

EVALUATING THE EFFECTS OF IMPLEMENTING TRANSCUTANEOUS TIBIAL NERVE STIMULATION INTO ROUTINE CONTINENCE SERVICES.

Hypothesis / aims of study

Transcutaneous tibial nerve stimulation (TTNS) is a newly recognised treatment for overactive bladder (OAB) and can be safely used in adults with this condition. The establishment of two demonstration TTNS clinics in a community continence service in 2015 had previously shown clinical and cost-effectiveness for adults referred with wet or dry overactive bladder (OAB) or mixed urinary incontinence (1). This study aimed to determine if similar success could be achieved by rolling the TTNS out across the whole community continence service, implementing it into the routine practice of the specialist continence nurses. This was the first such service of its kind.

Study design, materials and methods

Consecutive patients referred with OAB symptoms, or mixed UI received first-line lifestyle and behavioural interventions in accordance with current guidance (2). Where further intervention was necessary the experienced continence nurses assessed motivation, capability and desire to use TTNS to establish suitability for the self-management treatment approach. The first stimulation session was applied by the specialist nurse, who then taught the patient how to self-administer the TTNS. Following the individualised education, each patient who consented to self-manage their TTNS treatment was provided with written instructions, a programmed, locked stimulation unit, sufficient electrodes for a 12 session treatment programme, contact details of the specialist nurse and a follow-up appointment. A clinical audit of TTNS outcomes was undertaken in February 2017, 10 months following the service commencement. Clinical effectiveness was evaluated using paired t-tests to compare any differences from pre-TTNS to post-TTNS in urinary symptoms (IPSS), urinary leakage (ICIQ-UI SF) and quality of life (IPSS single question).

Results

A total of 69 patients (60 female, 9 male) completed the TTNS programme during the 10 month data collection period. Mean age 63.1 years (SD 15.2). Eleven (16%) had a neurological condition, 5 (7%) had mild dementia. Eleven (16%) were taking antimuscarinic medication concurrently with the TTNS programme. All reported symptoms of OAB. Improvements in urinary symptoms were reported by 50 (73%) patients, and improvements in urinary leakage were reported by 45 (65%) patients (Table1).

Post TNS status	IPSS		ICIQ	
	Frequency (n)	%	Frequency (n)	%
Improved	50	73	45	65
No change	12	17	11	16
Deteriorated	7	10	13	19
Total	69	100	69	100

Table 1: Changes in urinary symptoms and leakage

Urinary symptoms improved significantly, as indicated by a reduction in IPSS by a mean of 4.8 points ($t=7.061$, $df\ 68$, $p<.0001$, 95% CI 3.45, 6.17) [Figure 1]. This was a large effect size of $d= 0.8$. Urinary leakage improved significantly, indicated by a reduction in ICIQ-UI SF by a mean of 3.3 points ($t=5.161$, $df\ 68$, $p<.0001$, 95% CI 2.01, 4.54) [Figure 2], a medium effect size of $d=0.6$ and quality of life improved significantly as indicated by a reduction in IPSS QoL score by a mean of 1.62 ($t=7.898$, $df68$, $p<.0001$, 95% CI 1.21, 2.03) [Figure 3], a large effect size of $d=1.05$.

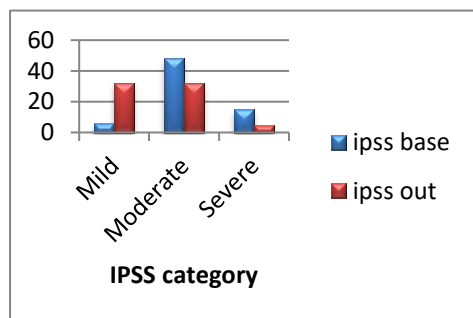


Figure 1: Changes in urinary symptom severity

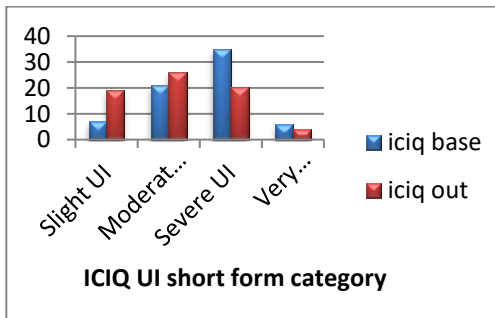


Figure 2: Changes in UI severity

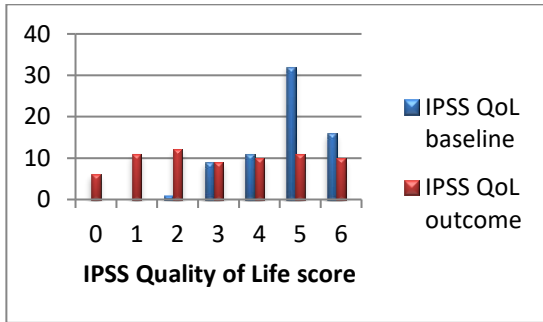


Figure 3: Changes in quality of life

One male patient discontinued TTNS because he felt his symptoms were worse. No other adverse events were reported.

Interpretation of results

Adults with OAB symptoms attending a specialist community continence service were taught to self-administer TTNS and on completion reported significant improvements in urinary symptoms, urinary leakage and quality of life.

Concluding message

Self-managed transcutaneous tibial nerve stimulation may be successfully implemented into the routine practice of specialist community continence services with no loss of clinical or cost-effectiveness.

References

1. Booth J. Transcutaneous posterior tibial nerve stimulation clinic for bladder dysfunction - one year outcomes. Unpublished report, NHS Greater Glasgow & Clyde/Glasgow Caledonian University, July 2015
2. National Institute for Clinical Excellence (NICE), Urinary incontinence in women: management. Clinical guideline CG171, September 2013.

Disclosures

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