

DOES THE INCONTINENCE TREATMENT MOTIVATION QUESTIONNAIRE (ITMQ) PREDICT RESPONSE TO PELVIC FLOOR PHYSIOTHERAPY FOR STRESS URINARY INCONTINENCE?

Hypothesis / aims of study

Despite a large body of literature showing that pelvic floor muscle training (PFMT) is effective for stress incontinence and the fact that many authors promote the importance of patient compliance, the quantification of patient motivation has been sadly lacking to date.

In 2009, the ITM Questionnaire was developed and construct validity was established (1). The questionnaire contains five domains: a) positive attitudes to PFMT, b) excuses for not doing PFMT, c) living with urinary incontinence, d) desire for treatment and e) incontinence severity in relation to motivation. The questionnaire was designed to probe motivational attributes of women who had had at least one visit to the physiotherapist.

In 2012, a subjective measure (Patient Global Impression of Improvement questionnaire) was employed to assess the predictive value of the ITM Questionnaire in 44 women, but objective outcomes regarding severity of leakage were not reported (2). Therefore, the aim of our study was to test the hypothesis that a higher ITMQ score would be associated with a greater reduction in stress leakage on a 24hr-pad test and/or ICIQ score, and to investigate factors that might influence the Motivation Score.

Study design, materials and methods

Women with a main complaint of stress incontinence, who had been referred for PFMT, and were literate in the English language, were invited to participate. After initial history taking and physical examination including Modified Oxford score, they underwent a 24hr-pad test, ICIQ and were asked to complete the ITMQ after at least one visit to physiotherapy. After completion of a course of physiotherapy, outcomes were repeated. Demographic data and number of physiotherapy sessions attended were recorded. Statistical analysis was performed with SPSS Version 21 (Chicago IL, USA) and Prism (GraphPad software La Jolla California USA). The change from baseline to post-treatment for ICIQ, 24hr-pad test and modified Oxford score were correlated by Spearman's Correlation Co-efficient. Median split analysis (those who were highly motivated and those who were poorly motivated) were also analysed in relation to outcome measures, with Mann-Whitney U for difference between groups.

Results

A total of 63 patients with a main complaint of stress incontinence were invited to participate, 5 patients dropped out, 58 completed the ITMQ. Ten patients who joined the study did not fully complete either the ICIQ or pad test. Of the 48 participants, 6 are still undergoing further physiotherapy sessions. The median age of 42 participants was 49.5 (IQR 43 – 65), mean BMI 28.4 (SD 6) with median parity 2.5 (IQR 2-3) and 25/58 (43%) were post-menopausal.

For the sample of n=42, the median value of the motivation score at baseline was 16.8 (IQR 16.1 – 18.0), [mean 17.1, SD 1.6, Range 14-21]. To determine whether baseline severity of incontinence related to motivation score, we performed a median split analysis. The pretreatment pad test of 21 highly motivated subjects (median 21.4, IQR 5.5-44) was greater than the pretreatment pad test of 21 subjects with a lower motivation score (median 3.5, IQR 2.3 – 35), Mann Whitney $p = 0.04$. However the Spearman's correlation coefficient ($r=0.207$) between motivation and pad test was not significant ($p = 0.13$).

Similarly, the pretreatment ICIQ of the highly motivated women (median ICIQ 14, IQR 10-16) was somewhat greater than the pretreatment ICIQ of the less motivated women (median 12, IQR 7.5-14.0), Mann Whitney $p=0.04$ and the Spearman's correlation coefficient was significant ($r=0.355$, $p = 0.007$). Patient's age did not correlate with ITMQ score (Spearman's $r = -0.106$, $p=0.51$).

Upon completion of a median of 5 (IQR 4-5) physiotherapy visits, the overall 24hr pad test results improved modestly from baseline median of 6.9 (IQR 2.8 – 42) to 6.6 (IQR 2.6 -32.8) after treatment, [Mann Whitney $p = 0.72$]. The overall ICIQ improved from a baseline median of 12 (IQR 8-16) to post treatment 8.5 (IQR 5-13), [Mann Whitney $p=0.004$]. The number of physiotherapy visits attended did not correlate with the ITM Questionnaire score (Spearman's $r=0.259$, $p=0.098$).

Looking at the highly motivated women versus less motivated women, the changes in continence outcome measures are shown in Table 1; median and mean values are both given as some data sets were highly skewed. The outcomes measured showed no difference between highly motivated women and the women with lower motivation scores. Changes in modified Oxford score was generally small and statistically nonsignificant (data not shown).

	High Motivation score (≥ 16.8)	Low Motivation Score (< 16.8)	P value
Change in pad test (gm/24hr)			
Mean	17.9, SD 65.4	5.4, SD 14.8	0.23
Median	2.6, SD 23 – 0.95	0.4, SD 2.8 -1.1	
Change in ICIQ			
Mean	3.5, SD 4.1	2.86, SD 4.5	0.89
Median	3, SD 6 - 1	4.0, SD 5.5 - 0.5	

Table 1: Correlation of outcome measures with Incontinence Treatment Motivation Questionnaire scores.

The Spearman's correlation between motivation score and change in pad test was -0.135 , $p = 0.39$; the correlation between score and change in ICIQ was -0.036 , $p = 0.82$. On analysing the ITMQ domains separately, only domain 5 (incontinence severity in relation to motivation) approached significance (Spearman's $r=0.267$, $p=0.09$) with correlation to change in ICIQ

scores and domain 1 (positive attitudes to PFMT) approached significance (Spearman's $r=0.259$, $p=0.09$) with correlation to number of physiotherapy visits.

Interpretation of results:

Recruitment remains ongoing with a target of 100 women. However the present data reveals several points. Firstly, the 24hr-pad test is a non-discriminatory outcome measure in this cohort whereas, the ICIQ appears responsive to change. Secondly, the baseline severity on ICIQ (which contains a "bother" component) does correlate with the ITMQ score. Subset analysis of the ITMQ domains did not reveal any strong association with number of physiotherapy sessions attended or patient-reported bother. Thirdly, the score does not correlate with change in either of the post treatment objective outcome measures. Finally, the lack of correlation between the number of physiotherapy visits actually attended and the ITMQ Score suggests that patients' feelings of strong motivation may not translate into action.

Concluding message:

We were surprised to find that motivation scores were quite high overall, indicating a possible "ceiling effect" on this score. The other possibility is that women were trying to "please their clinicians" – after one visit to a physiotherapist as they already understood the importance of compliance, whether or not they were able to comply. In future studies, we plan to administer the motivation score to women who have not actually met the physiotherapist, but who have been given a simple explanation leaflet about the mechanism of action of pelvic floor muscle training.

References

1. Neurourol Urodyn 2009; 28: 680-681.
2. Int Urogynecol J 2012; 23(Supp 2): S242.

Disclosures

Funding: None **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** South Eastern Sydney Local Health District HREC 06/73 **Helsinki:** Yes **Informed Consent:** Yes