Original article / *Araştırma*

Sociodemographic features, depression and anxiety in women with life-long vaginismus

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ABSTRACT

Objective: *Vaginismus is a female sexual dysfunction with reflex spasm of the muscles around vagina making penile penetration impossible. Many factors such as psychological, social and cultural may cause vaginismus were proposed, but debates are still ongoing. In this study, factors that may be related with vaginismus were studied and compared with controls.* ***Methods:*** *The participants were women with vaginismus without any organic pathology in gynecological examination and healthy controls. Twenty-five women with vaginismus and 25 controls who have no difficulty with vaginal penetration were evaluated by self-reported scales for depression, anxiety and sexual function. Sociodemographic variables were collected for each participants.* ***Results:*** *Women with vaginismus did not differ from controls in sociodemographic characteristics. The women with vaginismus had significantly higher levels of depression and anxiety. Total score of Glombok-Rust Sexual Satisfaction Scale, subscores of vaginismus, satisfaction, avoidance, anorgasmia were significantly higher and level of sexual knowledge was also limited in women with vaginismus.* ***Discussion:*** *Multiple sociodemographic and clinical factors are found associated with vaginismus. Some of the findings are supported by the literature but some are not. This may remind us there are still unclear concerning related factors in vaginismus. So, there is need for further studies in which hypotheses of different etiopathologies of vaginismus will be held.* ***(Anatolian Journal of Psychiatry 2016; 17(6):489-495)***

Keywords: *vaginismus, depression, anxiety, sexual function*

Yaşam boyu vajinismusu olan kadın hastalarda sosyodemografik özellikler, depresyon ve anksiyete

ÖZET

Amaç: *Vajinismus, vajina etrafındaki kasların refleks kasılması ile penil penetrasyonun gerçekleşmemesi sonucu gelişen bir kadın cinsel işlev bozukluğudur. Vajinismusa neden olabilecek birçok ruhsal, sosyal ve kültürel etken öne sürülmüş olsa da, halen bu konuda şüpheler sürmektedir. Bu çalışmada vajinismusla ilişkili olabilecek birçok etken çalışılarak kontrollerle karşılaştırılmıştır.* ***Yöntem:*** *Katılımcılar; vajinismusu olan ve jinekolojik muayenede herhangi bir organik patolojisi olmayan kadınlar ve sağlıklı kontrollerden oluşmaktadır. Vajinismusu olan 25 kadın ve vajinal penetrasyonda sorunu olmayan 25 sağlıklı kontrol depresyon, anksiyete ve cinsel işlevler açısından özbildirim ölçekleriyle değerlendirilmiştir. Tüm katılımcıların sosyodemografik özellikleri de toplanmıştır.* ***Sonuçlar:*** *Vajinismusu olan kadınlar sosyodemografik özellikler açısından kontrollerden fark göstermemişlerdir. Vajinismusu olan kadınların depresyon ve anksiyete düzeyleri daha yüksektir. Golombok-Rust Cinsel Doyum ölçeği toplam puanı, ölçeğin vajinismus, doyum, kaçınma, anorgazmi alt puanları vajinismus hastalarında anlamlı yüksek bulunurken; cinsel bilgi düzeyi anlamlı olarak kısıtlı bulunmuştur.* ***Tartışma:*** *Birçok sosyodemografik ve klinik etmen vajinismus ile ilişkili bulunmuştur. Bu bulguların bir kısmı literatürde desteklenirken, bir kısmı desteklenmemektedir. Bu,*

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Received: January 10th 2016, Accepted: March 22nd 2016, doi: 10.5455/apd.215372

bize vajinismusla ilişkili etkenlerde halen net olmayan yönler olduğunu anımsatır. Bu nedenle vajinismusta farklı etiyopatogenezlerin ele alındığı çalışmalara gereksinme vardır. ***(Anadolu Psikiyatri Derg 2016; 17(6):489-495)***

Anahtar sözcükler: *Vajinismus, depresyon, anksiyete, cinsel işlev*

INTRODUCTION

Vaginismus is defined as recurrent or persistent involuntary contraction of the outer third of the vagina, thus interfering with sexual intercourse. It is one of the categories of female sexual pain disorders defined in Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV).[1] Phobic avoidance, involuntary pelvis muscle contraction and anticipation\fear\experience of pain frequently accompany the condition. Although data concerning the prevalence of vaginismus are scarce, it is estimated at 1-6% in western countries. Vaginismus is the female sexual disorder most frequently seen in primary care and among outpatients admitted to sexual function polyclinics in Turkey.[2-4] Despite its frequent prevelance among female sexual dysfunction, data about etiological and maintaining factors is still scarce. Organic and nonorganic causes are implicated in etiology. In most of the cases, organic causes could not be demonstrated. But there are several psychosocial factors investigated as etiological correlates.[5] One of the descriptions of vaginismus is a phobic defense mechanism,[6] which was resulted from conditioned fear reaction. Vaginismus is also described analytically as reflections of women's rejection of the female role. Religious orthodoxy and regarding sex as dirty and shameful is another psychosocial factor for vaginismus.[5] In a critical rewiew of literature for vaginismus pointed that maintaining factors and relational aspects of vaginismus were poorly investigated.[7] In one study study from Turkey compared various variables including the sexual history traits, marital characteristics, sexual function and satisfaction level in women with and without vaginismus and found several variables of which one of them is partners' sexual dysfunction.[8] Traumatic experiences were argued in the development of vaginismus but no significant group differences in prevalence of sexual abuse were noted in studies with control groups, even sexual abuse was found lower than that in general population.[9-13]

The purpose of this cross-sectional, descriptive study was to investigate sociodemographic variables, depression and anxiety levels, sexual function, level of sexual knowledge and history of physical or sexual trauma in patients with vaginismus. Results of the study will contribute the literature of vaginismus concerning sociodemographic and clinical correlates and illuminate the clinician in management of this very often disorder.

METHODS

This study was conducted in the Psychiatry Department of the Karadeniz Technical University Faculty of Medicine Farabi Hospital. Local Medical Ethics Committee approved the study, and written informed consent was obtained from all patients who participated. The study population consisted of all women referred to the general outpatient units with symptoms of never being able to tolerate vaginal penetration with the penis or finger during sexual relations. The sampling among this population involved heterosexual women admitted to the psychiatry department over approximately six months between December 2012 and May 2013 with a diagnosis of vaginismus, who agreed to participate and who met the inclusion criteria. The inclusion criteria were age 18-44 years, and being a heterosexual woman never able to experience vaginal intercourse or having attempted vaginal intercourse but being unable to tolerate penile insertion. The severity of vaginal penetration difficulties was also evaluated via pelvic examination. The inclusion criteria for the control group were no difficulty with vaginal penetration and current ability to engage in vaginal intercourse without avoidance. The exclusion criteria for the patients in the vaginismus group were presence of any pathological findings leading to penetration difficulty during gynecological examination as described above, serious systemic diseases (cardiac, respiratory, gastrointestinal, neurological, endocrine etc.) or psychiatric diseases such as psychotic disorder and mental retardation that might interfere with clinical interview. Women with life-long and generalized type vaginismus according to DSM-IV were referred to the obstetrics and gynecology clinic for assessment of any organic pathology, including anatomic abnormalities, infections, mucosal tears, hypersensitive scars, atrophic vaginitis, inadequate lubrication, painful hymeneal tags, urethral carbuncle, topical allergies, focal vulvitis or postherpetic neuralgia. Patients were invited to participate in

the study in the absence of pathological findings. The Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI) and Glombok-Rust Sexual Satisfaction Scale (GRSSS) were applied to all patients and controls. A structured interview was conducted to assess sociodemographic data and clinical variables after clinical assessment.

A questionnaire including sociodemographic and medical status of patients were prepared by the authors. This inquired into gender, age, education, marital status, profession, and employment status in the previous year, symptoms and sex life history. Inadequate or restricted sexual knowledge was determined through sexual history. This included a set of structured questions prepared by the authors. These structured questions inquired into the anatomy and physiology of the genital organs, sexual intercourse including sexual response cycle, masturbation and sexuality. Self-perception in terms of level of knowledge in sexuality, sex education classes attended and talking about sex with family or friends were also investigated.

Examples of questions include, 'What happens when a man/woman comes/ejaculates/has an orgasm?', 'What is arousal?', 'Can you identify your genitals?', 'What is your main source of knowledge about sexuality?', and 'What do you know about sexual intercourse?' The BAI is a 21-item self-report questionnaire which predominantly evaluate somatic anxiety symptoms, such as heart pounding, nervousness, inability to relax and dizziness or light-headedness. Thirteen items are rated on a 4-point scale ranging from 0 (not at all) to 3 (severe: I could barely stand it). Validity and reliability of the Turkish version were investigated by Ulusoy et al.[14] The BDI is 21 item inventory that assesses the presence and severity of depression.[15] The items of the inventory were selected to represent symptoms including mood, pessimism, crying spells, feelings of guilt, self-hate and self-blame, irritability, social withdrawal, work inhibition, sleep and appetite disturbance and loss of libido which are commonly associated with a depressive disorder. Validity and reliability have been established for the Turkish version. The total score ranges from 0 to 63, with a cut-off score of 17.[16] The GRSSS helps evaluate the quality of sexual relations and disorders of sexual functioning. High scores point to a deterioration in sexual functioning and quality of sexual relations. Frequency, communication, satisfaction, avoidance, sensuality, vaginismus and anorgasmia subscale scores and total scores for quality of sexual functioning were evaluated.[17,18] Standardization of Turkish version was performed by Tugrul et al.[19]

Statistical analyses were carried out on SPSS software (version 13.01, serial number 9069728; SPSS Inc, Chicago, IL, USA). Normality of the measured data was assessed using the Kolmogorov-Smirnov test. Quantitative data for patients were performed using Student's t-test or the Mann-Whitney U test. Comparison of qualitative data was performed using Fisher's chi-square test. Significance was determined as $p<0.05$.

RESULTS

Twenty-five women with vaginismus and a control group of 25 healthy individuals were included in the study. The two groups were similar in terms of demographic characteristics (age, education and employment status) (Table 1). A significantly higher number of healthy controls (n=17, 68%) versus patient group (n=2, 8%) had children ($p<0.001$). There was no significant difference between the two groups in terms of total monthly income ($p=0.506$). Family pattern, nuclear or extended, also did not differ between the two groups ($p=0.247$). Only two of the women with vaginismus (8%) had undergone gynecological examination with a speculum, the others all underwent unimanual examination (n=23, 92%). Length of marriage was significantly greater in the control group ($p=0.007$). Thirteen (52%) of the patients with vaginismus and nine of the healthy controls (36%) were in the first year of marriage, and the difference was not significant ($p=0.393$). Significantly higher number of women with vaginismus regarded their marriages as not satisfactory (78.6%, n=11 versus 21.4%, n=3; $p=0.027$) than the healthy control. Fewer women with vaginismus regarded their partners as attractive ($p=0.550$).Twenty percent of the 25 women with vaginismus had also sexual desire disorder, and 4% had anorgasmia.

Significant pain and contraction were reported in women with vaginismus when vaginal touching or penetration was attempted ($p=0.43$; $p<0.001$, respectively). Sexual knowledge was significantly restricted and even catastrophic in women with vaginismus compared to the healthy group ($p=0.0005$). Forms of marriage, traditional or otherwise, not did not differ between the patient and the control groups ($p=1.00$). There was no difference between the groups in terms of number of attempts at sexual activity

Table 1. Demographics and clinical features of patient and control group

	Patient group (n=25)	Control group (n=25)	p
Age (years)	25.36±4.30	25.24±4.30	0.922
Duration of marriage (months)	19.96±19.86	45.92±40.92	0.007
Education(years)	10.60±3.28	10.36±3.17	0.794
GRSSS			
Frequency	4.48±2.10	4.04±1.54	0.403
Communication	4.12±2.52	4.44±2.35	0.644
Satisfaction	4.08±2.10	2.36±1.19	0.001
Avoidance	4.92±2.23	2.80±1.76	0.01
Sensuality	4.76±1.98	4.20±2.71	0.408
Vaginismus	8.52±1.42	3.44±2.08	<0.001
Anorgasmia	4.84±2.58	3.04±1.37	0.001
Total score	5.16±2.25	2.24±1.36	<0.001
Beck Anxiety Inventory	50.00±18.48	7.12±5.20	0.001
Beck Depression Inventory	16.24±10.10	6.28±4.80	<0.001
	n %	n %	p
Working status			0.86
Working	7 28	14 56	
Not-working	18 72	11 29	
Level of knowledge about sexuality			<0.001
Adequate	2 8	19 76	
Restricted	23 92	6 24	

GRSSS: Glombok-Rust Sexual Satisfaction Scale

Table 2. Correlation of T-GRSSS, subscores of GRSSS, BDI and BAI

	BDI		BAI	
GRSSS	r	p	r	p
Satisfaction	0.598	<0.001	0.521	<0.001
Avoidance	0.543	<0.001	0.552	<0.001
Sensuality	0.329	0.020	0.398	0.004
Vaginismus	0.443	0.001	0.372	0.008
Anorgasmia	0.473	0.001	0.419	0.002
T-GRSSS	0.589	<0.001	0.522	<0.001

T-GRSSS: Total-Glombok-Rust Sexual Satisfaction Scale; BDI: Beck Depression Inventory; BAI: Beck Anxiety Inventory

per month. However, the number of patients with vaginismus attempting intercourse three times a week was higher than that of patients attempting it less than three times a week. There was no history of sexual abuse or trauma or of use of any medication in either group at time of assessment.

GRSSS total scores were 5.16±2.24 for the patients and 2.24±1.36 for the control group. Demographics and clinical features of the two groups are presented in Table 1. BDI and BAI scores were significantly higher in the patient group. Depression and anxiety scores were modestly correlated with GRSSS total score, satisfaction, avoidance, sensuality, vaginismus and anorgasmia (Table 2). Power analysis was performed using the normal approximation method. Power analysis scores including

T-GRSSS, vaginismus subscores, BDI and BAI were 99.8, 100, 99.37 and 100, respectively.

DISCUSSION

This descriptive study compared women with vaginismus with healthy controls in a cross-sectional fashion in terms of sociodemographic and clinical features. Although Leiblum defined vaginismus as a perplexing condition with an unclear etiology,[20] factors potentially implicated in the etiology include anxiety,[21-13] quality of marital relationship,[24,25] and a low level of knowledge concerning sexuality.[26] Despite its high prevalence in Turkey, research into the factors causing and maintaining vaginismus is inadequate.

In this study one of the sociodemographic findings obtained in this study is that the number of women with vaginismus who were in the first year of marriage was higher compared to that among the healthy controls and the total duration of marriage was significantly shorter in patients with vaginismus. This result must be interprettated in context of social and cultural factors including social pressure to have children, fears of subfertility with advancing age and cultural constraints, which are more evident in conservative population. Jebg et al. also reported that 70% of patients were admitted within 1 year after the onset of symptoms.[27] In our study, most of the patients with vaginismus were in their first year of marriage. Another finding is that the dissatisfaction from the marriage is found higher in women with vaginismus. The literature is conflicting regarding the couple's relationship in vaginismus. One suggestion is difficulty in relationship may result in vaginismus, the other one is without proper treatment, vaginismus may result difficulties in couple's relationship.[28] Besides, the marriage is evaluated as satisfactory in some previous studies.[22,29] The exact cause may not be extracted for this study due to cross-sectional design of the study, but the temporal relationship of the symptoms with dissatisfaction of the relationship suggested the occurance after the vaginismus. The frequency of sexual relation did not differ across women with vaginismus and healthy control. This result is in contrast with Doğan et al results.[13] In this study the frequency is based on monthly measurement but in the previous study it was weekly. Longer span of the evaluation time may lead dissimilar result.

Levels of sexual knowledge were significantly inadequate in women with vaginismus, most of whom were educated above primary level (more than eight years). In addition, levels of education did not differ between the women with vaginismus and the healthy controls. A lack of sex education or misinformation of the women with vaginismus has been noted many times in the literature.[29-31] The same result have been repeated in a study conducted in western part of Turkey with a group of females with vaginismus.[13] These results must remind us the need for cooperation of the sex education in to our formal education system. Another explanation is that the importance of cultural myths, religion and false beliefs concerning sexuality irrespectively of formal education might probably be reflected in this study. Since religious orthodoxy is reported by Johnson and Masters formely as primary etiological factor, this may also be related to our region, northeast of Turkey, which is considerably secluded and conservative. However, questions about sex education were not specified, so this result should be interpreted cautiously.

Levels of general anxiety, not solely with regard to penetration, are elevated among women with vaginismus, so the condition may share common predisposing factors with anxiety disorders.[32] Anxiety levels along with depression levels were significantly higher in women with vaginismus in this study. However, no precise relation between these could be defined due to its cross-sectional design. Reissing et al. also reported that psychological factors correlated well with vaginismus, but this has yet to be confirmed.[33] Frohlich et al. reported that women with depressive symptoms exhibited greater sexual pain disorder, along with inhibited sexual arousal and sexuality, than controls without depression, since the women with vaginismus in that study had significantly higher scores on the depression scale. However, a longitudinal study may reveal this relation in a more specific manner.[34] Additionally, the effects of medications on sexual dysfunctions were excluded because none of the participants were taking any medication at the time of assessment.

Experience or anticipation of pain may result in fearful reaction that inhibits genital arousal.[35] This may also explain the more severe anxiety levels in women with vaginismus with inhibited arousal.

In this study, phases of sexual response cycle such as satisfaction, avoidance and orgasmia were also affected, along with penetration difficulty, in women with vaginismus. However,

investigators and clinicians have consistently reported that vaginismic women can engage in satisfying, non-penetrative sexual relationships.[36] But opposite results are also present.[37] Experiencing other type of sexual dysfunction other than vaginismus might be secondary to chronic penetration difficulties. But due to cross-sectional design of the study; the present sexual dysfunction along with vaginismus cannot be differentiated whether they are secondary to vaginismus or a determining factor for development of vaginismus. The longitudinal studies may be more informative concerning this issue.

Sexual abuse and physical abuse have been implicated in the etiology but it was ranked as least important factor among causes of vaginismus.[29,38,39] In this study, neither women with vaginismus nor the healthy controls had any history of sexual abuse. Previous studies with control or comparison groups have determined no significant differences in prevalence of sexual abuse.[9-12] In another study, the prevalence rate for sexual abuse in vaginismic women was actually lower than that in the general population.[13] The methodology of this study which includes data being based solely on patients' self-reports might be considered during interpretation of the results, so replication of the study with a more qualitative design is necessary.

Limitations of this study are that the results cannot be generalized to all vaginismic women, because only a small number of cases recruited in a university clinic were included. Depression and anxiety can be assumed as associated features of vaginismus, but no causal relation can be established due to the study design. This limitation is universal for all cross-sectional studies, including ours. However, the descriptive data from this study may inspire further studies with prospective designs in which etiological inferences are investigated based on direct and prospective hypothesis testing.

Author contribution: *E.K.Ö.: Protocol\project development, manuscript writing and editing, data collection, data analysis; F.C.A.: Data collection, manuscript editing, protocol\project development; A.T.: Protocol\project development, data analysis; M.A.O.: Manuscript writing and editing, data collection; E.Ş.K.: Data collection, protocol\project development.*

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