National Institute for Health and Care Excellence

Draft for consultation

Pelvic floor dysfunction: prevention and non-surgical management

[P] Behavioural approaches to the management of symptoms

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Evidence review underpinning recommendations 1.2.29 to 1.6.31 in the NICE guideline

Evidence reviews

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Draft for consultation

These evidence reviews were developed by the National Guideline Alliance which is a part of the Royal College of Obstetricians and Gynaecologists

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Behavioural approaches to the management of symptoms

Review question

What is the effectiveness of behavioural approaches (for example toilet training, seating, splinting) for improving symptoms associated with pelvic floor dysfunction?

Introduction

Behavioural approaches for women with pelvic floor dysfunction (PFD) target behaviours around urination and defecation symptoms, including control, timing and techniques to make them less bothersome. They are often provided as multicomponent interventions including a combination of bladder retraining techniques, pelvic floor muscle training, education about control strategies, and self-monitoring. This evidence review attempts to identify which behavioural interventions are effective for reducing the symptoms of PFD.

Summary of the protocol

See Table 1 for a summary of the Population, Intervention, Comparison and Outcome (PICO) characteristics of this review.

Table 1: Summary of the protocol (PICO table)

Population	Women and young women (aged 12 years and older) with symptoms associated with pelvic floor dysfunction
Intervention	The following behavioural interventions will be considered: • Bladder retraining, • Defecation techniques • Seating training (position on toilet) / defecation positioning / defecation dynamics / posture opening bowels • Splinting (vaginal digitation perineal support) • Bladder / bowel diaries • Education training • Urge suppression and depression techniques (urge strategies) • Scheduled / delayed voiding • Bladder drill • Combination interventions will be included; however, the primary aim of the study should be behavioural techniques
Comparison	• Any of the above (in isolation or in combination) • Waiting list • Usual care • Pelvic floor muscle training (PFMT)
Outcome	**Critical** • Subjective measure of change in the following symptoms: ○ urinary incontinence ○ emptying disorders of the bladder ○ faecal incontinence ○ emptying disorders of the bowel ○ pelvic organ prolapse ○ sexual dysfunction

	○ Chronic pelvic pain syndromes • Health-related quality of life (only validated scales will be included) **Important** • Satisfaction with intervention • Adherence to intervention • Anxiety and depression, (only validated tools will be included) • Adverse events leading to withdrawal/discontinuation

PFMT: pelvic floor muscle training

For further details, see the review protocol in appendix A.

Methods and process

This evidence review was developed using the methods and process described in Developing NICE guidelines: the manual. Methods specific to this review question are described in the review protocol in appendix A and the methods document (supplementary document 1).

Declarations of interest were recorded according to NICE's conflicts of interest policy.

Clinical evidence

Included studies

Twenty randomised controlled trials (RCTs) reported in 24 publications were included for this review (Alewijnse 2003, Barber 2014, Borello-France 2013, Brown 2019, Burgio 2002, Chu 2019, Dionko 2018, Dionko 2010, Dougherty 2002, Fantl 1991, Goode 2003, Jelovsek 2018, Kafri 2013, Kaya 2015, Kenton 2012, Kumari 2008, Richter 2010, Rizvi 2018, Sherburn 2011, Shivkumar 2015, Talley 2017, Weidner 2017, Wyman 1998, Yoon 2003).

The included studies are summarised in Table 2.

The following comparisons were made:

- Two studies compared behavioural techniques with no treatment (Yoon 2003, Fantl 1991).
- One study compared behavioural techniques, pelvic floor muscle training (PFMT) and counselling with behavioural techniques and PFMT for women with urinary incontinence (UI) (Alewijnse 2003).
- One study compared behavioural techniques and PFMT with usual care for women with pelvic floor disorders (Barber 2014).
- One study compared behavioural techniques with PFMT with no treatment for women with UI or faecal incontinence (Brown 2019).
- Two studies compared behavioural techniques and PFMT with behavioural techniques alone for women with UI (Kaya 2015, Shivkumar 2015).
- One study compared behavioural techniques and PFMT with pessary alone for women with UI (Richter 2010).
- One study compared behavioural techniques and education with PFMT and education for women with UI (Wyman 1998).
- Three studies compared behavioural techniques, PFMT and either education (Diokno 2010, Diokno 2018) or exercise (Talley 2017) to no treatment in women with UI.
- One study compared behavioural techniques and PFMT with no treatment for women with UI (Dougherty 2002).
- One study compared behavioural techniques, PFMT and pessary with pessary alone for women with UI (Richter 2010).

- Three studies compared behavioural techniques, PFMT and either biofeedback or education, with behavioural techniques and either PFMT or education for women with UI (Richter 2010, Burgio 2002, Wyman 1998).
- One study compared behavioural techniques, PFMT, biofeedback and pelvic floor electrical stimulation (PFES), with behavioural techniques, PFMT and biofeedback for women with UI (Goode 2003).
- Two studies compared behavioural techniques, education and either exercise or PFMT with PFMT and education for women with UI (Sherburn 2011, Wyman 1998)
- One study compared bladder training and exercise to usual care for women with UI (Chu 2019).
- One study compared bladder training and education with PFMT for women with UI (Kafri 2013).
- One study compared bladder training, PFMT and education with no treatment for women with UI (Kumari 2008).
- One study compared bladder training, education PFMT with PFMT for women with UI (Kafri 2013).
- One study compared bladder training, education PFMT with bladder training and education for women with UI (Kafri 2013).
- One study compared self-administered behavioural techniques and PFMT with behavioural techniques, PFMT, biofeedback and PFES for women with UI (Goode 2003).
- Two studies compared self-administered behavioural techniques and PFMT with behavioural techniques, PFMT and biofeedback for women with UI (Burgio 2002, Goode 2003).
- One study compared behavioural techniques with self-administered behavioural techniques for women with UI (Burgio 2002).
- One study compared bladder training with PFMT for women with overactive bladder (OAB) (Rizvi 2018).
- One study compared bladder training with PFMT and biofeedback for women with OAB (Rizvi 2018).

See the literature search strategy in appendix B and study selection flow chart in appendix C.

Excluded studies

Studies not included in this review are listed, and reasons for their exclusion are provided in appendix K.

Summary of studies included in the evidence review

Summaries of the studies that were included in this review are presented in Table 2.

Table 2: Summary of included studies. Behavioural approaches for women with PFD or symptoms associated with PFD

Study	Population	Intervention	Comparison	Outcomes
Alewijnse 2003 RCT The Netherlands	N=129 Women with UI (stress, urge or mixed) Mean age (SD) 55.6 (10.9)	Combination of behavioural techniques plus PFMT plus counselling n=27 PFMT included pelvic floor exercises,	Behavioural techniques + PFMT n=76 Participants received reminder and the Self-Help Guide intervention, with the addition of a	• I-QOL • Adherence

Study	Population	Intervention	Comparison	Outcomes
		performing toileting the 'knack 'technique to prevent incontinent wet episodes, and automatic use of pelvic floor muscles in daily posture. Participants also received behavioural advice including correct toileting and drinking behaviour. Within this group, some participants received PFMT plus a folder with information about PFMT therapy, adherence behaviour and several tips to remember adherence behaviour. Some participants received PFMT plus a guide addressing facts and myths about UI and pelvic floor muscles, coping with UI, tips to tackle all barriers hampering adherence behaviour, and relapse prevention strategies to support the self-management process. The self-help guide also contained the stickers of the Reminder intervention and reminder tips. Some participants just received PFMT alone.	counselling scheme for physiotherapists, guiding structural oral feedback, and reinforcement to promote adherence behaviour	
Barber 2014 RCT USA	N=408 Women with pelvic organ prolapse, including vaginal bulge, SUI, descent of the urterus or vaginal apex Mean age (SD) BMPT: 57.5 (10.9); Usual care: 56.9 (10.9)	Combination of behavioural techniques plus PFMT n=186 An individualised program. Pelvic floor muscle training, individualised progressive pelvic floor muscle exercise, and education on behavioural strategies to reduce urinary and colorectal symptoms	Usual care n=188 Routine perioperative teaching and standardised postoperative instructions	• UDI • POPDI • CRADI • ISI

Study	Population	Intervention	Comparison	Outcomes
		were performed at each visit		
Borello-France 2013	N=296 Additional outcomes for Richter (for details see entry for Richter 2010)	See Richter 2010	See Richter 2010	• Adherence
Brown 2019 RCT USA	N=121 Women with UI or FI Mean age (SD): Exercise group 74.5 (8.1); Control group 74.9 (10.4)	Combination of behavioural techniques plus PFMT n=62 A Combination of of education, personalised goal setting and action planning. Behaviour changes include pelvic floor muscle exercises, dietary changes for optimisation of stool consistency with gradual fibre supplementation, fluid adjustment to avoid bladder irritants and optimise fluid intake, and bladder training techniques.	Waitlist control n=59 Participants received the behavioural intervention after final data collection	• PGI-I • PFDI-20 • ICIQ-SF • SMIS • GSE-UI
Burgio 2002 RCT USA	N=222 Women with incontinence (urge and mixed stress and urge) Mean age (SD) Behavioural and biofeedback group: 64.8 (7.1); Behavioural only group: 65.8 (7.6); Self-administered behavioural group 65.8 (8.5)	Combination of behavioural techniques plus biofeedback plus PFMT n=73 Participants were taught skills and strategies for preventing incontinence and provided with oral and written instructions for daily home practice. Anorectal biofeedback took place at the first visit and third visit if needed. Urge suppression strategies were taught. Pelvic floor muscle exercise was recommended with 45 exercises each day	Self-administered behavioural training plus PFMT n=75 Written instructions for an 8-week self-help program, with the same content as the behavioural training program described above, but completely self-administered. It presents basic information about urge and stress incontinence, completing bladder diaries, locating pelvic floor muscles, daily pelvic floor muscle exercises, using muscles to prevent accidents,	• Patient satisfaction with progress

Study	Population	Intervention	Comparison	Outcomes
		Combination of behavioural techniques plus PFMT n=74 This treatment included all the components of behavioural training minus the biofeedback. In lieu of biofeedback, verbal feedback based on vaginal palpation was used Both interventions were 8 weeks	and responding to urgency	
Chu 2019 RCT USA	N=37 Women with UI (stress, urge or mixed) Mean age (SD) Exercise group: 72.4 (6.3); Usual care: 76.4 (9.9)	Combination of bladder training plus exercise n=19 3 main components (1) Exercise: general balance and strength training using a home exercise video programme; (2) Bladder training with urge suppression and behavioural measures; and (3) Falls prevention: a home visit.	Usual Care n=18 The usual care group were offered an appointment with a UI specialist or a physical therapist/nurse practitioner specialising in UI.	• Urinary Incontinence score
Dionko 2010 RCT USA	N=44 Women with UI Mean age (SD) Behavioural group: 60.6 (14.4); Control group: 52.2 (12.6)	Combination of behavioural techniques plus education plus PFMT n=23 A 2-h lecture which included a presentation on the anatomy of the lower urinary tract, the mechanism of urinary bladder function, and UI, followed by instruction on how to perform pelvic floor muscle exercises and how to time voiding in relation to frequency of voiding	No treatment n=21 No information given on behaviour modification at any time. The group were offered the intervention at the end of the study period	• Improvement in incontinence • Severity level
Diokno 2018	N=463	Combination of behavioural	No treatment n=231	• ICIQ-SF • PGI-I

Study	Population	Intervention	Comparison	Outcomes
RCT USA	Women with urgency, stress or mixed incontinence Mean age (SD) Behavioural group: 64 (7); Control group: 65 (8)	techniques plus education plus PFMT n=232 A 2-hour bladder health and self-management session, including information about anatomy, basis for continence, types, causes and effects of UI, behavioural strategies including PFM exercise, and coaching to facilitate incorporation of strategies. Participants were also given materials for home use	No treatment, but participants were informed that they could receive the GBT class and materials or be referred to an incontinence specialist at the end of the study	• Patient satisfaction
Dougherty 2002 RCT USA	N=218 Women with UI Mean age (SD) C ombination group: 67.7 (8.0); Control group: 68.1 (8.5)	Combination of behavioural techniques plus PFMT n=94 Consisted of three phases: (a) self-monitoring, (b) bladder training, and (c) pelvic muscle exercise (PME) with biofeedback. Self-monitoring included reducing caffeine consumption, adjusting the amount and timing of intake, decreasing excessively long voiding intervals during awake hours, and making dietary changes to promote bowel regularity, and was only used if indicated. Bladder training was used and those who did not reach their goals with BT went on to PME with biofeedback.	No treatment n=84 Participants received feedback on information obtained at the baseline visit, which neither constituted nor promoted treatment	• IIQ
Fantl 1991 RCT USA	N=123 Women with UI aged 55 years or more, with UI categorised as uretheral sphincteric	Behavioural techniques (bladder training) n=60 Bladder training	No treatment n=63	• IIQ • Incontinence episode rates • Micturation rates

Study	Population	Intervention	Comparison	Outcomes
	incompetence (72%), or DI ± sphincteric incompetence (28%)			
Goode 2003 RCT USA	N=200 Women with stress incontinence (stress only or mixed stress and urge) Mean age (SD) Behavioural group: 57.7 (10); Electrical stimulation group: 54.9 (9.4); Self-help group: 55.9 (10.1)	Combination of behavioural techniques plus PFMT plus biofeedback n=66 Anorectal biofeedback to help patients identify pelvic floor muscles and teach them how to contract and relax these muscles selectively while keeping abdominal muscles relaxed. Pelvic floor exercises to be done daily. Stress strategies to prevent leakage and urge strategies to manage sensations Combination of behavioural techniques plus PFMT plus biofeedback plus pelvic floor electrical stimulation (PFES) n=67 This treatment included all of the components of behavioural training with the addition of home PFES	Self-administered behavioural training plus PFMT n=67 A self-help booklet that provided written instructions for an 8-week self-help behavioural program based on the behavioural training program described previously but was completely self-administered	• Satisfaction • Description of treatment outcome
Jelovsek 2018	Five year follow up of Barber 2014 (for details see entry for Barber 2014)	See Barber 2014	See Barber 2014	• POPDI
Kafri 2013 RCT Israel	N=164 Women with urgency UI Mean age (SD) Bladder training: 57.2 (8.2); PFMT: 56.4 (7.1);	Combination of bladder training plus education n=41 Comprised of three components: (1) patient education on bladder function and on how continence is	Combination of bladder training plus PFMT plus education n=41 Included BT, PFMT, and behavioural advice, including bowel education to avoid constipation,	• I-QOL • VAS • ISI • Self-reported Late-Life Function and Disability Instrument

Study	Population	Intervention	Comparison	Outcomes
	Combination: 56.2 (7.8)	usually maintained; (2) scheduled voiding using a prefixed or flexible timetable, guiding participants to increase intervals between voids—the aim was to achieve an interval of 3–4 h between voids; and (3) positive reinforcement through psychological support and encouragement <u>PFMT</u> <u>n=40</u> Women practised 3 sets of 8–12 slow maximal contractions sustained for 6–8 s in different functional body positions, progressing from lying to standing. Participants continued a daily PFMT home-based program. Participants were also taught to contract these muscles repeatedly to diminish urgency and prevent UI	advising modification of fluid intake, daily activity, and ergonomic consultation	• Adherence
Kaya 2015 RCT Turkey	N = 132 Women with UI (including SUI, MUI and UUI) Mean age (SD) Combination of group: 48.7 (10.1) Control group: 50.9 (8.4)	<u>Combination of behavioural techniques plus PFMT</u> n=67 PFMT: A home-based exercise programme including strength and endurance training and voluntary fast and slow PFM contractions. BT: Included holding urine for 30 minutes beyond the initial voiding interval, which was then increased each week. Urgency suppression strategies were taught, including distraction, relaxation, mental imagery	<u>Behavioural techniques</u> n=65 Bladder training as described for the Combination of group	• Global rating of improvement

Study	Population	Intervention	Comparison	Outcomes
Kenton 2012	Additional outcomes for Richter (for details see entry for Richter 2010)	See Richter 2010	See Richter 2010	• UDI • POPDI • CRADI • UIQ • POPIQ • CRAIQ • QUID stress • QUID urge
Kumari 2008 RCT India	N = 198 Women with UI Mean age (SD) Behavioural therapy: 44.6 (11.2); control group: 44.8 (14.5)	<u>Combination of bladder training plus PFMT plus education</u> n=99 Behavioural therapy: Including education training on the anatomy of the female urinary system, pelvic floor muscles and exercises, bladder retraining and maintenance of a voiding diary and exercise record. Training occurred on a 1:1 basis for 8 weeks. Participants were asked to do at least 50 pelvic floor contractions everyday	<u>No treatment</u> n=99 No further details	• IIQ
Richter 2010 RCT USA	N=446 Women with UI (stress or mixed) Mean age (SD) Behavioural therapy: 49.6 (13); Pessary: 50.2 (11); Combination: 49.5 (11.8)	<u>Combination of behavioural techniques plus PFMT</u> n=146 Included instructions for pelvic floor muscle training and exercise, with additional skills and strategies for active use of muscles to prevent stress and urge incontinence. Participants were given individualised prescriptions for daily pelvic floor muscle exercise and practice <u>Pessary treatment</u> n=149 Included a continence ring or dish. Up to 3 clinic visits at 1–2 week intervals were	<u>Combination of behavioural techniques plus PFMT plus pessary</u> n=151 Participants were encouraged to continue routine pessary use. Women in this group were permitted to continue with only one of the therapies if for instance a pessary could not be fit. At the end of the 8-week treatment period, participants in the behavioural and combined groups were provided with an individualised home maintenance program	• PGI-I • PFDI • Satisfaction • Withdrawal due to adverse events

Study	Population	Intervention	Comparison	Outcomes
		permitted to achieve optimal fitting		
Rizvi 2018 RCT Pakistan	N=150 Women with OAB (wet OAB, dry OAB, OAB with SUI) Mean age (SD) Bladder training: 55.7 (14.7); PFMT: 49.1 (14.9); PFMT with biofeedback: 49.3 (14.7)	<u>Bladder training</u> n=50 Included urge suppression techniques, self-monitoring (bladder or voiding diaries), life style modifications, for example, eliminating bladder irritants from the diet, managing fluid intake, weight control, bowel regulation, smoking cessation, and time voiding. <u>PFMT</u> n=50 Participants were instructed to perform PFM contractions at home without any devices, according to the PERFECT scheme. They were instructed to hold submaximal to maximal PFM contractions for 6 s, 5 times and to perform 10 fast contractions per session. Home practice at least 3 times daily	<u>PFMT plus biofeedback</u> N=50 Participants were trained with an intra vaginal electromyogram probe twice a week. Each participant was instructed to contract or relax her pelvic floor muscles following the audio-visual signals	• UDI-6 • IIQ-7 • Adverse events resulting in discontinuation
Sherburn 2011 RCT Australia	N=83 Women with stress incontinence Mean age (SD) Behavioural group: 72 (5.74); PFMT group: 71.6 (4.73)	<u>Combination of behavioural techniques plus education plus exercise</u> n=40 Twenty weekly group sessions. Included education, gentle exercise and timed voiding. Cognitive methods only were taught. Education topics included: normal bladder control and voiding parameters, skin care, pad usage, fluids and fluid intake, optimal toileting	<u>Combination of PFMT plus education</u> n=43 Twenty weekly group sessions. Included education, and general exercise incorporating PFM exercise. Participants then continued a daily PFMT program at home. Education topics included: functional use of the PFMs, including use of a pre-contraction, weight management strategies, normal bladder control and voiding parameters,	• ICIQ-SF • AQoL

Study	Population	Intervention	Comparison	Outcomes
		position, voiding dynamics, and relaxation, distraction and breath control as part of the deferral strategies. An exercise component was included for this group to provide equivalence. The exercise component comprised gentle exercise including stretches, with breath awareness and relaxation. There was no specific strengthening of the PFM	fluids and fluid intake, optimal toileting position, voiding dynamics, and benefits of general exercise	
Shivkumar 2015 RCT India	N=30 Women with UI Mean age not reported	Combination of behavioural techniques plus PFMT n=15 Consisted of 3 parts including a bladder training schedule (waiting until a schedule time to void), bladder urge control (urge suppression techniques such as mental imagery, relaxed breathing) and self-care tips such as using a watch to as a reminder of next bathroom visit, not restricting fluids. PFMT involved instruction to slowly tighten or squeeze pelvic floor muscles under the bladder	Behavioural techniques n=15 Bladder training as described for the Combination of group but without PFMT	• Incontinence severity as measured by VAS • IIQ
Talley 2017 RCT USA	N=42 Women with UI (stress, urgency, mixed, functional) Mean age (SD) 84.9 (6.4)	Combination of behavioural techniques plus PFMT plus exercise n=23 Pelvic floor muscle exercises five days a week. Participants selected additional strategies such as PFMT, bladder training, urge suppression,	Usual care n=19 Participants received one home visit to complete the same health history and physical exam received by the treatment group. They received the treatment group's printed material on lifestyle and	• ICIQ • IIQ • UDI • Satisfaction

Study	Population	Intervention	Comparison	Outcomes
		eliminate bladder irritants, adequate fluid intake, constipation prevention, reducing nocturia, medication education. The physical activity program included 150 minutes of moderate intensity walking and twice weekly 1-hour group exercise sessions which included 10 strength building exercises	behavioural therapies after completing 12-week outcome assessments	
Weidner 2017	Additional outcomes for Barber 2014 (for details see entry for Barber 2014)	See Barber 2014	See Barber 2014	• PGI-I
Wyman 1998 RCT USA	N = 204 Women with genuine stress incontinence, detrusor instability or both Mean age (SD) Bladder training: 60 (10); PMFE: 62 (10); Combination: 61 (9)	<u>Combination of behavioural techniques plus education</u> n=68 A progressive voiding schedule. Participants were encouraged to make every effort not to void off schedule by use of urge inhibition techniques such as affirmations, distraction and relaxation techniques <u>PFMT plus education</u> n=69 A graded home exercise regimen with audio cassette practice tapes and 4 office biofeedback sessions. Participants were also instructed to use pelvic muscle contractions for urge inhibition and preventive contractions with exertional events such as coughing, sneezing, or lifting	<u>Combination of behavioural techniques plus education plus PFMT</u> n=67 The same protocols as described above for bladder training and pelvic muscle exercises. Bladder training was implemented initially with pelvic muscle exercises added during the third week of treatment.	• UDI • IIQ-R • Satisfaction with outcome • Adherence

Study	Population	Intervention	Comparison	Outcomes
		All interventions were 12 weeks. And all included education and self-monitoring of voiding behaviour		
Yoon 2003 RCT Korea	N=50 Parous women aged 35 to 55 years with UI	Behavioural techniques Bladder training (n=19) voiding interval increased weekly PFMT (n=16) 30 contractions daily, with EMG feedback weekly.	No Treament (n=12)	• Micturation rate

AQoL: The Assessment of Quality of Life; CRADI: Colorectal-Anal Distress Inventory; CRAIQ: Colorectal-Anal Impact Questionnaire; GSE-UI, Geriatric Self Efficacy for Urinary Incontinence; ICIQ-SF, International Consultation on Incontinence Questionnaire Short Form; IIQ: Incontinence Impact Questionnaire; ISI: Incontinence Severity Index; I-QOL: Incontinence Quality of Life; PFMT: pelvic floor muscle training; PFMT: pelvic floor muscle exercise; RCT; randomised controlled trial; SMIS, St. Marks Incontinence Score; SD: standard deviation; PFDI: Pelvic Floor Distress Inventory; PFDI-20: Pelvic Floor Distress Inventory Short Form 20; PGI-I: Patient Global Impression of Improvement; POPDI: Pelvic Organ Prolapse Distress Inventory; POPIQ: Pelvic Organ Prolapse Impact Questionnaire; UDI: Urinary Distress Inventory; UIQ: Urinary Impact Questionnaire; QUID: Questionnaire for Urinary Incontinence Diagnosis; VAS: visual analogue scale

See the full evidence tables in appendix D and the forest plots in appendix E.

Quality assessment of studies included in the evidence review

See the evidence profiles in appendix F.

Economic evidence

Included studies

A single economic search was undertaken for all topics included in the scope of this guideline. One study was identified which was relevant to this question (Diokno 2018).

See the literature search strategy in appendix B and economic study selection flow chart in appendix G.

Excluded studies

Economic studies not included in this review are listed, and reasons for their exclusion are provided in appendix K.

Summary of studies included in the economic evidence review

See the economic evidence tables in appendix H and economic evidence profiles in appendix I.

A US study (Diokno 2018) evaluated the cost-effectiveness of group administered behavioural treatment (GBT) relative for urinary incontinence in women ≥ 55 years' years relative to no treatment. The analysis was undertaken alongside an RCT. The intervention group received a single 2-hour bladder health class supplemented by an audio CD and written materials. The analysis undertaken from the payer perspective were derived from the

cost of materials and the cost of professionals' time. The additional cost of GBT was $36 per participant and a mean reduction of 1.61 in the ICIQ-SF was reported. This gave an incremental cost-effectiveness ratio (ICER) of $22 per mean reduction in ICIQ-SF score, although the authors reported that GBT dominated from a societal perspective. No sensitivity analysis was undertaken to account for uncertainty.

Economic model

No economic modelling was undertaken for this review because the committee agreed that other topics were higher priorities for economic evaluation because any recommendations in this area were unlikely to have a significant cost.

Brief summary of the evidence

Behavioural techniques versus no treatment for women with UI

- Moderate to low quality evidence showed a benefit of bladder training when compared to no treatment for women with UI in terms of incontinence related quality of life, number of incontinence episodes and voluntary micturition rate.

Combination behavioural techniques + PFMT versus usual care for women with POP/SUI

- Moderate to very low quality evidence showed no difference between a combination behavioural technique and PFMT intervention for women with POP or SUI compared to usual care for urinary distress scores, colorectal and anal distress scores at 6 and 24 months, and pelvic organ prolapse distress scores at 6 months, for pelvic organ prolapse distress scores at 24 months, incontinence severity and patients' global impression of improvement at both time points.

Combination behavioural techniques + PFMT versus no treatment for UI/FI

- Low quality evidence showed that there was a benefit of a combination behavioural techniques and PFMT intervention compared to no treatment for the number of participants 'better' or 'much better' according to the patient global impression of improvement for women with UI, and for the number of people 'better' or 'much better' for people with FI.
- Very low quality evidenced showed a benefit of a combination behavioural techniques and PFMT intervention in terms of a pelvic floor distress measure and geriatric self-efficacy for women with UI or FI, but there was no effect on geriatric self-efficacy.

Combination behavioural techniques + PFMT versus behavioural techniques for UI

- Moderate to low quality evidence showed that there was a benefit of a combination behavioural techniques and PFMT intervention compared to behavioural techniques alone for the number of participants improved or cured according to the global rating of improvement.
- Low quality evidence also showed that there was a benefit for combination behavioural techniques as measured by VAS but no effect on incontinence impact scores.

Combination behavioural techniques + PFMT versus pessary for SUI

- Moderate quality evidence showed that there was no effect of a combination behavioural techniques and PFMT intervention compared to pessary alone for women with SUI in terms of urinary distress scores, pelvic organ prolapse scores, colorectal and anal distress scores, urinary incontinence scores, pelvic organ prolapse impact scores, colorectal-anal impact scores, urinary incontinence diagnosis scores.

- Low quality evidence showed that there was a benefit for combination behavioural techniques and PFMT intervention in terms of urinary distress scores for the stress incontinence subscale at 3 months, and for withdrawal due to adverse events at 3 months, but no effect for the number of participants that were better or very much better at 3 months and the number of women satisfied with treatment at 3 months.
- Very low quality evidence showed that there was no difference in the number of participants that were better or very much better at 12 months, the number of women satisfied with treatment at 12 months, and withdrawal due to serious adverse events at 12 months.

Combination behavioural techniques + education versus PFMT + education for SUI

- Very low quality evidence showed that there was a benefit of a combination behavioural techniques and PFMT intervention compared to pessary for women with SUI in terms of adherence.
- Very low quality evidence showed that there was a possible benefit of a combination behavioural techniques and PFMT intervention compared to pessary for women with SUI in terms of urogenital distress scores, but no effect for incontinence impact scores, the number of women very satisfied at the end of treatment and at follow up, and the number of women dissatisfied or very dissatisfied at the end of treatment.

Combination behavioural techniques + PFMT + exercise/education versus no treatment for UI

- Low to very low quality evidence showed that there was a benefit of a combination behavioural techniques, PFMT and either exercise or education intervention compared to no treatment for women with UI in terms of the number of women much better or very much better at 3 and 12 months, but no effect for incontinence impact scores and incontinence scores at the end of the intervention or at 3 months.
- Very low quality evidence showed that there was a benefit for the number of women reporting their incontinence was ‘the same or worse’, ‘improved’ and ‘slight’, and the number of people reporting satisfaction, but no effect for incontinence scores at the end of treatment or at 3 months, urinary distress scores and the number of women reporting their incontinence was ‘moderate’ or ‘severe’.

Combination behavioural techniques + PFMT + some BF versus no treatment for UI

- Very low quality evidence showed that there was no effect of a combination behavioural techniques, PFMT and some BF compared to no treatment for women with UI in terms of incontinence impact scores at 6 months.
- Low quality evidence showed that there was no effect of incontinence impact scores at 24 months.

Combination behavioural techniques + PFMT + pessary versus pessary for SUI

- Very low quality evidence showed that there was no effect of a combination behavioural techniques, PFMT and pessary intervention compared to pessary alone for women with SUI in terms of the number of participants ‘much better’ or ‘very much better’ at 12 months, urinary distress scores at 12 months and withdrawal due to serious adverse events at 12 months.
- Low quality evidence showed that there was a benefit for the combination intervention in terms of number of participants ‘much better’ or ‘very much better’ at 3 months, and a possible benefit for urinary distress scores at 3 months but no effect on satisfaction with treatmet at 3 or 12 months.
- Moderate quality evidence showed that there was a benefit for the combination intervention in terms of for withdrawal due to serious adverse events at 3 months.

Combination behavioural techniques + PFMT + pessary/education versus behavioural techniques + PFMT/education for UI

- Very low quality evidence showed that there was no effect for the number of participants 'completely or somewhat satisfied', 'very or slightly satisfied' or 'satisfied' at end of treatment, the number of participants 'not at all satisfied' at 3-12 months, the number of participant 'much better' or 'very much better' at 12 months, urogenital distress scores, incontinence impact scores at end of treatment, withdrawal due to serious events at 3 months, and adherence during intervention.
- Moderate quality evidence showed that there was no effect of for women with UI for the number of women satisfied at follow up and withdrawal due to serious events at 12 months.
- Low quality evidence showed that there was possibly worse adherence in the combination behavioural techniques, PFMT and pessary or education intervention compared to combined behavioural techniques and PFMT or education during follow up, but no effect for the number of participants 'much better' or 'very much better' at 3 months, urinary distress scores at 3 or 12 months, and adherence at 3 months.

Combination behavioural techniques + PFMT + counselling versus behavioural techniques + PFMT for UI

- Moderate quality evidence showed that there was no effect of a combination behavioural techniques, PFMT and counselling intervention compared combined behavioural techniques and PFMT for women with UI for incontinence quality of life scores at end of intervention of 12 month follow up.
- Low quality evidence showed no difference for adherence.

Combination behavioural techniques + PFMT + biofeedback + PFES versus behavioural techniques + PFMT + biofeedback for UI

- Low quality evidence showed that there was a possible benefit of a combination behavioural techniques, PFMT, biofeedback and PFES intervention compared combined behavioural techniques, PFMT and biofeedback for women with UI for the number of participants describing themselves as 'much better' but no effect for the number of participants completely satisfied with progress.
- Very low to low quality evidence showed no difference in participant satisfaction.

Combination behavioural techniques + education + PFMT/exercise versus education + PFMT for UI

- Very low quality evidence showed that there was a possible benefit with the combination behavioural techniques, education and PFMT or exercise intervention for urogenital distress scores and a benefit for adherence, but no effect for incontinence impact scores, the number of participants very satisfied at the end of the intervention and at 3 months.
- Low quality evidence showed that there was no effect of a combination behavioural techniques, education and PFMT or exercise intervention compared combined education and PFMT for women with UI for incontinence scores and quality of life scores.

Combination bladder training + exercise versus usual care for UI

- Very low quality evidence showed that there was a benefit of a combination bladder training and exercise intervention compared usual care for women with UI for urinary incontinence scores.

Combination bladder training + education versus PFMT for UUI

- Low quality evidence showed that there was no difference in incontinence quality of life at 3 and 12 months, VAS scores at 3 months, incontinence severity scores at 3 and 12

months, function scores at 12 months and disability component scores at 3 and 12 months.

- Very low quality of evidence showed that there was no difference in VAS scores at 12 months and function component scores at 3 months.
- Moderate quality evidence showed that there was no effect of a combination bladder training and education intervention compared to PFMT for women with UUI for adherence.

Combination bladder training + PFMT + education versus no treatment for UI

- Low quality evidence showed that there was no effect of a combination bladder training, PFMT and education intervention compared no treatment for women with UI for incontinence impact scores at 8 weeks.
- Very low quality evidence showed that there was no difference in incontinence impact scores at 6 months.

Comparison combination bladder training + PFMT + education versus PFMT for UI

- Low quality evidence showed that there was no difference in incontinence severity scores at 3 and 12 months, incontinence related quality of life at 3 months, VAS scores at 3 and 12 months, disability scores at 3 and 12 months, function scores at 3 months, and adherence.
- Moderate quality evidence showed that there was no effect of a combination bladder training, PFMT and education intervention compared to PFMT for women with UI for incontinence related quality of life at 12 months.
- Very low quality evidence showed no difference in function scores at 12 months.

Comparison combination bladder training + PFMT + education versus bladder training + education for UI

- Moderate quality evidence showed that there was no effect of a combination bladder training, PFMT and education intervention compared to bladder training and education for women with UI for incontinence related quality of life at the end of the intervention.
- Low quality evidence showed that there was no difference in incontinence related quality of life at 12 months, incontinence severity scores at 3 and 12 months, disability scores at 3 and 12 months, function scores at 3 and 12 months, and adherence.

Comparison combination self-administered behavioural techniques + PFMT versus behavioural techniques + PFMT + biofeedback + PFES for SUI

- Low quality evidence showed that there was a harm for the number of women completely satisfied with progress, and for the number of participants describing their outcome as ‘about the same or worse’.
- Very low quality evidence showed no effect for the number of participants somewhat satisfied and the number of participants not at all satisfied with progress.
- Moderate quality evidence showed that there was a no difference of a combination self-administered behavioural techniques and PFMT intervention compared to combination behavioural techniques, PFMT, biofeedback and PFES for women with SUI for the number of participants describing their outcome as ‘better’ or ‘much better’.

Combination behavioural techniques + biofeedback + PFMT versus self-administered behavioural techniques + PFMT for SUI

- Very low quality evidence showed that there was a benefit for the number of participants completely satisfied.
- Low quality evidence showed that there was a possible benefit of a combination behavioural techniques, biofeedback and PFMT intervention compared self-administered

behavioural techniques and PFMT for women with UI for the number of participants 'much better', and a possible harm for the number of participants 'better'.

Behavioural techniques versus self-administered behavioural techniques for UI

- Low to very low quality evidence showed that there was a possible benefit for a behavioural techniques intervention compared to self-administered behavioural techniques for women with UI for the number of participants completely satisfied.

Bladder training versus PFMT + biofeedback for OAB

- Low quality evidence showed that there was no effect of a bladder training intervention compared to PFMT and biofeedback for women with OAB for urinary distress scores and incontinence impact scores.
- Very low quality evidence showed that there was no effect for adverse events leading to withdrawal.

Bladder training versus PFMT for OAB

- Low quality evidence showed that there was no effect for urinary distress scores and incontinence impact scores.
- Moderate quality evidence showed that there was no effect of a bladder training intervention compared to PFMT for women with OAB for adverse events leading to withdrawal.

The committee's discussion of the evidence

Interpreting the evidence

The outcomes that matter most

The committee agreed that improvement in the subjective measure of change of symptoms associated with pelvic floor dysfunction were the most critical outcomes, as this is a review on management of symptoms, so any effective intervention should improve these. Health related quality of life was also considered critical, given the impact of bothersome symptoms on this outcome. The committee agreed that important outcomes were satisfaction with the intervention, adherence to the intervention, and adverse events leading to withdrawal or discontinuation, as these outcomes likely influence the effect size of the outcome and should therefore be considered. Anxiety and depression were also considered as important outcomes, as PFD can have a negative impact on a woman's psychological state.

The quality of the evidence

The quality of the evidence for this review was assessed using GRADE and ranged from very low to moderate quality. All studies were downgraded due to risk of bias in the measurement of outcomes, as these were generally self-reported and as such open to influence from bias relating to assumptions about the effect of treatment. Additionally, the participants could not be blinded to the interventions due to the nature of treatment, and many papers did not publish protocols, resulting in some concerns regarding the selection of the reported result. Some outcomes were also downgraded due to imprecision in the data, which may be related to small study size.

No evidence was found for seating training or splinting interventions and there was no evidence for the impact of behavioural interventions on emptying disorders of the bowel, sexual dysfunction or chronic pelvic pain outcomes.

Benefits and harms

Two studies showed that behavioural techniques improve symptoms of urinary urgency and frequency in those women with urinary incontinence when compared to no treatment. The evidence was moderate to very low and the committee discussed that the vast majority of studies combined behavioural approaches. They agreed that combinations such as bladder retraining and lifestyle education with pelvic floor muscle exercise can improve symptoms of urinary incontinence. The committee acknowledged that the behavioural techniques in the studies were provided under direct supervision by a suitably trained health care professional. However, they were conscious that generally all the studies included pelvic floor muscle training as part of the intervention, therefore it was difficult to interpret which part of the combination would have the biggest impact on symptom improvement. The committee acknoweledged that having behavioural techniques in combination with other options reflected their experience in clinical practice as the interventions are usually provided together and according to the women's preference. On the basis of their experience and the available evidence they recommended bladder retraining should be offered in combination with management options for example pelvic floor muscle training and lifestyle advice for women with urinary frequency, urge or mixed incontinence.

One study suggested that a combination of behavioural techniques and pelvic floor muscle exercises was effective in improving symptoms of faecal incontinence. The committee acknowledged that this evidence was low in quality. However, they agreed that in their experience these interventions can also be effective in women with faecal incontinence. They noted that there is other NICE guidance on faecal incontinence in adults. They discussed that this guideline would have been supported by a different evidence base because evidence was not restricted to symptoms associated with pelvic floor dysfunction. However, they decided that the recommendations related to behavioural approaches to manage faecal incontinence could be generalised to the context of pelvic floor dysfunction and decided to link to the relevant section of this guideline (for a link to the guideline see the 'other factors the committee took into account' section below).

The committee agreed that behavioural techniques should be tailored to individual as ability will differ based on other co-existing conditions. They discussed that in their experience women with cognitive impairments are able to learn habits and routines and that these can be developed through support such as prompting, for example a regular reminder to use the toilet at regular times may then form a habit that would result in an improvement of symptoms (as in prompted toileting and habit retraining). The committee therefore decided to raise awareness that this should be taken into account when planning treatment options.

Cost effectiveness and resource use

One US economic evaluation (Diokno 2018) alongside a randomised controlled trial compared group administered behavioural therapy against no treatment. The study population was women over 55 years of age based in communities in Nebraska and used the International Consultation on Incontinence Questionnaire-Short Form (ICIQ-SF) as the primary measure of effect. The costs were calculated from local rates for the intervention materials and market rates for the labour costs. From the study an incremental cost-effectiveness ratio for the behavioural therapy of $22.42 per unit reduction in ICIQ-SF. The committee noted that it was difficult to ascertain whether that could be considered cost-effective in the UK context.

Therefore, the committee made a qualitative assessment of cost-effectiveness on which to base their recommendations. They noted that behavioural techniques can improve symptoms of urinary incontinence although the mechanism of effect can be difficult to disentangle as the interventions are generally provided alongside pelvic floor muscle training. However, the committee believed that it would not be expensive to offer bladder training as it consists of advice about when or how frequently to go to the toilet which can be done alongside other inteventions, such as pelvic floor muscle training, that are also

recommended. The committee considered that their recommendations were in line with current practice.

Other factors the committee took into account

Given the limited evidence identified for faecal incontinence the committee agreed to cross refer to the NICE guideline on Faecal incontinence in adults: management for further relevant advice on diet, bowel habit and toilet access.

Recommendations supported by this evidence review

This evidence review supports recommendations 1.7.29 to 1.7.31 in the NICE guideline.

References

Alewijnse 2003

Alewijnse, D., Metsemakers, J. F. M., Mesters, I. E. P. E., Van den Borne, B., Effectiveness of pelvic floor muscle exercise therapy supplemented with a health education program to promote long-term adherence among women with urinary incontinence, Neurourology and Urodynamics, 22, 284-295, 2003

Barber 2014

Barber, M. D., Brubaker, L., Burgio, K. L., Richter, H. E., Nygaard, I., Weidner, A. C., Menefee, S. A., Lukacz, E. S., Norton, P., Schaffer, J., Nguyen, J. N., Borello-France, D., Goode, P. S., Jakus-Waldman, S., Spino, C., Warren, L. K., Gantz, M. G., Meikle, S. F., Eunice Kennedy Shriver National Institute of Child, Health, Human Development Pelvic Floor Disorders, Network, Comparison of 2 transvaginal surgical approaches and perioperative behavioral therapy for apical vaginal prolapse: the OPTIMAL randomized trial [Erratum 2015; 33(22): 2287], JAMA, 311, 1023-34, 2014

Borello-France 2013

Borello-France, D., Burgio, K. L., Goode, P. S., Ye, W., Weidner, A. C., Lukacz, E. S., Jelovsek, J. E., Bradley, C. S., Schaffer, J., Hsu, Y., Kenton, K., Spino, C., Pelvic Floor Disorders, Network, Adherence to behavioral interventions for stress incontinence: rates, barriers, and predictors, Physical Therapy, 93, 757-73, 2013

Brown 2019

Brown, H. W., Braun, E. J., Wise, M. E., Myers, S., Li, Z., Sampene, E., Jansen, S. M., Moberg, D. P., Mahoney, J. E., Rogers, R. G., Small-Group, Community-Member Intervention for Urinary and Bowel Incontinence: A Randomized Controlled Trial, Obstetrics and Gynecology, 134, 600-610, 2019

Burgio 2002

Burgio, K. L., Goode, P. S., Locher, J. L., Umlauf, M. G., Roth, D. L., Richter, H. E., Varner, R. E., Lloyd, L. K., Behavioral training with and without biofeedback in the treatment of urge incontinence in older women: A randomized controlled trial, Journal of the American Medical Association, 288, 2293-2299, 2002

Chu 2019

Chu, C. M., Schmitz, K. H., Khanijow, K., Stambakio, H., Newman, D. K., Arya, L. A., Andy, U. U., Feasibility and outcomes: Pilot Randomized Controlled Trial of a home-based integrated physical exercise and bladder-training program vs usual care for community-dwelling older women with urinary incontinence, Neurourology & UrodynamicsNeurourol Urodyn, 38, 1399-1408, 2019

Diokno 2010

Diokno, A. C., Ocampo, M. S., Jr., Ibrahim, I. A., Karl, C. R., Lajiness, M. J., Hall, S. A., Group session teaching of behavioral modification program (BMP) for urinary incontinence: a randomized controlled trial among incontinent women, International Urology & NephrologyInt Urol Nephrol, 42, 375-81, 2010

Diokno 2018

Diokno, A. C., Newman, D. K., Low, L. K., Griebling, T. L., Maddens, M. E., Goode, P. S., Raghunathan, T. E., Subak, L. L., Sampselle, C. M., Boura, J. A., Robinson, A. E., McIntyre, D., Burgio, K. L., Effect of Group-Administered Behavioral Treatment on Urinary Incontinence in Older Women: A Randomized Clinical Trial, JAMA Internal Medicine, 178, 1333-1341, 2018

Dougherty 2002

Dougherty, M. C., Dwyer, J. W., Pendergast, J. F., Boyington, A. R., Tomlinson, B. U., Coward, R. T., Duncan, R. P., Vogel, B., Rooks, L. G., A randomized trial of behavioral management for continence with older rural women, Research in nursing & health, 25, 3-13, 2002

Fantl 1991

Fantl, J. A., Wyman, J. F., McClish, D. K., Harkins, S. W., Elswick, R. K., Taylor, J. R., Hadley, E. C., Efficacy of bladder training in older women with urinary incontinence, JAMA, 265, 609-13, 1991

Goode 2003

Goode,P.S., Burgio,K.L., Locher,J.L., Roth,D.L., Umlauf,M.G., Richter,H.E., Varner,R.E., Lloyd,L.K., Effect of behavioral training with or without pelvic floor electrical stimulation on stress incontinence in women: a randomized controlled trial, JAMA, 290, 345-352, 2003

Jelovsek 2018a

Jelovsek, J. E., Barber, M. D., Brubaker, L., Norton, P., Gantz, M., Richter, H. E., Weidner, A., Menefee, S., Schaffer, J., Pugh, N., Meikle, S., Nichd Pelvic Floor Disorders Network, Effect of Uterosacral Ligament Suspension vs Sacrospinous Ligament Fixation With or Without Perioperative Behavioral Therapy for Pelvic Organ Vaginal Prolapse on Surgical Outcomes and Prolapse Symptoms at 5 Years in the OPTIMAL Randomized Clinical Trial, JAMAJama, 319, 1554-1565, 2018

Kafri 2013

Kafri, R., Deutscher, D., Shames, J., Golombp, J., Melzer, I., Randomized trial of a comparison of rehabilitation or drug therapy for urgency urinary incontinence: 1-year follow-up, International Urogynecology Journal, 24, 1181-9, 2013

Kaya 2015

Kaya, S., Akbayrak, T., Gursen, C., Beksac, S., Short-term effect of adding pelvic floor muscle training to bladder training for female urinary incontinence: a randomized controlled trial, International Urogynecology Journal, 26, 285-93, 2015

Kenton 2012

Kenton, K., Barber, M., Wang, L., Hsu, Y., Rahn, D., Whitcomb, E., Amundsen, C., Bradley, C. S., Zyczynski, H., Richter, H. E., Pelvic Floor Disorders, Network, Pelvic floor symptoms improve similarly after pessary and behavioral treatment for stress incontinence, Female Pelvic Medicine & Reconstructive Surgery, 18, 118-21, 2012

Kumari 2008

Kumari, S., Jain, V., Mandal, A. K., Singh, A., Behavioral therapy for urinary incontinence in India, International Journal of Gynaecology & ObstetricsInt J Gynaecol Obstet, 103, 125-30, 2008

Richter 2010

Richter, H. E., Burgio, K. L., Brubaker, L., Nygaard, I. E., Ye, W., Weidner, A., Bradley, C. S., Handa, V. L., Borello-France, D., Goode, P. S., Zyczynski, H., Lukacz, E. S., Schaffer, J., Barber, M., Meikle, S., Spino, C., Pelvic Floor Disorders, Network, Continence pessary compared with behavioral therapy or combined therapy for stress incontinence: a randomized controlled trial, Obstetrics & GynecologyObstet Gynecol, 115, 609-17, 2010

Rizvi 2018

Rizvi, R. M., Chughtai, N. G., Kapadia, N., Effects of Bladder Training and Pelvic Floor Muscle Training in Female Patients with Overactive Bladder Syndrome: a Randomized Controlled Trial, Urologia InternationalisUrol Int, 100, 420-427, 2018

Sherburn 2011

Sherburn, M., Bird, M., Carey, M., Bo, K., Galea, M. P., Incontinence improves in older women after intensive pelvic floor muscle training: an assessor-blinded randomized controlled trial, Neurourology & UrodynamicsNeurourol Urodyn, 30, 317-24, 2011

Shivkumar 2015

Shivkumar, R., Srivastava, N., Gupta, J., Effects of bladder training and pelvic floor muscle exercise in urinary stress incontinence during postpartum period, Indian Journal of Physiotherapy and Occupational Therapy, 9, 194-198, 2015

Talley 2017

Talley, K. M. C., Wyman, J. F., Bronas, U., Olson-Kellogg, B. J., McCarthy, T. C., Defeating Urinary Incontinence with Exercise Training: Results of a Pilot Study in Frail Older Women, Journal of the American Geriatrics Society, 65, 1321-1327, 2017

Weidner 2017

Weidner, A. C., Barber, M. D., Markland, A., Rahn, D. D., Hsu, Y., Mueller, E. R., Jakus-Waldman, S., Dyer, K. Y., Warren, L. K., Gantz, M. G., Meikle, S., Perioperative Behavioral Therapy and Pelvic Muscle Strengthening Do Not Enhance Quality of Life After Pelvic Surgery: Secondary Report of a Randomized Controlled Trial, Physical therapy, 97, 1075-1083, 2017

Wyman 1998

Wyman,J.F., Fantl,J.A., McClish,D.K., Bump,R.C., Comparative efficacy of behavioral interventions in the management of female urinary incontinence. Continence Program for Women Research Group, American Journal of Obstetrics and Gynecology, 179, 999-1007, 1998

Yoon 2003

Yoon, H. S., Song, H. H., Ro, Y. J., A comparison of effectiveness of bladder training and pelvic muscle exercise on female urinary incontinence, International Journal of Nursing Studies, 40, 45-50, 2003

Appendices

Appendix A – Review protocol

Review protocol for review question: What is the effectiveness of behavioural approaches (for example toilet training, seating, splinting) for improving symptoms associated with pelvic floor dysfunction?

Table 3: Review protocol

ID	Field	Content
0.	PROSPERO registration number	CRD42020170328
1.	Review title	Behavioral approaches for managing pelvic floor dysfunction
2.	Review question	What is the effectiveness of behavioral approaches (for example toilet training, seating, splinting) for improving symptoms associated with pelvic floor dysfunction?
3.	Objective	The objective of this review is to determine whether behavioral approaches can effectively improve symptoms (including urinary incontinence, pelvic organ prolapse, emptying disorders of the bladder, faecal incontinence, emptying disorders of the bowel, sexual dysfunction and chronic pelvic pain syndromes) associated with pelvic floor dysfunction.
4.	Searches	The following databases will be searched: • Cochrane Database of Systematic Reviews (CDSR) • Cochrane Central Register of Controlled Trials (CENTRAL) • MEDLINE & Medline in Process • Embase • Cinahl or Emcare • PsycINFO Searches will be restricted by: • Date: 1980 onwards (see section 10 for justification) • Human studies • English language studies only Other searches: • Inclusion lists of potentially relevant systematic review

ID	Field	Content
		The full search strategies for MEDLINE database will be published in the final review. For each search, the principal database search strategy is quality assured by a second information scientist using an adaptation of the PRESS 2015 Guideline Evidence-Based Checklist.
5.	Condition or domain being studied	The following symptoms will be addressed as long as they are associated with pelvic floor dysfunction: urinary incontinence, emptying disorders of the bladder, faecal incontinence, emptying disorders of the bowel, pelvic organ prolapse, sexual dysfunction and chronic pelvic pain syndromes.
6.	Population	Inclusion • Women and young women (aged 12 years and older) with symptoms associated with pelvic floor dysfunction Exclusion • Studies which include women with urinary incontinence, emptying disorders of the bladder, faecal incontinence, emptying disorders of the bowel, pelvic organ prolapse, sexual dysfunction and chronic pelvic pain syndromes which are not due to pelvic floor dysfunction will be excluded. For example women who have urinary incontinence due to a neurological condition or pelvic cancer will be excluded. During the screening stage, the reported inclusion/exclusion criteria of studies will be examined carefully. We do not anticipate studies on urinary incontinence, emptying disorders of the bladder or pelvic organ prolapse will explicitly state “associated with pelvic floor dysfunction” therefore this will be a pragmatic decision based on the description of the condition provided by the study authors. Some of these symptoms (for example urinary incontinence) are most often due to a failure in the pelvic floor and therefore unless the exclusion criteria states a different cause, these studies are likely to be included. However for studies on sexual dysfunction and pelvic pain the causes are more numerous. As such for these symptoms unless the study specifically states “associated with pelvic floor dysfunction” they will be excluded. If any ambiguity exists, at least two reviewers will make the final decision if to include or exclude the study. • Men • Babies and children (younger than 12 years)
7.	Intervention	The following behavioural interventions will be considered: • Bladder retraining, • Defecation techniques

ID	Field	Content
		• Seating training (Position on toilet) / defecation positioning / defecation dynamics / posture opening bowels • Splinting (vaginal digitation perineal support) • Bladder / bowel diaries • Education training • Urge suppression and depression techniques (urge strategies) • Scheduled / delayed voiding • Bladder drill • Combination interventions will be included; however, the primary aim of the study should be behavioural techniques
8.	Comparator	• Any of the above (in isolation or in combination) • Waiting list • Usual care • Pelvic floor muscle training (PFMT)
9.	Types of study to be included	• Systematic reviews of RCTs • RCTs • If no RCT evidence is identified, then other study designs will be considered, namely: • Non-randomised or quasi-randomised controlled trials • Comparative cohort studies • The decision to include non RCT study designs will be determined for each of the listed symptoms associated with pelvic floor dysfunction. For example if we identify an RCT on urinary incontinence but not on pelvic organ prolapse, then we will continue our search for observational studies for other study designs for pelvic organ prolapse but we will not search for further study designs for or urinary incontinence. Note: For further details, see the algorithm in appendix H, Developing NICE guidelines: the manual.
10.	Other exclusion criteria	• Interventions based on pelvic floor muscle training will be excluded unless a behavioural technique is included, and is the main focus of the study • Interventions which change lifestyle factors (weight, dietary factors and or physical activity will be excluded) unless a behavioural technique is included, and is the main focus of the study (see combination interventions, in the included interventions section)

ID	Field	Content
		• Psychological interventions will be excluded, these include distraction, self-assertion techniques • Studies with a mixed population (specifically women with symptoms such as urinary incontinence which are associated with pelvic floor dysfunction and women with symptoms that are not associated with pelvic floor dysfunction) will be excluded, unless subgroup analysis for those women with symptoms associated with pelvic floor dysfunction has been reported. • Conference abstracts will be excluded because these do not typically provide sufficient information to fully assess risk of bias. Only articles published after 1980 will be included. This was agreed by the committee as this is the date that the condition "pelvic floor dysfunction" was recognised to include agreed terminology on symptoms. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2815805/
11.	Context	Studies which explicitly demonstrate a change in outcomes for symptoms associated with pelvic floor dysfunction will be prioritised for decision making in regards to recommendations, and these recommendations will apply to those receiving care in any healthcare settings (such as community, primary, secondary care). However, the context of recommendations is likely broader than just the health care setting itself. Women who are not currently accessing services may benefit from the recommendations in order to make changes which could improve symptoms they are experiencing. Specific recommendations for groups listed in the Equality Considerations section of the scope may be also be made as appropriate.
12.	Primary outcomes (critical outcomes)	• Subjective measure of change in the following symptoms: ○ urinary incontinence ○ emptying disorders of the bladder ○ faecal incontinence ○ emptying disorders of the bowel ○ pelvic organ prolapse ○ sexual dysfunction ○ chronic pelvic pain syndromes • Health-related quality of life (only validated scales will be included)

ID	Field	Content
		For the above outcomes, only validated tools will be included (for example: ICIQ-UI, ICIQ-VS, BFLUTS, KHQ, UDI, ISI, ePAQ, POPSS, PISQ, POPQ, FISI, FIQL, GIQLI, PAC-QM, PAC –SYM, PDI, BPI)
13.	Secondary outcomes (important outcomes)	• Satisfaction with intervention • Adherence to intervention • Anxiety and depression, (only validated tools will be included) • Adverse events leading to withdrawal/discontinuation
14.	Data extraction (selection and coding)	All references identified by the searches and from other sources will be uploaded into STAR and de-duplicated. Titles and abstracts of the retrieved citations will be screened to identify studies that potentially meet the inclusion criteria outlined in the review protocol. Duplicate screening will not be undertaken for this question. Full versions of the selected studies will be obtained for assessment. Studies that fail to meet the inclusion criteria once the full version has been checked will be excluded at this stage. Each study excluded after checking the full version will be listed, along with the reason for its exclusion. Draft included and excluded study lists will be circulated to the committee for their comments, resolution of any disputes will be by discussion between the senior reviewer, topic advisor and chair. A standardised form will be used to extract data from studies. One reviewer will extract relevant data into a standardised form, and this will be quality assessed by a senior reviewer. Information to be extracted from studies includes: study type, study dates, location of study, funding, inclusion and exclusion criteria, participant characteristics, and details of the intervention and comparator.
15.	Risk of bias (quality) assessment	Quality assessment of individual studies will be performed using the following checklists • ROBIS tool for systematic reviews • Cochrane RoB tool v.2 for RCTs • ROBINS -I for non-randomised trials The quality assessment will be performed by one reviewer and this will be quality assessed by a senior reviewer.
16.	Strategy for data synthesis	Depending on the availability of the evidence, the findings will be summarised narratively or quantitatively.

ID	Field	Content
		Data Synthesis Where possible, pair wise meta-analyses will be conducted using Cochrane Review Manager software. A fixed effect meta-analysis will be conducted and data will be presented as risk ratios for dichotomous outcomes. Peto odds ratio will be used for outcomes with zero events Mean differences or standardised mean differences will be calculated for continuous outcomes. Heterogeneity Heterogeneity in the effect estimates of the individual studies will be assessed using the I^2 statistic. I^2 values of greater than 50% and 80% will be considered as significant and very significant heterogeneity, respectively. In the presence of heterogeneity sub-group analysis will be conducted • According to risk of bias of individual studies • According to socioeconomic status of population included • By ethnicity of included populations Exact subgroup analysis may vary depending on differences identified within included studies. If heterogeneity cannot be explained through subgroup analysis then a random effects model will be used for meta-analysis. If heterogeneity remains above 80% reviewers will consider if meta-analysis is appropriate given the characteristics of included Minimal important differences (MIDs) Published MIDs will be used where available, alternatively the committee will be asked for appropriate pre-specified MIDs. In the absence of these, default MIDs will be used for risk ratios and continuous outcomes as follows: • For risk ratios: 0.8 and 1.25. • For continuous outcomes: o For one study: the MID is calculated as +/-0.5 times the baseline SD of the control arm. o For two studies: the MID is calculated as +/-0.5 times the mean of the SDs of the control arms at baseline. If baseline SD is not available, then SD at follow up will be used.

ID	Field	Content	
		○ For three or more studies (meta-analysed): the MID is calculated by ranking the studies in order of SD in the control arms. The MID is calculated as +/- 0.5 times median SD. ○ For studies that have been pooled using SMD (meta-analysed): +0.5 and -0.5 in the SMD scale are used as MID boundaries. <u>Validity</u> The confidence in the findings across all available evidence will be evaluated for each outcome using an adaptation of the 'Grading of Recommendations Assessment, Development and Evaluation (GRADE) toolbox' developed by the international GRADE working group: http://www.gradeworkinggroup.org/	
17.	Analysis of sub-groups	Stratification If data is available, separate analysis will be conducted on: • Women who are pregnant or who have been pregnant • Women before and after gynaecological surgery • Women aged 65 or older, and younger women • Women with physical disabilities • Women with cognitive impairment • Women who are in perimenopause (pre- and post-) • According to those who do not identify themselves as women, but who have female pelvic organs Recommendations will apply to all those with pelvic floor dysfunction unless there is evidence of a difference in these stratified groups	
18.	Type and method of review	☒	Intervention
		☐	Diagnostic
		☐	Prognostic
		☐	Qualitative
		☐	Epidemiologic
		☐	Service Delivery
		☐	Other (please specify)

ID	Field	Content		
19.	Language	English		
20.	Country	England		
21.	Anticipated or actual start date	May 2020		
22.	Anticipated completion date	August 2021		
23.	Stage of review at time of this submission	Review stage	Started	Completed
		Preliminary searches	☐	☐
		Piloting of the study selection process	☐	☐
		Formal screening of search results against eligibility criteria	☐	☐
		Data extraction	☐	☐
		Risk of bias (quality) assessment	☐	☐
		Data analysis	☐	☐
24.	Named contact	5a. Named contact National Guideline Alliance 5b Named contact e-mail PreventionofPOP@nice.org.uk 5e Organisational affiliation of the review National Institute for Health and Care Excellence (NICE) and the National Guideline Alliance		
25.	Review team members	• NGA technical team		
26.	Funding sources/sponsor	This systematic review is being completed by the National Guideline Alliance, which is funded by NICE and hosted by the Royal College of Obstetricians and Gynaecologists. NICE funds the National Guideline Alliance to develop guidelines for those working in the NHS, public health, and social care in England.		
27.	Conflicts of interest	All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any potential conflicts of interest in line with NICE's code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any		

ID	Field	Content	
		potential conflicts of interest will be considered by the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.	
28.	Collaborators	Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of Developing NICE guidelines: the manual. Members of the guideline committee are available on the NICE website: [NICE guideline webpage].	
29.	Other registration details	Not applicable	
30.	Reference/URL for published protocol	https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=170328	
31.	Dissemination plans	NICE may use a range of different methods to raise awareness of the guideline. These include standard approaches such as: • notifying registered stakeholders of publication • publicising the guideline through NICE's newsletter and alerts • issuing a press release or briefing as appropriate, posting news articles on the NICE website, using social media channels, and publicising the guideline within NICE.	
32.	Keywords	Behavioural approaches, pelvic floor dysfunction	
33.	Details of existing review of same topic by same authors	Not applicable	
34.	Current review status	☒	Ongoing
		☐	Completed but not published
		☐	Completed and published
		☐	Completed, published and being updated
		☐	Discontinued
35..	Additional information		
36.	Details of final publication	www.nice.org.uk	

CDSR: Cochrane Database of Systematic Reviews; CENTRAL: Cochrane Central Register of Controlled Trials; DARE: Database of Abstracts of Reviews of Effects; GRADE: Grading of Recommendations Assessment, Development and Evaluation; HTA: Health Technology Assessment; MID: minimally important difference; NGA: National Guideline Alliance; NHS: National health service; NICE: National Institute for Health and Care Excellence; RCT: randomised controlled trial; RoB: risk of bias; SD: standard deviation

Appendix B – Literature search strategies

Literature search strategies for review question: What is the effectiveness of behavioural approaches (for example toilet training, seating, splinting) for improving symptoms associated with pelvic floor dysfunction?

Clinical Search

Database(s): Medline & Embase (Multifile) – OVID interface
Embase Classic+Embase 1947 to 2020 March 24; **Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily** 1946 to March 24, 2020
Date of last search: 25 March 2020

Multifile database codes: emczd = Embase Classic+Embase; ppez= MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily

#	Searches
1	Pelvic Floor/ or Pelvic Floor Disorders/ or exp *Urinary Incontinence/ or *Urinary Bladder, Overactive/ or exp *Pelvic Organ Prolapse/ or *Rectocele/ or *Fecal Incontinence/ or Urinary Retention/ or Fecal Impaction/ or Vaginismus/
2	1 use ppez
3	pelvis floor/ or pelvic floor disorder/ or exp *urine incontinence/ or *overactive bladder/ or *bladder instability/ or exp *pelvic organ prolapse/ or *rectocele/ or *feces incontinence/ or urine retention/ or defecation disorder/ or Feces Impaction/ or female sexual dysfunction/ or vaginism/
4	3 use emczd
5	(pelvi$ adj (floor$ or diaphragm$) adj3 (dysfunction$ or disorder$ or fail$ or impair$ or incompeten$ or insufficien$ or dyssynerg$ or symptom$ or laxity or change$ or care$ or health$ or wellbeing$ or well-being$ or prevent$ or rehabilitat$ or weak$ or hypertonic$ or overactiv$ or over activ$ or over-activ$)).tw.
6	(pelvi$ adj (dysfunction$ or disorder$ or fail$ or impair$ or incompeten$ or insufficien$ or dyssynerg$ or symptom$ or laxity or care$ or health$ or wellbeing$ or well-being$ or prevent$ or rehabilitat$ or weak$ or hypertonic$ or overactiv$ or over activ$ or over-activ$)).tw.
7	((stress$ or mix$ or urg$ or urin$) adj5 incontinen$).ti.
8	(bladder$ adj5 (overactiv$ or over activ$ or over-activ$ or instabilit$ or hyper-reflex$ or hyperreflex$ or hyper reflex$ or incontinen$)).ti.
9	(detrusor$ adj5 (overactiv$ or over activ$ or over-activ$ or instabilit$ or hyper-reflex$ or hyperreflex$ or hyper reflex$)).ti.
10	((urgency adj2 frequency) or (frequency adj2 urgency)).ti.
11	((urin$ or bladder$) adj2 (urg$ or frequen$)).ti.
12	(SUI or OAB).ti.
13	(pelvic$ adj3 organ$ adj3 prolaps$).ti.
14	(urinary adj3 bladder adj3 prolaps$).ti.
15	((vagin$ or urogenital$ or genit$ or uter$ or viscer$ or anterior$ or posterior$ or apical or pelvi$ or vault$ or urethr$ or bladder$ or cervi$ or rectal or rectum) adj3 prolaps$).ti.
16	(splanchnoptos$ or visceroptos$).ti.
17	(hernia$ adj3 (pelvi$ or vagin$ or urogenital$ or uter$ or bladder$ or urethr$ or viscer$)).ti.
18	(urethroc?ele$ or enteroc?ele$ or sigmoidoc?ele$ or proctoc?ele$ or rectoc?ele$ or cystoc?ele$ or rectoenteroc?ele$ or cystourethroc?ele$).ti.
19	((faecal or fecal or faeces or feces or fecally or faecally or anal or anally or stool or stools or bowel or double or defecat$ or defaecat$) adj5 (incontinence or incontinent or urge$ or leak or leaking or leakage or soiling or seeping or seepage or impacted or impaction)).ti.
20	(urin$ adj3 (retention$ or retain$)).tw.
21	(voiding adj (disorder$ or dysfunction$ or problem$)).tw.
22	(empty$ adj disorder$ adj3 (bowel$ or bladder$ or vesical$ or stool$)).tw.
23	((urogeni$ or anorec$ or ano-rec$ or ano rec$) adj3 dysfunction$).tw.
24	((difficult$ or delay$ or irregular$ or infrequen$ or pain$) adj3 (defecat$ or defaecat$ or stool$ or faeces or feces or bowel movement$)).tw.
25	(obstruct$ adj3 (defecat$ or defaecat$)).tw.
26	((defecat$ or defaecat$ or evacuat$) adj3 (disorder$ or dysfunction$)).tw.
27	outlet$ dysfunction$ constipa$.tw.
28	(dys?ynerg$ adj (defecat$ or defaecat$)).tw.
29	(pelvi$ adj3 dyskines$).tw.
30	pelvi$ outlet$ obstruct$.tw.
31	anismus$.tw.
32	puborectal$ contract$.tw.
33	((rectal or rectum) adj3 urge$).tw.
34	(female adj sex$ adj (dysfunct$ or satisf$ or problem$ or symptom$ or arous$ or activit$ or disorder$)).tw.
35	(obstruct$ adj3 intercourse).tw.
36	(vagin$ adj3 laxity$).tw.

#	Searches
37	(vagin$ adj wind).tw.
38	vaginismus$.tw.
39	(vagin$ adj penetrat$ adj disorder$).tw.
40	or/2,4-39
41	Behavior Therapy/ or Health Behavior/ or Toilet Training/ or *Patient Education as Topic/ or *Self Care/ or *Life Style/
42	41 use ppez
43	behavior therapy/ or health behavior/ or *behavior modification/ or *adaptive behavior/ or toilet training/ or bladder training/ or *patient education/ or education program/ or *self care/ or *lifestyle/
44	43 use emczd
45	(behavio?r$ adj (therap$ or technique$ or treatment$ or method$ or intervention$)).ti.
46	((bladder or bowel or defecat$ or defaecat$ or voiding or continence) adj3 (train$ or retrain$ or re-train$ or re train$)).mp.
47	((habit$ or toilet$) adj (train$ or retrain$ or re-train$ or re train$)).mp.
48	((defecat$ or defaecat$ or voiding) adj3 (technique$ or strateg$)).mp.
49	((toilet$ or defecat$ or defaecat$) adj3 (position$ or posture$ or dynamic$)).mp.
50	(seat$ adj3 train$).mp.
51	(open$ adj3 bowel$).mp.
52	(splint or splinting).mp.
53	((perineal$ or perineum$) adj support$).mp.
54	(vaginal$ adj (digitation$ or digitali?ation$)).mp.
55	(digit$ adj3 evacuat$).mp.
56	(manual adj evacuat$).mp.
57	((bladder or bowel) adj2 (diary or diaries)).mp.
58	((bladder or bowel or toilet or voiding or defecat$ or defaecat$ or continence) adj5 education).mp.
59	(urge$ adj3 suppres$).mp.
60	(urge$ adj (strateg$ or depres$)).mp.
61	((schedul$ or delay$) adj void$).mp.
62	(voiding adj schedule$).mp.
63	(bladder adj2 drill$).mp.
64	self-manag$.mp.
65	or/42,44-64
66	40 and 65
67	limit 66 to english language
68	limit 67 to yr="1980 -Current"
69	(controlled clinical trial or pragmatic clinical trial or randomized controlled trial).pt. or drug therapy.fs. or (groups or placebo or randomi#ed or randomly or trial).ab.
70	crossover procedure/ or double blind procedure/ or randomized controlled trial/ or single blind procedure/ or (assign* or allocat* or crossover* or cross over* or ((doubl* or singl*) adj blind*) or factorial* or placebo* or random* or volunteer*).ti,ab.
71	meta-analysis/
72	meta-analysis as topic/
73	systematic review/
74	meta-analysis/
75	(meta analy* or metanaly* or metaanaly*).ti,ab.
76	((systematic or evidence) adj2 (review* or overview*)).ti,ab.
77	((systematic* or evidence*) adj2 (review* or overview*)).ti,ab.
78	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
79	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
80	(search* adj4 literature).ab.
81	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
82	cochrane.jw.
83	((pool* or combined) adj2 (data or trials or studies or results)).ab.
84	69 use ppez
85	70 use emczd
86	84 or 85
87	(or/71-72,75,77-82) use ppez
88	(or/73-76,78-83) use emczd
89	87 or 88
90	86 or 89
91	letter/ or editorial/ or news/ or historical article/ or anecdotes as topic/ or comment/ or case reports/
92	91 use ppez
93	(conference abstract or letter).pt.
94	(editorial or note).pt. or case report/ or case study/ or letter/
95	(or/93-94) use emczd
96	(letter or comment* or abstracts).ti.
97	or/92,95-96
98	randomized controlled trial/
99	random*.ti,ab.
100	or/98-99
101	97 not 100

#	Searches
102	(animals/ not humans/) or exp animals, laboratory/ or exp animal experimentation/ or exp models, animal/ or exp rodentia/
103	102 use ppez
104	(animal/ not human/) or nonhuman/ or exp animal experiment/ or exp experimental animal/ or animal model/ or exp rodent/
105	104 use emczd
106	(rat or rats or mouse or mice).ti.
107	or/101,103,105-106
108	68 not 107
109	90 and 108 [RCT/SR data]
110	108 not 109 [non-RCT/SR data]

Database(s): Cochrane Library – Wiley interface

Cochrane Database of Systematic Reviews, Issue 3 of 12, March 2020; **Cochrane Central Register of Controlled Trials**, Issue 3 of 12, March 2020

Date of last search: 25 March 2020

#	Searches
#1	MeSH descriptor: [Pelvic Floor] this term only
#2	MeSH descriptor: [Pelvic Floor Disorders] this term only
#3	((pelvi* NEXT (floor* or diaphragm*) NEAR/3 (dysfunction* or disorder* or fail* or impair* or incompeten* or insufficien* or dyssynerg* or symptom* or laxity or change* or care* or health* or wellbeing* or well-being* or prevent* or rehabilitat* or weak* or hypertonic* or overactiv* or over activ* or over-activ*)):ti,ab,kw
#4	((pelvi* NEXT (dysfunction* or disorder* or fail* or impair* or incompeten* or insufficien* or dyssynerg* or symptom* or laxity or care* or health* or wellbeing* or well-being* or prevent* or rehabilitat* or weak* or hypertonic* or overactiv* or over activ* or over-activ*)):ti,ab,kw
#5	MeSH descriptor: [Urinary Incontinence] explode all trees
#6	MeSH descriptor: [Urinary Bladder, Overactive] this term only
#7	(((stress* or mix* or urg* or urin*) NEAR/5 incontinen*)):ti,ab,kw
#8	(((bladder* NEAR/5 (overactiv* or over activ* or over-activ* or instabilit* or hyper-reflex* or hyperreflex* or hyper reflex* or incontinen*))):ti,ab,kw
#9	(((detrusor* NEAR/5 (overactiv* or over activ* or over-activ* or instabilit* or hyper-reflex* or hyperreflex* or hyper reflex*))):ti,ab,kw
#10	((((urgency NEAR/2 frequency) or (frequency NEAR/2 urgency))):ti,ab,kw
#11	((((urin* or bladder*) NEAR/2 (urg* or frequen*))):ti,ab,kw
#12	(((SUI or OAB))):ti,ab,kw
#13	MeSH descriptor: [Pelvic Organ Prolapse] explode all trees
#14	MeSH descriptor: [Rectocele] this term only
#15	(((pelvic* NEAR/3 organ* NEAR/3 prolaps*))):ti,ab,kw
#16	(((urinary NEAR/3 bladder NEAR/3 prolaps*))):ti,ab,kw
#17	((((vagin* or urogenital* or genit* or uter* or viscer* or anterior* or posterior* or apical or pelvi* or vault* or urethr* or bladder* or cervi* or rectal or rectum) NEAR/3 prolaps*))):ti,ab,kw
#18	(((splanchnoptos* or visceroptos*))):ti,ab,kw
#19	(((hernia* NEAR/3 (pelvi* or vagin* or urogenital* or uter* or bladder* or urethr* or viscer*))):ti,ab,kw
#20	(((urethroc?ele* or enteroc?ele* or sigmoidoc?ele* or proctoc?ele* or rectoc?ele* or cystoc?ele* or rectoenteroc?ele* or cystourethroc?ele*))):ti,ab,kw
#21	MeSH descriptor: [Fecal Incontinence] this term only
#22	((((faecal or fecal or faeces or feces or fecally or faecally or anal or anally or stool or stools or bowel or double or defecat* or defaecat*) NEAR/5 (incontinence or incontinent or urge* or leak or leaking or leakage or soiling or seeping or seepage or impacted or impaction))):ti,ab,kw
#23	MeSH descriptor: [Urinary Retention] this term only
#24	(((urin* NEAR/3 (retention* or retain*))):ti,ab,kw
#25	(((voiding NEXT (disorder* or dysfunction* or problem*))):ti,ab,kw
#26	(((empty* NEXT disorder* NEAR/3 (bowel* or bladder* or vesical* or stool*))):ti,ab,kw
#27	((((urogeni* or anorec* or ano-rec* or ano rec*) NEAR/3 dysfunction*))):ti,ab,kw
#28	MeSH descriptor: [Fecal Impaction] this term only
#29	((((difficult* or delay* or irregular* or infrequen* or pain*) NEAR/3 (defecat* or defaecat* or stool* or faecal or fecal or faeces or feces or fecally or faecally or bowel movement*))):ti,ab,kw
#30	(((obstruct* NEAR/3 (defecat* or defaecat*))):ti,ab,kw
#31	((((defecat* or defaecat* or evacuat*) NEAR/3 (disorder* or dysfunction*))):ti,ab,kw
#32	((outlet* dysfunction* constipa*)):ti,ab,kw
#33	(((dys?ynerg* NEXT (defecat* or defaecat*))):ti,ab,kw
#34	(((pelvi* NEAR/3 dyskines*))):ti,ab,kw
#35	((pelvi* outlet* obstruct*)):ti,ab,kw
#36	((anismus*)):ti,ab,kw
#37	((puborectal* contract*)):ti,ab,kw
#38	((((rectal or rectum) NEAR/3 urge*))):ti,ab,kw
#39	(((female NEXT sex* NEXT (dysfunct* or satisf* or problem* or symptom* or arous* or activit* or disorder*))):ti,ab,kw
#40	(((obstruct* NEAR/3 intercourse))):ti,ab,kw
#41	(((vagin* NEAR/3 laxity*))):ti,ab,kw
#42	(((vagin* NEXT wind))):ti,ab,kw

#	Searches
#43	MeSH descriptor: [Vaginismus] this term only
#44	((vaginismus*)):ti,ab,kw
#45	(((vagin* NEXT penetrat* NEXT disorder*))):ti,ab,kw
#46	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39 OR #40 OR #41 OR #42 OR #43 OR #44 OR #45
#47	MeSH descriptor: [Behavior Therapy] this term only
#48	MeSH descriptor: [Health Behavior] this term only
#49	MeSH descriptor: [Toilet Training] this term only
#50	MeSH descriptor: [Patient Education as Topic] this term only
#51	MeSH descriptor: [Self Care] this term only
#52	MeSH descriptor: [Life Style] this term only
#53	(((behavior* or behaviour*) NEXT (therap* or technique* or treatment* or method* or intervention*))):ti
#54	(((bladder or bowel or defecat* or defaecat* or voiding or continence) NEAR/3 (train* or retrain* or re-train* or re train*))):ti,ab,kw
#55	(((habit* or toilet*) NEXT (train* or retrain* or re-train* or re train*))):ti,ab,kw
#56	(((defecat* or defaecat* or voiding) NEAR/3 (technique* or strateg*))):ti,ab,kw
#57	(((toilet* or defecat* or defaecat*) NEAR/3 (position* or posture* or dynamic*))):ti,ab,kw
#58	((seat* NEAR/3 train*)):ti,ab,kw
#59	((open* NEAR/3 bowel*)):ti,ab,kw
#60	((splint or splinting)):ti,ab,kw
#61	(((perineal* or perineum*) NEXT support*)):ti,ab,kw
#62	((vaginal* NEXT (digitation* or digitalisation* or digitalization*))):ti,ab,kw
#63	((digit* NEAR/3 evacuat*)):ti,ab,kw
#64	((manual NEXT evacuat*)):ti,ab,kw
#65	(((bladder or bowel) NEAR/2 (diary or diaries))):ti,ab,kw
#66	(((bladder or bowel or toilet or voiding or defecat* or defaecat* or continence) NEAR/5 education)):ti,ab,kw
#67	((urge* NEAR/3 suppres*)):ti,ab,kw
#68	((urge* NEXT (strateg* or depres*))):ti,ab,kw
#69	(((schedul* or delay*) NEXT void*)):ti,ab,kw
#70	((voiding NEXT schedule*)):ti,ab,kw
#71	((bladder NEAR/2 drill*)):ti,ab,kw
#72	(self-manag*):ti,ab,kw
#73	#47 OR #48 OR #49 OR #50 OR #51 OR #52 OR #53 OR #54 OR #55 OR #56 OR #57 OR #58 OR #59 OR #60 OR #61 OR #62 OR #63 OR #64 OR #65 OR #66 OR #67 OR #68 OR #69 OR #70 OR #71 OR #72
#74	#46 AND #73

Database(s): Database of Abstracts of Reviews of Effects (DARE); HTA Database – CRD interface

Date of last search: 25 March 2020

#	Searches
1	MeSH DESCRIPTOR Pelvic Floor IN DARE,HTA
2	MeSH DESCRIPTOR Pelvic Floor Disorders IN DARE,HTA
3	((pelvi* NEXT (floor* or diaphragm*) NEAR3 (dysfunction* or disorder* or fail* or impair* or incompeten* or insufficien* or dyssynerg* or symptom* or laxity or change* or care* or health* or wellbeing* or well-being* or prevent* or rehabilitat* or weak* or hypertonic* or overactiv* or over activ* or over-activ*))) IN DARE, HTA
4	((pelvi* NEXT (dysfunction* or disorder* or fail* or impair* or incompeten* or insufficien* or dyssynerg* or symptom* or laxity or care* or health* or wellbeing* or well-being* or prevent* or rehabilitat* or weak* or hypertonic* or overactiv* or over activ* or over-activ*))) IN DARE, HTA
5	MeSH DESCRIPTOR Urinary Incontinence EXPLODE ALL TREES IN DARE,HTA
6	MeSH DESCRIPTOR Urinary Bladder, Overactive IN DARE,HTA
7	(((stress* or mix* or urg* or urin*) NEAR5 incontinen*)) IN DARE, HTA
8	((bladder* NEAR5 (overactiv* or over activ* or over-activ* or instabilit* or hyper-reflex* or hyperreflex* or hyper reflex* or incontinen*))) IN DARE, HTA
9	((detrusor* NEAR5 (overactiv* or over activ* or over-activ* or instabilit* or hyper-reflex* or hyperreflex* or hyper reflex*))) IN DARE, HTA
10	(((urgency NEAR2 frequency) or (frequency NEAR2 urgency))) IN DARE, HTA
11	(((urin* or bladder*) NEAR2 (urg* or frequen*))) IN DARE, HTA
12	((SUI or OAB)) IN DARE, HTA
13	MeSH DESCRIPTOR Pelvic Organ Prolapse EXPLODE ALL TREES IN DARE,HTA
14	MeSH DESCRIPTOR Rectocele IN DARE,HTA
15	((pelvic* NEAR3 organ* NEAR3 prolaps*)) IN DARE, HTA
16	((urinary NEAR3 bladder NEAR3 prolaps*)) IN DARE, HTA
17	(((vagin* or urogenital* or genit* or uter* or viscer* or anterior* or posterior* or apical or pelvi* or vault* or urethr* or bladder* or cervi* or rectal or rectum) NEAR3 prolaps*)) IN DARE, HTA
18	((splanchnoptos* or visceroptos*)) IN DARE, HTA
19	((hernia* NEAR3 (pelvi* or vagin* or urogenital* or uter* or bladder* or urethr* or viscer*))) IN DARE, HTA
20	((urethroc?ele* or enteroc?ele* or sigmoidoc?ele* or proctoc?ele* or rectoc?ele* or cystoc?ele* or rectoenteroc?ele* or cystourethroc?ele*)) IN DARE, HTA

#	Searches
21	MeSH DESCRIPTOR Fecal Incontinence IN DARE,HTA
22	(((faecal or fecal or faeces or feces or fecally or faecally or anal or anally or stool or stools or bowel or double or defecat* or defaecat*) NEAR5 (incontinence or incontinent or urge* or leak or leaking or leakage or soiling or seeping or seepage or impacted or impaction))) IN DARE, HTA
23	MeSH DESCRIPTOR Urinary Retention IN DARE,HTA
24	((urin* NEAR3 (retention* or retain*))) IN DARE, HTA
25	((voiding NEXT (disorder* or dysfunction* or problem*))) IN DARE, HTA
26	((empty* NEXT disorder* NEAR3 (bowel* or bladder* or vesical* or stool*))) IN DARE, HTA
27	(((urogeni* or anorec* or ano-rec* or ano rec*) NEAR3 dysfunction*)) IN DARE, HTA
28	MeSH DESCRIPTOR Fecal Impaction IN DARE,HTA
29	(((difficult* or delay* or irregular* or infrequen* or pain*) NEAR3 (defecat* or defaecat* or stool* or faecal or fecal or faeces or feces or fecally or faecally or bowel movement*))) IN DARE, HTA
30	((obstruct* NEAR3 (defecat* or defaecat*))) IN DARE, HTA
31	(((defecat* or defaecat* or evacuat*) NEAR3 (disorder* or dysfunction*))) IN DARE, HTA
32	(((outlet* NEXT dysfunction* NEXT constipa*))) IN DARE, HTA
33	((dys?ynerg* NEXT (defecat* or defaecat*))) IN DARE, HTA
34	((pelvi* NEAR3 dyskines*)) IN DARE, HTA
35	((pelvi* NEXT outlet* NEXT obstruct*)) IN DARE, HTA
36	((anismus*)) IN DARE, HTA
37	((puborectal* NEXT contract*)) IN DARE, HTA
38	(((rectal or rectum) NEAR3 urge*)) IN DARE, HTA
39	((female NEXT sex* NEXT (dysfunct* or satisf* or problem* or symptom* or arous* or activit* or disorder*))) IN DARE, HTA
40	((obstruct* NEAR3 intercourse)) IN DARE, HTA
41	((vagin* NEAR3 laxity*)) IN DARE, HTA
42	((vagin* NEXT wind)) IN DARE, HTA
43	MeSH DESCRIPTOR Vaginismus IN DARE,HTA
44	((vaginismus*)) IN DARE, HTA
45	((vagin* NEXT penetrat* NEXT disorder*)) IN DARE, HTA
46	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39 OR #40 OR #41 OR #42 OR #43 OR #44 OR #45
47	MeSH DESCRIPTOR behavior therapy IN DARE,HTA
48	MeSH DESCRIPTOR health behavior IN DARE,HTA
49	MeSH DESCRIPTOR toilet training IN DARE,HTA
50	MeSH DESCRIPTOR patient education as topic IN DARE,HTA
51	MeSH DESCRIPTOR self care IN DARE,HTA
52	MeSH DESCRIPTOR life style IN DARE,HTA
53	((((behavior* or behaviour*) NEXT (therap* or technique* or treatment* or method* or intervention*))):TI IN DARE, HTA
54	(((((bladder or bowel or defecat* or defaecat* or voiding or continence) NEAR3 (train* or retrain* or re-train* or re train*)))) IN DARE, HTA
55	(((((habit* or toilet*) NEXT (train* or retrain* or re-train* or re train*)))) IN DARE, HTA
56	(((((defecat* or defaecat* or voiding) NEAR3 (technique* or strateg*)))) IN DARE, HTA
57	(((((toilet* or defecat* or defaecat*) NEAR3 (position* or posture* or dynamic*))))) IN DARE, HTA
58	(((seat* NEAR3 train*))) IN DARE, HTA
59	(((open* NEAR3 bowel*))) IN DARE, HTA
60	(((splint or splinting))) IN DARE, HTA
61	(((((perineal* or perineum*) NEXT support*))) IN DARE, HTA
62	(((vaginal* NEXT (digitation* or digitalisation* or digitalization*)))) IN DARE, HTA
63	(((digit* NEAR3 evacuat*))) IN DARE, HTA
64	(((manual NEXT evacuat*))) IN DARE, HTA
65	((((bladder or bowel) NEAR2 (diary or diaries)))) IN DARE, HTA
66	((((bladder or bowel or toilet or voiding or defecat* or defaecat* or continence) NEAR5 education))) IN DARE, HTA
67	(((urge* NEAR3 suppres*))) IN DARE, HTA
68	(((urge* NEXT (strateg* or depres*)))) IN DARE, HTA
69	(((((schedul* or delay*) NEXT void*))) IN DARE, HTA
70	(((voiding NEXT schedule*))) IN DARE, HTA
71	(((bladder NEAR2 drill*))) IN DARE, HTA
72	((self-manag*)) IN DARE, HTA
73	#47 OR #48 OR #49 OR #50 OR #51 OR #52 OR #53 OR #54 OR #55 OR #56 OR #57 OR #58 OR #59 OR #60 OR #61 OR #62 OR #63 OR #64 OR #65 OR #66 OR #67 OR #68 OR #69 OR #70 OR #71 OR #72
74	#46 AND #73

Database(s): EMCare & PsycINFO (Multifile) – OVID interface
EMCare 1995 to present; **APA PsycINFO** 1806 to March Week 3 2020
Date of last search: 25 March 2020

1 *Multifile database codes: emcr = Emcare; psyh = APA PsycINFO*

#	Searches
1	pelvis floor/ use emcr
2	pelvic floor disorder/ use emcr
3	(pelvi$ adj (floor$ or diaphragm$) adj3 (dysfunction$ or disorder$ or fail$ or impair$ or incompeten$ or insufficien$ or dyssynerg$ or symptom$ or laxity or change$ or care$ or health$ or wellbeing$ or well-being$ or prevent$ or rehabilitat$ or weak$ or hypertonic$ or overactiv$ or over activ$ or over-activ$)).tw.
4	(pelvi$ adj (dysfunction$ or disorder$ or fail$ or impair$ or incompeten$ or insufficien$ or dyssynerg$ or symptom$ or laxity or care$ or health$ or wellbeing$ or well-being$ or prevent$ or rehabilitat$ or weak$ or hypertonic$ or overactiv$ or over activ$ or over-activ$)).tw.
5	1 or 2 or 3 or 4
6	exp *Urinary Incontinence/ use emcr,psyh
7	*overactive bladder/ use emcr
8	*bladder instability/ use emcr
9	((stress$ or mix$ or urg$ or urin$) adj5 incontinen$).ti.
10	(bladder$ adj5 (overactiv$ or over activ$ or over-activ$ or instabilit$ or hyper-reflex$ or hyperreflex$ or hyper reflex$ or incontinen$)).ti.
11	(detrusor$ adj5 (overactiv$ or over activ$ or over-activ$ or instabilit$ or hyper-reflex$ or hyperreflex$ or hyper reflex$)).ti.
12	((urgency adj2 frequency) or (frequency adj2 urgency)).ti.
13	((urin$ or bladder$) adj2 (urg$ or frequen$)).ti.
14	(SUI or OAB).ti.
15	6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14
16	exp *pelvic organ prolapse/ use emcr
17	*rectocele/ use emcr
18	(pelvic$ adj3 organ$ adj3 prolaps$).ti.
19	(urinary adj3 bladder adj3 prolaps$).ti.
20	((vagin$ or urogenital$ or genit$ or uter$ or viscer$ or anterior$ or posterior$ or apical or pelvi$ or vault$ or urethr$ or bladder$ or cervi$ or rectal or rectum) adj3 prolaps$).ti.
21	(splanchnoptos$ or visceroptos$).ti.
22	(hernia$ adj3 (pelvi$ or vagin$ or urogenital$ or uter$ or bladder$ or urethr$ or viscer$)).ti.
23	(urethroc?ele$ or enteroc?ele$ or sigmoidoc?ele$ or proctoc?ele$ or rectoc?ele$ or cystoc?ele$ or rectoenteroc?ele$ or cystourethroc?ele$).ti.
24	16 or 17 or 18 or 19 or 20 or 21 or 22 or 23
25	exp *Fecal Incontinence/ use emcr,psyh
26	((faecal or fecal or faeces or feces or fecally or faecally or anal or anally or stool or stools or bowel or double or defecat$ or defaecat$) adj5 (incontinence or incontinent or urge$ or leak or leaking or leakage or soiling or seeping or seepage or impacted or impaction)).ti.
27	25 or 26
28	urine retention/ use emcr
29	(urin$ adj3 (retention$ or retain$)).tw.
30	(voiding adj (disorder$ or dysfunction$ or problem$)).tw.
31	(empty$ adj disorder$ adj3 (bowel$ or bladder$ or vesical$ or stool$)).tw.
32	((urogeni$ or anorec$ or ano-rec$ or ano rec$) adj3 dysfunction$).tw.
33	defecation disorder/ use emcr
34	feces impaction/ use emcr
35	((difficult$ or delay$ or irregular$ or infrequen$ or pain$) adj3 (defecat$ or defaecat$ or stool$ or faeces or feces or bowel movement$)).tw.
36	(obstruct$ adj3 (defecat$ or defaecat$)).tw.
37	((defecat$ or defaecat$ or evacuat$) adj3 (disorder$ or dysfunction$)).tw.
38	outlet$ dysfunction$ constipa$.tw.
39	(dys?ynerg$ adj (defecat$ or defaecat$)).tw.
40	(pelvi$ adj3 dyskines$).tw.
41	pelvi$ outlet$ obstruct$.tw.
42	anismus$.tw.
43	puborectal$ contract$.tw.
44	((rectal or rectum) adj3 urge$).tw.
45	28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44
46	Female Sexual Dysfunction/ use emcr,psyh
47	(female adj sex$ adj (dysfunct$ or satisf$ or problem$ or symptom$ or arous$ or activit$ or disorder$)).tw.
48	(obstruct$ adj3 intercourse).tw.
49	(vagin$ adj3 laxity$).tw.
50	(vagin$ adj wind).tw.
51	Vaginismus/ use emcr,psyh
52	vaginismus$.tw.
53	(vagin$ adj penetrat$ adj disorder$).tw.
54	46 or 47 or 48 or 49 or 50 or 51 or 52 or 53
55	Behavior Therapy/ use emcr,psyh
56	Health Behavior/ use emcr,psyh
57	*Behavior Modification/ use emcr,psyh
58	*Adaptive Behavior/ use emcr,psyh
59	Toilet Training/ use emcr,psyh

#	Searches
60	bladder training/ use emcr
61	*Patient Education/ use emcr,psyh
62	Education Program/ use emcr,psyh
63	*Self Care/ use emcr,psyh
64	*Lifestyle/ use emcr,psyh
65	(behavio?r$ adj (therap$ or technique$ or treatment$ or method$ or intervention$)).ti.
66	((bladder or bowel or defecat$ or defaecat$ or voiding or continence) adj3 (train$ or retrain$ or re-train$ or re train$)).mp.
67	((habit$ or toilet$) adj (train$ or retrain$ or re-train$ or re train$)).mp.
68	((defecat$ or defaecat$ or voiding) adj3 (technique$ or strateg$)).mp.
69	((toilet$ or defecat$ or defaecat$) adj3 (position$ or posture$ or dynamic$)).mp.
70	(seat$ adj3 train$).mp.
71	(open$ adj3 bowel$).mp.
72	(splint or splinting).mp.
73	((perineal$ or perineum$) adj support$).mp.
74	(vaginal$ adj (digitation$ or digitali?ation$)).mp.
75	(digit$ adj3 evacuat$).mp.
76	(manual adj evacuat$).mp.
77	((bladder or bowel) adj2 (diary or diaries)).mp.
78	((bladder or bowel or toilet or voiding or defecat$ or defaecat$ or continence) adj5 education).mp.
79	(urge$ adj3 suppres$).mp.
80	(urge$ adj (strateg$ or depres$)).mp.
81	((schedul$ or delay$) adj void$).mp.
82	(voiding adj schedule$).mp.
83	(bladder adj2 drill$).mp.
84	self-manag$.mp.
85	55 or 56 or 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74 or 75 or 76 or 77 or 78 or 79 or 80 or 81 or 82 or 83 or 84
86	(5 or 15 or 24 or 27 or 45 or 54) and 85
87	limit 86 to (english language and yr="1980 -Current") [General Exclusions filter applied]

Economic Search

One global search was conducted for economic evidence across the guideline.

Database(s): NHS Economic Evaluation Database (NHS EED); HTA Database – CRD interface

Date of last search: 3 February 2021

#	Searches
1	MeSH DESCRIPTOR Pelvic Floor IN NHSEED,HTA
2	MeSH DESCRIPTOR Pelvic Floor Disorders IN NHSEED,HTA
3	MeSH DESCRIPTOR Urinary Bladder, Overactive IN NHSEED,HTA
4	(((pelvi* NEXT (floor* or diaphragm*) NEAR3 (dysfunction* or disorder* or fail* or impair* or incompeten* or insufficien* or dyssynerg* or symptom* or laxity or change* or care* or health* or wellbeing* or well-being* or prevent* or rehabilitat* or weak* or hypertonic* or overactiv* or over activ* or over-activ*)))) IN NHSEED, HTA
5	MeSH DESCRIPTOR Urinary Incontinence EXPLODE ALL TREES IN NHSEED,HTA
6	MeSH DESCRIPTOR Urinary Bladder, Overactive IN NHSEED,HTA
7	((((stress* or mix* or urg* or urin*) NEAR5 incontinen*))) IN NHSEED, HTA
8	(((bladder* NEAR5 (overactiv* or over activ* or over-activ* or instabilit* or hyper-reflex* or hyperreflex* or hyper reflex* or incontinen*))))) IN NHSEED, HTA
9	(((detrusor* NEAR5 (overactiv* or over activ* or over-activ* or instabilit* or hyper-reflex* or hyperreflex* or hyper reflex*))))) IN NHSEED, HTA
10	((((urgency NEAR2 frequency) or (frequency NEAR2 urgency)))) IN NHSEED, HTA
11	((((urin* or bladder*) NEAR2 (urg* or frequen*)))) IN NHSEED, HTA
12	(((SUI or OAB))) IN NHSEED, HTA
13	MeSH DESCRIPTOR Pelvic Organ Prolapse EXPLODE ALL TREES IN NHSEED,HTA
14	MeSH DESCRIPTOR Rectocele IN NHSEED,HTA
15	(((pelvic* NEAR3 organ* NEAR3 prolaps*))) IN NHSEED, HTA
16	(((urinary NEAR3 bladder NEAR3 prolaps*))) IN NHSEED, HTA
17	((((vagin* or urogenital* or genit* or uter* or viscer* or anterior* or posterior* or apical or pelvi* or vault* or urethr* or bladder* or cervi* or rectal or rectum) NEAR3 prolaps*))) IN NHSEED, HTA
18	(((splanchnoptos* or visceroptos*))) IN NHSEED, HTA
19	(((hernia* NEAR3 (pelvi* or vagin* or urogenital* or uter* or bladder* or urethr* or viscer*)))) IN NHSEED, HTA
20	(((urethroc?ele* or enteroc?ele* or sigmoidoc?ele* or proctoc?ele* or rectoc?ele* or cystoc?ele* or rectoenteroc?ele* or cystourethroc?ele*))) IN NHSEED, HTA
21	MeSH DESCRIPTOR Fecal Incontinence IN NHSEED,HTA
22	((((faecal or fecal or faeces or feces or fecally or faecally or anal or anally or stool or stools or bowel or double or defecat* or defaecat*) NEAR5 (incontinence or incontinent or urge* or leak or leaking or leakage or soiling or seeping or seepage or impacted or impaction)))) IN NHSEED, HTA

#	Searches
23	MeSH DESCRIPTOR Urinary Retention IN NHSEED,HTA
24	(((urin* NEAR3 (retention* or retain*)))) IN NHSEED, HTA
25	(((voiding NEXT (disorder* or dysfunction* or problem*)))) IN NHSEED, HTA
26	(((empty* NEXT disorder* NEAR3 (bowel* or bladder* or vesical* or stool*)))) IN NHSEED, HTA
27	((((urogeni* or anorec* or ano-rec* or ano rec*) NEAR3 dysfunction*))) IN NHSEED, HTA
28	MeSH DESCRIPTOR Fecal Impaction IN NHSEED,HTA
29	((((difficult* or delay* or irregular* or infrequen* or pain*) NEAR3 (defecat* or defaecat* or stool* or faecal or fecal or faeces or feces or fecally or faecally or bowel movement*)))) IN NHSEED, HTA
30	(((obstruct* NEAR3 (defecat* or defaecat*)))) IN NHSEED, HTA
31	((((defecat* or defaecat* or evacuat*) NEAR3 (disorder* or dysfunction*)))) IN NHSEED, HTA
32	((((outlet* NEXT dysfunction* NEXT constipa*)))) IN NHSEED, HTA
33	(((dys?ynerg* NEXT (defecat* or defaecat*)))) IN NHSEED, HTA
34	(((pelvi* NEAR3 dyskines*))) IN NHSEED, HTA
35	(((pelvi* NEXT outlet* NEXT obstruct*))) IN NHSEED, HTA
36	(((anismus*))) IN NHSEED, HTA
37	(((puborectal* NEXT contract*))) IN NHSEED, HTA
38	((((rectal or rectum) NEAR3 urge*))) IN NHSEED, HTA
39	(((female NEXT sex* NEXT (dysfunct* or satisf* or problem* or symptom* or arous* or activit* or disorder*)))) IN NHSEED, HTA
40	(((obstruct* NEAR3 intercourse))) IN NHSEED, HTA
41	(((vagin* NEAR3 laxity*))) IN NHSEED, HTA
42	(((vagin* NEXT wind))) IN NHSEED, HTA
43	MeSH DESCRIPTOR Vaginismus IN NHSEED,HTA
44	(((vaginismus*))) IN NHSEED, HTA
45	(((vagin* NEXT penetrat* NEXT disorder*))) IN NHSEED, HTA
46	(#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39 OR #40 OR #41 OR #42 OR #43 OR #44 OR #45) IN NHSEED, HTA

Database(s): Medline & Embase (Multifile) – OVID interface
Embase Classic+Embase 1947 to 2021 February 01; **Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily** 1946 to February 01, 2021
Date of last search: 3 February 2021

Multifile database codes: emczd = Embase Classic+Embase; ppez= MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily

#	Searches
1	Pelvic Floor/ use ppez
2	Pelvic Floor Disorders/ use ppez
3	pelvis floor/ use emczd
4	pelvic floor disorder/ use emczd
5	(pelvi$ adj (floor$ or diaphragm$) adj3 (dysfunction$ or disorder$ or fail$ or impair$ or incompeten$ or insufficien$ or dyssynerg$ or symptom$ or laxity or change$ or care$ or health$ or wellbeing$ or well-being$ or prevent$ or rehabilitat$ or weak$ or hypertonic$ or overactiv$ or over activ$ or over-activ$)).tw.
6	(pelvi$ adj (dysfunction$ or disorder$ or fail$ or impair$ or incompeten$ or insufficien$ or dyssynerg$ or symptom$ or laxity or care$ or health$ or wellbeing$ or well-being$ or prevent$ or rehabilitat$ or weak$ or hypertonic$ or overactiv$ or over activ$ or over-activ$)).tw.
7	or/1-6
8	exp *Urinary Incontinence/ use ppez
9	*Urinary Bladder, Overactive/ use ppez
10	exp *urine incontinence/ use emczd
11	*overactive bladder/ use emczd
12	*bladder instability/ use emczd
13	((stress$ or mix$ or urg$ or urin$) adj5 incontinen$).ti.
14	(bladder$ adj5 (overactiv$ or over activ$ or over-activ$ or instabilit$ or hyper-reflex$ or hyperreflex$ or hyper reflex$ or incontinen$)).ti.
15	(detrusor$ adj5 (overactiv$ or over activ$ or over-activ$ or instabilit$ or hyper-reflex$ or hyperreflex$ or hyper reflex$)).ti.
16	((urgency adj2 frequency) or (frequency adj2 urgency)).ti.
17	((urin$ or bladder$) adj2 (urg$ or frequen$)).ti.
18	(SUI or OAB).ti.
19	or/8-18
20	exp *Pelvic Organ Prolapse/ use ppez
21	exp *pelvic organ prolapse/ use emczd
22	*Rectocele/ use ppez
23	*rectocele/ use emczd
24	(pelvic$ adj3 organ$ adj3 prolaps$).ti.
25	(urinary adj3 bladder adj3 prolaps$).ti.

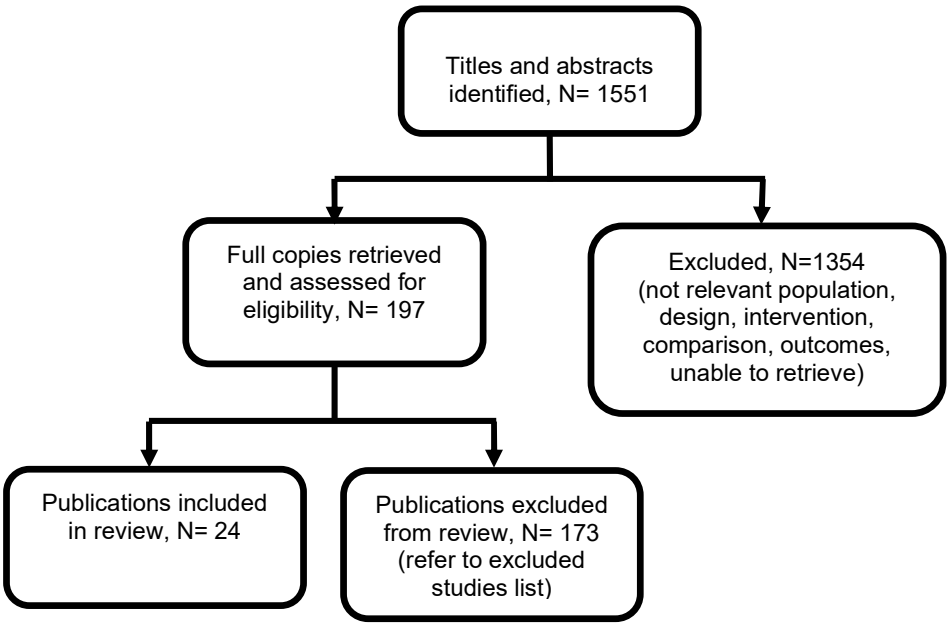
#	Searches
26	((vagin$ or urogenital$ or genit$ or uter$ or viscer$ or anterior$ or posterior$ or apical or pelvi$ or vault$ or urethr$ or bladder$ or cervi$ or rectal or rectum) adj3 prolaps$).ti.
27	(splanchnoptos$ or visceroptos$).ti.
28	(hernia$ adj3 (pelvi$ or vagin$ or urogenital$ or uter$ or bladder$ or urethr$ or viscer$)).ti.
29	(urethroc?ele$ or enteroc?ele$ or sigmoidoc?ele$ or proctoc?ele$ or rectoc?ele$ or cystoc?ele$ or rectoenteroc?ele$ or cystourethroc?ele$).ti.
30	or/20-29
31	*Fecal Incontinence/ use ppez
32	*feces incontinence/ use emczd
33	((faecal or fecal or faeces or feces or fecally or faecally or anal or anally or stool or stools or bowel or double or defecat$ or defaecat$) adj5 (incontinence or incontinent or urge$ or leak or leaking or leakage or soiling or seeping or seepage or impacted or impaction)).ti.
34	or/31-33
35	Urinary Retention/ use ppez
36	urine retention/ use emczd
37	(urin$ adj3 (retention$ or retain$)).tw.
38	(voiding adj (disorder$ or dysfunction$ or problem$)).tw.
39	(empty$ adj disorder$ adj3 (bowel$ or bladder$ or vesical$ or stool$)).tw.
40	((urogeni$ or anorec$ or ano-rec$ or ano rec$) adj3 dysfunction$).tw.
41	defecation disorder/ use emczd
42	Fecal Impaction/ use ppez
43	Feces Impaction/ use emczd
44	((difficult$ or delay$ or irregular$ or infrequen$ or pain$) adj3 (defecat$ or defaecat$ or stool$ or faeces or feces or bowel movement$)).tw.
45	(obstruct$ adj3 (defecat$ or defaecat$)).tw.
46	((defecat$ or defaecat$ or evacuat$) adj3 (disorder$ or dysfunction$)).tw.
47	outlet$ dysfunction$ constipa$.tw.
48	(dys?ynerg$ adj (defecat$ or defaecat$)).tw.
49	(pelvi$ adj3 dyskines$).tw.
50	pelvi$ outlet$ obstruct$.tw.
51	anismus$.tw.
52	puborectal$ contract$.tw.
53	((rectal or rectum) adj3 urge$).tw.
54	or/35-53
55	female sexual dysfunction/ use emczd
56	(female adj sex$ adj (dysfunct$ or satisf$ or problem$ or symptom$ or arous$ or activit$ or disorder$)).tw.
57	(obstruct$ adj3 intercourse).tw.
58	(vagin$ adj3 laxity$).tw.
59	(vagin$ adj wind).tw.
60	Vaginismus/ use ppez
61	vaginism/ use emczd
62	vaginismus$.tw.
63	(vagin$ adj penetrat$ adj disorder$).tw.
64	or/55-63
65	7 or 19 or 30 or 34 or 54 or 64
66	Economics/ use ppez
67	Value of life/ use ppez
68	exp "Costs and Cost Analysis"/ use ppez
69	exp Economics, Hospital/ use ppez
70	exp Economics, Medical/ use ppez
71	Economics, Nursing/ use ppez
72	Economics, Pharmaceutical/ use ppez
73	exp "Fees and Charges"/ use ppez
74	exp Budgets/ use ppez
75	health economics/ use emczd
76	exp economic evaluation/ use emczd
77	exp health care cost/ use emczd
78	exp fee/ use emczd
79	budget/ use emczd
80	funding/ use emczd
81	budget*.ti,ab.
82	cost*.ti.
83	(economic* or pharmaco?economic*).ti.
84	(price* or pricing*).ti,ab.
85	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
86	(financ* or fee or fees).ti,ab.
87	(value adj2 (money or monetary)).ti,ab.
88	or/66-87
89	65 and 88
90	limit 89 to english language

1

Appendix C – Clinical evidence study selection

Study selection for: What is the effectiveness of behavioural approaches (for example toilet training, seating, splinting) for improving symptoms associated with pelvic floor dysfunction?

Figure 1: Study selection flow chart



Appendix D – Evidence tables

Evidence tables for review question: What is the effectiveness of behavioural approaches (for example toilet training, seating, splinting) for improving symptoms associated with pelvic floor dysfunction?

Note. Whereas in the body of the text the terminology pelvic floor muscle training is used for consistency, some studies have used the terminology pelvic floor muscle exercise (which is used interchangeably in the literature). In the evidence extraction tables below we have used the intervention name in the studies to align with the authors' terminology.

Table 4: Evidence tables

Study details	Participants	Interventions	Methods	Outcomes	Comments
Full citation Alewijnse, D., Metsemakers, J. F. M., Mesters, I. E. P. E., Van den Borne, B., Effectiveness of pelvic floor muscle exercise therapy supplemented with a health education program to promote long-term adherence among women with urinary incontinence, Neurourology and Urodynamics, 22, 284-295, 2003 **Ref Id** 693785 **Country/ies where the study was carried out** The Netherlands **Study type**	**Sample size** Total randomised: N = 129 PFMT + reminder intervention: n = 22 PFMT + reminder and self help: n = 25 PFMT + reminder, self help and counselling: n = 27 PFME alone: n = 29 **Characteristics** Age (mean, SD): 55.6 (10.9) BMI (mean, SD): 26.9 (4.8) Type of incontinence (no., %): stress - 48 (37.2); urge - 11 (8.5); mixed - 40 (31.0); not reported - 30 (23.3)	**Interventions** All groups involved PFMT, which included PFM exercises, performing toileting and drinking behaviour, the 'knack 'technique to prevent incontinent wet episodes,and automatically and subconsciously use the pelvic floor muscles in daily posture **PFMT + reminder intervention:** consisted of a folder with information about PFME therapy and adherence behaviour and several tips to remember adherence behaviour. Stickers were included as reminders. **PFMT + reminder and self help:** a guide addressing facts and myths about UI and pelvic floor muscles, coping with	**Details** Symptom distress was assessed with the Incontinence Quality of Life scale Symptom impact was assessed with the Incontinence Impact Questionnaire Satisfaction and perceived improvement were assessed with five point scales Adherence was assessed using a 7 day diary which measures the number of days per week women had followed the behavioural advice of the physiotherapist at posttest and followups	**Results** **Incontinence Quality of Life scale** Pre test PFMT + reminder: 79.8 (18.0) PFMT + reminder and self help: 87.2 (12.1) PFMT + reminder, self help and counselling: 89.8 (10.4) PFMT alone: 81.1 (14.0) Post test PFMT + reminder: 94.1 (12.8) PFME + reminder and self help: 93.9 (13.5) PFMT + reminder, self help and counselling: 95.1 (8.4) PFMT alone: 94.6 (11.9) 3 months PFME + reminder: 96.3 (9.4) PFMT + reminder and self help: 97.8 (10.7)	**Limitations** Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Some concerns 1.1: No information, states that participants were randomly allocated to groups by physiotherapists/GP assistants but no more detail given 1.2: No information 1.3: No information, baseline characteristics between groups not reported, although no differences in baseline IQOL score

Study details	Participants	Interventions	Methods	Outcomes	Comments
A longitudinal randomised controlled trial **Aim of the study** To evaluate the effectiveness of physiotherapeutic pelvic floor muscle exercise therapy supplemented with a health education program to promote long-term adherence among women with stress, mixed, and urge urinary incontinence **Study dates** Not reported **Source of funding** Praeventiefonds/ZON (Netherlands Care Research)	IQOL (mean, SD) (n=128): 83.9 (15.8) IIQ-7 (mean, SD): 2.2 (2.7) **Inclusion criteria** Community-dwelling women over 17 years old with at least one of the following risk factors for UI: vaginal delivery, medical history of gynecological operations, asthma, arthritis, and obesity. Women also had to be able to complete questionnaires, understand the Dutch language and complete the consent form **Exclusion criteria** Women without symptoms of stress, urge, or mixed UI based on their history, women suffering from neurological conditions such as MS, CVA, and spina bifida or suffering from venereal disease, women with viral infections, women using medication for UI or using medication that enhances/influences UI, women who were pregnant or within 3	UI, tips to tackle all barriers hampering adherence behaviour, and relapse prevention strategies to support the self-management process. The self-help guide also contained the stickers of the Reminder intervention and reminder tips. **PFMT + self help + counselling:** identical to the Reminder and Self-Help Guide intervention, with the addition of a counselling scheme for physiotherapists, guiding structural oral feedback, and reinforcement to promote adherence behaviour **Control:** PFME alone (usual care)		PFMT + reminder, self help and counselling: 96.8 (10.3) PFMT alone: 95.0 (14.0) 12 months PFMT + reminder: 92.8 (15.0) PFMT + reminder and self help: 94.6 (13.3) PFMT + reminder, self help and counselling: 94.7 (11.9) PFMT alone: 92.8 (14.2) **Adherence** Post test PFMT + reminder (n=18): 6.5 (1.2) PFMT + reminder and self help (n=22): 6.2 (1.2) PFMT + reminder, self help and counselling (n=23): 6.0 (1.4) PFMT alone (n=24): 6.3 (1.1) 3 months PFMT + reminder: 96.3 (9.4) PFMT + reminder and self help: 97.8 (10.7) PFMT + reminder, self help and counselling: 96.8 (10.3) PFMT alone: 95.0 (14.0) 12 months PFMT + reminder: 92.8 (15.0) PFMT + reminder and self help: 94.6 (13.3) PFMT + reminder, self help and counselling: 94.7 (11.9) PFMT alone: 92.8 (14.2)	omain 2: Deviations from intended interventions: Some concerns 2.1: Yes, participants not blinded 2.2: Yes, carers and people delivering the interventions not blinded 2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: Low risk 3.1: Probably no, 20% withdrew overall by the final follow up with no significant differences between groups. 3.2: Probably no, no evidence that the results were not biased by missing outcome data 3.3: Probably no, missingness of the outcome was not dependent on its true value Domain 4: Measurement of the outcome: Some concerns

Study details	Participants	Interventions	Methods	Outcomes	Comments
	months after delivery or women who had been operated upon for UI, and women with physical impairments making PFME therapy impossible			Satisfaction not reported in terms of different treatment groups	4.1: Probably no, outcomes clearly defined 4.2: Probably no, questionnaire used which is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received 4.5: Probably no, all groups received treatment Domain 5: Selection of the reported result: Some concerns 5.1: No, no pre-panned analysis or protocol available 5.2: No, descriptive data presented 5.3: No, data presented as expected

Study details	Participants	Interventions	Methods	Outcomes	Comments
					Domain 6: Overall judgement of bias: some concerns
Full citation Barber, M. D., Brubaker, L., Burgio, K. L., Richter, H. E., Nygaard, I., Weidner, A. C., Menefee, S. A., Lukacz, E. S., Norton, P., Schaffer, J., Nguyen, J. N., Borello-France, D., Goode, P. S., Jakus-Waldman, S., Spino, C., Warren, L. K., Gantz, M. G., Meikle, S. F., Eunice Kennedy Shriver National Institute of Child, Health, Human Development Pelvic Floor Disorders, Network, Comparison of 2 transvaginal surgical approaches and perioperative behavioral therapy for apical vaginal prolapse: the OPTIMAL randomized trial [Erratum 2015; 33(22): 2287], JAMA, 311, 1023-34, 2014 **Ref Id** 1232374 **Country/ies where the study was carried out** USA **Study type**	**Sample size** Total number randomised: N = 408 Total number analysed: n = 374 BPMT: n = 186 Usual care: n = 188 **Characteristics** <u>Age, mean (SD)</u> BPMT: 57.5 (10.9) Usual care: 56.9 (10.9) <u>Race, no (%)</u> White: BPMT 154 (82.8); usual care 161 (85.6) Black: BPMT 15 (8.1); usual care 7 (3.7) Asian: BPMT 1 (0.5); usual care 3 (1.6) American Indian/Alaskan: BPMT 1 (0.5); usual care 1 (0.5) Other: BPMT 15 (8.1); usual care 16 (8.5) **Inclusion criteria** Women 18 years and older undergoing vaginal surgery for stage 2 through 4 prolapse (vaginal or uterine descent 1 cm proximal to the hymen or beyond)18 with complaints of vaginal	**Interventions** Participants underwent transvaginal surgery for pelvic organ prolapse with randomisation to SSLF or ULS before randomisation to either perioperative BMPT or usual care **Combination of behavioural techniques plus PFMT (BMPT group)**: behavioural therapy with pelvic muscle training - an individualised program that included 1 visit 2 to 4 weeks before surgery and 4 postoperative visits. Pelvic floor muscle training, individualised progressive pelvic floor muscle exercise, and education on behavioural strategies to reduce urinary and colorectal symptoms were performed at each visit **Usual care**: routine perioperative teaching and standardised postoperative instructions	**Details** Urinary symptoms: assessed at 6 months using the Urinary Distress Inventory score of the PFDI Prolapse symptoms: assessed at 24 months using the Pelvic Organ Prolapse Distress Inventory (POPDI) score of the PFDI Incontinence severity: assessed using the Incontinence Severity Index Need for retreatment for urinary incontinence, prolapse or both was also assessed	**Results** **Urinary Distress Inventory (mean, SE):** Baseline BPMT (n = 178): 128.1 (60.4) Usual care (n = 176): 124.9 (60.4) Change from baseline to 6 months BPMT (n = 163): -94.6 (4.9) Usual care (n = 165): -87.9 (4.9) Change from baseline to 12 months BPMT (n = 156): -91.7 (5.0) Usual care (n = 156): -91.8 (4.9) Change from baseline to 24 months BPMT (n = 146): -81.4 (5.0) Usual care (n = 146): -80.1 (5.0) **Pelvic Organ Prolapse Distress Inventory (mean, SE):** Baseline BPMT (n = 178): 126.0 (67.8) Usual care (n = 176): 121.6 (69.5) Change from baseline to 6 months	**Limitations** Limitations Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Low risk 1.1: No information 1.2: Yes, randomisation was generated by the data coordinating centre and allocations were provided in sequentially numbered, sealed, opaque envelopes 1.3: No, no significant differences between groups at baseline Domain 2: Deviations from intended interventions: Some risk 2.1: Yes, participants not blinded 2.2: Yes, carers and people delivering the interventions not blinded 2.3: No information whether there were any

Study details	Participants	Interventions	Methods	Outcomes	Comments
Multicenter, 2 × 2 factorial, randomised trial **Aim of the study** To compare outcomes between perioperative BPMT and usual care in women undergoing surgery for vaginal prolapse and stress urinary incontinence **Study dates** Between 2008 and 2013 **Source of funding** Grants from the e Eunice Kennedy Shriver National Institute of Child Health and Human Development and the National Institutes of Health Office of Research on Women's Health	bulge symptoms, descent of the uterus or vaginal apex at least halfway into the vagina, stress urinary incontinence symptoms, and objective demonstration of stress incontinence by office or urodynamic testing in the previous 12 months **Exclusion criteria** • Contraindication to SSLF, ULS, or TVT in the opinion of the treating surgeon • History of previous surgery that included a SSLF or ULS. (Previous vaginal vault suspensions using other techniques or in which the previous technique is unknown are eligible) • Pelvic pain or dyspareunia due to levator ani spasm that would preclude a BPMT program • History of previous			BPMT (n = 163): -86.8 (5.3) Usual care (n = 165): -73.2 (5.2) Change from baseline to 12 months BPMT (n = 156): -83.7 (5.3) Usual care (n = 156): -80.0 (5.3) Change from baseline to 24 months BPMT (n = 146): -73.3 (5.4) Usual care (n = 146): -65.2 (5.3) **Colorectal-anal Distress Inventory (mean SE):** Baseline BPMT (n = 178): 111.8 (85.5) Usual care (n = 176): 109.3 (82.3) Change from baseline to 6 months BPMT (n = 163): -67.9 (6.1) Usual care (n = 165): -60.2 (6.0) Change from baseline to 12 months BPMT (n = 156): -66.9 (6.1) Usual care (n = 156): -61.7 (6.0) Change from baseline to 24 months BPMT (n = 146): -52.5 (6.2) Usual care (n = 146): -46.2 (6.1)	deviations from the intended intervention Domain 3: Missing outcome data: Low risk 3.1: Probably no, 11-12% of the intervention and control group were lost to follow-up by 12 months 3.2: Probably no, no evidence that the results were not biased by missing outcome data 3.3: Probably no, missingness of the outcome was not dependent on its true value Domain 4: Measurement of the outcome: Some concerns 4.1: Probably no, outcomes clearly defined 4.2: Probably no, questionnaire used which is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded

Study details	Participants	Interventions	Methods	Outcomes	Comments
	synthetic sling procedure for stress incontinence • Previous adverse reaction to synthetic mesh. • Urethral diverticulum, current or previous (specifically, repaired) • History of femoral to femoral bypass • Current cytotoxic chemotherapy or current or history of pelvic radiation therapy • History of two inpatient hospitalizations for medical comorbidities in the previous 12 months Subject wishes to retain her uterus			**Incontinence Severity Index (mean, SD):** Calculated by combining groups (ULS/BMPT + SSLF/BMPT and ULS/usual care + SSLF/usual care) Baseline BPMT (n = 177): 5.4 (3.09) Usual care (n = 176): 5.4 (3.2) Change from baseline to 6 months BPMT (n = 161): -2.96 (4.01) Usual care (n = 162): -3.26 (4.5) Change from baseline to 12 months BPMT (n = 144): -3.05 (4.23) Usual care (n = 145): -3.4 (4.25) Change from baseline to 24 months BPMT (n = 119): -2.35 (3.86) Usual care (n = 124): -2.69 (3.93)	4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received 4.5: Probably no, both groups received treatment Domain 5: Selection of the reported result: Some concerns 5.1: No, no pre-panned analysis or protocol available 5.2: No, descriptive data presented 5.3: No, data presented as expected Domain 6: Overall judgement of bias: Some concerns
Full citation Borello-France, D., Burgio, K. L., Goode, P. S., Ye, W., Weidner, A. C., Lukacz, E. S., Jelovsek, J. E., Bradley, C. S., Schaffer, J., Hsu,	**Sample size** Total number randomised: N = 296 Combined group: n = 150 Behavioural group: n = 146	**Interventions** See Richter 2010	**Details** Adherence was assessed using self-administered questionnaires during the intervention and at 3 and 12 month follow up	**Results** **Adherence during supervised intervention (number, %)** (Attended at least 3 treatment visits and performed, on average,	**Limitations** See Richter 2010 **Other information**

Study details	Participants	Interventions	Methods	Outcomes	Comments
Y., Kenton, K., Spino, C., Pelvic Floor Disorders, Network, Adherence to behavioral interventions for stress incontinence: rates, barriers, and predictors, Physical Therapy, 93, 757-73, 2013 **Ref Id** 1147653 **Country/ies where the study was carried out** USA **Study type** Secondary analysis of a randomised controlled trial including two of the original three arms **Aim of the study** To describe adherence and barriers to exercise and bladder control strategy adherence and to identify predictors of exercise adherence. **Study dates** Not reported **Source of funding**	**Characteristics** See Richter 2010 **Inclusion criteria** See Richter 2010 **Exclusion criteria** See Richter 2010			30 contractions per day at least 5 days per week) Combined group (n=150): 99 (66.4) Behavioural group (n=146): 95 (65.5) **Adherence during follow up (number, %)** (performed, on average, 15 contractions per day at least 3 days per week) 3 months Combined group (n=117): 80 (68.4) Behavioural group (n=110): 80 (72.7) 12 months Combined group (n=114): 26 (22.8) Behavioural group (n=110): 35 (31.8)	

Study details	Participants	Interventions	Methods	Outcomes	Comments
The Eunice Kennedy Shriver National Institute of Child Health and Human Development, the National Institute of Diabetes and Digestive and Kidney Diseases, and the National Institutes of Health Office of Research on Women's Health.					
Full citation Brown, H. W., Braun, E. J., Wise, M. E., Myers, S., Li, Z., Sampene, E., Jansen, S. M., Moberg, D. P., Mahoney, J. E., Rogers, R. G., Small-Group, Community-Member Intervention for Urinary and Bowel Incontinence: A Randomized Controlled Trial, Obstetrics and Gynecology, 134, 600-610, 2019 **Ref Id** 1272639 **Country/ies where the study was carried out** USA **Study type** Randomised trial **Aim of the study** To evaluate the effects of Mind Over Matter: Healthy Bowels, Healthy Bladder,	**Sample size** Number randomised: N = 121 Treatment group: n=62 Control group: n=59 **Characteristics** **Age** Treatment group: 74.5 (8.1) Control group: 74.9 (10.4) **BMI** Treatment group: 29.0 (7.0) Control group: 30.1 (7.4) **Race** Treatment group: White 61/62; Native American or Alaska Native 1/62 Control group: White 56/58; Native American or Alaska Native 2/58 **Type of incontinence** Treatment group: Urge UI 56 (92%); stress UI 51 (84%); bowel incontinence 37 (60%) (incontinence of well formed stool 14 (23%); incontinence of	**Interventions** **Combination of behavioural techniques plus PFMT:** a combination of education and personalised goal setting and action planning to improve symptoms. Behaviour changes include pelvic floor muscle exercises (relaxation, contraction, endurance, and coordination components), dietary changes for optimisation of stool consistency with gradual fibre supplementation, fluid adjustment to avoid bladder irritants and optimise fluid intake, and bladder training techniques. The treatment group had 3 sessions each lasting 2 hours, 2 weeks apart to allow participants to work towards their goals and evaluate their progress.	**Details** Primary outcome was improvement in incontinence symptoms as assessed by the Patient Global Impression of Improvement. Quality of life was assessed using the International Consultation on Incontinence Questionnaire—Urinary Incontinence Short Form. Bowel incontinence quality-of-life effect were assessed using the St. Mark's Incontinence Score. The Pelvic Floor Distress Inventory Short Form 20 assessed prolapse, bowel, and urinary symptoms. Outcomes were assessed at baseline and 4 months	**Results** **Patient Global Impression of Improvement at 4 months, (%; difference, 95% CI):** Urinary incontinence - Better: Treatment group n=59: 71% Control group n=57: 23% Difference 0.48 (0.32–0.65) Urinary incontinence - Much better: Treatment group n=59: 39% Control group n=57: 5% Difference 0.34 (0.20–0.48) Bowel incontinence - Better: Treatment group n=60: 55% Control group n=55: 27% Difference 0.28 (0.10-0.45) Bowel incontinence - Much better:	**Limitations** Limitations Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Low risk 1.1: Yes, computer generated randomisation 1.2: Unclear, allocation was kept in a document linking participants IDs with contact info 1.3: No differences in baseline characteristics between groups Domain 2: Deviations from intended

Study details	Participants	Interventions	Methods	Outcomes	Comments
a small-group intervention, on urinary and bowel incontinence symptoms among older women with incontinence **Study dates** Spring 2017 **Source of funding** The Wisconsin Partnership Program New Investigator Program, the National Institute of Diabetes and Digestive and Kidney Disease, and the UW Department of Obstetrics and Gynecology Start-up funds	loose stool 37 (60%); fecal urgency 36 (59%) Control group: Urge UI 51 (90%); stress UI 50 (86%); bowel incontinence 38 (66%) (incontinence of well formed stool 22 (40%); incontinence of loose stool 30 (53%); fecal urgency 41 (71%) **Inclusion criteria** 1) were aged 50 years or older and lived independently, defined as "living on your own or with someone else, but not needing assistance with daily activities"; 2) could speak and read English; and 3) had experienced urinary incontinence at least weekly or bowel incontinence at least monthly in the previous 4 weeks **Exclusion criteria** 1) acute illness, 2) dementia, 3) inability to attend all three workshop sessions, and 4) plan to initiate other new treatments for urinary or bowel incontinence during the study time period	**Waitlist control group:** a wait-list control group who received the above intervention after final data collection		Treatment group n=60: 35% Control group n=55: 11% Difference 0.24 (0.09–0.39) **Pelvic Floor Distress Inventory Short Form 20 (mean, SD)** Baseline: Treatment group n=60: 95 (46) Control group n=59: 100 (49) 4 months: Treatment group n=60: 71 (44) Control group n=57: 91 (46) **International Consultation on Incontinence Questionnaire Short Form (mean, SD)** Baseline: Treatment group n=60: 9.7 (5.0) Control group n=59: 8.6 (3.7) 4 months: Treatment group n=60: 7.7 (4.5) Control group n=57: 9.0 (3.7) **St. Marks Incontinence Score (mean, SD)** Baseline:	interventions: Some concerns 2.1: Yes, participants not blinded 2.2: Probably yes, carers and people delivering the interventions unlikely to be blinded 2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: High risk 3.1: No information, no details given regarding if there were any drop outs. 3.2: Probably no, no evidence that the results were not biased by missing outcome data 3.3: Probably yes, possible that women with more severe symptoms dropped out though it is unclear whether there was any drop out

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				Treatment group n=60: 6.7 (4.7) Control group n=59: 7.1 (4.5) 4 months: Treatment group n=60: 5.1 (3.7) Control group n=57: 7.2 (4.5) **Geriatric Self Efficacy for Urinary Incontinence (mean, SD)** Baseline: Treatment group n=60: 60 (28) Control group n=59: 56 (27) 4 months: Treatment group n=60: 71 (62) Control group n=57: 58 (51) Also reports Patient Health Questionnaire, Barriers to Incontinence Care seeking Questionnaire and Barriers to Care seeking for Accidental Bowel Leakage Questionnaire.	3.4: No information, no details at all on whether there was drop out or not Domain 4: Measurement of the outcome: High risk 4.1: Probably no, outcomes clearly defined 4.2: Probably no, questionnaire used which is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received 4.5: Probably yes, control group received no treatment which may have introduced expectations Domain 5: Selection of the reported result: Some concerns

Study details	Participants	Interventions	Methods	Outcomes	Comments
					5.1: No, no pre-panned analysis or protocol available 5.2: No, descriptive data presented 5.3: No, data presented as expected Domain 6: Overall judgement of bias: High risk
Full citation Burgio, K. L., Goode, P. S., Locher, J. L., Umlauf, M. G., Roth, D. L., Richter, H. E., Varner, R. E., Lloyd, L. K., Behavioral training with and without biofeedback in the treatment of urge incontinence in older women: A randomized controlled trial, Journal of the American Medical Association, 288, 2293-2299, 2002 **Ref Id** 693617 **Country/ies where the study was carried out** USA **Study type** Prospective, randomised controlled trial	**Sample size** Total number randomised: N = 222 Behavioural training + biofeedback (BT+BF): n = 73 Behavioural training alone (BT): n = 74 Self-administered behavioural treatment (S-BT): n = 75 **Characteristics** <u>Age (mean, SD):</u> BT+BF group: 64.8 (7.1) BT Group: 65.8 (7.6) S-BT Group: 65.8 (8.5) <u>Type of UI</u> BT+BF group: urge only 50 (68.5%); mixed stress and urge 23 (31.5%) BT Group: urge only 50 (67.6%); mixed stress and urge 24 (32.4%)	**Interventions** **Combination of behavioural techniques plus biofeedback plus PFMT**: 4 clinic visits every 2 weeks for 8 weeks total. Participants were taught skills and strategies for preventing incontinence and provided with oral and written instructions for daily home practice. Anorectal biofeedback took place at the first visit and was used to help patients identify pelvic floor muscles and teach them how to contract and relax these muscles selectively while keeping abdominal muscles relaxed. Urge suppression strategies were taught at the second visit. In the third visit, patients who had not achieved at least 50% improvement	**Details** Quality of life: assessed using the Hopkins Symptom Checklist (SCL-90-R, for psychological distress), Incontinence Impact Questionnaire, and the Short-Form Health Survery (SF-36) Satisfaction: assessed using a patient satisfaction questionnaire Frequency of incontinence: assessed using bladder diary booklets which documented the time of every void and incontinent episode, the volume of each episode of urine loss (large or small), and the circumstances of each episode	**Results** **Patient satisfaction with progress, n (%)** BT+BF (n=53): completely 39 (75); somewhat 12 (23.1); not at all 1 (1.9) BT (n=57): completely 47 (85.5); somewhat 8 (14.5); not at all 0 (0) S-BT (n=65): completely 34 (55.7); 24 (39.3); 3 (4.9)	**Limitations** Limitations Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Low risk 1.1: No information, says that participants were randomised but no further details 1.2: No information 1.3: No, no significant differences between groups at baseline Domain 2: Deviations from intended interventions: Some risk

Study details	Participants	Interventions	Methods	Outcomes	Comments
Aim of the study To examine the role of biofeedback in a multi-component behavioural training program for urge incontinence in community-dwelling older women **Study dates** April 1, 1995 - March 30, 2001 **Source of funding** A grant from the National Institute on Aging, National Institutes of Health, Bethesda, Md.	S-BT Group: urge only 50 (66.7%); mixed stress and urge 25 (33.3%) **Inclusion criteria** Patients were female, community-dwelling, at least 55 years old, ambulatory, and had described a pattern of predominant urge incontinence that persisted for at least 3 months and included at least 2 urge accidents per week on average documented in the 2-week bladder diary, and urge incontinence had to be the predominant pattern (the number of urge accidents had to exceed the number of stress and other accidents). Also, there had to be urodynamic evidence of bladder dysfunction (detrusor instability during filling or provocation or maximal cystometric capacity of ≤400 mL) **Exclusion criteria** Continual leakage, postvoid residual urine volume greater than 150 mL, severe uterine prolapse past the vaginal introitus, decompensated	underwent combined bladder-sphincter biofeedback. The fourth visit was for reviewing progress. Pelvic floor muscle exercise recommendations were made which included 45 exercises to be done every day **Self-administered behavioural training plus PFMT:** This treatment included all the components of behavioural training minus the biofeedback. In lieu of biofeedback, verbal feedback based on vaginal palpation was used session to help patients identify and contract pelvic floor muscles. Home practice and all other instructions were the same as for the biofeedback group. **Combination of behavioural techniques plus PFMT**: written instructions for an 8-week self-help program, with the same content as the behavioural training program described above, but completely self-administered without benefit of professional			2.1: Yes, participants not blinded 2.2: Yes, carers and people delivering the interventions not blinded 2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: High risk 3.1: Probably no, 27% BT+BF group, 23% of BT group and 13% of S-BT group were lost to follow-up for the satisfaction outcome 3.2: Probably no, no evidence that the results were not biased by missing outcome data 3.3: Probably yes, missingness of the outcome may be dependent on its true value Domain 4: Measurement of the outcome: Low risk 4.1: Probably no, outcomes clearly defined,

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	congestive heart failure, or impaired mental status (Mini-Mental State Examination score <24)	expertise or equipment. It presents basic information about urge and stress incontinence, how to complete bladder diaries, how to locate their pelvic floor muscles (including vaginal palpation), how to do daily pelvic floor muscle exercises, how to use their muscles to prevent accidents, and how to respond to urgency			but lacking information on how they were assessed and by whom 4.2: Probably no, questionnaire used which is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received 4.5: Probably no, given the all groups received a type of treatment Domain 5: Selection of the reported result: Some concerns 5.1: No, no pre-panned analysis or protocol available 5.2: No, descriptive data presented 5.3: No, data presented as expected

Study details	Participants	Interventions	Methods	Outcomes	Comments
					Domain 6: Overall judgement of bias: High risk
Full citation Chu, C. M., Schmitz, K. H., Khanijow, K., Stambakio, H., Newman, D. K., Arya, L. A., Andy, U. U., Feasibility and outcomes: Pilot Randomized Controlled Trial of a home-based integrated physical exercise and bladder-training program vs usual care for community-dwelling older women with urinary incontinence, Neurourology & UrodynamicsNeurourol Urodyn, 38, 1399-1408, 2019 **Ref Id** 1147534 **Country/ies where the study was carried out** USA **Study type** A parallel arm, non-blinded, pilot randomised controlled trial **Aim of the study**	**Sample size** Total number randomised: N = 37 Exercise intervention: n = 19 Usual care: n = 18 **Characteristics** <u>Age (mean, SD)</u> Exercise intervention: 72.4 (6.3) Usual care: 76.4 (9.9) <u>BMI (mean, unclear)</u> Exercise intervention: 26 (17.4-46.1) Usual care: 34 (23.2-47.4) <u>Type of incontinence (number, %)</u> Exercise intervention: stress UI only - 1 (5.6); urge UI only - 7 (38.9); mixed UI - 10 (55.6) Usual care: stress UI only - 2 (11.1); urge UI only - 8 (44.4); mixed UI - 8 (44.4)	**Interventions** **Combination of bladder training plus exercise**: Exercise had 3 main components (1) Exercise: general balance and strength training using a home exercise video programme; (2) Bladder training with urge suppression and behavioural measures; and (3) Falls prevention: a home visit. Participants received the FlexToBa exercise DVD, the bladder-training DVD, exercise equipment consisting of resistance bands, a set of 2 lb weights, and a yoga mat. Written recommendations for home improvement included information on how to apply for assistive aids (ie, bedside commode) and home modification to improve bathroom access. Participants were asked to exercise 3 days/week using the DVD on nonconsecutive days for 6 weeks. **Usual care:** The usual care group were offered	**Details** Urinary incontinence was assessed by the International Consultation on Incontinence Questionnaire Urinary Incontinence Short Form - higher score indicates worse symptoms, as well as the number of people with nocturia and nocturnal enuresis. A change score was calculated between baseline and 6 week follow up	**Results** **Urinary incontinence score (mean, SD) - change score** Exercise intervention (n=17): −6.2 ± 5.8 Usual care (n=16): −2.4 ± 4.2	**Limitations** Limitations Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Some concerns 1.1: No information, just stated that participants were randomised in blocks of two. No further information 1.2: No information 1.3: Yes, significant difference in BMI (p=.03) (26 (17.4-46.1) vs 34 (23.2-47.4)), and significant differences in mini cognitive score (Normal (≥3): 17 (89.5); 9 (50))

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To assess the feasibility of a randomised controlled trial of a home-based integrated physical exercise and bladder-training program vs usual care in community-dwelling women with urinary incontinence **Study dates** Not reported **Source of funding** University of Pennsylvania Perelman School of Medicine and the National Institute of Aging	**Inclusion criteria** Ambulatory women aged 65 and older, living independently in the community who reported moderate to severe UI on the International Consultation on Incontinence Questionnaire—Urinary Incontinence Short Form (ICIQ-UI SF) and were willing to be randomised **Exclusion criteria** Women who self-reported seeking treatment for urinary symptoms (other than UTI [urinary tract infection]) from a health care provider in the last 12 months, and women identified by their primary care physicians as being unfit to participate in an exercise study	an appointment with a UI specialist or a physical therapist/nurse practitioner specialising in UI.			Domain 2: Deviations from intended interventions: Low risk 2.1: Yes, explicitly said that the study was not blinded 2.2: Yes, carers and people delivering the interventions not blinded 2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: Low risk 3.1: No, ~11% drop out in both groups 3.2: Probably no, no evidence that the results were not biased by missing outcome data 3.3: Probably no, missingness of the outcome was not dependent on its true value

Study details	Participants	Interventions	Methods	Outcomes	Comments
					Domain 4: Measurement of the outcome: High risk 4.1: Probably no, outcomes clearly defined 4.2: Probably no, questionnaire used which is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received 4.5: Probably yes, usual care group were aware that they weren't receiving the intervention which may have influenced their subjective ratings Domain 5: Selection of the reported result: Some concerns 5.1: No, no pre-panned analysis or protocol available

Study details	Participants	Interventions	Methods	Outcomes	Comments
					5.2: No, descriptive data presented 5.3: No, data presented as expected Domain 6: Overall judgement of bias: high risk
Full citation Diokno, A. C., Ocampo, M. S., Jr., Ibrahim, I. A., Karl, C. R., Lajiness, M. J., Hall, S. A., Group session teaching of behavioral modification program (BMP) for urinary incontinence: a randomized controlled trial among incontinent women, International Urology & NephrologyInt Urol Nephrol, 42, 375-81, 2010 **Ref Id** 1176462 **Country/ies where the study was carried out** USA **Study type** A randomised controlled trial	**Sample size** Total number randomised: N = 44 Behavioural group: n = 23 Control group: n = 21 **Characteristics** <u>Age (mean, SD)</u> Behavioural group: 60.6 (14.4) Control group: 52.2 (12.6) <u>White race (number, %)</u> Behavioural group: 15 (94) Control group: 20 (87) **Inclusion criteria** Adult incontinent ambulatory females with incontinence	**Interventions** Both groups were followed after 6–8 weeks **Combination of behavioural techniques plus education plus PFMT**: a 2-h Microsoft PowerPoint Presentation BMP lecture which included a presentation on the anatomy of the lower urinary tract, the mechanism of urinary bladder function, and UI. The basis of BT and pelvic floor muscle exercise program was followed by actual instruction to the group on how to perform pelvic floor muscle exercises discussed in the second hour. Essential in this lesson was helping women to identify the levator muscle and in detail clearly explain the method of exercise. They were also trained on how	**Details** Improvement in incontinence: was assessed at baseline and follow up in terms of the reduction of severity level. Severity was assessed using the Sandvik Severity Index for Urinary Incontinence and classified as slight, moderate and severe. Other outcomes included voiding frequency/intervoid interval and continence status	**Results** **Improvement in incontinence (number, %)** Improved Behavioural group (n = 23): 12 (52.2) Control group (n = 18): 3 (16.7) Same or worse Behavioural group (n = 23): 11 (47.8) Control group (n = 18): 15 (83.3) **Severity level (n, %)** Baseline Behavioural group (n = 23): Slight - 4 (17.4%); Moderate - 11 (47.8%); Severe - 8 (34.8%) Control group (n = 18): Slight - 4 (21.1%); Moderate - 7 (36.8%); Severe - 8 (36.8%) After 6-8 weeks Behavioural group (n = 23): Slight - 13 (56.5%); Moderate - 5 (21.7%); Severe - 5 (21.7%)	**Limitations** Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Some concerns 1.1: Yes, randomisation occurred using computer software 1.2: No information 1.3: Yes, significant difference in age (52.2 and 60.6), but no other significant differences Domain 2: Deviations from intended interventions: Low risk

Study details	Participants	Interventions	Methods	Outcomes	Comments
Aim of the study To determine effectiveness of Group behavioural modification programme in managing female urinary incontinence **Study dates** Not reported **Source of funding** Not reported	**Exclusion criteria** (1) Women currently under incontinence treatment with medications or previous/current behavioural programs. (2) History of bladder cancer, stroke, multiple sclerosis, Parkinsonism, epilepsy or spinal cord tumor or trauma. (3) Pregnancy. (4) MESA questionnaire of 72% or higher on urge score, 70% or higher on stress score, or urge percentage higher than stress percentage to eliminate those with total incontinence and those with urge predominant symptoms, respectively.	to time their voiding in relation to the frequency of their voiding. Each subject was given a PFMT audiotape for daily use. They were followed up 2–4 weeks later for reinforcement and a written test **No treatment (control group)**: no information given on behaviour modification at any time. The group were offered the intervention at the end of the study period		Control group (n = 18): Slight - 5 (22.2%); Moderate - 7 (38.9%); Severe - 7 (38.9%)	2.1: Yes, participants not blinded 2.2: Yes, carers and people delivering the interventions not blinded 2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: Some risk 3.1: No, 3 control group participants were missing data and were not included in any of the analysis (14%), no treatment group participants were excluded 3.2: Probably no, no evidence that the results were not biased by missing outcome data 3.3: Probably no, missingness of the outcome was not dependent on its true value

Study details	Participants	Interventions	Methods	Outcomes	Comments
					Domain 4: Measurement of the outcome: High risk 4.1: Probably no, outcomes clearly defined 4.2: Probably no, questionnaire used which is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received 4.5: Probably yes, usual care group were aware that they weren't receiving the intervention which may have influenced their subjective ratings Domain 5: Selection of the reported result: Some concerns 5.1: No, no pre-panned analysis or protocol available

Study details	Participants	Interventions	Methods	Outcomes	Comments
					5.2: No, descriptive data presented 5.3: No, data presented as expected Domain 6: Overall judgement of bias: high risk
Full citation Diokno, A. C., Newman, D. K., Low, L. K., Griebling, T. L., Maddens, M. E., Goode, P. S., Raghunathan, T. E., Subak, L. L., Sampselle, C. M., Boura, J. A., Robinson, A. E., McIntyre, D., Burgio, K. L., Effect of Group-Administered Behavioral Treatment on Urinary Incontinence in Older Women: A Randomized Clinical Trial, JAMA Internal Medicine, 178, 1333-1341, 2018 **Ref Id** 1149672 **Country/ies where the study was carried out** USA **Study type** Multi-site randomised clinical trial	**Sample size** Total number randomised: N = 463 Behavioural group: n = 232 Control group: n = 231 **Characteristics** Age, mean (SD) Behavioural group: 64 (7) Control group: 65 (8) **Inclusion criteria** • Female • Age 55 years • Ability to read and understand English • Score of 3 on the International Consultation on Incontinence Questionnaire–Short Form, with frequency of leakage a score of 1 (“about once a week or	**Interventions** **Combination of behavioural techniques plus education plus PFMT:** A s 2-hour bladder health and self-management session, with slide presentations and a booklet, included the following elements: anatomy of the lower urinary tract; bladder and PFM function; anatomic and physiologic basis for continence; types, causes, and effect of UI on quality of life; PFM identification and exercise; bladder training; instruction in evidence-based behavioral strategies, including active PFM contraction during activities that precipitate stress UI and urge suppression strategies; and coaching to facilitate incorporation of the	**Details** Incontinence: was assessed using the International Consultation on Incontinence Questionnaire–Short Form and the Medical, Epidemiologic and Social Aspects of Aging Urinary Incontinence Questionnaire at baseline, 3, 6 and 12 months. Quality of life: was assessed using the Incontinence Quality of Life Questionnaire at baseline, 3, 6 and 12 months. Satisfaction: was assessed by asking participants at 12 months if they were completely/somewh at satisfied Intent-to-treat analysis was used but missing data was not replaced	**Results** **International Consultation on Incontinence Questionnaire–Short Form** (score range, 0-21; higher scores indicate greater severity of urinary incontinence; mean (SD)) Baseline Behavioural group (n=232): 8.78 (3.74) Control group (n=231): 8.77 (3.84) 3 months Behavioural group (n=209): 6.87 (3.66) Control group (n=212): 7.78 (3.48) 6 months Behavioural group (n=192): 6.47 (3.84) Control group (n=205): 7.77 (3.67) 9 months Behavioural group (n=184): 5.76 (3.70) Control group (n=202): 7.89 (3.68)	**Limitations** Limitations Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Low risk 1.1: No information, states that randomisation was carried out using a random sequence of block sizes, but no further information on sequence generation 1.2: Yes, randomisation scheme was developed by a third party and research sites were not aware of the scheme

Study details	Participants	Interventions	Methods	Outcomes	Comments
Aim of the study To compare the effectiveness of group behavioural therapy with no treatment for UI in older women **Study dates** July 7, 2014, to December 31, 2016 **Source of funding** The National Institute on Aging, National Institutes of Health	less often") on item 1 and volume of urine loss a score of 2 ("a small amount") on item 2 • Self-reported urgency, stress, or mixed incontinence • Symptoms 3-month duration • Timed Up & Go test 20 seconds • No cognitive impairment (Mini-Cog) • Willingness to undergo pelvic examination • Signed informed consent form **Exclusion criteria** • Nonambulatory (participant confined to bed or wheelchair) • History of bladder, renal, or uterine cancer • Unstable medical condition (as determined by principal investigator) • Daily pelvic pain >3-month duration • Known history of neurological or end-stage diseases (eg, stroke, Parkinson disease, multiple sclerosis, epilepsy, spinal cord tumor or trauma, spina bifida, or	strategies into their personal routines. After the class, participants were given materials for home use, including a booklet summarising the bladder health class, a magnet that served as a reminder to continue adherence, an audio CD with a PFM exercise session, and an individualised voiding interval prescription based on their baseline 3-day voiding diary. **No treatment (control group):** No treatment, but participants were informed that they could receive the GBT class and materials or be referred to an incontinence specialist at the end of the study		12 months Behavioural group (n=195): 5.75 (3.52) Control group (n=203): 7.35 (3.83) **PGI-I, % (no./total no.) much better/very much bettter** 3 month follow up Behavioural group: 46.9 (99/211) Control group: 8.1 (17/211) 12 month follow up Behavioural group: 64.3 (126/196) Control group: 11.3 (23/203) **Patient satisfaction** % (No./total No.) completely/somewhat satisfied 3 months Behavioural group: 95.3 (201/211) 12 months Behavioural group: 95.4 (187/196)	1.3: No, no significant differences in baseline characteristics Domain 2: Deviations from intended interventions: Some concerns 2.1: Yes, participants not blinded 2.2: Yes, carers and people delivering the interventions not blinded 2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: Low risk 3.1: Probably no, drop out by 12 months was 16% in the intervention group and 12% in the control group, but an intent-to-treat analysis was used which included all participants, although missing data was not replaced 3.2: Probably no, no evidence that the results

Study details	Participants	Interventions	Methods	Outcomes	Comments
	symptomatic herniated disk) • Previous treatment for urinary incontinence or pelvic organ prolapse • Current medication for incontinence or overactive bladder • Currently using a vaginal pessary • Other urinary conditions or procedures that may affect continence status (eg, urethral diverticula, previous augmentation cystoplasty or artificial urinary sphincter, or implanted nerve stimulators for urinary symptoms) • Pelvic organ prolapse past the introitus • Evidence of urinary tract infection by dipstick urinalysis • History of 2 urinary tract infections within the past year or >1 urinary tract infection within the past 6 months • Postvoid residual urine volume 150 mL				were not biased by missing outcome data 3.3: Probably no, missingness of the outcome was not dependent on its true value Domain 4: Measurement of the outcome: High risk 4.1: Probably no, outcomes clearly defined 4.2: Probably no, questionnaire used which is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received 4.5: Probably yes, control group received no treatment so expectations might have influenced results

Study details	Participants	Interventions	Methods	Outcomes	Comments
					Domain 5: Selection of the reported result: Some concerns 5.1: No, no pre-panned analysis or protocol available 5.2: No, descriptive data presented 5.3: No, data presented as expected Domain 6: Overall judgement of bias: high risk **Other information** Other outcomes include 3 day voiding diary, Patient Global Impression of Improvement
Full citation Dougherty, M. C., Dwyer, J. W., Pendergast, J. F., Boyington, A. R., Tomlinson, B. U., Coward, R. T., Duncan, R. P., Vogel, B., Rooks, L. G., A randomized trial of behavioral management for continence with older rural women, Research in	**Sample size** Total number randomised: N = 218 Total number analysed: n = 178 Intervention group: n = 94 Control group: n = 84 **Characteristics** Age, mean (SD)	**Interventions** Both groups received follow-up every 6 months for up to 2 years **Combination of behavioural techniques plus PFMT (intervention group):** behavioural management consisted of three sequenced phases: (a) self-monitoring, (b)	**Details** Quality of life was measured with the Incontinence Impact Questionnaire	**Results** **Quality of life - Incontinence Impact Questionnaire** Baseline Intervention group (n=94): 50.1 (16) Control group (n=84): 48.5 (14.1) 6 months Intervention group (n=78): 38.9 (11)	**Limitations** Limitations Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Low risk

Study details	Participants	Interventions	Methods	Outcomes	Comments
nursing & health, 25, 3-13, 2002 **Ref Id** 1147695 **Country/ies where the study was carried out** USA **Study type** Randomised controlled trial **Aim of the study** To implement and evaluate behavioural management for continence to manage symptoms of UI with older rural women in their homes **Study dates** Not reported **Source of funding** Not reported	Intervention group: 67.7 (8.0) Control group: 68.1 (8.5) <u>BMI, mean (SD)</u> Intervention group: 29.2 (6.7) Control group: 30.8 (18.0) <u>White, number (%)</u> Intervention group: 93.6 Control group: 95.2 <u>Duration of symptoms in years, mean (SD)</u> Intervention group: 12.6 (16.1) Control group: 12.0 (14.5) **Inclusion criteria** Women aged 55 years and older who lived in a private residence in a designated county; experienced involuntary urine loss at least twice a week of 1 g per 24 hr or more; experienced symptoms of stress, urge, or mixed incontinence; had urine negative for bacteria before entry into the study; and were available for participation for a minimum of 6 months **Exclusion criteria** Those with bladder cancer or kidney disease, with an indwelling urinary catheter, with residual urine of 100 cc or more, or	bladder training, and (c) pelvic muscle exercise (PME) with biofeedback. Self monitoring included reducing caffeine consumption, adjusting the amount and timing of intake, decreasing excessively long voiding intervals during awake hours, and making dietary changes to promote bowel regularity, and was only used if indicated. Bladder training was then used and those who did not reach their goals with BT went on to PME with biofeedback. Behavioural management required a total of 20±24 weeks if the woman participated fully in each of its phases **No treatment (control group):** received feedback on information obtained at the baseline visit, which neither constituted nor promoted treatment		Control group (n=69): 44.7 (13.5) 12 months Intervention group (n=59): 38.2 (11.6) Control group (n=52): 43.1 (15.3) 18 months Intervention group (n=34): 38.9 (10.4) Control group (n=31): 44.6 (16.5) 24 months Intervention group (n=23): 35.1 (7.6) Control group (n=23): 42.1 (14.6)	1.1: No information, method of randomisation not stated 1.2: No information, allocation concealment not mentioned 1.3: No, no significant differences in baseline characteristics Domain 2: Deviations from intended interventions: Low risk 2.1: Yes, participant were aware of group allocation 2.2: Yes, carers and people delivering the interventions not blinded, although the examiner was blinded 2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: Low risk

Study details	Participants	Interventions	Methods	Outcomes	Comments
	with caregiver needed but unavailable				3.1: No, significant drop out by end of follow up in both groups (72-78%) 3.2: Probably no, no evidence that the results were not biased by missing outcome data 3.3: Probably no, missingness of the outcome was not dependent on its true value Domain 4: Measurement of the outcome: High risk 4.1: Probably no, outcomes clearly defined 4.2: Probably no, questionnaire used which is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received

Study details	Participants	Interventions	Methods	Outcomes	Comments
					4.5: Probably yes, control group were aware that they did not have an intervention which may have influences their ratings Domain 5: Selection of the reported result: Some concerns 5.1: No, no pre-panned analysis or protocol available 5.2: No, descriptive data presented 5.3: No, data presented as expected Domain 6: Overall judgement of bias: high risk
Full citation Fantl, J. A., Wyman, J. F., McClish, D. K., Harkins, S. W., Elswick, R. K., Taylor, J. R., Hadley, E. C., Efficacy of bladder training in older women with urinary incontinence, JAMA, 265, 609-13, 1991 **Ref Id**	**Sample size** N=131 randomised, 123 completed treatment **Characteristics** Women ≥ 55 years (mean ~68), community-dwelling, capable of independent or assisted toileting, ≥ 1 UI episode/week,	**Interventions** **Behavioural techniques (bladder training)** (n = 60): education, emphasising neurological control of lower urinary tract function, and scheduled voiding (every 30 or 60 min according to pt's baseline, increased	**Details** 6 week tx (then all offered bladder training; follow-up to 6 months for grp as a whole)	**Results (bladder training vs control)** **Leakage episodes/week** (change at 6 weeks): None: 12% vs 3% ≥ 50% reduction: 75% vs 24% (P < 0.001 BT grp vs baseline) Increase in: 8% vs 43%	**Limitations** Limitations Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Some concerns

Study details	Participants	Interventions	Methods	Outcomes	Comments
Country/ies where the study was carried out USA **Study type** RCT **Aim of the study** The evaluate the effectiveness of bladder training. **Study dates** **Source of funding**	urodynamically categorised as uretheral sphincteric incompetence (72%), or DI ± sphincteric incompetence (28%) 19% had previous surgery for UI; 36% previous medical tx for UI **Inclusion criteria** Age 55 years or over; independant community dwelling; at least one involuntary episode of urine loss per week; mentally intact and functionally capable of independent or assisted toileting. **Exclusion criteria**	by 30 min/week if reduced no. UI episodes; target 2.5–3 h voiding interval.) Six-weekly clinic visits. No fluid modifications used. **No treatment** (n=63): returned to clinic at 6 weeks, without further intervention or clinic contact. All underwent bladder training after initial 6-week period.		**QOL (IIQ: incontinence impact questionnaire: scale 0-3; lower better) (**mean change pre to post treatment) Bladder training -0.28 (SD 0.29) Control: -0.01 (SD 0.39) **Micturation rate per day (change from baseline to 6 week follow-up)** Bladder training -1.71 (SD 2.83) No treatment -0.29 (SD 2.63) **Micturation rate per night (change from baseline to 6 week follow-up)** Bladder training -0.57 (SD 0.71) No treatment -0.14 (SD 0.61)	1.1: No information 1.2: No information, allocation sequence not mentioned 1.3: Probably no, Domain 2: Deviations from intended interventions: Some concerns 2.1: Yes, participants not blinded 2.2: Yes, carers and people delivering the interventions not blinded 2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: some concerns 3.1: Unclear – QOL data only available for 82/123 women 3.2: Probably no, no evidence that the results were not biased by missing outcome data 3.3: Probably no, missingness of the

Study details	Participants	Interventions	Methods	Outcomes	Comments
					outcome was not dependent on its true value Domain 4: Measurement of the outcome: Some concerns 4.1: Probably no, outcomes clearly defined, but lacking information on how they were assessed and by whom 4.2: Probably no, questionnaire used which is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received 4.5: Probably no, all groups received treatments so it is unlikely there were differences between expectations

Study details	Participants	Interventions	Methods	Outcomes	Comments
					Domain 5: Selection of the reported result: Some concerns 5.1: No, no pre-panned analysis or protocol available 5.2: No, descriptive data presented 5.3: No, data presented as expected Domain 6: Overall judgement of bias: Some concerns
Full citation Goode,P.S., Burgio,K.L., Locher,J.L., Roth,D.L., Umlauf,M.G., Richter,H.E., Varner,R.E., Lloyd,L.K., Effect of behavioral training with or without pelvic floor electrical stimulation on stress incontinence in women: a randomized controlled trial, JAMA, 290, 345-352, 2003 **Ref Id** 125260 **Country/ies where the study was carried out** USA **Study type**	**Sample size** Total number randomised: N = 200 Behavioural group: n = 66 PFES group: n = 67 Self-help group: n = 67 **Characteristics** <u>Age (mean, SD)</u> Behavioural group: 57.7 (10) PFES group: 54.9 (9.4) Self-help group: 55.9 (10.1) <u>Type of incontinence (number, %)</u> Behavioural group: stress only - 19 (28.8); mixed stress and urge - 47 (71.2)	**Interventions** All interventions were 8 weeks. **Combination of behavioural techniques plus PFMT plus biofeedback (behavioural training group):** 4 clinic visits at 2-week intervals. Visit 1 involved anorectal biofeedback to help patients identify pelvic floor muscles and teach them how to contract and relax these muscles selectively while keeping abdominal muscles relaxed. Patients were also given instructions for pelvic floor exercises to be done daily. Visit 2 consisted of bladder diary	**Details** Quality of life: was assessed using the Hopkins Symptom Checklist 90-R, the Incontinence Impact Questionnaire, and the Short Form 36 Health Survey at baseline at post treatment Incontinence: was assessed using a 2 week posttreatment bladder diary Satisfaction: was assessed using the patient satisfaction questionnaire	**Results** **Satisfaction with progress** Behavioural group: completely - 31 (66%); somewhat - 15 (31.9%); not at all - 1 (2.1%) PFES group: completely - 38 (80.9%); somewhat - 8 (17%); not at all - 1 (2.1%) Self-help group: completely - 20 (50%); somewhat - 15 (37.5%); not at all - 5 (12.5%) **Description of treatment outcome** Behavioural group: much better - 27 (57.4%); better - 18 (38.3%); about the same - 1 (2.1%); worse - 1 (2.1%)	**Limitations** Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Low risk 1.1: Yes, randomisation was carried out using a computer generated system 1.2: No information, allocation sequence not mentioned 1.3: Probably no, behavioural training group had lower duration

Study details	Participants	Interventions	Methods	Outcomes	Comments
Prospective randomised controlled trial **Aim of the study** To determine if pelvic floor electrical stimulation increases efficacy of behavioural training for community-dwelling women with stress incontinence **Study dates** From October 1, 1995, through May 1, 2001 **Source of funding** Supported by a grant from the National Institutes of Health	PFES group: stress only - 23 (34.3); mixed stress and urge - 44 (65.7) Self-help group: stress only - 25 (37.2); mixed stress and urge - 42 (62.7) **Inclusion criteria** Community-dwelling older women with stress incontinence. Women had to be 40 years or older, ambulatory, and describe a pattern of predominantly stress incontinence persisting for at least 3 months. Further, patients had to average at least 2 incontinence episodes per week on the 2-week baseline bladder diary, and stress incontinence had to be the predominant pattern (ie, the number of stress episodes had to exceed the number of urge and other episodes). Also, stress incontinence had to be objectively demonstrated during urodynamic testing **Exclusion criteria** Continual leakage, postvoid residual urine volume greater than 150	review, and stress strategies to prevent urine leakage and urge strategies to manage sensations of urgency. Visits 2, 3 and 4 involved adjustment of the home exercise regimen and review of bladder control strategies. **Combination of behavioural techniques plus PFMT plus biofeedback plus pelvic floor electrical stimulation (PFES group):** This treatment included all of the components of behavioural training with the addition of home PFES. **Self-administered behavioural training plus PFMT:** The self-help booklet provided written instructions for an 8-week self-help behavioural program that was based on the behavioural training program described above but was completely self-administered, without benefit of professional expertise or equipment		PFES group: much better - 36 (76.6%); better - 9 (19.1%); about the same - 2 (4.3%); worse - 0 (0%) Self-help group: much better - 12 (30%); better - 20 (50%); about the same - 8 (20%); worse - 0 (0%) Also reports no. with smaller episodes, no. able to wear less protection, no. whose incontinence no longer restricts activities and no. comfortable enough with treatment to continue indefinitely Data for Incontinence Impact Questionnaire, the Hopkins Symptom Checklist 90-R and SF36 Health Survey are not reported	of symptoms compared to other groups (6.9 vs 9.3/10.3 years), however this was not statistically significant Domain 2: Deviations from intended interventions: Some concerns 2.1: Yes, participants not blinded 2.2: Yes, carers and people delivering the interventions not blinded 2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: Low risk 3.1: Probably no, there was differential drop out between groups (20% vs 8% vs 37%), but an intent-to-treat analysis was used which included all participants 3.2: Probably no, no evidence that the results

Study details	Participants	Interventions	Methods	Outcomes	Comments
	mL, severe uterine prolapse (past the vaginal introitus), decompensated congestive heart failure, hemoglobin A_{1C} ≥9, or impaired mental status (Mini-Mental State Examination score <24)				were not biased by missing outcome data 3.3: Probably no, missingness of the outcome was not dependent on its true value Domain 4: Measurement of the outcome: Some concerns 4.1: Probably no, outcomes clearly defined, but lacking information on how they were assessed and by whom 4.2: Probably no, questionnaire used which is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received 4.5: Probably no, all groups received

Study details	Participants	Interventions	Methods	Outcomes	Comments
					treatments so it is unlikely there were differences between expectations Domain 5: Selection of the reported result: Some concerns 5.1: No, no pre-panned analysis or protocol available 5.2: No, descriptive data presented 5.3: No, data presented as expected Domain 6: Overall judgement of bias: Some concerns
Full citation Jelovsek, J. E., Barber, M. D., Brubaker, L., Norton, P., Gantz, M., Richter, H. E., Weidner, A., Menefee, S., Schaffer, J., Pugh, N., Meikle, S., Nichd Pelvic Floor Disorders Network, Effect of Uterosacral Ligament Suspension vs Sacrospinous Ligament	**Sample size** See Barber 2014 **Characteristics** See Barber 2014 **Inclusion criteria** See Barber 2014	**Interventions** See Barber 2014	**Details** Primary outcomes included Pelvic Organ Prolapse Distress Inventory assessed at 5 years Secondary outcomes included the Urinary Distress Inventory, Colorectal-Anal Distress Inventory,	**Results** **Improvement in Pelvic Organ Prolapse Distress Inventory scores** 5 years Behavioural group: -59.4 Usual care: -61.8 adjusted mean difference - 2.4 [95% CI, −13.7 to 18.4]	**Limitations** See Barber 2014

Study details	Participants	Interventions	Methods	Outcomes	Comments
Fixation With or Without Perioperative Behavioral Therapy for Pelvic Organ Vaginal Prolapse on Surgical Outcomes and Prolapse Symptoms at 5 Years in the OPTIMAL Randomized Clinical Trial, JAMAJama, 319, 1554-1565, 2018 **Ref Id** 864997 **Country/ies where the study was carried out** USA **Study type** 5 year follow up study of Barber 2014 **Aim of the study** To compare outcomes in women randomised to (1) ULS or SSLF and (2) usual care or perioperative behavioral therapy and pelvic floor muscle training for vaginal apical prolapse. **Study dates** Enrollment in the original trial was from January 2008 to March 2011. Five year follow up occurred	**Exclusion criteria** See Barber 2014		and Patients Global Impression of Improvement assessed at 5 years	Data for UDI, CRADI and PGI-I not reported	

Study details	Participants	Interventions	Methods	Outcomes	Comments
between April 2011 through June 2016 **Source of funding** the NICHD and the NIH Office of Research on Women's Health.					
Kafri, R., Deutscher, D., Shames, J., Golombp, J., Melzer, I., Randomized trial of a comparison of rehabilitation or drug therapy for urgency urinary incontinence: 1-year follow-up, International Urogynecology Journal, 24, 1181-9, 2013 **Ref Id** 542318 **Country/ies where the study was carried out** Israel **Study type** A multi-center single-blind randomised controlled trial **Aim of the study** To compare the long-term efficacy of bladder training, pelvic floor muscle training, combined pelvic floor rehabilitation,	**Sample size** Total number randomised: n=164 Bladder training: n=41 PFMT: n=40 Combination: n=41 Groups not included Drug therapy: n=42 **Characteristics** <u>Age, mean (SD):</u> Bladder training: 57.2 (8.2) PFMT: 56.4 (7.1) Combination: 56.2 (7.8) <u>BMI, mean (SD):</u> Bladder training: 28.9 (6.3) PFMT: 27.0 (3.6) Combination: 29.0 (6.8) **Inclusion criteria** Women aged 45–75 who experienced at least three episodes of UUI that were not completely explained by SUI symptoms over the previous 4 weeks	**Interventions** Interventions were 3 months long **Combination of bladder training plus education (bladder training group)**: aimed at increasing the time interval between voids. BT was comprised of three components: (1) patient education on bladder function and on how continence is usually maintained; (2) scheduled voiding using a prefixed or flexible timetable, guiding participants to increase intervals between voids—the aim was to achieve an interval of 3–4 h between voids; and (3) positive reinforcement through psychological support and encouragement **Combination of bladder training plus PFMT plus education (PFMT group)**: women practised 3 sets of 8–12 slow maximal contractions	**Details** Quality of life was assessed using the Incontinence Quality of Life (I-QOL), a visual analogue scale, the Incontinence Severity Index, self-reported Late-Life Function and Disability Instrument Adherence was also assessed Data was analysed using intention to treat	**Results** **I-QOL** Baseline Bladder training: 76.3 (20.6) PFMT: 72.7 (22.0) Combination: 71.9 (21.2) 3 months Bladder training: 89.6 (21) PFMT: 87.4 (22.6) Combination: 89.1 (17.8) 12 months Bladder training: 88.1 (24.3) PFMT: 90.1 (20.6) Combination: 89.4 (19.1) **Visual analogue scale** Baseline Bladder training: 7.3 (2.0) PFMT: 6.7 (2.5) Combination: 7.2 (2.6) 3 months Bladder training: 4.8 (3.4) PFMT: 4.3 (3.3) Combination: 3.6 (3) 12 months Bladder training: 4.3 (3.3) PFMT: 4.1 (3.3) Combination: 3.3 (2.9)	**Limitations** Limitations Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Low risk 1.1: No information, method of randomisation not stated 1.2: Yes, states that assignment was kept in sequentially numbered sealed tamper-proof envelopes by someone not involved in the study 1.3: No, no significant differences in baseline characteristics

Study details	Participants	Interventions	Methods	Outcomes	Comments
and drug therapy in patients with urgency urinary incontinence **Study dates** Not reported **Source of funding** Not reported	**Exclusion criteria** Not being independent, contraindications to DT, current urinary tract infection, neurological disease, diagnosed with psychiatric or depressive disorder, previous pelvic floor surgery, and previous pelvic floor physical therapy	sustained for 6–8 s in different functional body positions, progressing from lying to standing. The maximum prescribed PFMT duration progressed to 10 s of contractions followed by 10 s of relaxation. Participants continued a daily PFMT home-based program. Participants were also taught to contract these muscles repeatedly to diminish urgency and prevent UI **Combination**: included BT, PFMT, and behavioural advice, including bowel education to avoid constipation, advising modification of fluid intake, daily activity, and ergonomic consultation		**Incontinence Severity Index** Baseline Bladder training: 6.7 (3.3) PFMT: 5.4 (3.6) Combination: 6.4 (3.3) 3 months Bladder training: 4.3 (3.3) PFMT: 3.4 (3.6) Combination: 3.7 (3.2) 12 months Bladder training: 4.3 (3.8) PFMT: 2.9 (3.0) Combination: 3.9 (3.4) **Late-Life Function and Disability Instrument - Disability component** Baseline Bladder training: 71.7 (13.3) PFMT: 71.4 (17.7) Combination: 68.3 (12.7) 3 months Bladder training: 75.7 (13.8) PFMT: 78.1 (17.3) Combination: 76.8 (15.0) 12 months Bladder training: 77.0 (14.6) PFMT: 77.4 (16.8) Combination: 75.3 (17.1) **Late-Life Function and Disability Instrument - Function component** Baseline Bladder training: 71.3 (10.9) PFMT: 69.6 (10.2) Combination: 66.4 (10.1) 3 months	Domain 2: Deviations from intended interventions: Low risk 2.1: Yes, participant were aware of group allocation 2.2: Yes, carers and people delivering the interventions not blinded, although the examiner was blinded 2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: Low risk 3.1: No, 5%, 20%, and 10% drop out by the final follow up, but intent-to-treat analysis was used 3.2: Probably no, no evidence that the results were not biased by missing outcome data 3.3: Probably no, missingness of the outcome was not dependent on its true value

Study details	Participants	Interventions	Methods	Outcomes	Comments
				Bladder training: 72.1 (12.5) PFMT: 71.7 (12.1) Combination: 70.4 (12.6) 12 months Bladder training: 73.1 (13.8) PFMT: 70.6 (12.2) Combination: 70.3 (13.9) **Adherence** Bladder training: 85% PFMT: 90% Combination: 95%	Domain 4: Measurement of the outcome: Some concerns 4.1: Probably no, outcomes clearly defined 4.2: Probably no, questionnaire used which is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received 4.5: Probably no, all groups received treatment Domain 5: Selection of the reported result: Some concerns 5.1: No, no pre-panned analysis or protocol available

Study details	Participants	Interventions	Methods	Outcomes	Comments
					5.2: No, descriptive data presented 5.3: No, data presented as expected Domain 6: Overall judgement of bias: some concerns
Full citation Kaya, S., Akbayrak, T., Gursen, C., Beksac, S., Short-term effect of adding pelvic floor muscle training to bladder training for female urinary incontinence: a randomized controlled trial, International Urogynecology Journal, 26, 285-93, 2015 **Ref Id** 543203 **Country/ies where the study was carried out** Turkey **Study type** Two-arm prospective randomised controlled trial **Aim of the study**	**Sample size** Total number randomised: N=132 BT+PFMT: n=67 BT alone: n=65 **Characteristics** Age, mean (SD) BT+PFMT: 48.7 (10.1) BT alone: 50.9 (8.4) BMI, mean (SD) BT+PFMT: 28.6 (5.2) BT alone: 28.2 (4.4) Type of UI, number (%) BT+PFMT: SUI 26 (46.4); UUI 8 (14.3); MUI 22 (39.3) BT alone: SUI 24 (46.2); UUI 8 (15.4); MUI 20 (38.5) **Inclusion criteria** Being female; having symptoms of SUI, UUI, or MUI; age > 18 years;	**Interventions** Interventions were both 6 weeks **Combination of behavioural techniques plus PFMT (BT+PFMT group):** participants completed a progressive home-based exercise program consisting of strength and endurance training. They were taught both fast (2-s) and slow voluntary PFM contractions (VPFMCs). One set of exercises involved ten fast and ten slow VPFMCs. Patients were advised to exercise while in the supine, seated, and upright positions. Bladder training was identical to the BT only group (described below) **Behavioural techniques (BT group):** participants were encouraged to hold	**Details** Incontinence severity was assessed using the Incontinence Severity Index Quality of life was assessed using the Urogenital Distress Inventory and the incontinence Impact Questionnaire Subjective improvement was measured using a four-point scale (worse, unchanged, improved, cured) at the end of the intervention period compared with baseline Adherence was assessed but data not reported	**Results** **Global Rating of Improvement (n, %)** Worse BT + PFMT (n=56): - (0.0) BT (n=52): - (0.0) Unchanged BT + PFMT (n=56): - (0.0) BT (n=52): 9 (17.3) Improved BT + PFMT (n=56): 33 (58.9) BT (n=52): 40 (76.9) Cured BT + PFMT (n=56): 23 (41.1) BT (n=52): 3 (5.8) **Incontinence severity, median (IQR)** Baseline BT + PFMT: 6.0 (4.0-8.0) BT: 4.0 (2.0-5.7) Last visit BT + PFMT: 27.1 (16.6-41.6) BT: 0.0 (0.0-3.0)	**Limitations** Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Low risk 1.1: Yes, a computer generated random number table was used 1.2: Yes, group allocation was kept in opaque and sealed envelopes 1.3: No, no significant differences in baseline characteristics

Study details	Participants	Interventions	Methods	Outcomes	Comments
To evaluate the effects of adding 6 weeks of high-intensity PFMT to BT for managing female UI. **Study dates** July 2012 and January 2014 **Source of funding** The Scientific and Technological Research Council of Turkey and Hacettepe University, Scientific Research Projects Coordination Unit	being free of UI medications for at least 4 weeks before the start of the study; and sufficient literacy to complete required forms and urinary diaries **Exclusion criteria** Antenatal or postnatal women (up to 3 months after delivery), women who were unable to voluntarily contract their PFM, and women with persistent urinary tract infections, impaired mental state, pelvic organ prolapse (POP) past the vaginal introitus, neurological disorders, and who received concurrent or recent physiotherapy intervention (within the last year).	urine for 30 min beyond the initial voiding interval. Then, the schedule was increased by 15 min per week depending on the patient's tolerance to the schedule. Urgency suppression strategies, including distraction, relaxation, and PFM contraction, were explained to each participant. Techniques to control urgency were deep and slow breathing, contracting PFMs while relaxing other body parts, using mental imagery or self-motivational statements, incorporating mental distractions All participants were instructed not to alter fluid intake		**Urogenital Distress Inventory, median (IQR)** Baseline BT + PFMT: 50.0 (33.3-66.6) BT: 47.9 (30.2-62.5) Last visit BT + PFMT: 27.1 (16.6-41.6) BT: 8.3 (-4.1-33.3) **Incontinence Impact Questionnaire, median (IQR)** Baseline BT + PFMT: 47.6 (28.5-66.6) BT: 47.6 (23.8-66.6) Last visit BT + PFMT: 23.8 (9.5-41.6) BT: 7.1 (-4.7-28.5)	Domain 2: Deviations from intended interventions: Low risk 2.1: Yes, participant were aware of group allocation 2.2: Yes, carers and people delivering the interventions not blinded 2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: Low risk 3.1: No, drop out was 16-20% by follow up 3.2: Probably no, no evidence that the results were not biased by missing outcome data 3.3: Probably no, missingness of the outcome was not dependent on its true value

Study details	Participants	Interventions	Methods	Outcomes	Comments
					Domain 4: Measurement of the outcome: Some concerns 4.1: Probably no, outcomes clearly defined 4.2: Probably no, questionnaire used which is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received 4.5: Probably no, both groups received active treatment so unlikely to impact self reported outcomes Domain 5: Selection of the reported result: Some concerns 5.1: No, protocol mentioned but not accessible

Study details	Participants	Interventions	Methods	Outcomes	Comments
					5.2: No, descriptive data presented 5.3: No, data presented as expected Domain 6: Overall judgement of bias: some concerns
Full citation Kenton, K., Barber, M., Wang, L., Hsu, Y., Rahn, D., Whitcomb, E., Amundsen, C., Bradley, C. S., Zyczynski, H., Richter, H. E., Pelvic Floor Disorders, Network, Pelvic floor symptoms improve similarly after pessary and behavioral treatment for stress incontinence, Female Pelvic Medicine & Reconstructive Surgery, 18, 118-21, 2012 **Ref Id** 541486 **Country/ies where the study was carried out** USA **Study type**	**Sample size** Secondary analysis using two of the three arms from Richter 2010: Behavioural group: n=146 Pessary group: n=149 **Characteristics** See Richter 2010 **Inclusion criteria** See Richter 2010 **Exclusion criteria** See Richter 2010	**Interventions** See Richter 2010	**Details** Urinary incontinence and other pelvic symptoms and condition-specific HRQOL were assessed with validated questionnaires, including the Pelvic Floor Distress Inventory (PFDI), Pelvic Floor Impact Questionnaire (PFIQ) and Questionnaire for Urinary Incontinence Diagnosis (QUID). The PFDI includes a urinary scale (UDI; score range 0–300), as well as prolapse (POPDI; score range 0–300) and colorectal (CRADI; score range 0–400) scales. The PFIQ includes 3 scales, urinary (UIQ), prolapse (POPIQ) and colorectal (CRAIQ), each with score range of 0–300	**Results** **Urinary Distress Inventory, mean, (SD), change score** Behavioural group: -30.7±33.4 Pessary group: -33.9±38.5 **Pelvic Organ Prolapse Distress Inventory, mean, (SD), change score** Behavioural group: -14.7±34.1 Pessary group: -13.5±30.1 **Colorectal-Anal Distress Inventory, mean, (SD), change score** Behavioural group: -15.4±41.0 Pessary group: -16.4±39.2	**Limitations** See Richter 2010

Study details	Participants	Interventions	Methods	Outcomes	Comments
Secondary analysis of ATLAS (Richter 2010) **Aim of the study** To determine if differences exist in pelvic symptom distress and impact in women randomised to pessary versus behavioural therapy for treatment of stress urinary incontinence **Study dates** Between May 2005 and October 2007 **Source of funding** Supported by grants from the Eunice Kennedy Schriver National Institute of Child Health and Human Development and the NIH Office of Research on Women's Health				**Urinary Impact Questionnaire, mean, (SD), change score** Behavioural group: -32.1±38.4 Pessary group: -31.4±50.0 **Pelvic Organ Prolapse Impact Questionnaire, mean, (SD), change score** Behavioural group: -5.25±28.99 Pessary group: -7.2±42.5 **Colorectal-Anal Impact Questionnaire, mean, (SD), change score** Behavioural group: -10.7±28.7 Pessary group: -12.9±37.8 **Questionnaire for Urinary Incontinence Diagnosis - stress, mean, (SD), change score** Behavioural group: -4.0±3.6 Pessary group: -4.2±6.2 **Questionnaire for Urinary Incontinence Diagnosis - urge, mean, (SD), change score** Behavioural group: -2.3±2.8 Pessary group: -2.0±5.4	
Full citation	**Sample size** Total sample: N = 198	**Interventions**	**Details**	**Results**	**Limitations** Limitations

Study details	Participants	Interventions	Methods	Outcomes	Comments
Kumari, S., Jain, V., Mandal, A. K., Singh, A., Behavioral therapy for urinary incontinence in India, International Journal of Gynaecology & ObstetricsInt J Gynaecol Obstet, 103, 125-30, 2008 **Ref Id** 1176294 **Country/ies where the study was carried out** India **Study type** Randomized controlled trial **Aim of the study** To ascertain the impact of behavioral therapy to treat the occurrence and severity of urinary incontinence **Study dates** 2005-2006 **Source of funding** Not reported	Intervention group: n=99 Control group: n = 99 **Characteristics** Age: intervention group 44.6 ± 11.2; control group 44.8 ± 14.5 **Inclusion criteria** Adult women with urinary incontinence **Exclusion criteria** Women with a continuous urinary drainage catheter, those taking diuretics, diagnosed vesicovaginal fistula, multiple sclerosis, spinal injury, severe uterine prolapse, mental impairment, pregnant women, and women who had delivered a baby in last 6 months	**Combination of bladder training plus PFMT plus education (intervention group):** the behavioural therapy training module included basic anatomy of the female urinary system, how to locate the pelvic floor muscles and carry out pelvic floor exercises, bladder retraining, and maintenance of a voiding diary and exercise record. Training occurred on a 1:1 basis for 8 weekly visits. Participants were asked to do at least 50 pelvic floor contraction exercises each day **No treatment (control group):** no treatment. No further details	Quality of life: was assessed by the Incontinence Impact Questionnaire Incontinence severity: was assessed by a pad test, change in the daytime and nighttime frequency of voiding and the number of incontinence episodes per day	**Incontinence impact questionnaire, mean (CI)** Baseline: intervention group (n=78) 10.08 (CI: 8.1–12.05); control group (n=86) 12.05 (CI 10.08–14.02) End of intervention: intervention group (n=78) 4.60 (CI 3.09–6.11); control group (n=86) 12.03 (CI 10.04–14.02) 3 months: intervention group (n=74) 3.74 (1.85–5.63); control group (n=84) 11.70 (9.58–13.82) 6 months: intervention group (n=69) 2.57 (0.76–4.38); control group (n=76) 9.54 (7.24–11.84)	Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Low risk 1.1: No information, says that block randomisation was carried out but no further details 1.2: Yes, the sequence was generated by a physician not involved in the study and was concealed until the groups were assigned 1.3: No, no significant differences between groups at baseline Domain 2: Deviations from intended interventions: Some risk 2.1: Yes, participants not blinded 2.2: Yes, carers and people delivering the interventions not blinded

Study details	Participants	Interventions	Methods	Outcomes	Comments
					2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: Low risk 3.1: Probably no, 12% of the intervention and control group were lost to follow-up by 6 months 3.2: Probably no, no evidence that the results were not biased by missing outcome data 3.3: Probably no, missingness of the outcome was not dependent on its true value Domain 4: Measurement of the outcome: High risk 4.1: Probably no, outcomes clearly defined, but lacking information on how they were assessed and by whom 4.2: Probably no, questionnaire used which

Study details	Participants	Interventions	Methods	Outcomes	Comments
					is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received 4.5: Probably yes, given the control group received no treatment so would not expect symptoms to improve Domain 5: Selection of the reported result: Some concerns 5.1: No, no pre-panned analysis or protocol available 5.2: No, descriptive data presented 5.3: No, data presented as expected

Study details	Participants	Interventions	Methods	Outcomes	Comments
					Domain 6: Overall judgement of bias: High risk
Full citation Richter, H. E., Burgio, K. L., Brubaker, L., Nygaard, I. E., Ye, W., Weidner, A., Bradley, C. S., Handa, V. L., Borello-France, D., Goode, P. S., Zyczynski, H., Lukacz, E. S., Schaffer, J., Barber, M., Meikle, S., Spino, C., Pelvic Floor Disorders, Network, Continence pessary compared with behavioral therapy or combined therapy for stress incontinence: a randomized controlled trial, Obstetrics & GynecologyObstet Gynecol, 115, 609-17, 2010 **Ref Id** 1174708 **Country/ies where the study was carried out** USA **Study type** A multisite, randomised clinical trial **Aim of the study**	**Sample size** Total number randomised: N = 446 Behavioural group: n = 146 Pessary group: n = 149 Combined group: n = 151 **Characteristics** <u>Age (mean, SD)</u> Behavioural group: 49.6 (13.0) Pessary group: 50.2 (11.0) Combined group: 49.5 (11.8) <u>Incontinence type</u> Behavioural group: stress only 65 (44.5); mixed 81 (55.5) Pessary group: stress only 69 (46.3); mixed 80 (53.7) Combined group: stress only 70 (46.7); mixed 80 (53.3) **Inclusion criteria** • At least 18 years of age • Ambulatory • Able to come to the clinic for study visits	**Interventions** All treatments were 8 weeks **Combination of behavioural techniques plus PFMT (behavioural therapy group):** done in 4 visits at approximately 2-week intervals. Visits included instructions for pelvic floor muscle training and exercise, with additional skills and strategies for active use of muscles to prevent stress and urge incontinence. Participants were given individualised prescriptions for daily pelvic floor muscle exercise and practice **Pessary treatment:** included a a continence ring or dish. Up to 3 clinic visits at 1–2 week intervals were permitted to achieve optimal fitting. **Combination of behavioural techniques plus PFMT plus pessary (combined group):** participants were encouraged to continue routine pessary use. Women in this group were permitted to continue with	**Details** Outcomes were assessed at 3, 6, and 12 months after randomisation, with primary outcomes assessed at 3 months. An intent-to-treat analysis was donez Success was measured using the Patient Global Impression of Improvement, where success was defined as a response of “much better” or “very much better” and the Urogenital Distress Inventory-stress incontinence subscale of the Pelvic Floor Distress Inventory, success was defined as the absence of bothersome stress incontinence symptoms Secondary outcomes included the proportion of participants with at least 75% reduction in frequency of incontinence episodes on 7-day bladder diary and patient satisfaction with treatment, assessed using the validated Patient Satisfaction Question	**Results** **Patient Global Impression of Improvement: "Much better" or "very much better" (n, %)** 3 months Combined (n=150): 80 (53.3) Behavioural (n=149): 72 (49.3) Pessary (n=146): 59 (39.6) 12 months Combined (n=150): 49 (32.7) Behavioural (n=149): 48 (32.9) Pessary (n=146): 47 (31.5) **PFD inventory: No bothersome stress incontinence symptoms according to the Urogenital Distress Inventory-Stress Incontinence Subscale items of the (n, %)** 3 months Combined (n=150): 66 (44) Behavioural (n=149): 71 (48.6) Pessary (n=146): 49 (32.9) 12 months Combined (n=150): 49 (32.7)	**Limitations** Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Low risk 1.1: No information, says that block randomisation was carried out but no further details 1.2: No information 1.3: No, no significant differences between groups at baseline Domain 2: Deviations from intended interventions: Some risk 2.1: Yes, participants not blinded 2.2: Yes, carers and people delivering the interventions not blinded

Study details	Participants	Interventions	Methods	Outcomes	Comments
To compare the effectiveness of a continence pessary to evidence-based behavioural therapy for stress incontinence and to assess whether combined pessary and behavioural therapy is superior to single-modality therapy **Study dates** Not reported **Source of funding** Supported by grants from the Eunice Kennedy Shriver National Institute of Child Health and Human Development; National Institute of Diabetes and Digestive and Kidney Diseases, and National Institutes of Health Office of Research on Women's Health.	• Reports symptoms of stress incontinence (by interview and on bladder diary) • Reports incontinence persisting for at least three months • Seven-day baseline bladder diary, the subject completed the bladder diary in an adequate manner on at least five out of seven days and documented at least two stress incontinence episodes. In addition, the number of stress incontinence episodes must exceed the number of other types of incontinence episodes. • If oral and/or vaginal estrogen is used, usage is stable for at least the past eight weeks • Ability to complete bladder diary, questionnaires and quality of life forms in English	only one of the therapies if for instance a pessary could not be fit. At the end of the 8-week treatment period, participants in the behavioural and combined treatment groups were provided with an individualised home maintenance program to sustain their skills and muscle strength		Behavioural (n=149): 59 (40.4) Pessary (n=146): 52 (34.9) **Satisfaction with treatment** 3 months Combined: 116 (78.7) Behavioural: 110 (75.3) Pessary: 94 (63.1) 12 months Combined: 81 (54.0) Behavioural: 79 (54.1) Pessary: 75 (50.3) **Withdrawal due to serious adverse events** 3 months Combined: 18 (12) Behavioural: 22 (15) Pessary: 39 (26) 12 months Combined: 0 (0) Behavioural: 0 (0) Pessary: 1 (0.7)	2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: Low risk 3.1: Probably no, ~20% of the intervention groups were lost to follow-up by 12 months but intent-to-treat analysis used 3.2: Probably no, no evidence that the results were not biased by missing outcome data 3.3: Probably no, missingness of the outcome was not dependent on its true value Domain 4: Measurement of the outcome: Some concerns 4.1: Probably no, outcomes clearly defined 4.2: Probably no, questionnaire used which

Study details	Participants	Interventions	Methods	Outcomes	Comments
	• Stage 0, 1 or 2 prolapse as assessed by the POP-Q **Exclusion criteria** • Continual leakage. Participants who describe continual leakage or always being damp or wet • Urinary tract infection (defined as a positive dip with 1leukocytes and/or nitrates and/or growth of greater than 10 000 colonies per mL of a urinary pathogen on urine culture). Participants will be treated with antibiotics and may be enrolled if incontinence persists after the urinary tract infection is resolved. • Pregnant or planning pregnancy within the next year • Within six months postpartum • Severe atrophic vaginitis (defined as thin, friable vaginal epithelium that bleeds easily on speculum examination).				is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received 4.5: Probably no, given all groups received treatment Domain 5: Selection of the reported result: Some concerns 5.1: No, no pre-panned analysis or protocol available 5.2: No, descriptive data presented 5.3: No, data presented as expected

Study details	Participants	Interventions	Methods	Outcomes	Comments
	Participants may be treated with estrogen and reevaluated for eligibility • Postvoid residual volume ≥150 mL • Strongly desires surgery for stress urinary incontinence within 12 months • Within three months of failed surgery for stress incontinence • Current medication for incontinence (includes imipramine and antimuscarinics, and does not include other antidepressants or stable estrogen therapy. If a participant is on a medication for incontinence, she may discontinue the medication and be reevaluated after two weeks) • Previously participated in a behavioral therapy research trial or formalized clinical behavioral therapy program for urinary and/or fecal incontinence				Domain 6: Overall judgement of bias: Some concerns

Study details	Participants	Interventions	Methods	Outcomes	Comments
	• Vaginal foreign body (eg, exposed mesh or suture) • Currently using a pessary or used one within the past two months (the participant may stop using the pessary for two months and be re-evaluated for participation at that time) Neurologic conditions that may impact on bladder symptoms, eg, Parkinson's, multiple sclerosis, or stroke				
Full citation Rizvi, R. M., Chughtai, N. G., Kapadia, N., Effects of Bladder Training and Pelvic Floor Muscle Training in Female Patients with Overactive Bladder Syndrome: a Randomized Controlled Trial, Urologia InternationalisUrol Int, 100, 420-427, 2018 **Ref Id** 1193718 **Country/ies where the study was carried out** Pakistan	**Sample size** Total number randomised: N = 150 Bladder training: n = 50 (data reported for 47 participants as 3 dropped out and were excluded from all analyses including baseline demographics) PFMT: n = 50 PFMT + biofeedback: n = 50 **Characteristics** Age (mean, SD) Bladder training: 55.7±14.7 PFMT: 49.1±14.9 PFMT + BF: 49.3±14.7	**Interventions** All interventions were 12 weeks **Bladder training**: included urge suppression techniques (urge strategies), self-monitoring (bladder or voiding diaries), life style modifications, for example, eliminating bladder irritants from the diet, managing fluid intake, weight control, bowel regulation, smoking cessation, and time voiding. Fluid intake was assessed using bladder diary and they were taught about the concept of "what goes in that	**Details** Quality of life: assessed using UDI-SF6 and IIQ-SF7	**Results** **UDI-6** Baseline Bladder training (n=47): 8.38±4.3 PFMT (n=50): 9.10±6.2 PFMT + BF (n=50): 7.16±4.7 Post-intervention (12 weeks) Bladder training (n=47): 4.77±5.5 PFMT (n=50): 5.44±7.2 PFMT + BF (n=50): 4.46±6.2 **IIQ-7** Baseline Bladder training (n=47): 8.30±5.7 PFMT (n=50): 8.92±6.9	**Limitations** Limitations Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Some concerns 1.1: Yes, states that randomisation was computer generated 1.2: Probably yes, states that randomisation

Study details	Participants	Interventions	Methods	Outcomes	Comments
Study type Single-blinded randomised controlled **Aim of the study** To assess the efficacy of 3 different modes of treatment for overactive bladder (OAB) in symptoms reduction and quality of life improvement **Study dates** January 2014 till December 2015 **Source of funding** The first author received financial support from Women and health Alliance USA (WAHA), International	BMI (mean, SD) Bladder training: 25.5±4.4 PFMT: 26.6±6.2 PFMT + BF: 26.0±5.2 Type of OAB (number, %) Bladder training: wet OAB - 28 (59.6); dry OAB - 10 (21.3); OAB with SUI - 9 (19.1) PFMT: wet OAB - 10 (20.0); dry OAB - 32 (64.0); OAB with SUI - 8 (16.0) PFMT + BF: wet OAB - 26 (52.0); dry OAB - 14 (28.0); OAB with SUI - 10 (20.0) **Inclusion criteria** Women aged 25–65 years with symptoms of OAB, that is, frequency, urgency, and nocturia with or without UUI for at least 6 months **Exclusion criteria** Pregnancy, urinary tract infection, women under current urologic care, urinary obstruction with persistent indwelling catheter, uncontrolled diabetes mellitus, neurologic disorders, history of pelvic surgery, or prolapse greater than Pop-Q stage 2	comes out". The use of high fiber diet was advised to avoid constipation. The obese patients were advised to consult obesity clinics. They were taught to defer from voiding until a certain goal, which was around 1–2 h in the beginning and once this interval was reached without causing patient discomfort, they were instructed to increase the interval, approximately 30 min within 2 weeks, with a goal of an inter voiding interval of 3.5–4 h. **PFMT** : patients were assessed for their pelvic floor muscle strength and instructed to perform PFM contractions at home without any devices, according to the PERFECT scheme. They were instructed to hold submaximal to maximal PFM contractions for 6 s, 5 times and to perform 10 fast contractions per session. All patients were instructed to practice this regimen at home at least 3 times daily in the lying, standing, or sitting position **PFMT + biofeedback**: patients were trained with an intra vaginal		PFMT + BF (n=50): 9.24±5.4 Post-intervention (12 weeks) Bladder training (n=47): 5.34±5.8 PFMT (n=50): 6.34±6.5 PFMT + BF (n=50): 4.52±7.3 **Adverse events resulting in discontinuation** Bladder training (n=47): 0 PFMT (n=50): 0 PFMT + BF (n=50): 1	numbers were kept in CTU 1.3: Yes, significant difference in age (p=.049) (55.7 vs 49.1 vs 49.3), and significant differences in the distributions of OAB Domain 2: Deviations from intended interventions: Low risk 2.1: No, said to be single blinded 2.2: Yes, carers and people delivering the interventions not blinded 2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: Low risk 3.1: Yes, only 6% drop out in BT group, no drop out in other groups 3.2: Probably no, no evidence that the results

Study details	Participants	Interventions	Methods	Outcomes	Comments
		electromyogram probe (Myomed 932 ENRAF NONIUS) twice a week. Each patient was instructed to contract or relax her pelvic floor muscles following the audio-visual signals.			were not biased by missing outcome data 3.3: Probably no, missingness of the outcome was not dependent on its true value Domain 4: Measurement of the outcome: Some concerns 4.1: Probably no, outcomes clearly defined 4.2: Probably no, questionnaire used which is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received 4.5: Probably no, all groups received treatment

Study details	Participants	Interventions	Methods	Outcomes	Comments
					Domain 5: Selection of the reported result: Some concerns 5.1: No, no pre-panned analysis or protocol available 5.2: No, descriptive data presented 5.3: No, data presented as expected Domain 6: Overall judgement of bias: some concerns
Full citation Sherburn, M., Bird, M., Carey, M., Bo, K., Galea, M. P., Incontinence improves in older women after intensive pelvic floor muscle training: an assessor-blinded randomized controlled trial, Neurourology & UrodynamicsNeurourol Urodyn, 30, 317-24, 2011 **Ref Id** 1197046 **Country/ies where the study was carried out**	**Sample size** Total number randomised: N = 83 PFMT: n = 43 Behavioural therapy: n = 40 **Characteristics** Age (mean, SD) PFMT group: 71.6 (4.73) Behavioural group: 72.0 (5.74) BMI (mean, SD) PFMT group: 27.6 (3.88) Behavioural group: 27.3 (4.25)	**Interventions** Both interventions were 5 months with a 7 month follow up. Both groups were conducted once per week for 20 weeks **Combination of behavioural techniques plus education plus exercise (behavioural group):** each weekly group session began with an education component followed by a gentle exercise to music class. Cognitive methods only were taught. Timed voiding parameters were	**Details** Quality of life was assessed using the ICIQ-UI SF, and was measured at baseline, during the intervention (1 and 3 months), and at the end of the intervention (5 months). The Assessment of Quality of Life (AQoL) was also used to assess quality of life at baseline and 5 months Analyses	**Results** **Quality of life: ICIQ-SF total scores (mean, SD) (0-21, high score is poor outcome)** Baseline PFMT: 10.4 (5.0) Behavioural therapy: 10.4 (4.2) 1 month PFMT: 8.4 (4.1) Behavioural therapy: 9.3 (4.4) 3 months PFMT: 7.4 (4.1) Behavioural therapy: 9.1 (4.4)	**Limitations** Limitations Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Low risk 1.1: Yes, states that randomisation was computer generated 1.2: Yes, states that allocation was concealed

Study details	Participants	Interventions	Methods	Outcomes	Comments
Australia **Study type** Two-centre randomised controlled trial **Aim of the study** To test the hypotheses that high intensity pelvic floor muscle training (PFMT) is effective in relief of stress urinary incontinence in community dwelling older women, and that intense PFMT improves stress urinary incontinence more than bladder training (BT) in this population **Study dates** Not reported **Source of funding** The National Health and Medical Research Council of Australia	**Inclusion criteria** Community dwelling women over 65 years of age, with urodynamic stress incontinence perceived by them as a problem, no detrusor over activity demonstrated on cystometry (<10 cm H2O detrusor pressure rise), medically stable, able to give informed consent, and a score of more than 22 on the Mini-Mental State Examination **Exclusion criteria** Concurrent or recent physiotherapy intervention (within last 6 months), incontinence due to neurological causes, from other causes such as urinary tract infection, or from voiding difficulties, anorectal symptoms such as constipation, and voiding dysfunction	individually set and progressed for each participant. Other education topics included: normal bladder control and voiding parameters, skin care, pad usage, fluids and fluid intake, optimal toileting position, voiding dynamics, and relaxation, distraction and breath control as part of the deferral strategies. An exercise component was included for this group to provide equivalence. The exercise component comprised gentle exercise including stretches, with breath awareness and relaxation. There was no specific strengthening of the PFM **Combination of PFMT plus education (PFMT group):** Each weekly group session comprised an education component and exercise to music class incorporating PFM exercise. The exercise class aimed to provide intensive PFMT, combining motor control, strength, endurance, power and functional training in a variety of different body positions. The general exercise component was varied to meet the needs and		5 months PFMT: 5.9 (3.3) Behavioural therapy: 8.5 (4.4) **Quality of life: AQoL total scores (mean, SD)** (0-45, high score is poor outcome) Baseline PFMT: 10.02 (4.6) Behavioural therapy: 9.65 (5.8) 5 months PFMT: 8.7 (4.8) Behavioural therapy: 8.9 (5.2)	using consecutively numbered opaque envelopes and managed by someone not involved in outcome assessment 1.3: Probably no, borderline significant difference in mean (SD) parity (3.2 vs 2.5) - p=0.05 Domain 2: Deviations from intended interventions: Low risk 2.1: Yes, participant were aware of group allocation 2.2: Yes, carers and people delivering the interventions not blinded 2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: Low risk 3.1: No, only 5% drop out in PFMT group, and 12.5% in BT group but analyses were intent-to-treat

Study details	Participants	Interventions	Methods	Outcomes	Comments
		physical abilities of the class members at the time. Participants then continued a daily PFMT program at home. The education topics included: functional use of the PFMs, including use of a pre-contraction, weight management strategies, normal bladder control and voiding parameters, fluids and fluid intake, optimal toileting position, voiding dynamics, and benefits of general exercise			3.2: Probably no, no evidence that the results were not biased by missing outcome data 3.3: Probably no, missingness of the outcome was not dependent on its true value Domain 4: Measurement of the outcome: Some concerns 4.1: Probably no, outcomes clearly defined 4.2: Probably no, questionnaire used which is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received

Study details	Participants	Interventions	Methods	Outcomes	Comments
					4.5: Probably no, all groups received treatment Domain 5: Selection of the reported result: Some concerns 5.1: No, no pre-panned analysis or protocol available 5.2: No, descriptive data presented 5.3: No, data presented as expected Domain 6: Overall judgement of bias: some concerns **Other information** Also reported Global perception of change, 7 Day accident diary, Bother VAS score, TUG, and Global satisfaction with treatment
Full citation Shivkumar, R., Srivastava, N., Gupta, J.,	**Sample size** Number randomised: N = 30	**Interventions** **Behavioural techniques (bladder training group):** The bladder	**Details** A visual analogue scale was used to assess severity of symptoms and	**Results** **Incontinence severity as measured by VAS (mean, SD)**	**Limitations** Limitations

Study details	Participants	Interventions	Methods	Outcomes	Comments
Effects of bladder training and pelvic floor muscle exercise in urinary stress incontinence during postpartum period, Indian Journal of Physiotherapy and Occupational Therapy, 9, 194-198, 2015 **Ref Id** 1233107 **Country/ies where the study was carried out** India **Study type** Randomised trial **Aim of the study** To study the effects of bladder training with pelvic floor muscle exercise for urinary stress incontinence in post partum period **Study dates** Not reported **Source of funding** No funding	Bladder training group: n = 15 Combined bladder training and pelvic floor exercises group: n = 15 **Characteristics** Not reported **Inclusion criteria** • Subject willing to participate • 20 to 35 yrs old • Subjects that were experiencing urinary incontinence • Subjects who were experiencing pelvic floor muscle weakness **Exclusion criteria** • Postpartum infective or hemorrhagic subjects. • Non co-operative subjects • Subjects who suffered from any kind of cardio vascular disease • Postpartum hypertensive subjects	training group included 3 parts. (1) A bladder training schedule which aimed to regain control and involved waiting until the next scheduled time to void. Each week, the time between bathroom visits is increased and the number of urine leaks each day is monitored. (2) bladder urge control, which involved standing or sitting quietly, slow relaxed breaths, contracting the pelvic floor muscles to close urethra to prevent leakage, use of mental imaginary and self talk to suppress the urge. (3) self care tips, which included (i) Use clock wrist watch alarm clock to remind you of next bathroom visit. (ii) Drink water and other fluids as usual do not restrict fluids, avoid food or beverages with caffeine. (iii) Keep your bladder diary handy with you so you record bathroom visit **Combination of behavioural techniques plus PFMT (bladder training and PFMT group):** PFMT involved instruction to slowly tighten or squeeze pelvic floor muscles under the bladder, hold and count 5	the IIQ at baseline and post intervention.	Baseline Combination (n=15): 7.71 (0.91) Bladder training (n=15): 7.73 (0.80) End of intervention (8 weeks) Combination (n=15): 2.07 (0.62) Bladder training (n=15): 4.53 (0.92) **IIQ (mean, SD)** Baseline Combination (n=15): 2.485 (0.1925) Bladder training (n=15): 2.49 (0.1428) End of intervention (8 weeks) Combination (n=15): 0.9464 (0.1351) Bladder training (n=15): 1.4867 (0.1642)	Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Some concerns 1.1: No information, states that a randomised technique was used but no further detail 1.2: No information 1.3: No information, baseline characteristics between groups not reported, although no differences in baseline scores of any of the outcomes Domain 2: Deviations from intended interventions: Some concerns 2.1: Yes, participants not blinded 2.2: Probably yes, carers and people delivering the

Study details	Participants	Interventions	Methods	Outcomes	Comments
		then relax, and repeat called slow pull-ups than do the same exercise for 10-50 second repeat at a time for at least five times, called fast pull-ups. This group also received bladder training as previously described. Interventions were 8 weeks			interventions unlikely to be blinded 2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: High risk 3.1: No information, no details given regarding if there were any drop outs. 3.2: Probably no, no evidence that the results were not biased by missing outcome data 3.3: Probably yes, possible that women with more severe symptoms dropped out though it is unclear whether there was any drop out 3.4: No information, no details at all on whether there was drop out or not Domain 4: Measurement of the outcome: Some concerns

Study details	Participants	Interventions	Methods	Outcomes	Comments
					4.1: Probably no, outcomes clearly defined 4.2: Probably no, questionnaire used which is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received 4.5: Probably no, all groups received treatment Domain 5: Selection of the reported result: Some concerns 5.1: No, no pre-panned analysis or protocol available 5.2: No, descriptive data presented 5.3: No, data presented as expected

Study details	Participants	Interventions	Methods	Outcomes	Comments
					Domain 6: Overall judgement of bias: High risk
Full citation Talley, K. M. C., Wyman, J. F., Bronas, U., Olson-Kellogg, B. J., McCarthy, T. C., Defeating Urinary Incontinence with Exercise Training: Results of a Pilot Study in Frail Older Women, Journal of the American Geriatrics Society, 65, 1321-1327, 2017 **Ref Id** 1147438 **Country/ies where the study was carried out** USA **Study type** Single blinded, two-arm pilot randomised controlled trial **Aim of the study** To determine if combining behavioral urinary incontinence (UI) treatments with physical activity improves UI in frail older women	**Sample size** Total sample: N = 42 Treatment group: n = 23 Control group: n = 19 **Characteristics** Mean age: 84.9±6.4 Type of incontinence Mixed stress and urgency UI: 62% Urgency UI: 22% Stress UI: 14% Functional UI: 2% **Inclusion criteria** • Having UI, indicated by scoring at least one point on the International Consultation on Incontinence Questionnaire (ICIQ) • Being frail, defined as being at risk for functional decline, by scoring three or more points on the Vulnerable Elders Survey, having a gait speed less than 0.8 meters per second, or	**Interventions** **Combination of behavioural techniques plus PFMT plus exercise (intervention group):** bladder and physical activity components. Participants were instructed to do pelvic floor muscle exercises (PFME) five days a week while listening to a 13 minute instructional audio CD. Participants selected additional strategies after the nurse practitioner discussed their UI contributors and made tailored recommendations. Strategies included: PFME, bladder training, urge suppression, eliminate bladder irritants, adequate fluid intake, constipation prevention, reducing nocturia, medication education. The physical activity program included 150 minutes of moderate intensity walking and twice weekly 1-hour group exercise sessions which	**Details** Quality of life: assessed using the Incontinence Impact Questionnaire and Urinary Distress Inventory at baseline and 12 weeks Incontinence: assessed using the ICIQ Urinary incontinence severity at baseline at 12 weeks and mean daily urinary leaks was measured using a 3-day bladder diary Adherence: assessed by the number of sessions attended - only reported for treatment group due to nature of control Satisfaction: assessed using the patient global ratings of satisfaction and perceptions of improvement	**Results** **ICIQ Urinary incontinence severity** Baseline Intervention group: (n=23) 7.7±2.9 Control group: (n=19) 9.5±3.4 12 weeks Intervention group: (n=23) 7.2±3.8 Control group: (n=19) 7.7±3.7 **Incontinence Impact Questionnaire** Baseline Intervention group: (n=23) 45.8±48.8 Control group: (n=19) 58.8±58.8 12 weeks Intervention group: (n=23) 39.5±31.6 Control group: (n=19) 40.8±31.6 **Urinary Distress Inventory** Baseline Intervention group: (n=23) 64.8±46.7 Control group: (n=19) 73.7±44.5 12 weeks Intervention group: (n=23) 44.0±35.2	**Limitations** Limitations Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: Low risk 1.1: Yes, randomisation was done using computer generated random number list 1.2: No information 1.3: Probably no, no significant differences between groups at baseline although some important variables not reported specifically age Domain 2: Deviations from intended interventions: Some risk

Study details	Participants	Interventions	Methods	Outcomes	Comments
Study dates September 2012-September 2015 **Source of funding** The National Center for Advancing Translational Sciences of the National Institutes of Health, the Building Interdisciplinary Research Careers in Women's Health Program of the National Institutes of Child Health and Human Development, by the University of Minnesota Academic Health Center Seed grant program, and by the Hartford Center for Geriatric Nursing Excellence at Iowa	using a walking assistive device • Being able to safely participate in low intensity physical activity using the Exercise Assessment and Screening for You • Being cognitively intact by passing the Mini-Cog **Exclusion criteria** UI associated with a central nervous system disorder, bladder cancer, recent bladder or incontinence surgery, terminal illness, if they had an ostomy, used a pessary or urinary catheter, started or changed the dose of an anti incontinence medication within three months or had orthopaedic surgery on the lower extremities or spine in the past year.	included 10 strength building exercises **Usual care (control group):** participants received one home visit to complete the same health history and physical exam received by the treatment group. They received the treatment group's printed material on lifestyle and behavioural therapies after completing 12- week outcome assessments		Control group: (n=19) 52.2±35.3 **Satisfaction (n, %)** 12 weeks Intervention group: (n=23) 83% Control group: (n=19) 36%	2.1: Yes, participants not blinded 2.2: Yes, carers and people delivering the interventions not blinded 2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: Low risk 3.1: No, no participants were lost to follow up, one participant in each group didn't complete the ICIQ 3.2: Probably no, no evidence that the results were not biased by missing outcome data 3.3: Probably no, missingness of the outcome was not dependent on its true value Domain 4: Measurement of the outcome: High risk 4.1: Probably no, outcomes clearly defined 4.2: Probably no, questionnaire used which

Study details	Participants	Interventions	Methods	Outcomes	Comments
					is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received 4.5: Probably yes, given the control group received no treatment so would not expect symptoms to improve Domain 5: Selection of the reported result: Some concerns 5.1: No, no pre-panned analysis or protocol available 5.2: No, descriptive data presented 5.3: No, data presented as expected

Study details	Participants	Interventions	Methods	Outcomes	Comments
					Domain 6: Overall judgement of bias: High risk
Full citation Weidner, A. C., Barber, M. D., Markland, A., Rahn, D. D., Hsu, Y., Mueller, E. R., Jakus-Waldman, S., Dyer, K. Y., Warren, L. K., Gantz, M. G., Meikle, S., Perioperative Behavioral Therapy and Pelvic Muscle Strengthening Do Not Enhance Quality of Life After Pelvic Surgery: Secondary Report of a Randomized Controlled Trial, Physical therapy, 97, 1075-1083, 2017 **Ref Id** 763933 **Country/ies where the study was carried out** USA **Study type** A secondary report of a 2 × 2 factorial randomized controlled trial **Aim of the study** To evaluate the effect of perioperative BPMT on health-related quality of life and sexual function following vaginal surgery	**Sample size** See Barber 2014 **Characteristics** See Barber 2014 **Inclusion criteria** See Barber 2014 **Exclusion criteria** See Barber 2014	**Interventions** See Barber 2014	**Details** Patient Global Impression of Improvement was assessed at 6 and 24 months. Health related quality of life was assessed using the 36-item Short-Form Health Survey [SF-36]), Pelvic Floor Impact Questionnaire [PFIQ] subscales for urinary [UIQ], prolapse [POPIQ], and colorectal [CRAIQ] impact), and the Pelvic Organ Prolapse Urinary Incontinence Sexual Questionnaire [PISQ-12], however results were only presented graphically therefore these are not extracted.	**Results** **Patient Global Impression of Improvement - “very much better” or “much better” (%)** 6 months BPMT group (n=170): 64.5% Control group (n=171): 63.8% 24 months BPMT group (n=152): 55.4% Control group (n=154): 55.1%	**Limitations** See Barber 2014

Study details	Participants	Interventions	Methods	Outcomes	Comments
for pelvic organ prolapse and stress urinary incontinence **Study dates** March 2008 to March 2011 **Source of funding** Grants from the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) and the National Institutes of Health (NIH) Office of Research on Women's Health					
Full citation Wyman,J.F., Fantl,J.A., McClish,D.K., Bump,R.C., Comparative efficacy of behavioral interventions in the management of female urinary incontinence. Continence Program for Women Research Group, American Journal of Obstetrics and Gynecology, 179, 999-1007, 1998 **Ref Id** 143667 **Country/ies where the study was carried out**	**Sample size** Total sample N = 204 Bladder training group: n = 68 (48 GSI only) Pelvic muscle exercise group: n = 69 (48 GSI only) Combination group: n = 67 (49 GSI only) **Characteristics** **Age** Bladder training group: 60 ± 10 Pelvic muscle exercise group: 62 ± 10 Combination group: 61 ± 9	**Interventions** Each intervention consisted of a structured 12-week program of patient education, self-monitoring of voiding behaviour with daily treatment logs, compliance assessment, and positive reinforcement techniques. A standardized patient education program was used, which included an audiovisual presentation with written and verbal instructions **Combination of behavioural techniques**	**Details** Adherence: Treatment adherence was assessed by mean percent attendance at required treatment visits; mean percent completion of prescribed voidings, pelvic muscle contractions during the 12-week intervention as self-reported on daily treatment logs, or both; and self-report of adherence with categorical rating scales at the 3-month after treatment appointment. Urinary incontinence: Assessed by the number	**Results** **Urogenital Distress Inventory (Genuine stress incontinence only)** Baseline Bladder training (n = 47): 124.6 ± 45.9 PME (n = 45): 114.2 ± 45.0 Combination (n = 44): 120.2 ± 48.9 Immediately post intervention Bladder training: 99.2 ± 54.4 PME: 81.2 ± 39.6 Combination: 63.2 ± 49.2	**Limitations** Limitations Cochrane risk of bias (Version 2.0) Domain 1: Randomisation: High risk 1.1: No information, says that participants were randomised but no further details 1.2: Yes, the sequence was generated by a physician not involved in the study and was

Study details	Participants	Interventions	Methods	Outcomes	Comments
USA **Study type** A randomized clinical trial **Aim of the study** To compare the efficacy of bladder training, pelvic muscle exercise with biofeedback-assisted instruction, and combination therapy, on urinary incontinence in women **Study dates** Not reported **Source of funding** Not reported	**Symptoms of stress incontinence** Bladder training group: 19 (28) Pelvic muscle exercise group: 35 (51) Combination group: 22 (33) **Symptoms of urge incontinence** Bladder training group: 8 (12) Pelvic muscle exercise group: 6 (9) Combination group: 10 (15) **Symptoms of mixed incontinence (stress and urge)** Bladder training group: 41 (60) Pelvic muscle exercise group: 27 (39) Combination group: 35 (52) **Inclusion criteria** Community-dwelling women age 45 years and older who were ambulatory, mentally intact (Mini-Mental State Examination Score >23), able to perform toileting independently, reported urine loss at least once per week, and had urodynamic evidence of genuine stress	**plus education (bladder training group)** A progressive voiding schedule that was altered each week for the first 6 weeks and then unchanged for the second 6 weeks. Patients were encouraged to make every effort not to void off schedule by use of urge inhibition techniques such as affirmations (self-statements) and distraction and relaxation techniques. The voiding interval initially set for 30 or 60 minutes on the basis of the baseline diary was increased by 30 minutes each week if the schedule was well tolerated. **PFMT plus education (PFMT group):** A graded home exercise regimen with audio cassette practice tapes and 4 office biofeedback sessions. Patients were also instructed to use pelvic muscle contractions for urge inhibition and preventive contractions with exertional events such as coughing, sneezing, or lifting. Patients received 4 weekly 30-minute sessions of visual and verbal biofeedback.	of weekly incontinent episodes as recorded in a standardised diary Quality of life: Condition-specific QoL was assessed using the Incontinence Impact Questionnaire—Revised and Urogenital Distress Inventory at baseline and immediately post intervention	**IIQ-R (genuine stress incontinence only)** Baseline Bladder training (n = 47): 85.7 ± 67.9 PME (n = 45): 68.2 ± 55.7 Combination (n = 44): 90.4 ± 72.1 Immediately post intervention Bladder training: 68.4 ± 69.7 PME: 43.5 ± 47.4 Combination: 52.3 ± 73.4 **Satisfaction with outcome, n (%)** Immediately post intervention Bladder training: very satisfied 42 (64); slightly satisfied 6 (9); neither satisfied nor dissatisfied 14 (21); dissatisfied or very dissatisfied 4 (6) PME: very satisfied 46 (73); slightly satisfied 10 (16); neither satisfied nor dissatisfied 6 (10); dissatisfied or very dissatisfied 1 (2) Combination: very satisfied 50 (82); slightly satisfied 7 (11); neither satisfied nor dissatisfied 3 (5); dissatisfied or very dissatisfied 1 (2) 3 months Bladder training: very satisfied 36 (60); slightly	concealed until the groups were assigned 1.3: Probably yes, significant different between groups in % with more than high school education, number of people with symptoms of stress incontinence, and number of people with symptoms of mixed incontinence Domain 2: Deviations from intended interventions: Some risk 2.1: Yes, participants not blinded 2.2: Yes, carers and people delivering the interventions not blinded 2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: Low risk

Study details	Participants	Interventions	Methods	Outcomes	Comments
	incontinence, detrusor instability, or both. Genuine stress incontinence was diagnosed if the patient had the symptom of stress incontinence and had observable urine loss during exertion in the absence of detrusor instability during cystometry, urethral pressure profilometry, or had a positive direct visualization test immediately after the catheters were removed. Detrusor instability was diagnosed if the patient had the symptom of urge incontinence and a detrusor contraction with urine loss, spontaneously or on provocation, during cystometry while attempting to inhibit micturition **Exclusion criteria** Reversible causes of urinary incontinence (eg, fecal impaction, drug effect), uncontrolled metabolic conditions (eg, diabetes mellitus), residual urine volume after voiding >100 mL, urinary tract infection, genitourinary fistula or indwelling catheterization, and inability to correctly	**Combination of behavioural techniques plus education plus PFMT (combination group)** The same protocols as described above for bladder training and pelvic muscle exercises. Bladder training was implemented initially with pelvic muscle exercises added during the third week of treatment.		satisfied 11 (18); neither satisfied nor dissatisfied 8 (13); dissatisfied or very dissatisfied 5 (8) PME: very satisfied 42 (66); slightly satisfied 11 (17); neither satisfied nor dissatisfied 10 (16); dissatisfied or very dissatisfied 1 (2) Combination: very satisfied 45 (78); slightly satisfied 6 (10); neither satisfied nor dissatisfied 5 (9); dissatisfied or very dissatisfied 2 (3) **Adherence** Attendance at the 6 weekly treatment visits Bladder training: 57% PME: 53% Combination: 75% Completing scheduled voidings Bladder training: 85% Combination: 81% Requested pelvic muscle contractions PME: 84% Combination: 78% Adhering to a voiding schedule most or all of the time Bladder training: 44% Combination: 40% Adherence to a pelvic muscle exercise regimen PME: 64% Combination: 58%	3.1: Probably no, only 8% of participants lost to follow up 3.2: Probably no, no evidence that the results were not biased by missing outcome data 3.3: Probably no, missingness of the outcome was not dependent on its true value Domain 4: Measurement of the outcome: Some concerns 4.1: Probably no, outcomes clearly defined 4.2: Probably no, questionnaire used which is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by

Study details	Participants	Interventions	Methods	Outcomes	Comments
	perform a pelvic muscle contraction on digital examination				knowledge of the intervention received 4.5: Probably no, all groups received active treatment Domain 5: Selection of the reported result: Some concerns 5.1: No, no pre-panned analysis or protocol available 5.2: No, descriptive data presented 5.3: No, data presented as expected Domain 6: Overall judgement of bias: High risk
Full citation Yoon, H. S., Song, H. H., Ro, Y. J., A comparison of effectiveness of bladder training and pelvic muscle exercise on female urinary incontinence, International	**Sample size** 50 randomised, 44 analysed **Characteristics** Mean age not reported, diagnostic groups not described.	**Interventions** **Behavioural techniques (bladder training group):** voiding interval increased weekly. **PFMT group**: 30 contractions daily, with EMG feedback weekly.	**Details** no further details	**Results** **Micturation rate per day (change from baseline to 8 week follow-up)** Bladder training -6.9 (SD 12.95)	**Limitations** Cochrane risk of bias (Version 2.0): overall some concerns

Study details	Participants	Interventions	Methods	Outcomes	Comments
Journal of Nursing Studies, 40, 45-50, 2003 **Ref Id** **Country/ies where the study was carried out** South Korea **Study type** RCT **Aim of the study** To compare the efficacy of bladder training and pelvic muscle exercise with control. **Study dates** 1997 **Source of funding** Not reported	**Inclusion criteria** Parous Females 33–55 years. Urine loss ≥ 1 g /30 min pad test, ≥ 14 voids in 48 h prior to evaluation **Exclusion criteria** Exclusions: UTI, previous surgery for UI, current drug tx for UI	PFM strength measured by perineometry. *index is average pressure (mmHg) multiplied by duration (s). Eight pts from each grp withdrew. **No treatment group**: no further details		PFMT -0.8 (SD 4.5) No treatment 1.1 (SD 4.41) **Micturation rate per night (change from baseline to 8 week follow-up)** Bladder training -1.8 (SD 1.41) PFMT 0.1 (SD 3.39) No treatment 0.62 (SD 2.69)	Domain 1: Randomisation: Low risk 1.1: Yes, 'randomisation numbers' 1.2: No information, allocation sequence not mentioned 1.3: Probably no, Domain 2: Deviations from intended interventions: Some concerns 2.1: Yes, participants not blinded 2.2: Yes, carers and people delivering the interventions not blinded 2.3: No information whether there were any deviations from the intended intervention Domain 3: Missing outcome data: Low risk 3.1Yes 3.2: Probably no, no evidence that the results were not biased by missing outcome data

Study details	Participants	Interventions	Methods	Outcomes	Comments
					3.3: Probably no, missingness of the outcome was not dependent on its true value Domain 4: Measurement of the outcome: Some concerns 4.1: Probably no, 4.2: Probably no, questionnaire used which is unlikely to differ between treatment arms 4.3: Probably yes, questionnaire is self report so outcome assessors are the participants who were not blinded 4.4: Probably yes, outcome is subjective so could be influenced by knowledge of the intervention received 4.5: Probably no, all groups received treatments so it is unlikely there were differences between expectations Domain 5: Selection of the reported result: Some concerns

Study details	Participants	Interventions	Methods	Outcomes	Comments
					5.1: No, no pre-panned analysis or protocol available 5.2: No, descriptive data presented 5.3: No, data presented as expected Domain 6: Overall judgement of bias: Some concerns **Other information** Have assumed SDs reported in table 2 are in fact SEs – as they are much smaller than SDs reported in other studies.

AQoL: The Assessment of Quality of Life; CRADI: Colorectal-Anal Distress Inventory; CRAIQ: Colorectal-Anal Impact Questionnaire; GSE-UI, Geriatric Self Efficacy for Urinary Incontinence; ICIQ-SF, International Consultation on Incontinence Questionnaire Short Form; IIQ: Incontinence Impact Questionnaire; ISI: Incontinence Severity Index; I-QOL: Incontinence Quality of Life; PFMT: pelvic floor muscle training; PFMT: pelvic floor muscle exercise; RCT; randomised controlled trial; SMIS, St. Marks Incontinence Score; SD: standard deviation; PFDI: Pelvic Floor Distress Inventory; PFDI-20: Pelvic Floor Distress Inventory Short Form 20; POPDI: Pelvic Organ Prolapse Distress Inventory; POPIQ: Pelvic Organ Prolapse Impact Questionnaire; UDI: Urinary Distress Inventory; UIQ: Urinary Impact Questionnaire; QUID: Questionnaire for Urinary Incontinence Diagnosis; VAS: visual analogue scale

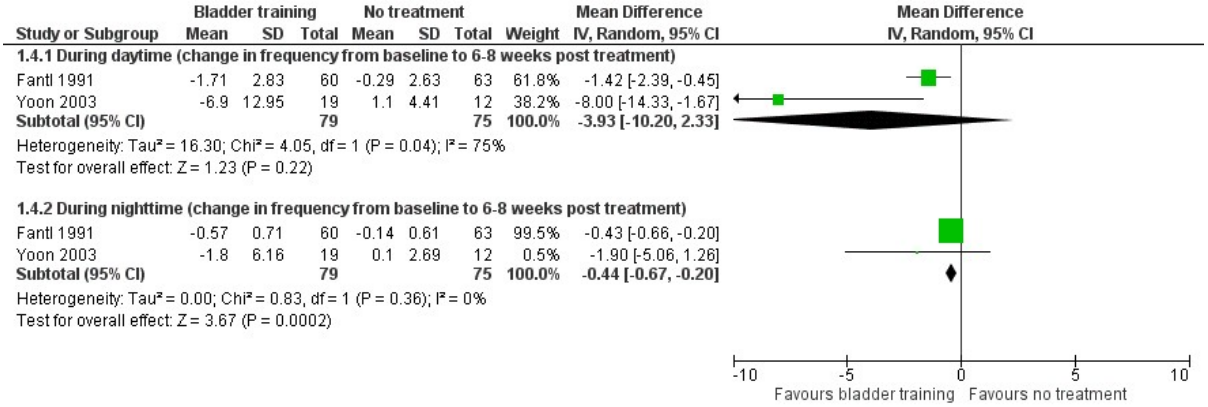
Appendix E – Forest plots

Forest plots for review question: What is the effectiveness of behavioural approaches (for example toilet training, seating, splinting) for improving symptoms associated with pelvic floor dysfunction?

This section includes forest plots only for outcomes that are meta-analysed. Outcomes from single studies are not presented here; the quality assessment for such outcomes is provided in the GRADE profiles in appendix F.

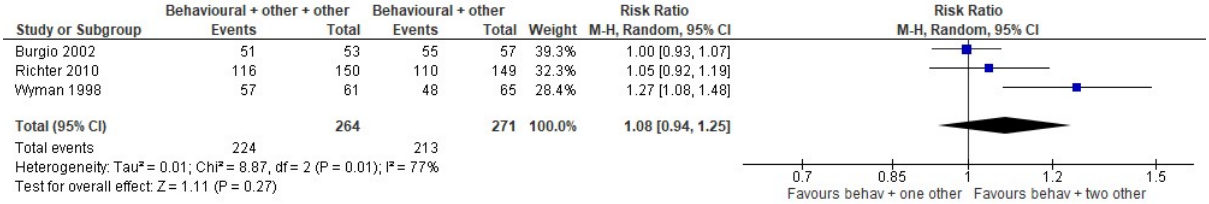
Behavioural techniques versus no treatment

Figure 2: Voluntary micturation rate (change from baseline)



Combination behavioural techniques + PFMT + pessary/education versus behavioural techniques + PFMT/education for UI

Figure 3: Satisfaction with progress (end of treatment; "completely or somewhat"/"very or slightly satisfied")

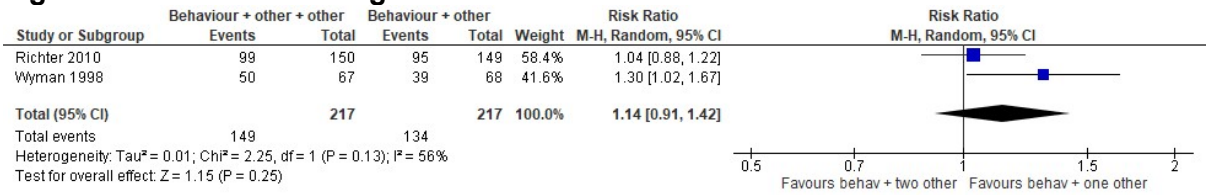


Note: Specific comparisons were as follows: Burgio 2002 – behavioural techniques + biofeedback + PFME versus behavioural techniques + PFME; Richter 2010 – behavioural techniques + pessary + PFME versus behavioural techniques + PFME; Wyman 1998 – behavioural techniques + education + PFME versus behavioural techniques + education

Figure 4: Satisfaction with progress (follow-up; very satisfied/satisfied)

Note: Specific comparisons were as follows: Richter 2010 – behavioural techniques + pessary + PFME versus behavioural techniques + PFME; Wyman 1998 – behavioural techniques + education + PFME versus behavioural techniques + education

Figure 5: Adherence during intervention



Note: Specific comparisons were as follows: Richter 2010 – behavioural techniques + pessary + PFME versus behavioural techniques + PFME; Wyman 1998 – behavioural techniques + education + PFME versus behavioural techniques + education

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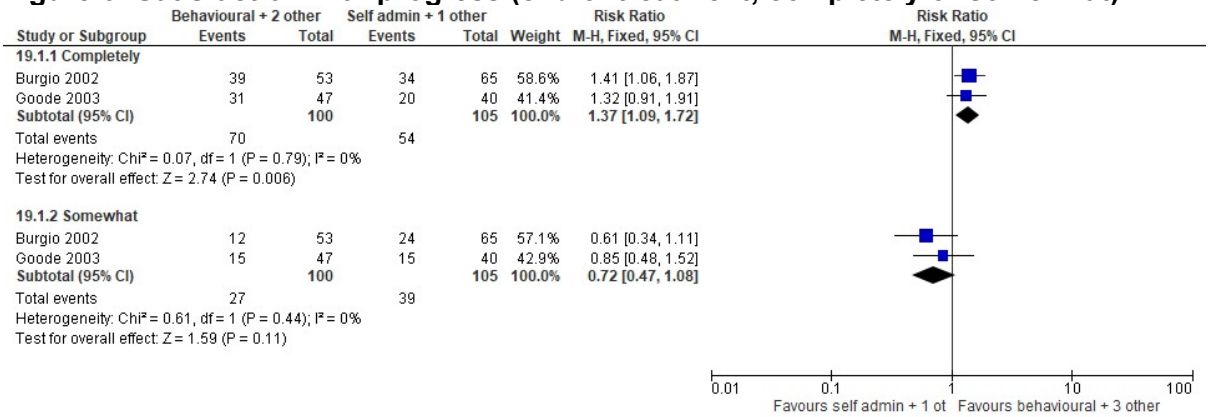
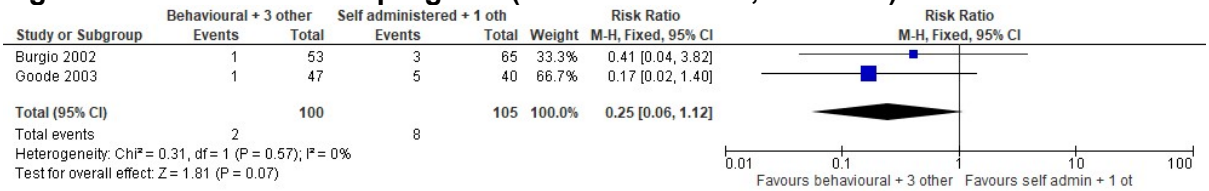
19 **Combination behavioural techniques + other + other versus self-administered**
20 **behavioural techniques + other**

Figure 6: Satisfaction with progress (end of treatment; completely or somewhat)



Note: Specific comparisons were as follows: Burgio 2002 – behavioural techniques + biofeedback + PFME versus self-administered behavioural techniques + PFME; Goode 2003 – behavioural techniques + biofeedback + PFME versus self-administered behavioural techniques + PFME

Figure 7: Satisfaction with progress (end of treatment; not at all)



Note: Specific comparisons were as follows: Burgio 2002 – behavioural techniques + biofeedback + PFME versus self-administered behavioural techniques + PFME; Goode 2003 – behavioural techniques + biofeedback + PFME versus self-administered behavioural techniques + PFME

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Appendix F – GRADE tables

GRADE tables for review question: What is the effectiveness of behavioural approaches (for example toilet training, seating, splinting) for improving symptoms associated with pelvic floor dysfunction?

Table 5: Clinical evidence profile for comparison behavioural techniques versus no treatment for UI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Bladder training	No treatment	Relative (95% CI)	Absolute		
Incontinence related QoL (Incontinence impact questionnaine [IIQ]; range 0 to 3; lower better; change from baseline to 6 weeks follow-up)												
Fantl 1991	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	60	63	-	MD 0.27 lower (0.39 lower to 0.15 lower)	MODERATE	CRITICAL
Incontinence episodes (women experiencing at least 50% reduction in number of episodes at 6 weeks follow-up)												
Fantl 1991	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	45/60	15/63	RR 3.15 [1.98, 5.02]	512 more per 1000 (from 233 more to 957 more)	MODERATE	CRITICAL
Daytime voluntary micturition rate (change from baseline to 6-8 weeks follow-up)												
2[2]	randomised trials	serious[1]	no serious inconsistency[3]	no serious indirectness	serious[4]	none	79	75	-	MD 3.93 lower (10.20 lower to 2.33 higher)	LOW	CRITICAL
Night-time voluntary micturition rate (change from baseline to 6-8 weeks follow-up)												
2[2]	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[4]	none	79	75	-	MD 0.44 lower (22.5 lower to 9.9 higher)	LOW	CRITICAL

QoL: Quality of Life; CI: confidence interval; MD: mean difference; MID: minimal important difference;
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 Fantl 1991; Yoon 2003
3 Serious heterogeneity but both studies showed significant benefit of bladder training; random effects model used
4 95% CI crosses 1 MID

Table 6: Clinical evidence profile for comparison combination behavioural techniques + PFMT versus usual care for POP/SUI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques + PFMT	Usual care	Relative (95% CI)	Absolute		
UDI (follow-up 6 months; range of scores: 0-300; Better indicated by lower values)												
Barber 2014	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	163	165	-	MD 6.7 lower (19.7 lower to 6.3 higher)	LOW	CRITICAL
UDI (follow-up 24 months; range of scores: 0-300; Better indicated by lower values)												
Barber 2014	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	146	146	-	MD 1.3 lower (14.4 lower to 11.8 higher)	VERY LOW	CRITICAL
CRADI (follow-up 6 months; range of scores: 0-100; Better indicated by lower values)												
Barber 2014	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[4]	none	163	165	-	MD 7.7 lower (23.6 lower to 8.2 higher)	LOW	CRITICAL
CRADI (follow-up 24 months; range of scores: 0-100; Better indicated by lower values)												
Barber 2014	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[4]	none	146	146	-	MD 6.3 lower (22.5 lower to 9.9 higher)	LOW	CRITICAL
POPDI (follow-up 6 months; range of scores: 0-100; Better indicated by lower values)												
Barber 2014	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[5]	none	-	-	-	MD 13.6 lower (27.4 lower to 0.2 higher)	LOW	CRITICAL
POPDI (follow-up 5 years; range of scores: 0-100; Better indicated by lower values)												
Barber 2014	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	124	120	-	MD 2.4 higher (13.7 lower to 18.5 higher)	MODERATE	CRITICAL
Incontinence severity index (follow-up 6 months; range of scores: 0-12; Better indicated by lower values)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques + PFMT	Usual care	Relative (95% CI)	Absolute		
Barber 2014	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	161	162	-	MD 0.3 higher (0.63 lower to 1.23 higher)	MODERATE	CRITICAL
Incontinence severity index (follow-up 24 months; range of scores: 0-12; Better indicated by lower values)												
Barber 2014	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	119	124	-	MD 0.34 higher (0.64 lower to 1.32 higher)	MODERATE	CRITICAL
PGI-I ("very much better or much better") (follow-up 6 months)												
Barber 2014	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	110/170 (64.7%)	110/171 (64.3%)	RR 1.01 (0.86 to 1.18)	6 more per 1000 (from 90 fewer to 116 more)	MODERATE	IMPORTANT
PGI-I ("very much better or much better") (follow-up 24 months)												
Barber 2014	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	84/152 (55.3%)	85/154 (55.2%)	RR 1 (0.82 to 1.23)	0 fewer per 1000 (from 99 fewer to 127 more)	MODERATE	IMPORTANT

CRADI: Colorectal-Anal Distress Inventory; CI: confidence interval; PFMT: pelvic floor muscle training; RCT; randomised controlled trial; RR: relative risk; SD: standard deviation; PGI-I: Patient Global Impression of Improvement; POP: pelvic organ prolapse; POPDI: Pelvic Organ Prolapse Distress Inventory;SUI: stress urinary incontinence; UDI: Urinary Distress Inventory;

1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

2 95% CI crosses 1 MID for UDI (-11,11)

3 95% CI crosses 2 MIDs for UDI (-11,11)

4 95% CI crosses 1 MID for CRADI (-14,14)

5 95% CI crosses 1 MID for POPDI (-21,21)

Table 7: Clinical evidence profile for comparison combination behavioural techniques + PFMT versus no treatment for UI/FI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques + PFMT	No treatment	Relative (95% CI)	Absolute		
PGI (number of participants 'better') for UI (follow-up 4 months)												
Brown 2019	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	42/59 (71.2%)	13/57 (22.8%)	RR 3.12 (1.88 to 5.17)	484 more per 1000 (from 201 more to 951 more)	LOW	IMPORTANT
PGI (number of participants 'much better') for UI												
Brown 2019	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	23/59 (39%)	3/57 (5.3%)	RR 7.41 (2.35 to 23.32)	337 more per 1000 (from 71 more to 1000 more)	LOW	IMPORTANT
PGI (number of participants 'better') for FI (follow-up 4 months)												
Brown 2019	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	33/60 (55%)	15/55 (27.3%)	RR 2.02 (1.24 to 3.29)	278 more per 1000 (from 65 more to 625 more)	VERY LOW	IMPORTANT
PGI (number of participants 'much better') for FI (follow-up 4 months)												
Brown 2019	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	21/60 (35%)	6/55 (10.9%)	RR 3.21 (1.4 to 7.36)	241 more per 1000 (from 44 more to 694 more)	LOW	IMPORTANT
Pelvic Floor Distress Inventory Short Form 20 (high score is poor outcome) (follow-up 4 months; range of scores: 0-300; Better indicated by lower values)												
Brown 2019	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	60	57	-	MD 20 lower (36.33 to 3.67 lower)	VERY LOW	CRITICAL
International Consultation on Incontinence Questionnaire Short Form (high score is poor outcome) (follow-up 4 months; range of scores: 0-21; Better indicated by lower values)												
Brown 2019	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[4]	none	60	57	-	MD 1.3 lower (2.79 lower to 0.19 higher)	VERY LOW	CRITICAL
St. Marks Incontinence Score (high score is poor outcome) (follow-up 4 months; range of scores: 0-24; Better indicated by lower values)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques + PFMT	No treatment	Relative (95% CI)	Absolute		
Brown 2019	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[5]	none	60	57	-	MD 2.1 lower (3.6 to 0.6 lower)	VERY LOW	CRITICAL
Geriatric Self Efficacy for Urinary Incontinence (high score is good outcome) (follow-up 4 months; range of scores: 0-120; Better indicated by higher values)												
Brown 2019	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[6]	none	60	57	-	MD 13 higher (7.53 lower to 33.53 higher)	VERY LOW	CRITICAL

CI: confidence interval; FI: faecal incontinence; MD: mean difference; PFMT: pelvic floor muscle training; PGI-I: Patient Global Impression of Improvement; RR: relatice risk; SD: standard deviation; UI: urinary incontinence

1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2

2 95% CI crosses 1 MID (0.8, 1.25)

3 95% CI crosses 1 MID (0.5x SD control at baseline, 24.5)

4 95% CI crosses 1 MID (0.5x SD control at baseline, 1.85)

5 95% CI crosses 1 MID (0.5x SD control at baseline, 2.25)

6 95% CI crosses 1 MID (0.5x SD control at baseline, 13.5)

Table 8: Clinical evidence profile for comparison combination behavioural techniques + PFMT versus behavioural techniques for UI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques + PFMT	Behavioural techniques	Relative (95% CI)	Absolute		
Global rating of improvement (worse; at end of intervention) - Worse (follow-up end of intervention (6 weeks))												
Kaya 2015	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	0/56 (0%)	0/52 (0%)	Not estimable	-	MODERATE	IMPORTANT
Global rating of improvement (worse or unchanged; at end of intervention) - Unchanged (follow-up end of intervention (6 weeks))												
Kaya 2015	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	0/56 (0%)	9/52 (17.3%)	Peto OR 0.11 (0.03 to 0.41)	151 fewer per 1000 (from 94 fewer to 167 fewer)	MODERATE	IMPORTANT
Global rating of improvement (improved or cured; at end of intervention) - Improved (follow-up end of intervention (6 weeks))												
Kaya 2015	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	33/56 (58.9%)	40/52 (76.9%)	RR 0.77 (0.59 to 1)	177 fewer per 1000 (from 315 fewer to 0 more)	LOW	IMPORTANT
Global rating of improvement (improved or cured; at end of intervention) - Cured (follow-up end of intervention (6 weeks))												
Kaya 2015	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	23/56 (41.1%)	3/52 (5.8%)	RR 7.12 (2.27 to 22.31)	353 more per 1000 (from 73 more to 1000 more)	MODERATE	IMPORTANT
IIQ (end of intervention) (follow-up end of intervention (8 weeks); range of scores: 0-400; Better indicated by lower values)												
Shivkumar 2015	randomised trials	very serious[3]	no serious inconsistency	no serious indirectness	no serious imprecision	none	15	15	-	MD 0.54 lower (0.65 to 0.43 lower)	LOW	CRITICAL
VAS (end of intervention) (follow-up end of intervention (8 weeks); range of scores: 0-10; Better indicated by lower values)												
Shivkumar 2015	randomised trials	very serious[3]	no serious inconsistency	no serious indirectness	no serious imprecision	none	15	15	-	MD 2.46 lower (3.02 to 1.9 lower)	LOW	CRITICAL

CI: confidence interval;; IIQ: Incontinence Impact Questionnaire; MD: mean difference; MID: minimal important difference; OR: odds ratio; PFMT: pelvic floor muscle training; RR: relative risk; SD: standard deviation; UI: urinary incontinence; VAS: visual analogue scale
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (0.8, 1.25)
3 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2

Table 9: Clinical evidence profile for comparison combination behavioural techniques + PFMT versus pessary for SUI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Behavioural techniques + PFMT	Pessary	Relative (95% CI)	Absolute		
UDI (change score, 3 months) (follow-up 3 months; range of scores: 0-300; Better indicated by lower values)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	146	149	-	MD 3.2 higher (5.02 lower to 11.42 higher)	MODERATE	CRITICAL
POPDI (change score, 3 months) (follow-up 3 months; range of scores: 0-300; Better indicated by lower values)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	146	149	-	MD 1.2 lower (8.55 lower to 6.15 higher)	MODERATE	CRITICAL
CRADI (change score, 3 months) (follow-up 3 months; range of scores: 0-400; Better indicated by lower values)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	146	149	-	MD 1 higher (8.16 lower to 10.16 higher)	MODERATE	CRITICAL
UIQ (change score, 3 months) (follow-up 3 months; range of scores: 0-300; Better indicated by lower values)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	146	149	-	MD 0.7 lower (100.86 to 9.46 lower)	MODERATE	CRITICAL
POPIQ (change score, 3 months) (follow-up 3 months; range of scores: 0-300; Better indicated by lower values)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	146	149	-	MD 1.95 higher (6.34 lower to 10.24 higher)	MODERATE	CRITICAL
CRAIQ (change score, 3 months) (follow-up 3 months; range of scores: 0-300; Better indicated by lower values)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	146	149	-	MD 2.2 higher (5.45 lower to 9.85 higher)	MODERATE	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Behavioural techniques + PFMT	Pessary	Relative (95% CI)	Absolute		
QUID stress (change score, 3 months) (follow-up 3 months; range of scores: 0-15; Better indicated by lower values)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	146	149	-	MD 0.2 higher (0.95 lower to 1.35 higher)	MODERATE	CRITICAL
QUID Urge (change score, 3 months) (follow-up 3 months; range of scores: 0-15; Better indicated by lower values)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	146	149	-	MD 0.3 lower (1.25 lower to 0.68 higher)	MODERATE	CRITICAL
Patient Global Impression of Improvement (3 months; 'much better' or 'very much better') (follow-up 3 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	72/149 (48.3%)	59/146 (40.4%)	RR 1.2 (0.92 to 1.55)	81 more per 1000 (from 32 fewer to 222 more)	LOW	CRITICAL
Patient Global Impression of Improvement (12 months; 'much better' or 'very much better') (follow-up 12 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	48/149 (32.2%)	47/146 (32.2%)	RR 1 (0.72 to 1.39)	0 fewer per 1000 (from 90 fewer to 126 more)	VERY LOW	CRITICAL
Satisfaction with treatment (3 months) (follow-up 3 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	110/149 (73.8%)	94/146 (64.4%)	RR 1.15 (0.98 to 1.34)	97 more per 1000 (from 13 fewer to 219 more)	LOW	IMPORTANT
Satisfaction with treatment (12 months) (follow-up 12 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	79/149 (53%)	75/146 (51.4%)	RR 1.03 (0.83 to 1.28)	15 more per 1000 (from 87 fewer to 144 more)	VERY LOW	IMPORTANT
UDI-stress incontinence subscale of PFDI (3 months; number with no bothersome stress incontinence symptoms) (follow-up 3 months)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Behavioural techniques + PFMT	Pessary	Relative (95% CI)	Absolute		
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	71/149 (47.7%)	49/146 (33.6%)	RR 1.42 (1.07 to 1.89)	141 more per 1000 (from 23 more to 299 more)	LOW	CRITICAL
UDI-stress incontinence subscale of PFDI (12 months; number with no bothersome stress incontinence symptoms) (follow-up 12 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	59/149 (39.6%)	52/146 (35.6%)	RR 1.11 (0.83 to 1.49)	39 more per 1000 (from 61 fewer to 175 more)	VERY LOW	CRITICAL
Withdrawal due to serious adverse events (3 months) (follow-up 3 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	22/149 (14.8%)	39/146 (26.7%)	RR 0.55 (0.35 to 0.88)	120 fewer per 1000 (from 32 fewer to 174 fewer)	LOW	IMPORTANT
Withdrawal due to serious adverse events (12 months) (follow-up 12 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	0/149 (0%)	1/146 (0.68%)	Peto OR 0.13 (0 to 6.68)	6 fewer per 1000 (from 7 fewer to 37 more)	VERY LOW	IMPORTANT

CRADI: Colorectal-Anal Distress Inventory; CI: confidence interval; IIQ: Incontinence Impact Questionnaire; MD: mean difference; MID: minimal important difference;OR: odds ratio; PFMT: pelvic floor muscle training; POPDI: Pelvic Organ Prolapse Distress Inventory; QUID: Questionnaire for Urinary Incontinence Diagnosis; RR: relative risk; UDI: Urinary Distress Inventory; SD: standard deviation; SUI: stress uriary incontinence

1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

2 95% CI crosses 1 MID (0.8, 1.25)

3 95% CI crosses 2 MIDs (0.8, 1.25)

Table 10: Clinical evidence profile for comparison combination behavioural techniques + education versus PFMT + education for SUI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques + education	PFMT + education	Relative (95% CI)	Absolute		
Urogenital Distress Inventory (end of intervention) (follow-up end of intervention (12 weeks); range of scores: 0-100; Better indicated by lower values)												
Wyman 1998	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	44	45	-	MD 18 lower (36.58 lower to 0.58 higher)	VERY LOW	CRITICAL
IIQ-R (end of intervention) (follow-up end of intervention (12 weeks); range of scores: 0-400; Better indicated by lower values)												
Wyman 1998	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	44	45	-	MD 8.8 higher (16.93 lower to 34.53 higher)	VERY LOW	CRITICAL
Satisfaction (end of intervention; very satisfied) (follow-up end of intervention (12 weeks))												
Wyman 1998	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[4]	none	50/61 (82%)	46/63 (73%)	RR 1.12 (0.93 to 1.36)	88 more per 1000 (from 51 fewer to 263 more)	VERY LOW	IMPORTANT
Satisfaction (follow up; very satisfied) (follow-up 3 months post treatment)												
Wyman 1998	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[4]	none	45/58 (77.6%)	42/64 (65.6%)	RR 1.18 (0.94 to 1.48)	118 more per 1000 (from 39 fewer to 315 more)	VERY LOW	IMPORTANT
Satisfaction (end of intervention; dissatisfied or very dissatisfied) (follow-up end of intervention (12 weeks))												
Wyman 1998	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[5]	none	1/61 (1.6%)	1/63 (1.6%)	RR 1.03 (0.07 to 16.15)	0 more per 1000 (from 15 fewer to 240 more)	VERY LOW	IMPORTANT
Satisfaction (follow up; dissatisfied or very dissatisfied) (follow-up 3 months post intervention)												
Wyman 1998	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[5]	none	2/58 (3.4%)	1/64 (1.6%)	RR 2.21 (0.21 to 23.7)	19 more per 1000 (from 12 fewer to 355 more)	VERY LOW	IMPORTANT
Adherence (follow-up end of intervention (12 weeks))												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques + education	PFMT + education	Relative (95% CI)	Absolute		
Wyman 1998	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[4]	none	33/44 (75%)	24/45 (53.3%)	RR 1.41 (1.02 to 1.94)	219 more per 1000 (from 11 more to 501 more)	VERY LOW	IMPORTANT

CI: confidence interval; IIQ: Incontinence Impact Questionnaire; ISI: Incontinence Severity Index; MD: mean difference; MID: minimal important difference; PFMT: pelvic floor muscle training; RR: relative risk; SD: standard deviation;

1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2

2 95% CI crosses 1 MID (-11,11)

3 95% CI crosses 1 MID (0.5 x SD control at baseline, 27.85)

4 95% CI crosses 1 MID (0.8, 1.25)

5 95% CI crosses 2 MIDs (0.8, 1.25)

Table 11: Clinical evidence profile for comparison combination behavioural techniques + PFMT + exercise/education versus no treatment for UI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques + PFMT + exercise/education	No treatment	Relative (95% CI)	Absolute		
ICIQ (end of intervention) (range of scores: 0-21; Better indicated by lower values)												
Talley 2017	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	22	18	-	MD 1.8 lower (3.78 lower to 0.18 higher)	VERY LOW	CRITICAL
IIQ (end of intervention) (follow-up end of intervention (12 weeks); range of scores: 0-400; Better indicated by lower values)												
Talley 2017	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	23	19	-	MD 1.3 lower (20.5 lower to 17.9 higher)	LOW	CRITICAL
UDI (3 months) (follow-up end of intervention (12 weeks); range of scores: 0-300; Better indicated by lower values)												
Talley 2017	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	23	19	-	MD 8.2 lower (29.62 lower to 13.22 higher)	VERY LOW	CRITICAL
PGI-I (number much better/very much better) (follow-up 12 months)												
Diokno 2018	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	126/196 (64.3%)	23/203 (11.3%)	RR 5.67 (3.81 to 8.45)	529 more per 1000 (from 318 more to 844 more)	LOW	IMPORTANT
PGI-I (number much better/very much better) (follow-up 3 months)												
Diokno 2018	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	99/211 (46.9%)	17/211 (8.1%)	RR 5.82 (3.61 to 9.39)	388 more per 1000 (from 210 more to 676 more)	LOW	IMPORTANT
ICIQ-SF (follow-up 3 months; range of scores: 0-21; Better indicated by lower values)												
Diokno 2018	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	209	212	-	MD 0.91 lower (1.59 to 0.23 lower)	LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques + PFMT + exercise/education	No treatment	Relative (95% CI)	Absolute		
ICIQ-SF (follow-up 12 months; range of scores: 0-21; Better indicated by lower values)												
Diokno 2018	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[4]	none	195	203	-	MD 1.6 lower (2.32 to 0.88 lower)	VERY LOW	CRITICAL
Improvement in incontinence (number same or worse) (follow-up 6-8 weeks)												
Diokno 2010	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[5]	none	11/23 (47.8%)	15/23 (65.2%)	RR 0.73 (0.44 to 1.23)	176 fewer per 1000 (from 365 fewer to 150 more)	VERY LOW	CRITICAL
Improvement in incontinence (number improved) (follow-up 6-8 weeks)												
Diokno 2010	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[5]	none	12/23 (52.2%)	3/18 (16.7%)	RR 3.13 (1.04 to 9.45)	355 more per 1000 (from 7 more to 1000 more)	VERY LOW	CRITICAL
Severity level (end of intervention; "slight") (follow-up 6-8 weeks)												
Diokno 2010	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[5]	none	13/23 (56.5%)	5/18 (27.8%)	RR 2.03 (0.89 to 4.65)	286 more per 1000 (from 31 fewer to 1000 more)	VERY LOW	CRITICAL
Severity level ("moderate") (follow-up 6-8 weeks)												
Diokno 2010	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[6]	none	5/23 (21.7%)	7/18 (38.9%)	RR 0.56 (0.21 to 1.47)	171 fewer per 1000 (from 307 fewer to 183 more)	VERY LOW	CRITICAL
Severity level ("severe") (follow-up 6-8 weeks)												
Diokno 2010	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[6]	none	5/23 (21.7%)	7/18 (38.9%)	RR 0.56 (0.21 to 1.47)	171 fewer per 1000 (from 307	VERY LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques + PFMT + exercise/education	No treatment	Relative (95% CI)	Absolute		
										fewer to 183 more)		
Patient satisfaction ('overall do you feel that you are better', patient global ratings of satisfaction) (follow-up 12 weeks)												
Talley 2017	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[5]	none	19/23 (82.6%)	7/19 (36.8%)	RR 2.24 (1.21 to 4.16)	457 more per 1000 (from 77 more to 1000 more)	VERY LOW	IMPORTANT

CI: confidence interval; ICIQ-SF, International Consultation on Incontinence Questionnaire Short Form; IIQ: Incontinence Impact Questionnaire; MD: mean difference; MID: minimal important difference; PFMT: pelvic floor muscle training; PGI-I: Patient Global Impression of Improvement; RR: relative risk; SD: standard deviation; UDI: Urinary Distress Inventory; UI: urinary incontinence

1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2

2 95% CI crosses 1 MID (0.5 x SD control at baseline, 1.7)

3 95% CI crosses 1 MID (0.5 x SD control at baseline, 22.25)

4 95% CI crosses 1 MID (0.5 x SD control at baseline, 1.92)

5 95% CI crosses 1 MID (0.8, 1.25)

6 95% CI crosses 2 MIDs (0.8, 1.25)

Table 12: Clinical evidence profile for comparison combination behavioural techniques + PFMT + some BF versus no treatment for UI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques+PFMT+some BF	No treatment	Relative (95% CI)	Absolute		
Health related quality of life (end of intervention; IIQ) (follow-up end of intervention (6 months); range of scores: 0-400; Better indicated by lower values)												
Dougherty 2002	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	23	23	-	MD 7 lower (13.73 to 0.27 lower)	VERY LOW	CRITICAL
Health related quality of life (follow up; IIQ) (follow-up 24 months; range of scores: 0-400; Better indicated by lower values)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques+PFMT+some BF	No treatment	Relative (95% CI)	Absolute		
Dougherty 2002	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	23	23	-	MD 7 lower (13.73 to 0.27 lower)	LOW	CRITICAL

BF: biofeedback; CI: confidence interval; IIQ: Incontinence Impact Questionnaire; MD: mean difference; MID: minimal important difference; PFMT: pelvic floor muscle training; SD: standard deviation; UI: urinary incontinence

1 Vey serious risk of bias due to measurement of outcomes and selection of the reported result

2 95% CI crosses 1 MID (0.5 x SD control at baseline, 7.05)

Table 13: Clinical evidence profile for comparison combination behavioural techniques + PFMT + pessary versus pessary for SUI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques + PFMT + pessary	Pessary	Relative (95% CI)	Absolute		
Patient Global Impression of Improvement (3 months; 'much better' or 'very much better') (follow-up 3 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	80/150 (53.3%)	59/146 (40.4%)	RR 1.32 (1.03 to 1.69)	129 more per 1000 (from 12 more to 279 more)	LOW	CRITICAL
Patient Global Impression of Improvement (12 months; 'much better' or 'very much better') (follow-up 12 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	49/150 (32.7%)	47/146 (32.2%)	RR 1.01 (0.73 to 1.41)	3 more per 1000 (from 87 fewer to 132 more)	VERY LOW	CRITICAL
Satisfaction with treatment (3 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	116/150 (77.3%)	94/146 (64.4%)	RR 1.2 (1.04 to 1.39)	129 more per 1000 (from 26 more to 251 more)	LOW	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques + PFMT + pessary	Pessary	Relative (95% CI)	Absolute		
Satisfaction with treatment (12 months) (follow-up 12 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	81/150 (54%)	75/146 (51.4%)	RR 1.05 (0.85 to 1.3)	26 more per 1000 (from 77 fewer to 154 more)	LOW	IMPORTANT
UDI-stress incontinence subscale of PFDI (3 months; number with no bothersome stress incontinence symptoms) (follow-up 3 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	66/150 (44%)	49/146 (33.6%)	RR 1.31 (0.98 to 1.75)	104 more per 1000 (from 7 fewer to 252 more)	LOW	CRITICAL
UDI-stress incontinence subscale of PFDI (12 months; number with no bothersome stress incontinence symptoms) (follow-up 12 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	49/150 (32.7%)	52/146 (35.6%)	RR 0.92 (0.67 to 1.26)	28 fewer per 1000 (from 118 fewer to 93 more)	VERY LOW	CRITICAL
Withdrawal due to serious adverse events (3 months) (follow-up 3 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	18/150 (12%)	39/146 (26.7%)	RR 0.45 (0.27 to 0.75)	147 fewer per 1000 (from 67 fewer to 195 fewer)	MODERATE	IMPORTANT
Withdrawal due to serious adverse events (12 months) (follow-up 12 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	0/150 (0%)	1/146 (0.68%)	Peto OR 0.13 (0 to 6.64)	6 fewer per 1000 (from 7 fewer to 37 more)	VERY LOW	IMPORTANT

1 *CI: confidence interval; MD: mean difference; MID: minimal important difference; OR: odds ratio; PFDI: Pelvic Floor Distress Inventory; PFMT: pelvic floor muscle training; RR:*
2 *relative risk; SD: standard deviation; SUI: stress urinary incontinence*
3 *1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2*
4 *2 95% CI crosses 1 MID (0.8, 1.25)*
5 *3 95% CI crosses 2 MIDs (0.8, 1.25)*

Table 14: Clinical evidence profile for comparison combination behavioural techniques + PFMT + pessary/education versus behavioural techniques + PFMT/education for UI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques + PFMT + pessary/education	Behavioural techniques + PFMT/education	Relative (95% CI)	Absolute		
Satisfaction with progress (end of treatment; "completely or somewhat"/"very or slightly satisfied"/"satisfied") (follow-up end of treatment)												
3	randomised trials	serious[1]	serious[2]	no serious indirectness	serious[3]	none	224/264 (84.8%)	213/271 (78.6%)	RR 1.08 (0.94 to 1.25)	63 more per 1000 (from 47 fewer to 196 more)	VERY LOW	IMPORTANT
Satisfaction with progress (end of treatment; "not at all") (follow-up end of treatment)												
Burgio 2002	randomised trials	very serious[4]	no serious inconsistency	no serious indirectness	very serious[5]	none	1/53	0/57 (0%)	Peto OR 7.97 (0.16 to 402.62)	181 more per 1000 (from 416 fewer to 213 more)	VERY LOW	IMPORTANT
Satisfaction (follow up; very satisfied/satisfied) (follow-up 3-12 months)												
2	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	132/208 (63.5%)	126/209 (60.3%)	RR 1.06 (0.91 to 1.22)	36 more per 1000 (from 54 fewer to 133 more)	MODERATE	IMPORTANT
Patient Global Impression of Improvement (3 months; 'much better' or 'very much better') (follow-up 3 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	80/150 (53.3%)	72/149 (48.3%)	RR 1.1 (0.88 to 1.38)	48 more per 1000 (from 58 fewer to 184 more)	LOW	CRITICAL
Patient Global Impression of Improvement (12 months; 'much better' or 'very much better') (follow-up 12 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[5]	none	49/150 (32.7%)	48/149 (32.2%)	RR 1.01 (0.73 to 1.41)	3 more per 1000 (from 87 fewer to 132 more)	VERY LOW	CRITICAL
UDI-stress incontinence subscale of PFDI (12 months; number with no bothersome stress incontinence symptoms) (follow-up 12 months)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques + PFMT + pessary/education	Behavioural techniques + PFMT/education	Relative (95% CI)	Absolute		
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	49/150 (32.7%)	59/149 (39.6%)	RR 0.82 (0.61 to 1.12)	71 fewer per 1000 (from 154 fewer to 48 more)	LOW	CRITICAL
UDI-stress incontinence subscale of PFDI (3 months; number with no bothersome stress incontinence symptoms) (follow-up 3 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	66/150 (44%)	71/149 (47.7%)	RR 0.92 (0.72 to 1.18)	38 fewer per 1000 (from 133 fewer to 86 more)	LOW	CRITICAL
Urogenital Distress Inventory (end of intervention) (follow-up end of intervention (12 weeks); range of scores: 0-300; Better indicated by lower values)												
Wyman 1998	randomised trials	very serious[4]	no serious inconsistency	no serious indirectness	serious[6]	none	44	47	-	MD 36 lower (57.29 to 14.71 lower)	VERY LOW	CRITICAL
IIQ-R (end of intervention) (follow-up end of intervention (12 weeks); range of scores: 0-400; Better indicated by lower values)												
Wyman 1998	randomised trials	very serious[4]	no serious inconsistency	no serious indirectness	serious[7]	none	44	47	-	MD 16.1 lower (45.55 lower to 13.35 higher)	VERY LOW	CRITICAL
Withdrawal due to serious adverse events (3 months) (follow-up 3 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[5]	none	18/150 (12%)	22/149 (14.8%)	RR 0.81 (0.45 to 1.45)	28 fewer per 1000 (from 81 fewer to 66 more)	VERY LOW	IMPORTANT
Withdrawal due to serious adverse events (12 months) (follow-up 12 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	0/150 (0%)	0/149 (0%)	Not estimable	-	MODERATE	IMPORTANT
Adherence (attendance during intervention) (follow-up end of intervention (8-12 weeks))												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques + PFMT + pessary/education	Behavioural techniques + PFMT/education	Relative (95% CI)	Absolute		
2	randomised trials	serious[1]	serious[8]	no serious indirectness	serious[3]	none	149/217 (68.7%)	134/217 (61.8%)	RR 1.14 (0.91 to 1.42)	86 more per 1000 (from 56 fewer to 259 more)	VERY LOW	IMPORTANT
Adherence during follow up (follow-up 3 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	80/117 (68.4%)	80/110 (72.7%)	RR 0.94 (0.79 to 1.11)	44 fewer per 1000 (from 153 fewer to 80 more)	LOW	IMPORTANT
Adherence during follow up (follow-up 12 months)												
Richter 2010	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	26/114 (22.8%)	35/110 (31.8%)	RR 0.72 (0.46 to 1.11)	89 fewer per 1000 (from 172 fewer to 35 more)	LOW	IMPORTANT

CI: confidence interval; ; IIQ-R: Incontinence Impact Questionnaire revised; OR: odds ratio; MD: mean difference; MID: minimal important difference; PFDI: Pelvic Floor Distress Inventory; PFMT: pelvic floor muscle training; RR: risk ratio; SD: standard deviation; UDI: Urinary Distress Inventory; UI: urinary incontinence

1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

2 Serious inconsistency (I2 = 77%)

3 95% CI crosses 1 MID (0.8, 1.25)

4 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2

5 95% CI crosses 2 MIDs (0.8, 1.25)

6 95% CI crosses 1 MID for UDI (-16,16)

7 95% CI crosses 1 MID (0.5x SD control at baseline, 33.95)

8 Serious inconsistency (I2 = 56%)

Table 15: Clinical evidence profile for comparison combination behavioural techniques + PFMT + counselling versus behavioural techniques + PFMT for UI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Behavioural + PFMT + counselling	Behavioural + PFMT	Relative (95% CI)	Absolute		
Incontinence Quality of Life scale (end of intervention) (follow-up end of intervention (14-22 weeks); range of scores: 22-110; Better indicated by higher values)												
Alewijnse 2003	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	27	76	-	MD 0.87 higher (3.37 lower to 5.11 higher)	MODERATE	CRITICAL
Incontinence Quality of Life scale (follow up) (follow-up 12 months; range of scores: 22-110; Better indicated by higher values)												
Alewijnse 2003	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	27	76	-	MD 1.31 higher (4.17 lower to 6.79 higher)	MODERATE	CRITICAL
Adherence (end of intervention) (follow-up end of intervention (14-22 weeks); Better indicated by higher values)												
Alewijnse 2003	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	23	64	-	MD 0.3 lower (0.9 lower to 0.3 higher)	LOW	IMPORTANT
Adherence (follow up) (follow-up 12 months; Better indicated by higher values)												
Alewijnse 2003	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	25	72	-	MD 0.6 lower (1.65 lower to 0.45 higher)	LOW	IMPORTANT

CI: confidence interval; MD: mean difference; MID: minimal important difference; PFMT: pelvic floor muscle training; UI: urinary incontinence
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (0.5 x SD control, 0.575)

Table 16: Clinical evidence profile for comparison combination behavioural techniques + PFMT + biofeedback + PFES versus behavioural techniques + PFMT + biofeedback for UI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Behavioural techniques + PFMT + biofeedback + PFES	Behavioural techniques + PFMT + biofeedback	Relative (95% CI)	Absolute		
Description of treatment outcome (much better or better) - Much better (follow-up end of intervention (8 weeks))												
Goode 2003	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	36/47 (76.6%)	27/47 (57.4%)	RR 1.33 (1 to 1.79)	190 more per 1000 (from 0 more to 454 more)	LOW	CRITICAL
Description of treatment outcome (much better or better) - Better (follow-up end of intervention (8 weeks))												
Goode 2003	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	9/47 (19.1%)	18/47 (38.3%)	RR 0.5 (0.25 to 1)	191 fewer per 1000 (from 287 fewer to 0 more)	LOW	CRITICAL
Description of treatment outcome (about the same or worse) - About the same (follow-up end of intervention (8 weeks))												
Goode 2003	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	2/47 (4.3%)	1/47 (2.1%)	RR 2 (0.19 to 21.31)	21 more per 1000 (from 17 fewer to 432 more)	VERY LOW	CRITICAL
Description of treatment outcome (about the same or worse) - Worse (follow-up end of intervention (8 weeks))												
Goode 2003	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	0/47 (0%)	1/47 (2.1%)	Peto OR 0.14 (0 to 6.82)	18 fewer per 1000 (from 21 fewer to 108 more)	VERY LOW	CRITICAL
Satisfaction with progress (somewhat) (follow-up end of intervention (8 weeks))												
Goode 2003	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	8/47 (17%)	15/47 (31.9%)	RR 0.53 (0.25 to 1.14)	150 fewer per 1000 (from 239 fewer to 45 more)	LOW	IMPORTANT
Satisfaction with progress (completely) (follow-up end of intervention (8 weeks))												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Behavioural techniques + PFMT + biofeedback + PFES	Behavioural techniques + PFMT + biofeedback	Relative (95% CI)	Absolute		
Goode 2003	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	38/47 (80.9%)	31/47 (66%)	RR 1.23 (0.96 to 1.57)	152 more per 1000 (from 26 fewer to 376 more)	LOW	IMPORTANT
Satisfaction with progress (not at all) (follow-up end of intervention (8 weeks))												
Goode 2003	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	1/47 (2.1%)	1/47 (2.1%)	RR 1 (0.06 to 15.52)	0 fewer per 1000 (from 20 fewer to 309 more)	VERY LOW	IMPORTANT

CI: confidence interval; MD: mean difference; MID: minimal important difference; OR: odds ratio; PFES: pelvic floor electrical stimulation; PFMT: pelvic floor muscle training; RR: relative risk

1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

2 95% CI crosses 1 MID (0.8, 1.25)

3 95% CI crosses 2 MIDs (0.8, 1.25)

Table 17: Clinical evidence profile for comparison combination behavioural techniques + education + PFMT/exercise versus education + PFMT for UI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Behavioural techniques + education + PFMT/exercise	Education + PFMT	Relative (95% CI)	Absolute		
Urogenital Distress Inventory (end of intervention) (follow-up end of intervention (12 weeks); range of scores: 0-300; Better indicated by lower values)												
Wyman 1998	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	44	45	-	MD 18 lower (36.58 lower to 0.58 higher)	VERY LOW	CRITICAL
IIQ-R (end of intervention) (follow-up end of intervention (12 weeks); range of scores: 0-400; Better indicated by lower values)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Behavioural techniques + education + PFMT/exercise	Education + PFMT	Relative (95% CI)	Absolute		
Wyman 1998	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	44	45	-	MD 8.8 higher (16.93 lower to 34.53 higher)	VERY LOW	CRITICAL
ICIQ-SF (end of intervention) (follow-up end of intervention (5 months); range of scores: 0-21; Better indicated by lower values)												
Sherburn 2011	randomised trials	serious[4]	no serious inconsistency	no serious indirectness	serious[5]	none	41	43	-	MD 2.6 higher (0.93 to 4.27 higher)	LOW	CRITICAL
AQoL (end of intervention) (follow-up end of intervention (5 months); Better indicated by higher values)												
Sherburn 2011	randomised trials	serious[4]	no serious inconsistency	no serious indirectness	serious[6]	none	41	43	-	MD 0.2 higher (1.94 lower to 2.34 higher)	LOW	CRITICAL
Satisfaction (end of intervention; very satisfied) (follow-up end of intervention (12 weeks))												
Wyman 1998	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[8]	none	50/67 (74.6%)	46/63 (73%)	RR 1.02 (0.83 to 1.25)	15 more per 1000 (from 124 fewer to 183 more)	VERY LOW	IMPORTANT
Satisfaction (follow up; very satisfied) (follow-up 3 months)												
Wyman 1998	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[7]	none	45/67 (67.2%)	42/64 (65.6%)	RR 1.02 (0.8 to 1.31)	13 more per 1000 (from 131 fewer to 203 more)	VERY LOW	IMPORTANT
Adherence (attendance at 6 weekly treatment visits) (follow-up end of intervnetion (12 weeks))												
Wyman 1998	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[8]	none	50/67 (74.6%)	37/69 (53.6%)	RR 1.39 (1.07 to 1.81)	209 more per 1000 (from 38 more to 434 more)	VERY LOW	IMPORTANT

AQoL: The Assessment of Quality of Life; CI: confidence interval; ICIQ-SF, International Consultation on Incontinence Questionnaire Short Form; IIQ: Incontinence Impact Questionnaire; MD: mean difference; MID: minimal important difference; PFMT: pelvic floor muscle training; RR: relative risk; SD: standard deviation; UI: Urinary Incontinence

1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2

2 95% CI crosses 1 MID (0.5 x SD control at baseline, 22.5)

3 95% CI crosses 1 MID (0.5 x SD control at baseline, 27.85)
4 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
5 95% CI crosses 1 MID (0.5 x SD control at baseline, 2.5)
6 95% CI crosses 1 MID (0.5 x SD control at baseline, 2.3)
7 95% CI crosses 2 MIDs (0.8, 1.25)
8 95% CI crosses 1 MID (0.8, 1.25)

Table 18: Clinical evidence profile for comparison combination bladder training + exercise versus usual care for UI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Combination bladder training + excercise**	**Usual care**	**Relative (95% CI)**	**Absolute**		
Urinary incontinence score (IQUI-SF, change score, 6 weeks) (follow-up end of intervention (6 weeks); range of scores: 0-21; Better indicated by lower values)												
Chu 2019	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	17	16	-	MD 3.8 lower (7.24 to 0.36 lower)	VERY LOW	CRITICAL

CI: confidence interval; IQUI-SF: urinary incontinence score – short form; MD: mean difference; MID: minimal important difference; SD: standard deviation; UI: urinary incontinence
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (0.5 x SD control (baseline value not reported), 2.1)

Table 19: Clinical evidence profile for comparison combination bladder training + education versus PFMT for UUI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Combination bladder training + education**	**PFMT**	**Relative (95% CI)**	**Absolute**		
I-QoL (end of intervention) (follow-up end of intervention (3 months); range of scores: 0-100; Better indicated by higher values)												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	39	34	-	MD 2.2 higher (7.86 lower to 12.26 higher)	LOW	CRITICAL
I-QoL (follow up) (follow-up 12 months; range of scores: 0-100; Better indicated by higher values)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination bladder training + education	PFMT	Relative (95% CI)	Absolute		
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	39	32	-	MD 2 lower (12.45 lower to 8.45 higher)	LOW	CRITICAL
VAS (end of intervention) (follow-up end of intervention (3 months); range of scores: 0-100; Better indicated by lower values)												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	39	34	-	MD 0.5 higher (1.04 lower to 2.04 higher)	LOW	CRITICAL
VAS (follow up) (follow-up 12 months; range of scores: 0-100; Better indicated by lower values)												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[4]	none	39	32	-	MD 0.2 higher (1.34 lower to 1.74 higher)	VERY LOW	CRITICAL
Incontinence Severity Index (end of intervention) (follow-up end of intervention (3 months); range of scores: 0-12; Better indicated by lower values)												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[5]	none	39	34	-	MD 0.9 higher (0.69 lower to 2.49 higher)	LOW	CRITICAL
Incontinence Severity Index (follow up) (follow-up 12 months; range of scores: 0-12; Better indicated by lower values)												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[5]	none	39	32	-	MD 1.4 higher (0.18 lower to 2.98 higher)	LOW	CRITICAL
Late-Life Function and Disability Instrument - Function component (end of intervention) (follow-up end of intervention (3 months); range of scores: 0-100; Better indicated by higher values)												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[6]	none	39	34	-	MD 0.4 higher (5.25 lower to 6.05 higher)	VERY LOW	CRITICAL
Late-Life Function and Disability Instrument - Function component (follow up) (follow-up 12 months; range of scores: 0-100; Better indicated by higher values)												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[7]	none	39	32	-	MD 2.5 higher (3.55 lower to 8.55 higher)	LOW	CRITICAL
Late-Life Function and Disability Instrument - Disability component (end of intervention) (follow-up end of intervention (3 months); range of scores: 0-100; Better indicated by lower values)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination bladder training + education	PFMT	Relative (95% CI)	Absolute		
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[8]	none	39	34	-	MD 2.4 lower (9.65 lower to 4.85 higher)	LOW	CRITICAL
Late-Life Function and Disability Instrument - Disability component (follow up) (follow-up 12 months; range of scores: 0-100; Better indicated by higher values)												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[8]	none	39	32	-	MD 0.4 lower (7.81 lower to 7.01 higher)	LOW	CRITICAL
Adherence (follow-up end of intervention (3 months))												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	35/41 (85.4%)	36/40 (90%)	-	45 fewer per 1000 (from 171 fewer to 108 more)	MODERATE	IMPORTANT

CI: confidence interval; I-QOL: Incontinence Quality of Life; MD: mean difference; MID: minimal important difference; PFMT: pelvic floor muscle training; SD: standard deviation; VAS: visual analogue scale; UI: urinary incontinence

1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

2 95% CI crosses 1 MID (0.5x SD control at baseline, 11.0)

3 95% CI crosses 1 MID (0.5x SD control at baseline, 1.25)

4 95% CI crosses 2 MIDs (0.5x SD control at baseline, 1.25)

5 95% CI crosses 1 MID (0.5x SD control at baseline, 1.8)

6 95% CI crosses 2 MIDs (0.5x SD control at baseline, 5.1)

7 95% CI crosses 1 MID (0.5x SD control at baseline, 5.1)

8 95% CI crosses 1 MID (0.5x SD control at baseline, 8.85)

Table 20: Clinical evidence profile for comparison combination bladder training + PFMT + education versus no treatment for UI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination bladder training + PFMT + education	No treatment	Relative (95% CI)	Absolute		
Health related quality of life (end of intervention; IIQ) (follow-up end of intervention (8 weeks); range of scores: 0-400; Better indicated by lower values)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination bladder training + PFMT + education	No treatment	Relative (95% CI)	Absolute		
Kumari 2008	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	78	86	-	MD 7.43 lower (9.89 to 4.97 lower)	LOW	CRITICAL
Health related quality of life (follow up; IIQ) (follow-up 6 months; range of scores: 0-400; Better indicated by lower values)												
Kumari 2008	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	69	76	-	MD 6.97 lower (9.85 to 4.09 lower)	VERY LOW	CRITICAL

CI: confidence interval; IIQ: Incontinence Impact Questionnaire; MD: mean difference; MID: minimal important difference; PFMT: pelvic floor muscle training; SD: standard deviation; UI: urinary incontinence
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (0.5x SD control at baseline, 4.94)

Table 21: Clinical evidence profile for comparison combination bladder training + PFMT + education versus PFMT for urinary incontinence

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination bladder training + PFMT + education	PFMT	Relative (95% CI)	Absolute		
Incontinence Severity Index (end of intervention) (follow-up end of intervention (3 months); range of scores: 0-12; Better indicated by lower values)												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	37	34	-	MD 0.3 higher (1.29 lower to 1.89 higher)	LOW	CRITICAL
Incontinence Severity Index (follow up) (follow-up 12 months; range of scores: 0-12; Better indicated by lower values)												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	37	32	-	MD 1 higher (0.51 lower to 2.51 higher)	LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination bladder training + PFMT + education	PFMT	Relative (95% CI)	Absolute		
I-QoL (end of intervention) (follow-up end of intervention (3 months); range of scores: 0-100; Better indicated by higher values)												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[4]	none	37	34	-	MD 1.7 higher (7.82 lower to 11.22 higher)	LOW	CRITICAL
I-QoL (follow up) (follow-up 12 months; range of scores: 0-100; Better indicated by higher values)												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	37	32	-	MD 0.7 lower (10.12 lower to 8.72 higher)	MODERATE	CRITICAL
VAS (end of intervention) (follow-up end of intervention (3 months); range of scores: 0-100; Better indicated by lower values)												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[5]	none	37	34	-	MD 0.7 lower (2.17 lower to 0.77 higher)	LOW	CRITICAL
VAS (follow up) (follow-up 12 months; range of scores: 0-100; Better indicated by lower values)												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[5]	none	37	32	-	MD 0.8 lower (2.28 lower to 0.68 higher)	LOW	CRITICAL
Late-Life Function and Disability Instrument - Disability component (end of intervention) (follow-up end of intervention (3 months); range of scores: 0-100; Better indicated by higher values)												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[6]	none	37	34	-	MD 1.3 lower (8.86 lower to 6.26 higher)	LOW	CRITICAL
Late-Life Function and Disability Instrument - Disability component (follow up) (follow-up 12 months; range of scores: 0-100; Better indicated by higher values)												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[6]	none	37	32	-	MD 2.1 lower (10.12 lower to 5.92 higher)	LOW	CRITICAL
Late-Life Function and Disability Instrument - Function component (end of intervention) (follow-up end of intervention (3 months); range of scores: 0-100; Better indicated by higher values)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination bladder training + PFMT + education	PFMT	Relative (95% CI)	Absolute		
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[7]	none	37	34	-	MD 1.3 lower (7.05 lower to 4.45 higher)	LOW	CRITICAL
Late-Life Function and Disability Instrument - Function component (follow up) (follow-up 12 months; range of scores: 0-100; Better indicated by higher values)												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[8]	none	37	32	-	MD 0.3 lower (6.46 lower to 5.86 higher)	VERY LOW	CRITICAL
Adherence (follow-up end of intervention (3 months))												
Kafri 2013	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	35/41 (85.4%)	39/41 (95.1%)	RR 0.9 (0.78 to 1.04)	95 fewer per 1000 (from 209 fewer to 38 more)	LOW	IMPORTANT

CI: confidence interval; I-QOL: Incontinence Quality of Life; MD: mean difference; MID: minimal important difference; PFMT: pelvic floor muscle training; RR: relative risk; SD: standard deviation; VAS: visual analogue scale; UI: urinary incontinence

1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

2 95% CI crosses 1 MID (0.8, 1.25)

3 95% CI crosses 1 MID (0.5 x SD control at baseline, 1.8)

4 95% CI crosses 1 MID (0.5 x SD control at baseline, 11.0)

5 95% CI crosses 1 MID (0.5 x SD control at baseline, 1.25)

6 95% CI crosses 1 MID (0.5 x SD control at baseline, 8.85)

7 95% CI crosses 1 MID (0.5 x SD control at baseline, 5.1)

8 95% CI crosses 2 MIDs (0.5 x SD control at baseline, 5.1)

Table 22: Clinical evidence profile for comparison combination bladder training + PFMT + education versus bladder training + education for UI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination bladder training + PFMT + education	Bladder training + education	Relative (95% CI)	Absolute		
I-QoL (end of intervention) (follow-up (end of intervention); range of scores: 0-100; Better indicated by higher values)												
Kumari 2008	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	37	39	-	MD 0.5 lower (9.24 lower to 8.24 higher)	MODERATE	CRITICAL
I-QoL (follow up) (follow-up 12 months; range of scores: 0-100; Better indicated by higher values)												
Kumari 2008	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	37	39	-	MD 1.3 higher (8.5 lower to 11.1 higher)	LOW	CRITICAL
Incontinence Severity Index (end of intervention) (follow-up end of intervention (3 months); range of scores: 0-12; Better indicated by lower values)												
Kumari 2008	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[4]	none	37	39	-	MD 0.6 lower (2.06 lower to 0.86 higher)	LOW	CRITICAL
Incontinence Severity Index (follow up) (follow-up 12 months; range of scores: 0-12; Better indicated by lower values)												
Kumari 2008	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[4]	none	37	39	-	MD 0.4 lower (2.02 lower to 1.22 higher)	LOW	CRITICAL
Late-Life Function and Disability Instrument - Disability component (end of intervention) (follow-up end of intervention (3 months); range of scores: 0-100; Better indicated by higher values)												
Kumari 2008	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[5]	none	37	39	-	MD 1.1 higher (5.39 lower to 7.59 higher)	LOW	CRITICAL
Late-Life Function and Disability Instrument - Disability component (follow up) (follow-up 12 months; range of scores: 0-100; Better indicated by higher values)												
Kumari 2008	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[5]	none	37	39	-	MD 1.7 lower (8.87 lower to 5.47 higher)	LOW	CRITICAL
Late-Life Function and Disability Instrument - Function component (end of intervention) (follow-up end of intervention (3 months); range of scores: 0-100; Better indicated by higher values)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination bladder training + PFMT + education	Bladder training + education	Relative (95% CI)	Absolute		
Kumari 2008	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[6]	none	37	39	-	MD 1.7 lower (7.35 lower to 3.95 higher)	LOW	CRITICAL
Late-Life Function and Disability Instrument - Function component (follow up) (follow-up 12 months; range of scores: 0-100; Better indicated by higher values)												
Kumari 2008	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[6]	none	37	39	-	MD 2.8 lower (9.03 lower to 3.43 higher)	LOW	CRITICAL
Adherence (attendance at 6 weekly treatment visits) (follow-up end of intervention (12 weeks))												
Kumari 2008	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	39/41 (95.1%)	35/41 (85.4%)	RR 1.11 (0.96 to 1.29)	94 more per 1000 (from 34 fewer to 248 more)	LOW	IMPORTANT

CI: confidence interval; IIQ: Incontinence Impact Questionnaire; MD: mean difference; MID: minimal important difference; PFMT: pelvic floor muscle training; SD: standard deviation; UI: urinary incontinence
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (0.8, 1.25)
3 95% CI crosses 1 MID (0.5 x SD control at baseline, 10.3)
4 95% CI crosses 1 MID (0.5 x SD control at baseline, 1.65)
5 95% CI crosses 1 MID (0.5 x SD control at baseline, 6.65)
6 95% CI crosses 1 MID (0.5 x SD control at baseline, 5.45)

Table 23: Clinical evidence profile for comparison combination self-administered behavioural techniques + PFMT versus behavioural techniques + PFMT + biofeedback + PFES for SUI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination self-administered behavioural techniques + PFMT	Behavioural techniques + PFMT + biofeedback + PFES	Relative (95% CI)	Absolute		
Satisfaction with progress (completely) (follow-up end of intervention (8 weeks))												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination self-administered behavioural techniques + PFMT	Behavioural techniques + PFMT + biofeedback + PFES	Relative (95% CI)	Absolute		
Goode 2003	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	20/40 (50%)	38/47 (80.9%)	RR 0.62 (0.44 to 0.87)	307 fewer per 1000 (from 105 fewer to 453 fewer)	LOW	IMPORTANT
Satisfaction with progress (somewhat) (follow-up end of intervention (8 weeks))												
Goode 2003	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	8/40 (20%)	8/47 (17%)	RR 1.18 (0.49 to 2.85)	31 more per 1000 (from 87 fewer to 315 more)	VERY LOW	IMPORTANT
Satisfaction with progress (not at all) (follow-up 8 weeks)												
Goode 2003	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	1/40 (2.5%)	1/47 (2.1%)	RR 1.18 (0.08 to 18.19)	4 more per 1000 (from 20 fewer to 366 more)	VERY LOW	IMPORTANT
Description of treatment outcome (much better or better) (follow-up end of intervention (8 weeks))												
Goode 2003	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	32/40 (80%)	45/47 (95.7%)	RR 0.91 (0.65 to 1.27)	86 fewer per 1000 (from 335 fewer to 256 more)	MODERATE	CRITICAL
Description of treatment outcome (about the same or worse) (follow-up end of intervention (8 weeks))												
Goode 2003	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	8/40 (20%)	2/47 (4.3%)	RR 4.7 (1.06 to 20.88)	157 more per 1000 (from 3 more to 846 more)	LOW	CRITICAL

CI: confidence interval; MD: mean difference; MID: minimal important difference; PFES: pelvic floor electrical stimulation; PFMT: pelvic floor muscle training;RR: relative risk; SD: standard deviation; UI: urinary incontinence

1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

2 95% CI crosses 1 MID (0.8, 1.25)

3 95% CI crosses 2 MIDs (0.8, 1.25)

Table 24: Clinical evidence profile for comparison combination behavioural techniques + biofeedback + PFMT versus self-administered behavioural techniques + PFMT for SUI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Combination behavioural techniques + biofeedback + PFMT	Self-administered behavioural + PFMT	Relative (95% CI)	Absolute		
Satisfaction with progress (completely or somewhat) - Completely (follow-up 8 weeks)												
2	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	70/100 (70%)	54/105 (51.4%)	RR 1.37 (1.09 to 1.72)	190 more per 1000 (from 46 more to 370 more)	VERY LOW	IMPORTANT
Satisfaction with progress (completely or somewhat) - Somewhat (follow-up end of intervention (8 weeks))												
2	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	27/100 (27%)	39/105 (37.1%)	RR 0.72 (0.47 to 1.08)	104 fewer per 1000 (from 197 fewer to 30 more)	VERY LOW	IMPORTANT
Satisfaction with progress (not at all) (follow-up end of treatment (8 weeks))												
2	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	2/100 (2%)	8/105 (7.6%)	RR 0.25 (0.06 to 1.12)	57 fewer per 1000 (from 72 fewer to 9 more)	VERY LOW	IMPORTANT
Description of treatment outcome (better or much better) - (follow-up end of intervention (8 weeks))												
Goode 2003	randomised trials	serious[3]	no serious inconsistency	no serious indirectness	very serious[4]	none	45/47 (57.4%)	32/40 (80%)	RR 1.10 (0.79 to 1.53)	80 more per 1000 (from 168 fewer to 424 more)	VERY LOW	CRITICAL

CI: confidence interval; MD: mean difference; MID: minimal important difference; PFES: pelvic floor electrical stimulation; PFMT: pelvic floor muscle training; RR: relative risk; SD: standard deviation; SUI: stress urinary incontinence

1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2

2 95% CI crosses 1 MID (0.8, 1.25)

3 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

4 95% CI crosses 2 MIDs (0.8, 1.25)

Table 25: Clinical evidence profile for comparison behavioural techniques versus self-administered behavioural techniques for UI

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Behavioural techniques	Self-administered behavioural techniques	Relative (95% CI)	Absolute		
Satisfaction with progress (completely or somewhat) - Completely (follow-up end of intervention (8 weeks))												
Burgio 2002	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	47/57 (82.5%)	34/65 (52.3%)	RR 1.58 (1.21 to 2.05)	303 more per 1000 (from 110 more to 549 more)	VERY LOW	IMPORTANT
Satisfaction with progress (completely or somewhat) - Somewhat (follow-up end of intervention (8 weeks))												
Burgio 2002	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	8/57 (14%)	24/65 (36.9%)	RR 0.38 (0.19 to 0.78)	229 fewer per 1000 (from 81 fewer to 299 fewer)	LOW	IMPORTANT
Satisfaction with progress (not at all) (follow-up end of intervention (8 weeks))												
Burgio 2002	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	0/57 (0%)	3/65 (4.6%)	Peto OR 0.15 (0.02 to 1.46)	39 fewer per 1000 (from 45 fewer to 20 more)	VERY LOW	IMPORTANT

CI: confidence interval; MID: minimal important difference;OR: odds ratio; PFMT: pelvic floor muscle training; RR: relative risk; SD: standard deviation; UI: urinary incontinence
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (0.8, 1.25)
3 95% CI crosses 2 MIDs (0.8, 1.25)

Table 26: Clinical evidence profile for comparison bladder training versus PFMT + biofeedback for OAB

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Bladder training	PFMT + biofeedback	Relative (95% CI)	Absolute		
UDI-6 (end of intervention) (follow-up end of intervention (12 weeks); range of scores: 0-75; Better indicated by lower values)												
Rizvi 2018	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	47	50	-	MD 0.31 higher (2.02 lower to 2.64 higher)	LOW	CRITICAL
IIQ-7 (post intervention) (follow-up end of intervention (12 weeks); range of scores: 0-100; Better indicated by lower values)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Bladder training**	**PFMT + biofeedback**	**Relative (95% CI)**	**Absolute**		
Rizvi 2018	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	47	50	-	MD 0.82 higher (1.8 lower to 3.44 higher)	LOW	CRITICAL
Adverse events leading to withdrawal (follow-up end of intervention (12 weeks))												
Rizvi 2018	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[4]	none	0/47 (0%)	1/50 (2%)	Peto OR 0.14 (0 to 7.26)	17 fewer per 1000 (from 20 fewer to 109 more)	VERY LOW	IMPORTANT

CI: confidence interval; IIQ-7: Incontinence Impact Questionnaire- 7 item; MD: mean difference; MID: minimal important difference; OAB: overactive bladder; OR: odds ratio; PFMT: pelvic floor muscle training; SD: standard deviation; UDI-6: Urinary Distress Inventory – 6 item

1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

2 95% CI crosses 1 MID (0.5 x SD control, 2.35)

3 95% CI crosses 1 MID (0.5 x SD control, 2.7)

4 95% CI crosses 2 MIDs (0.8, 1.25)

Table 27: Clinical evidence profile for comparison bladder training versus PFMT for OAB

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Bladder training**	**PFMT**	**Relative (95% CI)**	**Absolute**		
UDI-6 (end of intervention) (follow-up end of intervention (12 weeks); range of scores: 0-75; Better indicated by lower values)												
Rizvi 2018	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	47	47	-	MD 0.67 lower (3.26 lower to 1.92 higher)	LOW	CRITICAL
IIQ-7 (end of intervention) (follow-up end of intervention (12 weeks); range of scores: 0-100; Better indicated by lower values)												
Rizvi 2018	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	47	50	-	MD 1 lower (3.45 lower to 1.45 higher)	LOW	CRITICAL
Adverse events leading to withdrawal (follow-up end of intervention (12 weeks))												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Bladder training	PFMT	Relative (95% CI)	Absolute		
Rizvi 2018	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	0/47 (0%)	0/50 (0%)	Not estimable	-	MODERATE	IMPORTANT

CI: confidence interval; IIQ-7: Incontinence Impact Questionnaire- 7 item; MD: mean difference; MID: minimal important difference; OAB: overactive bladder; OR: odds ratio; PFMT: pelvic floor muscle training; SD: standard deviation; UDI-6: Urinary Distress Inventory – 6 item

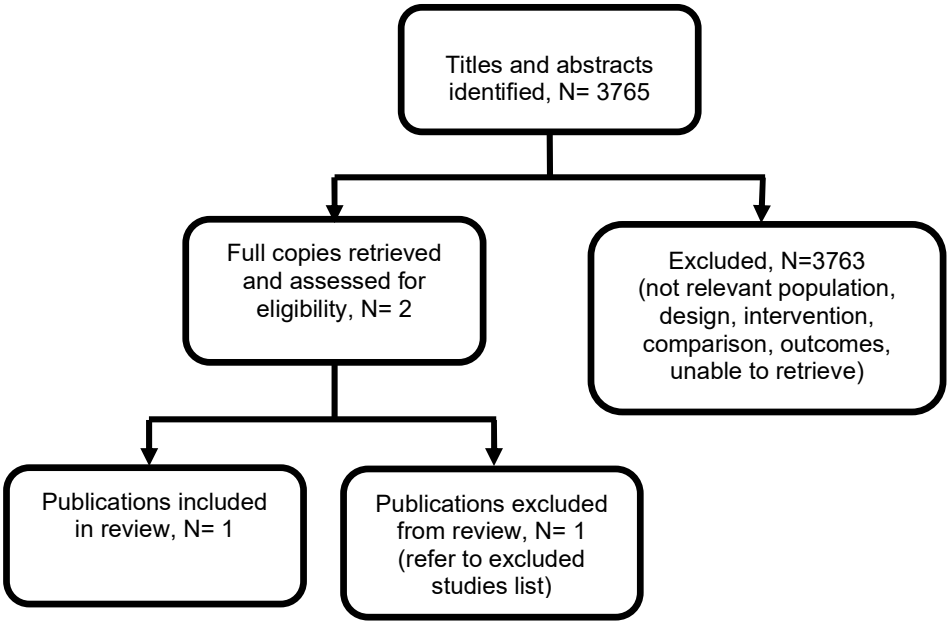
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

2 95% CI crosses 1 MID (0.5 x SD control, 3.1)

3 95% CI crosses 1 MID (0.5 x SD control, 3.45)

Appendix G – Economic evidence study selection

Economic evidence study selection for review question: What is the effectiveness of behavioural approaches (for example toilet training, seating, splinting) for improving symptoms of pelvic floor dysfunction?



Appendix H – Economic evidence tables

Economic evidence tables for review question: What is the effectiveness of behavioural approaches (for example toilet training, seating, splinting) for improving symptoms of pelvic floor dysfunction?

Table 28: Economic evidence tables for

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
Diokno, A. C., Newman, D. K., Low, L. K., Griebling, T. L., Maddens, M. E., Goode, P. S., Raghunathan, T. E., Subak, L. L., Sampselle, C. M., Boura, J. A., Robinson, A. E., McIntyre, D., Burgio, K. L., Effect of Group-Administered Behavioral Treatment on Urinary Incontinence in Older Women: A Randomized Clinical Trial, JAMA Internal Medicine, 178, 1333-1341, 2018 Cost effectiveness analysis Source of funding: National Institute on	Group administered behavioural therapy (2-hour bladder health and self-management session) No treatment	Women 55+ years old Alongside a Randomised controlled trial Source of baseline data: Randomised controlled trial Source of effectiveness data: Randomised controlled trial Source of cost data: Randomised controlled trial Source of unit cost data: intervention materials – local rates, labour – market value	Costs (type): booklet, audio CD with pelvic floor muscle exercises, expert advice Mean cost per participant: Intervention: $37.29 Control: $1.21 Difference: $36.08 Primary measure of outcome (specifically if remission how defined; if based on scale, what that scale is; if QALYs method of eliciting health valuations): Reduction in ICIQ-SF score Mean outcome per participant: Intervention: -3.03 Control: -1.42	Cost per mean reduction in ICIQ-SF score: $22.41	Currency: USD Cost year: 2017 Time horizon: 1 year Discounting: N/A Applicability: Partially applicable Limitations: Potentially serious limitations

Study country and type	Intervention and comparator	Study population, design and data sources	Costs and outcomes (descriptions and values)	Results	Comments
Aging, National Institutes of Health			Difference: 1.61		

Appendix I – Economic evidence profiles

Economic evidence profiles for review question: What is the effectiveness of behavioural approaches (for example toilet training, seating, splinting) for improving symptoms of pelvic floor dysfunction?

Table 29: Economic evidence profiles for

Study and country	Limitations	Applicability	Other comments	Incremental costs	Incremental effects	Cost per mean reduction in ICIQ-SF score	Uncertainty
Diokno, A. C., Newman, D. K., Low, L. K., Griebling, T. L., Maddens, M. E., Goode, P. S., Raghunathan, T. E., Subak, L. L., Sampselle, C. M., Boura, J. A., Robinson, A. E., McIntyre, D., Burgio, K. L., Effect of Group-Administered Behavioral Treatment on Urinary Incontinence in Older Women: A Randomized Clinical Trial, JAMA Internal Medicine, 178, 1333-1341, 2018 Country:	Potentially serious limitations[1]	Partially applicable[2]	Type of economic analysis: cost effectiveness analysis Time horizon: 1 year Primary measure of outcome: ICIQ-SF	Mean cost per participant: Intervention: $37.29 Control: $1.21 Difference: $36.08	Mean outcome per participant (Reduction in ICIQ-SF): Intervention: -3.03 Control: -1.42 Difference: 1.61	$22.41	Deterministic sensitivity analyses: PSA: none

1. *Based in the US, on the US payer system, no QALYs, no sensitivity analysis*
- *Women aged 55 and over.*

1

Appendix J – Economic analysis

Economic evidence analysis for review question: What is the effectiveness of behavioural approaches (for example toilet training, seating, splinting) for improving symptoms of pelvic floor dysfunction?

No economic analysis was conducted for this review question.

Appendix K – Excluded studies

Excluded studies for review question: What is the effectiveness of behavioural approaches (for example toilet training, seating, splinting) for improving symptoms associated with pelvic floor dysfunction?

Clinical studies

Table 30: Excluded studies and reasons for their exclusion

Study	Reason for exclusion
Allahdin,S., Oo,N., An overview of treatment of overactive bladder syndrome in women, Journal of Obstetrics and Gynaecology, 32, 217-221, 2012	Non-systematic review. Checked for references
Amuzu, B. J., Nonsurgical therapies for urinary incontinence, Clinical Obstetrics & GynecologyClin Obstet Gynecol, 41, 702-11, 1998	Narrative review
Andy, U. U., Jelovsek, J. E., Carper, B., Meyer, I., Dyer, K. Y., Rogers, R. G., Mazloomdoost, D., Korbly, N. B., Sassani, J. C., Gantz, M. G., Impact of treatment for Fecal Incontinence on Constipation Symptoms, American journal of obstetrics and gynecology, 2019	Incorrect intervention. Biofeedback is not behavioural, drugs aren't included
Anonymous,, Behavioural training for urge incontinence, Geriatrics and Aging, 6, 62, 2003	Abstract only
Asklund, I., Nystrom, E., Sjostrom, M., Umefjord, G., Stenlund, H., Samuelsson, E., Mobile app for treatment of stress urinary incontinence: A randomized controlled trial, Neurourology & UrodynamicsNeurourol Urodyn, 36, 1369-1376, 2017	Incorrect intervention. Focus on PFMT, not behavioural therapy
Aslan,E., Komurcu,N., Beji,N.K., Yalcin,O., Bladder training and Kegel exercises for women with urinary complaints living in a rest home, Gerontology, 54, 224-231, 2008	No relevant outcomes, only reports episodes of urgency, nocturia and frequency
Aukee, P., Immonen, P., Penttinen, J., Laippala, P., Airaksinen, O., Increase in pelvic floor muscle activity after 12 weeks' training: a randomized prospective pilot study, Urology, 60, 1020-3; discussion 1023-4, 2002	Incorrect intervention. Described as biofeedback, rather than behavioural training
Ayeleke, R. O., Hayâ Smith, E. J. C., Omar, M. I., Pelvic floor muscle training added to another active treatment versus the same active treatment alone for urinary incontinence in women, Cochrane Database of Systematic Reviews, 2015	Systematic review checked for references
Azuri, J., Kafri, R., Ziv-Baran, T., Stav, K., Outcomes of different protocols of pelvic floor physical therapy and anti-cholinergics in women with wet over-active bladder: A 4-year follow-up, Neurourology & UrodynamicsNeurourol Urodyn, 36, 755-758, 2017	No usable data, reports I-QoL but only reports medians and IQR
Bakhishov, A. A., Imamverdiyev, S. B., The role of behavioral interventions in conservative	Not in English

Study	Reason for exclusion
therapy of stress urinary incontinence, Azerbaijan medical journal, 33â 35, 2006	
Barber, M. D., Brubaker, L., Menefee, S., Norton, P., Borello-France, D., Varner, E., Schaffer, J., Weidner, A., Xu, X., Spino, C., Weber, A., Pelvic Floor Disorders, Network, Operations and pelvic muscle training in the management of apical support loss (OPTIMAL) trial: design and methods, Contemporary Clinical Trials, 30, 178-89, 2009	No results, design and methods only
Beguin, A. M., Combes, T., Lutzler, P., Laffond, G., Belmin, J., Health education improves older subjects' attitudes toward urinary incontinence and access to care: A randomized study in sheltered accomodation centers for the aged, Journal of the American Geriatrics Society, 45, 391-392, 1997	Incorrect population. Includes men
Berghmans, L. C., Hendriks, H. J., De Bie, R. A., van Waalwijk van Doorn, E. S., Bo, K., van Kerrebroeck, P. E., Conservative treatment of urge urinary incontinence in women: a systematic review of randomized clinical trials, BJU international, 85, 254-63, 2000	Systematic review checked for references
Bergman, A., Matthews, L., Ballard, C. A., Bladder training after surgery for stress urinary incontinence: Is it necessary?, Obstetrics and Gynecology, 70, 909-912, 1987	Abstract only. Bladder training was not a behavioural approach.
Berzuk, K., Shay, B., Effect of increasing awareness of pelvic floor muscle function on pelvic floor dysfunction: a randomized controlled trial, International Urogynecology Journal, 26, 837-44, 2015	Incorrect population. Having a PFD was not in inclusion criteria, not all had PFD at baseline
Blekken, L. E., Vinsnes, A., Gjeilo, K., Morkved, S., Salvesen,, Norton, C., Nakrem, S., Effect of a multifaceted educational program for care staff concerning fecal incontinence in nursing home patients: Study protocol of a cluster randomized controlled trial, Trials, 16 (1) (no pagination), 2015	Protocol only, will include both men and women
Bols, E., Berghmans, B., de Bie, R., Govaert, B., van Wunnik, B., Heymans, M., Hendriks, E., Baeten, C., Rectal balloon training as add-on therapy to pelvic floor muscle training in adults with fecal incontinence: a randomized controlled trial, Neurourology & UrodynamicsNeurourol Urodyn, 31, 132-8, 2012	Incorrect population. Includes men
Booth, J., Skelton, D., Howe, T., Ballinger, C., MacInnes, C., The effects of lifestyle and behavioural interventions for urinary incontinence on mobility, physical activity and falls in older people: A comprehensive systematic review, JBI Library of Systematic ReviewisJBI Libr Syst Rev, 7, 1-25, 2009	Systematic review protocol
Boyington, A. R., Dougherty, M. C., Phetrasuwan, S., Effectiveness of a computer-based system to deliver a continence health promotion intervention, Journal of Wound,	Incorrect intervention

Study	Reason for exclusion
Ostomy, & Continence NursingJ Wound Ostomy Continence Nurs, 32, 246-54, 2005	
Brostrom, S., Which nonsurgical options are effective for the treatment of female urinary incontinence?, Nature Clinical Practice Urology, 5, 532-533, 2008	Narrative review
Burgio, K. L., Influence of behavior modification on overactive bladder, Urology, 60, 72-6; discussion 77, 2002	Narrative review
Burgio, K. L., Locher, J. L., Goode, P. S., Combined behavioral and drug therapy for urge incontinence in older women, Journal of the American Geriatrics Society, 48, 370-4, 2000	Incorrect intervention. Drug treatment is not included
Burgio, K. L., Locher, J. L., Goode, P. S., Hardin, J. M., McDowell, B. J., Dombrowski, M., Candib, D., Behavioral vs drug treatment for urge urinary incontinence in older women: a randomized controlled trial, JAMAJama, 280, 1995-2000, 1998	Incorrect intervention. Drug treatment not included
Burgio, K. L., Locher, J. L., Roth, D. L., Goode, P. S., Psychological improvements associated with behavioral and drug treatment of urge incontinence in older women, Journals of Gerontology - Series B Psychological Sciences and Social Sciences, 56, P46-P51, 2001	Incorrect intervention. Drug treatments are not included
Burgio, L. D., McCormick, K. A., Scheve, A. S., Engel, B. T., Hawkins, A., Leahy, E., The effects of changing prompted voiding schedules in the treatment of incontinence in nursing home residents, Journal of the American Geriatrics Society, 42, 315-320, 1994	Incorrect population. Includes men
Burgio,K.L., Goode,P.S., Locher,J.L., Richter,H.E., Roth,D.L., Wright,K.C., Varner,R.E., Predictors of outcome in the behavioral treatment of urinary incontinence in women, Obstetrics and Gynecology, 102, 940-947, 2003	The 4 groups in this study are from 3 previous studies (Burgio 1998; 2002 and Goode 2003 - Burgio studies are excluded due to intervention and Goode 2003 is included)
Burgio,K.L., Goode,P.S., Richter,H.E., Locher,J.L., Roth,D.L., Global ratings of patient satisfaction and perceptions of improvement with treatment for urinary incontinence: validation of three global patient ratings, Neurourology and Urodynamics, 25, 411-417, 2006	Secondary analysis of 3 RCTs which are combined together
Burton, J. R., Pearce, K. L., Burgio, K. L., Engel, B. T., Whitehead, W. E., Behavioral training for urinary incontinence in elderly ambulatory patients, Journal of the American Geriatrics Society, 36, 693-8, 1988	incorrect population. Includes men
Caagbay, D., Raynes-Greenow, C., Dangal, G., Mc Geechan, K., Black, K. I., Impact of an informational flipchart on lifestyle advice for Nepali women with a pelvic organ prolapse: a randomized controlled trial, International urogynecology journal, 31, 31, 2020	Incorrect intervention

Study	Reason for exclusion
Cao, Y., Lv, J., Zhao, C., Li, J., Leng, J., Cholinergic Antagonists Combined with Electrical Stimulation or Bladder Training Treatments for Overactive Bladder in Female Adults: A Meta-Analysis of Randomized Controlled Trials, Clinical Drug Investigation, 36, 801-8, 2016	Systematic review, incorrect intervention. Drug therapy not included
Carrion Perez, F., Rodriguez Moreno, M. S., Carnerero Cordoba, L., Romero Garrido, M. C., Quintana Tirado, L., Garcia Montes, I., Telerehabilitation to treat stress urinary incontinence. Pilot study, Medicina clinica, 144, 445â 448, 2015	Incorrect intervention. Not behavioural (PFMT biofeedback)
Ceresoli, A., Zanetti, G., Seveso, M., Trinchieri, A., Meligrana, C., Guarneri, A., Tzoumas, S., Pisani, E., Treatment of adult primary uncomplicated nocturnal enuresis by pelvic floor training and behaviour modification therapy, Archivio Italiano di Urologia, AndrologiaArch Ital Urol Androl, 65, 561-2, 1993	Incorrect study design. Not a RCT
Cheskin, L. J., Burnett, A. L., A behavioural weight-loss programme was better than an education programme for urinary incontinence in overweight and obese women, Evidence-Based Medicine, 14, 118, 2009	Abstract only
Colling, J., Ouslander, J., Hadley, B. J., Eisch, J., Campbell, E., The effects of patterned urge-response toileting (PURT) on urinary incontinence among nursing home residents, Journal of the American Geriatrics Society, 40, 135-41, 1992	Incorrect population. Includes men
Davila, G. W., Primozich, J., Prospective randomized trial of bladder retraining using an electronic voiding device versus self-administered bladder drills in women with detrusor instability (Abstract), Neurourology and urodynamics, 17, 324â 325, 1998	Conference Abstract
Diokno, A. C., Sampselle, C. M., Herzog, A. R., Raghunathan, T. E., Hines, S., Messer, K., Karl, C., Leite, M. C., Prevention of urinary incontinence by behavioral modification program: a randomized, controlled trial among older women in the community, Journal of Urology, 171, 1165-71, 2004	Prevention. Participants are continent at baseline
Dixon, C. A., Nakib, N. A., Are Bladder Diaries Helpful in Management of Overactive Bladder?, Current Bladder Dysfunction Reports, 11, 14-17, 2016	Review. Checked for references
Drennan, V. M., Greenwood, N., Cole, L., Fader, M., Grant, R., Rait, G., Iliffe, S., Conservative interventions for incontinence in people with dementia or cognitive impairment, living at home: a systematic review, BMC Geriatrics, 12, 77, 2012	Systematic review. Checked for references
Du Moulin, M. F., Hamers, J. P., Paulus, A., Berendsen, C. L., Halfens, R., Effects of introducing a specialized nurse in the care of	Incorrect intervention. Not behavioural therapy

Study	Reason for exclusion
community-dwelling women suffering from urinary incontinence: a randomized controlled trial, Journal of wound, ostomy, and continence nursing : official publication of the wound, ostomy and continence nurses society, 34, 631â 640, 2007	
Due, U., Brostrom, S., Lose, G., The 12-month effects of structured lifestyle advice and pelvic floor muscle training for pelvic organ prolapse, Acta Obstetricia et Gynecologica Scandinavica, 95, 811-9, 2016	Incorrect intervention
Due, U., Brostrom, S., Lose, G., Lifestyle advice with or without pelvic floor muscle training for pelvic organ prolapse: a randomized controlled trial, International Urogynecology Journal, 27, 555-63, 2016	Incorrect intervention
Dugan, S. A., Lavender, M. D., Hebert-Beirne, J., Brubaker, L., A pelvic floor fitness program for older women with urinary symptoms: a feasibility study, Pm & RPm R, 5, 672-6, 2013	Incorrect intervention
Elser,D.M., Wyman,J.F., McClish,D.K., Robinson,D., Fantl,J.A., Bump,R.C., The effect of bladder training, pelvic floor muscle training, or combination training on urodynamic parameters in women with urinary incontinence. Continence Program for Women Research Group, Neurourology and Urodynamics, 18, 427-436, 1999	No relevant outcomes only reports urodynamic parameters. Secondary analysis of Wyman 1998
Engberg, S., Sereika, S. M., McDowell, B. J., Weber, E., Brodak, I., Effectiveness of prompted voiding in treating urinary incontinence in cognitively impaired homebound older adults, Journal of Wound, Ostomy, & Continence NursingJ Wound Ostomy Continence Nurs, 29, 252-65, 2002	Incorrect population. Includes men
Eustice, S., Roe, B., Paterson, J., Prompted voiding for the management of urinary incontinence in adults, Cochrane Database of Systematic Reviews, 2000	Systematic review checked for references
Fanfani, F., Costantini, B., Mascilini, F., Vizzielli, G., Gallotta, V., Vigliotta, M., Piccione, E., Scambia, G., Fagotti, A., Early postoperative bladder training in patients submitted to radical hysterectomy: is it still necessary? A randomized trial, Archives of Gynecology & ObstetricsArch Gynecol Obstet, 291, 883-8, 2015	Bladder dysfunction is due to surgery
Fantl, J. A., Wyman, J. F., Harkins, S. W., Bladder training in women with urinary incontinence, Neurourology and urodynamics, 7, 276-278, 1988	Conference abstract
Fu, Y., Nelson, E. A., McGowan, L., Multifaceted self-management interventions for older women with urinary incontinence: a systematic review and narrative synthesis [Erratum 9(12): e028626corr1], BMJ open, 9, e028626, 2019	Review. Checked for references

Study	Reason for exclusion
Gezginci, E., Iyigun, E., Yilmaz, S., Comparison of 3 Different Teaching Methods for a Behavioral Therapy Program for Female Overactive Bladder: A Randomized Controlled Trial, Journal of Wound, Ostomy, & Continence NursingJ Wound Ostomy Continence Nurs, 45, 68-74, 2018	All intervention arms receive behavioural training, and the type of education training varies between group. Potential for 6.2
Glazener, C. M., Herbison, G. P., MacArthur, C., Grant, A., Wilson, P. D., Randomised controlled trial of conservative management of postnatal urinary and faecal incontinence: six year follow up, BMJBmj, 330, 337, 2005	Incorrect intervention. Behavioural therapy is not the main aspect of the intervention
Glazener, C. M., Herbison, G. P., Wilson, P. D., MacArthur, C., Lang, G. D., Gee, H., Grant, A. M., Conservative management of persistent postnatal urinary and faecal incontinence: randomised controlled trial, BMJBmj, 323, 593-6, 2001	Incorrect intervention. Behavioural therapy is not the main aspect of the intervention
Glazener, C. M., MacArthur, C., Hagen, S., Elders, A., Lancashire, R., Herbison, G. P., Wilson, P. D., ProLong Study, Group, Twelve-year follow-up of conservative management of postnatal urinary and faecal incontinence and prolapse outcomes: randomised controlled trial, BJOG: An International Journal of Obstetrics & Gynaecology, 121, 112-20, 2014	Incorrect intervention. Behavioural therapy is not the main aspect of the intervention
Golmakani, N., Khadem, N., Arabipoor, A., Kerigh, B. F., Esmaily, H., Behavioral Intervention Program versus Vaginal Cones on Stress Urinary Incontinence and Related Quality of Life: A Randomized Clinical Trial, Oman Medical Journal, 29, 32-8, 2014	Incorrect comparison
Goode, P. S., Burgio, K. L., Locher, J. L., Roth, D. L., Umlauf, M. G., Richter, H. E., Varner, R. E., Lloyd, L. K., Chiarelli, P., Pelvic floor electrical stimulation did not improve the efficacy of behavioural training for stress incontinence, Evidence-based Obstetrics and Gynecology, 6, 37-38, 2004	Abstract for Goode 2003 which is already included. No additional outcomes reported.
Goode, P. S., Burgio, K. L., Locher, J. L., Umlauf, M. G., Lloyd, L. K., Roth, D. L., Urodynamic changes associated with behavioral and drug treatment of urge incontinence in older women, Journal of the American Geriatrics Society, 50, 808-16, 2002	Incorrect intervention. Drug treatment not included
Gorman, R., Expert system for management of urinary incontinence in women, Proceedings - the Annual Symposium on Computer Applications in Medical CareProc Annu Symp Comput Appl Med Care, 527-31, 1995	Incorrect intervention. Not behavioural therapy
Grandstaff, M., Lyons, D., Impact of a continence training program on patient safety and quality, Rehabilitation Nursing JournalRehabil Nurs, 37, 180-4, 2012	Incorrect population. Includes men
Handa, V. L., Whitcomb, E., Weidner, A. C., Nygaard, I., Brubaker, L., Bradley, C. S., Paraiso, M. F., Schaffer, J., Zyczynski, H. M.,	Results are not presented in usable way. Reported as successfully treated vs not

Study	Reason for exclusion
Zhang, M., Richter, H. E., Sexual function before and after non-surgical treatment for stress urinary incontinence, Female Pelvic Medicine & Reconstructive Surgery, 17, 30-35, 2011	successfully treated, and stress UI versus mixed UI, but not by treatment group
Hines,S.H., Seng,J.S., Messer,K.L., Raghunathan,T.E., Diokno,A.C., Sampselle,C.M., Adherence to a behavioral program to prevent incontinence, Western Journal of Nursing Research, 29, 36-56, 2007	Secondary analysis of intervention arm only of a RCT
Hoffmann, W., Liedke, S., Dombo, O., Otto, U., Electrical stimulation to treat postoperative incontinence. Therapeutic benefit in regard to quality of life, Urologe - ausgabe a, 44, 33â 40, 2005	Incorrect comparison
Hsieh, C. H., Chang, W. C., Huang, M. C., Su, T. H., Li, Y. T., Chang, S. T., Chiang, H. S., Hydrodistention plus bladder training versus hydrodistention for the treatment of interstitial cystitis, Taiwanese journal of obstetrics & gynecology, 51, 591â 595, 2012	Incorrect population
Hu, T. W., Igou, J. F., Kaltreider, D. L., Yu, L. C., Rohner, T. J., Dennis, P. J., Craighead, W. E., Hadley, E. C., Ory, M. G., A clinical trial of a behavioral therapy to reduce urinary incontinence in nursing homes. Outcome and implications, JAMAJama, 261, 2656-62, 1989	No relevant outcomes, only reports frequency of wet episodes and number of incontinence episodes
Hu, T. W., Kaltreider, D. L., Igou, J. F., Yu, L. C., Rohner, T. J., Cost effectiveness of training incontinent elderly in nursing homes: a randomized clinical trial, Health Services ResearchHealth Serv Res, 25, 455-77, 1990	No relevant outcomes, only reports number of wet episodes
Huang, A. J., Stewart, A. L., Hernandez, A. L., Shen, H., Subak, L. L., Program to Reduce Incontinence by, Diet, Exercise,, Sexual function among overweight and obese women with urinary incontinence in a randomized controlled trial of an intensive behavioral weight loss intervention, Journal of urology, 181, 2235-42, 2009	Incorrect intervention. Weight loss interventions are included in 7.1
Huang, A., Xu, S. Y., Xian, Z. L., Effect of behavior therapy for old women with mild to moderate stress urinary incontinence, Chinese journal of nursing education, 8, 363â 364, 2011	Not in English
Hyakutake, M. T., Han, V., Baerg, L., Koenig, N. A., Cundiff, G. W., Lee, T., Geoffrion, R., Pregnancy-Associated Pelvic Floor Health Knowledge and Reduction of Symptoms: the PREPARED Randomized Controlled Trial, Journal of Obstetrics and Gynaecology Canada, 40, 418â 425, 2018	Prevention study
Ilnyckyj, A., Fachnie, E., Tougas, G., A randomized-controlled trial comparing an educational intervention alone vs education and biofeedback in the management of faecal incontinence in women, Neurogastroenterology and Motility, 17, 58-63, 2005	Incorrect intervention. Biofeedback alone is not behavioural. Education is not said to be behavioural. Possible include for 6.2

Study	Reason for exclusion
Jacomo, R. H., Alves, A. T., Dos Santos Bontempo, A. P., Botelho, T. L., Teixeira, F. A., De Sousa, J. B., Effect of increasing awareness of genital anatomy on pelvic floor muscle strength in postmenopausal women: A randomized controlled trial, Topics in Geriatric Rehabilitation, 32, 274-279, 2016	Incorrect intervention. Not behavioural therapy
Janssen, C. C., Lagro-Janssen, A. L., Felling, A. J., The effects of physiotherapy for female urinary incontinence: individual compared with group treatment, BJU International, 87, 201-6, 2001	Individual versus group
Jarvis, G. J., Millar, D. R., Controlled trial of bladder drill for detrusor instability, British medical journal, 281, 1322-3, 1980	Incorrect population
Jarvis, G. J., Millar, D. R., The treatment of incontinence due to detrusor instability by bladder drill, Progress in clinical and biological research, 78, 341â 343, 1981	Incorrect population
Jarvis, S. K., Hallam, T. K., Lujic, S., Abbott, J. A., Vancaillie, T. G., Peri-operative physiotherapy improves outcomes for women undergoing incontinence and or prolapse surgery: results of a randomised controlled trial, Australian & New Zealand Journal of Obstetrics & Gynaecology, 45, 300-3, 2005	Incorrect intervention. Physiotherapy is more like PFMT
Jarvis,G.J., A controlled trial of bladder drill and drug therapy in the management of detrusor instability, British Journal of UrologyBr.J.Urol., 53, 565-566, 1981	Incorrect comparison
Jirovec, M. M., Templin, T., Predicting success using individualized scheduled toileting for memory-impaired elders at home, Research in Nursing & HealthRes Nurs Health, 24, 1-8, 2001	Incorrect population. Includes men
Johnson, T. M., 2nd, Burgio, K. L., Redden, D. T., Wright, K. C., Goode, P. S., Effects of behavioral and drug therapy on nocturia in older incontinent women, Journal of the American Geriatrics Society, 53, 846-50, 2005	Incorrect intervention. Drug treatments are not included
Kafri, R., Kodesh, A., Shames, J., Golomb, J., Melzer, I., Depressive symptoms and treatment of women with urgency urinary incontinence, International urogynecology journal, 24, 1953-9, 2013	Results are not usable. Only reports data for those with depressive symptoms at baseline but does not report how many participants are in each treatment group, only the overall number. No other outcomes
Kilinc, M. F., Doluoglu, O. G., Yildiz, Y., Yuceturk, C. N., Hascicek, A. M., Using a checklist to increase the effectiveness of behavioral therapy for overactive bladder: A prospective randomized controlled trial, Neurourology & UrodynamicsNeurourol Urodyn, 38, 1152-1159, 2019	Incorrect population. Includes men
Kilpatrick, K. A., Paton, P., Subbarayan, S., Stewart, C., Abraha, I., Cruz-Jentoft, A. J., O'Mahony, D., Cherubini, A., Soiza, R. L., Non-pharmacological, non-surgical interventions for urinary incontinence in older persons: A systematic review of systematic reviews. The	Systematic review. Checked for references

Study	Reason for exclusion
SENATOR project ONTOP series, Maturitas, 133, 42-48, 2020	
Kim, J. I., Continence efficacy intervention program for community residing women with stress urinary incontinence in Japan, Public Health NursingPublic Health Nurs, 18, 64-72, 2001	Incorrect intervention. Information provision rather than behavioural education
Kim,S.W., Song,S.H., Ku,J.H., Bladder training versus combination of propiverine with bladder training for female urinary frequency. A prospective, randomized, comparative study, Gynecologic and Obstetric Investigation, 65, 123-127, 2008	Incorrect intervention. Drug therapy not included
Lagro-Janssen, A. L., Debruyne, F. M., Smits, A. J., van Weel, C., The effects of treatment of urinary incontinence in general practice, Family practice, 9, 284â 289, 1992	No relevant outcomes. Results not presented in a usable way.
Lagro-Janssen, T., van Weel, C., Long-term effect of treatment of female incontinence in general practice, British Journal of General PracticeBr J Gen Pract, 48, 1735-8, 1998	Incorrect study design
Lee, H. E., Oh, S. J., The Effectiveness of Bladder Training in Overactive Bladder, Current Bladder Dysfunction Reports, 9, 63-70, 2014	Narrative review
Lekan-Rutledge, D., Behavioral vs drug treatment for urge urinary incontinence in older women: a randomized controlled trial, Journal of wound, ostomy, and continence nursing : official publication of The Wound, Ostomy and Continence Nurses Society / WOCN, 26, 27A-28A, 1999	Abstract only
Leong, B. S., Mok, N. W., Effectiveness of a new standardised Urinary Continence Physiotherapy Programme for community-dwelling older women in Hong Kong, Hong Kong Medical Journal, 21, 30-7, 2015	Incorrect intervention. Physiotherapy is more like PFMT
Li, H., Zhou, C. K., Song, J., Zhang, W. Y., Wang, S. M., Gu, Y. L., Wang, K., Ma, Z., Hu, Y., Xiao, A. M., Wang, J. L., Wu, R. F., Curative efficacy of low frequency electrical stimulation in preventing urinary retention after cervical cancer operation, World journal of surgical oncology, 17, 141, 2019	Incorrect population
Loohuis, A. M. M., Wessels, N. J., Jellema, P., Vermeulen, K. M., Slieker-Ten Hove, M. C., van Gemert-Pijnen, Jewc, Berger, M. Y., Dekker, J. H., Blanker, M. H., The impact of a mobile application-based treatment for urinary incontinence in adult women: Design of a mixed-methods randomized controlled trial in a primary care setting, Neurourology & UrodynamicsNeurourol Urodyn, 37, 2167-2176, 2018	Protocol only, no results
McDonald, C., Rees, J., Winge, K., Newton, J. L., Burn, D. J., Bladder training for urinary tract symptoms in PD: A randomized controlled trial, Neurology., 13, 2020	Gender not reported

Study	Reason for exclusion
McDowell, B. J., Engberg, S., Sereika, S., Donovan, N., Jubeck, M. E., Weber, E., Engberg, R., Effectiveness of behavioral therapy to treat incontinence in homebound older adults, Journal of the American Geriatrics Society, 47, 309-318, 1999	Incorrect population. Includes men
McFall, S. L., Yerkes, A. M., Cowan, L. D., Outcomes of a small group educational intervention for urinary incontinence: health-related quality of life, Journal of Aging & HealthJ Aging Health, 12, 301-17, 2000	No relevant outcomes, assesses quality of life at but does not report means and SD at follow up
McFall, S. L., Yerkes, A. M., Cowan, L. D., Outcomes of a small group educational intervention for urinary incontinence: episodes of incontinence and other urinary symptoms, Journal of Aging & HealthJ Aging Health, 12, 250-67, 2000	No relevant outcomes, only reports number of incontinence episodes
Medical Advisory, Secretariat, Behavioural interventions for urinary incontinence in community-dwelling seniors: an evidence-based analysis, Toronto: Medical Advisory Secretariat, Ontario Ministry of Health and Long-Term Care (MAS), Volume 8, Number 3, 2008	Review. Checked for references
Meyer, I., Whitworth, R. E., Lukacz, E. S., Smith, A. L., Sung, V. W., Visco, A. G., Ackenbom, M. F., Wai, C. Y., Mazloomdoost, D., Gantz, M. G., Richter, H. E., Klein Warren, L., Matthews, D., Shaffer, A., Terry, T. T., Thornberry, J., Wallace, D., Wilson, K. A., Hartmann, K., Ballard, A., Burge, J., Burgio, K. L., Carter, K., Goode, P. S., Markland, A. D., Pair, L. S., Parker-Autry, C., Varner, R. E., Wilson, T. S., Amundsen, C. L., Harm-Ernandes, I., Raynor, M., Siddiqui, N. Y., Weidner, A. C., Wu, J. M., Albo, M. E., Grimes, C., Nager, C. W., Nguyen, J. N., Jakus-Waldman, S., Diwadkar, G., Dyer, K. Y., Hall, L. M., Mackinnon, L. M., Menefee, S. A., Tan-Kim, J., Zazueta-Damian, G., Atnip, S., Moore, E. K., Rahn, D., Schaffer, J., Borello-France, D., Meikle, S. F., Barber, M. D., Frick, A., Jelovsek, J. E., O'Dougherty, B., Paraiso, M. F. R., Pung, L., Ridgeway, B. M., Williams, C., Brubaker, L., Mueller, E., Tulke, M., Casher, Y. W., Chen, Y. H., DiFranco, D., Marchant, B., Spino, C., Wei, J. T., Baker, J., Hsu, Y., Masters, M., Orr, A., Outcomes of native tissue transvaginal apical approaches in women with advanced pelvic organ prolapse and stress urinary incontinence, International Urogynecology Journal., 2020	No relevant outcomes. Outcomes only reported in terms of the two surgical treatment arms
Meyer, S., Hohlfeld, P., Achtari, C., De Grandi, P., Pelvic floor education after vaginal delivery, Obstetrics and Gynecology, 97, 673-677, 2001	Unclear if participants have PFD at baseline.
Milne, J., The impact of information on health behaviors of older adults with urinary incontinence, Clinical nursing research, 9, 161-176, 2000	Incorrect population. Includes men
Miquelutti, M. A., Cecatti, J. G., Makuch, M. Y., Evaluation of a birth preparation program on	Prevention. Not all participants had UI at baseline

Study	Reason for exclusion
lumbopelvic pain, urinary incontinence, anxiety and exercise: a randomized controlled trial, BMC Pregnancy & Childbirth, 13, 154, 2013	
Nazarpour, S., Simbar, M., Ramezani Tehrani, F., Alavi Majd, H., The impact of a sexual enhancement program on the sexual function of postmenopausal women, Climacteric, 19, 506-511, 2016	Incorrect population, only around 70% have sexual dysfunction at baseline
Nikoletti, S., Young, J., King, M., Evaluation of an electronic monitoring device for urinary incontinence in elderly patients in an acute care setting, Journal of Wound, Ostomy, & Continence Nursing, 31, 138-49, 2004	Incorrect population. Includes men
Norton, C., Behavioral management of fecal incontinence in adults, Gastroenterology, 126, S64-70, 2004	Gender not reported
Norton, C., Chelvanayagam, S., Wilson-Barnett, J., Redfern, S., Kamm, M. A., Randomized controlled trial of biofeedback for fecal incontinence, Gastroenterology, 125, 1320-9, 2003	Incorrect population. Includes men
Norton, C., Emmanuel, A., Stevens, N., Scott, S. M., Grossi, U., Bannister, S., Eldridge, S., Mason, J. M., Knowles, C. H., Habit training versus habit training with direct visual biofeedback in adults with chronic constipation: study protocol for a randomised controlled trial, Trials, 18, 139, 2017	Protocol only, doesn't specify women only
Nystrom, E., Asklund, I., Sjostrom, M., Stenlund, H., Samuelsson, E., Treatment of stress urinary incontinence with a mobile app: factors associated with success, International urogynecology journal, 29, 1325-1333, 2018	Secondary analysis of Sjöström (2013), focus on PFMT, no usable results. Only reports data from treatment group
Oh, H. S., Kim, M. K., Seo, W. S., Effectiveness of a behavioral intervention program for urinary incontinence in a community setting, Taehan Kanho Hakhoe chi, 35, 1476-1484, 2005	Incorrect design, not a randomised study. Said to have a non-equivalent control group, pretest-posttest design.
Ostaszkiewicz, J., Chestney, T., Roe, B., Habit retraining for the management of urinary incontinence in adults, Cochrane Database of Systematic Reviews, 2004	Review checked for references
Ouslander, J. G., Blaustein, J., Connor, A., Pitt, A., Habit training and oxybutynin for incontinence in nursing home patients: a placebo-controlled trial, Journal of the American Geriatrics Society, 36, 40-6, 1988	Incorrect population. Includes men
Ouslander, J. G., Simmons, S., Schnelle, J., Uman, G., Fingold, S., Effects of prompted voiding on fecal continence among nursing home residents, Journal of the American Geriatrics Society, 44, 424-8, 1996	Incorrect study design and population
Ouslander,J.G., Schnelle,J.F., Uman,G., Fingold,S., Nigam,J.G., Tuico,E., Jensen,B.B., Does oxybutynin add to the effectiveness of prompted voiding for urinary incontinence among nursing home residents? A placebo-controlled trial, Journal of the American	Incorrect population. Includes men

Study	Reason for exclusion
Geriatrics SocietyJ.Am.Geriatr.Soc., 43, 610-617, 1995	
Ozturk, M. H., KÄ±lÄ±c, S. P., Effective of education on quality of life and constipation severity in patients with primary constipation, Patient education and counseling, 102, 316â 323, 2019	Incorrect population. Includes men
Pages, I. H., Jahr, S., Schaufele, M. K., Conradi, E., Comparative analysis of biofeedback and physical therapy for treatment of urinary stress incontinence in women, American Journal of Physical Medicine and Rehabilitation, 80, 494-502, 2001	Incorrect information. Physical therapy is more like PFMT and education rather than behavioural treatment
Pengelly, A. W., Booth, C. M., A prospective trial of bladder training as treatment for detrusor instability, British Journal of UrologyBr J Urol, 52, 463-6, 1980	Incorrect population
Perrin, L., Dauphinee, S. W., Corcos, J., Hanley, J. A., Kuchel, G. A., Pelvic floor muscle training with biofeedback and bladder training in elderly women: A feasibility study, Journal of Wound, Ostomy and Continence Nursing, 32, 186-199, 2005	Incorrect study design
Pulvino,J.Q., Duecy,E.E., Buchsbaum,G.M., Flynn,M.K., Comparison of 2 techniques to predict voiding efficiency after inpatient urogynecologic surgery, Journal of Urology, 184, 1408-1412, 2010	Incorrect intervention. Catheter/voiding is not behavioural therapy
Rajalaxmi, V., Varalakshmi, S., Suresh, V. H., Kumar, G. M., Kamatchi, K., Vaishnavi, G., Muthukumaran, N., Efficacy of pelvic floor muscle training, yoga and cognitive behavioural therapy for urinary incontinence in diabetic women - a randomized controlled double blinded study, Research Journal of Pharmacy and Technology, 12, 4618-4622, 2019	Incorrect intervention
Ramsay, I. N., Ali, H. M., Hunter, M., Stark, D., Donaldson, K., A randomized controlled trial of urodynamic investigations prior to conservative treatment of urinary incontinence in the female, International urogynecology journal, 6, 277-281, 1995	Incorrect comparison
Rao, S. S., Seaton, K., Miller, M., Brown, K., Nygaard, I., Stumbo, P., Zimmerman, B., Schulze, K., Randomized controlled trial of biofeedback, sham feedback, and standard therapy for dyssynergic defecation, Clinical Gastroenterology & HepatologyClin Gastroenterol Hepatol, 5, 331-8, 2007	Incorrect intervention. Biofeedback not behavioural feedback
Rao, S. S., Valestin, J., Brown, C. K., Zimmerman, B., Schulze, K., Long-term efficacy of biofeedback therapy for dyssynergic defecation: randomized controlled trial, American journal of gastroenterology, 105, 890-6, 2010	Incorrect intervention. Biofeedback is not behavioural, falls under PFMT
Richter, H. E., A randomized trial of pessary vs. behavioral therapy vs. combined therapy for	Abstract only

Study	Reason for exclusion
treatment of stress urinary incontinence (Abstract number 195), Neurourology and urodynamics, 28, 816â 817, 2009	
Richter, H. E., Burgio, K. L., Goode, P. S., Borello-France, D., Bradley, C. S., Brubaker, L., Handa, V. L., Fine, P. M., Visco, A. G., Zyczynski, H. M., Wei, J. T., Weber, A. M., Pelvic Foor Desorders, Network, Non-surgical management of stress urinary incontinence: ambulatory treatments for leakage associated with stress (ATLAS) trial, Clinical Trials, 4, 92-101, 2007	Design and methods only, no results
Richter, H., Burgio, K., Brubaker, L., Chai, T., Kraus, S., Nyberg, L., Predictors of outcomes of drug therapy, combined drug and behavioral therapy and drug discontinuation in the treatment of urge urinary incontinence in women (Abstract number 39), Journal of pelvic medicine & surgery, 15, 73â 74, 2009	Abstract only
Richter,H.E., Burgio,K.L., Chai,T.C., Kraus,S.R., Xu,Y., Nyberg,L., Brubaker,L., Predictors of outcomes in the treatment of urge urinary incontinence in women, International urogynecology journal and pelvic floor dysfunction, 20, 489-497, 2009	Incorrect intervention. Drug therapy not included
Roe, B., Milne, J., Ostaszkiewicz, J., Wallace, S., Systematic reviews of bladder training and voiding programmes in adults: a synopsis of findings on theory and methods using metastudy techniques, Journal of Advanced Nursing, 57, 3-14, 2007	Review, checked for references
Ron, Y., A randomized, open, placebo controlled feasibility study to assess the value of specially designed toilet seat for patients suffering from obstructed defecation type of constipation, Neurogastroenterology and Motility. Conference: 3rd Meeting of the Federation of Neurogastroenterology and Motility and Postgraduate Course on Gastrointestinal Motility, FNM, 30, 2018	Conference abstract
Rosenberg, K., Prompted Voiding Offers Long-Term Benefits to Nursing Home Residents, American journal of nursing, 117, 61, 2017	Abstract only
Rutledge, T. L., Rogers, R., Lee, S. J., Muller, C. Y., A pilot randomized control trial to evaluate pelvic floor muscle training for urinary incontinence among gynecologic cancer survivors, Gynecologic Oncology, 132, 154-8, 2014	Incorrect population
Sacomori, C., Berghmans, B., Mesters, I., de Bie, R., Cardoso, F. L., Strategies to enhance self-efficacy and adherence to home-based pelvic floor muscle exercises did not improve adherence in women with urinary incontinence: a randomised trial, Journal of Physiotherapy, 61, 190-198, 2015	Incorrect comparison. Both groups receive PT (PFMT, biofeedback, education) but experimental group also received self-efficacy strategies such as goal setting, feedback, testimonials, magnet with a reminder

Study	Reason for exclusion
Sampselle, C. M., Behavioral interventions in young and middle-age women: simple interventions to combat a complex problem, The American journal of nursing, Suppl, 9-19, 2003	Narrative review
Sampselle, C. M., Behavioral intervention for urinary incontinence in women: Evidence for practice, Journal of Midwifery and Women's Health, 45, 94-103, 2000	Review. Checked for references
Sampselle, C. M., Messer, K. L., Seng, J. S., Raghunathan, T. E., Hines, S. H., Diokno, A. C., Learning outcomes of a group behavioral modification program to prevent urinary incontinence, International Urogynecology Journal, 16, 441-446, 2005	Prevention, participants do not have PFD at baseline
Sand, P. K., Brubaker, L., Nonsurgical treatment of detrusor overactivity in postmenopausal women, Journal of Reproductive MedicineJ Reprod Med, 35, 758-64, 1990	Incorrect study design. This is a review not an RCT.
Santacreu, M., Fernandez-Ballesteros, R., Evaluation of a behavioral treatment for female urinary incontinence, Clinical Interventions In AgingClin Interv Aging, 6, 133-9, 2011	Incorrect study design. There is no control group
Schnelle,J.F., Traughber,B., Sowell,V.A., Newman,D.R., Petrilli,C.O., Ory,M., Prompted voiding treatment of urinary incontinence in nursing home patients. A behavior management approach for nursing home staff, Journal of the American Geriatrics Society, 37, 1051-1057, 1989	Incorrect population. Includes men
Sherburn, M., Galea, M., Bo, K., Bird, M., Carey, M., Pelvic floor muscle training or bladder training to treat stress urinary incontinence in elderly women: a single blind randomised controlled trial (Abstract number 49), Neurourology and urodynamics, 26, 665â 666, 2007	Conference abstract
Sherman, R. A., Davis, G. D., Wong, M. F., Behavioral treatment of exercise-induced urinary incontinence among female soldiers, Military MedicineMil Med, 162, 690-4, 1997	Incorrect study design
Simon, M. A., Bueno, A. M., Efficacy of Biofeedback Therapy in the Treatment of Dyssynergic Defecation in Community-Dwelling Elderly Women, Journal of Clinical Gastroenterology, 51, e90-e94, 2017	Incorrect intervention. Biofeedback rather than behavioural feedback
Simon, M. A., Bueno, A. M., Otero, P., Vazquez, F. L., Blanco, V., A Randomized Controlled Trial on the Effects of Electromyographic Biofeedback on Quality of Life and Bowel Symptoms in Elderly Women With Dyssynergic Defecation, International Journal of Environmental Research & Public Health [Electronic Resource]Int J Environ Res Public Health, 16, 04, 2019	Incorrect intervention. Biofeedback, no behavioural element
Sjostrom, M., Lindholm, L., Samuelsson, E., Mobile App for Treatment of Stress Urinary Incontinence: A Cost-Effectiveness Analysis,	Health economics paper

Study	Reason for exclusion
Journal of medical Internet research, 19, e154, 2017	
So, A., De Gagne, J. C., Park, S., Long-Term Effects of a Self-management Program for Older Women With Urinary Incontinence in Rural Korea: A Comparison Cohort Study, Journal of Wound, Ostomy, & Continence NursingJ Wound Ostomy Continence Nurs, 46, 55-61, 2019	Incorrect study design
Song,C., Park,J.T., Heo,K.O., Lee,K.S., Choo,M.S., Effects of bladder training and/or tolterodine in female patients with overactive bladder syndrome: a prospective, randomized study, Journal of Korean Medical Science, 21, 1060-1063, 2006	Incorrect intervention. Drug therapy not included
Sran, M., Mercier, J., Wilson, P., Lieblich, P., Dumoulin, C., Physical therapy for urinary incontinence in postmenopausal women with osteoporosis or low bone density: A randomized controlled trial, Menopause, 23, 286-293, 2016	No relevant outcomes
Sran, M., Wilson, P., Lieblich, P., Dumoulin, C., Regaining urinary continence in postmenopausal women with osteoporosis: preliminary results of a RCT of physiotherapy, Osteoporosis international, 21, S368, 2010	Conference abstract
Subak, L. L., Quesenberry, C. P., Posner, S. F., Cattolica, E., Soghikian, K., The effect of behavioral therapy on urinary incontinence: a randomized controlled trial, Obstetrics & GynecologyObstet Gynecol, 100, 72-8, 2002	No relevant outcomes. Reports incontinence episodes and satisfaction but satisfaction only reported for the intervention group
Subak, L. L., Wing, R., West, D. S., Franklin, F., Vittinghoff, E., Creasman, J. M., Richter, H. E., Myers, D., Burgio, K. L., Gorin, A. A., Macer, J., Kusek, J. W., Grady, D., Pride Investigators, Weight loss to treat urinary incontinence in overweight and obese women, New England journal of medicine, 360, 481-90, 2009	Incorrect intervention. Weight loss interventions are included in 7.1
Suzuki, M., Miyazaki, H., Kamei, J., Yoshida, M., Taniguchi, T., Nishimura, K., Igawa, Y., Sanada, H., Homma, Y., Ultrasound-assisted prompted voiding care for managing urinary incontinence in nursing homes: A randomized clinical trial, Neurourology and urodynamics, 38, 757-763, 2019	Incorrect population. Includes men
Szonyi,G., Collas,D.M., Ding,Y.Y., Malone-Lee,J.G., Oxybutynin with bladder retraining for detrusor instability in elderly people: a randomized controlled trial, Age and Ageing, 24, 287-291, 1995	Incorrect population. Includes men
Szumilewicz, A., Kuchta, A., Kranich, M., Dornowski, M., Jastrzebski, Z., Prenatal high-low impact exercise program supported by pelvic floor muscle education and training decreases the life impact of postnatal urinary incontinence: A quasiexperimental trial, Medicine, 99, e18874, 2020	Unclear population. Baseline UI not reported, preventative study
Tadic, S. D., Zdaniuk, B., Griffiths, D., Rosenberg, L., Schafer, W., Resnick, N. M.,	Incorrect study design

Study	Reason for exclusion
Effect of biofeedback on psychological burden and symptoms in older women with urge urinary incontinence, Journal of the american geriatrics society, 55, 2010-5, 2007	
Tak, E. C., van Hespen, A., van Dommelen, P., Hopman-Rock, M., Does improved functional performance help to reduce urinary incontinence in institutionalized older women? A multicenter randomized clinical trial, BMC Geriatrics, 12, 51, 2012	Incorrect population. Included those both with and without incontinence
Tannenbaum, C., Agnew, R., Benedetti, A., Thomas, D., Van Den Heuvel, E., Effectiveness of continence promotion for older women via community organisations: A cluster randomised trial, BMJ open, 3 (12) (no pagination), 2013	Incorrect intervention. Not behavioural therapy
Tannenbaum, C., Fritel, X., Halme, A., Van Den Heuvel, E., Jutai, J., Wagg, A., Long-term effect of community-based continence promotion on urinary symptoms, falls and healthy active life expectancy among older women: Cluster randomised trial, Age and ageing, 48, 526-532, 2019	Incorrect intervention
Tannenbaum, C., van den Heuvel, E., Fritel, X., Southall, K., Jutai, J., Rajabali, S., Wagg, A., Continence Across Continents To Upend Stigma and Dependency (CACTUS-D): study protocol for a cluster randomized controlled trial, Trials [Electronic Resource], 16, 565, 2015	Protocol only, no results
Taple, B. J., Griffith, J. W., Weaver, C., Kenton, K. S., Enhancing behavioral treatment for women with pelvic floor disorders: Study protocol for a pilot randomized controlled trial, Contemporary clinical trials communications, 17, 100514, 2020	Protocol only, no results
Theofrastous,J.P., Wyman,J.F., Bump,R.C., McClish,D.K., Elser,D.M., Bland,D.R., Fantl,J.A., Effects of pelvic floor muscle training on strength and predictors of response in the treatment of urinary incontinence, Neurourology and Urodynamics, 21, 486-490, 2002	No relevant outcomes, only reports incontinence episodes. Secondary analysis of Wyman 1998
Thomas, L. H., Watkins, C. L., French, B., Sutton, C., Forshaw, D., Cheater, F., Roe, B., Leathley, M. J., Burton, C., McColl, E., Booth, J., Icons Project Team, Icons Patient, Public, Carer Involvement, Group, Study protocol: ICONS: identifying continence options after stroke: a randomised trial, 12, 131, 2011	Protocol only
Thomas, L. H., Watkins, C. L., Sutton, C. J., Forshaw, D., Leathley, M. J., French, B., Burton, C. R., Cheater, F., Roe, B., Britt, D., Booth, J., McColl, E., Icons Project Team, the Icons Patient, Public, Carer Involvement, Groups, Identifying continence options after stroke (ICONS): a cluster randomised controlled feasibility trial, Trials [Electronic Resource]Trials, 15, 509, 2014	Incorrect population

Study	Reason for exclusion
van Eijken, M., Wensing, M., de Konink, M., Vernooy, M., Zielhuis, G., Lagro, T., Rikkert, M. O., Grol, R., Health education on self-management and seeking health care in older adults: a randomised trial, Patient education and counseling, 55, 48â 54, 2004	Incorrect population
Vaz, C. T., Sampaio, R. F., Saltiel, F., Figueiredo, E. M., Effectiveness of pelvic floor muscle training and bladder training for women with urinary incontinence in primary care: a pragmatic controlled trial, Brazilian journal of physical therapy, 23, 116-124, 2019	Incorrect study design (not RCT), incorrect comparison (at home vs at health centre)
Velez, J. B., Behavior therapy for urge incontinence in older women, Journal of Family Practice, 48, 168-9, 1999	Abstract only
Venn, M. R., Taft, L., Carpentier, B., Applebaugh, G., The influence of timing and suppository use on efficiency and effectiveness of bowel training after a stroke, Rehabilitation Nursing JournalRehabil Nurs, 17, 116-20, 1992	Gender not reported
Wagner, T. H., Scott, J. Y., Newman, D. K., Miller, J. M., Kirk, K., DiCamillo, M. A., Raghunathan, T. E., Diokno, A. C., Sampselle, C. M., Costs and Sustainability of a Behavioral Intervention for Urinary Incontinence Prevention, Urology Practice, 5, 266-271, 2018	Prevention study
Wallace, S. A., Roe, B., Williams, K., Palmer, M., Bladder training for urinary incontinence in adults, Cochrane Database of Systematic Reviews, 2004	Systematic review checked for references
Wang,A.C., Bladder-sphincter biofeedback as treatment of detrusor instability in women who failed to respond to oxybutynin, Chang Gung Medical Journal, 23, 590-599, 2000	Incorrect intervention (biofeedback), incorrect study design (not RCT)
Wenger, N. S., Roth, C. P., Hall, W. J., Ganz, D. A., Snow, V., Byrkit, J., Dzielak, E., Gullen, D. J., Loepfe, T. R., Sahler, C., Snooks, Q., Beckman, R., Adams, J., Rosen, M., Reuben, D. B., Practice redesign to improve care for falls and urinary incontinence: Primary care intervention for older patients, Archives of internal medicine, 170, 1765-1772, 2010	Incorrect population
Williams, K. S., Assassa, R. P., Cooper, N. J., Turner, D. A., Shaw, C., Abrams, K. R., Mayne, C., Jagger, C., Matthews, R., Clarke, M., McGrother, C. W., Leicestershire, M. R. C. Incontinence Study Team, Clinical and cost-effectiveness of a new nurse-led continence service: a randomised controlled trial, British Journal of General PracticeBr J Gen Pract, 55, 696-703, 2005	Incorrect population. Includes men
Williams,K.S., Assassa,R.P., Gillies,C.L., Abrams,K.R., Turner,D.A., Shaw,C., Haslam,J., Mayne,C., McGrother,C.W., A randomized controlled trial of the effectiveness of pelvic floor therapies for urodynamic stress and mixed	No relevant outcomes, only reports number of incontinence episodes, and all other outcomes reported in terms of medians

Study	Reason for exclusion
incontinence, BJU International, 98, 1043-1050, 2006	
Wing, R. R., West, D. S., Grady, D., Creasman, J. M., Richter, H. E., Myers, D., Burgio, K. L., Franklin, F., Gorin, A. A., Vittinghoff, E., Macer, J., Kusek, J. W., Subak, L. L., Program to Reduce Incontinence by, Diet, Exercise, Group, Effect of weight loss on urinary incontinence in overweight and obese women: results at 12 and 18 months, Journal of urology, 184, 1005-10, 2010	Incorrect intervention. Behavioural weight loss included in 7.1
Wiseman, P. A., Malone-Lee, J., Rai, G. S., Terodiline with bladder retraining for treating detrusor instability in elderly people, BMJBmj, 302, 994-6, 1991	Incorrect population. Includes men
Wiseman, P., Malone-Lee, J. G., Rai, G., A study of terodiline with bladder retraining in the treatment of detrusor instability in the frail elderly, Neurourology and urodynamics, 9, 410â 411, 1990	Conference Abstract
Wyman, J. F., Fantl, J. A., McClish, D. K., Harkins, S. W., Uebersax, J. S., Ory, M. G., Quality of life following bladder training in older women with urinary incontinence, International Urogynecology Journal, 8, 223-229, 1997	Incorrect population, ~70% have detrusor instability which is not included in the protocol
Wyman, J. F., McClish, D. K., Ory, M. G., Changes in quality of life following bladder training in older women with urinary incontinence, Neurourology and urodynamics, 11, 426â 427, 1992	Conference Abstract
Xu, D., Huang, L., Gao, J., Li, J., Wang, X., Wang, K., Effects of an education program on toileting behaviors and bladder symptoms in overactive bladder patients with type 2 diabetes: A randomized clinical trial, International journal of nursing studies, 87, 131-139, 2018	Incorrect population. Includes men
Zaccardi, J. E., Wilson, L., Mokrzycki, M. L., The effect of pelvic floor re-education on comfort in women having surgery for stress urinary incontinence, Urologic nursing, 30, 137-146, 148, 2010	Incorrect intervention, not behavioural therapy
Zhang, C. Y., Jiang, Y., Yin, Q. Y., Chen, F. J., Ma, L. L., Wang, L. X., Impact of nurse-initiated preoperative education on postoperative anxiety symptoms and complications after coronary artery bypass grafting, Journal of Cardiovascular NursingJ Cardiovasc Nurs, 27, 84-8, 2012	Incorrect population
Zhang, N., He, Y., Wang, J., Zhang, Y., Ding, J., Hua, K. Q., Effects of a new community-based reproductive health intervention on knowledge of and attitudes and behaviors toward stress urinary incontinence among young women in Shanghai: a cluster-randomized controlled trial, International Urogynecology Journal, 27, 545-553, 2016	Incorrect population. Overall baseline prevalence of SUI is 14%

1

1 **Economic studies**

Study	Reason for exclusion
Health Quality, Ontario, Intermittent Catheters for Chronic Urinary Retention: A Health Technology Assessment, Ontario Health Technology Assessment Series, 19, 1-153, 2019	Population includes men and women and the proportion of women is unknown.

2

3

Appendix L – Research recommendations

Research recommendations for review question: What is the effectiveness of behavioural approaches (for example toilet training, seating, splinting) for improving symptoms associated with pelvic floor dysfunction?

No research recommendations were made for this review question.