

## Hypothesis / aims of study

Gender incongruence presents a 1% prevalence worldwide and is the discrepancy between anatomical sex assigned at birth and the gender experienced by the individual. Transmen and women are at high risk for physical and sexual violence and often faces several barriers for health access. Currently, there are few studies characterizing the pelvic floor of male or female transgender (TG) individuals, and they are mostly focused in sexual function, with one review published about it for transwomen and a recent systematic on the prevalence of endometriosis in transmen.

However, it is unknown which risk factors are associated with pelvic floor disorders in these populations or whether gender affirming procedures may impact in the pelvic floor. There is lack of information regarding urinary, anorectal, and prolapse symptoms. The need for a summary of these studies is imperative to assess what are the research needs for this population with regard to the most frequent pelvic floor disorders (urinary incontinence, pelvic organ prolapse and fecal incontinence). Considering that it would be less likely to find robust information, we aimed to perform a scoping review with the available evidence on this subject.

## Study design, materials and methods

- A scoping review was performed using a broad search strategy ((transgender OR transfeminine OR transmasculine OR transmen OR transwomen) AND ("pelvic floor" OR "urinary incontinence" OR "pelvic organ prolapse" OR "fecal incontinence")) comprising most pelvic floor disorders in March 2024 at PubMed database by two independent reviews.
- We excluded as primary outcomes studies that focused on pelvic pain and sexual function. No language barriers were present, and studies were selected by title and/or summary with the aid of Rayyan software. We did not plan to undergo metanalysis as this would be probably not possible to execute.
- Publication bias was not assessed due to the low number of publications. Data was presented in descriptive format. Our primary outcomes were urinary incontinence or pelvic organ prolapse or fecal/anal incontinence, diagnosed by subjective, dichotomous questions or by a validated questionnaire.
- Quality of the study was assessed by the Newcastle-Ottawa scale for non-randomized studies.

## Results

Of the 50 results retrieved in the search strategy, no duplicates were found and four studies were selected for full text analysis (Figure 1). No studies assessing the pelvic floor in transgender men were found. The number of transgender females varied from 15 to 77 patients (Table 1). All studies varied with regard to primary outcomes. Urinary incontinence (UI) as a dichotomous question (yes/no) varied from 15.4% to 40% prevalence prior to gender affirming surgeries (GAS). PF dysfunction, with no distinction, was present in 42% of TG women and bowel dysfunction in 37% of patients in the largest study to this moment (n=77). Another study analyzed PFM strength and concluded it declined 15 days after GAS. The unique randomized study measured PF scores for UI and intestinal symptoms but did not compare with a control. With regard to the methodological quality, all studies presented low Newcastle-Ottawa scores. No studies presented sample size calculation, except for the RCT, which was based on the experience of the physiotherapists from their group (Table 2).

Figure 1 – Flowchart of the Included Studies

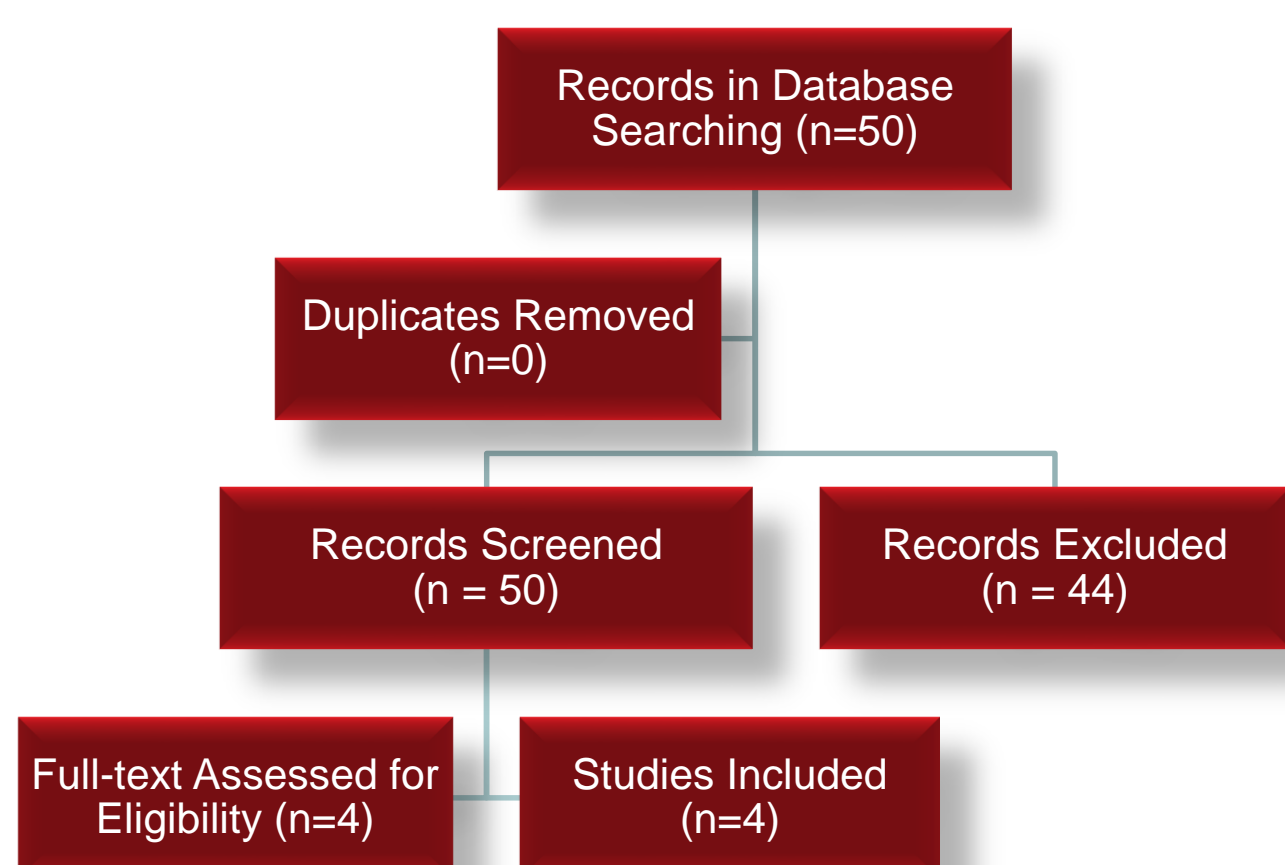


Table 1 – Characteristics of the included studies.

Author, Year	Study Design	Gender and Sample Size	Primary Outcomes
Jiang, 2019	Retrospective Study	Transgender Female (n=77)	PFD; Bowel Dysfunction; PFM Dysfunction.
Hazin, 2021	Cohort Study	Transgender Female (n=15)	PERFECT scheme; PFM Strength; UI; Nocturnal Enuresis; Nocturia; Urgency; Post-micturition Leakage;
Jardim, 2022	Cross-sectional Study	Transgender Female (n=26)	UI by ICIQ-SF
Ferrando, 2023	Randomized Controlled Trial	Transgender Female (n=37) (Physiotherapy or not) prior to GAS.	PFD Questionnaires CRAD-8; UDI-6; UIQ-7; CRAIQ-7

PFD: Pelvic Floor Dysfunction; PFM: Pelvic Floor Muscle; UI: Urinary Incontinence; GAS: Gender Affirming Surgeries

Table 2 - Results and Quality of Assessment of the Included Studies

Author, Year	Results	Newcastle-Ottawa Scale
Jiang, 2019	42% had PFD, 37% had bowel dysfunction. Lower rates of PDF postop for patients who attended PF physiotherapy both preop and postop compared to only postop (28% vs 86%).	3/9
Hazin, 2021	PFM strength sustained muscle contraction duration, and electromyography activity declined 15 days after GAS. UI (40%), Nocturnal Enuresis (13%); Nocturia (47%); Urgency (20%); Post-micturition leakage (33%).	3/10
Jardim, 2022	15.4% UI; all reported before GAS; 34.6% urinary changes.	5/9
Ferrando, 2023	No differences between women who underwent physiotherapy vs who did not with regard to the Pelvic Floor Scores. No comparison with literature controls.	N/A

PFD: Pelvic Floor Dysfunction; PFM: Pelvic Floor Muscle; UI: Urinary Incontinence; GAS: Gender Affirming Surgeries

## Interpretation

- The aim of performing a scoping review for this question was appropriate as we postulated that scant data would be available for transgender population with regard to pelvic floor symptoms.
- Sexual function, quality of life and pelvic pain were variables already investigated but the pelvic floor remains a mystery.
- Existing data is heterogeneous and needs caution when considering external validity as all studies did not present sample size calculation and less than 100 patients per study.
- More robust studies using validated questionnaires, with higher sample sizes are necessary so that confounding factors can be isolated and subgroup analysis according to presence of GAS or hormone therapy could be performed.

## Conclusions

There is scant literature with regard to pelvic floor symptoms in transgender population. No information is available for transmen and there is heterogeneity with regard to the primary outcomes in studies for transgender women. Urinary incontinence rates are varied about transgender women and pelvic floor muscle strength seems to decline after gender affirming surgeries.

## References

- [1] Barcelos TMR, Ferreira CHJ, Leri MR, Brito LGO, de Sá MFS, de Sá ACS, da Silva Lara LA. Sexual function of transgender women after gender affirming surgery: A mini review. Clin Anat. 2022 Jul;35(5):560-570. doi: 10.1002/ca.23863. Epub 2022 Apr 2. PMID: 35334140.
- [2] Okita F, Abrao M, Lara LAS, Andres MP, Cunha C, Oliveira Brito L. Endometriosis in Transgender Men - a Systematic Review with Metanalysis. J Minim Invas Gynecol 2021;28(11):S103-S104. DOI:https://doi.org/10.1016/j.jmig.2021.09.140