Conservative treatment of stress urinary incontinence in women: a systematic review of randomized clinical trials

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**Authors' objectives**
To assess the efficacy of physical therapies for first line use in the treatment and prevention of stress urinary incontinence (SUI) in women, using a systematic review of randomised clinical trials (RCTs).

**Searching**
MEDLINE, Excerpta Medica, the database of the Dutch National Institute of Allied Health Professions, and the database of the Cochrane Field in Therapies and Rehabilitation at the University of Maastricht, from 1980 to 1998. Manual searches for manuscripts found in the references of the literature and manual review of the proceedings of ICS meetings from 1980 to 1997 were undertaken. In addition, several relevant non-computerised databases (e.g. Physiotherapy Index) and physiotherapy journals that are not covered by MEDLINE were screened and experts in the field were consulted. Studies in English, Dutch and German only were included, abstracts and unpublished studies were excluded.

**Study selection**
Study designs of evaluations included in the review
Randomised controlled trials (RCTs).

Specific interventions included in the review
Conservative management of SUI: pelvic floor muscle (PFM) exercises, electrical stimulation, medication (phenylpropanolamine) or surgery with or without other treatment modalities (e.g. with an intravaginal resistance device, with visual biofeedback or with verbal feedback); and prevention: PFM exercises at home (with or without vaginal cones).

Participants included in the review
Not reported, participants were 3005 women participating in RCTs of the efficacy of physical therapies for first line use in the treatment and prevention of stress urinary incontinence (SUI).

Outcomes assessed in the review
Stress and symptoms of SUI (not described, but expressed as the level of scientific evidence based on the quality and the outcome of the study).

How were decisions on the relevance of primary studies made?
All RCTs were assessed for inclusion by two independent reviewers. Disagreements were resolved by consensus and when required other reviewers made the final decision.

**Assessment of study quality**
Ten criteria were used to assess the quality of included studies: A- Well-described inclusion criteria (diagnostic criteria, duration and severity of disease and previous treatment), B- At least 50 patients per group, C- Prestratification, D- Random allocation procedure described, E- Presentation of relevant baseline characteristics, F- < 10% withdrawals and withdrawals described, G- Blinding (patients, therapist, observer), H- Interventions well described (nature, number, duration of treatments), I- Effect/outcome measurements relevant and well described, J- Analysis and presentation of the results so that the analysis can be assessed (intention to treat, depending on the outcome of measurement: at least the mean and Standard Deviation, Standard Error Means, or Confidence Interval per group, or, if rates or proportions are used, the number of patients with a certain outcome). All RCTs were assessed for methodological quality by two independent reviewers. Disagreements were resolved by consensus and when required other reviewers made the final decision.
Data extraction
The authors do not state how the data were extracted for the review, or how many of the authors performed the data extraction.

Methods of synthesis
How were the studies combined?
Studies were summarised narratively, describing the quality score of each study and a comparison of the effectiveness of treatment arms, without describing any specific outcomes.

How were differences between studies investigated?
The authors do not state how differences between the studies were investigated.

Results of the review
Twenty-four RCTs (from 23 papers) met all inclusion criteria. 22 RCTs, including 1122 patients, reported the outcomes of various conservative treatments and 2 studies, including 1883 patients, reported the outcomes of conservative interventions for the prevention of SUI.

There is strong evidence to suggest that PFM exercises are effective in reducing the symptoms of SUI. There is limited evidence for the efficacy of high-intensity versus a low-intensity treatment of PFM exercises. Despite significant effects of biofeedback after testing as an adjunct to PFM exercises, there is no evidence that PFM exercises with biofeedback are more effective than PFM exercises alone. There is little consistency (of stimulation types and parameters) in the studies of electrical stimulation, but when the results are combined there is strong evidence to suggest that electrostimulation is superior to sham electrostimulation, and limited evidence that there is no difference between electrostimulation and other physical therapies. In the prevention of SUI the efficacy of PFM exercises, with or without other adjuncts, is uncertain.

Authors' conclusions
More research of high methodological quality is required to further evaluate the effects of physical therapies used to treat and prevent SUI.

CRD commentary
The search strategy was well described and appropriate, however it was restricted to databases from 1980 onwards. The validity assessment was very extensive and done by two independent reviewers.

The inclusion criteria were also well described and appropriate, however only Dutch, English and German literature was included and abstracts and unpublished literature was excluded. This may have caused bias in selection of studies, which has not been checked.

A description of the data extraction process is missing, in fact none of the outcomes is described in the report, making the interpretation of the results very difficult.

The synthesis of result is a narrative description of the quality scores of the studies included.

Implications of the review for practice and research
Practice: Since specific outcomes are not described the implications remain unclear.

Research: The authors suggest that further RCTs are necessary to evaluate the effect of electrical stimulation and the use of vaginal cones in the treatment of SUI, and the effects of conservative therapies in the prevention of SUI.
Bibliographic details

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Other publications of related interest

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.