Conservative treatment of pelvic organ prolapses in primiparous and/or multiparous women: A systematic review of randomized controlled trials

Tratamiento conservador de los prolapsos de órganos pélvicos en mujeres primíparas y/o multíparas: Una revisión sistemática de ensayos controlados aleatorizados

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Abstract

Introduction: This systematic review was conducted in response to the high incidence of pelvic organ prolapse among primiparous and multiparous women. The review evaluated the effectiveness of conservative treatments for prolapse in postpartum women, focusing on pelvic floor muscle training and complementary therapies such as electrical and vibratory stimulation.
Objective: Compare the efficacy of conservative treatments for any type of POP in primiparous and/or multiparous women.
Methods: Following PRISMA guidelines and registered with PROSPERO, a comprehensive search was carried out in seven databases (including PubMed, PEDro, Cochrane Library, and ClinicalTrials.gov) using terms related to prolapse, therapeutics, and women's health. Randomized controlled trials published from 2013 onwards were selected. Two independent reviewers assessed Methodological quality using the PEDro scale and the RoB 2 tool.
Results: Five studies (n = 1305 women) were included. The methodological quality was good (mean PEDro score of seven). The trials demonstrated significant short-term improvements in pelvic floor muscle strength with pelvic floor muscle training, alone or combined with electrical or vibratory stimulation. Only one study specifically addressed pain and sexual function, reporting reduced pain and enhanced sexual function with vibratory devices. Effects on prolapse severity and quality of life were variable and inconclusive.
Conclusion: Conservative treatments, particularly pelvic floor muscle training alone or in combination, offer short-term benefits in muscle strength and symptom relief, though further research is needed on long-term outcomes and quality of life.

Keywords

Exercise therapy; health; physical therapy modalities; sexual function.

Resumen

Introducción: Esta revisión sistemática se realizó debido a la alta incidencia de prolapso de órganos pélvicos entre mujeres primíparas y multíparas. Se evaluó la efectividad de los tratamientos conservadores para el prolapso en mujeres postparto, centrándose en el entrenamiento muscular del suelo pélvico y en terapias complementarias como la estimulación eléctrica y vibratoria.
Métodos: Siguiendo las directrices PRISMA y registrada en PROSPERO, se realizó una búsqueda exhaustiva en siete bases de datos (incluyendo PubMed, PEDro, Cochrane Library y ClinicalTrials.gov) utilizando términos relacionados con prolapso, terapéutica y salud de la mujer. Se seleccionaron ensayos controlados aleatorizados publicados desde el 2013. Dos revisores independientes evaluaron la calidad Metodológica utilizando la escala PEDro y la herramienta RoB 2.
Objetivo: Comparar la eficacia de los tratamientos conservadores en el prolapso de órganos pélvicos en mujeres primíparas y/o multíparas.
Resultados: Se incluyeron cinco estudios (n = 1305 mujeres). La calidad metodológica fue buena (puntuación PEDro media de siete). Los ensayos demostraron mejoras significativas a corto plazo en la fuerza muscular del suelo pélvico con el entrenamiento muscular solo o combinado con estimulación eléctrica o vibratoria. Sólo un estudio abordó específicamente el dolor y la función sexual, e informó una reducción del dolor y una mejoría de la función sexual con los dispositivos vibratorios.
Conclusiones: Los tratamientos conservadores, en particular el entrenamiento muscular solo o en combinación, ofrecen beneficios a corto plazo en la fuerza muscular y el alivio de los síntomas. Se necesita más investigación sobre resultados a largo plazo y la calidad de vida.

Palabras clave

Función sexual; modalidades de fisioterapia; salud; terapia de ejercicio.

Introduction

Pelvic organ prolapse (POP) is defined as the descent of one or more posterior and anterior vaginal walls, the uterus, or the apex of the vagina (Collins & Lewicky-Gaupp, 2022). The prevalence of POP is difficult to study because many women do not seek medical care (Luchristt et al., 2022). Moreover, the prevalence varies between studies (Luchristt et al., 2022; Wu et al., 2014) and in many cases increases when a gynecological examination is performed due to asymptomatic cases (Collins & Lewicky-Gaupp, 2022). The risk factors that influence the presence of POP are multifactorial and include: high BMI values, age, chronic stress, vaginal childbirth, or even increased parity (Hage-Fransen et al., 2021; Schulten et al., 2022; UPDATE & American College of Obstetricians and Gynecologists, 2019).

In terms of symptomatology, around 20% of women suffering from POP have symptoms (Munno et al., 2023). These symptoms can be classified into three groups according to the time of onset: storage, urination, or post-micturition (Munno et al., 2023). The most common clinical manifestations are urinary incontinence and sexual dysfunction (Fatton et al., 2020; Weintraub et al., 2019).

Pelvic organ prolapse has both physiological and psychological consequences that affect women's quality of life, which is why its diagnosis and treatment are key (Raju & Linder, 2021). Among the main physiological repercussions are the progressive deterioration of pelvic musculature, atrophy and vaginal dryness in postmenopausal women, and an increased risk of recurrent urinary tract infections (Fatton et al., 2020; Weintraub et al., 2019; Wu et al., 2014). Psychologically, up to 50% of women with POP experience anxiety or depression due to changes in their body image and health perception, along with a decrease in self-esteem and confidence, which can lead to feelings of shame and discomfort when discussing the condition (Tso et al., 2018).

Treatment can be divided into conservative and surgical treatment (Li et al., 2016). However, surgical treatment is associated with a higher likelihood of postoperative complications and higher recurrence of POP (de Tayrac & Sentilhes, 2013). Conservative treatment includes the use of pessaries, pelvic floor muscle training (PFMT), and even lifestyle interventions (Pizzoferrato et al., 2023).

Among these options, the use of the pessary and the PFMT are the most recurrent due to their low cost and low complexity (Li et al., 2016; Pizzoferrato et al., 2023). There is research comparing the effectiveness of both methods, but there is no consensus as to which treatment is more effective (Limbutara et al., 2023; Panman et al., 2016). In addition, the existing literature includes reviews focusing on the conservative treatment of POP, but these need to be updated (Dumoulin et al., 2016; Hagen & Stark, 2011; Li et al., 2016).

On the other hand, there are also previous reviews on conservative treatment, but they focus exclusively on one type of prolapse (Obsa et al., 2022) or on one type of conservative treatment only (Bugge et al., 2020; Li et al., 2016).

Finally, there are studies that could be useful for information management; however, they generalize to the whole population of women (Dumoulin et al., 2016), and considering the prevalence of prolapse in women who have had one or more children, it is important that the review focuses on this target population and that the information is updated.

Therefore, there is a need to analyze and evaluate the current evidence on the effect of conservative treatment on POP in primiparous and/or multiparous women, as these are the women with the highest prevalence of this type of problem (Obsa et al., 2022).

For all the reasons stated above, the objective of this review was to compare the efficacy of conservative treatments for any type of POP in primiparous and/or multiparous women, analyzing their impact on muscle strength, quality of life, pain, and sexual function.

Method

Design

This systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Page et al., 2021) guidelines and was registered in PROSPERO (registration code:

CRD42025642370). A comprehensive literature search was performed in January 2025 across seven databases, including PubMed, PEDro, Cochrane Library, and ClinicalTrials.gov. The search strategy combined Medical Subject Headings (MeSH) terms related to pelvic organ prolapse, therapeutics, rehabilitation, exercise therapy, the postpartum period, and women's health, with clinical trial filters applied in all four databases to enhance the specificity of the results, with the complete search equation available in Table 1.

Table 1. Search Equations

Database	Search Query
PUBMED	((((("Pelvic organ prolapse"[MeSH Terms]) OR ("pelvic organ prolapse"[All Fields])) AND (("therapeutics"[MeSH Terms]) OR ("therapeutics"[All Fields]) OR ("treatment"[All Fields]) OR ("Exercise Therapy"[All Fields]) OR ("Exercise Therapy"[MeSH Terms]) OR ("Rehabilitation"[MeSH]) OR ("Rehabilitation"[All Fields]))) AND (("postpartum period"[MeSH Terms]) OR ("postpartum"[All Fields])) AND (("Women"[MeSH]) OR ("women"[All Fields])))
PEDro	(Prolapse AND treatment AND postpartum AND Women) (Prolapse AND rehabilitation AND postpartum AND Women) (Prolapse AND therapy AND postpartum AND Women)
COCHRANE	Pelvic Organ Prolapse AND (Rehabilitation OR therapeutics OR Exercise Therapy) AND Postpartum AND Women
CLINICAL TRIALS	(Prolapse AND Women AND Postpartum Period) AND (rehabilitation OR therapeutics OR exercise therapy)

Study Selection

The study selection process was based on the PICOS framework: P: primiparous or multiparous women diagnosed with POP, I: conservative management strategies involving exercise therapy, physiotherapy, patient education, and educational interventions, C: alternative interventions, placebo, or no intervention, O: impact on quality of life, sexual function, pain, and discomfort, and S: randomized controlled trials (RCTs). Initially, duplicate articles were removed, and two independent reviewers (P.H.-L and J.L.-B.) screened the remaining studies for eligibility. In cases of disagreement, a third reviewer was consulted to reach a final decision. The inclusion criteria comprised studies published from 2013 onwards, those involving primiparous or multiparous women, RCTs, and those assessing conservative treatment interventions. Studies were excluded if the full text was unavailable or if they were published in languages other than English or Spanish. A customized Microsoft Excel spreadsheet was used to systematically filter and organize the selected studies. The selection of this time frame is because in 2013, the 5th International Consultation on Incontinence was conducted, aiming to review and summarize new evidence on the conservative treatment of urinary incontinence and POP (Dumoulin et al., 2016).Therefore, we seek to understand what has changed since then in terms of evidence and advancements in conservative management strategies for POP.

Data Extraction

The extracted data included general study information such as title, authors, journal, and year of publication; sample characteristics such as age, sex, number of participants, inclusion and exclusion criteria, and study supervision details; intervention details including duration, type of intervention, and reported adverse events; and outcomes assessed, including analyzed variables, measurement instruments used, and follow-up duration. All extracted data were systematically organized into tables to facilitate comparison and synthesis.

Quality Assessment

The PEDro scale (Maher et al., 2003) was used to assess the methodological quality of the studies, and the Risk of Bias 2.0 tool (RoB 2) (Higgins et al., 2011) was applied to analyze the risk of bias. Two independent reviewers (P.H.-L and J.L.-B.) performed these assessments, and any discrepancies were resolved through consultation with a third reviewer.

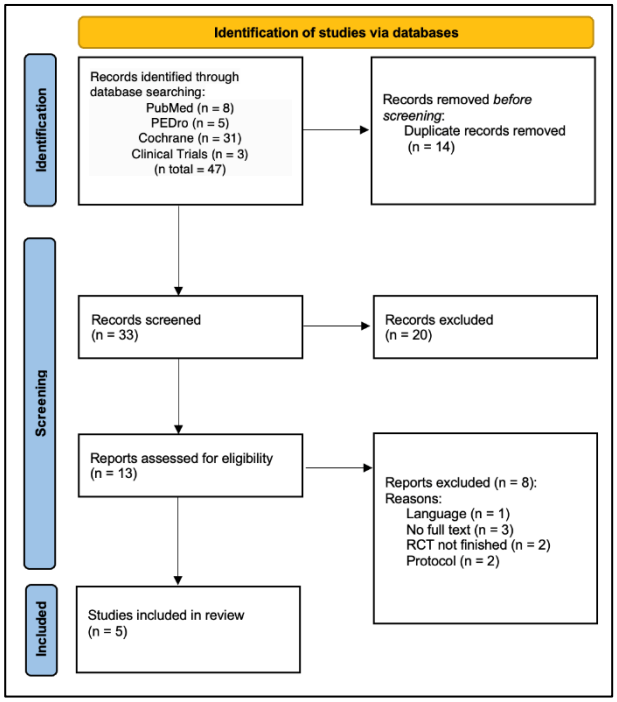
Results

Study Selection

After removing duplicates, 33 articles were identified for analysis from the 47 results obtained in the initial search. Subsequently, title and abstract screening resulted in the exclusion of 20 articles for not meeting the inclusion criteria. The remaining 13 articles were then assessed against the exclusion criteria using a customized Microsoft Excel template. Finally, five articles were selected for inclusion in this

review (Artymuk & Khapacheva, 2022; Bø et al., 2015; Glazener et al., 2014; Yang et al., 2017; Yin & Wang, 2022). Figure 1 presents the flow diagram outlining the study selection process.

Figure 1. Systematic review flowchart according to PRISMA guidelines.



Methodological Quality and Risk of Bias in the Included Studies

Table 2 presents the criteria of the PEDro scale met by each of the selected studies. In summary, all selected studies achieved at least a score of five on the PEDro scale, with an average score of seven, suggesting good methodological quality. The highest score was obtained by one study, which scored nine points (Artymuk & Khapacheva, 2022). Another study scored six points (Yang et al., 2017) , while another scored seven points (Glazener et al., 2014). Only in the study by Artymuk and Khapacheva (2022), were both participants and therapists blinded. Methodological errors were also identified in the criteria for concealed allocation and blinded assessors.

Table 2. Methodological quality according to the PEDro scale

Authors	1	2	3	4	5	6	7	8	9	10	11	TS
(Artymuk & Khapacheva, 2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	9
(Yin & Wang, 2022)	Yes	Yes	No	Yes	No	No	No	No	Yes	Yes	Yes	5
(Bø et al., 2015)	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	8
(Yang et al., 2017)	Yes	Yes	No	Yes	No	No	Yes	Yes	No	Yes	Yes	6
(Glazener et al., 2014)	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	7

1: Selection criteria, 2: Random assignment, 3: Blinded assignment, 4: Similar groups, 5: Blinded subjects, 6: Blinded therapists, 7: Blinded assessors, 8: Adequate follow-up, 9: Intention to treat. 10: Between-group comparison, 11: Point measures of variability, TS: Total score.

Table 3 presents the risk of bias assessment. None of the articles demonstrated a low risk of bias across all components, indicating that no study met all criteria comprehensively. However, the overall risk of bias in the selected articles is not high, except for the studies by Artymuk and Khapacheva (2022) and Glazener et al. (2014), which experienced significant sample loss throughout the study. Therefore, these studies are considered to have a high risk of detection bias. As shown in the table, section D2, "Deviations from Intended Interventions," indicates that the studies by Bø et al. (2015) and Yin and Wang (2022) present an unclear risk in this regard.

Table 3. Risk of Bias according to Cochrane Criteria for each article

Per-protocol	D1	D2	D3	D4	D5	Overall
(Artymuk & Khapacheva, 2022)	+	+	+	−	+	−
(Yang et al., 2017)	?	+	+	+	+	?
Intention to treat	**D1**	**D2**	**D3**	**D4**	**D5**	**Overall**
(Yin & Wang, 2022)	?	?	?	?	+	?
(Bø et al., 2015)	+	?	?	+	+	?
(Glazener et al., 2014)	+	+	+	−	+	−

D1: Randomization process, D2: Deviations from planned interventions, D3: Missing outcome data, D4: Outcome measurement, D5: Selection of reported outcome.

Low risk Unclear risk High risk

Sample Characteristics

The five selected articles included a total of 1,305 women, all of whom were either primiparous (Artymuk & Khapacheva, 2022; Bø et al., 2015; Glazener et al., 2014; Yang et al., 2017; Yin & Wang, 2022) or multiparous (Artymuk & Khapacheva, 2022; Glazener et al., 2014; Yin & Wang, 2022). The studies examined different age ranges, from 18 to 25 years (Artymuk & Khapacheva, 2022; Yang et al., 2017; Yin & Wang, 2022), 30 years (Glazener et al., 2014), up to 35 years (Yang et al., 2017), 45 years (Artymuk & Khapacheva, 2022), 57 years (Glazener et al., 2014), and 65 years in one case (Yin & Wang, 2022).

The timing of treatment initiation varied across studies, ranging from a few hours postpartum to three months (Yang et al., 2017), at 42 days postpartum (Yin & Wang, 2022), from postpartum up to the 12th week (Artymuk & Khapacheva, 2022), starting from the fifth month (Glazener et al., 2014), and finally from the 22nd week to one year postpartum (Bø et al., 2015).

Regarding the diagnosis, although all studies administered treatment to women with sexual dysfunction, only three explicitly specified that the treatment targeted women with prolapse. The remaining studies (Artymuk & Khapacheva, 2022; Glazener et al., 2014; Yang et al., 2017) assessed prolapse indirectly through tests or questionnaires.

The exclusion criteria varied among studies. All studies, except for one that does not specify exclusion criteria (Glazener et al., 2014) consistently exclude women with chronic diseases or neurological/cognitive impairments. Additionally, most studies excluded women with third- or fourth-degree perineal tears and/or grade III or higher prolapse (Artymuk & Khapacheva, 2022; Bø et al., 2015; Yang et al., 2017; Yin & Wang, 2022).

Characteristics of the Intervention

In two studies, the treatment lasted 12 weeks (Yang et al., 2017; Yin & Wang, 2022), with a frequency of twice per week in one case (Yin & Wang, 2022). Conversely, Artymuk and Khapacheva (2022), applied the treatment daily for four weeks, while Bø et al., (2015) extended it to 16 weeks with a three-times-per-day regimen. In contrast, Glazener et al., (2014), implemented an intervention delivered by trained healthcare professionals (who were not physiotherapists), consisting of one-on-one instruction in PFMT, with bladder training if indicated, provided on three occasions at 5, 7, and 9 months postpartum. Overall, the treatments described in the studies consisted of PFMT (Artymuk & Khapacheva, 2022; Bø et al., 2015; Glazener et al., 2014; Yang et al., 2017; Yin & Wang, 2022). Two of the studies also incorporated electrical stimulation devices as part of the intervention (Artymuk & Khapacheva, 2022; Yang et al., 2017).

Results of the studies provided in relation to Quality of Life

Most studies do not consider changes in patients' quality of life before, during, or after treatment.

Artymuk and Khapacheva (2022) specifically assessed this aspect using the Pelvic Floor Distress Inventory (PFDI), a tool designed to measure the extent to which symptoms affect patients' daily lives. However, among the remaining studies (Bø et al., 2015; Glazener et al., 2014; Yin & Wang, 2022), improvements in pelvic floor muscle strength were observed, but the impact of these improvements on participants' quality of life was not evaluated.

In the case of Yang et al. (2017), the authors assume that quality of life improves due to the relief of postpartum discomfort symptoms. However, no validated test was included to objectively measure or justify this finding.

Results of the studies provided in relation to Muscle Strength

The effect on muscle strength was a parameter measured in all the studies reviewed. The assessment methods included the "Pneumatic Pelvic Muscle Trainer XFT-0010 device" (Artymuk & Khapacheva, 2022), the Oxford Scale (Yang et al., 2017), ultrasound (Yin & Wang, 2022), and a high-precision pressure transducer connected to a balloon (Bø et al., 2015). However, in the study by Glazener et al. (Glazener et al., 2014), the method used to measure outcomes was not specified.

In four of the studies (Artymuk & Khapacheva, 2022; Bø et al., 2015; Yang et al., 2017; Yin & Wang, 2022), the effects on muscle strength were positive. Perineal muscle strength increased in both interventions that used only exercises (Bø et al., 2015; Yin & Wang, 2022) and those that combined exercises with electrical stimulation devices, such as *EmbaGYN* (Artymuk & Khapacheva, 2022) or DES (Yang et al., 2017).

Although short-term benefits were observed in Glazener et al. (2014), these improvements did not persist over 12 years. Short-term improvements were observed in several aspects, although they did not persist in the long term. Regarding urinary incontinence, a significant improvement was recorded in the intervention group compared to the control group (60% vs. 69%) after one year; however, this effect did not persist in the long-term follow-up. Similarly, fecal incontinence showed a lower prevalence in the intervention group compared to the control (4% vs. 11%) after one year, but this difference was not sustained over time. Additionally, adherence to pelvic floor muscle training was higher in the intervention group in the short term (83% vs. 55%), although this rate decreased in both groups over time (52% vs. 49%). These results highlight the need for strategies that promote adherence and the long-term maintenance of benefits.

Results of the studies provided in relation to Pain and/or Discomfort

Only one of the reviewed studies specifically assessed pain (Artymuk & Khapacheva, 2022) using the Female Sexual Function Index (FSFI). This tool consists of 19 questions evaluating six aspects of female sexuality: desire, arousal, lubrication, orgasm, satisfaction, and pain.

The study observed a significant improvement in pain and discomfort related to sexual function after a PFMT program. The improvement was greater in the group that used a vibratory device called *Magic Kegel Master* (Artymuk & Khapacheva, 2022).

Results of the studies provided in relation to Sexual Function

Only one of the seven studies assessed sexual function (Artymuk & Khapacheva, 2022) using the FSFI. This scale evaluates sexual function over the last 30 days, with a scoring range from 0 to 36.

The treatments in the study by Artymuk and Khapacheva (2022) included pelvic floor exercises with vibration from the *Magic Kegel Master* device or indirect electrostimulation of the pelvic floor muscles through the genitofemoral nerve using *EmbaGYN*. A significant increase in sexual function was observed, especially in libido, in the group that used the *Magic Kegel Master* (Artymuk & Khapacheva, 2022).

Table 4. Characteristics of the included studies

Authors	Initial Sample	Age (X̄ ±SD)	Intervention Treatment	Supervisor	Weeks	Weekly sessions	Variables	Results
(Artymuk & Khapacheva, 2022)	70	G1: 30.3 ± 3.8 G2: 29.4 ± 4.2	G1: 34 = PFE EmbaGYN G2: 36 = PFE MKM	NS	4	G1: 20 minutes of daily pelvic floor exercises with EmbaGYN for 4 weeks. G2: 20 minutes of daily pelvic floor exercises with MKM for 4 weeks.	PFDI-20, FSFI, XFT-0010	In G1 and G2, there was a significant increase in muscle strength and quality of life. However, there were no significant differences between the two groups. Regarding sexual function, both groups showed a significant improvement, with a greater increase in G2.
(Yin & Wang, 2022)	60	G1: 38.55 ± 5.38 G2: 39.9 ± 6.37	G1: 30 = PFR G2: 30 = RPG + HE	NS	12	G1: 42 days postpartum, Electrostimulation + Biofeedback = 30 minutes per session, 2 times per week, 10 sessions per treatment course. Pelvic floor exercises (Kegel) = 7 seconds contraction / 7 seconds relaxation, 10 to 15 minutes per session, 3 to 8 times per day, for at least 8 weeks. G2: Routine postpartum guidance and health education 42 days postpartum.	POP-Q, US, CNN	In G1, there was no increase in muscle strength. In G2, there was a significant increase in muscle strength. Therefore, G2 showed a significant increase in muscle strength compared to G1.
(Bø et al., 2015)	175	G1: 29.5 ± 4.3 G2: 30.1 ± 4.0	G1: 87 = PFE group + individual G2: 88 = PFE group	PT	16	G1: One supervised pelvic floor exercise class per week led by a physical therapist for 4 months, starting at 6–8 weeks postpartum, plus 3 sets of 8–12 contractions per day at home. G2: One supervised pelvic floor exercise class per week led by a physical therapist for 4 months, starting at 6–8 weeks postpartum, with no additional supervision.	US, GE Kretz Voluson E8, ICIQ-vag, HPPT	In G1 and G2, there was a significant increase in muscle strength, with a greater increase in G1 compared to G2. There was no significant increase in quality of life from the beginning to the end of the study in either G1 or G2.
(Yang et al., 2017)	189	G1: 29.0 ± 1.97 G2: 28.64 ± 2.16 G3: 28.29 ± 2.44	G1: 60 = Kegel + Pelvis mov. G2: 63 = RPG G3: 66 = DES	SP	12	G1: Kegel exercises and pelvic movements from 2 days postpartum until 3 months postpartum. G2: Routine postpartum guidance (nutrition, exercise, and effort management) in a 1-hour session, provided 2 hours postpartum. G3: DES + pelvic floor exercises, 15 sessions (30 minutes per session, 3 times per week, totaling 15 treatments) starting at the sixth week postpartum.	POP-Q, PAD-test, Modified Oxford Scale, Pelvic Floor Muscle Electrophysiology	In G1, G2, and G3, there was an increase in muscle strength from the beginning to the end of the study, with a more significant increase in G3 compared to the other groups.
(Glazener et al., 2014)	471	G1: 29.8 ± 4.9 G2: 29.4 ± 5.1	G1: 230 = PFE G2: 241 = SC	SP	9	G1: PFE + Bladder training at 5, 7, and 9 months postpartum. G2: Standard care.	POP-SS and POP-Q	Short-term improvements were observed in urinary and fecal incontinence, as well as adherence to pelvic floor muscle training; however, these benefits did not persist in the long term.

G1 = intervention group, G2 = control group, G3 = intervention group, PFE = pelvic floor exercises, MKM = Magic Kegel Master, NS = not specified, PFDI-20 = Pelvic Floor Distress Inventory Questionnaire-20, FSFI = Female Sexual Function Index, XFT-0010 = Pneumatic Pelvic Muscle Trainer, PFR = pelvic floor rehabilitation, RPG = routine postpartum guidance, HE = health education, POP-Q = Pelvic Organ Prolapse Quantification, US = ultrasound, CNN = Convolutional Neural Network algorithm, PT = physical therapist, ICIQ-vag = International Consultation on Incontinence Questionnaire - Vagina, HPPT = High Precision Pressure Transducer, DES = Direct Vaginal Low Voltage Low-Frequency Electric Stimulation, SP = specialized professional, SC = standard care, POP-SS = Pelvic Organ Prolapse Symptom Score.

Discussion

The objective of this review was to compare the efficacy of conservative treatments for any type of POP in primiparous and/or multiparous women, analyzing their impact on muscle strength, quality of life, pain, and sexual function. The results reported by the five studies are positive (Artymuk & Khapacheva, 2022; Bø et al., 2015; Glazener et al., 2014; Yang et al., 2017; Yin & Wang, 2022).

Regarding muscular strength, studies suggest that PFMT may significantly improve it in the short term (Artymuk & Khapacheva, 2022; Bø et al., 2015; Yang et al., 2017; Yin & Wang, 2022). However, the long-term effects are variable and tend not to be maintained without continuous intervention (Yang et al., 2017; Yin & Wang, 2022). Dumoulin et al. (2016) concluded that PFMT may improve the symptoms of stress urinary incontinence and urinary incontinence, recommending it as a first-line treatment. Nevertheless, they emphasized the need for further research into its long-term efficacy and cost-effectiveness. In parallel, the combination of PFMT with other therapies, such as low-frequency electrical stimulation, appears to provide additional benefits, promoting greater improvements in muscular strength and a reduction in the symptoms of pelvic dysfunction (Artymuk & Khapacheva, 2022; Yang et al., 2017). The study by Antônio et al. (2022) demonstrated that even women who were unable to voluntarily contract

the pelvic floor muscles improved their contractile capacity and reduced the severity of urinary incontinence after eight weeks of intravaginal electrical stimulation combined with attempts at voluntary contraction. However, Amaro et al. (2006), who compared a group receiving electrostimulation with another receiving a sham version, did not find significant differences, casting doubt on its efficacy as a standalone therapy.

Regarding the impact of POP, the results are contradictory. Bø et al. (2015) did not find any significant effects of PFMT on POP in primiparous postpartum women. Despite strengthening the pelvic floor muscles, no substantial improvements were observed in prolapse indicators. In contrast, Hagen et al. (2009) reported greater improvements in prolapse symptoms, an objective improvement in POP-Q measurements, and an increase in muscular strength in women randomly assigned to PFMT compared with the control group. Moreover, several studies underscore the importance of engaging in physical exercise during and after childbirth to alleviate issues related to depression and anxiety, which can significantly impact women's quality of life (Davenport et al., 2018; Santos et al., 2024).

Regarding pain, only one study specifically addressed its assessment alongside other aspects of sexual function. A greater reduction in pain was observed in the group that combined PFMT with vibration from a device called *Magic Kegel Master* (Artymuk & Khapacheva, 2022). The vibration and the repeated contractions induced by electrical impulses appear to increase muscle mass and strength, improve blood circulation, and enhance vascularization, thereby contributing to better pain management (Jundt et al., 2015). However, pelvic pain is often treated inadequately due to a lack of understanding of its origin and distribution, which can lead to ineffective approaches (Deffieux et al., 2016). In the long term, this may lead to the avoidance of coitus, either due to pain or a decreased sexual desire (Fatton et al., 2020).

Concerning sexual function, only one article showed significant improvements, which were associated with the use of vibration in the treatment (Artymuk & Khapacheva, 2022). While electrostimulation improved the symptoms of urinary incontinence, it did not have a positive impact on sexual function. This is consistent with previous studies, such as that by Billups et al. (2001), which demonstrated improvements in sexual function through vibration using the Eros Device. Deffieux et al. (2016) reaffirmed that electrostimulation may be effective for urinary incontinence, but do not justify its use as a treatment for improving female sexual function. The evidence on the impact of vibration is inconclusive, as the same device did not yield the same results in different populations (Santamaría, 2008). In addition to vibration and electrostimulation, studies have evaluated the relationship between PFMT and sexual dysfunctions (Antônio et al., 2022; Bø, 2012; Lowenstein et al., 2010). Women with greater pelvic floor muscle strength had improvements in arousal and orgasm on the FSFI scale (Lowenstein et al., 2010).Ferreira et al. (2015) attribute these improvements to the increased pelvic blood flow and enhanced clitoral sensitivity induced by muscle activation. In contrast, women with pelvic floor muscle weakness may experience difficulties in achieving orgasm (Bø, 2012; Lowenstein et al., 2010). Jha and Toozs-Hobson (2009) highlighted the benefits of PFMT on the sexual function of women with mild prolapse. Furthermore, Mazur-Bialy et al. (2020) concluded that vibration significantly increases the efficacy of PFMT by facilitating muscle activation. On the other hand, the pessary is presented as a conservative alternative with benefits for sexual function and female self-image (Espitia, 2018; Fatton et al., 2020; Quero Córdoba, 2022). However, its use may be limited by difficulties in retention, discomfort during coitus, and a preference for surgery (Espitia, 2018; Fatton et al., 2020; Quero Córdoba, 2022).

Regarding quality of life, although none of the included articles provided specific data, the literature suggests that an improvement in the symptoms of POP (sexual function, muscular strength, pain, and a sensation of heaviness) has a positive impact on women's quality of life (Hadizadeh-Talasaz et al., 2019; Radzimińska et al., 2018). PFMT showed a statistical association with improvements in quality of life in all its dimensions (Artymuk & Khapacheva, 2022). However, only Artymuk and Khapacheva (2022) and Yang et al. (2017) reported significant improvements in quality of life with the proposed treatments. It has been observed that women with pelvic floor dysfunction tend to have a poorer quality of life, with a particularly high impact on those with POP, given its emotional component (Peinado Molina et al., 2023). Artymuk and Khapacheva (2022) emphasize the importance of early diagnosis to reduce the need for surgery and improve quality of life. It is noteworthy that Artymuk and Khapacheva (2022) were the only ones to use a specific questionnaire to assess quality of life (PFDI-20), although their results were not

quantified. Given the impact of POP on quality of life, it is recommended that further research be conducted on this aspect and that specific tools, such as the P-QoL questionnaire which includes the emotional component be used (Peinado Molina et al., 2023; Sánchez-Sánchez et al., 2020).

This review presents several limitations, including the scarcity of recent literature in the field and the impossibility of conducting a quantitative analysis of the data through a meta-analysis. It is striking that, despite the high prevalence of POP, its conservative treatment has limited evidence. Furthermore, it is worth mentioning that quality of life, along with sexual function and pain, are aspects that have been little explored in the studies, which have predominantly focused on muscular strength. Additionally, we acknowledge the presence of this bias due to the limited number of included studies (five) and the methodological quality of some of them, which could influence the interpretation of the results.

Future research should focus on evaluating the long-term effects of PFMT and its combination with complementary therapies, designing clinical trials with extended follow-ups to determine the sustainability of its benefits in muscle strength, symptom reduction, and quality of life in women with POP. Additionally, since most studies have prioritized muscle strength, greater attention is needed to aspects such as quality of life, pain, and sexual function, using validated tools such as the PFDI-20, FSFI, and P-QoL. It is also crucial to investigate strategies that enhance treatment adherence, such as educational interventions, telemedicine, or digital reminders, considering that PFMT continuity tends to decline over time.

To minimize bias, future studies should include appropriate control groups, greater blinding of participants and evaluators, and improved randomization, ensuring higher validity of the results. Furthermore, comparing different conservative treatment modalities is recommended, assessing the effectiveness of various combinations of therapeutic exercise, electrical or vibratory stimulation, and pessaries in diverse populations and prolapse stages. Finally, considering that physical activity can improve quality of life and reduce depressive symptoms in women with POP, further research is needed on its role in the prevention and management of this condition. These research directions would help strengthen scientific evidence and support the development of more comprehensive clinical guidelines for optimizing conservative treatment for POP.

Conclusions

The findings of this systematic review indicate that conservative treatment strategies, in particular PFMT, whether applied in isolation or in combination with complementary therapies such as low-frequency electrical stimulation or vibratory stimulation, can lead to significant short-term improvements in pelvic floor muscular strength, as well as beneficial effects in the management of pain and sexual function in primiparous and multiparous women with POP. However, although these interventions appear promising for enhancing muscular strength and alleviating certain symptoms, their impact on the overall severity of the prolapse and on quality of life remains variable and, in some cases, inconclusive. Moreover, it is important to highlight the limited number of articles included, as well as their methodological limitations, which underscores the need for further studies with long-term follow-ups to confirm these findings.

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