

Genital Self-Image, Genital Shame, and Core Sexual Complaints in Women: A Cross-Sectional Online Survey from Turkey

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ABSTRACT

Purpose: To evaluate the relationship between selected genital self-appraisal indicators and core sexual complaints in women from Turkey, with particular emphasis on genital satisfaction, genital shame, and comfort with a partner seeing the genital area.

Methods: This cross-sectional online survey represents a focused secondary analysis of an ethically approved parent dataset collected in Turkey. The analytic subsample comprised 330 women and reflected a digitally reached, predominantly highly educated, non-probability sample. Three selected single-item genital self-appraisal indicators were examined rather than the full female genital self-image scale total score. Core sexual complaints included low sexual desire, arousal problems, and orgasm-related complaints. Distressing complaints were defined using a revised nested definition requiring both symptom presence and at least moderate problem severity. Bivariate analyses and multivariable logistic regression models were performed. Sensitivity analyses used the original 1-5 ordinal Likert scores.

Results: Among women with valid genital self-appraisal data, 53.4% reported high genital satisfaction, 63.4% reported high partner genital comfort, and 23.0% met the threshold for genital shame. Overall, 37.3% had at least one core sexual complaint and 29.2% had at least one distressing core sexual complaint using the revised nested definition. In bivariate analyses, lower genital satisfaction score, genital shame, and lower partner genital comfort score were associated with greater complaint burden. In the adjusted model for distressing complaints, high genital satisfaction and genital shame showed directionally consistent but non-significant associations. Genital shame remained independently associated with orgasm-related complaints (odds ratio 2.12, 95% confidence interval 1.14-3.94, $p=0.018$). Sensitivity analyses using ordinal scores supported the overall direction of the findings.

Conclusion: Selected genital self-appraisal indicators, particularly genital shame, were associated with sexual complaint patterns in this sample. The findings should be interpreted cautiously because of the cross-sectional design, selected single-item measurement approach, and non-probability online sampling.

Keywords: Body image, genital self-image, sexual dysfunctions, psychological, sexual health, women, Turkey

INTRODUCTION

Genital self-image is an increasingly recognized component of women's sexual health, yet it remains relatively underexplored in routine gynecologic and sexual medicine research.^{1,2} Beyond appearance-related concerns alone, genital self-image reflects how a woman perceives, evaluates, and emotionally relates to her genital area. In clinical terms, this construct may influence sexual confidence, comfort with intimacy, body-related anxiety, and willingness to engage in sexual

activity. Negative genital self-perceptions, including shame and embarrassment, may therefore have implications that extend beyond body image and into sexual well-being itself.¹⁻³ Early studies by Berman and colleagues identified genital self-image as an important component of female sexual health and demonstrated associations with sexual function, sexual satisfaction, and quality of life.^{1,4} In recent years, attention has shifted toward understanding genital self-image not merely as a cosmetic or psychological issue, but as a dimension that may intersect with sexual functioning. Existing evidence suggests



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that women with more positive genital self-image tend to report more favorable sexual experiences, whereas genital dissatisfaction or shame may accompany greater sexual difficulty, reduced comfort, or lower sexual confidence.³ This relationship has been observed across different populations and clinical settings, including women with pelvic floor disorders and women experiencing pelvic floor dysfunction symptoms.^{5,6}

However, the relationship is unlikely to be simplistic. Sexual complaints, such as low desire, arousal difficulties, and orgasm-related problems, are shaped by multiple biological, relational, and psychosocial factors. Genital self-image may be one of these factors, but its precise role remains insufficiently clarified. This gap is particularly relevant in sociocultural settings where women's sexuality is negotiated within a complex mix of modernization, modesty norms, and persistent moral expectations. In such environments, women may internalize not only general body dissatisfaction, but also more specific forms of genital self-consciousness and sexual shame. These experiences may influence both the occurrence of sexual complaints and the likelihood of openly reporting them. In Turkey, where women's sexuality is often shaped by the coexistence of contemporary individualization and enduring traditional norms, the clinical meaning of genital self-image may therefore be especially important to examine.⁷

Recent Turkish data have also demonstrated significant associations between genital self-image and sexual quality of life among married women.⁸ Although genital self-image has been conceptually acknowledged, studies from Turkey remain limited, and the available literature has not sufficiently clarified how genital satisfaction, genital shame, and comfort with genital visibility in an intimate context relate to core sexual complaints. This is an important omission. From a women's health perspective, understanding whether negative genital self-appraisal is linked to distressing sexual complaints may help clinicians move beyond symptom-based questioning alone and adopt a more integrated psychosocial view of sexual function.^{1,4} Recent reviews have further emphasized genital self-image as a multidimensional construct influenced by psychological, interpersonal, and sociocultural factors.⁹

Therefore, the present study aimed to evaluate the relationship between selected genital self-appraisal indicators and core sexual complaints in Turkish women. Specifically, we examined whether genital satisfaction, genital shame, and comfort with a partner seeing the genital area were associated with low sexual desire, arousal problems, orgasm-related complaints, and distressing sexual complaints. We hypothesized that less favorable genital self-appraisal indicators would be associated with a greater burden of sexual complaints and complaint-related distress.

METHODS

Study Design and Participants

This study was designed as a cross-sectional online survey conducted among women in Turkey. Data were collected through the SurveyMonkey platform as part of an ethically

approved parent survey evaluating women's sexual health, sexual behaviors, sexual complaints, and genital self-appraisal. The present manuscript reports a focused secondary analysis of that parent dataset, restricted to respondents with available data on the selected genital self-appraisal items and core sexual complaint variables.

The SPSS dataset contained 338 records. Eight records had missing data across the main analytic blocks and were not included in the descriptive analytic sample. The socio-demographic analytic base therefore comprised 330 women. For the selected genital self-appraisal and core sexual complaint variables, the valid sample was 322 women because of item-level missing data. Multivariable analyses were conducted using complete-case analysis, as described below.

Eligible participants were adults aged 18 years or older who identified as women and agreed to participate voluntarily. Participation was anonymous and unpaid. The survey used a non-probability online sampling approach. Therefore, the sample should be recognized as a digitally reached convenience sample, rather than a random or population-representative sample. To reduce the likelihood of duplicate participation, IP restriction was activated within the SurveyMonkey platform. Before entering the questionnaire, all participants reviewed an electronic informed consent statement and proceeded only after providing consent.

No separate a priori sample-size calculation was performed for the present secondary analysis. The analytic sample was determined by the number of eligible respondents in the parent dataset with available data for the variables required for this focused analysis.

Measures

Genital self-image variables

The present analysis did not use the full validated female genital self-image scale (FGSIS) total score.^{7,10} Instead, it examined three preselected single-item genital self-appraisal indicators available in the parent survey. These items were selected because they represented clinically interpretable dimensions relevant to the study question: genital satisfaction, genital shame, and comfort with genital visibility in an intimate partner context.

The three items were:

1. Genital satisfaction: "I am satisfied with the external appearance of my genital organs";
2. Comfort with genital visibility to a partner: "I am not bothered when my spouse/partner sees my genital organs"; and
3. Genital shame: "I am ashamed of my genital organs".

Each item was rated on a 5-point Likert scale ranging from strong disagreement to strong agreement. These items were analyzed as individual indicators rather than combined into a total scale score. This approach was chosen because the parent survey contained these selected item-level indicators rather than a full FGSIS-based analytic framework for total-score analysis. Accordingly, the findings should be interpreted

as reflecting selected genital self-appraisal indicators and not the full multidimensional construct of genital self-image.

For the primary categorical analyses, the three variables were dichotomized a priori as follows: high genital satisfaction, Likert 4-5 versus 1-3; high partner genital comfort, Likert 4-5 versus 1-3; and genital shame present, Likert 4-5 versus 1-3. This coding was used to distinguish clear agreement from disagreement or uncertainty and to improve clinical interpretability. However, as dichotomization may reduce information and statistical power, additional sensitivity analyses were performed using the original 1-5 ordinal Likert scores. The internal consistency of the three selected genital self-appraisal items was acceptable (Cronbach's $\alpha=0.69$, based on the original 1-5 Likert responses after reverse coding of the genital shame item; $n=322$).

Sexual complaint variables

Core sexual complaints were assessed across three domains:

- Low sexual desire;
- Arousal problems; and
- Orgasm-related problems.

For each domain, respondents first reported symptom frequency over the preceding 6 months using ordinal response categories ranging from "never" to "always/nearly always". They then rated the extent to which the problem had been distressing or problematic, using response options ranging from "not a problem at all" to "a very large problem".

Outcomes and analytic variable definitions

Three dichotomized symptom variables were created: low desire present, arousal problem present, and orgasm-related complaint present. Responses of "often" or "always/nearly always" were coded as indicating symptom presence, whereas all lower-frequency responses were coded as absent/low. This threshold was chosen to identify recurrent or persistent symptoms rather than occasional difficulties. The approach is broadly consistent with diagnostic frameworks for female sexual dysfunction, which emphasize persistence over time, occurrence in most or nearly all relevant sexual contexts, and the presence of clinically significant distress. It is also compatible with commonly used female sexual function assessment frameworks that evaluate desire, arousal, orgasm, and pain as distinct domains.

For the revised analysis, distressing complaints were defined using a nested clinical definition requiring both symptom presence and at least moderate problem severity. Therefore, a distressing complaint was coded as present only when the respondent both met the symptom-frequency threshold for that domain and rated the corresponding problem as moderate, important, or very large. This at-least-moderate distress threshold was selected to avoid classifying mild or minimal concern as clinically meaningful distress and is consistent with the central role of sexually related personal distress in female sexual dysfunction assessment. The threshold should

be interpreted as an operational research definition rather than a formal diagnostic classification.¹¹⁻¹³

Two composite outcomes were then constructed. Any core sexual complaint was defined as the presence of at least one of the three core complaints. Any core distressing sexual complaint was defined as the presence of at least one distressing complaint across the same three domains using the revised nested definition. For the present study, any core distressing sexual complaint was treated as the primary outcome because it was considered to better reflect clinically meaningful symptom burden than symptom frequency alone. Secondary outcomes were any core sexual complaint, orgasm-related complaint present, and low sexual desire present.

Pain during sexual intercourse was available at the descriptive level and was summarized as a supplementary clinical indicator. It was not included in the primary or secondary composite outcomes because the focused analytic framework of the present secondary analysis was restricted to non-pain sexual response domains: desire, arousal, and orgasm. This decision was based on theoretical and methodological considerations rather than on the observed statistical results. Dyspareunia is commonly conceptualized as a distinct pain-related domain and may reflect partly different gynecologic, pelvic floor, vulvovaginal, relational, and pain-processing mechanisms.^{11,12} Including dyspareunia in the same composite outcome with desire, arousal, and orgasm complaints could therefore have produced a heterogeneous outcome that was more difficult to interpret. For this reason, pain during intercourse was retained as a descriptive supplementary indicator, while the composite outcomes were limited to desire, arousal, and orgasm complaints.

Socio-demographic and clinical covariates

Age was analyzed as a continuous variable and also grouped descriptively into four categories: <25, 25-34, 35-44, and ≥ 45 years. Educational level was categorized as lower education, university, and postgraduate education. Marital/relationship status was grouped as single/no ongoing relationship, in a relationship but unmarried, and married. Menopausal status was treated as a binary variable. Body mass index (BMI) was calculated from self-reported height and weight and analyzed as a continuous covariate. Smoking status and income level were also recorded and included in bivariate analyses.

Ethical Approval

The study protocol was approved by the Düzce University Non-Interventional Health Research Ethics Committee (approval no: 2020/114, date: 15.06.2020). The ethics approval corresponded to the original survey implementation phase, during which the dataset was collected while one of the authors (A.E.K.) was affiliated with Düzce University. The current manuscript reports a focused secondary analysis of that ethically approved dataset. Participation was voluntary and anonymous, and electronic informed consent was obtained from all participants before survey completion.

Statistical Analysis

All analyses were performed using SPSS Statistics for Windows, version 27 (IBM Inc., Armonk, NY, USA). Continuous variables are presented as mean $\pm$ standard deviation, and categorical variables as number and percentage. Percentages were calculated using the valid denominator for each variable. For prevalence estimates in the descriptive table, 95% confidence intervals (CIs) were calculated using the exact binomial method. A two-sided p value of <0.05 was considered statistically significant.

Descriptive analyses were first used to summarize the selected genital self-appraisal indicators, core sexual complaint variables, and sociodemographic characteristics of the analytic sample. Bivariate associations between categorical predictors and dichotomous outcomes were evaluated using Pearson chi-square tests. Fisher's exact test was used when expected cell counts were small. Comparisons of BMI between outcome groups were performed using Independent Samples t -tests. Bivariate analyses were conducted using available data for each predictor-outcome pair; therefore, denominators varied slightly across comparisons and are reported in the relevant tables.

Three multivariable logistic regression models were then constructed. Model A examined correlates of any core distressing sexual complaint using the revised nested definition. Model B examined correlates of orgasm-related complaints present. Model C examined correlates of low sexual desire present. The main explanatory variables in all models were high genital satisfaction, genital shame present, and high partner genital comfort. Age and BMI were entered as continuous covariates. Educational level, marital/relationship status, and menopausal status were entered as categorical covariates. Adjusted odds ratios (ORs) with 95% CIs are reported.

The regression models required complete data across all included variables, so multivariable analyses were conducted using complete-case analysis. The complete-case sample consisted of 312 women. Model-specific event counts were 90 events and 222 non-events for any core distressing sexual complaint, 84 events and 228 non-events for orgasm-related complaint, and 66 events and 246 non-events for low sexual desire. To evaluate model adequacy, we considered the number of outcome events relative to the number of model parameters. Each multivariable model included 10 predictor parameters. The event-per-parameter ratios were therefore 9.0 for Model A, 8.4 for Model B, and 6.6 for Model C. These values were close to the conventional 10 events-per-variable rule for Models A and B and above the more flexible lower ranges discussed in simulation studies, although Model C should be interpreted more cautiously because of the smaller number of events.¹⁴ The regression models were therefore interpreted as explanatory association models rather than prediction models.

Multicollinearity was assessed using variance inflation factors (VIFs), tolerance values, and correlations among the three genital self-appraisal indicators. Model performance and fit were evaluated using the Hosmer-Lemeshow goodness-of-fit test, Nagelkerke R^2 , overall classification accuracy, and the

area under the receiver operating characteristic curve with 95% CI. Model convergence warnings and evidence of quasi-complete separation were also checked.

To address the potential information loss introduced by dichotomizing Likert-scale responses, sensitivity analyses were performed by replacing the dichotomized genital self-appraisal indicators with their original 1-5 ordinal scores. These sensitivity models used the same covariate structure as the main multivariable models. An additional categorical sensitivity analysis was also performed for the primary outcome by classifying each genital self-appraisal item as low/disagree, uncertain, or high/agree.

Adjustment for multiple testing was considered because multiple bivariate comparisons were performed. However, no formal multiplicity correction was applied because the bivariate analyses were exploratory and hypothesis-generating, and because the study did not base its main conclusions on a family of confirmatory bivariate tests. Instead, the main inferential emphasis was placed on the prespecified multivariable models, model diagnostics, and sensitivity analyses. Bivariate p values were therefore interpreted descriptively and cautiously rather than as definitive confirmatory evidence.¹⁵

RESULTS

Sample Characteristics

The analytic subsample comprised 330 women. The mean age was 32.4 ± 7.8 years, and the mean self-reported BMI was 23.6 ± 4.2 kg/m². Just over half of participants were between 25 and 34 years of age (50.9%), and most had a university degree (64.2%), and were married (58.5%). The majority were premenopausal (92.1%), non-smokers (66.5%), and reported no chronic disease (84.2%) or chronic medication use (86.1%). Additional sociodemographic characteristics are summarized in Table 1.

Genital Self-Appraisal and Sexual Complaint Profiles

Among women with valid genital self-appraisal data, 53.4% (172/322; 95% CI, 47.8-59.0) reported high genital satisfaction, 63.4% (204/322; 95% CI, 57.8-68.6) reported high comfort with a partner seeing the genital area, and 23.0% (74/322; 95% CI, 18.5-28.0) met the threshold for genital shame. With respect to symptom-frequency thresholds, 21.7% (70/322; 95% CI, 17.3-26.7) met the threshold for low sexual desire, 17.4% (56/322; 95% CI, 13.4-22.0) for arousal problems, and 27.3% (88/322; 95% CI, 22.5-32.6) for orgasm-related complaints. Using the revised nested definition requiring both symptom presence and at least moderate problem severity, distressing low sexual desire was present in 17.4% (56/322; 95% CI, 13.4-22.0), distressing arousal problems in 12.4% (40/322; 95% CI, 9.0-16.6), and distressing orgasm-related complaints in 18.0% (58/322; 95% CI, 14.0-22.7). Overall, 37.3% (120/322; 95% CI, 32.0-42.8) had at least one core sexual complaint, and 29.2% (94/322; 95% CI, 24.3-34.5) had at least one distressing core sexual complaint using the revised nested definition. Pain during sexual intercourse was reported often or always/nearly always by 11.8% (38/322; 95% CI, 8.5-15.9). These findings are summarized in Table 2.

Table 1. Socio-demographic and clinical characteristics of the analytic sample

Variable	Category/statistic	
Age, years	Mean $\pm$ SD	32.4 $\pm$ 7.8
	Median (min-max)	31.0 (18-59)
		n (%) or mean $\pm$ SD
Age group	<25 years	56 (17.0)
	25-34 years	168 (50.9)
	35-44 years	82 (24.8)
	$\geq$ 45 years	24 (7.3)
Educational level	Lower education	44 (13.3)
	University	212 (64.2)
	Postgraduate	74 (22.4)
Marital/relationship status	Single/no ongoing relationship	52 (15.8)
	In a relationship, unmarried	84 (25.6)
	Married	192 (58.5)
Menopausal status	Premenopausal	304 (92.1)
	Postmenopausal	26 (7.9)
Body mass index, kg/m ²	Mean $\pm$ SD	23.6 $\pm$ 4.2
	Median	22.8
	Min-max	16.5-41.2
Income level	Income less than expenses	48 (14.7)
	Income equal to expenses	204 (62.6)
	Income greater than expenses	74 (22.7)
Smoking	No	218 (66.5)
	Yes	110 (33.5)
Chronic disease	No	278 (84.2)
	Yes	52 (15.8)
Chronic medication use	No	284 (86.1)
	Yes	46 (13.9)

Data are presented as n (%) for categorical variables and mean $\pm$ standard deviation for continuous variables. Percentages were calculated using valid responses for each variable. Valid N was 330 for age, age group, educational level, menopausal status, chronic disease, and chronic medication use; n=328 for marital/relationship status and smoking; n=326 for income level; and n=324 for body mass index
SD: Standard deviation, min-max: Minimum-maximum

Bivariate Correlates of any Core Sexual Complaint

In bivariate analyses, women with low or uncertain genital satisfaction were more likely to report at least one core sexual complaint than those with high genital satisfaction (45.3% vs. 30.2%, $p=0.004$). Genital shame was also associated with a higher prevalence of any core sexual complaint (51.4% vs. 33.1%, $p=0.002$). Lower comfort with a partner seeing the genital area was similarly associated with a greater burden of core sexual complaints (45.8% vs. 32.4%, $p=0.017$). Age group was significantly associated with any core sexual complaint ($p=0.042$), with complaint prevalence increasing across older age categories. Postmenopausal women also had a higher prevalence of any core sexual complaint than premenopausal women (61.5% vs. 35.1%, $p=0.012$). BMI was

higher among women with any core sexual complaint than among those without complaints (24.3 $\pm$ 4.5 vs. 23.2 $\pm$ 3.8 kg/m², $p=0.024$). Educational level, marital/relationship status, income level, and smoking were not significantly associated with the outcome in bivariate analyses (Table 3).

Bivariate Correlates of Distressing Core Sexual Complaints

Using the revised nested definition, women with low or uncertain genital satisfaction were more likely to report at least one distressing core sexual complaint than those with high genital satisfaction (37.3% vs. 22.1%, $p=0.003$). Genital shame was also associated with a higher prevalence of distressing complaints (45.9% vs. 24.2%, $p<0.001$). Lower comfort with a partner seeing the genital area was associated with a higher prevalence of distressing complaints (37.3% vs. 24.5%, $p=0.016$). Age group was significantly associated with distressing complaint burden ($p=0.014$), with the highest prevalence observed among women aged $\geq$ 45 years. BMI was higher among women with distressing complaints than among those without them (24.4 $\pm$ 4.3 vs. 23.2 $\pm$ 3.9 kg/m², $p=0.016$). Menopausal status approached significance for an association with distressing complaints (46.2% in postmenopausal women vs. 27.7% in premenopausal women, $p=0.052$). Educational level, marital/relationship status, income level, and smoking were not significantly associated with the outcome (Table 4).

Bivariate Correlates of Orgasm-Related Complaints

Orgasm-related complaints were associated with all three selected genital self-appraisal indicators. Women with low or uncertain genital satisfaction were more likely to report orgasm-related complaints than those with high genital satisfaction (36.0% vs. 19.8%, $p=0.001$). Genital shame was associated with a higher prevalence of orgasm-related complaints (43.2% vs. 22.6%, $p<0.001$), and lower comfort with a partner seeing the genital area was also associated with orgasm-related complaints (35.6% vs. 22.5%, $p=0.012$). Postmenopausal women had a higher prevalence of orgasm-related complaints than premenopausal women (53.8% vs. 25.0%, $p=0.002$). Age group, educational level, marital/relationship status, income level, smoking, and BMI were not significantly associated with orgasm-related complaints at the bivariate level (Table 5).

Multivariable Correlates of Distressing Sexual Complaints, Orgasm-Related Complaints, and Low Sexual Desire

In the multivariable logistic regression model for any core distressing sexual complaint using the revised nested definition (Model A), high genital satisfaction and genital shame showed directionally consistent associations but did not reach statistical significance after adjustment. High genital satisfaction was associated with lower odds of distressing complaints (OR 0.61, 95% CI 0.34-1.10, $p=0.098$), whereas genital shame was associated with higher odds (OR 1.68, 95% CI 0.91-3.10, $p=0.096$). High partner genital comfort was not independently associated with the outcome (OR 0.72, 95% CI 0.40-1.30, $p=0.276$).

In the model for orgasm-related complaints (Model B), genital shame remained independently associated with higher odds of orgasm-related complaints (OR 2.12, 95% CI 1.14-3.94,

Table 2. Selected genital self-appraisal indicators and core sexual complaint profiles

Variable	Category	n/N (%)	95% CI
High genital satisfaction	No (low/uncertain)	150/322 (46.6)	41.0-52.2
	Yes	172/322 (53.4)	47.8-59.0
High partner genital comfort	No (low/uncertain)	118/322 (36.6)	31.4-42.2
	Yes	204/322 (63.4)	57.8-68.6
Genital shame present	No/low	248/322 (77.0)	72.0-81.5
	Present	74/322 (23.0)	18.5-28.0
Low sexual desire present	No	252/322 (78.3)	73.3-82.7
	Yes	70/322 (21.7)	17.3-26.7
Low sexual desire distressing	No	266/322 (82.6)	78.0-86.6
	Yes	56/322 (17.4)	13.4-22.0
Arousal problem present	No	266/322 (82.6)	78.0-86.6
	Yes	56/322 (17.4)	13.4-22.0
Arousal problem distressing	No	282/322 (87.6)	83.4-91.0
	Yes	40/322 (12.4)	9.0-16.6
Orgasm-related complaint present	No	234/322 (72.7)	67.4-77.5
	Yes	88/322 (27.3)	22.5-32.6
Orgasm-related complaint distressing	No	264/322 (82.0)	77.3-86.0
	Yes	58/322 (18.0)	14.0-22.7
Any core sexual complaint	No	202/322 (62.7)	57.2-68.0
	Yes	120/322 (37.3)	32.0-42.8
Any core distressing sexual complaint	No	228/322 (70.8)	65.5-75.7
	Yes	94/322 (29.2)	24.3-34.5
Pain during intercourse	Never/rarely	284/322 (88.2)	84.1-91.5
	Often or always/nearly always	38/322 (11.8)	8.5-15.9

Data are presented as n/N (%) with 95% confidence intervals. Percentages and confidence intervals were calculated using valid responses. For the selected genital self-appraisal and core sexual complaint variables, valid N was 322. Distressing complaints were defined using the revised nested definition requiring both symptom presence and at least moderate problem severity. Pain during intercourse was summarized descriptively as a supplementary clinical indicator and was not included in the core composite outcomes
CI: Confidence interval

$p=0.018$). High genital satisfaction and high partner genital comfort showed an inverse direction but did not reach statistical significance after adjustment. In the model for low sexual desire (Model C), none of the selected genital self-appraisal indicators reached statistical significance, although high genital satisfaction again showed an inverse directional pattern (OR 0.58, 95% CI 0.31-1.08, $p=0.086$). Multivariable model results are presented in Table 6.

Model Diagnostics and Sensitivity Analyses

Collinearity diagnostics did not indicate problematic multicollinearity among the predictors included in the regression models. VIFs ranged from 1.14 to 1.84 overall, and from 1.34 to 1.48 for the three selected genital self-appraisal indicators. Pairwise correlations among the three genital self-appraisal indicators were moderate in magnitude.

Model diagnostics were acceptable. Hosmer-Lemeshow goodness-of-fit p values were 0.684 for Model A, 0.542 for Model B, and 0.418 for Model C. Nagelkerke R^2 values were 0.144, 0.138, and 0.168, respectively. The corresponding

areas under the receiver operating characteristic curve were 0.704 (95% CI 0.640-0.768), 0.696 (95% CI 0.632-0.760), and 0.712 (95% CI 0.642-0.782). No convergence problems, quasi-complete separation, or SPSS warning messages were identified.

Sensitivity analyses using the original 1-5 ordinal Likert scores rather than the dichotomized genital self-appraisal variables supported the overall direction of the findings. In the primary model for any core distressing sexual complaint, higher genital satisfaction was associated with lower odds of the outcome (OR per 1-point increase 0.74, 95% CI 0.56-0.98, $p=0.036$), whereas higher genital shame was associated with higher odds (OR per 1-point increase 1.34, 95% CI 1.02-1.76, $p=0.038$). In the orgasm-related complaint model, higher genital shame remained associated with higher odds of the outcome (OR 1.42, 95% CI 1.08-1.86, $p=0.012$). In the low sexual desire model, higher genital satisfaction was associated with lower odds of low desire (OR 0.71, 95% CI 0.52-0.97, $p=0.032$). These sensitivity findings suggested that the observed associations were affected by the chosen dichotomization strategy but directionally consistent.

Table 3. Bivariate associations with any core sexual complaint

Variable	Category	No complaint, n (%)	Any core sexual complaint, n (%)	Total n	p value
High genital satisfaction	No (low/uncertain)	82 (54.7)	68 (45.3)	150	0.004
	Yes	120 (69.8)	52 (30.2)	172	
Genital shame present	No/low	166 (66.9)	82 (33.1)	248	0.002
	Present	36 (48.6)	38 (51.4)	74	
High partner genital comfort	No (low/uncertain)	64 (54.2)	54 (45.8)	118	0.017
	Yes	138 (67.6)	66 (32.4)	204	
Age group	<25 years	42 (75.0)	14 (25.0)	56	0.042
	25-34 years	108 (64.3)	60 (35.7)	168	
	35-44 years	42 (51.2)	40 (48.8)	82	
	≥45 years	10 (41.7)	14 (58.3)	24	
Educational level	Lower education	24 (54.5)	20 (45.5)	44	0.612
	University	132 (62.3)	80 (37.7)	212	
	Postgraduate	46 (62.2)	28 (37.8)	74	
Marital/relationship status	Single/no ongoing relationship	38 (73.1)	14 (26.9)	52	0.088
	In a relationship, unmarried	56 (66.7)	28 (33.3)	84	
	Married	106 (57.6)	78 (42.4)	184	
Menopausal status	Premenopausal	192 (64.9)	104 (35.1)	296	0.012*
	Postmenopausal	10 (38.5)	16 (61.5)	26	
Income level	Income less than expenses	26 (56.5)	20 (43.5)	46	0.348
	Income equal to expenses	126 (63.0)	74 (37.0)	200	
	Income greater than expenses	50 (69.4)	22 (30.6)	72	
Smoking	No	138 (65.1)	74 (34.9)	212	0.312
	Yes	64 (59.3)	44 (40.7)	108	
Body mass index, kg/m²	Mean ± SD	23.2 ± 3.8	24.3 ± 4.5	-	0.024

Data are presented as n (%) for categorical variables and mean ± standard deviation for body mass index. Percentages were calculated within each predictor category using available data for each predictor-outcome pair. p values were calculated using Pearson chi-square tests for categorical variables and an Independent Samples t-test for body mass index. *Fisher's exact test was used
SD: Standard deviation

DISCUSSION

This study examined the associations between selected genital self-appraisal indicators and core sexual complaints in women in Turkey. Several findings merit reiteration. First, lower genital satisfaction, genital shame, and lower comfort with a partner seeing the genital area were associated with a higher burden of sexual complaints in bivariate analyses. Second, after adjustment and after applying the revised nested definition of distressing complaints, high genital satisfaction and genital shame showed directionally consistent but statistically non-significant associations with distressing complaint burden. Third, genital shame remained independently associated with orgasm-related complaints. Finally, sensitivity analyses using the original Likert scores supported the overall direction of the findings and suggested that analysis of some associations were affected by dichotomization.¹⁻⁵

These findings should be interpreted in light of the measurement strategy used in the present analysis. The study did not analyze the full validated FGSIS total score. Instead, it focused on three selected single-item indicators representing

genital satisfaction, genital shame, and comfort with genital visibility in an intimate partner context. Therefore, the findings should not be interpreted as capturing the full multidimensional construct of genital self-image. Rather, they suggest that these specific genital self-appraisal indicators may be relevant to the way women report sexual complaints and complaint-related distress.

The observed associations are broadly consistent with previous studies showing links between genital self-image, sexual function, sexual satisfaction, and quality of life.^{1,4-6,16,17-21} Prior Turkish data have also suggested that genital perception may be associated with sexual function and orgasmic outcomes.¹⁶ In the present study, this pattern was visible at the bivariate level across all three selected genital self-appraisal indicators. Women with lower genital satisfaction, greater genital shame, and lower partner-related genital comfort were more likely to report core sexual complaints. These findings support the view that genital self-appraisal is not merely an appearance-related issue, but may be part of a broader psychosexual context in which sexual symptoms are experienced and reported.

Table 4. Bivariate associations with any core distressing sexual complaint, revised nested definition

Variable	Category	No distressing complaint, n (%)	Any core distressing sexual complaint, n (%)	Total n	p value
High genital satisfaction	No (low/uncertain)	94 (62.7)	56 (37.3)	150	0.003
	Yes	134 (77.9)	38 (22.1)	172	
Genital shame present	No/low	188 (75.8)	60 (24.2)	248	<0.001
	Present	40 (54.1)	34 (45.9)	74	
High partner genital comfort	No (low/uncertain)	74 (62.7)	44 (37.3)	118	0.016
	Yes	154 (75.5)	50 (24.5)	204	
Age group	<25 years	44 (78.6)	12 (21.4)	56	0.014
	25-34 years	122 (72.6)	46 (27.4)	168	
	35-44 years	52 (63.4)	30 (36.6)	82	
	≥45 years	10 (41.7)	14 (58.3)	24	
Educational level	Lower education	28 (63.6)	16 (36.4)	44	0.432
	University	152 (71.7)	60 (28.3)	212	
	Postgraduate	48 (64.9)	26 (35.1)	74	
Marital/relationship status	Single/no ongoing relationship	40 (76.9)	12 (23.1)	52	0.344
	In a relationship, unmarried	62 (73.8)	22 (26.2)	84	
	Married	124 (67.4)	60 (32.6)	184	
Menopausal status	Premenopausal	214 (72.3)	82 (27.7)	296	0.052*
	Postmenopausal	14 (53.8)	12 (46.2)	26	
Income level	Income less than expenses	30 (65.2)	16 (34.8)	46	0.512
	Income equal to expenses	142 (71.0)	58 (29.0)	200	
	Income greater than expenses	54 (75.0)	18 (25.0)	72	
Smoking	No	154 (72.6)	58 (27.4)	212	0.272
	Yes	72 (66.7)	36 (33.3)	108	
Body mass index, kg/m ²	Mean ± SD	23.2±3.9	24.4±4.3	-	0.016

Data are presented as n (%) for categorical variables and mean ± standard deviation for body mass index. Percentages were calculated within each predictor category using available data for each predictor-outcome pair. Distressing complaints were defined using the revised nested definition requiring both symptom presence and at least moderate problem severity. *p* values were calculated using Pearson chi-square tests for categorical variables and an Independent Samples t-test for body mass index. *Fisher's exact test was used
SD: Standard deviation

The revised analysis provides a more clinically coherent interpretation of distressing complaints. In the original operationalization, distress ratings were treated independently from symptom-frequency thresholds, which allowed some respondents to meet distress criteria despite not meeting the predefined symptom-frequency threshold. In the revised nested definition, distressing complaints required both symptom presence and at least moderate problem severity. This approach is more conservative and clinically interpretable. Under this stricter definition, the adjusted associations between dichotomized genital satisfaction and genital shame with the primary distressing complaint outcome were attenuated and no longer statistically significant. This attenuation suggests that the relationship between genital self-appraisal and distressing complaint burden may be more nuanced than a simple binary comparison can capture.

The sensitivity analyses are therefore important. When the original Likert scores were used instead of dichotomized variables, higher genital satisfaction was associated with lower odds of any core distressing sexual complaint, whereas higher

genital shame was associated with higher odds.¹⁻⁵ This pattern suggests that dichotomization may have reduced information granularity and thus statistical power. It also supports the reviewers' concern that binary cut-offs may oversimplify ordinal genital self-appraisal responses. Therefore, the results are best interpreted as showing a directionally consistent pattern rather than a definitive threshold effect.

Among the individual sexual complaint domains, orgasm-related complaints showed the clearest adjusted association with genital shame. Genital shame remained independently associated with higher odds of orgasm-related complaints, whereas genital satisfaction and partner-related genital comfort showed inverse directions but did not reach statistical significance. This finding is clinically plausible, although causal mechanisms cannot be inferred from the present cross-sectional data. Orgasmic response may be particularly sensitive to self-consciousness, embarrassment, attentional distraction, or discomfort with bodily exposure. Genital shame may therefore reflect a psychosexual context in which orgasm-related difficulty becomes more likely to be reported. However,

Table 5. Bivariate associations with orgasm-related complaints

Variable	Category	No orgasm-related complaint, n (%)	Orgasm-related complaint, n (%)	Total n	p value
High genital satisfaction	No (low/uncertain)	96 (64.0)	54 (36.0)	150	0.001
	Yes	138 (80.2)	34 (19.8)	172	
Genital shame present	No/low	192 (77.4)	56 (22.6)	248	<0.001
	Present	42 (56.8)	32 (43.2)	74	
High partner genital comfort	No (low/uncertain)	76 (64.4)	42 (35.6)	118	0.012
	Yes	158 (77.5)	46 (22.5)	204	
Age group	<25 years	44 (78.6)	12 (21.4)	56	0.106
	25-34 years	124 (73.8)	44 (26.2)	168	
	35-44 years	54 (65.9)	28 (34.1)	82	
	≥45 years	12 (50.0)	12 (50.0)	24	
Educational level	Lower education	30 (68.2)	14 (31.8)	44	0.712
	University	154 (72.6)	58 (27.4)	212	
	Postgraduate	50 (67.6)	24 (32.4)	74	
Marital/relationship status	Single/no ongoing relationship	42 (80.8)	10 (19.2)	52	0.162
	In a relationship, unmarried	64 (76.2)	20 (23.8)	84	
	Married	126 (68.5)	58 (31.5)	184	
Menopausal status	Premenopausal	222 (75.0)	74 (25.0)	296	0.002*
	Postmenopausal	12 (46.2)	14 (53.8)	26	
Income level	Income less than expenses	32 (69.6)	14 (30.4)	46	0.812
	Income equal to expenses	146 (73.0)	54 (27.0)	200	
	Income greater than expenses	54 (75.0)	18 (25.0)	72	
Smoking	No	158 (74.5)	54 (25.5)	212	0.246
	Yes	74 (68.5)	34 (31.5)	108	
Body mass index, kg/m²	Mean ± SD	23.4±4.1	24.1±4.3	-	0.184

Data are presented as n (%) for categorical variables and mean ± standard deviation for body mass index. Percentages were calculated within each predictor category using available data for each predictor-outcome pair. p values were calculated using Pearson chi-square tests for categorical variables and an Independent-samples t test for body mass index. *Fisher's exact test was used
SD: Standard deviation

the reverse direction is also possible: persistent orgasm-related complaints may contribute to negative genital self-appraisal or shame over time.

The association between selected genital self-appraisal indicators and low sexual desire was less robust in the main adjusted model. This may reflect the multifactorial nature of sexual desire. Desire is shaped by biological, relational, psychological, hormonal, cultural, and contextual factors. In this study, high genital satisfaction showed an inverse directional pattern in the binary model and was associated with lower odds of low desire in the ordinal sensitivity analysis. Nevertheless, the absence of a statistically significant association in the main binary model suggests that genital self-appraisal should be regarded as one possible correlate of desire rather than a dominant explanatory factor.

The Turkish sociocultural context is also relevant. Women's sexuality in Turkey is shaped by the coexistence of modernization, changing gender expectations, modesty norms, religiosity, and sexual double standards.²²⁻²⁴ In such a setting, genital shame may carry meanings that extend beyond

appearance dissatisfaction alone. It may also reflect broader discomfort with sexual embodiment, interpersonal exposure, or internalized sexual norms. This context may partly explain why genital shame showed a consistent association with orgasm-related complaints. At the same time, the findings should not be interpreted as culturally deterministic. Similar links between genital self-image and sexual outcomes have been reported in other settings, suggesting that the clinical relevance of genital self-appraisal may extend beyond any single country or cultural context.

These findings have practical implications for gynecologic and sexual health care. Clinicians evaluating women with sexual complaints may benefit from asking about body-related and genital self-appraisal concerns, as well as symptom frequency, when clinically appropriate. In particular, genital shame may be a useful psychosocial signal to explore sensitively in women reporting orgasm-related difficulty or distressing sexual complaints. Such inquiry should be nonjudgmental and should avoid reinforcing appearance-based concerns. The aim is not to medicalize normal genital variation, but to recognize

Table 6. Multivariable logistic regression models for distressing sexual complaints, orgasm-related complaints, and low sexual desire

Panel	Outcome	Predictor	Adjusted OR	95% CI	p value
A	Any core distressing sexual complaint, revised nested definition	High genital satisfaction	0.61	0.34-1.10	0.098
A	Any core distressing sexual complaint, revised nested definition	Genital shame present	1.68	0.91-3.10	0.096
A	Any core distressing sexual complaint, revised nested definition	High partner genital comfort	0.72	0.40-1.30	0.276
A	Any core distressing sexual complaint, revised nested definition	Age	1.01	0.96-1.06	0.684
A	Any core distressing sexual complaint, revised nested definition	Education: University vs. lower education	0.78	0.36-1.68	0.528
A	Any core distressing sexual complaint, revised nested definition	Education: Postgraduate vs. lower education	0.88	0.35-2.18	0.782
A	Any core distressing sexual complaint, revised nested definition	Marital/relationship status: In a relationship, unmarried vs. single	1.16	0.48-2.80	0.742
A	Any core distressing sexual complaint, revised nested definition	Marital/relationship status: Married vs. single	1.52	0.68-3.40	0.312
A	Any core distressing sexual complaint, revised nested definition	Menopausal status	1.84	0.61-5.54	0.278
A	Any core distressing sexual complaint, revised nested definition	Body mass index	1.05	0.98-1.12	0.162
B	Orgasm-related complaint	High genital satisfaction	0.62	0.34-1.14	0.124
B	Orgasm-related complaint	Genital shame present	2.12	1.14-3.94	0.018
B	Orgasm-related complaint	High partner genital comfort	0.74	0.40-1.38	0.348
B	Orgasm-related complaint	Age	1.01	0.96-1.06	0.712
B	Orgasm-related complaint	Education: University vs lower education	0.84	0.38-1.88	0.674
B	Orgasm-related complaint	Education: Postgraduate vs lower education	0.92	0.36-2.34	0.862
B	Orgasm-related complaint	Marital/relationship status: In a relationship, unmarried vs. single	1.24	0.48-3.18	0.654
B	Orgasm-related complaint	Marital/relationship status: Married vs. single	1.62	0.70-3.76	0.262
B	Orgasm-related complaint	Menopausal status	1.82	0.58-5.72	0.304
B	Orgasm-related complaint	Body mass index	1.02	0.95-1.10	0.582
C	Low sexual desire	High genital satisfaction	0.58	0.31-1.08	0.086
C	Low sexual desire	Genital shame present	1.64	0.86-3.12	0.132
C	Low sexual desire	High partner genital comfort	0.66	0.34-1.26	0.204
C	Low sexual desire	Age	1.04	0.98-1.10	0.188
C	Low sexual desire	Education: University vs lower education	0.68	0.28-1.62	0.384
C	Low sexual desire	Education: Postgraduate vs. lower education	0.74	0.26-2.08	0.568
C	Low sexual desire	Marital/relationship status: In a relationship, unmarried vs single	1.08	0.40-2.94	0.882
C	Low sexual desire	Marital/relationship status: Married vs. single	1.54	0.62-3.82	0.348
C	Low sexual desire	Menopausal status	2.42	0.78-7.54	0.126
C	Low sexual desire	Body mass index	1.05	0.98-1.12	0.164

Adjusted odds ratios (ORs) with 95% confidence intervals (CIs) were estimated using logistic regression. Age and body mass index were entered as continuous variables. All models were adjusted for age, educational level, marital/relationship status, menopausal status, and body mass index. The complete-case sample consisted of 312 women. Model A included 90 events and 222 non-events; Model B included 84 events and 228 non-events; and Model C included 66 events and 246 non-events. Reference categories were lower education, single/no ongoing relationship, and premenopausal status

that some women's sexual complaints may be embedded in broader self-perception, shame, and relational comfort.

Study Limitations

This study has several limitations. First, the cross-sectional design precludes causal inference. The observed associations may reflect an effect of genital self-appraisal on sexual complaint reporting, an effect of sexual complaints on genital self-appraisal, or shared underlying psychological, relational, or sociocultural factors. Second, the study used three selected single-item genital self-appraisal indicators rather than the full validated FGSIS total score. This limits construct validity and means that the full multidimensional structure of genital self-image was not assessed. Third, although binary coding improved interpretability, dichotomization of Likert-scale responses probably caused information loss and reduced statistical power. The ordinal sensitivity analyses partly addressed this concern, but future studies should use validated multidimensional scores and prespecified analytic approaches.

Fourth, the sample was a digitally reached, non-probability online sample and was predominantly young and highly educated. Therefore, the findings may not be generalizable to the broader and more heterogeneous population of women in Turkey. Fifth, all data were self-reported and may be affected by recall bias, social desirability bias, and selective disclosure, particularly because the topic involves intimate sexual experiences and shame. Sixth, several important potential confounders were not available in the dataset, including parity, detailed obstetric history, psychiatric conditions, relationship quality, relationship duration, prior genital surgery, general body image, and chronic gynecological disorders. These omissions may have influenced the reported associations in several ways. For example, depression, anxiety, relationship dissatisfaction, or negative general body image could increase both genital shame and sexual complaint reporting, thereby inflating the observed associations. Conversely, unmeasured gynecologic or pelvic floor conditions may contribute to sexual symptoms independently of genital self-appraisal, potentially attenuating or distorting the associations observed in the adjusted models. Therefore, the reported ORs should be interpreted as adjusted associations within the available dataset rather than as independent causal effects. Residual confounding is likely, and future studies should include more detailed psychological, relational, obstetric, gynecologic, and body-image variables. Seventh, multiple bivariate comparisons were performed, and these analyses should be interpreted as exploratory. Finally, dyspareunia was summarized descriptively but not included in the core composite outcomes, because pain during intercourse may involve distinct pain-related, gynecologic, pelvic floor, and relational mechanisms that warrant a separate analytic framework.

Despite these limitations, the study has strengths. It addresses a clinically relevant but underexplored topic in women's sexual health generally, distinguishes symptom presence from distressing complaints, and uses both main and sensitivity analyses to evaluate the robustness of the findings. It also contributes data from Turkey, a context that remains

underrepresented in the literature on female genital self-appraisal and sexual complaints. Overall, the findings suggest that selected genital self-appraisal indicators, particularly genital shame, are associated with sexual complaint patterns in ways that deserve further investigation using longitudinal designs, more representative samples, and full validated multidimensional measures.

CONCLUSION

In this cross-sectional online sample of women in Turkey, selected genital self-appraisal indicators were associated with core sexual complaint patterns. Lower genital satisfaction, genital shame, and lower partner-related genital comfort were associated with greater complaint burden in bivariate analyses. After adjustment using a revised nested definition of distressing complaints, genital satisfaction and genital shame lost significance with an association with distressing complaint burden, whereas genital shame remained independently associated with orgasm-related complaints. Sensitivity analyses using the original ordinal Likert scores supported the overall direction of these findings. These results suggest that genital self-appraisal, particularly genital shame, may be a clinically relevant psychosocial dimension to consider in women reporting sexual complaints. However, because of the cross-sectional design, selected single-item measurement approach, and non-probability online sample, the findings should be interpreted cautiously and confirmed in longitudinal studies using full validated multidimensional measures.

Ethics

Ethics Committee Approval: The study protocol was approved by the Düzce University Non-Interventional Health Research Ethics Committee (approval no: 2020/114, date: 15.06.2020).

Informed Consent: Participation was voluntary and anonymous, and electronic informed consent was obtained from all participants before survey completion.

Footnotes

Authorship Contributions

Concept: A.E.K., Design: A.E.K., E.Z., Data Collection or Processing: A.E.K., Analysis or Interpretation: E.Z., Literature Search: A.E.K., E.Z., Writing: E.Z.

Conflict of Interest: One author of this article, Aşk Ellibeş Kaya, is a member of the Editorial Board of the Anatolian Journal of Obstetrics and Gynecology Research. However, she did not involved in any stage of the editorial decision of the manuscript. The editors who evaluated this manuscript are from different institutions. The other author declared no conflict of interest.

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