

Effectiveness of physical therapy interventions in women with dyspareunia:  
a systematic review and meta-analysis. Fernandez-Perez *et al. BMC Women's Health* (2023)  
23:387 <https://doi.org/10.1186/s12905-023-02532-8>

- Introduction: Dyspareunia is pain during or after sexual intercourse. Dyspareunia affects physical, sexual, and mental health and can lead to depression, anxiety, and low self-esteem in women who experience it.
  - “Specifying the etiology of dyspareunia can be challenging as it encompasses structural, inflammatory, infectious, traumatic, hormonal, and psychosocial conditions. These conditions can act as both risk factors and consequences, creating a cycle that is influenced by emotional intimacy, sexual stimuli, arousal, and physical and emotional satisfaction in a non-linear manner. The disruption of this cycle predisposes individuals to experience sexual pain”
- Aim/Primary Aim: To evaluate the effectiveness of physical therapy interventions for the treatment of female dyspareunia
- Study Design/Study Format: Systematic review and meta analysis
- Methods:
  - The PICO question was formulated as follows see Table 1:
    - P – population: women with dyspareunia
    - I – intervention: physical therapy techniques
    - C – control: pharmacological treatment, psycho-behavioral interventions, or non-intervention;
    - O – outcome: intensity of perceived pain during sex and strength and elasticity of the perineal muscles
    - S – study designs: experimental studies (quasi-experimental and clinical trials)
    - Search of publications conducted in May 2023 Scopus, Medline, PubMed, CINAHL, and Web of Science. Medical Subject Headings (MeSH) terms: *Dyspareunia, Sexual dysfunctions, Pelvic floor, Physical therapy modalities,*
  - 2 reviewers screened articles for eligibility and independently extracted data
  - Data extraction : Demographic information, characteristics of the sample, study specific parameters, and results
  - Risk of bias was analyzed using RoB and ROBINS-I tool, and GRADE approach to assess quality of evidence
  - Statistical analysis–explained in detail on page 3
- Results:
  - 713/1672 were analyzed, 81 selected for full text analysis, 19 articles included (see figure 1 page 4)
  - Methodological characteristics are presented in table 2, page 5-6
  - Summary of findings from each study table 3, page 7-10
  - Interventions applied detailed description pages 4,6,11-12

- Meta-analysis Figure 2 p13 was conducted to evaluate pain, sexual function, and quality of life in studies comparing physical therapy (including electrotherapy and subgroups with training) with a control group, not all studies included due to variations in outcome measures across studies
  - Quality of Life: standard mean difference SMD was -0.38 (95% CI: -0.74 to -0.03), groups treated with electrotherapy had a better quality of life ( $p = 0.03$ ), null level of heterogeneity in the studies ( $I^2 = 0\%$ )
  - Pain: SMD of -4.43 (95% CI: -7.9 to -0.96) ( $p = 0.01$ ) pain reduction was observed in the groups treated with electrotherapy or electrotherapy plus pelvic floor muscle training, high level of heterogeneity in the studies ( $I^2 = 98\%$ ) (Fig. 2b).
  - Sexual function: no significant difference between the groups analyzed ( $p = 0.22$ ), with an SMD of 2.37 (95% CI: -1.43 to 6.17). These studies showed a high level of heterogeneity ( $I^2 = 97\%$ )
- Risk of bias analysis Table 4: High risk of bias in 6 studies, low risk of bias in 6 studies and moderate risk of bias in 6 studies
- Certainty of evidence: Table 5- Low for variables of pain and quality of life and very low for the variable of sexual function
  - The GRADE approach specifies four levels of the certainty for a body of evidence for a given outcome: high, moderate, low and very low.
  - GRADE assessments of certainty are determined through consideration of five domains: risk of bias, inconsistency, indirectness, imprecision and publication bias.
- Discussion:
  - All the reviewed articles consistently reported a significant **reduction in pain intensity**
    - Multimodal PT interventions (TENS, manual therapy, pelvic floor muscle training, education) showed superior improvements in pain intensity compared to other interventions
    - Metaanalysis supports effectiveness of TENS in reducing pain (and therefore improving QoL)
  - Several studies measured **sexual function** and reported positive results which were not statistically significant in the meta analysis
    - *When pelvic floor muscle training was applied in isolation sexual function improvement was not positive*
    - 6/8 studies that measured sexual function included PFMT as part of intervention, in clinic +/-HEP
    - Combination of PMFT with multimodal rx showed best results for improving sexual function
    - Rationale for PFMT: p 12, 15 “ Training the perineal musculature has multiple benefits, including improving relaxation capacity, restoring normal resting activity, increasing vaginal elasticity, and enhancing muscle awareness and proprioception. These effects help reverse connective tissue and myofascial damage associated with pelvic-perineal pain and dysfunction.” AND weakness contributes to inability to reach orgasm
    - Authors note key factors for success of PFMT

- Professional supervision for proper technique and progression
    - Individualized prescription with clear instructions
    - Must include coordination, relaxation, and strength training
    - Breathing and posture correction also important
  - Best results were achieved in reducing **severity of dyspareunia** with multimodal PT
    - Manual therapy and MFR, trigger point rx
    - Plus use of extracorporeal shockwave therapy – reduces inflammation
  - PFMT + BFB achieved improvements in a lower # of sessions
  - Limitations: low certainty of evidence secondary to combination of sample heterogeneity, intervention heterogeneity, and low risk of bias
- Conclusion/Summary:
  - PT are effective in improving pain and QoL in women with dyspareunia.
    - PFMT is a crucial aspect of success
    - High frequency TENS has positive effect
    - Manual trigger point release and Thiels massage reduce pain intensity
  - Last paragraph mentions importance of mental health professional involvement (?) was only mentioned briefly in background section
- Discussion questions:
  - Do you include PFM ex as rx for dyspareunia? When, how ?
  - What are your thoughts about intravaginal manual therapy alone vs body regional manual therapy as discussed in the systematic review?
  - What is the importance or dilators /graded exposure?
  - Electrical stimulation?
- Other References: Sharma N, Rekha K, Srinivasan JK. Efficacy of transcutaneous electrical nerve stimulation in the treatment of chronic pelvic pain. J Midlife Health. 2017;8:36–9.