Oregon Health & Science University
School of Medicine

Scholarly Projects Final Report

Title

Severity of Sexual Function Interference Amongst Patients Presenting to a Vulvar Specialty Clinic Using Condition-Specific Patient-Reported Measures

Student Investigator's Name

Lily Sloan

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Co-Investigators
Amie Leaverton, MD, Lucy Ward, MS

Mentor's Name
Amie Leaverton, MD

Mentor's Department
Obstetrics and Gynecology

Scholarly Project Final Report

Concentration Lead's Name
Lawdawna Givers, MD

Project/Research Question

Among patients presenting to a vulvar specialty clinic, what is the magnitude of sexual function interference, as measured by the VQLI and VPAQ, and how does this interference differ across major vulvar diagnostic categories (vulvar dermatoses, vulvodynia, and vaginitis)?

Type of Project

Cross-sectional observational research study

Key words

Vulvar Quality of Life Index (VQLI), Vulvar Pain Assessment Questionnaire (VPAQ), Vulvodynia, Vaginitis, Vulvar dermatoses, Vulvar disease, Lichen Sclerosus, Sexual Function Interference

Submission to Archive

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Next Steps

Next steps include longitudinal analysis of patients with follow-up VQLI/VPAQ data to quantify change in sexual function interference over time and to evaluate associations between change and treatment exposures. Additional work could identify baseline predictors of persistent interference and examine diagnosis-specific subgroups.

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Introduction

Chronic vulvar conditions, such as lichen sclerosus (LS), lichen planus, lichen simplex chronicus, vulvodynia, and recurrent vaginitis, affect patients across a wide age range and can substantially impair sexual health and quality of life.[1–3] A review indicates nearly 1 in 6 women may experience undiagnosed and untreated vulvovaginal discomfort at some point in their lives.[4]

The estimated prevalence of LS is 1.7% with a bimodal age distribution, most often occurring in prepubertal and postmenopausal patients; however, LS can be diagnosed in any age or sex.[5] LS typically presents with severe pruritus, pain, dyspareunia, and skin tears.[6] Physical examination can reveal white plaques on vulvar skin, and advanced disease can involve loss of vulvar architecture and scarring and is associated with an increased risk of squamous cell carcinoma.[5] A systematic review and meta-analysis demonstrated that in patients with LS, the prevalence of sexual dysfunction is approximately 59% (95% CI: 48-79%), with dyspareunia as the most commonly reported type of dysfunction.[7]

Other common inflammatory vulvar dermatoses include contact dermatitis, lichen planus, and lichen simplex chronicus. These conditions can present with pruritus, burning, and skin irritation and may also contribute to sexual function interference and distress.[5,8,9]

Vulvodynia is persistent vulvar pain lasting at least three months without an identifiable cause.[10] Vulvodynia has an estimated prevalence of 8-16%, most commonly affecting patients during reproductive years.[11,12] Vulvodynia is associated with dyspareunia, relationship strain, and impaired sexual function.[12] In a population of patients with vulvodynia, when compared with controls, patients with vulvodynia reported higher levels of anxiety and depression, lower resilience, reduced dyadic adjustment, and impaired sexual function.[13] These findings frame vulvodynia-associated sexual impairment as multidimensional; without systematic assessment, the actual burden remains under-characterized, and clinical management remains difficult to personalize.

Vaginitis is a highly prevalent condition resulting in 5 to 10 million office visits per year. Symptoms can include abnormal vaginal discharge, odor, itching, burning, and dyspareunia.[14] Recurrent vulvovaginal candidiasis (RVVC) is traditionally defined as four or more episodes per year. RVVC has been associated with significantly impaired sexual function on the FSFI and lower scores in orgasm and satisfaction domains.[15] Patients with recurrent bacterial vaginosis have reported avoidance of sexual activity and decreased self-esteem.[16]

Several instruments have been used previously to assess quality of life and sexual function interference for those living with vulvar conditions. Existing literature has used general dermatology instruments, such as the Dermatology Life Quality Index (DLQI) and Skindex, to measure the burden of vulvar dermatoses; however, these tools provide limited information about vulva-specific sexual/relationship content.[17–19] The Female Sexual Function Index (FSFI) is a widely used tool that has been used to assess sexual function in vulvodynia cohorts, namely to characterize dyspareunia and sexual dysfunction.[20,21] However, the FSFI was developed as a broad instrument rather than a condition-specific tool to measure pain-related sexual interference for vulvar pain populations.[22]

Given the limitations of general dermatology and broad sexual function instruments, condition-specific measures such as the Vulvar Quality of Life Index (VQLI) and Vulvar Pain Assessment Questionnaire (VPAQ) provide a more targeted approach to assessing sexual interference in patients with vulvar conditions.

The VQLI is a 15-item questionnaire developed to assess vulva-specific quality-of-life domains, including treatment burden, symptoms, feelings, activity interference, relationships/sex, and future health concerns.[23] This multidimensional approach provides context that general dermatology instruments may

lack. VQLI has demonstrated excellent psychometric properties with high internal consistency, test-retest reliability, and construct validity.[23]

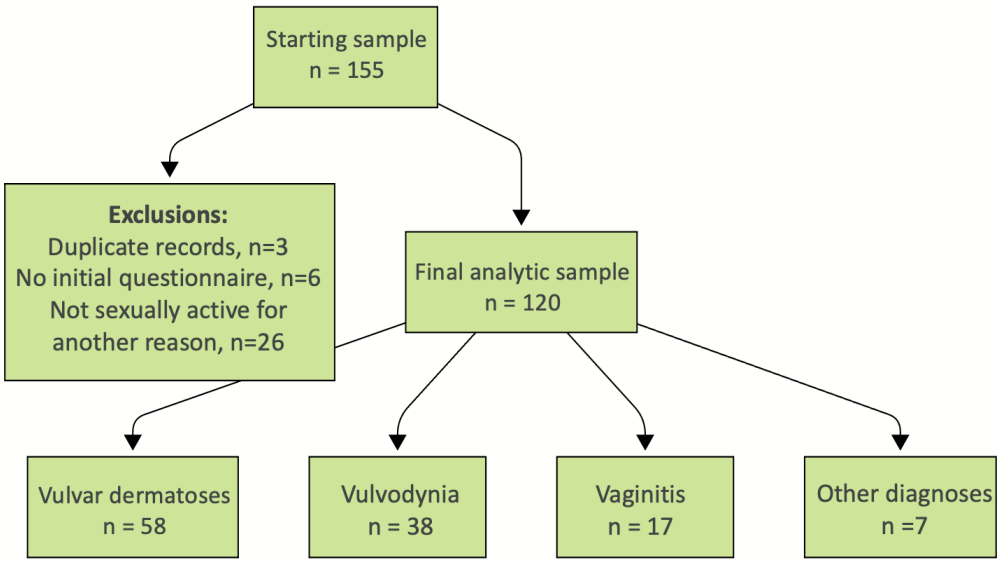
The VPAQ was developed as a multidimensional assessment instrument to better capture pain characteristics for patients with vulvodynia, including pain severity, cognitive/emotional reactions, life interference, and sexual function interference.[24] A COSMIN-guided evaluation of instruments for provoked vestibulodynia highlighted pain-related sexual-life interference as a core outcome domain and identified the VPAQ sexual-life interference subscales as the best-supported available tools for measuring this construct, supporting the relevance of this domain for research focused on sexual outcomes.[25]

This study aims to characterize the severity of sexual function interference using the VQLI and VPAQ among patients presenting to a vulvar specialty clinic and to compare sexual interference across major diagnostic categories (vulvar dermatoses, vulvodynia, and vaginitis). Additionally, menopausal status was collected but was not used for analytic stratification because data on systemic and local estrogen exposure were not consistently available; menopausal status alone may not reflect estrogenization.

Methods

We conducted a cross-sectional analysis of baseline patient-reported outcomes collected at their initial visit in a tertiary-care vulvar specialty clinic at a university hospital between September 2023 and June 2025. Baseline records were identified for patients evaluated for vulvar symptoms who completed at least one patient-reported outcome measure (VQLI and/or VPAQ). We excluded duplicate records (n=3) and records lacking an initial questionnaire (n=6). To focus analyses on symptom-related sexual functioning, we also excluded patients who were not sexually active for reasons unrelated to vulvar symptoms or pain (n=26), including patients who were unpartnered or not sexually active due to a partner's health. The final analytic sample included 120 patients. Participant inclusion is summarized in **Figure 1**.

Figure 1: Study Sample Derivation and Diagnostic Category Distribution



Clinician-assigned diagnoses were grouped into four mutually exclusive categories: (1) vulvar dermatoses, (2) vaginitis, (3) vulvodynia, and (4) other diagnoses. The "other diagnoses" group was retained for cohort descriptives and excluded from primary between-group comparisons due to heterogeneity and small sample size.

Survey administration evolved over time. Earlier in the data collection period, survey administration was diagnosis-directed: patients evaluated for vulvar dermatoses were preferentially administered the VQLI, whereas patients evaluated for vulvodynia were preferentially administered the VPAQ. Later in the collection period, patients were routinely sent both instruments. As a result, completion of both instruments was not universal and reflects clinic workflow and evolving survey administration rather than patient nonresponse alone.

The Vulvar Quality of Life Index (VQLI) is a 15-item vulva-specific quality-of-life measure assessing symptom burden and functional impacts, with item response options scored 0–3, with higher scores indicating greater impact. Sexual function interference was operationalized using the VQLI Relationships/Sex items (3 items, displayed in **Figure 2**) summed to yield a composite score ranging from 0–9 as demonstrated in **Figure 3.**

Figure 2: The Vulvar Quality of Life Index (VQLI) Relationships/Sex Assessment Questions

Over the last month, how much has your vulvar skin created problems with a partner or precluded you from pursuing a romantic relationship? (For instance, maintaining a relationship or finding a partner)	Very much = 3	A lot = 2	A little = 1	Not at all = 0
Over the last month how much has your vulvar skin interfered with your sex life? (including: decreased libido, decreased frequency of sex and/or enjoyment of sex)	Very much = 3	A lot = 2	A little = 1	Not at all = 0
Over the last month how often have you felt distressed or worried about sex because of your vulvar skin?	Very much = 3	A lot = 2	A little =1	Not at all = 0

Figure 3: VQLI Composite Scoring

Level of Interference	Composite Score
No Interference	0
Mild Interference	1-3
Moderate Interference	4-6
Severe Interference	7-9

The Vulvar Pain Assessment Questionnaire (VPAQ) assesses chronic vulvar pain and its functional and psychosocial impacts. For the analysis, we looked at the questionnaire sections: Cognitive/Emotional Reactions, Sexual Function Interference, and selected items from Self-Penetration Interference (displayed in **Figures 4-6**) and composite scoring (0-52) to understand the level of interference (displayed in **Figure 7**).

Figure 4: Vulvar Pain Assessment Questionnaire (VPAQ) Cognitive Emotional Reactions

That people might think I am a bad sexual partner		A little = 1	Somewhat = 2	A lot = 3	Very much = 4
That my partner(s) might think I am frigid	Not at all = 0	A little = 1	Somewhat = 2	A lot = 3	Very much = 4
That my partner(s) will leave me	Not at all = 0	A little = 1	Somewhat = 2	A lot = 3	Very much = 4

Figure 5: Vulvar Pain Assessment Questionnaire (VPAQ) Sexual Function Interference

My response to sexual advances made by my partner					Very much = 4
Desire for sexual activity	Not at all = 0	A little = 1	Somewhat = 2	A lot = 3	
Feeling sexual pleasure	Not at all = 0	A little = 1	Somewhat = 2	A lot = 3	Very much = 4
Orgasm frequency	Not at all = 0	A little = 1	Somewhat = 2	A lot = 3	
	Not at all = 0	A little = 1	Somewhat = 2	A lot = 3	

penetrative sexual activity					
Taking part in penetrative sexual activity	Not at all = 0	A little = 1	Somewhat = 2	A lot = 3	Very much = 4

Figure 6: Vulvar Pain Assessment Questionnaire (VPAQ) Self Penetration Interference

How often do the following situations/activities cause vulvar pain?					
Solitary sexual stimulation of my vulva (i.e. masturbation)	Never = 0	Rarely = 1	Sometimes = 2	Often = 3	Always = 4
Masturbation when partner is present	Never = 0	Rarely = 1	Sometimes = 2	Often = 3	Always = 4
Self-penetration with fingers (partner absent)	Never = 0	Rarely = 1	Sometimes = 2	Often = 3	Always = 4
Self-penetration with sex toy (partner absent)	Never = 0	Rarely = 1	Sometimes = 2	Often = 3	Always = 4

Figure 7: VPAQ Composite Scoring

Level of Interference	**Composite Score**
No Interference	0
Mild Interference	1-12
Moderate Interference	13-30
Severe Interference	31-52

The primary outcome was severity of sexual function interference as measured by the VQLI Relationships/Sex composite score (range 0–9) and the VPAQ composite sexual interference score (range 0–52). For both instruments, severity was categorized using predefined score ranges (**Figures 3 and 7**). Secondary outcomes included comparison of mean VQLI and VPAQ scores across clinician-assigned diagnostic categories (vulvar dermatoses, vulvodynia, and vaginitis).

Descriptive statistics were used to summarize demographic and clinical characteristics as well as sexual function interference scores. Continuous variables are reported as mean ± standard deviation (SD), and categorical variables are reported as counts and percentages.

Between-group comparisons of continuous sexual interference scores (VQLI and VPAQ composite scores) across diagnostic categories were performed using the Kruskal–Wallis test, given the non-normal distribution of scores and unequal group sizes. When severity categories were analyzed as categorical outcomes, Fisher's exact tests were used due to small cell counts in some diagnostic groups.

Results

Figure 8: VQLI Sexual Interference Severity (n = 101)

Severity category	Score range	n (%)
No interference		4 (4.0)
Mild interference	1-3	21 (20.8)
Moderate interference	4-6	29 (28.7)
Severe interference	7-9	47 (46.5)

Among patients completing the VQLI Relationships/Sex subscale (n = 101), sexual function interference was common and frequently severe. Four patients (4.0%) reported no interference, 21 (20.8%) reported mild interference, 29 (28.7%) reported moderate interference, and 47 (46.5%) reported severe interference (**Figure 8**). Overall, nearly three-quarters of respondents (75.2%) reported moderate or severe interference on the VQLI relationships/sex domain. Severe interference represented the largest severity category, indicating that many patients experienced substantial disruption of sexual function at the time of their initial clinic evaluation.

Figure 9: VPAQ Composite Sexual Interference Severity (n = 61)

No interference	0	3 (4.9)
Mild interference	1-12	13 (21.3)
Moderate interference	13-30	31 (50.8)
Severe interference	31-52	14 (23.0)

Among patients completing the VPAQ composite sexual interference measure (n = 61), 3 patients (4.9%) reported no interference, 13 (21.3%) reported mild interference, 31 (50.8%) reported moderate interference, and 14 (23.0%) reported severe interference (**Figure 9**). Moderate interference represented the most common severity category for the VPAQ measure. Overall, 45 of 61 respondents (73.8%) reported moderate-to-severe interference on the VPAQ composite score, demonstrating a similar overall burden of sexual function interference when assessed using this instrument.

Figure 10: Sexual Function Interference by Diagnostic Category

	Vulvar Dermatoses (n = 58)	Vulvodynia (n = 38)	Vaginitis (n = 17)	p-value (Kruskal-Wallis and Fisher's Exact)
VQLI Score	5.1 ± 2.9	7.3 ± 2.0	6.8 ± 2.5	0.002
VPAQ Score	13.9 ± 10.5	24.0 ± 12.0	26.3 ± 12.7	0.004
% Moderate-Severe	70.7%	78.9%	82.4%	0.603

Mean sexual interference scores differed significantly across diagnostic categories. Patients with vulvodynia demonstrated the highest mean VQLI sexual interference scores (7.3 ± 2.0), followed by vaginitis (6.8 ± 2.5), while patients with vulvar dermatoses reported lower mean scores (5.1 ± 2.9) (p = 0.002). A similar pattern was observed using the VPAQ composite sexual interference score. Patients with vaginitis (26.3 ± 12.7) and vulvodynia (24.0 ± 12.0) reported higher mean scores compared with vulvar dermatoses (13.9 ± 10.5) (p = 0.004). The results suggest that the degree of sexual interference differed across diagnostic groups when measured on continuous scales. Despite these differences in mean scores, the distribution of clinically categorized severity was similar across groups. When severity was categorized as moderate-to-severe interference, high proportions were observed across all diagnostic groups, including 70.7% of patients with vulvar dermatoses, 78.9% with vulvodynia, and 82.4% with vaginitis. However, these differences were not statistically significant (p = 0.603), suggesting that moderate-to-severe interference was common across diagnoses (**Figure 10**).

Figure 11: Overall Burden of Sexual Function Interference

Sexual function interference category	**N (%)**
No or mild interference by both or only scale	28 (23.3)
Moderate-severe interference by either or only scale	92 (76.7)

Across the sample (n = 120), moderate-to-severe sexual function interference was common. Ninety-two patients (76.7%) demonstrated moderate-to-severe interference on at least one instrument (VQLI or VPAQ), whereas 28 patients (23.3%) reported no or mild interference by both or only scale. This pattern suggests that a substantial majority of patients presenting to the specialty clinic experienced clinically meaningful interference in sexual function at the time of their initial evaluation. (**Figure 11**).

Discussion

In this cross-sectional analysis of baseline patient-reported outcomes from patients presenting to a tertiary-care vulvar specialty clinic, sexual function interference was highly prevalent and frequently severe. Across

both condition-specific instruments, the majority of respondents reported moderate-to-severe interference, reinforcing that sexual functioning is a major component of disease burden at the time of initial specialty evaluation. Notably, severe interference was the most common severity category on the VQLI Relationships/Sex subscale, and moderate interference was most common on the VPAQ composite measure. Although the VQLI and VPAQ assess different constructs (vulvar disease–related quality of life vs multidimensional pain-related interference), both instruments converged on a consistent finding: sexual interference is common in this population and is not limited to patients with vulvodynia.

Sexual function interference was found across all major diagnostic categories. Continuous score comparisons demonstrated that mean sexual interference severity differed by diagnosis, with higher VQLI and VPAQ scores among patients with vulvodynia and vaginitis compared with vulvar dermatoses. The results are directionally consistent with prior literature describing dyspareunia, avoidance behaviors, and psychosocial distress as common correlates of vulvodynia, and with studies of recurrent vaginitis syndromes describing sexual avoidance and reduced sexual satisfaction.[2,12,13,15,16] However, when the outcome was dichotomized into moderate-to-severe interference, the proportion of patients meeting this threshold was high across all groups with no significant difference between groups. This pattern suggests that although average severity may vary by diagnosis, clinically meaningful sexual interference is broadly present among patients with vulvar symptoms presenting for specialty care.

The high burden observed among patients with vaginitis is particularly notable given that vaginitis is commonly framed as a common and treatable condition in general practice. In a specialty clinic cohort, vaginitis presentations may reflect recurrent or refractory disease, prolonged symptom duration, and substantial functional impact. Similarly, although mean scores were lower among patients with vulvar dermatoses, more than two-thirds still met criteria for moderate-to-severe interference, underscoring that inflammatory dermatoses can affect sexual health through pruritus, pain, dyspareunia, and distress about vulvar appearance and anticipated symptoms. Together, these data support the clinical value of routinely assessing sexual function interference in vulvovaginal care regardless of diagnostic label.

This study additionally affirms the feasibility of using condition-specific patient-reported measures to assess sexual interference in clinical settings. The VQLI Relationships/Sex items and VPAQ interference domains provide targeted, clinically interpretable measures that correspond with patient priorities and recommendations emphasizing pain-related sexual-life interference as a core outcome in vulvar pain research. Incorporation of these instruments into routine care may facilitate more systematic recognition of sexual impairment and support patient-centered counseling, anticipatory guidance, and referral pathways (e.g., pelvic floor physical therapy, sexual health counseling, and multidisciplinary pain management).

Several limitations should be considered. First, this analysis was cross-sectional and limited to baseline assessment, precluding inference about temporal relationships, treatment response, or causal mechanisms. Second, survey administration evolved during the collection period and was partly diagnosis-directed, resulting in incomplete overlap between instruments and potential selection effects in which patients completing a given survey may differ systematically from those who did not. Third, the cohort was drawn from a tertiary-care vulvar specialty clinic and likely represents patients with more severe, persistent, or complex symptoms than those seen in general practice, which may limit generalizability. Finally, menopausal status was not used for analytic stratification because systemic and local estrogen exposure were not consistently available; estrogenization may influence sexual function independently of vulvar symptoms. Despite these limitations, this study provides clinically relevant evidence that sexual function interference is

a prominent and pervasive component of disease burden among patients seeking specialty care for vulvar symptoms and supports routine, structured assessment as part of comprehensive vulvovaginal evaluation.

Further investigation should build upon the current findings by investigating longitudinal follow-up to characterize changes in sexual interference over time and to evaluate associations between symptom improvement and treatment exposures. Additional studies could examine diagnosis-specific subgroups (e.g., lichen sclerosus vs lichen planus) and evaluate whether VQLI and VPAQ domains indicate differential responsiveness to treatment, consequently informing future instrument selection.

Conclusions

In a tertiary-care vulvar specialty clinic population, sexual function interference was common and frequently moderate-to-severe when measured using condition-specific patient-reported instruments. Mean VQLI and VPAQ sexual interference scores differed across diagnostic categories, with higher average severity among patients with vulvodynia and vaginitis compared with vulvar dermatoses; however, moderate-to-severe interference was prevalent across all groups. These conclusions support routine assessment of sexual function interference in vulvovaginal care and motivate longitudinal studies evaluating treatment response over time.

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