

Headache, Anxiety and Depression In Patients With Vaginismus Vajinismus Hastalarında Baş ağrısı, Anksiyete ve Depresyon

Safiye Gul Kenar¹, Mujdeglu Zayifoglu Karaca², Muzeyyen Gulnur Ozaksit², Hatice Yuksel³, Hesna Bektas³

¹ Necmettin Erbakan University, Faculty of Medicine, Department of Neurology, Konya, Türkiye

² Ankara City Hospital, Department of Obstetrics and Gynecology, Ankara, Türkiye

³ Ankara City Hospital, Department of Neurology, Ankara, Türkiye

Geliş Tarihi/Received: 04.07.2022

Kabul Tarihi/Accepted: 19.08.2022

Yazışma Adresi/Address for

Correspondence:

Safiye Gül Kenar

Necmettin Erbakan Üniversitesi, Tıp Fakültesi,

Nöroloji Anabilim Dalı, Konya, Türkiye

Yunus Emre, Akyokuş Sk., 42080 Meram/

Konya

E-posta: safiyegulkenar@hotmail.com

Keywords

Anxiety

Depression

Migraine disorders

Tension-type headache

Vaginismus

Anahtar Sözcükler

Anksiyete

Depresyon

Gerilim baş ağrısı

Migren

Vajinismus

Orcid No



SGK¹ :0000-0003-2458-3813

MZK² :0000-0001-5734-0493

MGO² :0000-0001-9117-9728

HY³ :0000-0001-9259-1925

HB³ :0000-0003-3785-3341

Abstract

Objective: Vaginismus is one of the most common problems among patients who apply to the sexual health outpatient clinic. It is known that sexual problems are more common in migraine and tension-type headache patients. Furthermore, the frequency of depression and anxiety is higher in both vaginismus and chronic headache patients. This study was conducted in 2021 and examined the headache characteristics, depression, and anxiety in vaginismus patients.

Material and Method: In this prospective study, 87 patients diagnosed with vaginismus in the sexual health outpatient clinic were interviewed. Fifty patients who agreed to participate in the study were questioned regarding headache, and Beck depression and Beck anxiety scales were applied.

Results: Headache was present in 46% (n:23) of 50 vaginismus patients. Anxiety scores of patients with headaches were higher than those without headaches (p=0.032). The most common type of headache was migraine without aura (60.9%), followed by tension-type headache (30.4%). Beck depression scores of the low-income group were higher than the high-income group (p=0.006). There was no significant correlation between monthly headache frequency, total headache duration, Beck depression score, and Beck anxiety score.

Conclusion: Headache is a common neurological symptom in vaginismus patients, and the frequency of migraine is higher than tension-type headaches. Anxiety values are higher in vaginismus patients experiencing a headache. Therefore, headache and anxiety should be considered in the follow-up and treatment of vaginismus patients.

Öz

Amaç: Vajinismus cinsel sağlık polikliniğine başvuran hastalar arasında en sık rastlanan problemlerden biridir. Migren ve gerilim tipi baş ağrısı hastalarında cinsel problemlerin daha sık olduğu bilinmektedir. Depresyon ve anksiyete sıklığı ise hem vajinismus hem de kronik baş ağrısı olan hastalarda daha yüksektir. 2021 yılında gerçekleştirilen bu çalışmada vajinismus hastalarında baş ağrısı özellikleri, depresyon ve anksiyete değerlendirilmiştir.

Gereç ve Yöntem: Prospektif olarak yapılan bu çalışmada cinsel sağlık polikliniğinde vajinismus tanısı alan 87 hasta ile görüşüldü. Çalışmaya katılmayı kabul eden 50 hasta, baş ağrısı açısından sorgulandı ve Beck depresyon ve Beck anksiyete skalaları uygulandı.

Bulgular: 50 vajinismus hastasının %46' sında (n:23) baş ağrısı mevcuttu. Baş ağrısı olan hastaların anksiyete skorları baş ağrısı olmayanlara göre daha yüksekti(p=0,032). En sık görülen ağrı tipi aurasız migren (%60,9) iken, bunu gerilim tipi baş ağrısı (%30,4) takip ediyordu. Gelir seviyesi düşük olanların depresyon skorları gelir seviyesi yüksek olan gruba göre daha fazlaydı (p=0,006). Aylık ağrı sıklığı ve toplam ağrı süresi ile Beck depresyon ve Beck anksiyete skalası arasında anlamlı korelasyon saptanmadı.

Sonuç: Vajinismus hastalarında baş ağrısı sık görülen bir nörolojik tablo olup, aurasız migren sıklığı gerilim tipi baş ağrısından daha fazladır. Baş ağrısının eşlik ettiği vajinismus hastalarında anksiyete değerleri daha yüksektir. Vajinismus hastalarının takip ve tedavisinde baş ağrısı ve anksiyete varlığı dikkate alınmalıdır.

INTRODUCTION

Approximately 40% of women worldwide report sexual problems. In addition, sexual problems related to stress arising from personal or interpersonal relationships are reported at a rate of 12% (1-4).

Vaginismus is listed as a 'genito-pelvic pain and penetration disorder' in the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5) (5). Vaginismus is conventionally defined as an involuntary contraction of the pelvic floor muscles surrounding the vaginal orifice. Therefore, the patient is reluctant to vaginal penetration (sexual and non-sexual, e.g., gynecological examination, tampons, dilators) due to current or anticipated pain (6). The mechanism of vaginal muscle spasm could not be demonstrated in electromyographic studies. However, several studies have shown that vaginismus pain is similar to the pain experienced in vulvodynia (7, 8).

Numerous distinct organic factors, including congenital abnormality, acute or chronic inflammation, atrophy, loss of epithelial integrity, and central nervous system sensitivity, can lead to vulvovaginal pain in various ways. In addition, organic factors often combine with other factors such as anxiety and phobia, disgust, lack of sexual knowledge, cultural and religious beliefs, genital and sexual trauma, and abuse (9, 10). Female sexual dysfunctions with a genetic background are heterogeneous and are significantly affected by environmental factors (11). Studies have shown that chronic pain negatively affects sexual desire and activity (12).

Headache constitutes an essential part of neurology outpatient clinic applications. The most common types of headache are migraine and tension-type headache (TTH), and a significant part of these patients try to relieve their pain without applying to the hospital. Headaches, which can cause profound loss of labor in daily life, negatively affect people's social, economic, and family relationships. Depression and anxiety disorders are frequent in patients who experience chronic headaches (13).

Although chronic headaches and sexual pain disorders are two distinct disease groups that significantly affect patients and the health care system, the studies investigating the relationship between these two conditions have shown that the association is not rare (12, 14-16). It is well known that there is a high rate of association between TTH and sexual activity-related primary headaches (17). In a study evaluating 72 patients with chronic headaches (migraine and drug overuse headache), it was stated that 44% of the patients had pelvic or genital pain during sexual intercourse (15). A study comparing 32 vaginismus patients with 29 healthy volunteers reported that the vaginismus patients had lower pain thresholds (18). Considering the increased sexual dysfunction in TTH and migraine patients, this study planned to evaluate the frequency of these two types of headaches in vaginismus patients together with depression and anxiety.

MATERIAL and METHOD

This cross-sectional, clinical-based study was approved by the local Ethics Committee (Date:13/12/2020, Protocol number: E1-20-1391) and was conducted in accordance with

the Declaration of Helsinki. Research and publication ethics complied. Patients diagnosed with vaginismus according to DSM-5 in the Sexual Health outpatient clinic and who volunteered to participate were included in the study. The patients were evaluated by a neurologist experienced in headache. Patients' age, education level, employment status, income level, headache characteristics, frequency, duration, and severity according to the visual analog scale (VAS) were recorded. Headache diagnoses were defined according to The International Classification of Headache Disorders-3 (ICHD-3) (2018) classification. The patients' informed consent forms were obtained, and patients were asked to fill the Beck depression (19) and anxiety (20) scales, which had Turkish reliability and validity. A total of 87 patients were interviewed. Fifty patients who agreed to participate in the study and filled out the questionnaires were included.

Data were analyzed with IBM SPSS v.25. Shapiro Wilk test was used for the confirmation of normal distribution. Independent samples t-test and ANOVA test were used to compare normally distributed data. Mann Whitney U test and Kruskal Wallis test were used to compare the data that did not show normal distribution. According to income level groups, Beck depression score values were compared with a one-way analysis of variance. Tukey HSD, one of the Post Hoc tests, was used to examine the differences between the groups. Normally distributed data were presented as mean \pm standard deviation. The Chi-square test was used to compare the categorical data. Categorical data were presented as frequency (percentage). Correlations between numerical variables were tested with Spearman correlation analysis. A p-value of <0.05 level was considered statistically significant.

RESULTS

The mean age of 50 vaginismus patients was 28.16 (± 4.11). Headache was present in 46% (n:23) of the patients. Migraine was detected in 28% of all patients, while TTH was detected in 14% (Table 1). When the characteristics of patients with headaches were examined, the most common type of pain was migraine without aura (60.9%), followed by TTH (30.4%). The monthly headache frequency ranged between 1 to 5 in 78.3% of the patients. 8.7% had more than ten headache attacks per month. The mean duration of headaches in patients was 5.3 (± 3.1) years. Patients demographic features are presented in Table 2.

Table 1. Headache Types and Characteristics

| Headache type | |
|-----------------------------|-----------------|
| Migraine without aura | 14 (60.9%) |
| Migraine with aura | 1 (4.3%) |
| Tension type | 7 (30.4%) |
| Chronic sinusitis | 1 (4.3%) |
| Headache frequency (Month) | |
| 1-5 | 18 (78.3%) |
| 6-10 | 3 (13.0%) |
| ≥ 11 | 2 (8.7%) |
| Duration of headache (Year) | 5.35 \pm 3.11 |

No significant difference was achieved between the mean age of vaginismus patients with and without headache ($p = 0.236$). There was no difference between education level, working status, monthly income classes, relationship duration, phobic avoidance and virginity concern regarding headache ($p = 0.873$, $p = 0.419$, $p = 0.817$, $p = 0.838$, $p = 0.602$, $p = 0.152$ respectively). While the depression scores were similar for both groups ($p = 0.33$), the anxiety scores were significantly higher in patients with headaches compared to those without headaches ($p = 0.032$) (Table 2).

BDI and BAI values of migraine and TTH patients were

Table II. Comparison of The Demographic and Clinical Characteristics of Vaginismus Patients With and Without Headache

| | Absent (n:27) | Present (n:23) | p |
|--|---------------|----------------|---------|
| Age(years) (Mean ± SD) | 27.6 ± 4.2 | 28.8 ± 3.9 | 0.236* |
| Education | | | |
| Primary School | 1 (3.7%) | - | 0,873** |
| Secondary School | 1 (3.7%) | 1 (4.3%) | |
| High School | 7 (25.9%) | 7 (30.4%) | |
| University | 13 (48.1%) | 12 (52.2%) | |
| Graduate | 5 (18.5%) | 3 (13%) | |
| Employment | | | |
| Unemployed | 16 (59.3%) | 11 (47.8%) | 0.419** |
| Employed | 11 (40.7%) | 12 (52.2%) | |
| Income (TL/month) | | | |
| 0 - 2000 | 3 (11.1%) | 1 (4.3%) | 0.817** |
| 2001 - 5000 | 12 (44.4%) | 12 (52.2%) | |
| 5001 - 10000 | 9 (33.3%) | 7 (30.4%) | |
| > 10000 | 3 (11.1%) | 3 (13%) | |
| BDI (Mean ± SD) | | | |
| Minimal (0-9) | 10 (37%) | 7 (30.4%) | 0.233** |
| Mild (10-16) | 10 (37%) | 4 (17.4%) | |
| Moderate (17-29) | 6 (22.2%) | 11 (47.8%) | |
| Severe (30-63) | 1(3.7%) | 1 (4.3%) | |
| BAI (Mean ± SD) | | | |
| Absent (0-7) | 13 (48.1%) | 8 (34.8%) | 0.077** |
| Mild (8-15) | 9 (33.3%) | 3 (13%) | |
| Moderate (16-25) | 3 (11.1%) | 8 (34.8%) | |
| Severe (26-63) | 2 (7.4%) | 4 (17.4%) | |
| Relationship duration (years) (Mean ± SD) | | | |
| | 4.95±4.95 | 4.09±3.26 | 0.838* |
| Lamont scale (Phobic avoidance) | | | |
| Mild | 6 (22.2 %) | 7 (35.0%) | 0.602** |
| Moderate | 17 (63.0%) | 10 (50.0%) | |
| Severe | 4 (14.8%) | 3 (15.0%) | |
| Virginity concern | | | |
| Absent | 8 (29.6%) | 2 (9.1%) | 0.152** |
| Present | 19 (70.4%) | 20 (90.9%) | |

* Mann Whitney -U , ** Chi Square , BDI: Beck Depression Inventory, BAI: Beck Anxiety Inventory

compared since they were the most prevalent types of headache; no significant distinction was found ($p = 0.5$, $p = 0.34$) (Table 3).

Table III. Comparison of BDI and BAI scores of migraine and TTH patients

| | Migraine (n=15) | TTH(n=7) | P* |
|-----|-----------------|-------------|-------|
| BDI | 15.3 ± 10.2 | 18.2 ± 7.5 | 0.506 |
| BAI | 15.6 ± 9.7 | 20.7 ± 14.6 | 0.341 |

*Independent samples t- test, BDI: Beck Depression Inventory, BAI: Beck Anxiety Inventory TTH: Tension-type headache

Education, income, and working status did not affect monthly headache frequency ($p = 0.54$) and anxiety scores ($p = 0.25$). However, income level significantly affected depression scores ($p = 0.006$) (Table 4).

Table IV. The effect of demographic data on headache frequency, depression, and anxiety scores in vaginismus patients

| | Headache frequency (attack per month) | BDI | BAI |
|--------------------------|---------------------------------------|--------------------------|------------|
| Education | | | |
| Primary school (n=1) | - | - | - |
| Secondary school (n=2) | - | 10.5 ± 3.5 | 10.5 ± 6.3 |
| High school(n=14) | 3.9 ± 3.2 | 14.7 ± 8 | 13.7 ± 9.2 |
| University(n=25) | 6 ± 8.5 | 14.3 ± 8.9 | 13.8±11.6 |
| Graduate(n=8) | 4 ± 3 | 14.6 ± 6.3 | 12.9± 11.5 |
| P | 0.86* | 0.92** | 0.99* |
| Employment | | | |
| Unemployed (n=26) | 6.4 ± 9.3 | 16.4 ± 9 | 14.3 ± 10 |
| Employed (n=24) | 4 ± 2.6 | 12 ± 5.9 | 12.4 ± 11 |
| P | 0.648# | 0.054## | 0.267# |
| Income (TL/month) | | | |
| 0-2000 (n=3) | - | 24.3 ± 4.9 ^b | 28.3± 13.2 |
| 2001-5000(n=25) | 6.6 ± 8 | 16.4 ± 8.6 ^{ab} | 14.3 ± 8.8 |
| 5001-10000(n=16) | 2.9 ± 2.3 | 10.3 ± 4.9 ^a | 8.1 ± 5.3 |
| >10000(n=6) | 3.3 ± 1.5 | 11.2 ± 5.5 ^{ab} | 16.2± 17.6 |
| P | 0.54* | 0.006** | 0.25* |

* Kruskal-Wallis, ** ANOVA, # Mann Whitney U, ## Independent samples t- test, ^{a,b}: There is no difference between groups with the same letter for each column, posthoc Tukey HSD, BDI: Beck Depression Inventory, BAI: Beck Anxiety Inventory

No significant correlation had been achieved between the frequency and duration of headaches and BDI and BAI (Table 5).

Table V. Correlations between headache frequency, duration and BDI, BAI

| | BDI | BAI |
|---------------------------|-----------------|------------------|
| Headache frequency | r:0.261 p:0.229 | r:0.283 p:0.191 |
| Headache duration | r:0.186 p:0.394 | r:-0.107 p:0.626 |

BDI: Beck Depression Inventory, BAI: Beck Anxiety Inventory

DISCUSSION

Headache is among the most common neurological complaints in the general population, and the lifetime headache frequency is over 90%. Headaches are classified as primary and secondary headaches. Secondary headaches have underlying causes, while primary headaches are evaluated and classified as a group of diseases. The impact of headache features, frequency, and other headache-related variables on depression and anxiety in vaginismus patients was investigated in this study. The frequency of headaches was 46% in vaginismus patients.

Sexuality evaluation appears to be a common problem, even among health professionals who are hesitant to discuss it. Women's most common sexual dysfunctions are decreased sexual desire, arousal disorders, orgasmic disorders, painful sexual intercourse, vaginismus, and sexual anxiety disorder (21). Depression and anxiety are common psychiatric disorders in vaginismus patients (22).

TTH is known as the most common headache worldwide (23). While current TTH is 15.6% and chronic TTH 0.9% in studies conducted with children and young people, these rates increase up to 62.6% for current TTH and 3% for chronic TTH in advanced ages (24). In a large-scale nationwide study (n=5323) conducted in Turkey, the frequency of one-year TTH (definite TTH 5.1%, probable TTH 9.5%) was relatively low compared to other studies. In comparison, the frequency of migraine (definite migraine 16.4%, probable migraine 12.4%) was similar or even higher than the values in the world. It was suggested that this difference might be due to possible genetic, cultural, environmental factors, or methodological differences in the study design (25).

This study concluded that migraine (28%) and TTH (14%) were higher in vaginismus patients than in the general population. In a limited number of studies evaluating sexual disorders in headache patients, no relationship was found between the chronicity of migraine and sexual dysfunction in migraine patients. However, it was stated that headache severity was worse and sexual dysfunctions such as vaginismus and orgasm disorders were more common in migraine patients with depression and anxiety compared to the healthy individuals (14), while another study reported that the frequency of migraine attacks was unrelated to sexual problems (26).

In a study subjecting TTH patients, it was found that the emphasis placed on sexuality and the frequency of weekly sexual intercourse was decreased compared to the control group (16). TTH, on the other hand, has been demonstrated to induce more sexual dysfunction than migraine (27).

Since most research on sexual problems and headaches analyzes sexual disorders in patient groups with headaches, this study, which evaluated headaches in vaginismus patients, revealed that the frequency of headaches in this patient group was higher than the general population.

Mongini et al. reported that chronic daily headache increases anxiety symptoms (28). In our study, when the BDI and BAI values of all patients were compared, we found that the presence of headache significantly increased the BAI value (P = 0.032); however, BDI values were similar. There was no significant difference in BDI and BAI when the two most common

types of headache, migraine and TTH, were compared.

Previous researches have shown that those with a low education level had a higher frequency of migraine headaches (25). Social factors such as education level, employment status, and income level, which are very effective in human life, did not significantly affect headache frequency and anxiety in our study. Relationship duration, phobic avoidance, and virginity concern did not affect the presence of headache, but it was noteworthy that income level was a significant factor in depression (P = 0.006).

This study showed that headache frequency and total headache duration were not correlated with BDI and BAI.

This study has some limitations. First of all, our study sample was small due to the limited sexual health polyclinic services during the pandemic. Another limitation is that patients with other concurrent sexual problems among vaginismus patients were not included in the study. Individual tests, individual interviews, and questionnaires were used to assess depression and anxiety. Psychometric assessments for other psychiatric disorders were not feasible. Another limitation is the lack of a control group for vaginismus patients; hence the comparison of the type of headache frequencies with general population data was performed descriptively. However, the study's primary purpose was to evaluate the effect of headache on anxiety and depression in patients with vaginismus.

In conclusion, headache is not an uncommon complaint among vaginismus sufferers. Therefore, questioning patients about headaches and guiding them with the proper treatment may improve the individuals' quality of life. Future large-scale investigations on vaginismus and associated neurological disorders will contribute to establishing this relationship.

Authorship Contribution: Idea/Hypothesis: SGK, MZK, GÖ, HY, HB Design: SGK, MZK, GÖ, HY, HB Data collection/Data processing: SGK, MZK, HY Data Analysis: SGK, HY Preparation of the article: SGK, HY, HB

Ethics Committee Approval: The study was approved by the local Ethics Committee (Date:13/12/2020, Protocol number: E1-20-1391)

Informed Consent: Consents were obtained from the patients.

Peer Review: Evaluated by independent reviewers working in two different institutions appointed by the field editor.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: No financial support.

REFERENCES

1. Shifren JL, Monz BU, Russo PA, Segreti A, Johannes CB. Sexual problems and distress in United States women: prevalence and correlates. *Obstetrics & gynecology* 2008;112(5):970-8.
2. Fugl-Meyer KS, Arrhult H, Pharmanson H, Bäckman AC, Fugl-Meyer AM, Fugl-Meyer AR. EPIDEMIOLOGY: A Swedish Telephone Help-line for Sexual Problems: A 5-year Survey. *The Journal of Sexual Medicine* 2004;1(3):278-83.
3. Laumann EO, Nicolosi A, Glasser DB, et al. Sexual

problems among women and men aged 40–80 y: prevalence and correlates identified in the Global Study of Sexual Attitudes and Behaviors. *International journal of impotence research* 2005;17(1):39-57.

4. Zhang C, Tong J, Zhu L, et al. A population-based epidemiologic study of female sexual dysfunction risk in Mainland China: prevalence and predictors. *The journal of sexual medicine* 2017;14(11):1348-56.

5. Asken MJ, Grossman D, Christensen LW. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. Arlington, VA: American Psychiatric Publishing, 2013. Archibald, Herbert C., and Read D. Tuddenham. "Persistent Stress Reaction after Combat: A 20-Year Follow-Up." *Archives of General Psy. Therapy* 2007;45(10):2317-25.

6. Binik YM. The DSM diagnostic criteria for vaginismus. *Archives of sexual behavior* 2010;39(2):278-91.

7. Reissing ED, Binik YM, Khalifé S, Cohen D, Amsel R. Vaginal spasm, pain, and behavior: an empirical investigation of the diagnosis of vaginismus. *Archives of sexual behavior* 2004;33(1):5-17.

8. Ter Kuile MM, Van Lankveld JJ, Vlieland CV, Willekes C, Weijnenborg PTM. Vulvar vestibulitis syndrome: An important factor in the evaluation of lifelong vaginismus? *Journal of Psychosomatic Obstetrics & Gynecology* 2005;26(4):245-9.

9. Lahaie M-A, Boyer SC, Amsel R, Khalifé S, Binik YM. Vaginismus: a review of the literature on the classification/diagnosis, etiology and treatment. *Women's Health* 2010;6(5):705-19.

10. Reissing ED, Binik YM, KHALIF S, Cohen D, Amsel R. Etiological correlates of vaginismus: Sexual and physical abuse, sexual knowledge, sexual self-schema, and relationship adjustment. *Journal of Sex & Marital Therapy* 2003;29(1):47-59.

11. Clayton AH, Groth J. Etiology of female sexual dysfunction. *Women's Health* 2013;9(2):135-7.

12. Ambler N, de C Williams AC, Hill P, Gunary R, Cratchley G. Sexual difficulties of chronic pain patients. *The Clinical journal of pain* 2001;17(2):138-45.

13. Juang KD, Wang SJ, Fuh JL, Lu SR, Su TP. Comorbidity of depressive and anxiety disorders in chronic daily headache and its subtypes. *Headache: The journal of head and face pain* 2000;40(10):818-23.

14. Ertem DH, Saatçioğlu ŞA, BINGÖL A, et al. Factors influencing sexual functions in Turkish female patients with migraine. *Agri: Agri (Algoloji) Dernegi'nin Yayın organidir= The journal of the Turkish Society of Algology* 2020;32(4):193-201.

15. Gordon A, Paneduro D, Pink L, Lawler V, Lay C. Evaluation of the frequency and the association of sexual pain and chronic headaches. *Headache: The Journal of Head and Face Pain* 2014;54(1):109-15.

16. Odabaş FÖ. Evaluation of sexual dysfunction in female patients with tension-type headache. 2017.

17. Frese A, Eikermann A, Frese K, Schwaag S, Husstedt I-W, Evers S. Headache associated with sexual activity: demography, clinical features, and comorbidity. *Neurology* 2003;61(6):796-800.

18. Eserdag S, Sevinc T, Tarlacı S. Do women with vaginismus have a lower threshold of pain? *European Journal of Obstetrics & Gynecology and Reproductive Biology* 2021;258:189-92.

19. Hisli N. Beck depresyon envanterinin universite ogrencileri icin gecerlilik, guvenilirlik.(A reliability and validity study of Beck Depression Inventory in a university student sample). *J Psychol* 1989;7:3-13.

20. Ulusoy M, Sahin NH, Erkmen H. The Beck anxiety inventory: psychometric properties. *J Cogn Psychother* 1998;12(2):163-72.

21. Yaşar H, Özkan L, Tepeler A. Kadınlarda cinsel fonksiyon bozukluklarına güncel yaklaşım. *Journal of Clinical and Experimental Investigations* 2010;1(3):235-40.

22. Yildirim EA, Yildirim MH, Karaş H. Prevalence of depression and anxiety disorders and their relationship with sexual functions in women diagnosed with lifelong vaginismus. *Turk Psikiyatri Dergisi* 2019;30(1):9.

23. Crystal SC, Robbins MS. Epidemiology of tension-type headache. *Current pain and headache reports* 2010;14(6):449-54.

24. Stovner LJ, Andree C. Prevalence of headache in Europe: a review for the Eurolight project. *The journal of headache and pain* 2010;11(4):289-99.

25. Ertas M, Baykan B, Orhan EK, et al. One-year prevalence and the impact of migraine and tension-type headache in Turkey: a nationwide home-based study in adults. *The journal of headache and pain* 2012;13(2):147-57.

26. Maizels M, Burchette R. Somatic symptoms in headache patients: the influence of headache diagnosis, frequency, and comorbidity. *Headache: The Journal of Head and Face Pain* 2004;44(10):983-93.

27. Beghi E, Bussone G, D'Amico D, et al. Headache, anxiety and depressive disorders: the HADAS study. *The journal of headache and pain* 2010;11(2):141-50.

28. Mongini F, Iberris F, Barbalonga E, Raviola F. MMPI-2 profiles in chronic daily headache and their relationship to anxiety levels and accompanying symptoms. *Headache: The Journal of Head and Face Pain* 2000;40(6):466-72.