



Are conservative interventions effective for treating urinary incontinence in women? A Cochrane Review summary with commentary

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The aim of this commentary is to discuss in a rehabilitation perspective the recently published Cochrane Review “Conservative interventions for treating urinary incontinence in women: an Overview of Cochrane systematic reviews”^[1] by Todhunter-Brown A, Hazelton C, Campbell P, Elders A, Hagen S, McClurg, under the direct supervision of Cochrane Incontinence Group. This Cochrane Corner is produced in agreement with the Turkish Journal of Physical Medicine and Rehabilitation by Cochrane Rehabilitation.

Bladder problems are common in women. Urinary incontinence (UI) is the involuntary loss of urine and can be caused by several different conditions. The common types of UI are stress, urge, and mixed. Frequent, urgent need to go to the toilet and sometimes not being able to do it on time is called urge urinary incontinence (UUI). Incontinence while sneezing or exercising is called stress urinary incontinence (SUI) and can occur if the muscles that control bladder outlet are weaker than they should be. Women can also have a mix of these two conditions called mixed urinary incontinence (MUI). Bladder problems can cause social distress. Women may hesitate to go out and feel increasingly isolated. In addition, their quality of

life is significantly lower compared to women without bladder symptoms.

Conservative interventions are generally recommended as the first line of treatment for women with UI.^[2] Conservative interventions can be classified as educational, behavioral, and lifestyle advice, physiotherapy methods, psychotherapies, mechanical devices, complementary therapies, and other approaches such as core stabilization training, breathing exercises, and yoga. Mechanical devices that include pessaries (urethral and vaginal inserts) and mechanical plugs/patches^[3] prevent or reduce urinary leakage. For women with SUI, the goal is to improve muscle control of the pelvic floor. Physical therapy is used to achieve this goal, which includes pelvic floor muscle training (PFMT) that can be applied with or without assistive devices, such as weighted vaginal cones, biofeedback, or electrical stimulation.^[4] Urinary incontinence management also includes educational, behavioral, and lifestyle advices such as prompted voiding, habit or bladder retraining and timed voiding, weight loss, management of fluid intake, caffeine and alcohol intake, and physical activity.^[5,6] Psychological interventions and complementary therapies are

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The views expressed in the summary with commentary are those of the Cochrane Corner author(s) (different than the original Cochrane Review authors) and do not represent the Cochrane Library or Wiley.

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other approaches.^[7] Therapies that are considered complementary practices in one country or culture may be considered conventional in another. In this review, complementary interventions include acupuncture or electroacupuncture, hypnotherapy, Bowen Technique, and reflexology.

Conservative interventions for treating urinary incontinence in women: an Overview of Cochrane systematic reviews (Todhunter-Brown et al., 2022)^[1]

What is the aim of this Cochrane review?

The aim of this Cochrane Review was to bring the findings from relevant Cochrane Reviews together into one accessible overview document, with input from clinicians and women affected by incontinence.

What was studied in the Cochrane review?

The authors searched the Cochrane Library to January 2021 and included any Cochrane Review that included studies with women aged 18 years or older with a clinical diagnosis of SUI, UUI, or MUI and investigated a conservative intervention aimed at improving or curing UI. This review considered assessments involving both men and women. Reviews of surgical or pharmacological interventions were excluded, except for reviews that included comparisons of conservative interventions with products and research techniques for managing urinary leakage. Authors included reviews that compared a conservative intervention with 'control' (which included placebo, no treatment, or usual care), another conservative intervention or another active but non-conservative intervention. A stakeholder group, comprising women with experience of UI and health professionals involved in the treatment/management of people with UI, informed the selection and synthesis of evidence. Two overview authors independently applied the inclusion criteria, extracted data, and judged review quality, resolving disagreements through discussion. This overview was focused on two critical (primary) results: (i) Symptomatic improvement or resolution of UI by women's subjective report (including self-report or bladder diaries). This conclusion was based on the women's observations as described/reported in the review (i.e., it is a participant-reported measurement). (ii) Condition-specific quality of life such as King's Health Questionnaire, Incontinence Quality of Life (I-QOL), and Bristol Female Lower Urinary Tract Symptoms (BFLUTS) questionnaire. They judged the risk of bias in included reviews using the ROBIS (Risk of Bias in Systematic Reviews) tool and judged the

certainty of evidence within the reviews based on the GRADE (Grades of Recommendation, Assessment, Development, and Evaluation) approach. Evidence relating to SUI, UUI, or all types of UI combined (AUI) were synthesized separately. The AUI group included evidence relating to participants with MUI, as well as from studies that combined women with different diagnoses (i.e., SUI, UUI, and MUI) and studies in which the type of UI was unclear.

Search methodology and up-to-dateness of the Cochrane review?

The review authors searched for studies that had been published up to 18 January 2021.

What are the main results of the Cochrane review?

One thousand seven hundred twenty-two of the 1944 Cochrane Reviews, 16 of 57 full-text articles, and 169 of 226 abstracts were excluded from the overview. A total of 29 Cochrane Reviews were assessed. Among these, 15 reviews primarily examined conservative interventions, whereas 14 reviews primarily addressed non-conservative interventions; however, the latter group also incorporated data (derived from 'control' groups) pertinent to the criteria outlined in this overview. Seven focused on physical therapies; five on education, behavioral, and lifestyle advice; one on mechanical devices; one on acupuncture; and one on yoga. Fourteen focused on non-conservative interventions but had a comparison with a conservative intervention. No reviews synthesized evidence relating to psychological therapies.

Stress urinary incontinence:

Fourteen reviews were relevant to this topic. Conservative intervention versus control: there was moderate or high certainty evidence that PFMT, PFMT plus biofeedback, and cones were more beneficial than control for curing or improving UI. Additionally, an improvement was observed in quality of life compared to control. One conservative intervention versus another conservative intervention: for cure and improvement of UI, there was moderate or high certainty evidence that continence pessary plus PFMT was more beneficial than continence pessary alone; PFMT plus educational intervention was more beneficial than cones; more intensive PFMT was more beneficial than less intensive PFMT; and PFMT plus an adherence strategy was more beneficial than PFMT alone. There was no moderate or high certainty evidence for quality of life.

Urgency urinary incontinence:

Five reviews were relevant to this topic. **Conservative intervention versus control:** there was moderate to high-certainty evidence demonstrating that PFMT plus feedback, PFMT plus biofeedback, electrical stimulation, and bladder training were more beneficial than control for curing or improving UI. Women using electrical stimulation plus PFMT had higher quality of life than women in the control group. **One conservative intervention versus another conservative intervention:** for cure or improvement, there was moderate-certainty evidence that electrical stimulation was more effective than laseropuncture. There was high-certainty evidence that PFMT resulted in higher quality of life than electrical stimulation and moderate-certainty evidence that electrical stimulation plus PFMT resulted in better cure or improvement and higher quality of life than PFMT alone.

All types of urinary incontinence:

Thirteen reviews were relevant to this topic. **Conservative intervention versus control:** there was moderate- to high-certainty evidence of better cure or improvement with PFMT, electrical stimulation, weight loss, and cones compared to control. There was moderate-certainty evidence of improved quality of life with PFMT compared to control. **One conservative intervention versus another conservative intervention:** there was moderate-certainty evidence of better cure or improvement for PFMT with bladder training than bladder training alone or PFMT alone. Likewise, PFMT program under the supervision of a health professional was more effective than unsupervised home program, and more intensive PFMT was more beneficial than less-intensive PFMT. There was moderate certainty evidence that PFMT plus bladder training resulted in higher quality of life than bladder training alone and PFMT alone.

How did the authors conclude on the evidence?

The authors concluded that most of the evidence in the included Cochrane Reviews is of low certainty. The authors found high-certainty evidence that PFMT is more beneficial than control for all types of UI in terms of recovery and quality of life. They stated that they were moderately confident that efficacy would increase if PFMT was combined/combined with more intense, more frequent, individual supervision, behavioral interventions with/without an adaptation strategy. Cones may be more beneficial for women with SUI than control but no more beneficial than PFMT. They also suggested that electrical stimulation

may be beneficial for women with UUI, and weight loss may provide more treatment and improvement than control for women with AUI.

What are the implications of the Cochrane evidence for practice in rehabilitation?

Conservative interventions have become a priority in the management of UI in recent years due to its prevalence in women, its negative impact on quality of life, and high treatment costs. In all three types of incontinence in women, it is beneficial to start conservative treatments and rehabilitation practices first. Behavioral therapy (e.g., control of fluid intake, voluntary voiding, and constipation management), electrical stimulation, mechanical devices (cones, pessaries, and urethral plugs), pelvic floor muscle strengthening (Kegel and floor muscle), exercises, and weight loss are frequently used approaches in the management of SUI. Urge urinary incontinence treatment is similar to SUI treatment except for mechanical devices. In MUI, it is recommended to choose the treatment approach according to the dominant symptom.^[8,9]

Pelvic floor muscle training is defined as an exercise to improve pelvic floor muscle strength, power, endurance, relaxation, or a combination of these parameters. Pelvic floor muscle training strengthens the pelvic floor muscles to provide urethral support to prevent urine leakage and suppress urgency.^[10] There is highly conclusive evidence that it can improve symptoms and improve quality of life for all types of UI. It should also be emphasized that PFMT is accepted as the mainstay of SUI treatment. For achieving better results from PFMT exercises, a more intense application is recommended, with the support of a healthcare professional. In some cases, it shows up to 70% improvement in symptoms in all age groups. In addition, the fact that it is inexpensive and has no obvious side effects provides an advantage to this treatment.^[4,11] Moreover, lifestyle changes, such as losing weight and trying to control how often you empty your bladder, can also be beneficial for some types of incontinence.

It is important to know that women may use the wrong muscles, straining down or performing a Valsalva maneuver, when asked to contract the pelvic floor muscle.^[8] Accurate and detailed evaluation of the patient's pelvic floor muscles is the first step in the success of this training. The examiner should check whether gluteal or abdominal muscles contract. This can be done using verbal feedback based on digital assessment and visual or auditory biofeedback or

electrical stimulation.^[12] Biofeedback and electrical stimulation are the main treatment modalities for all kinds of UI. Percutaneous tibial nerve stimulation is a direct stimulation of sacral nerves, which is called neuromodulation, and was found effective for overactive bladder syndrome. Transcutaneous tibial nerve stimulation also seems effective on an overactive bladder.^[13,14]

This Cochrane overview summarized the results of 29 Cochrane reviews. Although conservative treatment modalities are commonly used in clinical practice due to their practicality, the review shows that they still lack strong scientific evidence on their efficacy. There is a need for higher quality studies that determine the place and importance of conservative treatments in UI in women. Considering the results of this overview, it would be appropriate to plan an individualized treatment by determining the patient's complaint and needs in the management of UI.

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