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[Intervention Review]

Pelvic floor muscle training added to another active treatment versus the same active treatment alone for urinary incontinence in women

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ABSTRACT

Background

Pelvic floor muscle training (PFMT) is a first-line conservative treatment for urinary incontinence in women. Other active treatments include: physical therapies (e.g. vaginal cones); behavioural therapies (e.g. bladder training); electrical or magnetic stimulation; mechanical devices (e.g. continence pessaries); drug therapies (e.g. anticholinergics (solifenacin, oxybutynin, etc.) and duloxetine); and surgical interventions including sling procedures and colposuspension. This systematic review evaluated the effects of adding PFMT to any other active treatment for urinary incontinence in women

Objectives

To compare the effects of pelvic floor muscle training combined with another active treatment versus the same active treatment alone in the management of women with urinary incontinence.

Search methods

We searched the Cochrane Incontinence Group Specialised Register, which contains trials identified from the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, MEDLINE in process, ClinicalTrials.gov, WHO ICTRP and handsearching of journals and conference proceedings (searched 5 May 2015), and CINAHL (January 1982 to 6 May 2015), and the reference lists of relevant articles.

Selection criteria

We included randomised or quasi-randomised trials with two or more arms, of women with clinical or urodynamic evidence of stress urinary incontinence, urgency urinary incontinence or mixed urinary incontinence. One arm of the trial included PFMT added to another active treatment; the other arm included the same active treatment alone.

Data collection and analysis

Two review authors independently assessed trials for eligibility and methodological quality and resolved any disagreement by discussion or consultation with a third party. We extracted and processed data in accordance with the *Cochrane Handbook for Systematic Reviews of Interventions.* Other potential sources of bias we incorporated into the 'Risk of bias' tables were ethical approval, conflict of interest and funding source.

Main results

Thirteen trials met the inclusion criteria, comprising women with stress urinary incontinence (SUI), urgency urinary incontinence (UUI) or mixed urinary incontinence (MUI); they compared PFMT added to another active treatment (585 women) with the same active treatment alone (579 women). The pre-specified comparisons were reported by single trials, except bladder training, which was reported by two trials, and electrical stimulation, which was reported by three trials. However, only two of the three trials reporting electrical stimulation could be pooled, as one of the trials did not report any relevant data. We considered the included trials to be at unclear risk of bias for most of the domains, predominantly due to the lack of adequate information in a number of trials. This affected our rating of the quality of evidence.

The majority of the trials did not report the primary outcomes specified in the review (cure or improvement, quality of life) or measured the outcomes in different ways. Effect estimates from small, single trials across a number of comparisons were indeterminate for key outcomes relating to symptoms, and we rated the quality of evidence, using the GRADE approach, as either low or very low. More women reported cure or improvement of incontinence in two trials comparing PFMT added to electrical stimulation to electrical stimulation alone, in women with SUI, but this was not statistically significant (9/26 (35%) versus 5/30 (17%); risk ratio (RR) 2.06, 95% confidence interval (CI) 0.79 to 5.38). We judged the quality of the evidence to be very low. There was moderate-quality evidence from a single trial investigating women with SUI, UUI or MUI that a higher proportion of women who received a combination of PFMT and heat and steam generating sheet reported a cure compared to those who received the sheet alone: 19/37 (51%) versus 8/37 (22%) with a RR of 2.38, 95% CI 1.19 to 4.73). More women reported cure or improvement of incontinence in another trial comparing PFMT added to vaginal cones to vaginal cones alone, but this was not statistically significant (14/15 (93%) versus 14/19 (75%); RR 1.27, 95% CI 0.94 to 1.71). We judged the quality of the evidence to be very low. Only one trial evaluating PFMT when added to drug therapy provided information about adverse events (RR 0.84, 95% CI 0.45 to 1.60; very low-quality evidence).

With regard to condition-specific quality of life, there were no statistically significant differences between women (with SUI, UUI or MUI) who received PFMT added to bladder training and those who received bladder training alone at three months after treatment, on either the Incontinence Impact Questionnaire-Revised scale (mean difference (MD) -5.90, 95% CI -35.53 to 23.73) or on the Urogenital Distress Inventory scale (MD -18.90, 95% CI -37.92 to 0.12). A similar pattern of results was observed between women with SUI who received PFMT plus either a continence pessary or duloxetine and those who received the continence pessary or duloxetine alone. In all these comparisons, the quality of the evidence for the reported critical outcomes ranged from moderate to very low.

Authors' conclusions

This systematic review found insufficient evidence to state whether or not there were additional effects by adding PFMT to other active treatments when compared with the same active treatment alone for urinary incontinence (SUI, UUI or MUI) in women. These results should be interpreted with caution as most of the comparisons were investigated in small, single trials. None of the trials in this review were large enough to provide reliable evidence. Also, none of the included trials reported data on adverse events associated with the PFMT regimen, thereby making it very difficult to evaluate the safety of PFMT.

PLAIN LANGUAGE SUMMARY

Pelvic floor muscle training added to another active treatment versus the same active treatment alone for urinary incontinence in women

Background

Involuntary leakage of urine (urinary incontinence) affects women of all ages, particularly older women who live in residential care, such as nursing homes. Some women leak urine during exercise or when they cough or sneeze (stress urinary incontinence). This may occur as a result of weakness of the pelvic floor muscles, which may be a result of factors such as damage during childbirth. Other women leak urine before going to the toilet when there is a sudden and compelling need to pass urine (urgency urinary incontinence).

This may be caused by involuntary contraction of the bladder muscle. Mixed urinary incontinence is the combination of both stress and urgency urinary incontinence. Pelvic floor muscle training is a supervised treatment that involves muscle-clenching exercises to strengthen the pelvic floor muscles. It is a common treatment used by women to stop urine leakage. Other treatments are also available, which can be used either alone, or in combination with pelvic floor muscle training.

The main findings of the review

In this review, we included 13 trials that compared a combination of pelvic floor muscle training and another active treatment in 585 women with the same active treatment alone in 579 women to treat all types of urine leakage. There was not enough evidence to say whether or not the addition of pelvic floor muscle training to another active treatment would result in more reports of a cure or improvement in urine leakage and better quality of life, when compared to the same active treatment alone.

Adverse effects

There was also insufficient evidence to evaluate the adverse events associated with the addition of PFMT to other active treatment as none of the included trials reported data on adverse events associated with the PFMT regimen.

Limitations of the review

Most of the comparisons were investigated by single trials, which were small. None of the trials included in this systematic review were large enough to answer the questions they were designed to answer. The quality of the evidence was rated as either low or very low for the outcomes of interest. The main limitations of the evidence were poor reporting of study methods, and lack of precision in the findings for the outcome measures.