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EVALUATION OF ANXIETY AND QUALITY OF LIFE IN PATIENTS WHO HAD STRESS INCONTINENCE SURGERY\*  
STRES İNKONTİNANS CERRAHİSİ UYGULANAN HASTALARDA ANKSİYETE VE YAŞAM KALİTESİNİN  
DEĞERLENDİRİLMESİ

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**ABSTRACT**

Stress incontinence is currently defined as involuntary urine loss, whether more or less. The aim of this study is to evaluate the preoperative and postoperative anxiety and quality of life levels in patients who underwent stress incontinence surgery. It is a comparative and descriptive study. The universe of the study consisted of female patients who applied to the urology and gynecology departments of the Ministry of Health Hospital for stress incontinence surgery, and 65 female patients were included in the study. The scales used in the study were SEAPI-QMM Incontinence Quality of Life Scoring, State and Trait Anxiety Scale. The scales were filled out by the participants in the department before the surgery and in the outpatient clinic one month after the surgery. It was determined in the findings that 76.9% of the participants were married, 63% were between the ages of 45-59, 38.5% were housewives, 61.5% had high BMI, 55.4% had comorbid diseases, 75.4% had normal births, 52.3% had three or more births, and 52.3% had large babies. It was determined that the mean scores of the State Anxiety Scale, Trait Anxiety Scale, and Incontinence Quality of Life Scale were lower than before the surgery. It was determined that there was a positive and statistically significant moderate relationship between the Incontinence Quality of Life Score and State Anxiety after the surgery. According to the research results, it is recommended that psychological disorders such as anxiety and depression be evaluated together in the diagnosis of stress incontinence and that remedial studies be conducted on stress incontinence quality of life indicators.

**Keywords:** Anxiety, quality of life, stress incontinence.

**ÖZ**

Stres inkontinans günümüzde istem dışı az ya da çok fark etmeksizin idrar kaçırma olarak tanımlanmaktadır. Bu çalışmanın amacı stres inkontinans cerrahisi geçiren hastalarda ameliyat öncesi ve sonrası kaygı ve yaşam kalitesi düzeylerinin değerlendirilmesidir. Karşılaştırmalı ve tanımlayıcı bir çalışmadır. Araştırmanın evrenini Sağlık Bakanlığı Hastanesi üroloji ve kadın hastalıkları servislerine stres inkontinans cerrahisi için başvuran kadın hastalar oluşturmuş olup, çalışmaya 65 kadın hasta dâhil edilmiştir. Araştırmada kullanılan ölçekler SEAPI-QMM İnkontinans Yaşam Kalitesi Skorlaması, Durumluk ve Sürekli Kaygı Ölçeğidir. Katılımcılara ameliyat öncesi serviste, ameliyat sonrası süreçten bir ay sonra poliklinikte olmak üzere ölçekler doldurtulmuştur. Çalışmaya katılanların %76.9'unun evli, %63'ünün 45-59 yaş aralığında, %38.5'inin ev hanımı, %61.5'inin BKI'sinin yüksek olduğu, %55.4'ünün komorbid hastalığı olduğu, %75.4'ünün normal doğum yaptığı, %52.3'ünün üç ve üzeri doğum yaptığı ve %52.3'ünün iri bebek doğurduğu bulgularla belirlenmiştir. Durumluk Kaygı Ölçeği, Sürekli Kaygı Ölçeği ve İnkontinans Yaşam Kalitesi Ölçeği puan ortalamalarının ameliyat öncesine göre daha düşük olduğu saptanmıştır. Ameliyat sonrası İnkontinans Yaşam Kalitesi Skoru ile Durumluk Kaygı arasında pozitif yönlü istatistiksel olarak anlamlı orta dereceli ilişki olduğu saptanmıştır. Araştırma sonuçlarına göre stres inkontinans tanısında anksiyete ve depresyon gibi psikolojik bozuklukların bir arada değerlendirilmesi ve stres inkontinans yaşam kalitesi göstergelerine yönelik iyileştirici çalışmaların yapılması önerilmektedir.

**Anahtar kelimeler:** Anksiyete, yaşam kalitesi, stres inkontinansı.

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## INTRODUCTION

The World Health Organization, defines urinary incontinence as any type of urinary incontinence and sees it as a common health problem today.<sup>1,2</sup> Stress incontinence is one of the most common types of urinary incontinence.<sup>3,4</sup> Stress incontinence generally occurs as a result of insufficient urethra function.<sup>5</sup> This problem can be observed due to an instantaneous physical change such as sneezing or coughing, or it can occur due to a change that continues for a period of time such as exercise or intense effort.<sup>6</sup>

Studies have shown that stress incontinence is more common in women. It is especially common in women over the age of 65.<sup>7,8</sup> Approximately one in every three women experiences stress incontinence at some stage of their life.<sup>9</sup>

In addition to pharmacological methods, conservative methods and surgical methods are used in the treatment of stress incontinence.<sup>10</sup> The priority in treating stress incontinence is to relieve symptoms without harming the patient. The aim of the treatment process is to increase the quality of life of patients.<sup>10</sup> Although it is a common trend to use surgical methods in the treatment of stress incontinence, non-surgical treatment methods can also be used.<sup>5</sup>

The presence of stress incontinence negatively affects women's daily lives in every way.<sup>11</sup> However, it also causes them to experience anxiety and quality of life problems. Anxiety or worry is a common problem in the normal course of life. Anxiety experienced in the short or long term has many negative effects on individuals.<sup>12</sup> Women may react differently in case of stress incontinence. While some women consider stress incontinence as a normal situation, some women may experience anxiety and anxiety.<sup>13</sup> Since urinary incontinence is seen as a distressing and difficult to accept situation, it can cause social, physical and psychological problems in women.<sup>14</sup>

Quality of life is a comprehensive concept that includes the individual's physical, social, psychological condition and interpersonal relationships.<sup>15</sup> Although stress incontinence, which is common in women, does not pose a life-threatening risk, it can negatively affect the quality of life by restricting physical and social activities. It has been determined in the literature that stress incontinence reduces the quality of life, causes falls, especially in older women, and affects daily living activities.<sup>16-18</sup>

A review of the literature reveals that there are not many studies on the quality of life of women after incontinence surgery. For this reason, the aim was to draw attention to the topic by comparing the quality of life of women before and after incontinence surgery. The aim of this study was to evaluate the effects of surgical treatment on preoperative and postoperative anxiety and quality of life in women diagnosed with stress incontinence.

## MATERIALS and METHODS

**Study design:** This study was planned as comparative and descriptive.

**Participants:** The population of the research consisted of female patients who were admitted to the urology and gynecology services of a Training and Research

Hospital in Istanbul for stress incontinence surgery. In 2022, 99 patients underwent stress incontinence surgery at the hospital. The number of patients who had surgery in the previous year and the G-power 3.1 program were used to determine the sample of the study. According to the group averages in similar reference studies,<sup>19-21</sup> the effect size is 0.32, the  $\alpha$  margin of error is 5%, and the power of the study is 80%. A total of 65 female patients who were admitted to the hospital with this disease participated in the study.

**Data collection:** The data of the study was collected between 01.06.2023 and 01.12.2023, following the ethics committee and institutional permission. It was done by face-to-face interviews with the same patients who came to the outpatient clinic in the preoperative period and in the postoperative period. Criteria for inclusion in the study; in the preoperative period; the individuals must have been hospitalized with the decision to undergo surgery, they must not have any vision, hearing or perception problems that would prevent them from participating in the study, in the postoperative period, one month must have passed since the surgery, the surgery must have taken place in the hospital designated for the study, and no complications have occurred during the surgery or the subsequent period.

**Data collection tools:** Data were collected using the Personal Information Form, Stress-related leak, Emptying ability, Anatomy, Protection, Inhibition, Quality of life, Mobility and Mental status (SEAPI-QMM), Incontinence Quality of Life Scoring, and State and Trait Anxiety Scale.

Personal information form: consists of 19 questions on age, marital status, height and weight, medication taken, number of births, method of delivery, concomitant diseases, smoking status and economic status.

SEAPI-QMM Incontinence Quality of Life Assessment: The scale consists of 15 questions that assess the participant's quality of life. It consists of questions such as how the participant's urinary incontinence affects their daily work, how much it limits their physical activities, how much it limits their social contacts and how much it affects their friendships. The person rates the extent to which incontinence affects their life using one of the options. Each question is scored on a scale from 0 to a maximum of 3 (not at all-0, a little-1, moderately-2 and severely-3). The maximum score is 45 and the quality of life decreases as the score increases. It was adapted to Turkish by Tarcan et al.<sup>22</sup> in 2008. In this study, the Cronbach alpha value for quality of life with incontinence was 0.84 before the operation and 0.88 after the operation.

The State and Trait Anxiety Scale is a Likert scale that measures the degree of anxiety separately with 20 questions. The inventory is divided into four classes. Two different expressions were used in the scales: direct expressions and reverse expressions. Direct expressions express negative emotions; reverse expressions express positive emotions. It was adapted into Turkish by Öner and Le Compte<sup>23</sup> in 1985. In this study, the Cronbach's alpha value of the State Anxiety Scale was 0.88 before the operation and 0.77 after the operation. For the Trait Anxiety Scale, it was 0.85 before the operation and 0.81 after the operation.

**Evaluation of data:** In the study, IBM Statistical Package for the Social Sciences Statistics 26.0 program (IBM, Chicago, USA) package program was used to analyze the data as a result of the application of measurement tools for the quantitative dimension. In the study, statistical differences were taken as  $p < 0.05$ . Data were analysed using percentages, frequency, mean, standard deviation, t-test for comparisons between groups and Pearson correlation test for the relationship between quantitative variables. To determine the relationship between anxiety and quality of life, pre-test scores administered before surgery and post-test scores administered one month after surgery.

## RESULTS

When the socio-demographic characteristics of patients who underwent stress incontinence surgery were examined; 76.9% of the patients were married, 63% of the patients were between the ages of 45-59, 43.1% were primary school graduates, and when their economic situation was examined, 70.8% of the patients had income that covered their expenses, 38.5% It was determined that 61.5% of them were housewives and 61.5% were BMI high (Table 1).

The patients who underwent stress incontinence surgery, 38.5% did not use any medication, 55.4% had a comorbid disease, 50.8% smoked, 69.2% did not have a chronic cough, 66.2% did not have a chronic constipation. the patients who underwent stress incontinence surgery, 75.4% gave birth normally, 52.3% gave birth 3 times or more, 98.5% did not have multiple pregnancies, 52.3% gave birth to large babies, 60% gave birth to large babies. It was determined that 52.3% of the women had abortions and 52.3% had not entered menopause (Table 2). In the study, it was found that the mean scores of the State Anxiety Scale

( $p = 0.001$ ), Trait Anxiety Scale ( $p < 0.001$ ) and Incontinence Quality of Life Scale ( $p < 0.001$ ) were lower after surgery than before surgery, the difference is statistically significant (Table 3)

In Table 4, it was determined that there was no significant relationship between the preoperative Incontinence Quality of Life Score and State Anxiety and Trait Anxiety of the patients participating in the study ( $p > 0.05$ ). A positive, statistically significant, moderate relationship was detected between the postoperative Incontinence Quality of Life Score and State Anxiety of the patients participating in the study ( $r = 0.424$ ;  $p < 0.001$ ). In other words, as patients' postoperative Incontinence Quality of Life Score levels increase, their State Anxiety levels also increase. It was determined that there was no significant relationship between the postoperative Incontinence Quality of Life Score and Trait Anxiety of the patients participating in the study ( $p > 0.05$ ).

## DISCUSSION

Stress urinary incontinence is a common health problem that, although not life-threatening, causes various feelings of discomfort and inadequacy and is associated with a poor quality of life.<sup>24-26</sup> Surgery is one of the options for treating stress incontinence, and in this case it can cause anxiety and stress for those affected.<sup>27,28</sup> The aim of this study was to investigate the pre- and postoperative anxiety and quality of life of patients undergoing stress incontinence surgery.

26.2% of the study participants were obese. In Demir and Yılmaz's<sup>29</sup> study investigating the relationship between menopause and incontinence, the average BMI was found to be  $29.63 \pm 5.16$ . It is stated in the literature that the increasing amount of fat increases intra-abdominal pressure and thus stress incontinence increases.<sup>30</sup> Dogan et al.<sup>31</sup> reported that the stress

**Table 1.** Distribution of Socio-Demographic Characteristics of Patients Undergoing Stress Incontinence Surgery ( $n = 65$ )

	Personal Characteristics	n	%
Age	30-44	16	24.7
	45-59	41	63.0
	60 and over	8	12.3
	Min/Max( $\bar{X} \pm SD$ )*	30/68(50.03 $\pm$ 7.89)	
Marital Status	Married	50	76.9
	Single	15	23.1
	Literate	5	7.7
Educational Status	Primary education	28	43.1
	High school	27	41.5
	Associate degree	5	7.7
Economical situation	Income is less than expenses	10	15.4
	Income equal to expenses	46	70.8
	Income more than expenses	9	13.8
Work	Housewife	25	38.5
	Retired	11	16.9
	Employee	20	30.8
	Officer	9	13.8
BMI	Normal	8	12.3
	Fat	40	61.5
	Obese	17	26.2
Height	Min/Max( $\bar{X} \pm SD$ )	139/178(162.65 $\pm$ 6.74)	
Weight	Min/Max( $\bar{X} \pm SD$ )	53/114(75.12 $\pm$ 9.67)	

\* Min= minimum, max=maximum,  $\bar{X}$ =mean SD= standart deviasyon

**Table 2.** Distribution of Health Status Characteristics of Patients Who Underwent Stress Incontinence Surgery (n=65)

Health features		n	%
Drugs used	Antidiabetic	6	10.8
	Antihypertensive	3	4.6
	Antithyroid	9	13.8
	Other	22	32.3
	Never	25	38.5
Comorbid disease	Yes	36	55.4
	No	29	44.6
Smoking	Yes	33	50.8
	No	32	49.2
Chronic cough	Yes	20	30.8
	No	45	69.2
Chronic constipation	Yes	22	33.8
	No	43	66.2
Type of birth	Normal	49	75.4
	Cesarean+Normal	16	24.6
Number of births	One	6	9.2
	Two	25	38.5
	Three and more	34	52.3
Multiple pregnancy	Yes	1	1.5
	No	64	98.5
Giving birth to a large baby	Yes	34	52.3
	No	31	47.7
Do not have an abortion	Yes	36	60
	No	29	40
Menopause	Yes	31	47.7
	No	34	52.3

**Table 3.** Comparison of Preoperative and Postoperative State-Trait Anxiety and Incontinence Quality of Life Scale Scores

Scales	Before surgery	Postoperative	t	P
	(n=65)	(n=65)		
	$\bar{X} \pm SD$	$\bar{X} \pm SD^*$		
State Anxiety Scale	53.78±7.4	32.8±7.31	16.264	<0.001*
Trait Anxiety Scale	46.57±7.17	36.15±7.82	7.914	<0.001*
Incontinence Quality of Life Scale	33.26±7.28	5.97±5.99	23.339	<0.001*

**Table 4.** Relationship Between Variables

Before surgery	State Anxiety		Trait Anxiety
	r		
Life quality	0.074		-0.066
	p	0.557	0.601
Postoperative			
Life quality	r	0.424	0.158
	p	<0.001*	0.208

incontinence quality of life scores of those with high BMI increased.

In this study; It was determined that there was a significant difference ( $p < 0.001$ ) in Incontinence Quality of Life Scale scores between preoperative and postoperative. As stated in the scale description, as the Incontinence Quality of Life scale scores increase, the quality of life decreases. In many studies, it has been determined that urinary incontinence negatively affects the quality of life, reduces the quality of life, and causes social isolation and psychosocial effects.<sup>32-34</sup> A meta-analysis study (approximately 25.000 participants) reported that incontinence was associated with poor quality of life.<sup>35</sup> Tosun et al.<sup>20</sup> evaluated the effects of all kinds of treatments applied to women with stress incontinence on their quality of life, depression and sociability, and found significant positive differences in these factors after treatment. In the same study, two measurements were made before surgical treatment and six weeks and one year after treatment, and it was

observed that the quality of life in women was positively affected by medical or surgical procedures. The studies conducted show parallelism with the study. Similarly, in this study, it is seen that the surgical treatment applied to women with stress incontinence positively affects the quality of life in a short period of time, such as one month.

In this study, it was found that there was a significant difference ( $p < 0.001$ ) in the State Anxiety and Trait Anxiety Scale scores before and after surgery. In a study, it was determined that women are more prone to depression and social isolation, their anxiety levels are higher, and their self-confidence is lower due to incontinence symptoms.<sup>8</sup> In another study conducted on 80 patients in Lithuania, it was found that the prevalence of depression and anxiety disorders along with urinary incontinence was higher.<sup>36</sup> In the study of Melotti et al., it was revealed that among 274 women with a confirmed diagnosis of incontinence, 59.8% had depressive symptoms and the relationship between the

intensity of incontinence symptoms and depression and anxiety increased.<sup>37</sup> In the study conducted by Karaca and Demir, the prevalence of depression was found to be higher in patients with worse quality of life. The studies are parallel to the work done.<sup>38</sup>

A positive, statistically significant, moderate relationship was detected between the postoperative Incontinence Quality of Life Score and State Anxiety of the patients participating in the study ( $p<0.001$ ;  $r=0.424$ ). As patients' postoperative Incontinence Quality of Life Score levels increase, their State Anxiety levels also increase. In the studies of Aşık and Demirel<sup>24</sup> and Steibliene et al.,<sup>36</sup> the relationship between quality of life and incontinence was found to be statistically significant. In this sense, the results are similar.

## CONCLUSIONS

In a study conducted to assess the pre-and postoperative anxiety and quality of life of patients undergoing stress incontinence surgery, it was found that the mean scores of the Incontinence Quality of Life Scale were significantly lower after surgery than before surgery, and the scores of the State Anxiety Scale and the Trait Anxiety Scale were significantly lower after surgery than before surgery. It was found that there was no significant correlation between the preoperative incontinence quality of life score of the study participants and the State Anxiety and Trait Anxiety Scales, and that there was a positive and statistically significant moderate correlation between the postoperative incontinence quality of life score of the study participants and the State Anxiety Scale.

In line with these results; Taking into account the results obtained in the study, carrying out awareness raising studies so that women do not hesitate to report their stress incontinence experiences, carrying out improvement studies on health-related quality of life indicators, providing training on stress incontinence in the society and informing women about this issue, and conducting larger studies on stress incontinence in women recommended.

The fact that the research was conducted in a research hospital is a limitation of the study.

**Ethics Committee Approval:** Approval was received for this study from the Haliç University Non-Interventional Ethics Committee (Date: 3.10.2023, Number: 245).

**Informed Consent:** Written and verbal consent was obtained from the participants participating in the study.

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