

Review: pelvic floor muscle training is effective for stress or mixed urinary incontinence in women

Hay-Smith EJC, Bø K, Berghmans LCM, et al. *Pelvic floor muscle training for urinary incontinence in women*. *Cochrane Database Syst Rev* 2001;(1):CD001407(latest version 20 Nov 2000).

QUESTION: Is pelvic floor muscle training (PFMT) effective and safe for women with symptoms or urodynamic diagnoses of stress, urge, or mixed incontinence?

Data sources

The Cochrane Incontinence Group trials register (May 2000), the Cochrane Rehabilitation and Related Therapies Field (to 1998), Medline (1980–98), EMBASE/Excerpta Medica (1980–98), the database of the Dutch National Institute of Allied Health Professions (to 1998), Physiotherapy Index (to 1998), the proceedings of the International Continence Society (1980–2000), some physiotherapy journals, and reference lists of relevant papers. Also, experts in the field were contacted.

Study selection

Randomised controlled trials (RCTs) of PFMT in women with symptoms or urodynamic diagnoses of stress, urge, or mixed incontinence. PFMT was defined as a programme of repeated voluntary pelvic floor muscle contractions taught by a healthcare professional. Exclusion criteria included urinary incontinence with symptoms caused by factors unrelated to the urinary tract, nocturnal enuresis, or primary prevention studies.

Data extraction

Data were extracted by 2 independent reviewers for diagnoses, methodological quality, outcome measures, and results.

Main results

43 RCTs met the selection criteria; of these, 15 were reported primarily or only as conference abstracts. 31 RCTs included only women with stress incontinence and 12 included women with a range of symptoms or urodynamic diagnoses. The PFMT programmes, comparison interventions, and outcome measures differed between studies, which made data difficult to combine. For women with stress or mixed incontinence, PFMT was more effective than no treatment or placebo for self reported cure or improvement (table). In 3 studies, PFMT reduced the number of leakage episodes in 24

hours compared with no treatment (weighted mean difference [WMD] 1.3, 95% CI 0.9 to 1.6). Intensive PFMT was more effective than standard PFMT (table). PFMT used with biofeedback assistance showed no additional benefit compared with biofeedback assistance alone. Insufficient data exist on the effectiveness of PFMT compared with other treatments such as electrical stimulation or behavioural training, or PFMT combined with adjunctive treatments such as vaginal cones or intravaginal resistance. Adverse effects appeared to be uncommon and reversible.

Conclusions

Pelvic floor muscle training (PFMT) is more effective than no treatment or placebo in women with stress or mixed urinary incontinence. Data are lacking on the effectiveness of PFMT compared with other treatments or used with adjunctive treatments.

COMMENTARY

This systematic review by Hay-Smith *et al* is a comprehensive analysis of the existing research on PFMT for urinary incontinence in women. The thorough search strategy and the statistical combination of studies strengthen the results of this review. Although 43 RCTs were identified and included in the review, 15 of these were conference abstracts, which limited the reviewers' ability to assess the quality of the trials and may have led to an exaggerated treatment effect.

A large variation in methods of teaching pelvic floor exercises, methods of assessing pelvic muscle strength, and measurement of clinical outcomes was identified and this should be rectified in future research. Furthermore, because most of the studies in this review were limited to young, premenopausal women, more research is needed to establish the effectiveness of PFMT in elderly women where surgery and medication may be contraindicated. Future research should also follow up participants in the longer term to assess the endurance of the effect.

The finding that PFMT is more effective than no treatment or placebo is useful for client education done by nurse continence advisors, nurse specialists, physiotherapists, and physicians treating clients with incontinence. The role of PFMT in the prevention of future continence problems is also an area where future research is needed.

Jennifer Skelly, RN, PhD
Associate Professor
School of Nursing, McMaster University
Director, Continence Program
St Joseph's Healthcare Centre for
Ambulatory Health Services
Hamilton, Ontario, Canada

Source of funding:
Health Research Council
of Aotearoa New
Zealand.

For correspondence:
Ms J Hay-Smith,
Department of Women's
and Children's Health,
Dunedin School of
Medicine, University of
Otago, PO Box 913,
Dunedin, New Zealand.
Fax +64 3 474 7620.

*Pelvic floor muscle training (PFMT) v no treatment (NT) or placebo (PI) for urinary incontinence in women**

Outcomes (number of studies)	Comparisons	Weighted event rates	RBI (95% CI)	NNT (CI)
Self reported cure (2)	PFMT v NT	16% v 2%	625% (99 to 2549)	7 (5 to 14)
Self reported cure or improvement (2)	PFMT v NT	80% v 3%	2204% (656 to 6922)	1.3 (1.2 to 1.5)
Self reported cure (2)	PFMT v PI	33% v 10%	212% (56 to 523)	4 (3 to 9)
Self reported cure or improvement (3)	PFMT v PI	80% v 52%	53% (26 to 87)	4 (3 to 6)
Self reported cure (3)	Intensive v standard PFMT	38% v 25%	47% (17 to 84)	8 (5 to 20)

*Abbreviations defined in glossary; RBI, NNT, and CI calculated from data in article. Follow up durations varied between studies and were not reported.