Sexual Medicine Reviews, 2025, **13**, 338–346
https://doi.org/10.1093/sxmrev/qeaf022
Advance access publication date 13 April 2025
Review

Effectiveness of physiotherapy and its impact on the quality of life of patients compared to other therapeutic approaches in the management of female sexual dysfunction in non-menopausal adult population: a systematic review

Laia Blanco-Ratto, MSc[1,2], Inés Ramírez-García, PhD[1,2,3,*], Stephanie Kauffmann, MSc[1,2], Montserrat Girabent Farrés, PhD[4]

[1]RAPbarcelona Physiotherapy Clinical Center, 08037 Barcelona, Spain
[2]GHenderS Research Group, Blanquerna School of Health Sciences, Ramon Llull University, 08025 Barcelona, Spain
[3]Blanquerna School of Health Science, Ramon Llull University, 08025 Barcelona, Spain
[4]Campus Docent Sant Joan de Déu, Universitat de Vic-Universitat Central de Catalunya (UVIC-UCC), 08830 Sant Boi de Llobregat, Spain
*Corresponding author: RAPbarcelona SL Physiotherapy Clinical Center, Avinguda Diagonal 363, 3-2, 08037 Barcelona, Spain; and GHenderS Research Group, Blanquerna School of Health Sciences, Universitat Ramon Llull, Padilla, 326-332, 08025 Barcelona, Spain. Email: inesrg@blanquerna.url.edu

Abstract

Introduction: Female sexual dysfunction (FSD) affects quality of life, presenting as reduced sexual desire, arousal issues, pain, and orgasm difficulties. Its multifactorial causes include physical and psychological factors, with about 43% of women in the United States affected.

Objective: To evaluate the efficacy of physiotherapy compared to other treatments (medical, psychological, pharmacological) in improving sexual function and quality of life in adult women with sexual dysfunction, excluding menopausal women. It synthesizes evidence on physiotherapeutic treatments, such as pelvic floor exercises, manual therapy, biofeedback, electrotherapy, and pelvic function education.

Methods: Following PRISMA guidelines, a comprehensive search was conducted in PubMed, Scopus, and Web of Science. Inclusion criteria encompassed studies evaluating the effectiveness of physiotherapy in adult women with sexual dysfunction, excluding postmenopausal. Data extraction and quality assessment were performed using standardized tools.

Results: Of the 708 identified studies, 8 met the inclusion criteria. The studies demonstrated significant improvements in Female Sexual Function Index (FSFI) domains following physiotherapeutic interventions, notably reducing pain and enhancing desire and arousal. However, heterogeneity among studies precluded meta-analysis, necessitating qualitative synthesis.

Discussion: Physiotherapy, particularly pelvic floor muscle training and multimodal approaches, proved effective in enhancing sexual function and reducing pain. While physiotherapy offers a non-invasive alternative with fewer side effects compared to surgical options, variability in intervention protocols indicates the need for standardization. Psychological and emotional factors are key in sexual dysfunction, highlighting the value of integrated treatments. Capacitive resistive monopolar radiofrequency with manual therapy improved sexual function in women with dyspareunia, though benefits were short-lived, underscoring the need for maintenance strategies.

Conclusions: Physiotherapy is an effective intervention for FSD, significantly improving quality of life. Incorporating physiotherapy into clinical rehabilitation programs is recommended. Further research with standardized protocols and long-term follow-ups is necessary to consolidate evidence and optimize treatment strategies.

Keywords: efficacy of physiotherapy; female sexual dysfunction; quality of life; pelvic floor exercises; biofeedback; multimodal therapy.

Introduction

Female sexual dysfunction (FSD) constitutes a gynecological disorder defined as a persistent or recurrent disturbance in any phase of the sexual response cycle—desire, arousal, orgasm, and resolution—causing personal distress or interpersonal relationship difficulties.[1] Female sexual dysfunction significantly impacts the quality of life, manifesting in decreased sexual desire, arousal difficulties, pain, and problems achieving orgasm.[1] Its multifactorial etiology involves physical and psychological factors, with approximately 43% of women in the United States experiencing sexual dysfunction and 12% considering it a source of stress and distress in daily life.[1] Current estimates place prevalence at 10% among women aged 18-44, increasing to 15% in those aged 45-64.[2-4] Female sexual dysfunction adversely affects quality of life, deteriorating relationship satisfaction and psychological well-being, thus representing a public health issue necessitating comprehensive investigation to determine optimal management strategies.[5]

Diagnosing FSD requires a multidimensional approach that encompasses both physical and psychological factors[6,7] involving clinical history, physical examinations, and validated questionnaires to assess sexual function. Psychological assessments are also essential for identifying underlying factors like anxiety, depression, or past trauma.[1]

Medical treatments for FSD span hormonal therapy, specific medications, and medical devices, particularly focusing on

Received: February 22, 2025. **Accepted:** March 15, 2025
© The Author(s) 2025. Published by Oxford University Press on behalf of The International Society for Sexual Medicine. All rights reserved. For permissions, please e-mail: journals.permissions@oup.com

Downloaded from https://academic.oup.com/smr/article/13/3/338/8113021 by guest on 16 September 2025

postmenopausal women. However, non-menopausal women represent a distinct subset whose dysfunction is not primarily linked to estrogen deficiency.[7,8]

From a biopsychosocial perspective, an individualized and multidisciplinary approach is essential, involving gynecologists, endocrinologists, and mental health specialists to comprehensively address the physical and emotional aspects of FSD.[9] Additionally, in response to the limitations of pharmacological options, there has been increasing interest in non-pharmacological therapies, particularly physiotherapy, which aims to address the underlying physical factors contributing to sexual dysfunction. Pelvic floor physiotherapy, in particular, has stood out as a promising intervention for improving sexual function in women, targeting areas such as pelvic floor muscle strength, coordination, and relaxation.

Specialized pelvic floor physiotherapists assist women in identifying and strengthening or, when necessary, relaxing and decreasing the tone of these muscles, thereby improving sexual function and reducing pain.[2,4,5] Techniques include pelvic floor exercises (Kegel exercises), manual therapy to release tension and improve circulation, biofeedback to visualize and control muscle contractions, electrical stimulation (transcutaneous electrical nerve stimulation [TENS]), radiofrequency, and the use of vaginal dilators to desensitize and condition vaginal tissue.[2-4]

During the postpartum period, these therapeutic modalities are widely utilized to enhance pelvic floor strength, improve levator ani muscle tone, have a positive impact on the levator hiatus, and prevent prolapses while maintaining vaginal elasticity and trophism.[3,5] Given that many non-menopausal women require pelvic floor tone improvement and that a significant percentage of young women present with penetration pain syndrome (dyspareunia or vaginismus) due to excessive muscle tension, resulting in substantial negative impacts on sexual experience and quality of life, the primary objective of this review is to evaluate the efficacy of physiotherapy compared to other treatments (medical, psychological, pharmacological) in improving sexual function and quality of life in adult women with sexual dysfunction, excluding those in menopause.[2,3]

Many non-menopausal women with FSD, especially those experiencing penetration pain syndrome due to excessive muscle tension, benefit significantly from these interventions. Therefore, this review aims to provide an integrated and updated view of the most effective therapeutic approaches to treat this condition, thereby developing better practices and clinical guidelines for management. Additionally, it seeks to identify and synthesize evidence on physiotherapeutic treatments, including pelvic floor–strengthening exercises, manual therapy, biofeedback, electrotherapy, radiofrequency, and education about pelvic function, in contrast to medical, psychological, and pharmacological treatments. Secondary outcomes include treatment satisfaction, symptom reduction (eg, pain during intercourse), improvement in general psychological well-being, and treatment adherence and acceptance, to offer evidence-based recommendations for clinical practice and future research in female sexual dysfunction.

Materials and methods

Based on the Population, Intervention, Comparison, and Outcome (PICO) framework (Table 1), the research question is formulated as: "What is the effectiveness of physiotherapy compared to other treatments (medical, psychological, pharmacological) in improving sexual function and quality of life in adult women with sexual dysfunction?"

Search strategy

A comprehensive search was conducted in PubMed, Scopus, and Web of Science using the following search equations adapted from MeSH terms:

1) First equation:
("biofeedback") AND ("sexual dysfunctions, psychological"[MeSH Terms] OR ("sexual"[All Fields] AND "dysfunctions"[All Fields] AND "psychological"[All Fields]) OR "psychological sexual dysfunctions"[All Fields] OR ("sexual"[All Fields] AND "dysfunction"[All Fields]) OR "sexual dysfunction"[All Fields] OR "sexual dysfunction, physiological"[MeSH Terms] OR ("sexual"[All Fields] AND "dysfunction"[All Fields] AND "physiological"[All Fields]) OR "physiological sexual dysfunction"[All Fields])
2) Second equation:
("physical therapy modalities"[MeSH Terms] OR ("physical"[All Fields] AND "therapy"[All Fields] AND "modalities"[All Fields]) OR "physical therapy modalities"[All Fields] OR "physiotherapies"[All Fields] OR "physiotherapy"[All Fields]) AND ("sexual dysfunctions, psychological"[MeSH Terms] OR ("sexual"[All Fields] AND "dysfunctions"[All Fields] AND "psychological"[All Fields]) OR "psychological sexual dysfunctions"[All Fields] OR ("sexual"[All Fields] AND "dysfunction"[All Fields]) OR "sexual dysfunction"[All Fields] OR "sexual dysfunction, physiological"[MeSH Terms] OR ("sexual"[All Fields] AND "dysfunction"[All Fields] AND "physiological"[All Fields]) OR "physiological sexual dysfunction"[All Fields]) AND ("pelvic floor"[MeSH Terms] OR ("pelvic"[All Fields] AND "floor"[All Fields]) OR "pelvic floor"[All Fields])
3) Third equation:
("physical therapy modalities"[MeSH Terms] OR ("physical"[All Fields] AND "therapy"[All Fields] AND "modalities"[All Fields]) OR "physical therapy modalities"[All Fields] OR "physiotherapies"[All Fields] OR "physiotherapy"[All Fields]) AND ("sexual dysfunctions, psychological"[MeSH Terms] OR ("sexual"[All Fields] AND "dysfunctions"[All Fields] AND "psychological"[All Fields]) OR "psychological sexual dysfunctions"[All Fields] OR ("sexual"[All Fields] AND "dysfunction"[All Fields]) OR "sexual dysfunction"[All Fields] OR "sexual dysfunction, physiological"[MeSH Terms] OR ("sexual"[All Fields] AND "dysfunction"[All Fields] AND "physiological"[All Fields]) OR "physiological sexual dysfunction"[All Fields]) AND ("women"[MeSH Terms] OR "women"[All Fields] OR "woman"[All Fields] OR "women s"[All Fields] OR "womens"[All Fields])

These search equations were tailored for PubMed and adapted for Scopus and Web of Science. Results were exported to Zotero for reference management and duplicate removal.

Inclusion and exclusion criteria

Inclusion criteria:

- Studies involving adult women with sexual dysfunction (excluding postmenopausal women).

Downloaded from https://academic.oup.com/smr/article/13/3/338/8113021 by guest on 16 September 2025

Table 1. PICO framework.

Component	Description
Population	• Adult women (over 18 years old) • Diagnosed with sexual dysfunction (including desire dysfunction, arousal dysfunction, orgasm dysfunction, and dyspareunia) • Excluding postmenopausal women and those with chronic comorbidities affecting sexual function • No geographical restrictions
Intervention	• Physiotherapy aimed at treating sexual dysfunction, including: • Pelvic floor strengthening exercises • Manual therapy • Biofeedback • Electrotherapy • Education and counseling on pelvic function
Comparator	• Other treatments for sexual dysfunction, including: • Medical treatments (hormone therapies, medical devices) • Psychological treatments (cognitive-behavioral therapy, sex therapy, counseling) • Pharmacological treatments (medication for hypoactive sexual desire, orgasm dysfunction, etc.) • Other non-invasive therapeutic approaches
Outcomes	Primary: • Improvement in sexual function measured by validated instruments (eg, Female Sexual Function Index [FSFI], Female Sexual Health Questionnaire [FSHQ]) • Health-related quality of life related to sexual health, evaluated using validated questionnaires (eg, Sexual Quality of Life Questionnaire–Female [SQoL-F]) Secondary: • Satisfaction with treatment • Reduction of specific symptoms (eg, pain during intercourse) • Improvement in general psychological well-being • Adherence to and acceptance of treatment

- Clinical trials: randomized controlled trials, cohort studies, comparative studies, and systematic reviews with meta-analysis.
- Studies evaluating the effectiveness of physiotherapy in addressing sexual dysfunction using validated tools.
- Studies covering various physiotherapy types, such as pelvic floor strengthening exercises, biofeedback interventions, and relaxation techniques.

Exclusion criteria:

- Studies including postmenopausal women or those where sexual dysfunction is a comorbid symptom of other diagnoses (eg, multiple sclerosis, gastrointestinal disorders, psoriasis).
- Women receiving pharmacological treatments with side effects on sexual function (eg, antidepressants, antipsychotics, antihypertensives).
- Narrative reviews, editorials, or qualitative publications.
- Studies not using validated methods to measure sexual function.
- Research with very small sample sizes hindering meaningful conclusions.
- Publications lacking sufficient methodological or result details, limiting replicability or adequate evaluation.

Screening procedure

The screening procedure followed several stages to ensure rigor and transparency:

1) Identification:
   - Conducted comprehensive searches in PubMed, Scopus, and Web of Science on December 25, 2024.
   - Applied search equations tailored for each database.
   - Exported results to Zotero and removed duplicates (53 duplicates out of 708 initial studies), resulting in 655 unique studies.
2) Title and abstract screening:
   - Two independent reviewers screened titles and abstracts based on inclusion and exclusion criteria.
   - Discrepancies were resolved through discussion and consultation with a third reviewer when necessary.
3) Full-text evaluation:
   - Read the full texts of 133 studies identified from the screening phase.
   - Excluded 52 studies for not using validated instruments, focusing exclusively on qualitative data.
   - Excluded 16 studies for not considering sexual dysfunction as the primary treatment variable.
   - Excluded 58 studies for not focusing exclusively on reproductive-age women without comorbidities.
   - Included 7 studies in the final synthesis (Figure 1).
4) Data extraction and quality assessment:
   - Extracted data using standardized forms, focusing on study characteristics, population, intervention, methods, and results.
   - Assessed study quality using the CONSORT checklist for clinical trials.

Quality assessment

Quality and validity of included studies were assessed using the CONSORT (Consolidated Standards of Reporting Trials) checklist (Table 2), evaluating aspects such as study design, sample size, randomization and blinding methods, and the use of validated outcome measurement tools.

Results

Study selection

A total of 708 studies were identified through the initial search across PubMed, Scopus, and Web of Science. After removing 53 duplicates, 655 unique studies remained. Title and abstract screening excluded 183 studies focusing on male

Downloaded from https://academic.oup.com/smr/article/13/3/338/8113021 by guest on 16 September 2025

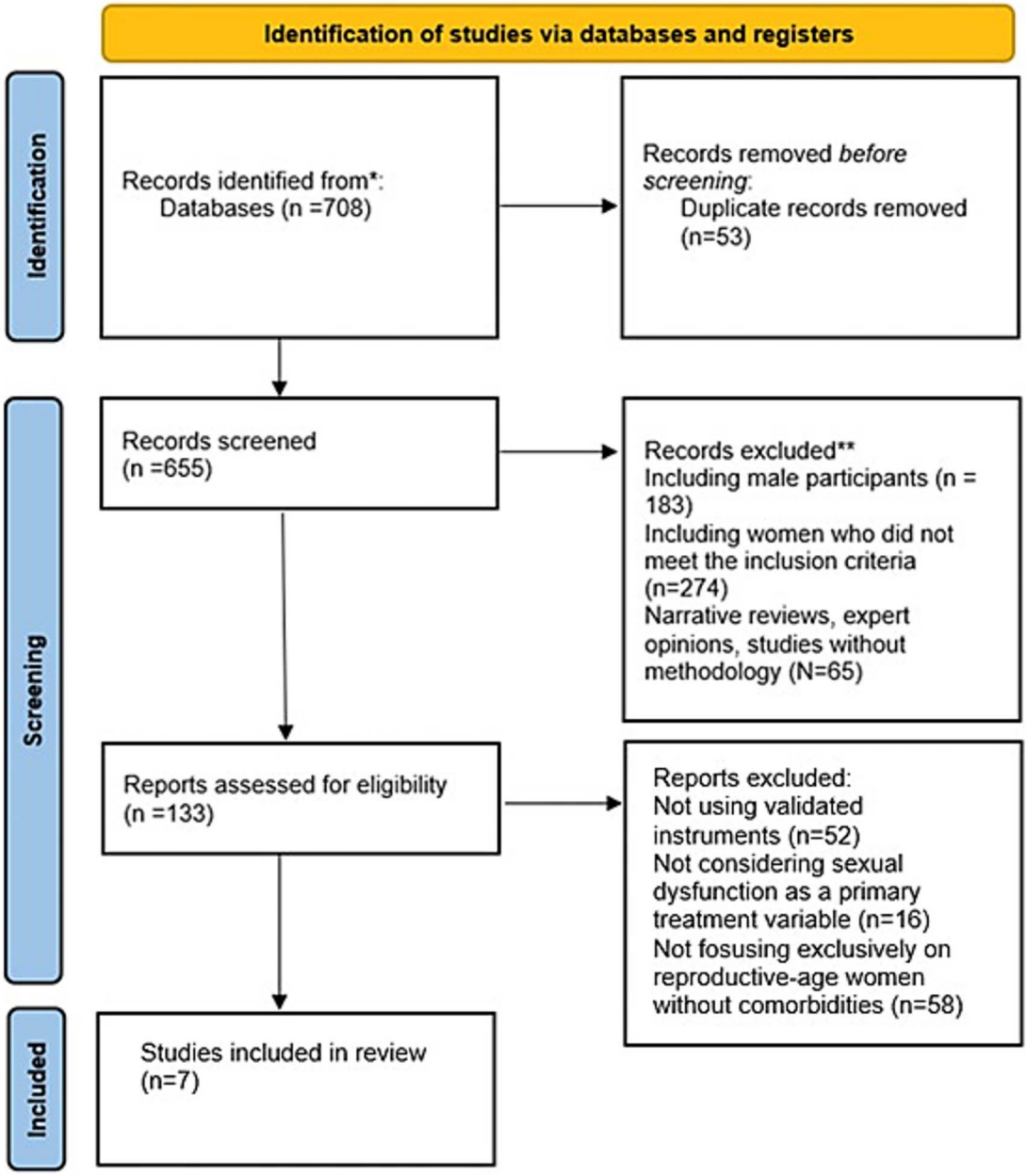

Figure 1. Flowchart of the selection process. Source: Own elaboration.

Table 2. Quality assessment of included studies using the CONSORT checklist.

Study	Title and abstract	Introduction	Methods	Results	Discussion	Others
Schütze et al.[10]	Complete	Complete	Complete	Complete	Complete	Complete
Eftekhar et al.[11]	Complete	Complete	Complete	Complete	Complete	Complete
Kolberg Tennfjord et al.[12]	Complete	Complete	Partial	Complete	Complete	Complete
Murina et al.[13]	Complete	Complete	Complete	Complete	Complete	Complete
Silva et al.[14]	Complete	Complete	Partial	Complete	Complete	Complete
Morin et al.[15]	Complete	Complete	Complete	Complete	Complete	Complete
Abelló Pla et al.[16]	Complete	Complete	Complete	Complete	Complete	Complete
Abelló Pla et al.[17]	Complete	Complete	Complete	Complete	Complete	Complete

sexual dysfunction or including male participants. Further exclusion of 274 studies involved postmenopausal women or those with primary diagnoses related to sexual health. Additionally, 65 studies were excluded for being narrative reviews, expert opinions, or lacking detailed methodology. Full-text evaluation of 133 studies led to the exclusion of 52 studies not using validated instruments, 16 studies not focusing on sexual dysfunction as the primary variable, and

Downloaded from https://academic.oup.com/smr/article/13/3/338/8113021 by guest on 16 September 2025

58 studies not concentrating exclusively on reproductive-age women without comorbidities. Consequently, 7 studies were included in the final synthesis (Figure 1).

Synthesis of results

Effectiveness of physiotherapy in improving sexual function

The included studies consistently demonstrate that physiotherapy interventions, particularly pelvic floor muscle training (PFMT) and multimodal approaches, effectively enhance sexual function and reduce pain in women with sexual dysfunction (Table 3). Schütze et al.[10] and Eftekhar et al.[11] reported significant improvements in FSFI scores, indicating enhanced sexual desire, arousal, and orgasm following physiotherapeutic interventions. Additionally, reductions in dyspareunia were noted across multiple studies, underscoring the role of physiotherapy in alleviating pain associated with sexual activity.

Abelló Pla et al.[16] further corroborate these findings by showing that the combination of capacitive resistive monopolar radiofrequency (CRMRF) with manual massage leads to substantial reductions in pain and significant improvements in pelvic muscle strength and sexual satisfaction compared to manual massage alone. Additionally, Abelló Pla et al.[17] demonstrated that CRMRF significantly improved multiple domains of sexual function, including desire, arousal, lubrication, satisfaction, and pain reduction in women with dyspareunia, reinforcing the effectiveness of multimodal physiotherapy approaches. Morin et al.[15] demonstrated that a comprehensive, multimodal physiotherapy regimen significantly outperforms topical lidocaine in reducing pain intensity and improving sexual function and quality of life, with effects sustained at a 6-month follow-up.

Comparison of physiotherapy with other treatments

Physiotherapy, particularly when combined with other modalities such as CRMRF and manual massage, proves to be more effective than surgical interventions and topical treatments in improving sexual function and reducing pain. Eftekhar et al.[11] highlighted that physiotherapy resulted in greater reductions in dyspareunia and better overall sexual function compared to surgical repair in women with pelvic organ prolapse (POP). Similarly, Morin et al.[15] found that multimodal physiotherapy significantly reduced pain intensity and improved sexual function more effectively than topical lidocaine. The findings by Abelló Pla et al.[17] support the idea that CRMRF combined with manual physiotherapy is more effective than manual physiotherapy alone in improving sexual function outcomes, reinforcing the role of multimodal physiotherapeutic approaches.

Impact of specific physiotherapeutic modalities

Specific physiotherapeutic modalities, including PFMT, biofeedback, TENS, and CRMRF combined with manual massage, have shown significant efficacy in managing different aspects of female sexual dysfunction. Murina et al.[13] demonstrated that TENS effectively reduces pain and dyspareunia in women with provoked vestibulodynia, although differences between TENS protocols were not statistically significant. Silva et al.[14] found that Thiele's transvaginal massage significantly improves dyspareunia and reduces pain scores, particularly in women without chronic pelvic pain, offering a viable alternative to traditional physiotherapy. Abelló Pla et al.[16] showed that combining CRMRF with manual massage not only reduces pain more effectively but also significantly enhances pelvic muscle strength and sexual satisfaction, indicating a substantial clinical benefit of advanced physiotherapeutic techniques. Abelló Pla et al.[17] indicated that CRMRF and manual therapy provide superior pain relief and functional recovery compared to other standalone physiotherapy techniques.

Sustainability of results

The sustainability of physiotherapy benefits is evident in studies with longer follow-up periods. Morin et al.[15] reported that the reductions in pain intensity and improvements in sexual function were maintained at a 6-month follow-up, indicating the lasting benefits of multimodal physiotherapy interventions. Similarly, Abelló Pla et al.[16] observed sustained improvements in pelvic muscle strength and sexual satisfaction at 3 months post-intervention. Abelló Pla et al.[17] found that while initial improvements were significant, no further enhancements were observed at a 3-month follow-up, highlighting the need for maintenance strategies.

Effect size and statistical significance

Abelló Pla et al.[16] reported a large effect size (Cohen's $d = 2.049$) in the reduction of pain during instrumental stretching, highlighting the clinical significance of combining CRMRF with manual massage. Other studies also reported statistically significant improvements in various outcome measures, reinforcing the robustness of physiotherapy as an effective treatment modality for female sexual dysfunction.

Discussion

The findings from this systematic review indicate that physiotherapy, particularly PFMT and multimodal approaches, is effective in enhancing sexual function and reducing pain in women with sexual dysfunction (Table 3). Schütze et al.[10] revealed a significant increase in pelvic floor muscle strength and improvements in multiple domains of sexual function, including desire, arousal, and orgasm, following PFMT. Similarly, Eftekhar et al.[11] demonstrated that physiotherapy resulted in greater reductions in dyspareunia and improved overall sexual function compared to surgical intervention in women with POP.

Abelló Pla et al.[16] further substantiated these findings by showing that combining CRMRF with manual massage led to substantial reductions in pain and significant enhancements in pelvic muscle strength and sexual satisfaction, outperforming manual massage alone. Morin et al.[15] underscored the superiority of multimodal physiotherapy over topical lidocaine in reducing pain intensity and improving sexual function and quality of life in women with vestibulodynia, with benefits sustained over a 6-month period.

These findings are consistent with existing literature that supports the efficacy of physiotherapy in managing female sexual dysfunction. Previous studies have demonstrated that physiotherapeutic interventions can improve pelvic floor muscle strength, which is closely associated with enhanced sexual function and reduced pain.[3,4] However, this review adds value by directly comparing physiotherapy with other treatment modalities, highlighting its superior efficacy in certain clinical scenarios. The inclusion of the study by Abelló Pla et al.[16]

Downloaded from https://academic.oup.com/smr/article/13/3/338/8113021 by guest on 16 September 2025

Table 3. Main findings of included studies.

Study	Design	Participants	Intervention	Outcome measures	Key findings (quantitative)	Clinical implications
Schütze et al.[10]	Randomized prospective study	200 primiparous women	Weekly 45-min pelvic floor muscle training (PFMT) for 6 weeks vs. usual postnatal exercises	Clinical exams, FSFI, Oxford Score	Pelvic Floor Muscle Strength (Oxford Score): - PFMT Group: Increased from 14.2 to 22.1 ($P = .005$) - Control Group: Increased from 15.0 to 16.5 ($P = .111$) - Between-group comparison: $P = .018$ FSFI scores: - PFMT group: Increased from 24 to 35 ($P < .001$) - Control group: Increased from 24 to 30 ($P = .001$) Sexual desire dysfunction: - PFMT: Decreased from 43.2% to 22.7% - Control: decreased from 42.9% to 35.3%	Supervised PFMT enhances pelvic floor muscle strength significantly more than usual exercises, though both groups show improvements in sexual function over time. Emphasizes the importance of postpartum pelvic floor recovery.
Eftekhar et al.[11]	Randomized clinical trial	90 women with pelvic organ prolapse (POP) and sexual dysfunction	PFMT vs. standard rectocele repair and perineorrhaphy	FSFI	Sexual desire dysfunction: - PFMT group: decreased from 56% to 4% ($P = .007$) - Surgery group: decreased from 44% to 25% Arousal: - PFMT group: significant improvement ($P = .001$) - Surgery group: improvement ($P = .05$) Orgasm: - PFMT group: decreased severe dysfunction from 15% to 2% ($P = .001$) Dyspareunia: - PFMT group: reduced from 29% to 13% ($P = .001$) - Surgery group: Increased post-intervention pain ($P = .001$)	PFMT is effective in improving multiple dimensions of sexual function and reducing dyspareunia in women with POP, offering a non-surgical alternative with better outcomes in pain management compared to surgical intervention.
Kolberg Tennfjord et al.[12]	Randomized controlled trial	175 postpartum women after vaginal delivery	PFMT vs. control	Vaginal symptoms, sexual dysfunction	Sexual dysfunction at 6 months: - No significant differences between PFMT and control ($P > .05$) Vaginismus risk: - PFMT group with major levator ani defects: 45% lower risk (RR 0.55, 95% CI 0.31-0.95; $P = .03$)	PFMT reduces the risk of vaginismus in women with significant pelvic floor muscle defects, although no overall differences in sexual dysfunction were observed at 6 months postpartum. Highlights the need for further research on PFMT's impact on specific vaginal symptoms and sexual dysfunction.
Murina et al.[13]	Randomized controlled trial, double-blind	78 women with provoked vestibulodynia	TENS vs. varied TENS protocols	VAS, V-Q, FSFI, vaginal EMG	Pain reduction: - Group 1: 38.2% reduction in burning/pain, 52.1% reduction in dyspareunia ($P = .003$ and $P = .01$) - Group 2: 21.3% and 23.1% reductions ($P > .05$) FSFI scores: - Group 1: 22.9% increase - Group 2: 14.1% increase (no significant difference between groups)	TENS effectively reduces pain and dyspareunia in women with provoked vestibulodynia, though no significant differences were found between different TENS protocols. Emphasizes the need for optimizing stimulation parameters to enhance treatment efficacy.
Silva et al.[14]	Open clinical trial	40 women with pelvic floor muscle tension–related dyspareunia and chronic pelvic pain	Thiele's transvaginal massage	VAS, McGill Pain Index, HADS, FSFI	Dyspareunia and pain scores: - Significant improvements in VAS and McGill Pain Index ($P < .05$) FSFI scores: - Group D (dyspareunia): improved in all domains - Group CPP (chronic pelvic pain): improved only in pain domain HADS scores: - No significant changes	Thiele's transvaginal massage significantly reduces dyspareunia and pain scores, particularly in women without chronic pelvic pain, indicating its potential as an accessible alternative to conventional physiotherapy.

(*Continued*)

Downloaded from https://academic.oup.com/smr/article/13/3/338/8113021 by guest on 16 September 2025

Table 3. Continued

Study	Design	Participants	Intervention	Outcome measures	Key findings (quantitative)	Clinical implications
Morin et al.[15]	Multicenter randomized trial	150 women with vestibulodynia	Multicomponent physical therapy vs. topical lidocaine	Pain intensity (numeric scale), McGill Pain Questionnaire, FSFI, Sexual Distress Scale, Treatment Satisfaction, Global Impression of Change	Pain intensity reduction: - Physical therapy: mean difference 1.8 (95% CI 1.2-2.3), $P < .001$ - Maintained at 6 months ($P < .001$) FSFI scores: - Physical therapy: significant improvement ($P < .001$) Satisfaction: - 79% very/much improved vs. 39% in lidocaine group ($P < .001$)	Multicomponent physical therapy is highly effective in reducing pain intensity, improving sexual function, and enhancing quality of life in women with vestibulodynia, outperforming topical lidocaine. Supports the adoption of holistic, multimodal approaches in clinical practice for managing vestibulodynia.
Abelló Pla et al.[16]	Randomized clinical trial, single-blind	44 young women with dyspareunia	CRMRF combined with manual massage vs. manual massage alone	Pain during various activities, pelvic muscle strength, sexual satisfaction	Pain reduction and muscle strength: - CRMRF + massage group: significant improvements in manual stretching ($P = .046$), instrumental insertion pain ($P = .031$), instrumental stretching ($P < .001$), Oxford scores ($P = .006$), pain scores ($P < .001$), and sexual satisfaction ($P = .004$) - Control group: significant improvements in instrumental stretching ($P = .002$), pain scores ($P < .001$), and sexual satisfaction ($P = .002$) Effect size: - Instrumental stretching: Cohen's $d = 2.049$	Combining CRMRF with manual massage significantly enhances pain reduction and pelvic muscle strength compared to manual massage alone, demonstrating a large clinical effect. Suggests a more robust intervention for treating dyspareunia in young women, offering a comprehensive physiotherapeutic approach.
Abelló Pla et al.[17]	Randomized controlled trial	40 women (18-30 years) with superficial dyspareunia	Capacitive resistive monopolar radiofrequency (CRMRF) combined with manual physiotherapy vs. manual physiotherapy alone	FSFI, FSM	Results showed significant improvements in multiple domains of sexual function compared to manual therapy alone. In the intervention group (CRMRF + manual therapy), post-treatment scores were 3.8 ± 0.7 for desire ($P = .003$), 4.2 ± 0.6 for arousal ($P = .001$), 4.5 ± 0.5 for lubrication ($P = .002$), 4.3 ± 0.8 for satisfaction ($P = .002$), and 2.1 ± 0.9 for pain ($P = .002$). The control group (manual therapy alone) also showed improvements, but to a lesser extent, with scores of 3.4 ± 0.8 for desire, 3.9 ± 0.7 for arousal, 4.1 ± 0.6 for lubrication, 3.9 ± 0.9 for satisfaction, and 2.5 ± 1.0 for pain. Additionally, significant reductions were observed in vaginal penetration problems ($P = .040$) and anticipatory anxiety ($P = .005$), highlighting the potential of CRMRF as a complementary physiotherapeutic intervention for dyspareunia.	The clinical applicability of these findings suggests that capacitive resistive monopolar radiofrequency (CRMRF), when combined with manual therapy, can be an effective physiotherapeutic intervention for managing superficial dyspareunia in young women. The significant improvements observed in sexual function domains, including desire, arousal, lubrication, satisfaction, and pain reduction, highlight the potential of this approach in clinical practice. Compared to manual therapy alone, CRMRF demonstrated enhanced outcomes, supporting its integration into multimodal treatment strategies for female sexual dysfunction. However, the lack of sustained benefits at 3-month follow-up underscores the need for maintenance sessions or complementary interventions to prolong the therapeutic effects. Given its non-invasive nature, minimal side effects, and patient acceptability, CRMRF could be a valuable adjunct to conventional physiotherapy, offering an alternative to pharmacological and surgical options for patients with dyspareunia.

Downloaded from https://academic.oup.com/smr/article/13/3/338/8113021 by guest on 16 September 2025

reinforces the notion that advanced physiotherapeutic techniques, such as CRMRF combined with manual massage, can significantly amplify treatment outcomes.

Physiotherapy emerges as a highly effective, non-invasive treatment option for female sexual dysfunction, offering significant improvements in sexual function and pain reduction without the risks and side effects associated with surgical interventions. The incorporation of physiotherapy into clinical rehabilitation programs is strongly recommended. Moreover, the evidence suggests that multimodal approaches, integrating techniques like CRMRF and manual massage, can optimize therapeutic outcomes, providing a more comprehensive and robust treatment strategy.

Female sexual dysfunction inherently involves both physical and psychological components. The studies reviewed emphasize the critical role of psychological factors such as anxiety and past trauma in exacerbating sexual dysfunction. Integrating psychological assessments and emotional support into physiotherapy programs can address these underlying issues, fostering more holistic and effective treatment outcomes. The interconnection between psychological well-being and sexual function underscores the importance of multidisciplinary approaches in managing female sexual dysfunction. The study by Abelló Pla et al.[17] adds further evidence supporting the integration of advanced physiotherapeutic techniques such as CRMRF into clinical practice, particularly for young women experiencing dyspareunia. However, the lack of sustained improvement at 3 months suggests that periodic reinforcement sessions or additional supportive therapies may be required to maintain long-term benefits.

Personalizing physiotherapeutic interventions based on individual patient characteristics, such as severity of symptoms and medical history, is essential for maximizing treatment efficacy. Studies by Eftekhar et al.[11] and Murina et al.[13] highlighted the variability in treatment responses, indicating that tailored interventions can significantly enhance outcomes. Identifying and addressing specific patient needs ensures that physiotherapy interventions are optimally aligned with the unique challenges faced by each woman.

Education and training on pelvic floor health are pivotal components of effective physiotherapeutic interventions. Empowering women with knowledge about pelvic floor function and providing them with the tools to manage and improve their pelvic health can lead to sustained improvements in sexual function and overall quality of life. The integration of educational components into physiotherapy programs enhances patient engagement and adherence, fostering long-term benefits.

Limitations of the review

Despite the promising findings on the efficacy of physiotherapy in the treatment of female sexual dysfunction, this review presents several limitations that need to be considered. First, the heterogeneity among the included studies is significant, in terms of study design, treated populations, and intervention methods. This variability makes direct comparisons of the results difficult and may influence the generalization of the findings.

Furthermore, several studies lack long-term follow-up, preventing the assessment of the sustainability of the observed benefits post-physiotherapy treatment. Most reviewed studies focused on short-term interventions, usually between 6 and 12 weeks, leaving a gap in understanding the long-term impact of physiotherapy.

Another important limitation is the lack of blinding in some clinical trials, which can introduce bias in the outcome evaluation. Blinding is crucial to ensure that the expectations of the participants and researchers do not influence the study results.

Additionally, several studies employed small sample sizes, which diminishes the statistical power and robustness of the findings. Results from studies with small sample sizes may not be representative of the general population, thus limiting the clinical applicability of the conclusions.

Finally, the review identified a limited number of studies that directly compare physiotherapy with other treatments (medical, psychological, and pharmacological), restricting the understanding of physiotherapy within a broader and multidisciplinary therapeutic approach context.

Strengths of the review

Despite the previously identified limitations, the study presents several significant strengths that underscore the relevance of physiotherapy in the treatment of female sexual dysfunction and its positive impact on patient quality of life. One of the main strengths is the multidisciplinary approach used, which includes a combination of physical, psychological, and medical interventions, allowing for a comprehensive evaluation of the effectiveness of physiotherapy. This approach not only optimizes the intervention but also ensures more holistic and personalized care for each patient.

Moreover, the studies included in the review used validated and standardized tools for outcome assessment, such as the FSFI and quality-of-life questionnaires related to sexual health. This provides a reliable and comparable data base, facilitating a more accurate interpretation of the results and enhancing the quality of the study conclusions.

Another notable strength is the inclusion of studies with diverse methodologies and populations, which broadens the applicability and generalization of the findings. The diversity in the studies also allows for the identification of consistent patterns and trends, strengthening the evidence in favor of the effectiveness of physiotherapy in different clinical contexts.

Finally, the review emphasizes the importance of specific interventions, such as pelvic floor muscle training, electrical stimulation, and massage techniques, showing significant improvements in sexual function, pain reduction, and overall quality of life. These interventions are less invasive than surgical treatments, have fewer side effects, and can be individually tailored, making them a viable and effective option for many women suffering from sexual dysfunction.

The strengths of the review highlight the relevance and efficacy of physiotherapy as a comprehensive and effective therapeutic approach for female sexual dysfunction, proposing a promising path for future research and clinical applications.

Conclusions

This systematic review underlines the efficacy of physiotherapy in treating female sexual dysfunction, demonstrating significant improvements in sexual function and pain reduction, thereby enhancing quality of life. Multimodal

Downloaded from https://academic.oup.com/smr/article/13/3/338/8113021 by guest on 16 September 2025

physiotherapeutic approaches, particularly those integrating PFMT with advanced techniques like CRMRF and manual massage, offer superior outcomes compared to single-modality treatments and non-physiotherapeutic interventions. Incorporating physiotherapy into clinical rehabilitation programs is recommended to provide women with effective, non-invasive treatment options. However, due to heterogeneity among studies and limited long-term data, further research with standardized protocols and extended follow-up periods is necessary to consolidate these findings and optimize treatment strategies.

Acknowledgments

We extend our gratitude to all the patients who participated in the studies included in this review. We are also grateful for the continuous support from our colleagues at RAPbarcelona Physiotherapy Clinical Center and Blanquerna School of Health Sciences.

Author contributions

Laia Blanco-Ratto: Conceptualization, Methodology, Writing—original draft. Inés Ramirez-Garcia: Supervision, Writing—review & editing. Stephanie Kauffmann: Data curation, Formal analysis. Montserrat Girabent Farres: Validation, Resources.

Funding

None declared.

Conflicts of interest

None declared.

References

1. American College of Obstetricians and Gynecologists' Committee on Practice Bulletins—Gynecology. Female sexual dysfunction: ACOG practice bulletin clinical management guidelines for obstetrician-Gynecologists, number 213. *Obstet Gynecol*. 2019;**134**(1):e1-e18. https://doi.org/10.1097/AOG.0000000000003324.
2. Clayton AH, Valladares Juarez EM. Female sexual dysfunction. *Psychiatr Clin North Am*. 2017;**40**(2):267-284. https://doi.org/10.1016/j.psc.2017.01.004.
3. Hendrickx L, Gijs L, Enzlin P. Age-related prevalence rates of sexual difficulties, sexual dysfunctions, and sexual distress in heterosexual women: results from an online survey in Flanders. *J Sex Med*. 2015;**12**(2):424-435. https://doi.org/10.1111/jsm.12725.
4. Clayton AH, Hamilton DV. Female sexual dysfunction. *Psychiatr Clin North Am*. 2010;**33**(2):323-338. https://doi.org/10.1016/j.psc.2010.01.011.
5. Nappi RE, Tiranini L, Martini E, Bosoni D, Righi A, Cucinella L. Medical treatment of female sexual dysfunction. *Urol Clin North Am*. 2022;**49**(2):299-307. https://doi.org/10.1016/j.ucl.2022.02.001.
6. Imprialos KP, Koutsampasopoulos K, Katsimardou A, et al. Female sexual dysfunction: a problem hidden in the shadows. *Curr Pharm Des*. 2021;**27**(36):3762-3774. https://doi.org/10.2174/1381612827666210719104950.
7. Tam T, Levine EM. Female sexual dysfunction in women with pelvic pain. *Semin Reprod Med*. 2018;**36**(02):152-158. https://doi.org/10.1055/s-0038-1676115.
8. Faubion SS, Rullo JE. Sexual dysfunction in women: a practical approach. *Am Fam Physician*. 2015;**92**(4):281-288 Erratum in: *Am Fam Physician*. 2016 Aug 1;94(3):189.
9. Wolpe RE, Zomkowski K, Silva FP, Queiroz APA, Sperandio FF. Prevalence of female sexual dysfunction in Brazil: a systematic review. *Eur J Obstet Gynecol Reprod Biol*. 2017;**211**:26-32. https://doi.org/10.1016/j.ejogrb.2017.01.018.
10. Schütze S, Heinloth M, Uhde M, et al. The effect of pelvic floor muscle training on pelvic floor function and sexuality postpartum. A randomized study including 300 primiparous. *Arch Gynecol Obstet*. 2022;**306**(3):785-793. https://doi.org/10.1007/s00404-022-06542-z.
11. Eftekhar T, Sohrabi M, Haghollahi F, Shariat M, Miri E. Comparison effect of physiotherapy with surgery on sexual function in patients with pelvic floor disorder: a randomized clinical trial. *Iran J Reprod Med*. 2014;**12**(1):7-14.
12. Kolberg Tennfjord M, Hilde G, Staer-Jensen J, Siafarikas F, Engh ME, Bø K. Effect of postpartum pelvic floor muscle training on vaginal symptoms and sexual dysfunction-secondary analysis of a randomized trial. *BJOG*. 2016;**123**(4):634-642. https://doi.org/10.1111/1471-0528.13823.
13. Murina F, Recalcati D, Di Francesco S, Cetin I. Effectiveness of two transcutaneous electrical nerve stimulation (TENS) protocols in women with provoked Vestibulodynia: a randomized controlled trial. *Med Sci (Basel)*. 2023;**11**(3):48. https://doi.org/10.3390/medsci11030048.
14. Silva AP, Montenegro ML, Gurian MB, et al. Perineal massage improves the dyspareunia caused by tenderness of the pelvic floor muscles. *Rev Bras Ginecol Obstet*. 2017;**39**(01):26-30. English. https://doi.org/10.1055/s-0036-1597651.
15. Morin M, Dumoulin C, Bergeron S, et al. Multimodal physical therapy versus topical lidocaine for provoked vestibulodynia: a multicenter, randomized trial. *Am J Obstet Gynecol*. 2021;**224**(2):189.e1-189.e12. https://doi.org/10.1016/j.ajog.2020.08.038.
16. Abelló Pla M, Andreu-Povar A, Fabbi L, et al. Capacitive resistive Monopolar radiofrequency combined with manual physiotherapy to treat dyspareunia in young women. *Women's Health Rep*. 2024;**5**(1):e0135, 889-e0896. https://doi.org/10.1089/whr.2024.0135.
17. Abelló, Pla M, Andreu-Povar A, Fabbi L, et al. Evaluation of the efficacy of capacitive resistive Monopolar radiofrequency at 448 kHz in the physiotherapeutic treatment of female dyspareunia. *Contemp Clin Trials Commun*. 2025;**44**:101433. https://doi.org/10.1016/j.conctc.2025.101433.

Downloaded from https://academic.oup.com/smr/article/13/3/338/8113021 by guest on 16 September 2025

© The Author(s) 2025. Published by Oxford University Press on behalf of The International Society for Sexual Medicine. All rights reserved. For permissions, please e-mail: journals.permissions@oup.com
Sexual Medicine Reviews, 2025, 13, 338–346
https://doi.org/10.1093/sxmrev/qeaf022
Review