

Pelvic Floor Muscle Training for Pregnancy - Associated Incontinence - an Evidence - Informed Review

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Abstract

This short communication aimed to provide an evidence-informed integrative overview of studies from PubMed in terms of their contribution to evidence for pelvic floor muscle training (PFMT) in pregnancy-associated incontinence (PAI). There was one controlled clinical trial; six randomized controlled trials, two systematic reviews, and one qualitative study on role of pelvic floor muscle training in stress urinary incontinence among pregnant women. High-level evidence existed for supporting use of PFMT either alone or in combination with other therapies, given either as an educational intervention or supervised or home exercise program, for both short and long-term subjective and objective outcomes. Urologists and gynecologists should consider including PFMT both prenatally and post-partum for achieving reported health-related benefits.

Keywords: *Obstetric Rehabilitation; Gynecological Rehabilitation; Pelvic Floor Muscle Training; Exercise Therapy; Stress Incontinence.*

Introduction

Antenatal pelvic floor muscle training (PFMT) improved continence outcomes during first pregnancy, and that PFMT represented an appropriate treatment for women with persistent postpartum incontinence.[1] This short communication aimed to provide an evidence-informed integrative overview of studies from PubMed in terms of their

contribution to evidence for pelvic floor muscle training (PFMT) in pregnancy-associated incontinence (PAI).

Controlled clinical trials

Sangsawangand Serisathien[2] performed a quasi-experimental study on 66 pregnant women who had stress urinary incontinence with gestational ages of 20-30 weeks, to study the effects of a pelvic floor muscle exercise programme on the severity of stress urinary incontinence. The frequency and amount of urine leakage and the score of perceived stress urinary incontinence severity, frequency and volume of urine leakage, and score of perceived stress urinary incontinence severity were lower than the same scores before participation in the programme.

Randomized controlled trials

Sampselle et al[3] evaluated the effect of pelvic muscle exercise on postpartum symptoms of stress urinary incontinence and pelvic muscle strength in 46 primigravidas (vaginal or cesarean) during pregnancy and postpartum who were randomized into treatment (standardized instruction in pelvic muscle exercise) or control (routine care with no systematic pelvic muscle exercise instruction). The treatment group demonstrated diminished urinary incontinence symptoms at 35 weeks' gestation, 6 weeks postpartum and 6 months postpartum. Pelvic muscle strength at 20 weeks' gestation was found to predict the 12-months postpartum strength.

Mørkved et al[4] studied 301 healthy nulliparous women who were randomly allocated to a training (n = 148) or a control group (n = 153) with training group attending a physiotherapist-supervised 12-week intensive pelvic floor muscle training program during pregnancy and the control group receiving the customary information.

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The study found that fewer women in the training group reported urinary incontinence at 36 weeks' pregnancy, and at 3 months after delivery. PFMT prevented urinary incontinence in about one in six women during pregnancy and one in eight women after delivery, with improvements in pelvic floor muscle strength at 36 weeks' pregnancy and 3 months after delivery.

Dincet al[5] studied 80 pregnant women who were either in study group who was trained by the researcher on how to do the pelvic floor muscle exercises or in a control group, and found that study group had a significant decrease in urinary incontinence episodes during pregnancy and in the postpartum period, with improved pelvic floor muscle strength, whilst the control group had an increase in the postpartum muscle strength and decrease in the incontinence episodes in the postpartum period.

Stafneet al[6] studied 855 pregnant women (20-36 weeks gestation) with urinary and anal incontinence who were randomly given once weekly 12-week exercise programme, including PFMT or standard antenatal care and found that fewer women in the intervention group reported weekly frequency of urinary incontinence, and faecal incontinence.

Kocaöz et al[7] studied 102 women to determine the role of pelvic floor muscle exercises (PFME) in the prevention of stress urinary incontinence (SUI) during pregnancy and the postpartum period and found using pad test that relatively fewer number of subjects in intervention group developed SUI at the 28th and 32nd weeks of gestation and the 12th postpartum week.

Pelaez et al[8] studied 169 nulliparous women who were randomized to an exercise group (EG) (exercise class including PFMT) (n = 73) or a control group (CG) (n = 96) where the intervention consisted of 70-75 sessions (22 weeks, three times per week, 55-60 min/session including 10 min of PFMT) while the CG received usual care (which included follow up by midwives including information about PFMT). The EG had better improvements in reported frequency of UI, amount of leakage, and ICIQ-UI SF Score, with a group effect size of 0.8.

Systematic reviews

Sahakian [9] identified seven studies in their systematic review by searching Cumulative Index to Nursing and Allied Health Literature (CINAHL), Embase, Medline and the British Nursing Index (BNI) and found that four of the seven studies demonstrated a significant improvement in urinary stress

incontinence in postnatal women following pelvic floor muscle exercise during pregnancy.

Mørkved and Bø [10] performed a systematic review to address the effect of PFMT during pregnancy and after delivery in the prevention and treatment of UI by searching PubMed, CENTRAL, Cochrane Library, EMBASE and PEDro and found 22 randomised or quasiexperimental trials. The study found that PFMT during pregnancy and after delivery can prevent and treat UI and recommended a supervised strength-training protocol emphasizing close to maximum contractions for a minimum 8 weeks.

Qualitative study

Whitford et al [11] studied the levels of knowledge about pelvic floor exercises during pregnancy; the level of reported practice of pelvic floor exercises in pregnancy; and prevalence of stress urinary incontinence in a sample of 289 women in the third trimester of pregnancy. 225 women reported being given or obtaining information (mostly as booklets, provided by midwives) about pelvic floor exercises in the current pregnancy. Younger women, first-time mothers and those from more deprived backgrounds were less likely to report having information about the exercises. Need for more information was felt by one-third of the surveyed sample, and more than half practised the exercises, more than once per day. More than half of the women reported incontinence during the current pregnancy.

There was one controlled clinical trial; six randomized controlled trials, two systematic reviews, and one qualitative study on role of pelvic floor muscle training in stress urinary incontinence among pregnant women. High-level evidence existed for supporting use of PFMT either alone or in combination with other therapies, given either as an educational intervention or supervised or home exercise program, for both short- and long-term subjective and objective outcomes. Urologists and gynecologists should consider including PFMT both prenatally and postpartum for achieving reported health-related benefits.

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