

## URINARY INCONTINENCE AMONGST WOMEN WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

### Hypothesis / aims of study

There is no current documentation for the relationship between UI and voluntary pelvic floor muscle contraction (VPFMC) amongst women with COPD. The purpose of this pilot study was to explore the relationship between severity of UI and VPFMC.

### Study design, materials and methods

Female patients with COPD attending a respiratory out-patients clinic were invited to participate in this pilot study. Written informed consent was obtained before inclusion. Inclusion criteria were women aged 18 years and over, COPD grade 1-4 (mild to very severe disease), subjective UI, and ability to perform a voluntary pelvic floor muscle contraction (VPFMC). Exclusion criteria were unstable COPD, more than four hospital admissions due to COPD in the past twelve months, neurological conditions, and previous gynecological surgery.

Subjective symptoms of UI were measured using the ICIQ-UI SF (1). VPFMC was evaluated by an experienced pelvic floor physiotherapist using digital palpation and graded on the 1-4 scale according to the ICS Scale (2).

This study was a pilot study for a randomised controlled trial exploring the effect of pelvic floor muscle exercises and cough suppression therapy as treatment of UI amongst women with COPD. The RCT is now underway and is the first study focusing on the treatment and rehabilitation of UI in patients with respiratory disease.

### Results

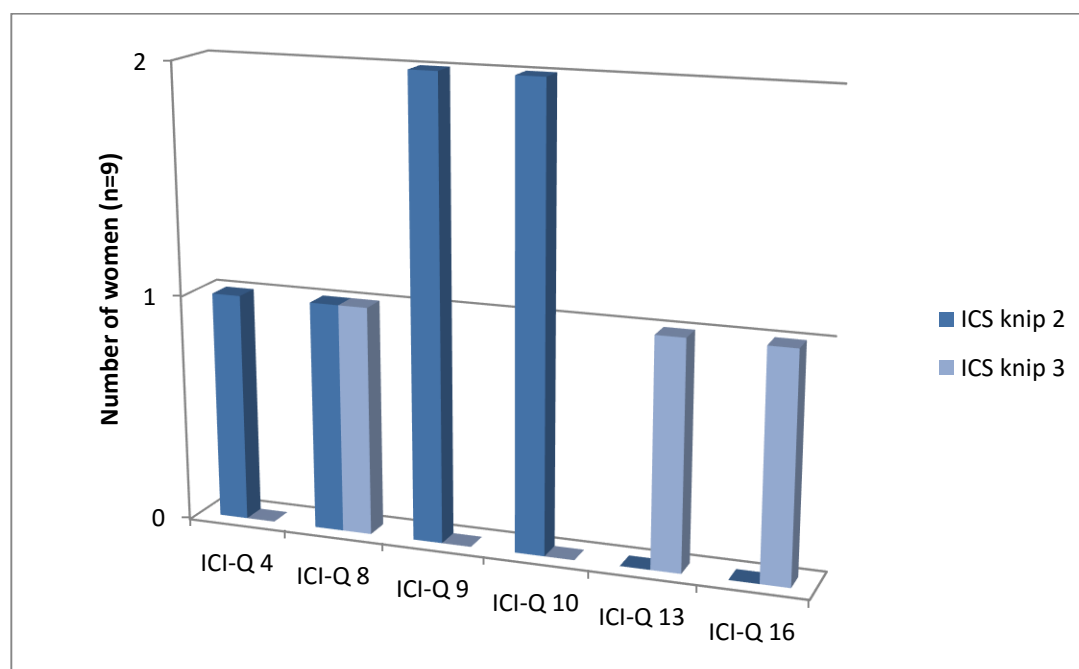
Nine women (n=9) with UI and COPD were recruited to the pilot study (mean age 69 years, range 61-75). All grades of COPD were represented in the study with a mean airway obstruction (FEV<sub>1</sub> percent predicted) of 49% (range 24-92%) (Table 1).

Three of the participants had a normal VPFMC (3 points) whereas six had a weak VPFMC (2 points). The women who had a normal VPFMC reported higher scores on the ICI-Q SF demonstrating severity levels of moderate to severe UI (mean score 12 points, range 8-16). In comparison, the women with weaker VPFMC demonstrated lower scores on the ICI-Q demonstrating severity levels of slight to moderate UI (mean score 8 points, range 4-10) (Figure 1).

Table 1: Baseline data of the participating women (n=9)

	Pilot project participants
ICI-Q SF, points, mean [range]	10 (4-16)
Slight (1-5 points)	1
Moderate (6-12 points)	6
Severe (13-18 points)	2
Very severe (19-21 points)	0
COPD grade 1 (mild)	2
COPD grade 2 (moderate)	1
COPD grade 3 (severe)	5
COPD grade 4 (very severe)	1

Figure 1: Relationship between ICI-Q score and VPFMC in women with COPD (n=9)



#### Interpretation of results

The results from this study showed that women with COPD and normal VPFMC had higher scores of subjective UI on the ICI-Q than women with COPD and weaker VPFMC.

#### Concluding message

There is little understanding into the relationship between UI and COPD, and the results of this pilot study indicated no correlation between UI severity and reduced ability to perform a VPFMC. Further research into the relationship between UI and COPD is warranted to gain a better understanding of the assessment and treatment of UI in this group of patients.

#### References

1. Avery K, Donovan J, Peters TJ, Shaw C, Gotoh M, Abrams P. ICIQ: a brief and robust measure for evaluating the symptoms and impact of urinary incontinence. *Neurourology and urodynamics*. 2004;23(4):322-30.
2. Messelink B, Benson T, Berghmans B, Bo K, Corcos J, Fowler C, et al. Standardization of terminology of pelvic floor muscle function and dysfunction: report from the pelvic floor clinical assessment group of the International Continence Society. *Neurourology and urodynamics*. 2005;24(4):374-80.

#### Disclosures

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