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ORIGINAL ARTICLE

Killing Two Birds with One Stone: Treatment of Female Urinary Incontinence Improves Female and Male Sexual Function

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Abstract

Introduction: Aim of this study was to evaluate the impact of urinary incontinence (UI) treatment on female and male sexual functions.

Methods: Sexually active women, who were diagnosed with UI and treated by surgically and/or medically between December 2017 and July 2018, were enrolled into the study, prospectively. Patients' demographic properties were evaluated, and patients filled out Urinary Distress Inventory (UDI-6), Incontinence Impact Questionnaire (IIQ-7) and Female Sexual Function Index (FSFI) forms. Moreover, partner's age, BMI and sexual status (IIEF-5 score: International Index of Erectile Function) were noted. Trans obturator tape (TOT) operation was performed in patients with stress UI. Patients with UUI underwent anticholinergic treatment. In patients with mixed UI, TOT operation was applied who had evident stress component and then anticholinergic treatment was initiated, if necessary. The patients filled out UDI-6, IIQ-7 and FSFI questionnaires at the 3rd month of initial therapy and patients' partners filled out IIEF-5 form.

Results: Forty-two women with UI and their partners were included in the study. Number of sexual intercourses per month was significantly increased after the treatment of UI (3.3/month vs. 5.2/month, p:0.001). Pre-treatment FSFI score was 18.9 in average; and after UI was treated, FSFI score was increased to 24.9 (p=0.001). Moreover, we found significant improvement in IIEF score of partners, after the treatment of female UI (18.5 vs. 22.5, p=0.001).

Discussion and Conclusion: Our findings have showed that, treatment of UI in women significantly improved quality of life and sexual function in women and sexual activity in their partners.

Keywords: FSFI score; incontinence; IIEF score; stress; urge.

Urinary incontinence (UI), described by the International UI Society, is the complaint of any involuntary leakage of urine[1]. Although UI, which is classified into three groups as stress UI (SUI), urge UI (UUI) and mixed UI (MUI), is not a life-threatening disorder, almost 400 million women are affected from UI all around the world. Previous reports had demonstrated that UI has a significant relationship between deteriorated life quality, hygienic problems and difficulty during social activities[2]. Recently, some studies have focused on the interaction between UI in women and sexual dysfunction in women and their partners[3].

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The incidence of sexual dysfunction in sexually active women with UI is in a wide range and reported to be ranging from 23% to 56%[4]. Duralde et al.,[5] reported that all three types of UI (SUI, UUI and MUI) negatively affect sexual function and women with UI had lower desire, arousal, lubrication, satisfaction, and orgasm. In another study by Bekker et al.,[6] male partners of women with UI had diminished overall sexual function, lower rate of sexual intercourse, less sexual satisfaction and higher erectile dysfunction rate when compared with male partners of women without UI.

Although correlation between UI and sexual dysfunction in women and their partner is well-known, limited studies have investigated the effect of UI treatment in women, on women and male sexual dysfunction. The aim of this study was to evaluate the impact of UI treatment on female and male sexual functions.

Materials and Methods

Sexually active women, who were diagnosed with UI and treated by surgically and/or medically between December 2017 and July 2018, were enrolled into the study. Patients' data were recorded into the electronic data system, prospectively after ethical approval has been taken from local ethical committee (2017/12, HTRH). Medical history was obtained from each patient. Patients' age, body mass index (BMI), presence of diabetes mellitus and hypertension, number of births, duration of UI and urinary leakage during sexual intercourse were evaluated. Furthermore, patients filled out Urinary Distress Inventory (UDI-6), Incontinence Impact Questionnaire (IIQ-7) and Female Sexual Function Index (FSFI) forms. Moreover, partner's age, BMI and sexual status (IIEF-5 score: International Index of Erectile Function) were noted. Exclusion criteria were being <18 years of age, history of incontinence surgery, history of pelvic surgery and pelvic radiation, presence of urologic and gynecological malignancy. Furthermore, patients with severe neurological disease and patients who failed to fill out the forms were excluded from the study. Patient's partners who had a history of pelvic surgery, neurological disorders, urinary system malignancies and pelvic radiation were excluded from the study. Moreover, female patients whose partners were treated for erectile dysfunction were excluded from the study.

Detailed physical examination was performed for both female patients and their partners. Complete urinalysis and if necessary, urine culture were obtained from every patient to exclude urinary tract infections. Patients with urinary tract infections were treated with appropriate antibiotics. Uroflowmetry parameters and post-voiding residual urine volume were assessed in each patient. Bladder frequency volume diary was completed by each patient. Written informed consent was obtained from all patients and their partners.

UDI-6 Questionnaire

The UDI-6 is a simple form (with 6 questions) to assess quality of life in patients with UI. Patients scored each question between zero and three according to their complaint's seriousness. In the questionnaire, two questions for irritative; two questions for stress; and two questions for obstructive symptoms are available. To achieve UDI-6 score for each patient, the sum of the scores was multiplied by 25/6[7].

IIQ-7

The IIQ-7 form included seven questions to assess the effect of UI in female patients' quality of life. In IIQ-7 form, each question is scored as 0 for "not at all;" 1 for "slightly;" 2 for "moderately;" and 3 for "greatly." To achieve IIQ-7 score, the sum of the scores (between 0 and 21) was multiplied by 33.3 (100/3) and scores were placed on a scale from 0 to 100[8].

FSFI Score and IIEF Score

The FSFI is a self-reported questionnaire for the measurement of female sexual function with 19 questions under 6 domains including sexual desire, sexual arousal, lubrication, satisfaction, orgasm and pain during sexual intercourse. The answers were calculated as 2 for minimum and 36 for the maximum score. Higher FSFI scores are associated with better sexual function[9]. On the other side, the IIEF-5 questionnaire is a self-reported form to evaluate male erectile dysfunction. It consists of 5 questions in ordinal scale and each answer is assigned from 0 to 5 (range from 0 to 25). Higher IIEF scores are related with better erectile function[10].

Surgical and/or Medical Treatment

Trans obturator tape (TOT) operation was performed in patients with SUI. Patients with UUI underwent anticholinergic treatment. In patients with MUI, TOT operation was applied who had evident stress component and then anticholinergic treatment was initiated, if necessary. The patients filled out UDI-6, IIQ-7 and FSFI questionnaires at the 3rd month of initial therapy. At the same time; patients' partners filled out IIEF-5 form.

The Statistical Package of Social Sciences for Windows version 20 was used for statistical analysis. Categorical variables were presented as numbers and percentages. Continuous variables were presented as means and standard deviations. The relationship between the variables before and after treatment was compared with the paired sample t-test.

Results

Forty-two sexually active women with UI and their partners were included in the study. The mean age of patients was 34.5 years and mean age of partners was 39.4 years. Furthermore, the mean BMI of patients was 29.8 kg/m^2 and mean BMI of partners was 31.3 kg/m^2. Eight patients (19%) had hypertension and/or diabetes mellitus. The mean duration of incontinence was 4.5 years. Thirteen (31.0%) patients had UI during intercourse. Patients and partners demographic properties were summarized in Table 1.

Table 1. Demographic characteristics of patients and partners

Age (years)*	34.5±6.4
Body mass index (kg/m^2)*	29.8±3.2
Comorbidities (DM or HT)	8 (19.0%)
Partner's Age (years)*	39.4±5.0
Partner's body mass index (kg/m^2)*	31.3±3.8
Partner's comorbidities (DM or HT)	10 (23.1%)
Duration of incontinence (years)*	4.5±2.7
Urinary leakage during sexual intercourse	13 (31.0%)
Type of incontinence	
SUI	13 (31.0%)
UUI	13 (31.0%)
MUI	16 (38.0%)
Number of Births*	3.9±1.7
Normal Spontaneous Vaginal Route	0.6±0.8
Cesarean Section	3.3±1.8

*Mean±Standard deviation. SUI: Stress urinary incontinence; UUI: Urge urinary incontinence; MUI: Mixed urinary incontinence.

Before the treatment patients used 2.9 pads per day in average; and after treatment, the number of pads used per day was decreased to 0.4±0.6 (p=0.001). The mean UDI-6 score was initially 38.7±15.1; and after treatment, UDI score declined to 6.9±7.0 and the difference was statically significant (p=0.001). Similarly, pre-treatment IIQ-7 score was 42.6±23.8; and after treatment, IIQ-7 score was decreased to 7.0±6.9 (p=0.001). Moreover, number of sexual intercourses per month was significantly increased after the treatment of UI (3.3/month vs. 5.2/month, p=0.001). Pre-treatment FSFI score was 18.9 in average; and after UI was treated, FSFI score was increased to 24.9 (p=0.001). Moreover, we found significant improvement in IIEF score of partners, after the treatment of female UI (18.5 vs. 22.5, p=0.001) (Table 2).

Discussion

Sexual dysfunction and UI are two different conditions; however, many recent studies had demonstrated that UI conversely affected on sexual function. Haylen et al.,[11] had stated that 25% of women were faced with involuntary leakage of urine during penetration, sexual activity and orgasm. Nilsson et al.,[12] investigated the sexual status of 147 women and 75% of women with IU (including SUI, UUI and MUI) reported lower desire and satisfaction, anxiety of odor and coital UI, and higher orgasmic problems. In another study, Bekker et al.,[6] found significantly lower frequency of intercourse and more communication problems in women with UI.

Improvement of sexual status in women after the treatment of UI is a controversial topic. Kim et al.,[13] have showed that there were no significant differences in the FSFI domain scores before and after treatment of SUI.In contrast, Simsek et al.,[14] followed the sexual functions of 81 sexually active female patients who were treated for SUI for 12 months. They have found significant improvements in the FSFI score of the female patients. In another study,

Table 2. Comparison of the values before and after treatment

	Before Treatment	After Treatment	p
Number of pads used per day*	2.9±1.6	0.4±0.6	0.001
UDI-6*	38.7±15.1	6.9±7.0	0.001
IIQ-7*	42.6±23.8	7.0±6.9	0.001
Number of intercourses per month*	3.3±1.9	5.2±2.5	0.001
FSFI*	18.9±4.7	24.9±4.0	0.001
Partner's IIEF*	18.5±5.7	22.5±3.9	0.001

*Mean±Standard deviation; UDI-6: Urinary Distress Inventory; IIQ-7: Incontinence Impact Questionnaire; FSFI: Female Sexual Function Index; IIEF: International Index of Erectile Function.

Roger et al.,[15] treated 201 women with UUI and stated that women had better sexual status after being effectively treated for UUI. In the present study, we achieved significantly higher FSFI scores after the improvement of UI (24.9 vs. 18.9, p<0.001) and our study suggested that treatment of UI improves sexual function in women.

UI is also associated with sexual dysfunction of the partners of the female patients. Keles et al.,[16] compared sexual status of male partners of 30 sexually active female patients and 30 healthy volunteers. They found significantly better IIEF scores in female patients' partners without UI (21.7 vs. 18, p=0.005). Similarly, Narin et al.,[17] have demonstrated that successful treatment of SUI had a positive effect on partners' sexual life. In another study by Margareta et al.,[18] including 109 female patients with UI, showed that healing of UI was related with improvement in male sexual function. In accordance with the literature, we obtained significantly higher IIEF scores (22.5 vs. 18.5, p<0.001) in female patients' partners after the treatment of female UI.

The UDI-6 and IIQ-7 forms are the most used questionnaires to evaluate patient's quality of life after incontinence treatment. Aygul et al.,[19] treated 92 patients with SUI and MUI, and they have found significantly higher UDI-6 and IIQ-7 scores following treatment of UI. In a different study, Lai et al.,[20] demonstrated that UDI-6 and IIQ-7 scores were decreased after the successful treatment of UUI. Similarly, we have achieved significantly lower UDI-6 and IIQ-7 scores in the 3rd month of treatment. (38.7 vs. 6.9, p<0.001 and 42.6 vs. 7.0, p<0.001, respectively).

The present study has some limitations. First, study had a relatively small patient sample size with short term follow-up results. Secondly, study sample has a heterogeneous nature which included patients with UUI, SUI and MUI. Finally, we did not focus on the effect of treatment type on sexual dysfunction in female patients and their partners.

Our findings have showed that, treatment of UI in women significantly improved quality of life and sexual function in women and sexual activity in their partners. The results of our study must be supported by further randomized prospective studies with larger patient volume and longer follow-up outcomes.

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References

1. Gajewski JB, Schurch B, Hamid R, Averbeck M, Sakakibara R, Agrò EF, et al. An International Continence Society (ICS) report on the terminology for adult neurogenic lower urinary tract dysfunction (ANLUTD). Neurourol Urodyn 2018;37:1152–61.
2. Biswas B, Bhattacharyya A, Dasgupta A, Karmakar A, Mallick N, Sembiah S. Urinary incontinence, its risk factors, and quality of life: A study among women aged 50 years and above in a rural health facility of west bengal. J Midlife Health 2017;8:130–6.
3. Nilsson M, Lalos O, Lindkvist H, Lalos A. How do urinary incontinence and urgency affect women's sexual life? Acta Obstet Gynecol Scand 2011;90:621–8. [CrossRef]
4. Bicudo-Fürst MC, Borba Leite PH, Araújo Glina FP, Baccaglini W, de Carvalho Fürst RV, Bezerra CA, et al. Female sexual function following surgical treatment of stress urinary incontinence: Systematic review and meta-analysis. Sex Med Rev 2018;6:224–33. [CrossRef]
5. Duralde ER, Rowen TS. Urinary incontinence and associated female sexual dysfunction. Sex Med Rev 2017;5:470–85. [CrossRef]
6. Bekker MD, Beck JJ, Putter H, van Driel MF, Pelger RC, Weijmar Schultz WC, et al. Sexual experiences of men with incontinent partners. J Sex Med 2010;7:1877–82. [CrossRef]
7. Melville JL, Delaney K, Newton K, Katon W. Incontinence severity and major depression in incontinent women. Obstet Gynecol 2005;106:585–92. [CrossRef]
8. Hunskaar S, Arnold EP, Burgio K, Diokno AC, Herzog AR, Mallett VT. Epidemiology and natural history of urinary incontinence. Int Urogynecol J Pelvic Floor Dysfunct 2000;11:301–19.
9. Stamatiou K, Margariti M, Nousi E, Mistrioti D, Lacroix R, Saridi M. Female sexual dysfunction (FSD) in women health care workers. Mater Sociomed 2016;28:178–82. [CrossRef]
10. Rosen RC, Riley A, Wagner G, Osterloh IH, Kirkpatrick J, Mishra A. The international index of erectile function (IIEF): A multidimensional scale for assessment of erectile dysfunction. Urology 1997;49:822–30. [CrossRef]
11. Haylen BT, de Ridder D, Freeman RM, Swift SE, Berghmans B, Lee J, et al. An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic floor dysfunction. Neurourol Urodyn 2010;29:4–20. [CrossRef]
12. Nilsson M, Lalos O, Lindkvist H, Lalos A. Impact of female urinary incontinence and urgency on women's and their partners' sexual life. Neurourol Urodyn 2011;30:1276–80. [CrossRef]
13. Kim DY, Choi JD. Change of sexual function after midurethral sling procedure for stress urinary incontinence. Int J Urol 2008;15:716–9. [CrossRef]
14. Simsek A, Ozgor F, Yuksel B, Kucuktopcu O, Kirecci SL, Toptas M, et al. Female sexual function after transobturator tape in women with urodynamic stress urinary incontinence. Springerplus 2014;3:570. [CrossRef]

15. Rogers R, Bachmann G, Jumadilova Z, Sun F, Morrow JD, Guan Z, et al. Efficacy of tolterodine on overactive bladder symptoms and sexual and emotional quality of life in sexually active women. Int Urogynecol J Pelvic Floor Dysfunct 2008;19:1551–7. [CrossRef]
16. Keles MO, Caliskan S, Gokce AM, Gunes M. Assessment of sexual functions in partners of women with complaints of urinary incontinence. Int Braz J Urol 2016;42:999–1004. [CrossRef]
17. Narin R, Attar R, Narin MA, Koyuncu D, Yencilek E. Impact of transobturator tape procedure on female and their partner sexual function: It improves sexual function of couples. Arch Gynecol Obstet 2014;290:913–7. [CrossRef]
18. Nilsson M, Lalos A, Lalos O. The impact of female urinary incontinence and urgency on quality of life and partner relationship. Neurourol Urodyn 2009;28:976–81. [CrossRef]
19. Aygul C, Özyurt R, Şık BA, Kumbasar S. Evaluation of the efficacy of transobturator tape surgery in the treatment of stress urinary incontinence using urodynamics and questionnaires. Turk J Obstet Gynecol 2016;13:172–7. [CrossRef]
20. Lai HH, Rawal A, Shen B, Vetter J. The relationship between anxiety and overactive bladder or urinary incontinence symptoms in the clinical population. Urology 2016;98:50–7. [CrossRef]