 116–25.
11. Cardenas DD, Moore KN, Dannels-McClure A, Scelza WM, Graves DE, Brooks M, Busch AK. Intermittent Catheterization With a Hydro philic-Coated Catheter Delays Urinary Tract Infections in Acute Spinal Cord Injury: A Prospective, Randomized, Multicenter Trial. PM&R. 2011; 3(5): 408–17.
12. Li L, Ye W, Ruan H, Yang B, Zhang S, Li L. Impact of hydrophilic catheters on urinary tract infections in people with spinal cord injury: systematic review and meta-analysis of randomized controlled trials. Archives of Physical Medicine and Rehabilitation. 2013; 94(4): 782-7.
13. De Ridder DJ, Everaert K, Fernández LG, Valero JV, Durán AB, Abris queta ML, Ventura MG, Sotillo AR. Intermittent catheterisation with hydrophilic-coated catheters (SpeediCath) reduces the risk of clinical urinary tract infection in spinal cord injured patients: a prospective ran domised parallel comparative trial. Eur Urol. 2005; 48(6): 991-5.
14. Medical Advisory Secretariat. Hydrophilic catheters: an evidence-based analysis. Ont Health Technol Assess Ser. 2006; 6(9): 1-31.
15. Newman DK, New PW, Heriseanu R, Petronis S, Håkansson J, Håkans son MÅ, Lee BB. Intermittent catheterization with single- or multiple-re use catheters: clinical study on safety and impact on quality of life. Int Urol Nephrol (2020). https://doi.org/10.1007/s11255-020-02435-9
16. Seth J, Haslam C, Panicker J. Ensuring patient adherence to clean inter mittent self-catheterization. Patient Prefer Adherence. 2014; 8: 191-8.

Lentismed d.o.o. Bužanova 6, 10000 Zagreb, Croatia

www.lentismed.com