

CAN THE EFFECTS OF PELVIC FLOOR MUSCLE EXERCISES BE ENHANCED WITH A NEW PATTERN OF ELECTRICAL STIMULATION IN WOMEN WITH STRESS INCONTINENCE? PILOT DATA

Aims of Study

Previous evaluation of a new electrical stimulation pattern has demonstrated statistically significant improvements in pelvic floor muscle strength and endurance ($p < 0.05$), but no significant improvement in incontinent episodes or quality of life (Jeyaseelan, 1999). We hypothesised that the symptomatic improvements would not be demonstrated unless the patient is able to utilise the improved muscle performance in functionally meaningful activities. The effects of electrical muscle stimulation and exercise must therefore be combined to optimise the effect.

The aim of the study was to determine whether or not the effects of pelvic floor exercises can be enhanced with the use of a new pattern of electrical stimulation.

Methods

Sixteen patients were assessed pre and immediately post treatment using the following validated and reliable outcome measures:

- Digital assessment (using the modified Oxford Grading Scale) to measure pelvic floor muscle strength and endurance.
- 24-hour pad test and 3 day voiding diary to measure severity of incontinence.
- Incontinence Impact Questionnaire and Urogenital Distress Inventory

Patients were randomly allocated to one of the following three treatment groups:

- The new pattern of stimulation alone. Patients were required to use the stimulator for one hour a day every day (except when menstruating).
- Pelvic floor exercises (as per usual physiotherapy practice) alone. Patients were given an individualised exercise regime, told to practice at least three times a day and to progress the exercises over the treatment period. In addition to information sheets patients were also given a Periform probe (Neen Healthcare, Norfolk, UK) as a means of biofeedback.
- The new pattern of electrical stimulation and pelvic floor exercises combined.

Treatment lasted for 8 weeks.

Results

Due to the small numbers and the pilot nature of the data, descriptive changes are described. The table below shows the percentage changes in performance.

PERCENTAGE DIFFERENCES Median (Range)

GROUP	<i>Strength</i>	<i>Endurance</i>	<i>Pad test</i>	<i>Leakage</i>	<i>IIQ</i>	<i>UDI</i>
ES	13 (0-14)	40 (0-60)	-35 (-69 to 74)	-49 (-75 to 0)	25(0 to 150)	-6 (-22 to 4)
PFE	11 (0-83)	67 (0-88)	-45 (-76 to -8)	-100 (-100 to 13)	0(-67 to 100)	0(-32 to 6)
Both	11 (0-38)	67 (0-150)	-50 (-77 to -23)	-55 (-100 to 0)	-27 (-63 to 0)	-11 (-15 to 6)

* Numbers in bold indicate an improvement.

Conclusions

From these data it is difficult to ascertain whether the combined treatment approach is better than electrical stimulation or exercise alone. However, from the patient perspective, improvement in symptoms are more important than muscle function and these preliminary results would indicate the efficacy of a combined approach, thus justifying a much larger RCT in this area.

References

Jeyaseelan SM (1999) Pilot evaluation of a new pattern of electrical stimulation as a treatment for stress incontinence: a randomised, double-blind controlled trial. PhD thesis, University of Manchester.