Emerging Treatment Options for Vaginismus: A Comprehensive Review of Current Evidence and Future Directions

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INTRODUCTION

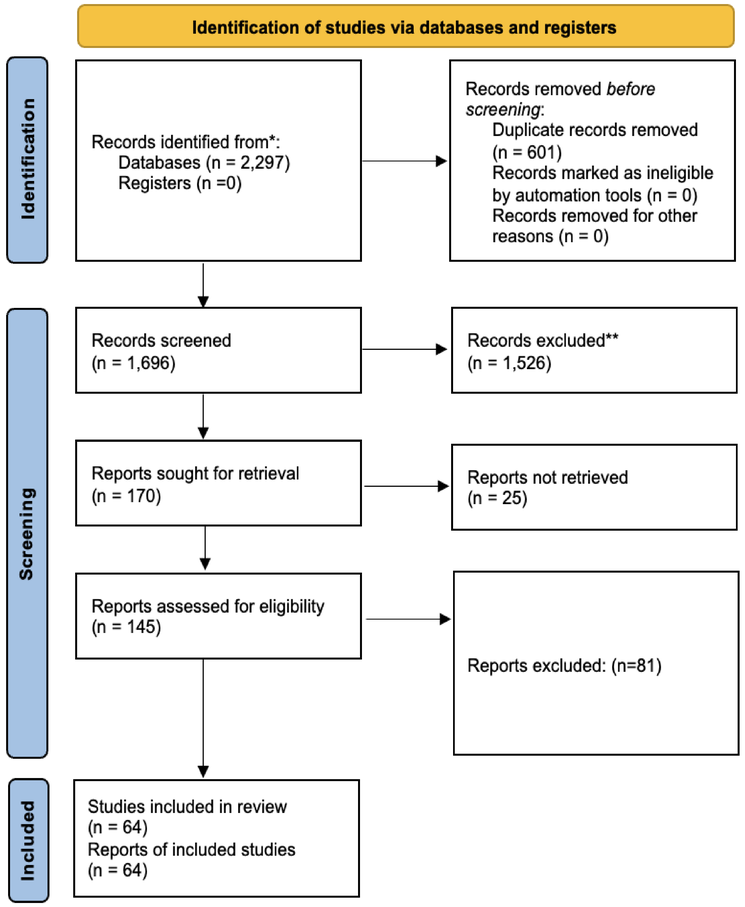
- Vaginismus is a form of Genito-Pelvic Pain/Penetration Disorder characterized by involuntary pelvic floor muscle contraction that prevents vaginal penetration.
- The condition is multifactorial, involving pelvic floor hypertonicity, fear-avoidance behaviors, psychological factors, and sociocultural influences.
- Traditional therapies include cognitive behavioral therapy, pelvic floor physical therapy, and vaginal dilation; however, treatment resistance remains common.
- Emerging therapies such as botulinum toxin injections, neuromodulation, photobiomodulation, and virtual reality exposure therapy are being explored to improve outcomes.

OBJECTIVE

To evaluate traditional and emerging treatment modalities for vaginismus and assess their reported clinical outcomes, including pain reduction, improved sexual function, and pelvic floor relaxation

METHODS

- A comprehensive literature review was conducted from December 2024 to August 2025.
- Databases searched included PubMed, JSTOR, and EBSCO.
- Search terms included *"vaginismus," "genito-pelvic pain," "pelvic floor physical therapy," "cognitive behavioral therapy," "botulinum toxin," "radiofrequency therapy," and "virtual reality therapy."*
- Studies were screened by multiple reviewers based on title and abstract relevance, followed by full-text review for eligibility. Screening counts are approximate due to multi-reviewer design.



RESULTS

FIRST LINE TREATMENTS

Traditional Therapies

- Cognitive Behavioral Therapy
  - Reduced fear of penetration (p=0.04)
  - Increased penetration (p<0.01)
- Pelvic Floor Physical Therapy
  - 100% of participants tolerated a gynecological exam

ADJUNCTIVE TREATMENTS

Injection/Pharmacologic Therapy

- Botulism Toxin
  - 71% pain free-intercourse
- Transvaginal Trigger Point Injections
  - Reduced levator ani pain (p<0.0001)
- Topicals, diazepam, and muscle relaxers showed variable benefit

EMERGING TREATMENTS

Neuromodulation & Technology

- Functional Electrical Stimulation
  - Greater improvement in FSFI than botulinum toxin
- Transcutaneous flat magnetic stimulation
  - Increased anorectal angle (p<0.001) and levator ani minimal plane distance (p<0.001)
- Photobiomodulation
  - Reduced pelvic pain and dyspareunia
- Fractional CO2
  - Significant increase in tissue remodeling and epithelial thickness

Psychological & Integrative

- Virtual Reality Exposure Therapy
  - Heightened state anxiety
- Biofeedback
  - FSFI scores improved (p<0.001) compared to dilators alone
- Yoga
  - Significant improvement in sexual function and self-esteem scores
- Osteopathic Manipulative Medicine
  - Reductions in pain, pelvic floor muscle tenderness, and greater muscle strength

CONCLUSION

Multimodal treatment approaches for vaginismus demonstrate significant improvements in pain, pelvic floor hypertonicity, and sexual function. Emerging therapies, including botulinum toxin, neuromodulation, and integrative psychological interventions, show promising outcomes but remain limited by heterogeneity and lack of standardized protocols. A multidisciplinary, patient-centered approach is essential for optimizing outcomes.

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