

## COMPLEXITY OF URINARY TRACT INFECTION (UTI) DIAGNOSIS AND MANAGEMENT: QUALITATIVE STUDY OF INTERMITTENT CATHETER (IC) USERS' EXPERIENCES OF UTI IN THE UK

### Hypothesis / aims of study

The classic symptoms of UTI (fever, dysuria, suprapubic pain, urgency and frequency) may not be experienced by IC users, whose signs and symptoms can be more subtle and non-specific. Therefore UTI could be misdiagnosed, missed or over-treated in this group when the clinical presentation is uncertain. A study to assess UTI in IC users with spinal cord injury (SCI) found that listed signs and symptoms were more accurate predictors of UTI than the patient's own assessment [1]. It is not known whether these findings apply more generally to IC users. Since this has important implications for the diagnosis and management of UTI, there is a need to better understand IC users' experiences of UTI. The aim of the study was to investigate: 1) UTI symptom presentation from the perspective of community-dwelling IC users; and 2) issues surrounding UTI diagnosis and management amongst this population.

### Study design, materials and methods

A convenience sample of IC users was recruited from GP surgeries in the UK. Semi-structured interviews were conducted with individuals aged >18 who had been using IC for ≥ 3 months. Interviews were audio-recorded then transcribed verbatim. Thematic analysis was conducted using NVivo 10.

### Results

41 participants were interviewed (Table 1).

|                         |   |
|-------------------------|---|
| Gender                  | 26 men; 15 women  |
| Age                     | 23-86 years   |
| Length of time using IC | 9 months – over 30 years  |
| Frequency of IC         | 2x/week – up to 10x/day   |
| Reasons for IC          | Varied, including urinary retention, spinal cord injury, prostatism, spina bifida |

### **UTI signs and symptoms**

- A variety of signs and symptoms were reported (see Table 2) - most commonly changes in urine (cloudiness and smell). Whilst similar in meaning to those used by Massa et al [1] they were often described in different words.
- Owing to the presence of other health conditions participants often found it hard to know whether their symptoms were caused by UTI or their underlying condition.

| Changes to urine  | Pain/discomfort   | Change in bladder emptying   | General symptoms  |
|---|---|--|---|
| <ul style="list-style-type: none"> <li>• Urine gets cloudy</li> <li>• Urine smells</li> <li>• Specks of blood in urine</li> <li>• Protein in urine (dipstick test)</li> </ul> | <ul style="list-style-type: none"> <li>• Bladder discomfort</li> <li>• Burning/stinging/pain when passing urine</li> <li>• Pain in penis</li> <li>• Kidney/back pain</li> <li>• Tummy pain</li> </ul> | <ul style="list-style-type: none"> <li>• Having to pass urine more than usual</li> <li>• Unable to pass urine</li> <li>• Leaking of urine</li> </ul> | <ul style="list-style-type: none"> <li>• Not feeling well</li> <li>• Feeling hot</li> <li>• Feeling run-down</li> <li>• Anxiety</li> <li>• Vertigo</li> </ul> |

### *Experience of UTI*

- Experiences of UTI varied both within and between participants, depending on the severity of symptoms.
- Uncertainties were expressed about how UTIs happen and what can be done about it.

### *Attitudes towards UTI*

- Whereas for some participants UTI was viewed as an expected consequence of IC use, for others it provoked a high level of concern.
- There were differing perceptions about UTI symptoms, which influenced the way individuals acted on their symptoms.

### *Strategies to manage UTI*

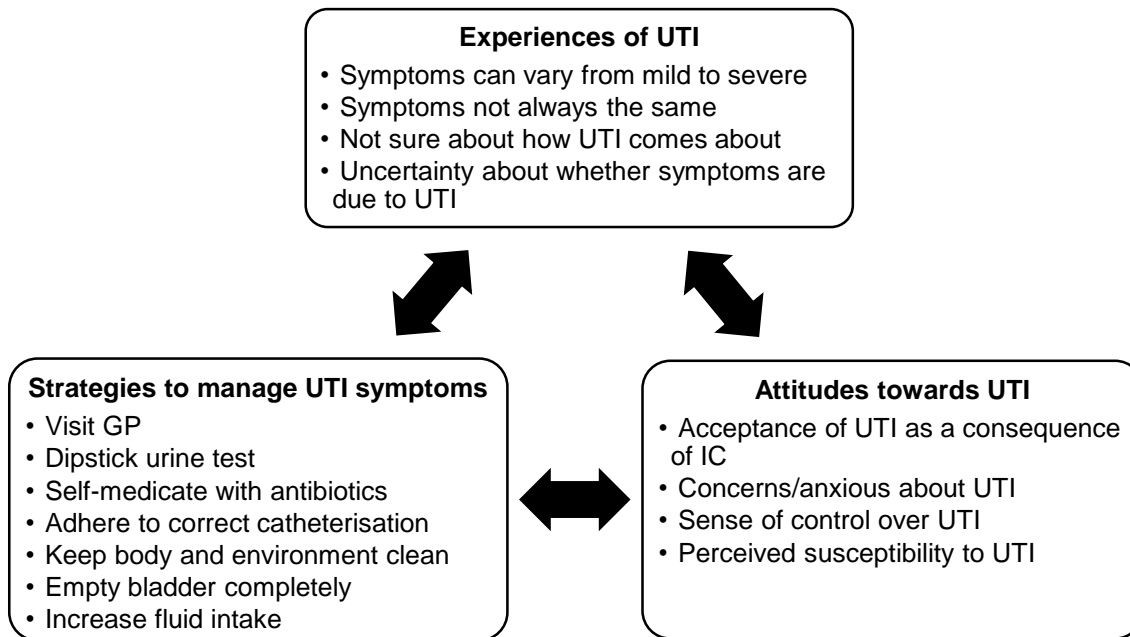
- A range of strategies were described to manage UTI symptoms, including self-help and help-seeking behaviours.

### Interpretation of results

- This study corroborates previous research findings [1] in relation to the uncertainty IC users have when assessing whether or not their symptoms are caused by UTI.
- Owing to this uncertainty, IC users found it hard to know how best to manage their symptoms and at what point they should seek help.

- IC users' coping strategies and help-seeking behaviours relating to UTI were shaped by their experiences of and attitudes towards UTI (see Figure)

Figure: The relationship between experiences of and attitudes towards UTI and strategies to manage UTI symptoms



#### Concluding message

- The complexity surrounding IC users' strategies to manage UTI symptoms has implications for the role of clinicians in the diagnosis and management of UTI. For example, some participants who were concerned about UTI ensured they always had a supply of antibiotics in order to self-medicate as they considered necessary, whereas others who were more accepting of having a UTI preferred to employ alternative self-help strategies.
- Enabling ready access to antibiotics for self-medication may lead to overuse. This study on patients' experiences may help to inform the development of strategies to reduce antibiotic overuse.
- Further investigation of signs and symptoms of UTI reported in this study may offer a more valid UTI self-report tool for IC users.

#### References

1. Massa LM, Hoffman JM, Cardenas DD. Validity, accuracy and predictive value of urinary tract infection signs and symptoms in individuals with spinal cord injury on intermittent catheterization. J Spinal Cord Med 2009; 32(5): 568-573.

#### Disclosures

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