

12-2023

Factors associated with Genito-pelvic pain/penetration disorder in women: A review article

Kiran Karim Jivani

Aga Khan University, kiran.karim3@scholar.aku.edu

Tazeen S. Ali

Aga Khan University, tazeen.ali@aku.edu

Arusa Lakhani

Aga Khan University, arusa.lakhani@aku.edu

Fauzia Basaria Hasnani

Aga Khan University, fauzia.hasnani@aku.edu

Follow this and additional works at: <https://ecommons.aku.edu/jam>



Part of the [Nursing Midwifery Commons](#)

Recommended Citation

Jivani, K K, Ali, T S, Lakhani, A, & Hasnani, F B. Factors associated with Genito-pelvic pain/penetration disorder in women: A review article. *Journal of Asian Midwives*. 2023;10(2):27–41.

Factors Associated with Genito-Pelvic Pain/Penetration Disorder in Women: A Review Article

Kiran Karim Jivani*¹, Dr. Tazeen Saeed Ali², Arusa Lakhani³, and Dr. Fauzia Basaria⁴

Abstract

Globally, the sexual responses of genito-pelvic pain/penetration disorder-affected women is poorly understood. This deficit is due, in part, to these women being prone to incorrect pathologic rankings in intercourse-related questionnaires, thereby lowering the dependability of results. Although patients with genito-pelvic pain/penetration disorder display sexual intent, they typically avoid sexual circumstances in which penetration is involved. Gynaecological examinations are also frequently avoided, despite medical advice. The factors linked to genito-pelvic pain/penetration disorder identified in this review are; age, educational status, financial status, different relationship patterns, negative cognition, decreased sexual desire, no use of artificial lubricants, insufficient sexual arousal, history of sexual abuse, contraceptive use, and other pelvic related medical conditions. Women's autonomy over their reproductive choices, as well as widespread access to sexual and reproductive health care, are crucial not just for attaining sustainable development, but also for ensuring women's empowerment. Hence, holistically analysing and managing these components of women's sexual health is vital.

Keywords: Painful Intercourse, Sexual Discomfort, Pelvic Pain, Vaginismus, Dyspareunia

*¹Master of Science in Nursing Student, Aga Khan University, School of Nursing and Midwifery, Karachi, Pakistan kiranjivany@gmail.com

²Interim Dean, Aga Khan University, School of Nursing and Midwifery, Karachi, Pakistan, tazeen.ali@aku.edu

³Assistant Professor, Aga Khan University, School of Nursing and Midwifery, Karachi, Pakistan arusa.lakhani@aku.edu

⁴Senior Instructor – Aga Khan University, Department of Community Health Science, and School of Nursing and Midwifery, Karachi, Pakistan fauzia.hasnani@aku.edu

Introduction

Genito-Pelvic Pain/Penetration Disorder (GPPPD) is a major concern for women during their first sexual experience. The American Psychiatric Association (APA) discusses, vaginismus as, involuntary spasticity of the vaginal muscle in the outer third that impedes sexual contact, while dyspareunia is identified as genital discomfort because of sexual contact ¹. Later, in APA's most recent version of the 'Diagnostics and Statistical Manual – V' (DSM-V) 2013, they merged *vaginismus* and *dyspareunia* as a unified diagnosis of Genito-Pelvic Pain/Penetration Disorder (GPPPD), listing muscle tension, pain, and anxiety as primary symptoms that persist for at least six months and produce considerable clinical suffering ². GPPPD has a detrimental impact on women's lives in general. According to one study, 60% of women with GPPPD reported the illness made it difficult for them to enjoy life. Depression, anxiety disorder, decreased sexual behavior, low self-esteem, poor body, genital self-image, and tampon issues are among the results. This condition can put a strain on a couple's relationship, especially if they desire to have a child ³. The current review assesses the extant literature in this area.

Search Strategy

The scoping review for this study began with the creation of a component outline for

the literature review, which influenced the keywords used in search databases. "Genito-pelvic pain/penetration disorder", "Genito pelvic pain penetration disorder", "GPPPD", "vaginismus", "dyspareunia", "sexual dysfunction", "painful sex", "sexual pain", and "genital pain" were among the keywords used along with the Boolean operators "OR" and "AND". The PubMed, Google Scholar, Science Direct, CINAHL, Cochrane Library, and SAGE databases were searched.

In all, 11,537 records were found in these databases, which were reduced to 8364 after applying the following filters Human subject, Peer-reviewed, English Language, and Research Articles from 2013-2022. This process resulted in 129 records being shortlisted after screening for titles. Further 97 articles were then excluded based on the following conditions: 31 abstracts only, 29 secondary analyses, 13 protocols, 11 pilot studies, 8 editorials, and 5 commentaries. The remaining 32 publications were evaluated for duplication reducing the number to 26 articles. Finally, full texts were reviewed for relevance before being narrowed down to 13 articles that were fully examined. Although there exists a single article on vaginismus in the Pakistani context, it is essential to highlight that this study does not address the overall prevalence of GPPPD and its associated factors among females in Pakistan.

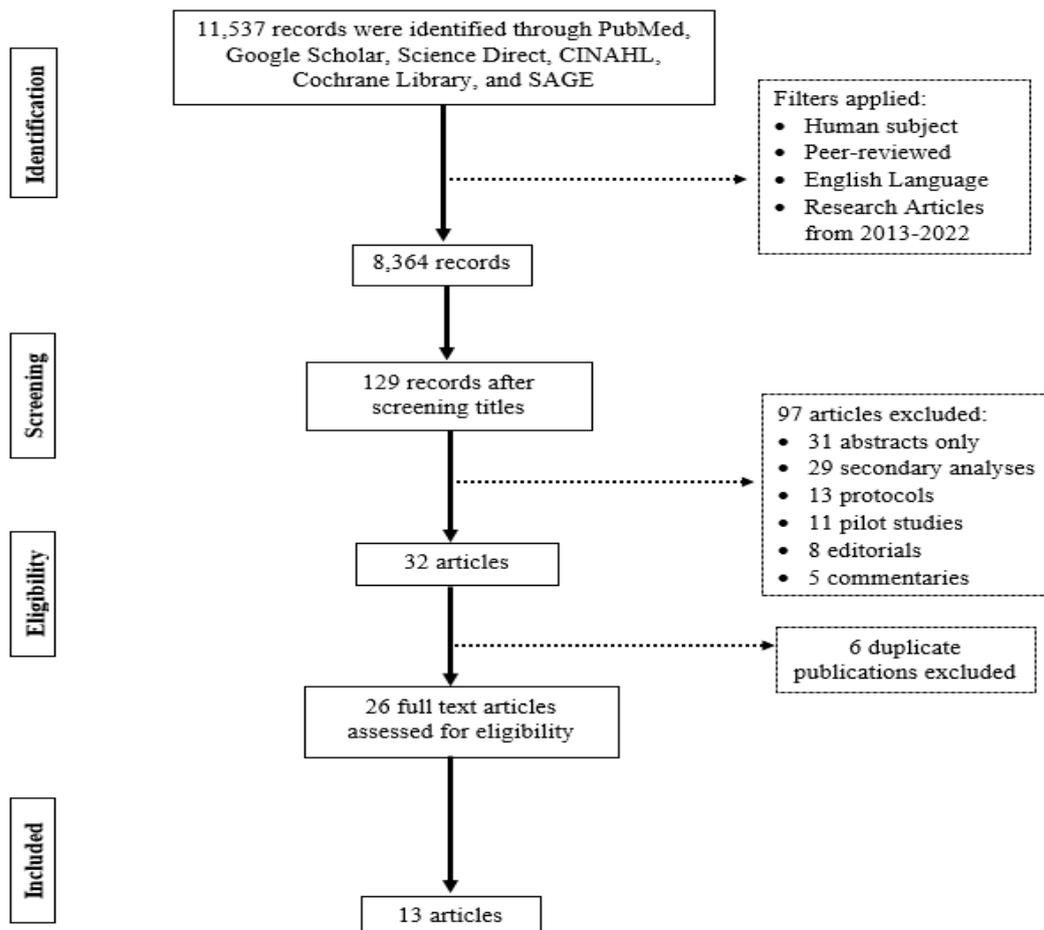


Figure 1. Flow chart for search strategy.

Table 1: Literature Review Table

S.#	Author (s) Name	Year & Place of Publication	Purpose of Study	Study Design	Sample Size	Key Findings
1	Azim et al.	2021 Northeastern U.S.	To investigate the prevalence of GPPPD and associated psychological variables among female college	C/S	Sexually active females (n = 593)	With sex, 113 college females reported frequent pain and 143 reported occasional pain. Sex frequency, orgasmic capacity, the anticipation of painful sex, and guilt of having sex associated

			students who are sexually active			with religiosity were discovered as factors.
2	Alizadeh & Farnam	2021 Iran	To identify factors that may reduce sexual discomfort and aid in the management of Dyspareunia	C/S	590 Iranian married females	Improving interpersonal aspects like intimacy and sexual satisfaction, as well as intrapersonal characteristics like body image and self-esteem, can address dyspareunia by reducing sexual pain.
3	Ünal et al.	2020 Istanbul, Turkey	To compare vaginal penetration cognition and metacognition in healthy controls versus GPPPD females	C/S	135 Outpatients with GPPPD and 136 healthy controls	Metacognition and vaginal penetration cognitions were found to be related. Sexuality, sexual avoidance, sexual communication between couples, non-sensuality, satisfaction, vaginismus, anorgasmia, cognitive self-consciousness, and the urge to control thoughts were all greater in the GPPPD group.
4	Alizadeh et al.	2019 Tehran, Iran	To determine the prevalence and possible risk factors for the diagnosis of GPPPD	C/S	590 healthy Iranian married females	GPPPD was estimated to 10.5% of the overall sample size. High sensitivity to touching the genitalia, poor sexual pleasure, and severe depression were identified as independent risk factors, with a stable financial condition and a greater marital satisfaction as protective factors for GPPPD.

5	Bockaj et al.	2019 North America	To evaluate partners of female with sexual interest/arousal disorder (FSIAD) compared to partners that do not experience sexual dysfunction in terms of their sexual motivation	C/S	97 females with FSIAD and their partners	In comparison to control females, females with FSIAD reported higher avoidance of sexual intents and lower sexual arousal. However, neither group's partners reported difference in desire for sex.
6	Özen et al.	2018 Turkey	To investigate dissociation and early trauma in females with GPPPD	MM	55 GPPPD and 61 healthy females	Penetration disorder appears as a dissociative symptom in certain females as a result of early-life psychogenic trauma, progressing to GPPPD.
7	Mitchell et al.	2017 Oxford, England	To investigate the frequency of painful intercourse among British females, as well as the associated sexual, relational, and health issues	C/S	6669 sexually active females, aged 16–74 years	7.5% of participants experienced painful intercourse. Vaginal dryness, lack of pleasure in sex, anxiety concerning sex, sexual relationship aspects, negative experiences like nonvolitional sex, and symptoms of depression, were significantly linked with reporting painful sex.
8	Pazmany et al.	2017 Leuven, Belgium	To examine subjective and brain reactions in women with GPPPD during fear and vestibular pain	MM	GPPPD affected females (n=18); non-GPPPD affected females (n=15)	GPPPD was associated with anticipatory fear, as well as pain-related fear and anxiety.

9	Melle s et al.	2016 Netherland	To determine whether females with GPPPD had increased attention for pain and sex, as well as increased threat and decreased incentive correlations with sexual penetration	C/S	Females with vaginismus (37), dyspareunia (29), and no symptoms (51)	Correlational analysis revealed that reduced sexual arousal was linked with slower recognition of intimate triggers and heightened automatic threat linkages.
10	Lahai e et al.	2015 North America	To assess the difference in genital pain, pelvic floor muscle tension, and fear between dyspareunia and vaginismus versus controls	MM	Vaginismus (50), dyspareunia (50), and control (43)	The vaginismus group experienced significantly higher vaginal muscle tension and fear than the dyspareunia group, while the control group experienced no pain.
11	Thom tén & Karlsson	2014 Sweden	To investigate pain catastrophizing, fear-avoidance attitudes, and depression and anxiety symptoms in females experiencing sexual pain	C/S	944 females (age 18–35)	16.1% of females experienced genital pain lasting six months. Women experiencing pain exhibited greater levels of anxiety symptoms, fear-avoidance attitudes, pain catastrophizing, and anxiety sensitivity.
12	Thom tén et al.	2014 Sweden	To look into the fear-avoidance model, and pain catastrophizing, in women who reported intercourse pain	C/S	133 females	37 of 133 females experienced frequent or constant sexual pain. These participants reported increased anxiety and despair, as well as fear-avoidance behaviors.

13	Ishaq & Rehm an	2014 Karachi, Pakistan	To ascertain prevalence of vaginismus and related complaints, as well as the approach for medical advice in the Pakistani community	C/S	80 females with vaginismus	Out of 80 patients, 71% had primary vaginismus. Only 49% sought medical advice, while only 39% sought treatment and experienced relief.
----	-----------------	---------------------------	---	-----	----------------------------	---

Burden of Genito-Pelvic Pain/Penetration Disorder

As most prior investigations on the incidence and severity of GPPPD were conducted using the earlier DSM's classification of dyspareunia and vaginismus as two distinct illnesses, these words are utilized interchangeably throughout this paper. GPPPD affects 14%-34% of reproductive-age women and 6.5%-45% of menopausal-aged women⁴. A study observed prevalence of dyspareunia as ranging from 14% to 27%, globally⁵.

Vaginismus affects around two out of every 1000 women⁶. One in every five women below age 30 has genital pain leading to excruciating intercourse, while epidemiological data among reproductive-age women varies from 10% to 20% prevalence⁷. According to data acquired from United States medical institutes, vaginismus was prevalent in both married and dating women at 53% and 47%, respectively⁶. The frequencies of vaginismus and dyspareunia in a Portuguese sample was 25.5% and 6.4%, accordingly⁸. Previous research indicated that the proportion of dyspareunia to be

approximately 36% in Nigeria⁹ and 51.8% across Colombia¹⁰.

According to a study the frequency of dyspareunia across Asia, particularly 29% in the Middle East, is higher than that in other regions; a high number of cases in Mid-Eastern nations and Islamic populations may be attributed to cultural and theological restrictions¹¹. Research carried out in Turkey revealed that 42.9% females reported dyspareunia, which is consistent with the previously described findings⁵. In Iran, studies on dyspareunia have revealed differing occurrence rates of the condition and found prevalence of vaginismus to be 8%, and dyspareunia ranged from 9% to 95%¹². Such disparity in conclusions drawn by these researchers could be attributed to the lack of standardized questionnaires, non-randomized recruitment, failure to assess sexual distress as well as the endurance and intensity of discomfort, and flawed research methodology¹³.

A study conducted in Karachi, Pakistan, revealed that among 80 patients with sexual pelvic pain, 71% were diagnosed with primary vaginismus. Among these patients,

49% of the females sought medical attention for the issue, and 39% received therapy, resulting in significant pain relief and improved sexual conduct ⁶.

Impact of Genito-Pelvic Pain/Penetration Disorder on Women's Lives

GPPPD yields a substantial influence on the life satisfaction of women impacting their health seeking behaviours as a result of their fear of gynaecological inspections ⁴. Since infertility and sexual dysfunction are sometimes associated, the consequences may be serious ¹⁴. According to a report on the concerns of male partners of women who suffers from GPPPD, they report trying to leave the relationships, splitting from their partners for a brief period, frustration with their partners or the treatment process, and self-blame ¹⁵. As per another study, GPPPD can trigger other issues in the relationship, such as poor communication, excessive stress, increased anxiety, and even separation or divorce ^{16, 17}.

According to the behavioural concept of vaginismus, vaginal reaction is a fearful reflex related to a particular (associated with sex) stimuli ¹⁸. Most GPPPD-afflicted women may engage in sexual activity after repeated acclimatization and improving muscle relaxation for diminishing of anxiety and fear, which suggests that these emotions are significant in the exacerbation of pelvic pain ¹⁴.

Specialist therapy alternatives in health care are relatively scarce in this condition. As a result, a significant number of women experiencing GPPPD do not receive

effective treatment, which has negative costs, beyond the relationship aspects and excessive direct hospital bills, such as medical visits, hospital stays, and therapy ¹⁹. Despite their significant distress, several women with GPPPD do not try to obtain care in the initial stages. Contributing factors for this delay to care include (1) limited awareness and acceptance of sexual dysfunctions falling within the rubric of a forbidden issue and related to fear of stigmatization; (2) self-blame, including emotions of self-hatred; and (3) medical professionals not routinely asking for information about sexual struggles during consultations due to insecurities, shame, or lack of knowledge about sexual challenges ^{3, 20}.

Associated Factors of Dysfunction with Genito-Pelvic Pain/Penetration Disorder

GPPPD has a multifactorial etiology. Research has investigated the sociodemographic, psychological, and physiological predictors that contribute to GPPPD.

A. Socio-demographic factors.

Age. A British study found that the proportion of painful vaginal penetrative intercourse was highest among the women aged 16-24 years and 55-64 years, with 3.9% of older women reporting morbid pain ²¹. Another study that recruited participants through social media discovered a notable difference in age between the two categories (healthy women and women with GPPPD), with younger women experiencing pain more frequently than older women ²². In contrast, a study evaluating the biomechanical differences

between young and elderly female vaginal tissues and ligaments showed that most tissues and fascia in young patients are not well differentiated. These tissues will change in diverse ways depending on mechanical stress with age, every day standing position, and, more significantly, in the event of obstetrical trauma. These alterations will enhance the stiffness, rigidity, and thickness of tissues, notably the uterine ligaments and vagina fascia, potentiating painful intercourse²³.

Educational status. Experiencing discomfort during sexual activity is associated with increased academic achievement. Another study conducted in the United States showed that despite feeling sexual discomfort, younger women and women with lesser income and education are less likely to disclose their sexual pain to their spouse or anyone else^{21, 24}. In contrast, a study conducted via Amazon Mechanical Turk (Mturk) and SONA, both online research participation platforms, discovered no significant changes in sexual pain intensity or frequency between low and high education groups²⁵.

Financial status. Women with a better financial situation seem to have lower GPPPD rates. Thus, improving one's financial situation by lowering pressures and stressors in women's lives appears to reduce incidence of GPPPD⁴. Another study suggests that financial empowerment contributes to a woman's confidence in her social and sexual life, making her less likely to experience discomfort in sexual encounters²⁶.

Different relationship patterns. Little or no trust in the husband and marital dissatisfaction due to frequent arguments and lack of affection, are linked to GPPPD⁴. Furthermore, a dysfunctional marriage reduces sexual desire and leads to coercive sexual experiences between husband and wife, which is linked to GPPPD²⁷.

B. Psychological factors

Negative cognition. Sexuality self-schema aspects (disturbed self-image beliefs regarding vaginal canal penetration, physique dissatisfaction, and negative genital self-regard) are linked to accelerated pain severity, sexual malfunction, and sexual agony²⁸. In one study, women with GPPPD expressed more hostile responses to sexual stimuli (e.g., disgust, worry, and threat), but their genital arousal remained analogous with comparison groups⁵. The dynamic link between negative emotions and sexual arousal is one potential explanation for this paradox²⁷. GPPPD has also been linked to lower self-esteem and emotions of femininity, as well as poor bodily and genital self-worth²⁹.

The fear-driven perceptions of penetration lead individuals to either avoid sexual encounters altogether or become hypervigilant to signals that reinforce these fearful beliefs. These reactions are influenced by their apprehensions surrounding the act of penetration. Increased exposure to physical stimuli and feelings that potentiate discomfort during intercourse efforts is referred to as hypervigilance³⁰. A study on women suffering from vaginismus revealed that they were more concerned about their body

image, losing power, catastrophic pain, and perceptions of vaginal incompatibility during penetrative sex than women without sexual problems²⁶. Additionally, like the vaginismus cohort, women with dyspareunia had similar levels of knowledge and views regarding genital touch^{26,31}

Decreased sexual desire. According to a Canadian study, severe discomfort and painful sex are related to reduce sexual fantasies and sexual desires in women³². According to a Moroccan study, women suffer pelvic discomfort more frequently and for a longer duration than men, which explains why painful intercourse causes significant libido loss in women and relates to a decrease in sexual intercourse frequency³³.

By employing a theoretical model, the psychological aspects in GPPPD can be effectively elucidated through the Fear-Avoidance Model. The exacerbation of pain is associated with negative cognition, where "hypervigilance" involves constant monitoring of vaginal stimulations, potentially leading to distress. Additionally, "catastrophization" refers to a woman's tendency to imagine the most frightening levels of anxiety after sexual contact. The initial experience of pain triggers frightening or catastrophic thoughts about discomfort and its consequences. These thoughts give rise to somatic anticipatory anxiety, intensifying negative experiences, promoting negative emotional states related to pain, and ultimately leading to reduced sexual desire, resulting in the avoidance of sexual activity³⁴.

C. Physiological factors

Artificial lubricants. A woman's vagina is naturally moist, but when she is not physiologically aroused, there is insufficient lubrication, preventing painless penetration³⁵. Nonetheless, around 17% of premenopausal women aged 17 to 50 years have difficult and painful sexual intercourse due to vaginal dryness³⁵. According to a research, GPPPD-affected women used lubricants more frequently than control group women to avoid or relieve discomfort, as a relatively successful strategy³⁶. According to one study, 53.9% of respondents used lubricant during vaginal sex because natural lubrication was insufficient, and 37.0% found it pleasurable. Lubricant use was linked to increased satisfaction and pleasure during both couple and solo intercourse³⁷.

Insufficient sexual arousal. Insufficient lubrication and arousal during attempts at penile-vaginal penetration can result in genital pain. Moreover, repeated traumatic experiences can heighten the perception and sensitivity to discomfort, leading to a worsening of libido³⁸. In a North American study, women diagnosed with female sexual interest/arousal disorder (FSIAD) exhibited significantly lower sexual drive and a greater aversion to sexual desires compared to control women. This discrepancy was attributed to inadequate sexual arousal, which fails to create a suitable vaginal environment for penile penetration, ultimately leading to sexual pain³⁹.

History of sexual abuse. A corresponding subject-design survey showed GPPPD-

affected individuals have double the history of sexual harassment than non-GPPPD affected individuals⁴⁰. However, a qualitative analysis argues that patients with vaginismus generally rate sexual harassment as the least important factor among its other causes²⁶. For victims of early life sexual abuse, in particular, GPPPD may reflect a protective closed-off need to protect themselves against perceived sexual pain, anticipated sexual abuse, or intrusions⁴¹.

Contraceptive use. A majority of studies suggests that, women who use oral contraceptives (OCs) have lower sexual desire and libido. Due to the increased incidence of vestibulitis and vaginal dryness, OCs can cause dyspareunia. The risk increases if OCs are used in teenagers for at least two years. OC users reported increased pain and discomfort during sex, used lubricants more frequently, and felt less aroused⁴². Even after controlling for socio-demographic factors, one study found that women who used hormonal contraception had reduced levels of sexual urges, sexual activity, sexual fulfilment, orgasm, and natural lubrication⁴³.

Medical conditions. Dysmenorrhea, genital herpes, changes in the hormonal system, menopause, malignant lesions, trauma or surgery, abortion, endometriosis, chronic urinary tract infections, constipation, congenital hymeneal disorders, genetic polymorphism, and infections or irritations are the most common causes of genital discomfort among women diagnosed with GPPPD^{11, 41, 44, 45}. Post-menopausal painful intercourse is usually caused by vaginal

atrophy, which occurs when the surrounding tissues of the vagina and vulva dry out owing to estrogen deficiency⁴⁶. Hence, in some instance, GPPPD is associated with medical issues.

Conclusion

Sexual pain experienced by females has long been understudied, and the urge to examine the predictors cannot be overstated. This gap in the evidence reflects two challenges for professionals dealing with patients with pelvic pain: often victims suffer silently, mainly due to embarrassment, remorse, and profound ignorance of the victim's concerns, and there is limited competency of healthcare providers with regard to women's sexual pain conditions. This condition requires a renewed level of emphasis, both in terms of research approach and healthcare services, in addition to increasing awareness about female experiences of genital pain, along with its psychosocial and medical causes, as well as appropriate interventions.

Conflict of Interest: None

Source of Funding: None

References

1. Association AP. Diagnostic and statistical manual of mental disorders 4th ed. Washington DC: APA. 1994;980
2. APA APA. Diagnostic and statistical manual of mental disorders. The American Psychiatric Association. 2013
3. Zarski A-C, Berking M, Ebert DD. Efficacy of Internet-Based Guided treatment for Genito-Pelvic Pain/Penetration Disorder: rationale,

treatment Protocol, and Design of a randomized controlled trial. *Frontiers in Psychiatry*. 2018;8:260

4. Alizadeh A, Farnam F, Raisi F, Parsaeian M. Prevalence of and risk factors for genito-pelvic pain/penetration disorder: a population-based study of Iranian women. *The journal of sexual medicine*. 2019;16(7):1068-77

5. Ünal GT, Onur ÖŞ, Erten E. Comparison of vaginal penetration cognitions and metacognitions between women with genito-pelvic pain and penetration disorder and healthy controls. *The Journal of Sexual Medicine*. 2020;17(5):964-74

6. Ishaq H, Rehman H. Vaginismus: Cross-sectional study in population of Karachi, Pakistan. *International Journal of Pharmaceutics and Drug Analysis*. 2014:849-57

7. Reme SE, Kirste UM. Female genital pain—A biopsychosocial phenomenon involving fear and avoidance. *Scandinavian Journal of Pain*. 2014;5(3):191-2

8. Pacik PT, Geletta S. Vaginismus treatment: clinical trials follow up 241 patients. *Sexual medicine*. 2017;5(2):e114-e23

9. Asogwa SU, Nwafor JI, Olaleye AA, Ugoji D-PC, Obi CN, Ibo CC. Prevalence of dyspareunia and its effect on sexual life among gynaecological clinic attendees in Alex Ekwueme Federal University Teaching Hospital Abakaliki, Nigeria. *Advances in Sexual Medicine*. 2019;9(04):110

10. Herrera Betancourt AL, Bautista KE, Lopez-Jaramillo JD, Lopez Isanoa JD, Villegas-Echeverri JD, Lamvu G. Prevalence of dyspareunia and vulvodinia in a Colombian clinic sample: A pilot survey. *Journal of Endometriosis and Pelvic Pain Disorders*. 2019;11(2):102-7

11. 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 Obstetrícia*. 2018;40:787-93

12. Nasehi AA, Raisi F, Ghaeli P, Amini M, Yahyavi ST, Arabkheradmand J, et al. Prevalence of sexual dysfunction among general population of Iran: A systematic review. *Iranian Journal of Psychiatry and Behavioral Sciences*. 2017;11(4)

13. Conforti C. Genito-Pelvic Pain/Penetration Disorder (GPPPD): An overview of current terminology, etiology, and treatment. *University of Ottawa Journal of Medicine*. 2017;7(2):48-53

14. Alizadeh A, Farnam F. Coping with dyspareunia, the importance of inter and intrapersonal context on women's sexual distress: a population-based study. *Reproductive Health*. 2021;18(1):1-11

15. Macey K, Gregory A, Nunns D, das Nair R. Women's experiences of using vaginal trainers (dilators) to treat vaginal penetration difficulties diagnosed as vaginismus: a qualitative interview study. *BMC women's health*. 2015;15(1):1-12

16. Melles RJ, Dewitte MD, Ter Kuile MM, Peters MM, de Jong PJ. Attentional bias for pain and sex, and automatic

appraisals of sexual penetration: differential patterns in dyspareunia vs vaginismus? *The Journal of Sexual Medicine*. 2016;13(8):1255-62

17. Zgueb Y, Ouali U, Achour R, Jomli R, Nacef F. Cultural aspects of vaginismus therapy: a case series of Arab-Muslim patients. *The Cognitive Behaviour Therapist*. 2019;12

18. Özen B, Özdemir YÖ, Beştepe EE. Childhood trauma and dissociation among women with genito-pelvic pain/penetration disorder. *Neuropsychiatric disease and treatment*. 2018;14:641

19. Pazmany E, Ly HG, Aerts L, Kano M, Bergeron S, Verhaeghe J, et al. Brain responses to vestibular pain and its anticipation in women with Genito-Pelvic Pain/Penetration Disorder. *NeuroImage: Clinical*. 2017;16:477-90

20. Azim KA, Happel-Parkins A, Moses A, Haardoerfer R. Exploring Relationships Between Genito-Pelvic Pain/Penetration Disorder, Sex Guilt, and Religiosity Among College Women in the US. *The Journal of Sexual Medicine*. 2021;18(4):770-82

21. Mitchell K, Geary R, Graham C, Datta J, Wellings K, Sonnenberg P, et al. Painful sex (dyspareunia) in women: prevalence and associated factors in a British population probability survey. *BJOG: An International Journal of Obstetrics & Gynaecology*. 2017;124(11):1689-97

22. Pernilla M, Lance M, Johanna E, Thomas P. Women, Painful Sex, and

Mindfulness. *Mindfulness*. 2022;13(4):917-27

23. Chantereau P, Brieu M, Kammal M, Farthmann J, Gabriel B, Cosson M. Mechanical properties of pelvic soft tissue of young women and impact of aging. *International urogynecology journal*. 2014;25:1547-53

24. Carter A, Ford JV, Luetke M, Fu T-c, Townes A, Hensel DJ, et al. "Fulfilling his needs, not mine": Reasons for not talking about painful sex and associations with lack of pleasure in a nationally representative sample of women in the United States. *The Journal of Sexual Medicine*. 2019;16(12):1953-65

25. Stout ME, Hawkins MA. Temporal Relationships Between Pain During Intercourse (PDI), Loneliness, and Depressive Symptoms Among Women. *Sexual Medicine*. 2021;9(6):100444

26. Lahaie M-A, Amsel R, Khalifé S, Boyer S, Faaborg-Andersen M, Binik YM. Can fear, pain, and muscle tension discriminate vaginismus from dyspareunia/provoked vestibulodynia? Implications for the new DSM-5 diagnosis of genito-pelvic pain/penetration disorder. *Archives of sexual behavior*. 2015;44(6):1537-50

27. Janssen E, Macapagal KR, Mustanski B. Individual differences in the effects of mood on sexuality: The Revised Mood and Sexuality Questionnaire (MSQ-R). *Journal of sex research*. 2013;50(7):676-87

28. Medina A. THE ROLE OF SEXUAL SELF-SCHEMA AND

PSYCHOLOGICAL DISTRESS IN THE RELATIONSHIP BETWEEN SEXUAL VICTIMIZATION AND SEXUAL FUNCTIONING AND SATISFACTION 2019.

29. Komarnicky T, Skakoon-Sparling S, Milhausen RR, Breuer R. Genital self-image: associations with other domains of body image and sexual response. *Journal of sex & marital therapy*. 2019;45(6):524-37
30. Glowacka M, Bergeron S, Dubé J, Rosen NO. When self-worth is tied to one's sexual and romantic relationship: Associations with well-being in couples coping with genito-pelvic pain. *Archives of sexual behavior*. 2018;47(6):1649-61
31. Spoelstra SK, Weijmar Schultz WC, Reissing ED, Borg C, Broens PM. The distinct impact of voluntary and autonomic pelvic floor muscles on genito-pelvic pain/penetration disorder. *Sexual and Relationship Therapy*. 2019;34(4):462-72
32. Krakowsky Y, Grober ED. A practical guide to female sexual dysfunction: An evidence-based review for physicians in Canada. *Canadian Urological Association Journal*. 2018;12(6):211
33. Bahouq H, Fadoua A, Hanan R, Ihsane H, Najia H-H. Profile of sexuality in Moroccan chronic low back pain patients. *BMC musculoskeletal disorders*. 2013;14(1):1-6
34. Rowland DL, van Lankveld JJ. Anxiety and performance in sex, sport, and stage: Identifying common ground. *Frontiers in psychology*. 2019;10:1615
35. Goncharenko V, Bubnov R, Polivka J, Zubor P, Biringer K, Bielik T, et al. Vaginal dryness: individualised patient profiles, risks and mitigating measures. *Epma Journal*. 2019;10(1):73-9
36. Sutton KS, Boyer SC, Goldfinger C, Ezer P, Pukall CF. To lube or not to lube: experiences and perceptions of lubricant use in women with and without dyspareunia. *The journal of sexual medicine*. 2012;9(1):240-50
37. Clayton AH, Juarez EMV. Female sexual dysfunction. *Medical Clinics*. 2019;103(4):681-98
38. Kane L, Dawson SJ, Shaughnessy K, Reissing ED, Ouimet AJ, Ashbaugh AR. A review of experimental research on anxiety and sexual arousal: Implications for the treatment of sexual dysfunction using cognitive behavioral therapy. *Journal of Experimental Psychopathology*. 2019;10(2)
39. Bockaj A, Rosen NO, Muise A. Sexual motivation in couples coping with female sexual interest/arousal disorder: A comparison with control couples. *Journal of Sex & Marital Therapy*. 2019;45(8):796-808
40. Thomtén J, Lundahl R, Stigenberg K, Linton S. Fear avoidance and pain catastrophizing among women with sexual pain. *Women's Health*. 2014;10(6):571-81
41. Maseroli E, Scavello I, Cipriani S, Palma M, Fambrini M, Corona G, et al. Psychobiological correlates of vaginismus:

an exploratory analysis. *The journal of sexual medicine*. 2017;14(11):1392-402

42. Lee J-JM, Low LL, Ang SB. Oral contraception and female sexual dysfunction in reproductive women. *Sexual Medicine Reviews*. 2017;5(1):31-44

43. Smith NK, Jozkowski KN, Sanders SA. Hormonal contraception and female pain, orgasm and sexual pleasure. *The journal of sexual medicine*. 2014;11(2):462-70

44. Graziottin A, Gambini D. Evaluation of genito-pelvic pain/penetration disorder. *The textbook of clinical sexual medicine: Springer*; 2017. p. 289-304.

45. Newman R, Campbell PC, Gooneratne ML, Lowenstein L, Mu G, Qureshi AA, et al. Genito pelvic vaginal laxity: classification, etiology, symptomatology, and treatment considerations. *Current Sexual Health Reports*. 2018;10(4):222-36

46. Leusink P, Kaptheijns A, Laan E, van Boven K, Lagro-Janssen A. Comorbidities among women with vulvovaginal complaints in family practice. *The Journal of Sexual Medicine*. 2016;13(2):220-5