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Review – Incontinence

Preoperative Pelvic Floor Muscle Exercise and Postprostatectomy Incontinence: A Systematic Review and Meta-analysis

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Abstract

Context: Preoperative pelvic floor muscle exercise (PFME) is often prescribed to reduce the severity of postprostatectomy incontinence.
Objective: Systematic review and meta-analysis of evidence regarding the effect of preoperative PFME on postoperative urinary incontinence following radical prostatectomy.
Evidence acquisition: A systematic search was performed of the Cochrane Library, Medline, Embase, and all potential articles from references in relevant articles on 4 October 2014. We followed the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) statement. Identified reports were critically appraised for quality and relevance. Only studies of preoperative PFME compared with no preoperative PFME were included.
Evidence synthesis: Eleven studies were included based on the selection criteria. The total number of patients included in the final analysis was 739. In seven studies, sufficient quantitative data on postoperative incontinence were available for meta-analysis. At 1 mo, there was no difference in continence rates between the groups (odds ratio [OR]: 0.68; 95% confidence interval [CI], 0.45–1.03). At 3 mo, there was 36% improvement in the preoperative PFME group (OR: 0.64; 95% CI, 0.47–0.88). At 6 mo, there was no difference between groups (OR: 0.60; 95% CI, 0.32–1.15). When examining quality of life measures, four of seven studies demonstrated significant improvement in the preoperative PFME group at 3 mo, and two of these studies demonstrated significant differences at 6 mo.
Conclusions: Preoperative PFME improves postoperative urinary incontinence after radical prostatectomy at 3 mo but not at 6 mo, suggesting it improves early continence but not long-term continence rates.
Patient summary: We reviewed all evidence for preoperative pelvic floor muscle exercise (PFME) in treating urinary incontinence following radical prostatectomy. We found evidence to suggest that preoperative PFME improves early continence rates but not long-term continence rates.

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1. Introduction

Urinary incontinence (UI) is one of the most common side effects of radical prostatectomy (RP) and can substantially affect a man's quality of life (QoL). The rates of UI vary with the type of procedure or surgical technique [1]. Reported rates of UI after RP vary and depend on definition but have been reported up to 87% at 1 mo postoperatively [2]; however, UI generally improves by the 1-yr postoperative mark [3]. The cause of UI is considered to be multifactorial

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and the result of urethral sphincter deficiency or laxity and the destruction of support mechanisms through surgical injury; detrusor overactivity, impaired bladder sensation, and low bladder compliance can occur [4,5]. There are many preoperative, intraoperative, and postoperative interventions in current practice for the prevention and treatment of UI for after RP. One of these interventions is pelvic floor muscle exercise (PFME) with or without biofeedback. PFME is often guided by a physiotherapist and can be performed with or without biofeedback. Biofeedback may be given to the patient via auditory, tactile, or visual feedback of their pelvic muscle function.

A Cochrane Review evaluating postoperative PFME reported that the evidence is conflicting, and the value of postoperative PFME following prostatectomy remains uncertain [6]. We aimed to determine the effectiveness of preoperative PFME for improving postoperative UI following RP.

2. Evidence acquisition

2.1. Search strategy

A systematic Medline, Embase, and Cochrane Library search was conducted 4 October 2014. The search strategy keywords used were selected to be as sensitive as possible; iterations and suggested terms were included and used if possible (Supplementary Table 1 and 2). Cited references

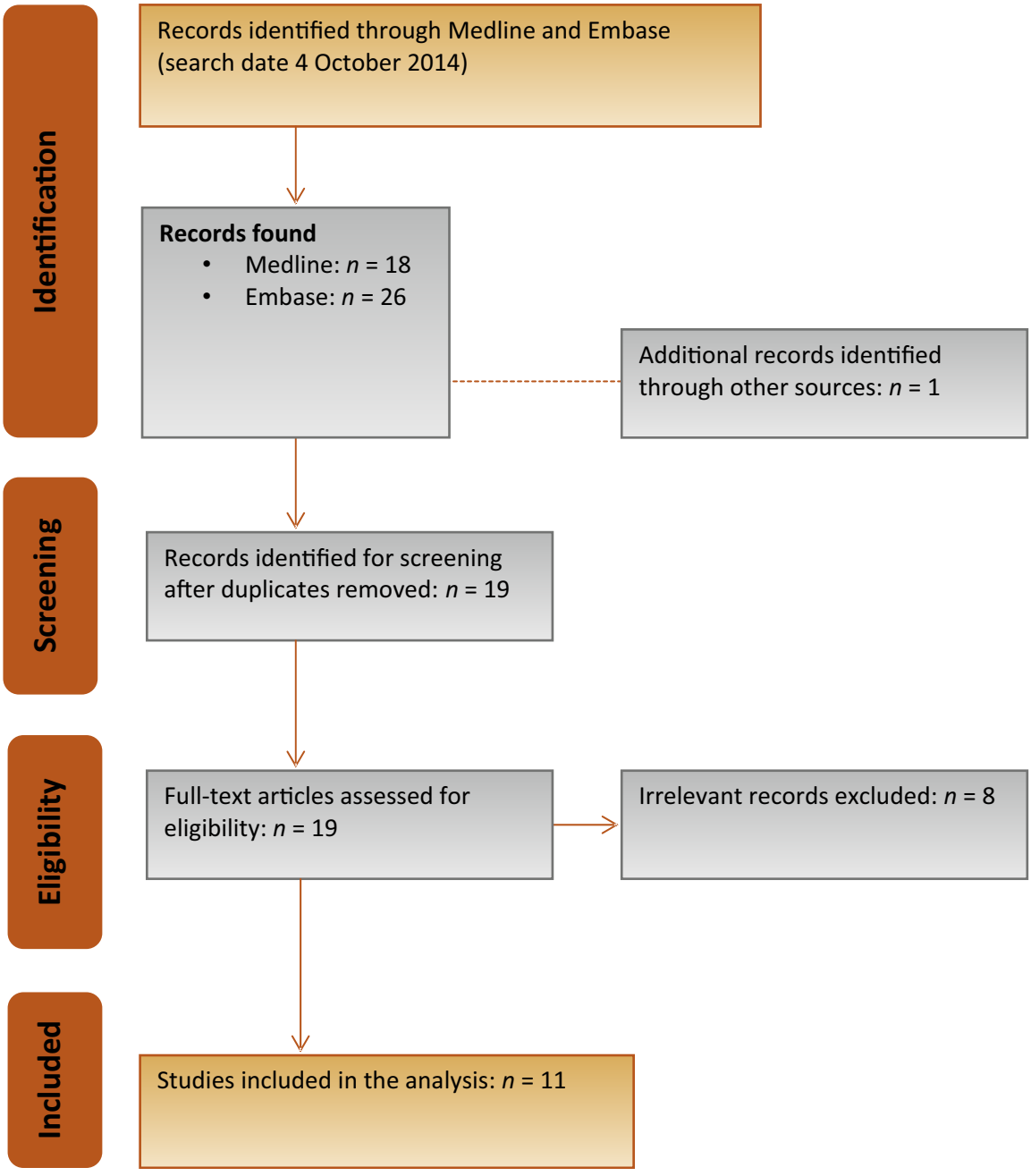

Fig. 1 – Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) flow chart.