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Sexual Functions and Vaginal Symptoms of Women with Surgical and Spontaneous Menopause

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ABSTRACT

Our research sought to assess and compare the levels of vaginal symptoms and sexual function in women experiencing spontaneous menopause versus those undergoing surgical menopause. This study involved 57 women experiencing spontaneous menopause (median age=54) and 57 women undergoing surgical menopause (median age=51), all of whom sought routine check-ups at the gynecology clinic. We assessed the participants' sexual dysfunction using the Female Sexual Function Index (FSFI) and evaluated their vaginal symptoms using the International Consultation on Incontinence-Vaginal Symptoms Questionnaire (ICIQ-VS). The spontaneous menopause group exhibited a statistically significant higher average age compared to the surgical menopause group ($p<0.05$). Women with spontaneous menopause demonstrated higher values in FSFI-Sexual desire, FSFI-Lubrication, FSFI-Orgasm, and FSFI-Total than their counterparts with surgical menopause ($p<0.05$). Conversely, ICIQ-VS, ICIQ-S (S: Sexuality), and ICIQ-LQ (LQ: Life Quality) values were lower in the spontaneous menopause group compared to the surgical menopause group ($p<0.05$). Women experiencing spontaneous menopause exhibited superior sexual function levels and fewer vaginal symptoms, potentially attributed to the decline in estrogen levels occurring in later stages of spontaneous menopause. Future studies, encompassing larger sample sizes and comprehensive evaluations of biochemical parameters, are warranted to further explore and substantiate these findings.

Cerrahi ve Spontan Menopozlu Kadınların Cinsel Fonksiyonları ve Vajinal Semptomları

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ÖZET

Çalışmamızın amacı spontan ve cerrahi menopoza giren kadınları vajinal semptom ve cinsel fonksiyon düzeylerini karşılaştırmaktı. Kadın doğum polikliniğine rutin kontroller için başvuran spontan menopozlu (n=57, yaş ortancası=54) ve cerrahi (n=57, yaş ortancası=51) menopozlu kadın ile çalışma tamamlandı. Kadınların cinsel fonksiyon bozukluğu düzeyi Kadın Cinsel İşlev Ölçeği (KCİÖ) ile ve vajinal semptomları Uluslararası İnkontinans Konsültasyonu-Vajinal Semptomlar Ölçeği (ICIQ-VS) ile değerlendirildi. Spontan menopozlu grubun yaş ortalaması cerrahi menopozlu gruba göre daha yüksekti ($p<0.05$). Spontan menopozlu kadınların KCİÖ-Cinsel istek, KCİÖ-Lubrikasyon, KCİÖ-Orgazm ve KCİÖ-Toplam değerleri cerrahi menopoza sahip kadınlardan daha yüksekti ($p<0.05$). Spontan menopozlu kadınların ICIQ-VS, ICIQ-C (Cinsellik) ve ICIQ-YK (YK: Yaşam Kalitesi) değerleri cerrahi menopozlu gruba göre daha düşüktü ($p<0.05$). Spontan menopozlu kadınların cinsel fonksiyon düzeyleri daha iyiydi ve vajinal semptomları daha düşük seviyedeydi. Bu durum spontan menopozlu kadınların daha geç yaşlarda östrojen düzeylerinin düşmesinden kaynaklanmış olabilir. Daha büyük örneklemli ve biyokimyasal parametrelerin de değerlendirildiği çalışmalar planlanmalıdır.

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INTRODUCTION

Menopause is a gradual biological process marking the cessation of women's reproductive and menstrual cycles, accompanied by physical, cognitive, and endocrinological changes (Bekmezci & Altuntuğ, 2020; Demir et al., 2020; Çakmak et al., 2012; Demirel & Sevil, 2016;). Natural menopause, resulting from the aging-related reduction in hormonal secretions from the ovaries, typically occurs around the ages of 44-55 (Demirel & Sevil, 2016; Kunt et al., 2012). Surgical menopause, on the other hand, involves the simultaneous removal of the uterus and ovaries due to gynecological or oncological disorders (Durukan Duran & Sinan, 2020). Menopause gives rise to various challenges, encompassing vasomotor symptoms, psychological symptoms, atrophic symptoms, and reproductive symptoms. Notably, issues following surgical menopause are reported to be more prevalent than those following natural menopause. This discrepancy is attributed to the abrupt decline in follicle production in surgical menopause, whereas in natural menopause, follicles deplete gradually over time, allowing the body adequate adaptation (Pasinoğlu & Çelik, 2013).

Sexual dysfunction stands out as one of the prominent physical symptoms experienced during menopause, contributing significantly to post-menopausal challenges that impact overall quality of life (Durukan Duran & Sinan, 2020; Eryılmaz et al., 2021). Varma et al. (2005) observed issues related to sexual intercourse frequency, avoidance of sexuality, partner touch, and anorgasmia in both spontaneous and surgical menopausal women. Following menopause, physiological changes such as a reduction in estrogen, decreased collagen content, hyalinization and elastin changes in urogenital tissues, epithelial thinning, alterations in the function of smooth and striated muscle layers, increased connective tissue density, and diminished blood vessels occur. The thinning of the labia minora, retraction, and loss of elasticity in the introitus can often result in pain during sexual activity (Ak Sözer & Ege, 2021). Comparative studies between women experiencing spontaneous and surgical menopause concerning vaginal symptoms and sexual dysfunction are limited and present conflicting findings (Demir et al., 2020; Durukan Duran & Sinan, 2020). Consequently, our study aimed to provide insights by comparing the levels of vaginal symptoms and sexual function in women undergoing spontaneous and surgical menopause.

METHOD

This study is designed as a prospective cross-sectional study, focusing on menopausal women aged 40-65 who visited the Yozgat Bozok University Gynecology and Obstetrics polyclinic for routine check-ups between March 30 and September 30, 2022. A total of 114 women, comprising 57 with spontaneous menopause and 57 with surgical menopause, were included in the study. Cluster sampling was employed as the sampling method, and participants meeting the inclusion criteria during their visits between the specified dates were considered for the study. Inclusion criteria for the natural menopause group encompassed having undergone physiological menopause with at least one year elapsed since the last menstrual period, not currently undergoing hormone replacement therapy, or having terminated such treatment at least one month ago. Additionally, participants were required to be free from chronic conditions like heart disease, diabetes mellitus, hypertension, kidney disease, and mental illness. Moreover, participants should have a living spouse, an ongoing sexual life, exhibit no issues with understanding and communication, and express willingness to participate in the study. For the surgical menopause group, inclusion criteria involved the passage of 6-12 months since surgical menopause (total hysterectomy and ovaries removed), absence of chronic diseases, a living spouse, a continuing sexual life, no comprehension or communication issues, and a voluntary desire to participate in the study.

Data collection involved the utilization of an assessment form that queried the socio-demographic characteristics of the women, alongside the administration of the Female Sexual Function Index (FSFI) and the International Consultation on Incontinence-Vaginal Symptoms Questionnaire (ICIQ-VS).

Research Instruments and Processes

The Female Sexual Function Index (FSFI) will be employed to assess the sexual dysfunction level of menopausal women in this study. This Likert-type scale comprises 19 items and was subjected to Turkish validity and reliability analysis by Aygin & Eti Aslan in 2005, resulting in a Cronbach Alpha coefficient of 0.95. The scale evaluates women's sexual dysfunction over the past four weeks and encompasses six subscales: desire, arousal, lubrication, orgasm, sexual satisfaction, and pain. A higher score on the scale indicates better sexual function. The maximum achievable score on the scale is 36.0, while the minimum is 2.0. A score of 22 or below suggests a high likelihood of experiencing sexual function problems, whereas a score of 22.8 and above indicates a low likelihood of such problems. Sub-dimension scores below certain thresholds also signify sexual dysfunction: Desire score ≤3.6, arousal score ≤3.9, lubrication score ≤3.6, orgasm score ≤3.6, satisfaction score ≤3.6, and pain score ≤4.4 (Aygın & Eti Aslan, 2005; Kızılkaya Beji & Akarsu Höbek, 2016).

The International Consultation on Incontinence-Vaginal Symptoms Questionnaire (ICIQ-VS) is a scale developed by Price et al. in 2006. It comprises 25 items distributed across three sub-dimensions: vaginal symptoms, sexual issues, and quality of life, with a total of 14 sub-questions (refer to Table 3-2). The completion of the scale form typically takes an average of 5 minutes for each patient. With the exception of questions 10, 13, and 14, the scale features 'a' and 'b' sections for other questions. Part 'a' assesses the symptoms, while part 'b' evaluates the severity of these symptoms. A lower average score on the scale indicates less severe symptoms, contributing to a quicker assessment of the patient's condition (Köleli & Sariibrahim Astepe, 2019).

Data Analysis

For statistical analysis, the study utilized SPSS 21.00 (Statistical Package for the Social Sciences, SPSS Inc, Chicago, IL). Continuous variables were presented as median (minimum and maximum values), while categorical variables were expressed as numbers and percentages. The Shapiro-Wilk test was employed to assess the normal distribution of the data. As the data did not adhere to normal distribution, the Mann-Whitney U test was applied to compare the two groups. Regarding the "sexual desire" parameter, where a difference was observed between the two groups, mean and standard deviation values were utilized. In this specific parameter, the groups demonstrated mean values of X=2.55 (group 1) and 1.2 SD=0.73 (group 2), yielding a power of 90% with 114 participants, a significance level of 0.05, and an effect size of d = 1.7.

RESULTS

In this study, a total of 114 women, comprising 57 with spontaneous menopause and 57 with surgical menopause, actively participated. The comparison of demographic and obstetric characteristics between these two groups is detailed in Table 1. A statistically significant difference was identified in the average ages of the groups ($p<0.05$), with the spontaneous menopause group demonstrating a higher average age compared to the surgical menopause group ($p<0.05$). However, other parameters such as Body Mass Index (BMI), pregnancy history, parity, abortion, and curettage numbers exhibited no significant differences between the groups ($p>0.05$) (Table 1).

Table 1
Comparison Of Demographic and Obstetric Characteristics of the Groups

	Spontaneous Menopause Group (n=57)	**Surgical menopause Group (n=57)**	**p**
Age (year)	54 (49-57)	51 (41-57)	**0.001 (z=-4.25)**
BMI (kg/m^2)	31.2 (24.8-33.3)	31.1 (24.7-36.1)	0.21 (z=-1.26)
Gravida (n)	3 (2-5)	4 (1-6)	0.83 (z=-0.22)
Parity (n)	3 (2-4)	3 (1-4)	0.12 (z=-1.56)
Abortus (n)	0 (0-3)	0 (0-2)	0.67 (z=-0.42)
Curettage (n)	0 (0-4)	1 (0-1)	0.19 (z=-1.32)

z=Mann Withney U test, n=number, p<0.05: significance level

Table 2 presents the comparison of sexual function levels and vaginal symptoms among women with spontaneous and surgical menopause. The FSFI-Sexual desire, FSFI-Lubrication, FSFI-Orgasm, and FSFI-Total values for women with spontaneous menopause were significantly higher than those for women with surgical menopause (p<0.05). On the other hand, ICIQ-VS, ICIQ-S, and ICIQ-LQ values for women with spontaneous menopause were statistically lower than those for the group with surgical menopause (p<0.05).

Table 2
Comparison of Sexual Function Levels and Vaginal Symptoms of the Groups

	Spontaneous Menopause Group (n=57)	**Surgical menopause Group (n=57)**	**p**
	Median (Min-max)	**Median (Min-max)**	
FSFI-Sexual desire	2.4 (1.8-3.6)	1.2 (1.2-1.2)	**0.00 (z=-9.9)**
FSFI-Erotisation	2.7 (1.8-3.6)	2.4 (1.8-3.6)	0.81 (z=-0.24)
FSFI-Lubrication	3.3 (2.4-5.1)	3.3 (2.1-3.6)	**0.047 (z=-1.99)**
FSFI-Orgasm	3.6 (2.4-4.4)	2.8 (2-2.8)	**0.00 (z=-5.9)**
FSFI-Satisfaction	2.4 (0.8-4.8)	2 (1.6-3.6)	0.07 (z=-1.8)
FSFI-Pain	2.8 (2-5.2)	3.6 (1.2-6)	0.053 (z=-1.94)
FSFI -Total	18.2 (12.8-22.5)	15.2 (10.3-18.5)	**0.001 (z=-3.4)**
ICIQ-VS	19 (6-32)	22 (15-32)	**0.023 (z=-2.27)**
ICIQ-S	16 (8-48)	56 (29-56)	**0.00 (z=-6.2)**
ICIQ-LQ	6 (2-9)	8 (5-9)	**0.004 (z=-2.9)**

FSFI: Female Sexual Function Index, ICIQ: International Incontinence Consultation-Vaginal Symptoms Questionnaire, VS: Vaginal Symptoms, S: Sexualy Issues, LQ: Life Quality

DISCUSSION

The study aimed to assess and compare the vaginal symptom status and sexual function levels of women undergoing spontaneous and surgical menopause. The results indicated that women experiencing spontaneous menopause exhibited better sexual function and lower levels of vaginal symptoms. Moreover, the average age at which women in the spontaneous menopause group entered menopause was higher than that of the group undergoing surgical menopause.

The age at menopause is recognized as a significant factor influencing female sexuality, with studies suggesting that women undergoing surgical menopause typically experience this transition at a younger age compared to those undergoing spontaneous menopause (Nazlı et al., 2023). Thornton et al.

(2015) reported a correlation between a younger age at menopause and a lower quality of sexual life. Consistent with previous research, Bıldırcın et al. (2020) found that the average age of women experiencing spontaneous menopause was 57±4.5 years, while those undergoing surgical menopause had an average age of 52±3.5 years. Similarly, Kökçü et al. (2015) determined that the age of women in natural menopause was 54.0 years, contrasting with 52.0 years for women in surgical menopause. In alignment with existing literature, our study revealed a median age of 54 (49-57) years for women with spontaneous menopause and 51 (41-57) years for those with surgical menopause. The higher average age of women in spontaneous menopause was associated with better sexual function levels, consistent with the findings in the existing body of research. This congruence with the literature underscores the influence of menopausal age on sexual function outcomes.

The literature suggests that symptoms associated with surgical menopause, including vasomotor symptoms, psychological symptoms, atrophic symptoms, and reproductive symptoms, can be more challenging compared to spontaneous menopause (Durukan Duran & Sinan, 2020; Pasinoğlu & Çelik, 2013). This is attributed to the quicker depletion of follicles in surgical menopause, leading to a shorter duration of estrogen remaining in the body. The decrease in estrogen levels triggers changes in external genital organs, such as vulvar atrophy, Bartholin glands atrophy, alkaline vaginal pH (pH 5-7), reduced vaginal and cervical secretions, pelvic organ prolapse, and intravaginal retraction of the urethra. These physiological changes often result in symptoms for menopausal women, including vaginal/pelvic pain and pressure, diminished vaginal lubrication, vulvar itching, leukorrhea, ecchymosis, stress incontinence, urgency incontinence, nocturia, dysuria, hematuria, recurrent urinary tract infections, loss of sexual desire and libido, orgasmic disorders, dyspareunia, pelvic pain, and spotting or bleeding during sexual intercourse (Öskan Fırat & Aslan, 2022). These reported symptoms highlight the multifaceted impact of surgical menopause on various aspects of women's health and well-being.

Additionally, in the urinary system, surgical menopause can lead to changes such as the shortening and thinning of the opening in the distal part of the urethra, a closer proximity of the vaginal opening, a decrease in bladder capacity, and an increase in residual volume after urine is emptied due to the inhibition of bladder contractions. Post-menopause, there is an observed rise in uterine prolapse, cystocele, and rectocele attributed to the loss of muscle tissues (Çalışkan et al., 2010; Durukan Duran & Sinan, 2020). Studies examining the effects of surgical and spontaneous menopause on vaginal and sexual symptoms and their impact on quality of life are limited. Çalışkan et al. (2010) reported an increased risk of anorgasmia in their study on surgical menopause, and Bilge et al. (2016) highlighted in their research that surgical menopause most commonly resulted in vaginal dryness, loss of libido, and dyspareunia. In our study, we observed that women with surgical menopause reported experiencing more vaginal symptoms, significantly affecting their quality of life. This finding suggests that surgical interventions and an earlier onset of menopause may elevate the risk of symptoms such as vaginal dryness, pain during penetration, and incontinence.

Sexual problems are prevalent during menopause, with common issues including a decline in sexual desire and interest, reduced frequency of sexual activity, painful sexual intercourse, and challenges in reaching orgasm. Research indicates that women in surgical menopause may experience worse lubrication scores compared to those in natural menopause (Bancroft, 2005). Studies conducted in the United States have identified a decrease in the frequency of sexual activity, reduced sexual desire, and difficulties in lubrication and orgasm as common sub-dimensions of sexual dysfunction in menopausal women (Eftekhar et al., 2016). Kökçü et al. (2015) reported that women in surgical menopause encountered more difficulties with lubrication compared to women in spontaneous menopause. Similarly, a study conducted in Iran found that menopausal women commonly faced challenges in lubrication (70%) and experienced a decrease in sexual desire (62%) (Eftekhar et al., 2016). Dennerstein et al. (2007) also noted that women undergoing surgical menopause reported more

difficulties in arousal and lubrication than those experiencing spontaneous menopause. These findings collectively underscore the diverse and impactful nature of sexual problems that women may encounter during the menopausal transition.

Among a total of 1333 menopausal women in the United States, research indicated that women undergoing surgical menopause experienced arousal difficulties twice as often as women experiencing natural menopause (Çalışkan et al., 2010; Durukan Duran & Sinan, 2020). These findings align with the outcomes of your study. In a study by Demir et al. (2020) comparing menopausal symptoms in women with surgical and spontaneous menopause, it was reported that symptoms were more severe in the context of surgical menopause. In your study, the scores of menopausal women fell within the sexual dysfunction score limits, and additionally, the scores of women with surgical menopause were notably worse than those of women with spontaneous menopause in the sexual desire, lubrication, and orgasm subscales of the FSFI. The observed decrease in sexual desire and increased difficulties with lubrication and orgasm among women in surgical menopause suggests that the abrupt hormonal changes associated with surgical menopause may contribute to more pronounced challenges in sexual function for these individuals. This reinforces the notion that the method of menopausal transition can have distinct impacts on various aspects of women's well-being, including sexual health.

The quality of sexual life is influenced by various factors, including age, previous operations, and chronic diseases, with menopausal age being a particularly significant factor. Studies consistently indicate that a younger age at menopause is associated with a decrease in the quality of sexual life. In your current study, in line with existing literature, the average age of menopause in the surgical menopause group was lower than that of spontaneous menopause. This observation suggests that entering menopause at an earlier age may have an early impact on women's sexual lives (Kökçü et al., 2015; Nazlı et al., 2023; Thornton et al., 2015,). The literature consistently emphasizes that early menopause may exert a more pronounced effect on sexual life. Therefore, healthcare teams should be attentive to evaluating and addressing the potential impact of early menopause on women's sexual well-being. This underlines the importance of targeted healthcare interventions and support for women experiencing menopause, especially those entering this life stage at an earlier age.

CONCLUSION

As a result of our study, it has been identified that women undergoing surgical menopause face a higher risk of sexual dysfunction, vaginal symptoms, and the impact of these symptoms on their quality of life compared to women experiencing spontaneous menopause. Given these findings, it is advisable for women in surgical menopause to be attentive to these risk factors. Providing education and counseling services regarding potential challenges in sexual life and vaginal symptoms post-surgery could be beneficial. Furthermore, directing these women to physiotherapists specializing in women's health may offer additional support. To enhance the experiences of women undergoing surgical menopause, it is recommended to implement tailored treatment programs. Future research endeavors could focus on areas such as exercise, pelvic floor awareness, and sexual health to further expand our understanding and improve the well-being of women facing surgical menopause. Overall, these insights from the study can contribute to the development of more comprehensive and targeted interventions to address the specific needs of women undergoing surgical menopause.

LIMITATIONS

The study has acknowledged certain limitations. Firstly, the genitourinary system problems were not assessed using objective devices, which could have provided more precise and quantitative data. Additionally, the study did not evaluate blood values, including estrogen and progesterone, which are known to influence vaginal symptoms. Despite these limitations, the strength of the study lies in its

rarity as one of the few that comprehensively evaluates vaginal symptoms. While improvements could be made in terms of objective measurements and hormonal assessments, the study contributes valuable insights to the existing body of research in this domain.

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Ethical Approval

The study received approval from the Yozgat Bozok University, Faculty of Medicine, Clinical Research Ethics Committee (Decision No: 2017-KAEK-189_2022.03.24_04). The ethical considerations adhered to the principles outlined in the 1975 Declaration of Helsinki. All participants were thoroughly informed about the study, and in accordance with ethical standards, each participant provided written informed consent, indicating their agreement to participate in the research.

Conflict of Interest

The authors declared they do not have anything to disclose regarding conflict of interest with respect to this manuscript.

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Author Contributions

Design: H.D., H.A. Data Collection or Processing: H.D., B.U., İ.N.D. Analysis or Interpretation: H.D. Literature Search: H.D., H.A. Writing: H.D., H.A., B.U., İ.N.D.

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EXTENDED ABSTRACT

Introduction: Menopause is a gradual biological process marking the cessation of women's reproductive and menstrual cycles, accompanied by physical, cognitive, and endocrinological changes (Bekmezci & Altuntuğ, 2020**;** Çakmak et al., 2012**;** Demir et al., 2020; Demirel & Sevil, 2016;). Natural menopause, resulting from the aging-related reduction in hormonal secretions from the ovaries, typically occurs around the ages of 44-55 (Demirel & Sevil, 2016; Kunt et al., 2012). Surgical menopause, on the other hand, involves the simultaneous removal of the uterus and ovaries due to gynecological or oncological disorders (Durukan Duran & Sinan, 2020). Sexual dysfunction stands out as one of the prominent physical symptoms experienced during menopause, contributing significantly to post-menopausal challenges that impact overall quality of life (Durukan Duran & Sinan, 2020; Eryılmaz et al., 2021). Varma et al. (2005) observed issues related to sexual intercourse frequency, avoidance of sexuality, partner touch, and anorgasmia in both spontaneous and surgical menopausal women. Following menopause, physiological changes such as a reduction in estrogen, decreased collagen content, hyalinization and elastin changes in urogenital tissues, epithelial thinning, alterations in the function of smooth and striated muscle layers, increased connective tissue density, and diminished blood vessels occur. The thinning of the labia minora, retraction, and loss of elasticity in the introitus can often result in pain during sexual activity (Ak Sözer & Ege, 2021). Comparative studies between women experiencing spontaneous and surgical menopause concerning vaginal symptoms and sexual dysfunction are limited and present conflicting findings (Demir et al., 2020; Durukan Duran & Sinan, 2020). Our study aimed to provide insights by comparing the levels of vaginal symptoms and sexual function in women undergoing spontaneous and surgical menopause.

Method: This study is designed as a prospective cross-sectional study, focusing on menopausal women aged 40-65 who visited the Yozgat Bozok University Gynecology and Obstetrics polyclinic for routine check-ups between March 30 and September 30, 2022. A total of 114 women, comprising 57 with spontaneous menopause and 57 with surgical menopause, were included in the study. Cluster sampling was employed as the sampling method, and participants meeting the inclusion criteria during their visits between the specified dates were considered for the study. Inclusion criteria for the natural menopause group encompassed having undergone physiological menopause with at least one year elapsed since the last menstrual period, not currently undergoing hormone replacement therapy, or having terminated such treatment at least one month ago. Additionally, participants were required to be free from chronic conditions like heart disease, diabetes mellitus, hypertension, kidney disease, and mental illness. Moreover, participants should have a living spouse, an ongoing sexual life, exhibit no issues with understanding and communication, and express willingness to participate in the study. For the surgical menopause group, inclusion criteria involved the passage of 6-12 months since surgical menopause (total hysterectomy and ovaries removed), absence of chronic diseases, a living spouse, a continuing sexual life, no comprehension or communication issues, and a voluntary desire to participate in the study.

Findings: This study involved 57 women experiencing spontaneous menopause (median age=54) and 57 women undergoing surgical menopause (median age=51), all of whom sought routine check-ups at the gynecology clinic. We assessed the participants' sexual dysfunction using the Female Sexual Function Index (FSFI) and evaluated their vaginal symptoms using the International Consultation on Incontinence-Vaginal Symptoms Questionnaire (ICIQ-VS). The spontaneous menopause group exhibited a statistically significant higher average age compared to the surgical menopause group ($p<0.05$). Women with spontaneous menopause demonstrated higher values in FSFI-Sexual desire, FSFI-Lubrication, FSFI-Orgasm, and FSFI-Total than their counterparts with surgical menopause ($p<0.05$). Conversely, ICIQ-VS, ICIQ-S (S: Sexuality), and ICIQ-LQ (LQ: Life Quality) values were lower in the spontaneous menopause group compared to the surgical menopause group ($p<0.05$).

Conclusions: As a result of our study, it has been identified that women undergoing surgical menopause face a higher risk of sexual dysfunction, vaginal symptoms, and the impact of these symptoms on their quality of life compared to women experiencing spontaneous menopause. Given these findings, it is advisable for women in surgical menopause to be attentive to these risk factors. Providing education and counseling services regarding potential challenges in sexual life and vaginal symptoms post-surgery could be beneficial. Furthermore, directing these women to physiotherapists specializing in women's health may offer additional support. To enhance the experiences of women undergoing surgical menopause, it is recommended to implement tailored treatment programs. Future research endeavors could focus on areas such as exercise, pelvic floor awareness, and sexual health to further expand our understanding and improve the well-being of women facing surgical menopause.

Overall, these insights from the study can contribute to the development of more comprehensive and targeted interventions to address the specific needs of women undergoing surgical menopause.

The study has acknowledged certain limitations. Firstly, the genitourinary system problems were not assessed using objective devices, which could have provided more precise and quantitative data. Additionally, the study did not evaluate blood values, including estrogen and progesterone, which are known to influence vaginal symptoms. Despite these limitations, the strength of the study lies in its rarity as one of the few that comprehensively evaluates vaginal symptoms. While improvements could be made in terms of objective measurements and hormonal assessments, the study contributes valuable insights to the existing body of research in this domain.