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Original Article

Obstetrics and Gynaecology Section

Psychological Risk Factors and Clinical Outcome Variables in Vaginismus: A Systematic Review

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ABSTRACT

Introduction: Vaginismus is a genito-pelvic pain marked by involuntary muscle contraction, pain, and avoidance of vaginal penetration, significantly affecting women's health and quality of life. Despite its impact, vaginismus remains under-recognised and poorly understood.

Aim: This systematic review aims to synthesise recent evidence on psychological, risk, and clinical variables in women with vaginismus.

Materials and Methods: A systematic review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The authors searched PubMed, SCOPUS, Web of Science, and Science Direct for English language articles published between Jan 2019 and Dec 2023 using combinations of keywords and MeSH terms related to "vaginismus," "psychology," "risk factors," and "sexual disorders." Studies were included if they addressed vaginismus concerning risk factors, psychological aspects, or associated variables in human subjects. Two reviewers independently screened and selected studies, with disagreements resolved by consensus. Data extraction, screening, and quality assessment were performed using Rayyan Qatar Computing Research Institute (QCRI).

Results: Fourteen studies were included, including 3,086 female subjects. Sexual intimacy, self-image, fear of sex, sexual quality of life, education level, family structure, childhood trauma, cultural ideas about first sexual experiences, and misunderstandings about sexuality were among the several elements linked to vaginismus. Vaginismus is connected to anxiety and depression, underscoring the need for psychotherapy in treatment. Vaginismus was found to increase with grade, potentially lowering success rates and necessitating longer treatment times.

Conclusion: This review highlights that vaginismus is a multifactorial disorder best managed through individualised, multidisciplinary care. Early recognition and tailored interventions, particularly combining psychological and physical therapies, are key to improving outcomes and quality of life for affected women.

Keywords: Genito-pelvic pain, Psychological aspects, Risk factors, Sexual health

INTRODUCTION

Vaginismus, a complicated and multifaceted condition, manifests as a persistent or recurring inability for women to accept the vaginal passage of any object, including tampons usage, gynaecological examination, or sexual intercourse, despite their apparent desire to do so [1]. Significant pain, discomfort, and anguish may result from the involuntary tensing or tightening of the pelvic floor muscles that frequently accompany this illness [2]. In recognition of the complex interaction between psychological and physical symptoms, vaginismus has been categorised under the more general heading of genito-pelvic pain/penetration disorder in the "Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)" [3]. This categorisation spans a wide spectrum of difficulties, including but not limited to unsuccessful efforts at vaginal penetration, severe pain during intercourse or penetration attempts, intense dread or anxiety connected to vaginal penetration, and noticeable tensing or tightening of the pelvic floor muscles during attempted penetration [4].

The incidence of vaginismus is still a source of great dispute and confusion in the medical and scientific community [5]. A variety of variables contribute to this ambiguity, including cultural sensitivities surrounding sexual health talks, the condition's intrinsic secrecy, and the differing diagnosis criteria used across research and healthcare settings [6]. Global estimates identified that vaginismus affects between 1% and 7% of the female population, while these statistics are likely to be conservative due to severe underreporting [7]. Surprisingly, there appears to be a significant difference in reported prevalence rates between Eastern and Western civilisations, with Eastern cultures reporting greater rates [8]. For example, studies have found that the proportion of women experiencing sexual pain, including vaginismus, is 27% in Iran, 43% in Turkey, and up to 68% in Ghana [9-11]. Western countries, including the United States and Denmark, recorded lower rates of 7% and 0.8%, respectively [12,13]. However, these results should be interpreted with caution since they may represent differences in cultural attitudes about reporting sexual health disorders rather than actual disparities in prevalence [12].

The importance of vaginismus for affected women and their partners cannot be emphasised. This disorder affects many facets of a woman's life, far beyond sexual intercourse [14]. Women with vaginismus frequently have difficulty with basic gynaecological exams, inserting tampons, and utilising vaginal dilators for treatment purposes. The psychological impact of vaginismus is similarly severe, with many women experiencing feelings of inadequacy, shame, and failure in their duty as sexual partners. These unpleasant emotions can lead to low self-esteem, anxiety, sadness, and, in some situations, the avoidance of close connections entirely. Furthermore, the involuntary muscular contractions associated with vaginismus frequently cause women to experience a significant loss of control over their bodies, aggravating psychological discomfort [15].

Vaginismus has a complex and multiple aetiology, with biological, psychological, and social variables all playing a role. While certain cases of vaginismus may be caused by infections, hormone imbalances, or pelvic floor abnormalities, many are thought to have

a strong psychological component [16]. Vaginismus can be caused by a history of sexual abuse, poor views toward sexuality taught in infancy, fear of pain or pregnancy, and interpersonal troubles [17]. Furthermore, cultural and religious beliefs that foster negative views toward sex or female sexuality may contribute to increased incidence rates in certain civilisations [18].

Despite its significant impact, there remain notable gaps in the literature regarding the precise risk factors, psychosocial correlates, and optimal management strategies for vaginismus. Much of the existing research is limited by small sample sizes, inconsistent diagnostic criteria, and a lack of comprehensive synthesis of recent advances in understanding this condition [17,19]. This fragmentation in the evidence base hinders the development of clear clinical guidelines and leaves clinicians without up-to-date recommendations for assessment and treatment [20,21]. Given these considerations, the major objective of this systematic review is to give an updated, thorough overview of vaginismus, with a special emphasis on synthesising the most recent material published within the last five years. Ultimately, this review aims to bridge the gap between emerging research and clinical application, supporting the development of more effective, evidence-based approaches in sexology, psychotherapy, and sexual health counselling.

MATERIALS AND METHODS

Following the PRISMA standards [22], this systematic review was carried out in December 2023 (registration number: INPLASY202520086). A search for relevant literature was conducted in four major databases: PubMed, SCOPUS, Web of Science, and Science Direct. The search strategy combined MeSH terms and keywords related to vaginismus and its associated variables. The following search terms and Boolean operators were used in various combinations across all databases: ("vaginismus" OR "sexual pain disorder" OR "sexual dysfunction") AND ("psychology" OR "psychological" OR "risk factors" OR "clinical outcomes" OR "psychosocial" OR "sexual disorders").

Inclusion and Exclusion criteria: Original research articles published between January 2019 and December 2023 that addressed vaginismus in relation to its risk factors, associations, psychological dimensions, or clinical outcomes were included. Eligible study designs comprised observational studies (cross-sectional, case-control, cohort), interventional studies (randomised and non-randomised clinical trials), and qualitative studies exploring patient experiences or psychosocial aspects.

Reviews, editorials, commentaries, case reports, conference abstracts, animal studies, and studies not published in English were excluded. Studies were also excluded if they did not focus on vaginismus as a primary or central topic, or if they lacked sufficient methodological detail or outcome data relevant to the review objectives.

Study Procedure

Study selection and data extraction: The authors used Rayyan (QCRI), a web application for systematic reviews, to streamline the screening process [23]. Two reviewers independently screened titles and abstracts, followed by full-text reviews of potentially eligible studies. Discrepancies were resolved through discussion or by involving a third reviewer to ensure consistency and minimise selection bias.

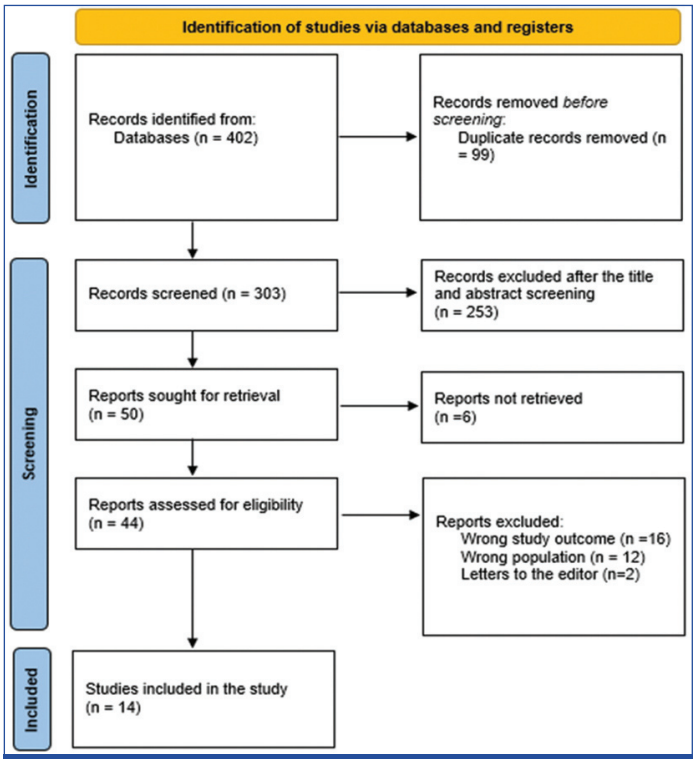
Key information was extracted using a predesigned data extraction form, capturing details such as study design, participant characteristics, interventions, outcomes, and main findings. The eligible studies' reference lists were navigated. Two reviewers independently extracted data and cross-verified entries to maintain consistency in data extraction.

Quality assessment and Risk of Bias (ROB): To assess the ROB, the ROBINS-I tool, specifically designed for non randomised studies, was used [24]. For interventional studies, we planned to use the Cochrane RoB 2 tool if applicable. The ROB assessment encompassed domains such as confounding, participant selection, intervention classification, deviations from intended interventions, missing data, outcome measurement, and selective reporting. Each included study was independently assessed by two reviewers, with disagreements resolved by consensus.

Data synthesis: Given the heterogeneous nature of studies on vaginismus, a qualitative synthesis approach was opted for and summary tables were used to capture the key findings and characteristics of each study, allowing us to identify patterns and themes across the literature. This process was iterative, with team members regularly coming together to discuss emerging insights and refine the understanding of the data. Through this methodical approach, we aimed to provide a comprehensive and nuanced overview of the current state of knowledge on vaginismus.

RESULTS

Systematic search results: A total of 402 records were identified across all databases before deduplication, and the overall number of records and the subsequent screening process are transparently detailed in the PRISMA flow diagram [Table/Fig-1].



[Table/Fig-1]: The PRISMA flowchart summarises the study selection process.

The sociodemographic characteristics of the reviewed research articles are presented in [Table/Fig-2] [25-38], providing a comprehensive overview of the study populations and methodologies. The analysis includes fourteen studies encompassing a total of 3,086 female participants. Among these, six studies were cross-sectional [25-30], four were retrospective [31-34], three were case-control [35-37], and one was a cohort study [38].

Geographically, the research spans multiple regions, with eight studies conducted in Turkey [28-33,35,38], three in Iran [25,26,36], one in Canada [34], one in Saudi Arabia [27], and one in Egypt [37]. This diversity in study locations enhances the breadth of the findings, offering insights into varied populations and healthcare environments.Additionally, the ROB assessments has been systematically summarised in [Table/Fig-3] [25-38] and seamlessly integrated into the synthesis of findings.

Study	Study design	Country	Participants	Mean age	Main outcomes
Banaei M et al., 2021 [25]	Cross-sectional	Iran	180	27.77±5.36	The ultimate predictors of the vaginismus diagnosis score were the following: sexual closeness, positive and negative self-image, fear of sex, quality of sexual life, and education. Thus, it is believed that this illness has multiple dimensions.
Velayati A et al., 2021 [26]	Cross-sectional	Iran	236	27.9±5.7	Depression and anxiety play a significant role in predicting the health related quality of life of vaginismus patients.
Alshahrani MS et al., 2023 [27]	Cross-sectional	Saudi Arabia	500	NM	In Najran, Saudi Arabia, women worry about vaginismus rarely but significantly; age and marital status are important contributing variables. To properly address this delicate subject, the study emphasises the need for increased sexual health education and awareness, especially among older women.
Yildirim EA et al., 2019 [28]	Cross-sectional	Turkey	144	26±4.6	Patients with vaginismus had considerably higher frequencies of concomitant depression, specific phobias, social anxiety disorder, and panic disorder. Contrary to predictions, the negative impacts of these co-morbidities on sexual functions were only noticed in a few specific regions. Furthermore, the findings imply that vaginismus is closely related to phobias in particular and some vaginismus patients are better assessed in the context of phobias.
Asoğlu M et al., 2019 [29]	Cross-sectional	Turkey	30	23.1±4.02	It's critical to identify and treat vaginismus as soon as possible because it can negatively impact several facets of marriage. The clinical data indicate that group psychotherapy with vaginismus is considerably simpler and quicker than individual psychotherapy. By diagnosing and treating vaginismus early on, we can help more patients recover from this type of illness.
Kenar SG et al., 2023 [30]	Cross-sectional	Turkey	23	50	Patients with vaginismus frequently get headaches, and migraines occur more regularly than tension type headaches. Patients with vaginismus who are suffering from headaches have higher anxiety scores. Consequently, headache and anxiety should be considered when treating and monitoring vaginismus patients.
Angın AD et al., 2020 [31]	Retrospective	Turkey	50	26.1	Individuals with vaginismus are conscious of their disease and have the option to receive therapy if desired. Nonetheless, patients who have a family history of vaginismus or who live with a partner who blames them for their condition would likely be less receptive to treatment.
Eserdag S et al., 2021 [32]	Retrospective	Turkey	281	27±5	The success of treatment and therapy management is significantly impacted by the comprehensive anamnesis and gynaecological evaluation performed at the time of initial admission.
Kiremitli S and Kiremitli T 2021 [33]	Retrospective	Turkey	91	27.86±4.1	Patients should be informed that the severity of their vaginismus may worsen as the grade advances, necessitating longer treatment sessions with lower success rates. In the advanced grade, the need for mechanical dilators may also increase if therapy application deadlines are missed.
Baril S et al., 2023 [34]	Retrospective	Canada	879	NM	In comparison to stated population rates, vulvodynia and vaginismus in pregnancy tend to be underreported. There appears to have been a rise in the prevalence of reporting in recent decades, which is linked to higher risks of morbidities in mothers and newborns.
Tetik S et al., 2020 [35]	Case-control	Turkey	100	26.2±4.1	Every aspect of female sexual health is significantly impacted negatively by poor mental health. Considering the anxiety levels of the study's patient cohort, vaginismus is not an anomaly. The results of this study dispel common misconceptions by showing that women with vaginismus do not differ in terms of their background in childhood trauma.
Vakilian K et al., 2022 [36]	Case-control	Iran	60	23.96±3.25	Women who suffer from vaginismus have lower levels of sexual self-esteem and self-concept, but while having different non-sexual views, their non-sexual irrational beliefs are the same as those of women without the disorder. It appears that medicine and education programs should concentrate on altering these factors.
Elrassas et al., 2022 [37]	Case-control	Egypt	30	29.7±4.8	The spread of vaginismus is greatly aided by false and exaggerated knowledge about sexuality being ingrained in women's subconscious. However, some of the major reasons for vaginismus are conventional family structures, teenage traumas, first-night stories, and sexuality-related superstitions.
Kurban D et al., 2021 [38]	Cohort	Turkey	482	28.4±5.4	Compared to controls, women with vaginismus had greater rates of alexithymia, anxiety, and depressive disorders, as well as distinct personality traits.

[Table/Fig-2]: Participants' sociodemographic characteristics and outcomes of the included studies [25-38].
NM: Not mentioned

Study [Reference No.]	Bias due to confounding	Bias in selection of participants	Bias in classification of interventions	Bias due to deviations from intended interventions	Bias due to missing data	Bias in measurement of outcomes	Bias in selection of reported result	Overall Risk of Bias (ROB)
Banaei M et al., 2021 [25]	Serious	Moderate	Low	Low	Moderate	Serious	Moderate	High
Velayati A et al., 2021 [26]	Serious	Moderate	Low	Low	Moderate	Serious	Moderate	High
Alshahrani MS et al., 2023 [27]	Moderate	Low	Low	Low	Low	Moderate	Low	Moderate
Yildirim EA et al., 2019 [28]	Moderate	Low	Low	Low	Low	Moderate	Low	Moderate
Asoğ lu M et al., 2019 [29]	Moderate	Low	Low	Low	Low	Moderate	Low	Moderate
Kenar SG et al., 2023 [30]	Moderate	Low	Low	Low	Low	Moderate	Low	Moderate
Angın AD et al., 2020 [31]	Moderate	Low	Low	Low	Low	Moderate	Low	Moderate
Eserdag S et al., 2021 [32]	Moderate	Low	Low	Low	Low	Moderate	Low	Moderate
Kiremitli S and Kiremitli T 2021 [33]	Moderate	Low	Low	Low	Low	Moderate	Low	Moderate
Baril S et al., 2023 [34]	Serious	Moderate	Low	Low	Serious	Serious	Moderate	High

Tetik S et al., 2020 [35]	Moderate	Low	Low	Low	Low	Moderate	Low	Moderate
Vakilian K et al., 2022 [36]	Moderate	Low	Low	Low	Low	Moderate	Low	Moderate
Elrassas et al., 2022 [37]	Serious	Moderate	Low	Low	Moderate	Serious	Moderate	High
Kurban D et al., 2021 [38]	Moderate	Low	Low	Low	Low	Moderate	Low	Moderate

[Table/Fig-3]: ROBINS-I Risk of Bias (ROB) assessment for non-randomised studies [25-38].

Consistently supported risk factors and associations: Across the included studies, several risk factors and associations emerged with strong and consistent support. Psychological co-morbidities, particularly anxiety and depression, were robustly associated with vaginismus in nearly all studies that examined these variables [25-38]. Some studies also found that negative self-image, low sexual self-esteem, and fear of sex were significant predictors of vaginismus diagnosis and severity. The association between conventional family structures, cultural superstitions, and first-night stories with vaginismus was also reported in several studies, especially those conducted in Eastern settings, indicating a strong cultural influence. The importance of sexual education and awareness was highlighted as a modifiable factor in both prevalence and treatment engagement.

Clinical and treatment-related findings: There was strong agreement that the severity of vaginismus is associated with worse clinical outcomes, including longer treatment duration, increased need for mechanical dilators, and lower treatment success rates [33]. Early and comprehensive assessment, including detailed gynaecological evaluation and psychoeducation, was repeatedly emphasised as critical for optimising treatment response [38]. Group psychotherapy was reported as more effective and efficient than individual therapy in Asoğlu M et al., study, but this finding has not been widely replicated [29].

Areas with limited or mixed evidence: Some associations were less consistently supported or more contested. For example, while several studies identified childhood trauma as a potential risk factor, one case-control study found no significant difference in childhood trauma history between women with and without vaginismus. The link between specific psychiatric co-morbidities (such as phobias or personality disorders) and vaginismus was observed in some studies but not universally confirmed. Similarly, the relationship between headaches (particularly migraines) and vaginismus was reported in a single study [30], suggesting this may be an emerging area for further research rather than a well-established association.

Strength of evidence summary: The most consistently supported risk factors for vaginismus are psychological distress (anxiety, depression), negative sexual self-concept, and cultural or familial influences. Associations with childhood trauma, specific psychiatric disorders, and somatic symptoms such as headaches are less robust and require further investigation. The evidence base is strongest for the role of psychological factors and cultural context, while findings regarding other risk factors are more variable across studies.

DISCUSSION

This systematic review identified multiple predictors and correlates of vaginismus, including sexual closeness, both positive and negative self-image, fear of sex, quality of sexual life, education, conventional family structures, teenage traumas, first-night stories, and sexuality-related superstitions [25-38]. Consistent evidence across several studies highlights the strong association between vaginismus and psychological co-morbidities, particularly anxiety and depression [26,28]. Findings underscore the importance of integrating mental health assessment and support into clinical care for women with vaginismus [36]. The presence of these co-morbidities was linked to greater severity and poorer treatment outcomes, especially as the grade of vaginismus advanced, necessitating longer therapy sessions and resulting in lower success rates [39].

Negative self-perception and diminished self-esteem were frequently reported among women with vaginismus, often compounded by sociocultural pressures such as the expectation to conceive and fulfill traditional family roles [40,41]. These results highlight the need for clinicians to consider the broader psychosocial context during assessment and treatment. Furthermore, cultural myths, family expectations, and misinformation about sexuality were identified as significant contributors to both the development and persistence of vaginismus, particularly in studies from Turkey and Iran [28-33,35,36].

Some studies suggested that early and comprehensive assessment, including detailed gynaecological and psychosocial evaluation, could improve treatment engagement and outcomes [24,27]. Group psychotherapy was reported to be more efficient than individual therapy in one study [24], although this finding requires further replication [42]. The role of partner involvement and targeted psychoeducation was also emphasised as potentially beneficial, though evidence remains limited and somewhat heterogeneous across studies [26-28].

From a clinical perspective, these findings suggest that therapists and clinicians should adopt a holistic, multidisciplinary approach to the management of vaginismus, with particular attention to psychological distress, negative self-image, and sociocultural influences [43]. Early intervention and the use of validated screening tools for anxiety, depression, and sexual self-concept may facilitate more effective and individualised care [26]. Clinicians should also be mindful of the stigma and barriers to disclosure that many women with vaginismus experience and strive to create a supportive, non-judgmental therapeutic environment [44,45].

Future research should prioritise longitudinal studies to assess the durability of treatment outcomes, comparative trials of different therapeutic modalities, and investigations involving more diverse populations better to capture the influence of cultural context on vaginismus. Additional qualitative research is warranted to deepen understanding of patient experiences, treatment barriers, and preferences. Standardisation of diagnostic criteria and outcome measures will be crucial to advancing the evidence base and facilitating meaningful comparisons across studies.

The findings of this systematic review highlight the importance of a comprehensive, multidisciplinary approach to managing vaginismus, with significant implications for both clinical practice and future research. Effective care should integrate physical interventions, such as pelvic floor physical therapy and graded vaginal dilator use, with psychological therapies, particularly Cognitive-Behavioural Therapy (CBT), to address anxiety, avoidance behaviours, and negative self-image. Early psychoeducation is essential to dispel myths and reduce fear. At the same time, progressive desensitisation and partner involvement through couples counselling and sensate focus exercises are recommended to support relational dynamics and facilitate recovery. For more severe or treatment-resistant cases, adjunctive therapies, including biofeedback, pharmacological interventions such as muscle relaxants or botulinum toxin injections, and mindfulness-based stress reduction, may be considered.

Healthcare providers, including gynaecologists, midwives, nurses, and psychologists, should receive specialised training in trauma-informed care and non-judgmental communication, utilising structured models like Permission, Limited Information, Specific Suggestions,

and Intensive Care (PLISSIT) to create a supportive environment [46]. Routine assessment with validated tools, such as the Female Sexual Function Index (FSFI) [47] and the Vaginismus Global Impression of Improvement scale [48], is recommended to monitor patient progress and tailor interventions. Establishing referral networks with certified sex therapists and pain specialists can further enhance patient outcomes.

There remains a clear need for more qualitative and comparative research to better understand the lived experiences of women with vaginismus and to evaluate the effectiveness of emerging interventions, including telehealth delivery and novel pharmacologic treatments. In alignment with fostering open communication about sexual health, increasing awareness among healthcare professionals and society at large will be essential in reducing stigma and improving access to care. By addressing both the clinical and psychosocial dimensions of vaginismus, future strategies can offer more holistic and effective support for affected women.

Limitation(s)

This review has several limitations. First, the reliance on English-language studies may have limited the diversity of perspectives and findings, particularly given that the prevalence and experience of vaginismus vary widely across different cultural contexts. Second, we did not conduct a meta-analysis or quantitative synthesis due to heterogeneity in study designs, populations, and outcome measures; as a result, the associations between vaginismus and various factors are described qualitatively, which may limit the ability to draw definitive conclusions about the strength of these relationships. Third, the review does not address in depth the limitations of the included studies, many of which had small sample sizes, potential biases in self-reported data, and possible inconsistencies in diagnostic criteria and outcome reporting. These factors may affect the generalisability and reliability of the findings. Future research should aim to include a broader range of languages, employ more standardised methodologies, and consider quantitative synthesis where possible to strengthen the evidence base.

CONCLUSION(S)

Vaginismus is a multifactorial condition closely linked to psychological distress, negative self-image, fear of sex, limited sexual education, and sociocultural factors. More severe cases are associated with longer and less successful treatment. These findings underscore the importance of multidisciplinary, culturally sensitive, and patient-centered care to improve outcomes. Future research should prioritise longitudinal and qualitative studies, larger and more diverse samples, and standardised outcome measures to enhance the evidence base and better address the needs of women with vaginismus.

REFERENCES

[1] Dias-Amaral A, Marques-Pinto A. Female genito-pelvic pain/penetration disorder: Review of the related factors and overall approach. Revista brasileira de ginecologia e obstetricia: Revista da Federacao Brasileira das Sociedades de Ginecologia e Obstetricia. 2018;40(12):787-93.
[2] Goldsmith T, Levy A, Sheiner E, Goldsmith T, Levy A, Sheiner E. Vaginismus as an independent risk factor for cesarean delivery. J Matern Fetal Neonatal Med. 2009;22(10):863-66.
[3] Diagnostic and statistical manual of mental disorders: DSM-5™, 5th ed, (2013).
[4] Binik YM. The DSM diagnostic criteria for vaginismus. Arch Sex Behav. 2010;39(2):278-91.
[5] Bokaie M, Bostani Khalesi Z. Couple therapy and vaginismus: A single case approach. J Sex Marital Ther. 2019;45(8):667-72.
[6] Bokaie M, Khalesi ZB, Yasini-Ardekani SM. Diagnosis and treatment of unconsummated marriage in an Iranian couple. Afr Health Sci. 2017;17(3):632-36.
[7] Lahaie MA, Boyer SC, Amsel R, Khalife S, Binik YM. Vaginismus: A review of the literature on the classification/diagnosis, etiology and treatment. Women's Health (Lond). 2010;6(5):705-19.
[8] Bulbuli AS, Kokate VA. Prevalence of vaginismus in reproductive age group: Observational study. J South Asian Feder Obst Gynae. 2024;16(2):198-201.
[9] Ramezani Tehrani F, Farahmand M, Simbar M, Malek Afzali H. Factors associated with sexual dysfunction; a population based study in Iranian reproductive age women. Arch Iran Med. 2014;17(10):679-84.
[10] Dogan S. Vaginismus and accompanying sexual dysfunctions in a Turkish clinical sample. J Sex Med. 2009;6(1):184-92.
[11] Amidu N, Owiredu WK, Woode E, Addai-Mensah O, Quaye L, Alhassan A, et al. Incidence of sexual dysfunction: A prospective survey in Ghanaian females. Reprod Biol Endocrinol. 2010;8:106.
[12] Pithavadian R, Chalmers J, Dune T. The experiences of women seeking help for vaginismus and its impact on their sense of self: An integrative review. Women's Health (Lond). 2023;19:17455057231199383.
[13] Andresen JB, Graugaard C, Andersson M, Bahnsen MK, Frisch M. Sexual inactivity and dysfunction in Denmark: A project SEXUS study. Arch Sex Behav. 2022;51(8):3669-88.
[14] Johnston SL. Women's experiences of vaginismus and its treatment: An interpretative phenomenological analysis. University of Leicester; 2013.
[15] Demirci AD, Kabukcuoglu K. "Being a woman" in the shadow of vaginismus: The implications of vaginismus for women. Current Psychiatry Research and Reviews. 2019;15(4):231-36.
[16] Mosca L, Riemma G, Braga A, Frigerio M, Ruffolo AF, Dominoni M, et al. Female sexual dysfunctions and urogynecological complaints: A narrative review. Medicina. 2022;58(8):981.
[17] McEvoy M, Rosaleen M, Glover R. Understanding vaginismus: A biopsychosocial perspective. Sexual and Relationship Therapy. 2024;39(3):680-701.
[18] Silva ACdM, Sei MB, de AP Vieira RB. Family, religion, and sex education among women with vaginismus: A qualitative study. Psicologia: Teoria E Prática. 2021;23(3):01-24.
[19] Lamba A, Mohajir N, Rahman S. A review of the psychosocial factors that contribute to sexuality, female sexual dysfunction, and sexual pain among Muslim women. Sex Med Rev. 2023;11(3):156-73.
[20] Raveendran AV, Rajini P. Vaginismus: Diagnostic challenges and proposed diagnostic criteria. Balkan Med J. 2024;41(1):80-82.
[21] Chalmers K. Clinical assessment and management of vaginismus. Aust J Gen Pract. 2024;53(1-2):37-41.
[22] Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. BMJ. 2021;372:n71.
[23] Ouzzani M, Hammady H, Fedorowicz Z, Elmagarmid A. Rayyan—a web and mobile app for systematic reviews. Systematic Reviews. 2016;5(1):210.
[24] Igelström E, Campbell M, Craig P, Katikireddi SV. Cochrane's risk of bias tool for non-randomized studies (ROBINS-I) is frequently misapplied: A methodological systematic review. J Clin Epidemiol. 2021;140:22-32.
[25] Banaei M, Kariman N, Ozgoli G, Nasiri M. Bio-psychosocial factor of vaginismus in Iranian women. Reprod Health. 2021;18(1):210.
[26] Velayati A, Jahanian Sadatmahalleh S, Ziaei S, Kazemnejad A. The role of personal factors in quality of life among Iranian women with vaginismus: A path analysis. Health Qual Life Outcomes. 2021;19(1):166.
[27] Alshahrani MS, Al Margan AM, Al Sharyan AM. Knowledge and Prevalence of vaginismus among women in Najran, Saudi Arabia. Cureus. 2023;15(11):e48602.
[28] Yildirim EA, Hacioğlu Yildirim M, Karaş H. Prevalence of depression and anxiety disorders and their relationship with sexual functions in women diagnosed with lifelong vaginismus. Turk J Psychiatry. 2019;30(1):09-15.
[29] Asoğlu M, Beginoğlu Ö, Demir M, Çelik H, Fedai Ü, Akıl Ö, et al. Retrospective analysis of vaginismus patients referred to psychiatric outpatient clinic in a university hospital. Harran Üniversitesi Tıp Fakültesi Dergisi. 2019;16(3):569-72.
[30] Kenar SG, Karaca M, Özakşit G, Yüksel H, Bektaş H. Headache, anxiety and depression in patients with vaginismus. Hitit Medical Journal. 2023;5(1):47-51.
[31] Angin AD, Gun I, Sakin O, Cikman MS, Eserdag S, Angin P. Effects of predisposing factors on the success and treatment period in vaginismus. JBRA Assist Reprod. 2020;24(2):180-88.
[32] Eserdag S, Angin AD. Importance of gynecological assessment for the treatment of vaginismus as a predictive value. J Obstet Gynaecol Res. 2021;47(7):2537-43.
[33] Kiremitli S, Kiremitli T. Examination of treatment duration, treatment success and obstetric results according to the vaginismus grades. Sex Med. 2021;9(5):100407.
[34] Baril S, Czuzoj-Shulman N, Abenhaim HA. Obstetric outcomes in women with vulvodynia or vaginismus. Arch Gynecol Obstet. 2023;308(2):471-77.
[35] Tetik S, Unlubilgin E, Kayikcioglu F, Bolat Meric N, Boran N, Moraloglu Tekin O. The role of anxiety and childhood trauma on vaginismus and its comorbidity with other female sexual dysfunctions. International Journal of Sexual Health. 2020;32(3):225-35.
[36] Vakilian K, Jahangiri MM, Ahangaran S. Mental health in women with vaginismus. Open Public Health J. 2022;15(1):e187494452211141.
[37] Elrassas H, Saad A, Fekry M, Elkholy H, Mansour O, Azzam L. Psychiatric comorbidity in a sample of Egyptian women with vaginismus. Middle East Curr Psychiatry. 2022;29(1):39.
[38] Kurban D, Eserdag S, Yakut E, Mishra PC. The treatment analysis of the patients suffering from vaginismus and the correlation with the psychological issues. Int J Reprod Contracept Obstet Gynecol. 2021;10(4):1328-36.
[39] Pacik PT, Geletta S. Vaginismus treatment: Clinical trials follow up 241 patients. Sex Med. 2017;5(2):e114-e23.
[40] Bond KS, Weerakoon P, Shuttleworth R. A literature review on vulvodynia and distress. Sexual and Relationship Therapy. 2012;27(1):46-62.
[41] Elmerstig E, Wijma B, Bertero C. Why do young women continue to have sexual intercourse despite pain? J Adolesc Health. 2008;43(4):357-63.
[42] Engman L, Ter Kuile MM, Linton SJ, Ekholm E, Tuijnman-Raasveld CC, Flink IK. An initial proof of concept: A replicated single-case study of a CBT group treatment with partner involvement for vulvodynia. Cogn Behav Ther. 2022;51(6):503-19.

[43] Mohammed GF, Al-Dhubaibi MS, AbdElneam AI, Bahaj SS, Al-Dhubaibi AM. Exploring female genital self-image: A psychological and sociocultural perspective. Sex Med Rev. 2025;13(2):256-66.
[44] Pithavadian R, Dune T, Chalmers J. Patients' recommendations to improve help-seeking for vaginismus: A qualitative study. BMC Womens Health. 2024;24(1):203.
[45] Basson R, Gilks T. Women's sexual dysfunction associated with psychiatric disorders and their treatment. Women's Health. 2018;14:1745506518762664.
[46] Cicek Ozdemir S, Dogan Gangal A, Senturk Erenel A. The effect of sexual counseling based on PLISSIT and EX-PLISSIT models on sexual function, satisfaction, and quality of life: A systematic review and meta-analysis. Arch Sex Behav. 2024;53(9):3485-513.
[47] Neijenhuijs KI, Hooghiemstra N, Holtmaat K, Aaronson NK, Groenvold M, Holzner B, et al. The Female Sexual Function Index (FSFI)-A systematic review of measurement properties. J Sex Med. 2019;16(5):640-60.
[48] Laskowska A, Gronowski P. 267 Vaginismus: An overview. J Sex Med. 2022;19(Supplement_2):S228-S9.

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