

ORIGINAL RESEARCH PAPER

Investigation of body image, self-esteem, and quality of life in women with urinary incontinence

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Abstract

Aim: The aim of this research was to investigate the effect of urinary incontinence on body image, self-esteem, and quality of life.

Methods: The study was conducted with 218 women with urinary incontinence. The study data were collected using the Socio-Demographic Characteristics Questionnaire, Body Cathexis Scale, Rosenberg Self-Esteem Scale, and Incontinence Quality of Life Questionnaire.

Results: There was a weak, statistically significant, positive relationship found between the Body Cathexis Scale total average scores and the Rosenberg Self-Esteem Scale total average scores of the women and a weak, statistically significant, negative relationship with the Incontinence Quality of Life Questionnaire total average scores. In addition, a weak, statistically significant, negative relationship was found between the Rosenberg Self-Esteem Scale total score averages and Incontinence Quality of Life Questionnaire total score averages. Significant effects were seen for body image score with pad usage; for self-esteem in relation to number of deliveries, duration, and frequency of urinary incontinence; and for incontinence quality of life and duration and frequency of urinary incontinence and pad usage.

Conclusions: It was concluded that most of the women with urinary incontinence had negative body image and that more than half of them had moderate or low self-esteem and a moderate quality of life.

KEYWORDS

body image, nursing, quality of life, self-esteem, urinary incontinence

SUMMARY STATEMENT

What is already known about this topic?

- More than 200 million people in the world have incontinence problems, and the majority are women.

- Urinary incontinence causes negative psychosocial effects such as continuous leakage of urine and fear of smelling bad, feeling unclean, decreased self-esteem, deterioration of body image, stigmatization, embarrassment, and decreased sexual desire.

- There are very few studies in the literature that determine the relationship between body image and self-esteem in women with urinary incontinence.

What this paper adds?

- Negative effects were demonstrated for urinary incontinence in relation to women's body image, self-esteem, and quality of life.

The implications of this paper:

- Urinary incontinence does not directly threaten women's lives but can become a problem that physically and psychologically affects the family and social life of a woman significantly; therefore, women with incontinence should be carefully considered and evaluated from a holistic viewpoint.
- Nurses should assess the emotions, thoughts, and perceptions of body image, self-esteem, and quality of life of women with urinary incontinence, and as the awareness about urinary incontinence and its treatment increases, the population of patients receiving help will increase, thus increasing the success rate in urinary incontinence management.

1 | INTRODUCTION

Urinary incontinence (UI) is defined as the involuntary loss of urine by the International Continence Society and International Urogynecological Association (Abrams, Cardozo, Fall, et al., 2002). UI is a medical, social, and hygienic problem that is commonly seen in women, causing them discomfort and thus leading to worse quality of life (Karbage et al., 2016). It is estimated that UI has affected 200 million people worldwide and will affect more than 423 million people by 2018. Although it affects women of all ages, the prevalence increases with age. UI affects 7% of women aged between 20 and 39 years, 17% of women aged between 40 and 59 years, 23% of women aged between 60 and 79 years, and 32% of women aged 80 years or older (Biswas et al., 2017). UI is seen four times more often in women under the age of 60 than in men in the same age range (Aniuliene, Aniulis, & Steibliene, 2016). The prevalence of UI in women has been reported to be 20.5% to 68.8% in studies conducted in Turkey (Uğurlucan, Comba, Emegil, & Yalçın, 2016).

Despite the high prevalence rate, the majority of women approach UI as more of a social problem and a taboo than a medical problem; they hesitate to talk about the problem and most only consult a doctor at least a year after the problem begins (Biswas et al., 2017). UI, which affects the quality of life of women, is not a life-threatening problem. However, it is a condition that makes the individual feel uncomfortable, distressed, and inadequate due to continuous wetness and irritation. In addition, UI causes negative psychosocial effects such as continuous leakage of urine and the fear of smelling bad, as well as feeling unclean; it can also result in decreased self-esteem, deterioration of body image, stigmatization, embarrassment, and decreased sexual desire (Aoki, Brown, Brubaker, Cornu, & Daly, 2017). It has been reported that affected women withdraw from social activities such as exercising, shopping, and visiting friends due to the bad smell

and the possibility of being seen, that they see themselves as lacking and insufficient, lose their sense of attractiveness, and sexual desirability, and that they thus experience loneliness, isolation, depression, and distress (Dumoulin, Morin, Mayrand, Tousignant, & Abrahamowicz, 2017). In addition, UI leads to economic burdens to women due to extra costs such as washing clothes and using absorbent pads (Townsend et al., 2017). It is estimated that the annual cost of routine care of UI is \$50 to \$1000 per person (Xu, Liu, Qu, Chen, & Wang, 2016).

The fact that UI has such effects on the quality of life, physical, economic, and mental health of the woman, their body image, and self-esteem increases the importance of multidisciplinary evaluation of individuals and planning of care strategies (Lim et al., 2017). It is thought that knowledge of the prevalence and risk factors of UI, which can be very successfully treated, and the development of health policies for UI will contribute to increasing the quality of life of women and to improving their body image and self-esteem (Terzi, Terzi, & Kale, 2013). In addition, it is hoped that the approach to the problems of UI in society will be changed by determining the emotions, thoughts, and perceptions of women suffering from UI and that as awareness about UI and its treatment increases, the population of patients receiving help will increase, thus improving the success of UI management (Uğurlucan et al., 2016). This research was thus designed to investigate the effect of UI on body image, self-esteem, and quality of life suffering from UI.

2 | METHODS

2.1 | Study design and participants

This research was conducted as a descriptive study to investigate the effect of UI on body image, self-esteem, and quality of life in women diagnosed with UI. The study was carried out with 218 patients who were selected from patients with UI admitted to a university hospital urogynaecology outpatient clinic between August 2017 and December 2018. The sample was selected using the convenience sampling method. The hospital where the study was performed is the largest hospital in the region and has a capacity of 1816 beds. It consists of 1215 academics, 27 outpatient clinics, and 48 departments. The university urogynaecology outpatient clinic is the only place in the İzmir province where almost all of the current approaches in urogynaecology are applied. Approximately 20 patients attend the outpatient clinic each day. The study included women who were diagnosed with stress UI, were able to communicate, had not had a physical or psychiatric disease that would require significant medical intervention within the last year, had no urinary or genital system infection, and volunteered to participate in the study. Women who were illiterate, who had a history of serious life-threatening disease, or who were currently being treated due to such problems were excluded from the study.

Of the patients in the study population, 89.0% were reached. A post hoc power analysis was performed with the G-Power Data

Analysis programme. The sample size was calculated as 218 in the power analysis. Power analysis was calculated at 95% confidence interval, and the significance level was $P = .05$. The power of the study was determined as 0.99, and its effect size was at a moderate level (0.25). It was concluded that the number of samples represented high power.

2.2 | Data collection

The study data were collected using the Socio-Demographic Characteristics Questionnaire, Body Cathexis Scale (BCS), Rosenberg Self-Esteem Scale (RSES), and Incontinence Quality of Life Questionnaire (I-QOL). The women included in the sample were asked to fill in the data collection forms individually, after they had been informed about the purpose of the study, and that their participation was voluntary and they could withdraw from the study at any time.

2.2.1 | Socio-Demographic Characteristics Questionnaire

This questionnaire, developed by the researchers in the light of the literature, includes 20 items about the socio-demographic characteristics of women diagnosed with UI and characteristics related to obstetricgynaecological issues and UI (such as duration of UI [how many years has UI], whether or not she uses a pad when she has UI [yes/no], and how many times the pad is used and what time it uses it [once a day, more than once a day, once a week, more than once a week, a few times a month, or rarely]) (Biswas et al., 2017; Demirci, Aba, Süzer, Karadağ, & Ataman, 2012; Hovardaoğlu, 1992).

2.2.2 | Body Cathexis Scale

The BCS, which was developed and adapted into Turkish, was used to determine how the women perceived their bodies. The BCS is a scale determining the satisfaction of a person with 40 separate body parts or functions (arms, legs, face, sexual activity level, etc). Secard and Jourard divided their scale into two sections as a result of testing their hypothesis that the satisfaction of a person about his/her body is related to the concept of self. The first part of the original scale consists of 46 items, including body parts and functions. The Turkish version is a 5-point Likert-type assessment instrument consisting of 40 items scored as 1 = *I like it very much*, 2 = *I like it very much*, 3 = *I am uncertain*, 4 = *I do not like it very much*, and 5 = *I do not like it at all*. The most positive expression receives one point, and the most negative expression receives five points. Thus, the lowest possible total score is 40, and the highest total score is 200. An increase in the total score obtained from the scale indicates a decrease in satisfaction with a body part, and a decrease in the score indicates an increase in satisfaction. The scale was translated into Turkish by Hovardaoğlu in 1986, and the Cronbach's α coefficient was found to be .91 in a study conducted on university students (Hovardaoğlu, 1992). In our study, the Cronbach's α internal consistency value was found to be .93.

2.2.3 | Rosenberg Self-Esteem Scale

This was developed by Rosenberg in 1965. The scale consists of a total of 63 multiple-choice questions in 12 subcategories, and the first 10 items are used to assess self-esteem. The validity and reliability study for use with Turkish people was conducted by Çuhadaroğlu (1986). The reliability coefficient of the scale was determined to be 0.77. RSES is a Likert scale with items answered on a four-point scale—from *strongly agree* to *strongly disagree*. Some items in the scale are scored negatively, and low values indicate high self-esteem. Questions are scored using the Guttman assessment method. Scoring is done as follows: questions 1, 2, and 3, questions 4 and 5, and questions 9 and 10 are evaluated together. If he gets points from any two of the first three questions (2/3), he gets one point from this set. If he or she marked one of the points that scored in any of the questions 4 and 5, he/she will also get one point from this set. Questions 9 and 10 are evaluated as fourth and fifth. Each of the sixth, seventh, and eighth questions gets points on their own. Thus, when the person completing the test gets points from all the questions, the maximum score is 6. It was found to be 0- and 1-point high, 2- to 4-point moderate, and 5- and 6-point low self-esteem level. The total score from the scale is between 0 and 6. An increase in the total score obtained from the scale demonstrates decreased self-esteem, and a decrease in the score demonstrates increased self-esteem (Çuhadaroğlu, 1986). In our study, the Cronbach's α internal consistency value of the scale was found to be .70.

2.2.4 | Incontinence Quality of Life Questionnaire

This scale, which was developed in order to determine the quality of life in patients with UI in the United States, was reviewed by Patrick et al in 1999, and six questions were eliminated as a result of an assessment of psychometric measures during the creation of European versions, reducing the number of questions to 22. The IQOL consists of three subscales: limitation of behaviours (first, second, third, fourth, 10th, 11th, 13th, and 20th items), psychosocial influence (fifth, sixth, seventh, ninth, 15th, 16th, 17th, 21st, and 22nd items), and social isolation (eighth, 12th, 14th, 18th, and 19th items). All items in I-QOL are evaluated with a 5-item Likert-type scale (1 = *very much*, 2 = *quite a lot*, 3 = *moderately*, 4 = *somewhat*, and 5 = *not at all*), and the total score is converted to a scale value from 0 to 100 in order to make it more understandable. The I-QOL subscales are also scored likewise. As the score obtained from the scale increases, so quality of life increases, too. The validity and reliability study of I-QOL in Turkey was conducted by Özerdoğan in 2003, and the Cronbach's α coefficient was found to be .96 (Özerdoğan & Kızılkaya, 2003). In our study, the Cronbach's α internal consistency value was found to be .97.

2.3 | Ethical considerations

The present study was conducted in line with the principles of the Helsinki Declaration. Before the study was conducted, we obtained

the approval of the Scientific Ethics Committee at the Nursing Faculty (Ethics Committee approval number; 2017-03). Written permission for the study was obtained from the Department of Obstetrics and Gynecology of the university, where the study was to be performed. Written informed consent was obtained from the participants after they had been informed about the purpose of the research, that their confidentiality would be respected, and that their opinions would not be judged.

2.4 | Statistical analysis

For statistical analysis, the Statistical Package for the Social Sciences (SPSS) (International Business Machines [IBM] SPSS Statistics version 22.0; SPSS Inc, Chicago, IL) was used. Categorical variables were given as number and percentage, and continuous variables were given as mean and standard deviation. Kolmogorov-Smirnov test was used for normal distribution of data. Kruskal-Wallis and Mann-Whitney *U* tests and Pearson correlation coefficients and stepwise regression analysis were used to determine the relationship between the independent variables and the dependent variables. Cronbach's α reliability coefficients of the scales were determined by using reliability analysis. The results were evaluated at a 95% confidence interval and a significance level of $P < .05$. A post hoc power analysis was performed with the G-Power Data Analysis programme.

3 | RESULTS

3.1 | Analysis of BCS, RSES, and I-QOL scale responses and correlation among the mean scores

In the study, the total average scores of the BCS, RSES, and I-QOL were found to be 120.92 (SD 18.0; min = 63, max = 186), 1.8 (SD 1.23; min = 0, max = 4.67), and 66.74 (SD 20.1; min = 22, max = 107), respectively. In the Pearson correlation analysis, there was a weak, statistically significant, positive relationship found between BCS total score averages and RSES total score averages of women ($r = 0.334$, $P = .001$) and a weak, statistically significant, negative relationship with IQOL total score averages ($r = -0.281$, $P = .001$). In addition, a

weak, statistically significant, negative relationship was found between RSES total average scores and I-QOL total average scores ($r = 0.326$, $P = .001$) (Table 1). According to the cut-off point of the BCS, 20.6% of women with incontinence had a normal body image, and 79.4% had a negative body image. When the RSES scores of the women were examined, it was found that 59.2% of them had moderate, 37.6% of them had high, and 3.2% had low self-esteem.

3.2 | Analysis of the BCS, RSES, and I-QOL scales by their socio-demographic and obstetric characteristics

The socio-demographic-obstetric characteristics of the participants and the distribution among BCS, RSES, and I-QOL average scores are given in Table 2. The study found that 54.1% of the participants were 50 years old or older, 55.0% had graduated from primary school, 72.0% did not work, 51.4% were overweight, 22.5% were the first child, and 51.8% were menopausal.

3.3 | Analysis of the BCS, RSES, and I-QOL scales in terms of UI frequency, time, and pad use

When UI characteristics and BCS, RSES, and I-QOL average scores of the participants were examined, 67.0% were found to have been incontinent for 5 years or less. In the statistical analyses performed examining BCS, RSES, and I-QOL mean scores, there was a significant difference found between duration of urine leakage for less than 5 years and more than 5 years ($U = 3963.0$, $P = .003$; $U = 3302.0$, $P = .001$; $U = 2564.0$, $P = .001$, respectively) and between those who did and did not use pads during urine leakage ($U = 3718.0$, $P = .001$; $U = 4191.0$, $P = .001$; $U = 3011.0$, $P = .001$, respectively). Body image was found to be more negative, and self-esteem and quality of life were found to be lower in women who had been using pads when they leaked urine and who experienced leakage of urine more than once per day. There was no significant difference between the frequency of urine leakage and BCS ($P > .05$) although there was a statistically significant difference found between RSES ($K = 19.729$, $P = .001$) and I-QOL ($K = 82.926$, $P = .001$) average scores ($P < .05$) (Table 3).

TABLE 1 Distribution of the BCS, RSES, and I-QOL scale scores and correlation between the mean scores ($N = 218$)

Scales and Domain Items	Mean \pm SD	Min-Max Score of Them	BCS		RSES		I-QOL	
			<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>
BCS	120.92 \pm 18.0	63-186	-		0.334	.001*	-0.281	.001*
RSES	1.80 \pm 1.23	0-4.67	0.334	.001*	-		-0.326	.001*
I-QOL	66.74 \pm 20.1	22-107	-0.281	.001*	-0.326	.001*	-	
Limiting behaviour	23.66 \pm 7.17	8-38	-0.291	.001*	-0.323	.001*	0.948	.001*
Psychosocial impact	28.26 \pm 9.02	9-45	-0.249	.001*	-0.319	.001*	0.977	.001*
Social embarrassment	14.82 \pm 4.75	5-25	-0.279	.001*	-0.284	.001*	0.945	.001*

Abbreviations: BCS, Body Cathexis Scale; I-QOL, Incontinence Quality of Life Questionnaire; RSES, Rosenberg Self-Esteem Scale.

* $P < .05$.

TABLE 2 Comparison of the mean scores obtained by the participants from the BCS, RSES, and I-QOL scales by their socio-demographic and obstetric characteristics (N = 218)

Variables	n	%	BCS Scores		RSES Scores		I-QOL Scores		
Age groups, y									
30-39	34	15.6	118.14 ± 12.6	K = 1.051	1.51 ± 1.4	K = 6.387	69.61 ± 12.3	K = 2.835	
40-49	66	30.3	121.22 ± 18.8	P = .591	1.85 ± 1.2	P = .041*	68.29 ± 21.0	P = .242	
50 and older	118	54.1	121.55 ± 18.9		1.95 ± 1.1		65.03 ± 21.3		
Educational level									
Elementary	120	55.0	122.98 ± 20.0	K = 6.395	2.09 ± 1.1	K = 17.743	63.55 ± 20.4	K = 8.627	
High school	73	33.0	122.00 ± 15.0	P = .041*	1.50 ± 1.3	P = .001*	69.15 ± 20.0	P = .013*	
University and higher	25	11.5	117.16 ± 14.9		1.30 ± 1.0		75.08 ± 15.2		
Occupation									
Yes	61	28.0	119.26 ± 15.9	U = 4222.5	1.58 ± 1.3	U = 3984.5	72.65 ± 17.9	U = 3658.0	
Not working	157	72.0	121.56 ± 18.8	P = .175	1.89 ± 1.1	P = .054	64.45 ± 20.4	P = .007*	
BMI									
Normal	106	48.6	119.88 ± 16.9	U = 5442.5	1.68 ± 1.3	U = 5325.5	69.02 ± 18.3	U = 5226.5	
Overweight	112	51.4	121.90 ± 19.0	P = .289	1.92 ± 1.1	P = .188	64.58 ± 21.4	P = .127	
Number of deliveries									
1	49	22.5	117.98 ± 17.9	K = 12.923	1.59 ± 1.3	K = 17.96	71.09 ± 20.8	K = 11.303	
2	95	43.6	120.20 ± 14.6	P = .005*	1.62 ± 1.1	P = .001*	67.69 ± 14.1	P = .010*	
3	45	20.6	124.89 ± 18.5		1.91 ± 1.2		61.15 ± 21.3		
4 and higher	29	13.3	125.33 ± 20.4		2.58 ± 0.8		59.58 ± 21.0		
Status of menopause									
Yes	113	51.8	122.13 ± 19.2	U = 5552.5	1.87 ± 1.1	U = 5407.5	63.54 ± 21.6	U = 4759.5	
No	105	48.2	119.61 ± 16.6	P = .414	1.73 ± 1.3	P = .258	70.19 ± 17.7	P = .012*	

Abbreviations: BCS, Body Cathexis Scale; BMI, body mass index; I-QOL, Incontinence Quality of Life Questionnaire; K, Kruskal-Wallis test; RSES, Rosenberg Self-Esteem Scale; U, Mann-Whitney U test.

*P < .05.

TABLE 3 Comparison of the BCS, RSES, and I-QOL scores in relation to urinary incontinence frequency, duration, and pad use (N = 218)

Variables	n	%	BCS Scores		RSES Scores		I-QOL Scores		
Duration of urinary incontinence, y									
≤5	146	67.0	118.26 ± 17.2	U = 3963.0	1.56 ± 1.2	U = 3302.0	72.65 ± 17.6	U = 2564.0	
6 and older	72	33.0	126.31 ± 18.6	P = .003*	2.29 ± 1.0	P = .001*	54.76 ± 19.5	P = .001*	
Uses pads to manage urine leakage									
Yes	122	56.0	126.09 ± 16.8	U = 3718.0	2.05 ± 1.1	U = 4191.0	59.66 ± 21.1	U = 3011.0	
No	96	44.0	114.34 ± 17.4	P = .001*	1.49 ± 1.2	P = .001*	75.75 ± 14.3	P = .001*	
Frequencies of urinary incontinence									
Once a day	39	17.9	119.00 ± 16.7	K = 10.272	2.06 ± 1.3	K = 19.729	70.23 ± 17.2	K = 82.926	
More than once a day	89	40.8	124.75 ± 19.1	P = .068	2.09 ± 1.2	P = .001*	53.12 ± 17.9	P = .001*	
Once a week	36	16.5	118.25 ± 18.6		1.53 ± 1.3		74.18 ± 14.1		
More than once a week	27	12.4	118.89 ± 15.6		1.58 ± 1.0		75.69 ± 12.5		
A few times a month	19	8.7	118.00 ± 14.7		1.22 ± 0.7		87.00 ± 14.3		
Rarely	8	3.7	117.50 ± 23.2		1.03 ± 0.7		87.87 ± 10.9		

Abbreviations: BCS, Body Cathexis Scale; I-QOL, Incontinence Quality of Life Questionnaire; K, Kruskal-Wallis test; RSES, Rosenberg Self-Esteem Scale; U, Mann-Whitney U test.

*P < .05.

3.4 | Regression analysis of the BCS, RSES, and I-QOL mean scores with independent variables

The BCS, RSES, and I-QOL scores and independent variables in the study were examined with stepwise regression analysis. Significant effects were seen for BCS score with pad usage; RSES score with number of deliveries, duration, and frequency of UI; and I-QOL score and duration of UI, pad usage, and frequency of UI ($P < .05$) (Table 4). The argument coefficients of the model with independent variables are $R^2 = 0.105$ for BCS, $R^2 = 0.173$ for RSES, and $R^2 = 0.339$ for I-QOL. Models were significant ($P = .001$).

4 | DISCUSSION

This study revealed relationships between UI and body image, self-esteem, and quality of life. Although there are many studies in the literature that examine the effect of UI on quality of life, the effect of UI on body image and self-esteem has been ignored. Most women with UI are embarrassed, thinking that their situation can be understood by environmental factors and believing that they have lost their attractiveness; accordingly, they may experience deterioration in body image and self-esteem as well as deterioration in their quality of life (Aylaz, Işık, Bayır, & Yetiş, 2016). Similarly, it was determined in our study that about two thirds of women with UI had a negative body image, that about half of them had moderate and low self-esteem, and that their quality of life was moderate. In other studies investigating the effect of UI on the quality of life, Akkuş et al found similar quality of life scores in women with UI, while Demirel et al found lower mean quality of life scores than in our study (Akkuş & Pınar, 2016; Demirel & Akin, 2014). In addition, Güvenç et al and Demirci et al found higher mean quality of life than in our study (Demirci et al., 2012; Güvenç, Kocaöz, & Kök, 2016). In two studies, it was found that the quality of life of all incontinent women decreased and that sexual problems increased (Caruso et al., 2017; Doğan, Vural, & Akyüz, 2017). It has also been found that women experiencing incontinence saw a deterioration in their quality of life compared with those not experiencing it (Leroy & Lopes, 2012). In the study conducted by Barghouti et al with 1001 women aged 30 or older, the majority of

women with UI were found to have lower quality of life and self-esteem (Barghouti, Yasein, Jaber, Hatamleh, & Takruri, 2013).

Although UI is seen in women of all ages, its prevalence increases with age, and it affects self-esteem, body image, and the quality of life of women more negatively (Durukan, Tok, Tok, & Aytan, 2015). Our study found that women who were aged 50 or older had a more negative body image and lower self-esteem and quality of life than those in other age groups. In both studies, it was determined that the quality of life decreased as the age increased in women with UI (Demir & Erbesler, 2017). Body image and self-esteem are concepts associated with economic freedom and educational status of women, and the educational and economic statuses of women with UI are important factors affecting quality of life (Kurt, Özdilli, & Yorulmaz, 2013). Our study determined that women who were unemployed and were primary school graduates had more negative body image and lower self-esteem and quality of life and that as the level of education increased, body image became more positive and self-esteem and quality of life increased. In one study, it was reported that women who had a low level of education and who were unemployed had fewer health-seeking behaviours, were more restricted in finding solutions, and perceived UI to be a more disturbing health problem (Vaart, Bom, Leeuw, Roovers, & Heintz, 2002). Similarly, it was determined in both studies that as the level of education increased, so the quality of life increased and that women who were employed had a higher quality of life (Aylaz et al., 2016). In our study, women who were overweight were found to have more negative body image and lower self-esteem and quality of life. In a study conducted by Hamurcu et al in order to investigate the relationship between body mass index (BMI) and body image and self-esteem, a significant relationship was found between an increase in BMI, negative body image, and low self-esteem (Hamurcu, Öner, Telatar, & Yeşildağ, 2015). Due to the increase in abdominal pressure and stress on the pelvic floor muscles, being overweight is an important factor leading to UI, and it increases the severity of the condition (Bilge & Kızılkaya Beji, 2016). Furthermore, constantly being criticized by society, being socially excluded, and being stigmatized due to being overweight can negatively affect school life, work life, private life, social relations, and attitudes towards physical activities and, accordingly, affect body image, self-esteem, and quality of life. Since the deterioration of the elasticity of pelvis

TABLE 4 The stepwise regression analysis of the BCS, RSES, and I-QOL mean scores with independent variables

Independent Variables	BCS Score			RSES Score			I-QOL Score		
	β	t	P	β	t	P	β	t	P
Uses pads to manage urine leakage	.324	5.028	.001*	-			.228	-3.543	.001*
Frequency of UI		-		.184	2.852	.005*	-.292	-4.960	.001*
Duration of UI		-		.223	3.564	.001*	-.340	-5.348	.001*
Number of deliveries		-		.183	2.875	.004*			
	$R = 0.324$	$R^2 = 0.105$		$R = 0.416$	$R^2 = 0.173$		$R = 0.582$	$R^2 = 0.339$	
	$F = 25.281$	$P = .001^*$		$F = 12.676$	$P = .001^*$		$F = 27.340$	$P = .001^*$	

Abbreviations: BCS, Body Cathexis Scale; F, ANOVA test; I-QOL, Incontinence Quality of Life Questionnaire; RSES, Rosenberg Self-Esteem Scale; t, t test; UI, urinary incontinence.

* $P < .05$.

support structures due to giving birth is a factor that can lead to UI, the risk of UI increases as the number of vaginal deliveries increases (Aylaz et al., 2016). There was a significant difference obtained between the number of deliveries and mean BCS, RSES, and I-QOL scores in our study. Women who had delivered four or more babies had a more negative body image and lower self-esteem and quality of life. It has also been determined that as the number of children increases, quality of life scores decreases (Demirel & Akin, 2014).

Moreover, quality of life, self-esteem, and the body image of women with UI can be affected by many factors including the amount and frequency of urine leakage (Sinclair & Ramsay, 2011). Similarly, in our study, as the duration and amount of urine leakage increased, body image was more negative, and self-esteem and quality of life of women decreased. In the study conducted by Kocaöz et al, it was found that there was a significant relationship between the deterioration of the quality of life and the frequency and amount of UI (Kocaöz, Talas, & Atabekoğlu, 2012). Similarly, other studies have determined that as the frequency and amount of urine leakage and the use of pads increase, quality of life scores decreases (Barentsen et al., 2012).

In addition, in their study conducted with women with UI, Papanicolaou et al ascertained that the physical and social activities of women were also negatively affected by the increased severity of incontinence. It is thought that women with UI have a more negative body image and lower self-esteem and quality of life when UI has been present for a long time, as well as due to the necessity of using pads continuously, the frequent leakage of urine, constant wetness, and constant fear of smelling bad, and that, as a result, they feel unclean and inadequate. However, it is also the case that some surgical interventions used in the treatment of incontinence may not be beneficial as they may have a negative effect on the sexual life and quality of life of women (Vitale et al., 2016).

4.1 | Limitations

The present study has several limitations. First, the study used convenience sampling and was cross-sectional design. As the study included only voluntary participants, there was also a selection bias. Finally, because the study sample comprised women admitted to only one hospital in İzmir, its results are applicable only to the patients surveyed and cannot be generalized to other populations.

5 | CONCLUSIONS

As a result of the study, it was found that the majority of the women with UI had negative body image, moderate or low self-esteem, and a moderate quality of life. In addition, body image was found to be more negative, and self-esteem and quality of life were found to be lower in women who were aged 50 or older, who had gone through the menopause, who were unemployed, who were primary school graduates, who were overweight, who had had four or more deliveries, who had been experiencing UI for 6 years or more, who had been using pads when they leaked urine, and who experienced leakage of urine

more than once per day. Although UI does not directly threaten women's lives, it can become a problem that affects women physically and psychologically and disrupts their familial and social life to a significant extent; therefore, women with incontinence should be carefully considered and evaluated from a holistic viewpoint. Moreover, since there is a limited number of studies investigating the effect of UI on body image and self-esteem in women, it is recommended that these relationships be evaluated in studies with more extensive samples.

CONFLICT OF INTEREST

None.

AUTHORSHIP STATEMENT

SG, OK, SD conceived the study and obtained research funding. SG and OK were responsible for data management and study design. SD was responsible for data analysis. All authors drafted and revised the manuscript.

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