Mari Imamura, David Jenkinson, Sheila Wallace, Brian Buckley, Luke Vale, Robert Pickard and the Stress Urinary Incontinence Review Group

Conservative treatment options for women with stress urinary incontinence:

clinical update

ADVANTAGES OF RANKING TREATMENT OPTIONS

Conservative treatment options for women with stress urinary incontinence include lifestyle changes, pelvic floor muscle training, behavioural techniques, electrical stimulation and drugs, and combinations of these individual therapies. It would be very helpful to patients, primary care clinicians, and commissioners of services to know the relative worth of the wide variety of types and intensities of treatment currently offered to achieve greatest benefit from allocated resources. This article summarises the results of a recent Health Technology Assessment (HTA) commissioned by the UK Government's National Institute for Health Research.¹

CURRENT TREATMENT OPTIONS

Lifestyle

For women who are overweight then participation in a supported weight-loss programme may improve incontinence. Other common-sense advice in terms of modification of fluid intake, smoking cessation, and resolving constipation may be worthwhile but lacks high-level evidence of benefit.

Pelvic floor muscle training

Pelvic floor muscle training (PFMT) aims to condition and strengthen the striated pelvic floor muscles through regular exercise in order to improve the urethral sphincter closure mechanism. The degree of patient training, supervision, intensity of exercise protocols, and follow-up varies, often related to local service provision and available expertise. In the UK the typical treatment protocol is two supervised sessions per month for 3 months.²

Vaginal cones

Women can be instructed to retain graded weights (cones) for timed periods within the vagina as a conditioning exercise to improve

pelvic floor muscle strength. The ability to retain increasing weights for longer and with added provocation gives an element of biofeedback as well as exercise.

Behavioural therapy

Bladder training is often used to help women regain continence particularly for those with mixed symptoms of stress and urgency incontinence. Typical programmes involve a gradually progressive voiding schedule to delay micturition, together with distraction and relaxation techniques to suppress urgency.

Electrical stimulation

Electrical stimulation entails a programme of intermittent direct or indirect electrical stimulation of the pelvic floor muscles. A vaginal electrode is generally used with set stimulation parameters.

Biofeedback

Biofeedback is used as a teaching and performance enhancing aid to support other therapies particularly PFMT and electrical stimulation. Typical devices are a vaginal pressure gauge (perineometer) or display of pelvic floor electromyographic activity.

Drugs

The serotonin-norepinephrine reuptake inhibitor (SNRI), duloxetine has efficacy for improvement of stress incontinence presumably through neurogenic enhancement of urinary sphincter contraction at the spinal cord level. Its usefulness is limited by nausea which results in up to 20% of women being unable to tolerate the drug. Intravaginal oestrogen supplementation may be a useful adjunct to other more specific treatments for post-menopausal women to enhance urethral coaptation.

PATIENT GROUP AND USE

Although many women with stress urinary

M Imamura, PhD, research fellow;
D Jenkinson, PhD, research fellow in medical statistics; **L Vale**, professor of health technology assessment, Health Services Research Unit and Health Economics Research Unit, Polwarth Building; **S Wallace**, MSc, research fellow, Academic Urology Unit, University of Aberdeen, Health Sciences Building, Foresterhill, Aberdeen. **B Buckley**, PhD, MHSc, BA, professor of health research, University of the Philippines Manila, Manila, Philippines and clinical fellow, School of Medicine, National University of Ireland, Galway. **R Pickard**, MD, FRCS (Urol), professor of urology, Newcastle University, Institute of Cellular Medicine, The Medical School, Newcastle upon Tyne.

Address for correspondence

Mari Imamura, University of Aberdeen, Health Services Research Unit, Health Sciences Building, 3rd floor, Foresterhill, Aberdeen, AB25 2ZD, UK.

E-mail: m.imamura@abdn.ac.uk

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incontinence choose to manage the problem by avoiding precipitating events such as strenuous exercise, and by using absorbent pads, about 15% will seek help;³⁻⁵ typically in the UK from their GP or community continence service. Those who want treatment generally have more severe and bothersome symptoms that impact on their day-to-day life.

IMPORTANCE

Stress urinary incontinence is a common and distressing symptom affecting approximately 3.3 million women in the UK.^{6,7} Estimates of annual spending associated with urinary incontinence in the UK vary from £117 million for direct NHS costs⁸ to £818 million for total societal costs in 2003.⁹

PREVIOUS RESEARCH

Despite a number of guidelines² and policy documents,¹⁰ the type and intensity of initial treatment selected from these alternatives varies according to patient preference, perception of benefit, availability of resources and local practice. Previous systematic evidence reviews on this topic have been hampered by variation in treatment protocols and lack of direct comparative trials between all available treatment options.¹¹⁻¹⁵ Continued uncertainty as to which treatment protocol is most effective and the associated variability in care provision¹⁶ resulted in the commissioning of this health technology assessment (HTA).¹ This HTA uniquely combined the available and commonly used treatment options in a single meta-analysis enabling assessment of their comparative worth.

EVIDENCE UPDATE

Which treatment is best?

Judging the worth of any treatment for stress urinary incontinence depends on the individual women's expectation of outcome. If cure is desired, pelvic floor muscle training either with extra supervision (more than two sessions per month), or when combined with biofeedback, was on average most effective, curing an estimated 40% at the end of active treatment. A combination of pelvic floor muscle training with both biofeedback and bladder training appears equally effective, although the data came from a single trial. For women seeking improvement in symptoms, perhaps while considering more invasive options, a number of therapies may be useful, although pelvic floor muscle training with either extra supervised sessions or combined with

biofeedback, or both biofeedback and bladder training are again most effective, improving an estimated 90% of women with stress urinary incontinence. Compared with a basic level of pelvic floor muscle training as commonly used in the UK (defined as two supervised sessions or fewer given each month), intensive pelvic floor muscle training with extra supervision (odds ratio [OR] for cure 8.4; 95% credible interval 3.7 to 21.7) or with added biofeedback (OR for cure 9.6; 95% credible interval 4.1 to 25.9) were more effective than the other treatments considered.

Are other treatments worthwhile?

Compared with no active treatment, other single or combined treatment options generally improved stress urinary incontinence, but only vaginal cones, bladder training, and pelvic floor muscle training combined with electrical stimulation had strong evidence of higher cure rates. Since the completion of this HTA, an additional trial has been published finding that weight loss in women classified as obese was effective for improving stress urinary incontinence,¹⁷ supporting the results of non-randomised studies summarised in a recent systematic review¹⁸ and encouraging use of weight loss programmes as an early intervention. Basic pelvic floor muscle training and duloxetine appeared ineffective in the analysis.

THE FINDINGS IN THE CONTEXT OF HEALTHCARE PROVISION AND GUIDELINES

The results of this HTA provide evidence that can add to the existing guideline from the National Collaborating Centre for Women's and Children's Health and the National Institute for Health and Clinical Excellence (NICE)² and to the guidance of other professional groups such as the European Association of Urology¹⁹ and the Chartered Society of Physiotherapy.²⁰ Current NICE guidance states that pelvic floor muscle training programmes should last for at least 3 months but provide no information on the degree of supervision required; it also reports that there is no evidence for the effectiveness of biofeedback. These statements may need to be reconsidered in the light of this HTA.²

The width of the 95% credible intervals associated with the main findings indicates uncertainty concerning the greater effectiveness of pelvic floor muscle training with extra supervision or with added biofeedback. This uncertainty is likely to be reflected in highly variable treatment

outcomes for individual women, with associated waste of resource. A research priority would be to identify patient and other factors predictive of outcome. Absolute cure rates even for the best treatments were relatively low, which suggests that women wanting a cure may seek more effective treatment such as surgery at an early stage. In deciding the feasibility of wider provision of the more effective therapist-intensive treatment options, the variation in both immediate outcome and long-term adherence in particular populations of women would need to be considered.

THE NEED FOR BETTER RESEARCH

Included studies were generally small and all had follow-up periods of less than a year, with no high level evidence identified on the persistence of any treatment benefit in the longer term. Reporting was inadequate for

many trials and this may in some instance have masked selection, performance, and detection bias and possibly caused inflation of effect size.²¹ Use of intention-to-treat analysis was not explicit in most trial reports. There is a need for trialists and journals to adhere to standard reporting protocols to allow evidence synthesis.²² Standardisation of outcome measurement in incontinence research²³ would significantly strengthen future systematic reviews and meta-analyses.

Provenance

Freely submitted; externally peer reviewed.

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