

Effects of pelvic floor muscle training on female sexual function in women with stress urinary incontinence

Submission date 21/05/2026	Recruitment status No longer recruiting	☐ Prospectively registered
Registration date 24/05/2026	Overall study status Completed	☐ Protocol
Last Edited 22/05/2026	Condition category Urological and Genital Diseases	☐ Statistical analysis plan
		☐ Results
		☐ Individual participant data
		☒ Record updated in last year

Plain English summary of protocol

Background and study aims

Stress urinary incontinence (SUI) is a common condition in women that causes urine leakage during activities such as coughing, sneezing, laughing, or exercise. This condition can affect many areas of daily life, including confidence, emotional well-being, and intimate relationships. Many women with SUI may avoid sexual activity because they fear urine leakage during intercourse, feel embarrassed, or experience discomfort and reduced sexual satisfaction.

The pelvic floor muscles are a group of muscles that support the bladder, uterus, and bowel. These muscles also play an important role in sexual function by helping with vaginal tone, blood flow, and orgasm. Weak pelvic floor muscles are common after pregnancy, childbirth, aging, or menopause and may contribute to both urinary leakage and sexual problems.

Pelvic floor muscle training (PFMT), sometimes called pelvic floor exercises or Kegel exercises, is a non-surgical treatment commonly used to improve bladder control. Previous studies suggest that strengthening these muscles may also improve sexual function, but research results have not always been consistent.

This study aimed to investigate whether a structured pelvic floor muscle training program can improve sexual function in women with stress urinary incontinence. The study will also examine whether strengthening the pelvic floor muscles reduces urinary leakage and improves quality of life.

The study will include sexually active women over the age of 18 who experience stress urinary incontinence and sexual difficulties. Participants who choose to take part in the treatment program will complete a 12-week pelvic floor muscle training program supervised by trained healthcare professionals. Another group of women who decide not to receive treatment during the study period will act as a comparison group.

Participants will complete questionnaires about sexual function and sexual well-being before and after the study period. They will also undergo simple non-invasive assessments to measure urine leakage and pelvic floor muscle strength. The researchers hope that the results of this study will improve understanding of how pelvic floor exercises may help women with stress urinary incontinence and sexual problems, and support the development of safe, non-surgical treatment options.

Who can participate?

Sexually active adult women with clinically confirmed stress urinary incontinence (SUI) between May 2024 and April 2026.

What does the study involve?

This prospective observational study recruited participants with SUI diagnosed clinically based on symptoms, physical examination, cough stress testing, and pad testing; urodynamic testing was not performed because the study focused on uncomplicated SUI.

Eligible women were adults, sexually active, had SUI, and also had female sexual dysfunction with associated sexual distress. Sexual function was assessed using the Female Sexual Function Index (FSFI), with dysfunction defined as $FSFI \leq 26.5$, while sexual distress was assessed using the Female Sexual Distress Scale-Revised (FSDS-R), with clinically significant distress defined as ≥ 11 .

Participants were divided into two groups: a control group of women who declined conservative treatment and an intervention group that completed a 12-week pelvic floor muscle training (PFMT) programme. The PFMT intervention included four supervised biofeedback sessions, individualised instruction, home exercises, and weekly clinic visits to monitor technique and adherence. Outcomes were measured at baseline and after 12 weeks. These included urinary leakage using the one-hour pad test, pelvic floor muscle strength and endurance using the Peritron perineometer, and sexual function and distress using FSFI and FSDS-R questionnaires.

The primary outcome was the change in the FSFI total score and the FSDS-R score

What are the possible benefits and risks of participating?

Women who participate in the pelvic floor muscle training program may experience improvements in bladder control, fewer urine leakage episodes, and better pelvic floor muscle strength. Participants may also notice improvements in sexual wellbeing, including increased confidence, reduced anxiety during sexual activity, improved comfort, and greater sexual satisfaction. In addition, participants may gain a better understanding of their pelvic health and receive guidance from trained healthcare professionals.

The study may also benefit future patients by helping doctors and healthcare providers better understand the relationship between pelvic floor muscle strength, urinary incontinence, and sexual health. This could improve future treatment approaches for women with similar problems.

The risks associated with participation are considered low because pelvic floor muscle training is a non-invasive and commonly used treatment. Some women may experience mild temporary muscle discomfort or fatigue during the exercises. Discussing personal or sexual health topics and completing questionnaires may cause some embarrassment or emotional discomfort for certain participants. However, all information collected during the study will remain confidential, and participants may choose not to answer any question they find uncomfortable.

Participation in the study is voluntary, and women may withdraw at any time without affecting their future medical care.

Where is the study run from?

University of Ioannina, Greece.

When is the study starting and how long is it expected to run for?

May 2024 to April 2026.

Who is funding the study?
University of Ioannina, Greece.

Who is the main contact?
Prof Athanasios Zachariou, zahariou@otenet.gr

Contact information

Type(s)

Principal investigator, Public, Scientific

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Study information

Scientific Title

Effects of pelvic floor muscle training on female sexual function in women with stress urinary incontinence: a controlled observational study

Study objectives

Ethics approval required

Ethics approval required

Ethics approval(s)

Approved 12/10/2023, University General Hospital of Ioannina (St Niarchou Avenue, Ioannina, 45445, Greece; +30; -), ref: 25/12-10-2023

Primary study design

Observational

Secondary study design

Cohort study

Study type(s)

Health condition(s) or problem(s) studied

Female sexual function in women with stress urinary incontinence

Interventions

Participants were prospectively recruited. SUI was diagnosed based on patient-reported symptoms and clinical evaluation. Women were considered to have SUI if they reported involuntary urine leakage during physical exertion, coughing, sneezing, or other activities that increase intra-abdominal pressure in the absence of urgency. The diagnosis was confirmed by physical examination, including a positive cough stress test, and supported by objective measures such as pad testing. To identify eligible participants, women with female sexual dysfunction were required to report associated sexual distress. Participants who declined conservative treatment for SUI—either because they did not perceive a need for treatment or preferred surgical management at a later stage—were allocated to the control group.

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Intervention Type

Behavioural

Primary outcome(s)

1. Female sexual function measured using the Female Sexual Function Index (FSFI) and Female Sexual Distress Scale-Revised (FSDS-R) questionnaires at baseline before the intervention and at 3 months

Key secondary outcome(s)

Completion date

30/04/2026

Eligibility

Key inclusion criteria

1. Stress urinary incontinence (SUI)
2. Sexually active women
3. Female sexual dysfunction (according to FSFI and FSDS-R questionnaires)
4. Adults
5. Willingness to comply with the study protocol
6. Ability to complete voiding diaries and questionnaires
7. Participants who declined conservative treatment for SUI—either because they did not perceive a need for treatment or preferred surgical management at a later stage—were allocated to the control group

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 Years

Upper age limit

50 Years

Sex

Female

Total final enrolment

58

Key exclusion criteria

1. Clinical evidence of urgent urinary incontinence
2. Neurogenic bladder dysfunction
3. Urinary retention or women considered at risk for these conditions
4. Previous pelvic floor muscle training, pelvic organ prolapse beyond stage I, prior surgery for urinary incontinence or pelvic organ prolapse
5. Neurological disorders
6. Active urinary tract infection

Date of first enrolment

01/05/2024

Date of final enrolment

30/01/2026

Locations**Countries of recruitment**

Greece

Sponsor information**Organisation**

University of Ioannina

ROR

<https://ror.org/01qg3j183>

Funder(s)**Funder type**

Funder Name

University of Ioannina

Alternative Name(s)

Πανεπιστήμιο Ιωαννίνων, Panepistimio Ioanninon, Uoi

Funding Body Type

Government organisation

Funding Body Subtype

Universities (academic only)

Location

Greece

Results and Publications

Individual participant data (IPD) sharing plan**IPD sharing plan summary**

Not expected to be made available