

Beyond The Pain: Evidence Based Interventions for Vaginismus - A Literature Review”

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ABSTRACT

BACKGROUND: Vaginismus is a sexual dysfunction marked by involuntary tightening of the vaginal and pelvic floor muscles, leading to pain, fear, and avoidance of penetration or gynaecological examination. It can affect surrounding muscles like the gluteals and abdominals in severe cases. Despite its impact on physical and emotional well-being, vaginismus is often underdiagnosed, particularly in India, due to stigma and limited awareness.

AIM: To review and analyze existing literature on the effectiveness of physiotherapy interventions and their psychological impact in the management of vaginismus.

METHODS: A comprehensive search was conducted across PubMed, Google Scholar, ResearchGate, SpringerLink, MTPRehab Journal, and JSAFOG, covering publications from 2014 to 2025. From the identified literature, studies directly addressing these interventions were reviewed, with five RCTs and one controlled clinical trial forming the core of the analysis.

RESULTS: Across all studies (n = 246; 122 experimental, 124 control), physiotherapy interventions—therapist-guided exposure (n = 69), pelvic floor relaxation (n = 33), biofeedback with dilator therapy (n = 16), and dilator therapy alone (n = 16) significantly improved sexual function (FSFI, p < 0.05). Psychological therapies (cognitive-behavioral therapy, counseling, couple-based therapy) in 112 participants reduced fear, anxiety, and maladaptive cognitions (VPCQ, p < 0.01). Combined physiotherapy and psychological interventions produced the most comprehensive benefits.

CONCLUSION: Physiotherapy improves sexual function, while psychological therapies alleviate fear and anxiety. An integrated approach offers the greatest benefit by addressing both physical and emotional factors in vaginismus management.

INTRODUCTION

Vaginismus is a complex form of female sexual dysfunction (FSD) characterized by an involuntary contraction of the muscles surrounding the vaginal opening, which interferes with or prevents vaginal penetration. These contractions most commonly involve the pelvic floor muscles particularly the levator ani and perineal muscles but in more severe presentations, they may extend to the thighs, abdominal wall, and gluteal musculature. The muscular response typically occurs reflexively when penetration is attempted, anticipated, or even imagined, whether during sexual intercourse, gynecological examinations, tampon insertion, or medical procedures.

Although vaginismus was first described over a century ago by James Marion Sims in 1862, its etiology, diagnosis, and classification remain subjects of ongoing debate within the medical and psychological communities.¹ Traditionally, vaginismus has been categorized into **primary vaginismus**, referring to women who have never been able to engage in penetrative intercourse, often described in clinical literature as “unconsummated marriage” and **secondary vaginismus**, which develops after a period of previously normal sexual functioning, frequently in association with painful intercourse or dyspareunia. However, the significant overlap between these conditions has challenged the validity of this distinction, leading to the reclassification of vaginismus and dyspareunia under a broader diagnostic entity, **Genito-Pelvic Pain/Penetration Disorder**, in the DSM-5.¹

Despite its clinical recognition, vaginismus remains difficult to diagnose reliably. Studies indicate considerable diagnostic inconsistency, with only 28% of women clinically diagnosed with vaginismus demonstrating measurable vaginal muscle spasms, and agreement among experienced gynaecologists reported to be as low as 4%.^{1,2} Globally, prevalence estimates range from 5–7% in clinical populations, though markedly higher rates up to 20% have been reported in certain cultural contexts, such as studies conducted in Egypt. In India, robust epidemiological data are limited; available studies suggest prevalence rates between 5% and 17%, while broader evidence indicates that over half of Indian women experience some form of sexual dysfunction during their lifetime.³ Social stigma, limited sexual health education, and cultural silence surrounding female sexuality significantly hinder accurate reporting and timely help-seeking.

The impact of vaginismus extends far beyond sexual activity alone. Women affected by the condition frequently avoid gynaecological examinations, contraception use, fertility treatments, and antenatal care, contributing to adverse reproductive health outcomes, including higher rates of caesarean delivery. Psychologically, vaginismus is sustained by a self-reinforcing cycle of fear and pain: the anticipation of penetration triggers anxiety, which leads to involuntary muscle contraction, resulting in pain that further strengthens fear and avoidance behaviors.^{2,4} Over time, this cycle can profoundly affect self-esteem, body image, intimate relationships, and mental health, with increased vulnerability to anxiety and depressive symptoms. Research further suggests that women with lifelong vaginismus often develop persistent negative cognitive and emotional associations with sexual cues, which may continue even after physical symptoms improve unless cognitive processes are explicitly addressed during treatment.⁴

At a physiological level, vaginismus is characterized by a failure of the pelvic floor to exhibit its normal relaxation response during attempted penetration. Under typical conditions, the pelvic floor muscles particularly the levator ani group relax to allow widening of the vaginal introitus.^{5,6} In vaginismus, however, muscles such as the puborectalis, pubovaginal fibers, and bulbocavernosus contract excessively and involuntarily, leading to narrowing or functional closure of the vaginal opening.^{7,8} This response is thought to arise from dysregulation within sacral reflex pathways, resulting in a maladaptive guarding reflex. Clinically, this manifests as a sensation of “hitting a wall” during penetration attempts. In more severe cases, co-contraction of adjacent muscle groups, including the thigh adductors and gluteals, further reinforces vaginal closure and resistance.^{7,9}

Given the multidimensional nature of vaginismus, increasing attention has been directed toward the role of cognitive factors in its development and maintenance. The **Vaginal Penetration Cognition Questionnaire (VPCQ)** was developed to assess cognitive responses associated with vaginal penetration, particularly among women experiencing sexual pain conditions such as vaginismus and dyspareunia. The VPCQ consists of 40 items rated on a 7-point Likert scale and evaluates five cognitive

domains: control cognitions, catastrophic and pain-related cognitions, self-image cognitions, positive cognitions, and genital incompatibility cognitions.¹⁰ By systematically examining these cognitive dimensions, the VPCQ provides valuable insight into the psychological processes that may perpetuate penetration difficulties and offers a framework for integrating cognitive-behavioral approaches into clinical management.

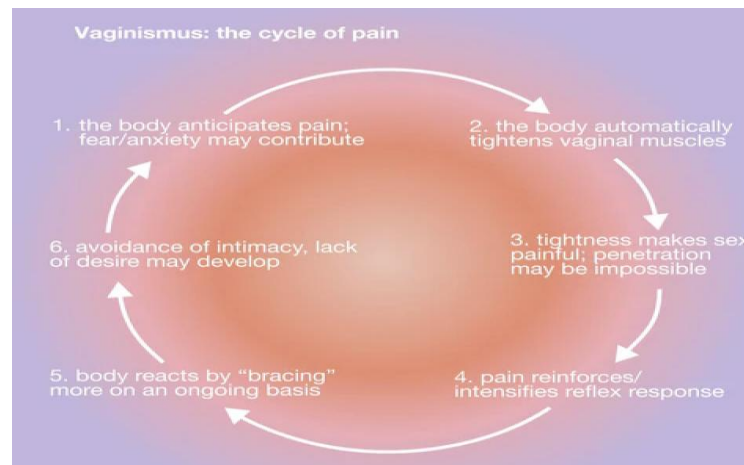


FIGURE 1: CYCLE OF PAIN IN VAGINISMUS

NEED OF THE STUDY

- Many women with vaginismus avoid seeking help due to stigma, psychological barriers, and limited awareness. The condition impacts both physical and emotional well-being. A combined physiotherapy and psychological approach provides effective, holistic management.
- This review highlights evidence-based interventions that address both the physical and emotional components, emphasizing that vaginismus is treatable and that seeking help is valid, empowering, and beneficial for women.

AIM

To review and analyze existing literature on the effectiveness of physiotherapy interventions and their psychological impact in the management of vaginismus.

OBJECTIVES

- To review the effectiveness of different physiotherapy interventions for vaginismus.^[6]
- To examine the role of exercise-based approaches in the management of vaginismus based on current evidence.^[3]
- To explore the psychological impact of physiotherapy, including its effects on emotional well-being, anxiety, and self-perception.^[2]

METHODOLOGY

This study is a narrative literature review aimed at synthesizing current evidence on the effectiveness of physiotherapy interventions including pelvic floor relaxation, desensitization, biofeedback, and therapist-guided exposure in improving sexual function and reducing psychological distress in women with vaginismus.

A comprehensive search was conducted across PubMed, Google Scholar, ResearchGate, SpringerLink, MTPRehab Journal, and JSAFOG, covering publications from 2014 to 2025.

From this initial search, 16 articles were identified as potentially relevant based on the titles, abstracts, and keywords. These articles underwent a screening process in which titles and abstracts were reviewed to determine their suitability in relation to the study objectives, and those not meeting the inclusion criteria were excluded. Following this step, 10 articles qualified for a full-text reviews. Data were then extracted and analyzed based on key outcome measures, including changes in FSFI scores, pain reduction, muscle relaxation, and psychological improvement. These outcomes formed the foundation for synthesizing evidence and guiding the discussion in the present study.

From the identified literature, studies directly addressing these interventions were reviewed, with five RCTs and one controlled clinical trial forming the core of the analysis.

TABLE 1: FLOW CHART OF METHODOLOGY

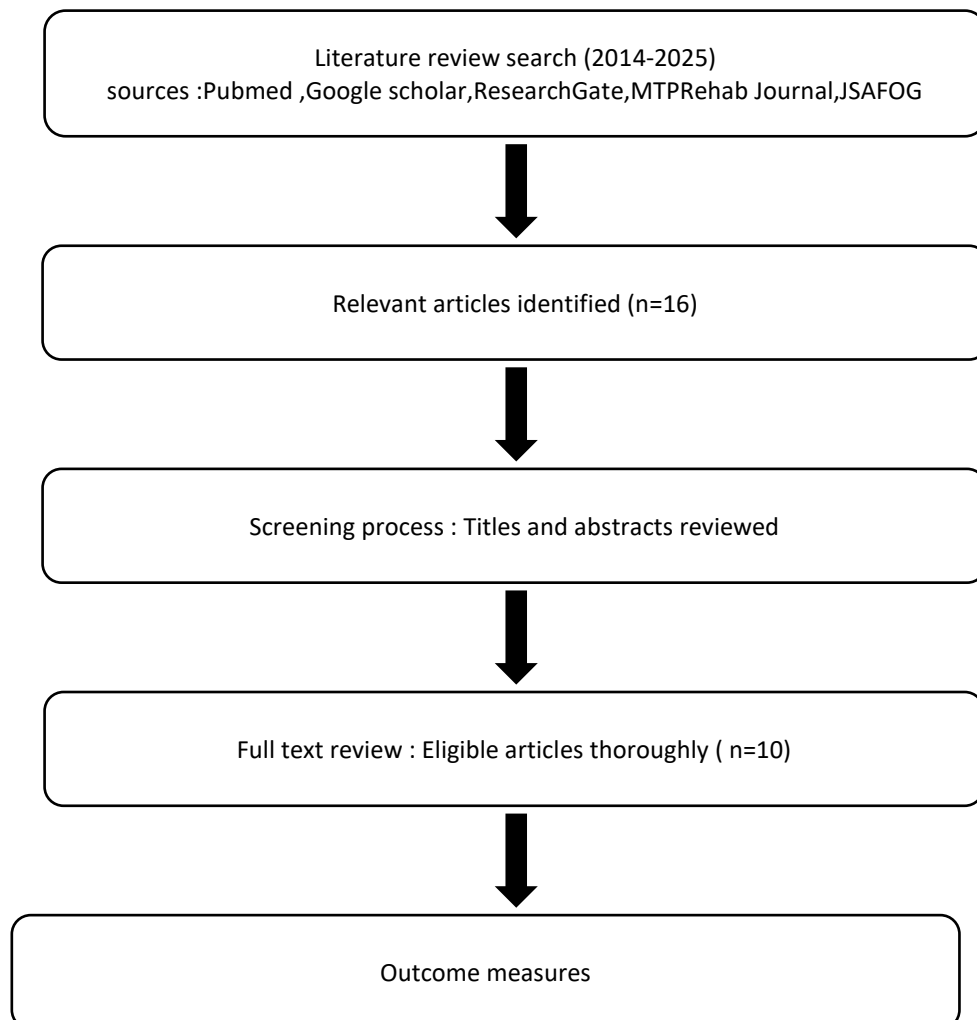


Table 1: Flow chart of Methodology

Table 2 : Literature Review

Author	Title	Methodology	Intervention	Outcome Measure	Result
Jokar et al. (2025)	Effectiveness of Biofeedback with Dilator Therapy for Sexual Function in Women with Primary Vaginismus.	Randomized controlled trial with two groups (biofeedback + dilator vs dilator only).	Frequency: 3 sessions per week Intensity : Moderate Time: 6 weeks Type: Biofeedback with vaginal dilator therapy	Female Sexual Function Index (FSFI) Visual Analog Scale (VAS) EMG(biofeedback)	Greater FSFI improvement in biofeedback group
Işık & Aslan (2023)	The effects of sexual counseling and pelvic floor relaxation on sexual functions in women receiving vaginismus treatment.	Randomized controlled study involving women receiving vaginismus treatment.	Frequency: Weekly sessions Intensity: Moderate Time: 6 weeks Type : Sexual counseling + pelvic floor relaxation	FSFI Electromyography (EMG) or biofeedback assessment	FSFI and VAS scores improved significantly
Yaraghi et al. (2018)	Comparing the effectiveness of functional electrical stimulation via sexual cognitive/behavioral therapy of pelvic floor muscles versus local injection of botulinum toxin on the sexual functioning of patients with primary vaginismus	Randomized clinical trial comparing FES + CBT vs botulinum toxin injection	Frequency: 2–3 sessions per week Intensity: Moderate to High Time: 6 weeks Type: Functional electrical stimulation + CBT vs botulinum toxin injection	FSFI between FES + sexual cognitive/behavioral therapy vs. local botulinum injection	Intercourse success: 26/28 (physiotherapy) vs. 20/30 (botox)

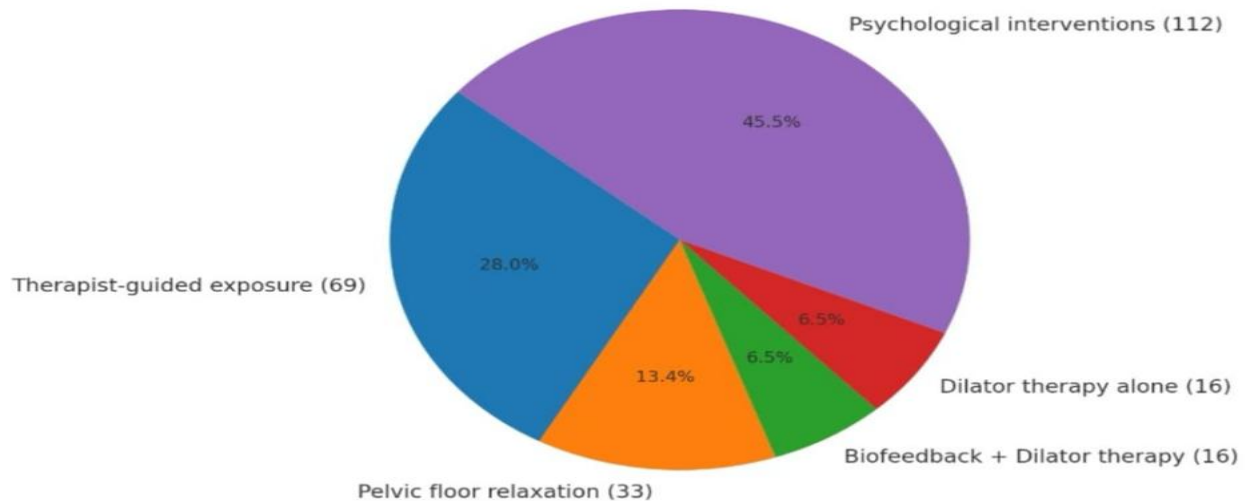
Ter Kuile et al. (2015)	Therapist-Aided Exposure for Women with Lifelong Vaginismus: Mediators of Treatment Outcome	Randomized waiting list control trial examining exposure therapy effects.	Frequency: 1 session per week Intensity: Moderate therapist involvement Time: 12 weeks 6–8 sessions Type: Therapist-guided graded exposure therapy.	Female Sexual Function Index (FSFI) Visual Analog Scale (VAS)	Increased coital frequency; reduced VPCQ scores; better perceived control
Melles et al. (2014)	Automatic and deliberate affective associations with sexual stimuli in women with lifelong vaginismus before and after therapist-aided exposure treatment.	Pre –post study evaluating affective associations before and after therapist-aided exposure.	Frequency: 1–2 sessions per week, Intensity: Moderate Time: 8 weeks 6–8 sessions Type: Therapist-aided exposure therapy	FSFI Change pre- and post- therapist-aided exposure Implicit Association Test (IAT) and self-report measures	Reduced fear and avoidance; improved emotional response

RESULTS

- Across all studies, a total of 246 participants were analyzed, with 122 in experimental groups and 124 in control groups. Physiotherapy interventions included therapist-guided exposure (n = 69), pelvic floor relaxation (n = 33), biofeedback combined with dilator therapy (n = 16), and dilator therapy alone (n = 16), all of which demonstrated significant improvement in sexual function, reflected by increased FSFI scores ($p < 0.05$).
- Psychological interventions such as cognitive-behavioral therapy, counseling, and couple-based therapy were applied in 112 participants and showed significant reductions in penetration-related fear, anxiety, and maladaptive cognitions, as indicated by decreased VPCQ scores ($p < 0.01$). Studies that combined physiotherapy with psychological support consistently reported the most comprehensive benefits, suggesting the importance of an integrated approach.

FIGURE 2: DISTRIBUTION OF PARTICIPANTS ACROSS INTERVENTIONS

Distribution of Participants Across Interventions (n = 246)



DISCUSSION

The review indicates that both physiotherapy and psychological strategies are highly effective in improving treatment outcomes for women with vaginismus. Physiotherapy approaches such as pelvic floor relaxation exercises, biofeedback, therapist-assisted exposure, and progressive use of vaginal dilators were consistently shown to enhance sexual function, as reflected by improvements in FSFI scores. These findings suggest that targeted pelvic floor down-training and desensitization methods help re-establish the normal relaxation–contraction cycle of the pelvic floor muscles, which is typically disrupted in vaginismus.^{1,4,6}

In addition to physical therapies, psychological approaches such as cognitive-behavioral therapy, counseling, and couple-focused interventions play a crucial role in enhancing treatment outcomes.^{2,4,5} These methods work by reducing fear, anxiety, and unhelpful beliefs related to sexual activity, which are often central to avoidance behaviors and emotional distress. Evidence from clinical studies, including reductions in Vaginismus Problem Checklist (VPCQ) scores, highlights improvements in emotional well-being, self-image, and relationship satisfaction.^{4,5} By targeting the psychological aspects of the condition, these interventions effectively complement the physical benefits of physiotherapy, enabling women to overcome both muscular and emotional barriers to penetration.

The most promising results emerge when physiotherapy is combined with psychological therapies, reinforcing the view of vaginismus as a biopsychosocial disorder.^{1,2,5} This integrated approach addresses pelvic muscle overactivity while simultaneously alleviating psychological distress, thereby interrupting the spasm–pain–fear cycle and facilitating a more comprehensive recovery. Such a model reflects real-world clinical practice, where multifaceted care is essential, and demonstrates that combining physical and psychological strategies not only enhances sexual functioning but also fosters lasting emotional stability and stronger relational well-being.^{1,2,3,4,5}

Nevertheless, certain limitations must be acknowledged. The included studies often involved relatively small sample sizes, and cultural or regional differences may influence both the presentation of vaginismus and its treatment response. Moreover, data on long-term outcomes remain scarce, making it

uncertain whether treatment benefits are sustained over time.^{1,2,3,6} One study, Interferential current was applied and found to relieve pelvic pain, but it is not a standardized treatment for vaginismus and does not directly address muscle hypertonicity or psychological factors.⁷ To strengthen the evidence base, future research should focus on larger, multicenter randomized controlled trials, the development of standardized treatment protocols, and long-term follow-up assessments.

CONCLUSION

Both physiotherapy and psychological interventions play an essential role in the management of vaginismus. Physiotherapy techniques such as pelvic floor relaxation, biofeedback, dilator training, and therapist-guided exposure were shown to improve sexual function, while psychological approaches including cognitive-behavioral therapy and counseling effectively reduced fear, anxiety, and penetration-related distress. Combined approaches offer the greatest benefit by addressing both physical and emotional factors.

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