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The assessment of penetration cognitions and sexual functionality of women with sexual pain disorder in a Turkish sample: a comparative study

Sultan DOĞAN,[1] Gamze VAROL SARAÇOĞLU,[2] Evrim ERBEK,[3] Korkut BUDAK[4]

ABSTRACT

Objective: *The aim of this investigation is to compare vaginal penetration cognitions and general sexual functionality in women with vaginismus and dyspareunia and healthy controls.* ***Methods:*** *A sample of 210 women (70 women with lifelong vaginismus, 70 women with dyspareunia and 70 women without painful sexual activity) completed a series of validated questionnaires. All participant received Structured Assessment Questionnaire, Golombok-Rust Sexual Satisfaction Scale, and Vaginal Penetration Cognition Questionnaire (VPCQ).* ***Results:*** *It was found that when compared to dyspareunia and control group, women with vaginismus have higher cognitive scores of loss of control during penetration in VPCQ. Moreover, vaginismus group have lower level of sexual knowledge, cannot penetrate their fingers into their vaginas, and do not use tampons. Both women with vaginismus and dyspareunia were reported to have more level of negative self-cognitions, catastrophe/pain and genital incompatibility cognitions than those women with no sexual complaints. Moreover, women with vaginismus and women with dyspareunia have more anorgasmia, non-sensuality and sexual dysfunctions than the control group.* ***Conclusion:*** *Our results revealed that Turkish women with sexual pain disorder have similar vaginal penetration cognitions with women living in Western societies. In addition, according to our results it will be beneficial to define another sub group consisting of women who have never experienced sexual intercourse under the title of genito-pelvic pain/ penetration disorder because there are noteworthy differences between vaginismus and dyspareunia.* ***(Anatolian Journal of Psychiatry 2018; 19(3):227-234)***

Keywords: *vaginismus, dyspareunia, penetration cognitions, sexual dysfunctions*

Cinsel ağrı bozukluğu olan Türk kadın örnekleminde penetrasyon bilişlerinin ve cinsel işlevselliğin değerlendirilmesi: Karşılaştırmalı bir çalışma

ÖZ

Amaç: *Bu araştırmanın amacı vajinismuslu, disparonili ve sağlıklı kadınlarda vajinal penetrasyon bilişlerini ve genel cinsel işlevselliği karşılaştırmaktır.* ***Yöntem:*** *Toplam 210 kadın (yaşam boyu vajinismuslu 70 kadın, disparonili 70 kadın ve cinsel aktivitede ağrısı olmayan 70 kadın) bir dizi ölçeği tamamladı. Bütün katılımcılara Yapılandırılmış Bilgi Formu, Golombok-Rust Cinsel Doyum Ölçeği ve Vajinal Penetrasyon Biliş Ölçeği (VPBÖ) uygulandı.* ***Bulgular:*** *Disparoni ve kontrol grubuyla karşılaştırıldığında vajinismuslu kadınlarda penetrasyon sırasında VPBÖ kontrolünü kaybetme biliş puanlarının anlamlı olarak yüksek ve cinsel bilgi düzeylerinin daha düşük olduğu bulunmuştur. Ayrıca, vajinismuslu grubun parmaklarını vajinalarına sokamadığı ve tampon kullanmadığı saptanmıştır. Cinsel yakın-*

[1] Prof. Dr., Namık Kemal Üniversitesi Tıp Fakültesi Psikiyatri ABD, [2] Doç. Dr., Halk Sağlığı ABD, Tekirdağ, Turkey
[3] Uzm. Dr. Zeynep Kamil Kadın ve Çocuk Hastalıkları Eğitim ve Araştırma Hastanesi, İstanbul, Turkey
[4] Uzm. Dr., Çorlu Devlet Hastanesi, Tekirdağ, Turkay
Correspondence address / *Yazışma adresi:*
Prof. Dr. Sultan DOĞAN, Namık Kemal Üniversitesi Tıp Fakültesi Psikiyatri ABD, Tekirdağ, Turkey
E-mail: sultandogan@yahoo.com
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ması olmayan gruba göre hem vajinismuslu, hem de disparonili kadınlar daha fazla olumsuz benlik bilişleri, felaketleştirme/ağrı bilişleri, cinsel (genital) uyumsuzluk bilişlerine sahiptiler. Ek olarak, vajinismuslu ve disparonili kadınlarda orgazm zorluğu, duyusal-dokunma sorunları ve cinsel işlev bozuklukları kontrol grubuna göre daha fazlaydı. ***Tartışma:*** *Sonuçlarımız, Türkiye'deki cinsel ağrı bozukluğu olan kadınlarda Batılı toplumlarda yaşayan kadınlarla benzer vajinal penetrasyon bilişleri olduğunu göstermiştir. Ayrıca, bulgularımıza göre vajinismus ve disparonili kadınlar arasında kayda değer farklılıklar bulunduğundan hiç cinsel birleşmede bulunamayan kadınların 'cinsel organlarda-pelviste ağrı/penetrasyon bozukluğu' başlığı altında ayrı bir alt grup olarak tanımlanması yararlı olacaktır.* ***(Anadolu Psikiyatri Derg 2018; 19(3):227-234)***

Anahtar sözcükler: Vajinismus, disparoni, penetrasyon bilişleri, cinsel işlev bozuklukları

INTRODUCTION

According to DSM-IV-TR, vaginismus is categorized as a case comprised of repetitive or involuntary perpetual spasm in the outer 1/3 muscles of the vagina, which prevents sexual intercourse. In order to diagnose vaginismus, it is obligated that the disorder cause significant distress or interpersonal difficulties.[1] However, as there has not been sufficient evidence about spasm measurement, the requirement of determination of diagnostic criteria was brought forward.[2-7] In addition, because of the symptom similarities between vaginismus and dyspareunia, these two sexual pain disorder were classified as genito-pelvic pain/penetration disorder (GPPPD) in DSM-5.[8,9] Although there are some previous studies indicating that the sexual function in women with vaginismus might not have been impaired,[10-14] many recent studies have revealed that sexual dysfunction occurs in these women.[5,15-20-24] Besides, in case-control studies it was found that women with vaginismus specifically have lower level of sexual drive, arousal, lubrication, orgasm and satisfaction than those healthy controls.[22,25-27]

Recently, studies regarding women with lifelong vaginismus in Western countries have started focusing on cognitive and emotional factors concerning sexual penetration behavior. In a study carried out with Vaginal Penetration Cognition Questionnaire[28] (VPCQ), women with vaginismus were reported to have more level of loss of control related to penetration, negative self-cognitions, catastrophe/pain and genital incompatibility cognitions than women with dyspareunia and women with no sexual complaints. In a similar controlled study applying VPCQ, it was reported that the loss of control cognitions during penetration in the group with vaginismus was more severe compared to the group of dyspareunia and control group.[27] In addition, there is a study disclosing that women with vaginismus have more general pain/catastrophe than women with dyspareunia and women with no sexual complaints.[29] In an on-line survey reported that women with lifelong vaginismus have higher level of pain, injury, fear of intimacy, loss of control, negative body image concerning their genital organ and penis as well as disgust with sexual intercourse.[30]

Turkey is a country located in Middle East territory in which Islam has a strong preponderance, and vaginismus is rather a common disorder both in general population and sexual dysfunction clinics.[16,21,31-34] Although there are few studies evaluating vaginal penetration cognitions in Western countries, to our knowledge, there is no study on this topic in the non-Western countries, including Turkey. In this case-control study, it is aimed to compare three groups of Turkish women with lifelong vaginismus, dyspareunia and no complaint during sexual intercourse with regards to some factors such as sexual knowledge, sexual behavioral characteristics, sexual dysfunctions and vaginal penetration cognitions.

METHODS

Participants

Our study sample consisted of women with lifelong vaginismus (n=70), women with dyspareunia (n=70), and women with no pain during intercourse (n=70). All women with vaginismus and dyspareunia were from the outpatient population of the psychiatry clinics of Namık Kemal University Research and Training Hospital and Zeynep Kamil Women and Children Diseases Research and Training Hospital in Turkey. Participation was on a voluntary basis and in accordance with the guidelines of the Helsinki Declaration in 1995 (as revised in Tokyo in 2004). Written informed consent was obtained from each participant, and the study was approved by Namık Kemal University Medical School Ethics Committee. All eligible patients agreed to participate in the study and participants did not receive any compensation for their participation.

In 2012 and 2013, 140 consecutive female patients with a diagnosis of vaginismus and dyspareunia completed the questionnaires at the

outpatient clinics, following their first visit. Participants were included in the subgroup vaginismus when they have 'persistent difficulties to allow vaginal entry of a penis, finger, and/or any object, despite the woman's expressed wish to do so'.[9] Participants were included in the subgroup dyspareunia when they experienced pain during vaginal penetration but did not meet the inclusion criteria for the subgroup vaginismus. All participants with vaginismus and dyspareunia had undergone a gynecological examination just before the psychiatric assessment to eliminate possible gynecological problems pertaining painful sexual genital activity. Although insertion of a speculum was not possible during the vaginal examinations for any of the patients with lifelong vaginismus, the gynecological examination was limited to visual inspection and gentle exploration of the vulvar opening.

The control group consisted of 70 women from hospital staff and patients' relatives sharing similar social and cultural characteristics (social class, family and marriage type). The inclusion criteria for the control group were to have experience of vaginal penetration without any difficulty and not to have any history of perpetual or repetitive vulvar/vaginal/pelvic pain and sexual intercourse difficulty. For all the participants, it was also required to be married for at least 6 months, to have a good general state of health and not to have affective or psychotic disorders.

Measurements

Structured Assessment Questionnaire (SAQ): The questionnaire containing 40 items, and it was developed by the researchers. The first 10 questions of the questionnaire were used to determine the socio-demographic variables such as age, gender, marriage type, education level, employment status, family type, income level, birth place, and migration. Questions 11 to 17 were used for medical history taking. The remaining questions were used for sexual history taking, and included questions on the sexual knowledge level, masturbation habits, the age of first sexual penetration experience, first sexual partner, the occurrence of any sexual problems during the first sexual encounter, marital adjustment, and sexual attractiveness of the husband.

Golombok-Rust Sexual Satisfaction Scale (GRISS): Sexual function was assessed by using GRISS questionnaire. The GRISS has 28 items on a single sheet and is used for assessing the existence and severity of sexual problems in heterosexual couples or individuals who have a current heterosexual relationship. All the 28 questions are answered on a five-point (Likert type) scale from 'always', through 'usually', 'sometimes', and 'hardly ever', to 'never'. Responses are summed up to give a total raw score range 28-140. The total score and the subscale scores are transformed using a standard nine point scale, with high scores indicating greater problems. Scores of five or more are considered to indicate sexual dysfunction.[35,36] The validity and reliability of the GRISS were tested for Turkish samples by Tugrul et al.[37]

Vaginal Penetration Cognition Questionnaire (VPCQ): The 22-item VPCQ measures cognitions regarding vaginal penetration in women with lifelong vaginismus or dyspareunia. All items are rated on a 0 (not at all applicable) to 6 (very strongly applicable) -point Likert scale. Conduction of factor analyses yielded five subscales regarding cognitions about vaginal penetration: 'control cognitions', 'catastrophic and pain cognitions', 'self-image cognitions,' 'positive cognitions,' and 'genital incompatibility cognitions.' Reliability of these five VPCQ subscales ranged from 0.70 to 0.83, and the test-retest correlations were satisfactory.[28] The Turkish version of VPCQ has adequate reliability and validity in clinical and nonclinical samples (Cronbach's alpha=0.56-0.93) and yields similar factor structure.[38]

Statistical analysis

All statistical evaluations were performed using the Statistical Package for the Social Sciences (SPSS) for Windows (version 18.0). Descriptive statistics were calculated (frequency, mean and standard deviation) after performing data control. Chi-square test were used to compare categorical variables. In analytic compares, analysis of variance (one way ANOVA) was used for continuous variables when comparing more than two groups. When the difference emerged between groups, the Post-Hoc Bonferroni correction has been used in order to find the origin of difference. The internal consistency of measurements was determined by calculating Cronbach alpha coefficient. All statistical analyses were performed with a 95% confidence interval (CI) and evaluated two-ways.

RESULTS

Participant characteristics

The average of age in the control group was 29.37±7.58 (range: 19-44); it was 26.95±8.783 (range: 19-54) in the group with dyspareunia; and it was 26.76±5.27 (range: 19-39) in the

group with vaginismus (p=0.068). The control group, the group with dyspareunia and the group with lifelong vaginismus were compared in terms of sociodemographic data (Table 1). The duration of marriage in the control group was 11.73± 7.20 (range: 0.33-27) years; it was 6.11±9.90 (range: 0.10-37) years in the group with dyspareunia; and it was 2.17±2.16 (range:0.40-8) years in the group with vaginismus (p<0.001). The control group, the group with dyspareunia and the group with lifelong vaginismus were compared in terms of sociodemographic data (Table 1). It was found that the frequency of being housewife, not having children and having low-income were significantly higher in the group with vaginismus by comparison with other groups (p<0.05).

Table 1. Participant characteristics for women with vaginismus, with dyspareunia, and women without sexual complaints (controls)

Demographic features (%)	Controls	Dyspareunia	Vaginismus	χ^2	p
Education				23.20	0.01
Primary school	18.75	56.25	25.00		
Secondary school	8.33	33.33	58.34		
High school	38.36	30.14	31.50		
Vocational school	41.02	23.08	35.90		
University or higher	48.86	30.95	20.19		
Birth place				15.22	0.02
Metropolis	48.28	31.03	20.69		
City	20.46	34.09	45.45		
Town or village	36.36	36.36	27.28		
Family type				8.35	0.08
Nuclear	32.94	34.12	32.94		
Extended	35.00	30.00	35.00		
Type of marriage				7.41	0.29
After dating	34.12	33.53	32.35		
Arranged marriage (voluntarily)	30.30	33.33	36.37		
Arranged marriage (involuntarily)	20.00	40.00	40.00		
Child				90.40	<0.001
No	9.68	39.52	50.48		
Yes	67.44	24.42	8.14		
Employment				51.78	<0.001
Housewife	20.93	37.35	41.72		
Self-employment	50.00	25.00	25.00		
Farmer	-	-	100.00		
Employee	20.69	44.83	34.38		
Student	-	75.00	25.00		
Job via	52.63	25.00	22.31		
Income level					
Upper	38.46	46.15	15.39		
Middle	34.95	32.80	32.25		
Lower	-	27.27	72.73		
Using medication					
No	30.32	32.90	36.78		
Yes	41.81	34.55	23.64		

Marital and sexual traits

Significant differences among the groups was not established in terms of the first sexual intercourse partner, marital adjustment, attractiveness of husband and infidelity (p<0.05). It was found that significantly more women with vaginismus considered themselves insufficient about sexual knowledge. Large majority of women with vaginismus reported that they cannot penetrate their fingers into their vaginas, and do not use tampons (Table 2).

Vaginal penetration cognitions

In the study VPCQ subscales and total scores

Table 2. Sexual experience traits for women with vaginismus, with dyspareunia, and women without sexual complaints (controls)

Sexual experience traits (%)	Controls	Dyspareunia	Vaginismus	χ^2	p
Age of sexual intercourse attempt	22.61±3.86	23.87±5.22	23.62±4.36	1.34*	0.26
Sexual knowledge				84.00	<0.001
Adequate	57.14	27.68	15.18		
Inadequate	6.19	40.21	53.60		
Marital adjustment					
Good	38.53	26.61	34.86	12.51	0.051
Moderate	33.33	36.91	29.76		
Bad	-	58.82	41.18		
Attractiveness of the husband				10.29	0.245
Attractive	37.74	27.36	34.90		
Moderate	30.80	40.79	28.60		
Repulsive	-	20.00	80.00		
Other	25.00	34.50	34.50		
Inserting own finger into vagina				24.77	0.006
Never	30.83	28.57	40.60		
Sometimes	48.21	33.93	17.86		
Regularly	33.33	33.33	33.33		
Mostly	-	77.78	22.22		
Always	-	66.67	33.33		
Tampon using					
Never	26.99	35.98	37.03	40.64	<0.001
Sometimes	90.48	9.52			

**: F value*

Table 3. Comparison of Vaginal Penetration Cognition Questionnaire (VPCQ), Golombok-Rust Sexual Satisfaction Scale (GRISS) scale point averages in the women with vaginismus, dyspareunia or without sexual complaint (control group)

	Controls Ort.±SS/median	Dyspareunia Ort.±SS/median	Vaginismus Ort.±SS/median	F	p*
VPCQ					
Control[a]	7.76±11.89/3.00	25.65±8.01/25.00	31.71±11.11/32.00	81.03	<0.001
Positive	24.78±8.32/26.50	24.65±8.01/25.00	23.92±7.25/24.00	0.23	0.799
Self-image[b]	1.07±2.57/0.00	4.46±4.29/4.00	3.87±3.86/3.00	17.24	<0.001
Catastrophic/pain[b]	3.59±5.25/0.00	10.87±5.08/11.00	10.09±5.47/9.00	39.97	<0.001
Genital incompatibility[b]	3.99±26.53/0.00	8.84±5.19/8.00	10.60±5.19/11.00	31.93	<0.001
Total score[b]	41.66±26.54/33.00	73.89±20.64/69.00	79.86±20.04/80.00	53.36	<0.001
GRISS					
Infrequency	6.00±1.07/6.00	6.04±1.88/6.00	5.41±2.39/6.00	1.07	0.349
Non-communication	4.25±1.91/4.50	5.16±2.44/5.00	4.67±2.29/5.00	0.08	0.449
Dissatisfaction	3.50±1.60/3.00	4.71±1.87/5.00	4.21±2.18/4.00	1.62	0.203
Avoidance	4.25±2.05/4.00	5.12±2.69/5.00	3.77±2.57/3.00	2.99	0.055
Non-sensuality	2.75±2.05/2.00	5.04±2.52/6.00	4.54±2.49/5.00	4.44	0.014
Vaginismusa	5.00±1.51/5.00	7.37±1.18/5.00	8.08±1.24/8.00	20.83	<0.001
Anorgasmiac	3.00±1.85/2.00	4.59±1.52/5.00	4.39±1.74/4.00	3.23	0.044
Total scoreb	2.75±2.05/2.00	5.82±2.20/6.00	5.05±2.29/5.00	6.79	0.002

** The differences determined by One Way analysis of variance (ANOVA) and Post Hoc Bonferroni correction were the result of mean differences among [a]three groups; [b]differences between the control group and the groups with dyspareunia and vaginismus and [c]differences between the control group and the group with dyspareunia.*

were compared in control, dyspareunia and vaginismus groups. It was found that there were significant differences between groups regarding control, self-image, pain/catastrophe, genital incompatibility subscales and total scale scores ($p<0.05$). It was found that the lowest scores were of the control group. Post-hoc analyses revealed that the VPCQ loss of control cognition scores in the group with vaginismus were significantly higher than the group with dyspareunia ($p=0.009$) and the control group ($p<0.001$). However, the scores of these three subscales (self image, catastrophic/pain and genital incompatibility) in the control group were rather low when compared to the group with dyspareunia and the group with vaginismus ($p<0.001$). There was no considerable difference among three groups in positive cognition subscale ($p>0.05$). As far as VPCQ total scores are concerned, no significant difference was found between the group with dyspareunia and the group with vaginismus ($p>0.05$). The scores of the control group were considerably lower than the other two groups ($p<0.001$) (Table 3).

Sexual function and satisfaction

In the study, GRISS total and subscale scores were compared in the groups of control, dyspareunia and vaginismus. It was found that total scores in the control group were relatively lower than the group of dyspareunia and the group of vaginismus ($p<0.001$). While the anorgasmia and non-sensuality subscale scores of the control group were significantly lower than the group of dyspareunia and the group of vaginismus ($p<0.05$), no significant difference was found between dyspareunia and vaginismus groups in these subdimensions ($p>0.05$). The highest score of the vaginismus subdimension was in the group of vaginismus whereas the lowest score was in the control group (Table 3).

DISCUSSION

In this study, it was shown that the frequency of being housewife, not having children, having low-income and insufficient sexual knowledge in the group with vaginismus were significantly higher than the group with dyspareunia and the control group. Furthermore, majority of the women with vaginismus stated that they cannot penetrate their fingers into their vaginas, and do not use tampons. All these traits show that traditional factors and especially lack of sexual knowledge play an important role in vaginismus and this is compatible with the results of a study carried out previously in our country.[22] Although lack of sexual knowledge is not reported as an etiological factor in some studies carried out in Western countries, the result from our study shows the importance of improving sexual knowledge in our country, and it underlines the necessity of providing education on sexual anatomy and physiology in the first step of the treatment.[5,21,39,40] In terms of marital adjustment and attractiveness of husband, no significant difference was found between three groups. Most of the patients and the control group evaluated their marital adjustment as ‘good’ or ‘moderate’, and reported that they find their husbands attractive. It can be speculated that vaginismus and dyspareunia do not harm marital adjustment, and the patients whose marital adjustment is smooth start treatment whereas the patients whose marital adjustment is problematic have marital breakdown.[5,21,22] However, more systematical research are needed to establish a definite conclusion.

According to results of our study, it was determined that the group with vaginismus has the highest cognitive scores of loss of control during penetration in VPCQ followed by the group with dyspareunia and the control group, respectively. From the studies that can be accessed there has been two studies evaluating VPCQ and cognitions in the groups of vaginismus, dyspareunia and control. Both in the first[27] and the second study,[28] it was found that there were less negative cognitions and higher positive cognitions in the control group than the group with vaginismus and the group with dyspareunia, which is compatible with the results of our study. In the study carried out by Klaassen and Ter Kuile it was reported that four sub-scale scores evaluating negative cognitions were considerably different in women with lifelong vaginismus from the women with dyspareunia and this scale can distinguish vaginismus and dyspareunia.[27] In the second study carried out by Cherner and Reissing,[28] likewise our study, it was found that the loss of control cognitions during penetration were significantly severe in the group with vaginismus than the group with dyspareunia.

According to the data obtained from the GRISS subscales, it was discovered that the groups of lifelong vaginismus and dyspareunia have more problems in orgasm, non-sensuality and general sexual function than the control group. Many recent studies represent that women with vaginismus have wide range of sexual problems,[15-27] and at least one study disclose that these sexual

problems bear a resemblance to women with dyspareunia.[41] Our findings support the results of these recent studies. In the light of these findings, it can be concluded that sexual functionality may cause problems apart from penetration/pain in the women with vaginismus and dyspareunia.

The most important conclusion of our study is that Turkish women with sexual pain disorder have similar vaginal penetration cognitions with women living in Western countries. Consequently, it can be speculated that vaginal penetration cognitions may not be influenced by the cultural/religious factors. However, more studies evaluating vaginal penetration cognitions in various cultures are necessary to generalize this finding. Another important conclusion of the study is that women with vaginismus and women with dyspareunia have similarities as well as some differences in penetration cognitions and sexual behaviors. Thus, it is not easy to mention that vaginismus and dyspareunia are a single disorder. In the future studies, it will be beneficial to define another sub group consisting of women who have never experienced sexual intercourse under the title of sexual pain disorder or genito-pelvic pain/penetration disorder.

Limitations of the study

Although our study presents prominent data regarding women with lifelong vaginismus and dyspareunia, the generalization of findings is limited due to a few factors. First, although the study includes relatively large number of patients and the control group, the participants were not randomized, which makes the generalization of the findings difficult. Second, variables such as level of sexual knowledge, marital adjustment, and sexual attractiveness of the husband were evaluated in regard to the questionnaire, and a standardized scale was not used. Another limitation of this study is to leave some factors out of the study such as level of devoutness, characteristics of the family raised in, sexual self-perception, sexual problems in husband, negative sexual experience in childhood and the presence of sexual abuse which are suggested to be important in vaginismus etiology. Finally, it is an important limitation that the sociodemographic characteristics of the control group such as age, duration of marriage could not be exactly matched with case groups of the study.

Authors' contributions: *S.D.: literature review, samples examination, questionnaire form preparing, manuscript writing, translating; G.V.S.: Planning, questionnaire form preparing, data evaluation, statistics, manuscript writing; E.E.: samples examination, manuscript writing; K.B.: samples examination, questionnaire form preparing.*

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