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Original Article

Effects of kegel exercises applied to urinary ıncontinence on sexual satisfaction

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Abstract: This study is a semi-experimental study in order to explore the effect of Kegel exercises upon sexual satisfaction among the women who suffered from urinary incontinence. The sample of the study is consisted of 30 women who are diagnosed with urinary incontinence. Illustrative data form, GRISS were initially applied to women, kegel exercises were taught to women by the researcher and after 3 months of application were filled with scales. All of the women who were studied are at least primary school graduate and are married. Before the application it was seen that the women had problems in GRISS satisfaction, touch, vaginismus and anorgasmia sub groups. Yet, after the application its seen that the sexual satisfaction raised in these sub groups except vaginismus. A very important positive change was experienced in satisfaction and anorgasmia. A rise in sexual satisfaction was also detected after the application on thickness and avoidance sub groups and on total points. As a result of the study, it was detected that kegel exercises had positive effect on womens sexual satisfaction. However, performing of long term and broader sample studies shouldbe offered.

Keywords: Urinary incontinence, kegel exercises, sexual satisfaction, nursing

Introduction

Urinary incontinence

In the last updated report of International Continence Society (ICS); urinary incontinence (UI) is a medical and social disorder that is defined as any involuntary leakage of urine, causes many psychological problems-from embarrassment to depression- despite not being a life-threatening condition and therefore results in reduced self-confidence, social isolation and deteriorated quality of life. In addition; daily domestic activities, professional activities and sexual lives of individuals who suffer from incontinence problem are affected negatively, too [1, 2].

Forms, prevalence and ıncidence of urinary incontinence

Some of the incontinence forms defined by ICS are stress incontinence, reflex/urge incontinence, mixed incontinence, functional incontinence, postural incontinence, nocturnal enuresis, insensible incontinence and coital incontinence. Stress urinary incontinence is the most common form (50-70%) [2-4].

Although UI prevalence increases with age and includes all age groups; UI affects women more. Generally; it is stated in the literature that urinary incontinence prevalence among women varies between 4.8% and 58.4% but the exact ratio is unknown [5, 6]. In a study done in Mexico, it is reported that incontinence prevalence ranges between 26.2% and 35% [7] and in another study done in Saudi Arabia found incontinence prevalence as 29% [8]. The results of the study of Özerdoğan et al. [9] conducted with 625 women aged ≥20 years pointed out that urinary incontinence prevalence is 26%. Again; some relevant studies found urinary incontinence prevalence as 27% [10], 33.7% [11] and 45.3% [12].

Risk factors for urinary incontinence

One of the most important risk factors for urinary incontinence is gender. The fact that

women have such anatomic differences as short urethra and physiological events such as pregnancy and birth occur in women's body causes that UI is seen twice and three times more among women as compared with men. However; pelvic floor muscles weaken with age thus leading to reduced gender differences [5, 13-15]. Other risk factors which are related to pregnancy and birth are number of pregnancies, births, type of delivery, birth complications, assisted delivery, amount of weight gain during pregnancy and birth weight of neonates [14, 16]. Other possible risk factors are overweight, cigarette smoking and alcohol use, constipation, menopause and hysterectomy [15, 17, 18].

Treatment inurinary incontinence

Conservative approaches still remain the most important methods for the current treatment modalities of urinary incontinence. In the clinical practice guideline of Agency for Health Care Policy and Research for individuals with urinary incontinence; it is recommended that the method that is the least invasive and the least dangerous should be the first choice of treatment for the patients. The most practiced one among the conservative treatments is pelvic floor muscle exercises. These exercises, also known as Kegel Exercises, are designed in order to strengthen pelvic floor muscles and thus to improve urethral sphincter function. Kegel Exercises are done particularly for strengthening PFM in case of stress incontinence [2].

Urinary incontinence and sexuality

Pelvic floor muscles play important roles in sexual arousal, sexual response and sexual satisfaction of women. Hypertonic or hypotonic structure of these muscles may lead to problems during sexual intercourse or orgasm and urinary incontinence [19, 20].

According to Önem et al.; UI and pelvic organ prolapsus are among the main risk factors that cause women sexual dysfunction. In the results of the relevant studies; it was detected that urinary system signs led to pain and sexual arousal problems during sexual intercourse and therefore affected sexual functions of women negatively [21].

The result of the study of Coyne et al. [22] on UI and sexual dysfunction reported that women without incontinence problem had more sexual intercourses than those with incontinence problem (91%-50%) and women with incontinence problem emphasized that their sexual desire decreased due to incontinence, most of them were embarrassed owing to incontinence and their body image reduced. According to the results of the study of Beji et al. [23]; it was indicated that sexual lives of 43.7% of the women was affected by UI problem, used different methods in case that their partners could notice UI problem and tried to delay sexual intercourse. The study of Aslan et al. [24], too, detected that there was an evident decrease in the scores of Female Sexual Function Index of women with UI. Giuseppe et al. [25] stated that among the women who suffered from UI and were treated with transvaginal electrical stimulation; 37 women who had incontinence complaints and 23 women who had sexual dysfunction showed considerable improvements in sexual lives and after the treatment.

Urinary incontinence and nursing

As a result; it is a fact accepted by everybody that urinary incontinence negatively affects women's lives from every aspect particularly from sexual aspect. However; since people with UI have difficulty expressing this problem, either no treatment is provided for them or they are too late for the treatment. Untreated incontinence problem negatively affects women's whole lives including their sexual lives and decreases their quality of life. Therefore; it will make significant contributions to the development of women's health to prevent urinary incontinence through preventive measures before it occurs and to provide appropriate medical interventions through early detection methods. One of the most important health care personnel to make these contributions is nurses. That most of the nurses are women and they are employed at every kind of institutions that provide health care services will facilitate their access to women. For the prevention and treatment of UI; particularly; nurses who were trained about UI and work at urogynecology units the number of which has recently been increasing day by day-play an critical roles in the multidisciplinary health care team thanks to their clinician, counselor, trainer, researcher, supporter and coordinator roles and thus provide crucial contributions in preventing and solving UI problem which deteriorates women's quality of life [5, 26-28].

Materials method

The current research was a semi-experimental study in order to explore the effect of Kegel exercises upon sexual satisfaction among the women who suffered from urinary incontinence. The population of the study consisted of the women who had urinary incontinence complaint and attended urogynecology polyclinic of Dr. Zekai Tahir Burak Women's Health, Training and Research Hospital between the 1st of October and the 1st of December, 2009. Formula of theratio obtained from two independent groups or sample size formula of two proportions (significance test for difference of two proportions) were used in order to calculate sample size and to determine the number of the subjects to be recruited for intervention group and control group [29].

In line with the data presented in the literature; it was found out that the improvement in the group in which pelvic floor muscle exercises were done was 85% while the improvement in the control group was 52% [30]. These data were employed for the estimation of sample size. According to the formula and α=0.05, β 5% and 80% power; it was established that a total of 54 women (27 women being assigned to intervention group and 27 women being assigned to control group) would be sufficient for the sample but the study was planned to include 30 women for each group and a total of 60 women were recruited for the study. Yet; women in the control group who were supposed to hand in *Golombok Rust*Inventory of *Sexual Satisfaction after three months did not bring the forms of the inventory back. Therefore; each woman was called but they declined to answer questions on the phone one by one and told instead that there were no changes in their general situations. Hence the data of the control group were not assessed.*

In the current study; the researcher employed a Descriptive Data Collection Form which was designed based on the literature by the researcher, The Golombok Rust Inventory of Sexual Satisfaction (GRISS) and a training guide which was also designed by the researcher in accordance with the literature in order to use for the training of the patients and which included pelvic floor muscle exercises. Turkish standardization studies of The Golombok Rust Inventory of Sexual Satisfaction (GRISS) which was developed by Rust and Golombok was done by Tuğrul et al. [31]. It is a 5 point Likert type inventory and consists of 7 subscales and 28 questions. High scores indicate an impaired quality in sexual functions and sexual relations.

Data collection

After the participants who were diagnosed with UI were thoroughly instructed in the aims and details of the study and informed consents were obtained; they were included in the study. After questionnaire forms and the inventory were administered to the women; the researcher provided the women with explanations about the place of urogynecological organs, Kegel exercises, how to do Kegel exercises, its benefits and important points when Kegel exercises were practiced through the training guide. Afterwards; inventory forms which contained the name and phone number of the researcher to be used when necessary and which were to be filled in three months later were distributed to the women. The women were called every two weeks in order to find out whether or not they had any problems with the practice of the exercises and if any these problems were solved.

Statistical analyses

At the end of the three-month Kegel exercise practice (implementation phase), inventory forms were gathered by the researcher from the women, the data were coded and evaluated using SPSS 12 package program. Normal distribution tests of the scores and data obtained from the study were made with Shapiro-Wilks test. Because the data and scores did not follow a normal distribution; inter-group comparisons were made using Manwithney-u (Z) test. Intra-group comparisons (before and after implementation) were made using Wilcoxon Signed test. Results were considered significant at $P<0.05$. $P<0.05$ indicated significance whereas $P>0.05$ did not indicate significance.

Ethical consideration of the study

The ethical suitability of the research was approved by Ethical Council of Dr. Zekai Tahir Burak Women's Health, Training and Research Hospital (with the decision dated and numbered 05-11-2008 and 2008/5). In order to

Table 1. Distribution of the women according to their descriptive and fertility characteristics

Features	n	%
Education		
Elementary School	18	60.0
Secondary and Higher	12	40.0
Working Status		
Working	7	23.3
Not Working	23	76.7
Economical Situation		
Fine and Medium	27	90.0
Bad	3	10.0
Age		
34 and Under	9	30.0
34 and Higher	21	70.0
Last Delivery Method		
Vaginal	22	73.3
Cesarean Section	8	26.7
Episiotomy		
Yes	25	83.3
No	5	16.7
Average Age	39.8±8	
Number of Pregnancy	4.3±2.4	
Number of Birth	3.00±1.7	

conduct the study at the hospital; the necessary official permissions from the training, planning and coordination committee of the hospital management were obtained (with the decision dated and numbered 28-01-2009 and 2009/4).

Results

Distribution of the participant women according to some of their descriptive was presented in **Table 1**. It was found out that 60% of the women graduated from primary school, 76.7% of them did not work (unemployed) and 90.0% of them had a satisfactory and moderate level of economic status. It was seen that 70% of the participant women were aged ≥35 years, 73.3% of them had their last birth as vaginal delivery and 83.3% had episiotomy, average age was 39.8 years, average number of pregnancies was 4.3 and average number of births was 3.0 (**Table 1**).

When urinary incontinence causes of the participant women were examined; it was seen that coughing and sneezing ranked first (93.3%, 93.3%). Sexual intercourse was also mentioned by the women (43.3%) as a cause of urinary incontinence. When the women were asked about their experiences owing to urinary incontinence; it was expressed that women feared about unpleasant urine smell most (60.0%) and most of them abstained from sexual intercourse due to urinary incontinence (43.3%) (**Table 2**).

Before the implementation; it was found out that total scores of those who were ≥35 years, had ≥4 pregnancies and gave ≥births and had their last births as vaginal delivery were high. Sexual functions of this group were more problematic as compared to those who were ≤35 years, had ≤3 pregnancies and gave ≤births and had their last births as cesarean delivery. It was expected that sexual functions of those who had episiotomy during delivery would be more problematic as compared to those who did not have episiotomy during delivery but the result was vice versa and sexual functions of those who had episiotomy during delivery were less problematic than those who did not have episiotomy during delivery (Total score for those deliveries with episiotomy was 38.0 while total score for those deliveries without episiotomy was 39.0). Yet; these differences were statistically not significant except for the number of births ($P>0.05$). After the implementation; there was a decrease in the scores; which meant that an improvement occurred. However; it was observed that there was no change among those who gave ≥4 births and although it was minimal there was an increase in sexual dysfunction among those aged ≥35 years. Besides; it was discovered that after the implementation; there was statistically significant difference between those whose number of births was ≤3 and those whose number of births was ≥4 ($P<0.05$). The group in which the biggest progress in terms of sexual functions was observed was those who gave birth without episiotomy.

It was noted that before and after the implementation there were statistically significant differences between the scores of those who were aged ≥35 years, had ≥4 pregnancies, gave ≤3 births, gave last birth as vaginal delivery and who had episiotomy in the last delivery ($P<0.05$) (**Table 3**).

Table 2. Distribution of the women according to their urinary incontinence characteristics

Characteristics	n	%
Causes of urinary incontinence		
Coughing	28	93.3
Sneezing	28	93.3
Laughing	20	66.7
Getting up from bed	14	46.7
Climbing stairs	7	23.3
Lifting something heavy (shopping bags. chairs etc.)	11	36.7
Physical Activities (exercises)	11	36.7
Doing something hastily	18	60.0
Sexual intercourse	13	43.3
Experiences owing to urinary incontinence		
Fear of unpleasant urine smell	18	60.0
Fear that urine would leak from pads	14	46.7
Abstaining from laughing excessively	13	43.3
Abstaining from lifting something heavy (shopping bags. chairs etc.)	11	36.7
Abstaining from physical activities (exercises)	9	30.0
Abstaining from performing activities of daily living (housework. shopping etc.)	7	23.3
Restricting liquid intake	15	50.0
Abstaining from sexual intercourse	13	43.3

Table 3. Distribution of women's mean total scores obtained from the Golombok Rust Inventory of Sexual Satisfaction (GRISS) pre and post implementation according to age and fecundity characteristics

Characteristics		Golombok Rust Inventory of Sexual Satisfaction		Wilcoxen signed Test	
		Pre-implementation	Post-implementation		
		Means (Min-Max)	Means (Min-Max)	Z	P
Age	≤34 years	36.0 (19.0-59.0)	30.0 (17.0-65.0)	-1.4	0.161
	≥35 years	39.0 (14.0-69.0)	40.0 (13.0-62.0)	-2.19	0.028
	U	75	72.5		
	P	0.377	0.319		
Number of pregnancy	≤3	35.5 (17.0-67.0)	30.5 (17.0-65.0)	-1.425	0.154
	≥4	42.0 (14.0-69.0)	38.0 (13.0-62.0)	-2.436	0.015
	U	90	91.5		
	P	0.446	0.484		
Number of birth	≤3	36.0 (14.0-67.0)	30.0 (13.0-65.0)	-2.29	0.021
	≥4	52.0 (23.0-69.0)	52.0 (23.0-62.0)	-1.60	0.109
	U	50.5	45		
	p	0.046	0.025		
Type of last birth	Vaginal	44.5 (17.0-69.0)	41.5 (17.0-65.0)	-2.15	0.034
	Cesarean	28.0 (14.0-59.0)	27.5 (13.0-51.0)	-1.52	0.128
	U	49.5	47		
	P	0.071	0.054		
Episiotomy	Yes	38.0 (14.0-69.0)	36.0 (13.0-65.0)	-1.918	0.055
	No	39.0 (19.0-59.0)	29.0 (17.0-51.0)	-2.02	0.043
	U	550.676	430.277		
	P	0.676	0.277		

Table 4. Distribution of women's mean scores obtained from the Golombok Rust Inventory of Sexual Satisfaction (GRISS) and its subscales pre and post implementation

Subscales	Pre-implementation	Post-implementation	Wilcoxen signed test	
	Means (Min-Max)	Mean (Min-Max)	Z	p
Infrequency	4.00 (0.00-8.00)	3.50 (00.0-8.00)	-1.078	0.281
Non-communication	4.00 (0.00-8.00)	4 (1.00-8.00)	-1.240	0.215
Female Dissatisfaction	7.00 (0.00-16.00)	5.00 (0.00-13.00)	-1.473	0.141
Female Avoidance	4.00 (0.00-11.00)	3.50 (0.00-9.00)	-2.386	0.017
Female Non-sensuality	6.00 (0.00-12.00)	5.00 (1.00-12.00)	1.123	0.261
Vaginismus	7.00 (0.00-12.00)	7.00 (0.00-11.00)	-0.106	0.915
Anorgasmia	9.00 (0.00-16.00)	6.50 (0.00-16.00)	2.109	0.035
Total	38.50 (14.00-69.00)	34.50 (13.00-65.00)	2.634	0.008

Distribution of women's mean scores obtained from the GRISS and its subscales before and after implementation was demonstrated in **Table 4**.

When the scores women obtained from GRISS before the implementation were examined; it was seen that they obtained high scores (≥5 points) in the subscales of female dissatisfaction, female non-sensuality, vaginismus and anorgasmia; which meant that they underwent sexual problems; but after the implementation there were evident decreases in these subscales except for vaginismus; which meant that women's sexual satisfaction increased. Particularly in dissatisfaction and anorgasmia were important changes and differences. In the scores obtained from subscales of infrequency and female avoidance and in the total scores there were significant decreases after the implementation, too; which meant that women's sexual satisfaction increased. In the scores of non-communication subscale no differences were observed before and after the implementation. After the implementation; female avoidance, anorgasmia scores and total scores significantly decreased as compared with the scores obtained before the implementation and these decreases were statistically significant ($P<0.05$); which indicated that Kegel exercises affected these subscales positively and increased women's sexual satisfaction in terms of total scores.

Discussion

When the literature is investigated; it is reported that incontinence increases with age and prevalence of stress urinary incontinence goes up especially following the age of 35 [13, 15, 32]. According to the results of the study of Sarı [33] done with the women with stress urinary incontinence; it was detected that 76.5% of the women in the experimental group and 94.1% of the women in the control group were aged ≥35 years. In the current study; it was noted that 70% of the participant women were aged ≥35 years (**Table 1**). During pregnancy pollakiuria and urinary incontinence occur and urinary incontinence complaints increase especially during the 3rd trimester [14, 34, 35]. According to the results of the study of Çiftçi [36]; it was reported that prevalence of urinary incontinence was 25.3% among those who did not have pregnancy at all, 37.1% among those who had pregnancy and 79% among those who had ≥5 pregnancies. It is emphasized that high parity as well as the number of the pregnancies are associated with urinary incontinence prevalence and urinary incontinence prevalence was higher among those who gave 1 or morebirths as compared with those who did not give births at all [37]. In the study of Koçak et al. [38] it was detected that average number of births was 3.4. As for the results of the current study; it was noted that women's average number of pregnancies was ≥4 and average number of births was ≥3.

There are proofs that vaginal delivery causes urinary incontinence more than cesarean delivery among women [15, 37]. Functional urethral length, urethral closure pressure and maximum urethral pressure decrease because supportive pelvic facial tissue is damaged during vaginal delivery [39]. In the current study, too, considering the fact that more than half of the women had last delivery as vaginal delivery it

might be argued that these women constituted the risky group for urinary incontinence in terms of type of delivery.

According to the study-results; it was found out that nearly all the women received episiotomy. It is stated that episiotomy performed during delivery is an obstetric trauma and plays an important role in the development of urinary incontinence [40-42]. With this information; since most of the participant women in the current study received episiotomy during delivery; it was suggested that they were under risk for urinary incontinence development; which concurred with the study-findings in the literature (**Table 1**).

When the urinary incontinence causes of the participant women were examined; it was found out that they experienced urinary incontinence mostly due to coughing, sneezing and laughing. In addition; sexual intercourse was also mentioned by the majority of the women as a cause of urinary incontinence (**Table 2**). The study of Güler, too, [43] identified that 41.9% of the women leaked urine more than once in a week due to coughing; which was the highest ratio among the causes of urinary incontinence. When the women were asked about their experiences caused by urinary incontinence; it was found out that women feared about unpleasant urine smell most, restricted liquid intake and abstained from laughing and sexual intercourse. The study of Beji et al. [23] reported too that sexual lives of 43.7% of the participant women were negatively affected due to urinary incontinence problem during sexual intercourse and thus their sexual satisfaction reduced. In addition; it was also noted that women tried to hide urinary incontinence problem as much as possible in case that their partners could notice it (**Table 2**).

When **Table 3** was examined; it was apparent that evident decreases in the scores of those aged ≤34 were seen; which meant that there were improvements in their sexual functions whereas a slight impairment occurred in sexual functions of those aged ≥35; which may be explained by the possibility that with advancing age incontinence problem gets worse more and more. In the study of Özkan et al., too, [44]; it was detected that lubrication, orgasm and satisfaction scores of women aged ≥30 were lower as compared with those aged 21-29 and the difference between these age groups was significant. Likewise; the study of Çayan et al. [45] reported that advancing age affected sexual life negatively. It was discovered that after the implementation; there were decreases in the scores of those who had ≤3 and ≥4 pregnancies and gave fewer births; which pointed out improvements in the sexual functions whereas no changes and differences were seen in those whose birth number was ≥4. The fact that improvements in sexual functions among those whose number of pregnancy and birth was ≤3 were more evident and that no changes were seen in those whose number of birth was ≥4 might be explained by the possibility that large number of pregnancies and births caused loosening of pelvic supportive systems. According to study-results of Tunç [46]; it was concluded that women who had pregnancies more than once underwent more problems and the increasing number of pregnancy and advancing age affected sexual life negatively. The study of Özerdoğan et al. [47] reported that there were no differences between those who never gave birth and those who gave 3 births in terms of prevalence of sexual dysfunction whereas prevalence of sexual dysfunction increased considerably among those who gave ≥4 births and those who had vaginal delivery had more sexual dysfunctions than those who had cesarean delivery.

According to the results of the study of Çayan et al. [45], too, it was detected that high number of pregnancies affected sexual life negatively. The study of Arslan et al. [48] argued that type of delivery, laceration and episiotomy were crucial factors that may lead to postpartum dyspareunia. The study of Özerdoğan et al. [47] pointed out that sexual dysfunction occurred more among those who gave birth with vaginal delivery than those who gave birth with cesarean delivery. In the current study; total scores of those who gave last birth with vaginal delivery were high before the implementation; which meant that sexual functions of this group were more problematic than those who gave birth with cesarean delivery. After the implementation; scores of both groups decreased; which meant that their sexual functions improved. The most evident improvement occurred in those who had vaginal delivery with episiotomy (**Table 3**).

Distribution of participant women's mean scores obtained from the GRISS and its subscales before and after implementation was demonstrated in **Table 4**. Since high scores (≥5 points) indicated sexual dysfunction in the subscales; it was suggested that there were sexual dysfunctions before the implementation in terms of female dissatisfaction, female non-sensuality, vaginismus and anorgasmia subscales. Therefore; it might be concluded that women experienced problems of satisfaction with the sexual intercourse, avoided from touching their partners, underwent some distresses during sexual intercourse and did not reach orgasm. In the study of Bekker et al. [48] in which sexual functions of the partners of the women with urinary incontinence were assessed using GRISS; it was also reported that women with urinary incontinence showed more reduced sexual functions, engaged in sexual intercourse less, underwent more communication problems, abstained from sexual intercourse more often than those without urinary incontinence while all sexual functions of the male partners whose female partners suffered from incontinence decreased, engaged in sexual intercourse less, were less satisfied with sexual intercourse, underwent erectile dysfunction more and the difference between was significant. According to the study results of Salonia et al. [49] in which the correlation between incontinence and sexual dysfunction was assessed; it was found out that 46% of the women had sexual dysfunction, 34% of them experienced decreased sexual desire, 23% of them underwent sexual arousal dysfunction, 11% of them could not achieve orgasm and 44% of them had pain. When the scores of the women with incontinence and those without incontinence were examined; sexual desire, lubrication and sexual satisfaction were considerably lower but pain complaints were higher among those women with incontinence as compared with those healthy women.

After the implementation it was seen that there were evident decreases in the scores of infrequency, female dissatisfaction, female avoidance, female non-sensuality and anorgasmia subscales; which meant that sexual satisfaction increased. Differences particularly in female dissatisfaction and anorgasmia were remarkable. Thus it might be concluded that women who avoided from sexual intercourse, toughing partner and could not achieve orgasm which remains in physiological cycle of sexual intercourse- got rid of these problems after the implementation and reached orgasm.

When subscale scores and mean total scores were assessed before and after implementation; it was noted that scores of female avoidance, anorgasmia and total scores reduced significantly as compared with pre-implementation phase, the difference between was statistically significant, women's sexual functions improved in the scores of these subscales and total scores and their sexual satisfaction increased ($P<0.05$). Although it was detected that there were decreases in other subscales (infrequency, female dissatisfaction, female non-sensuality, vaginismus) and increases in sexual satisfaction after the implementation; these decreases were statistically found to be insignificant ($P>0.05$) (**Table 4**).

In light of the study results; it was found out that urinary incontinence problem affected women's sexual lives negatively; women had difficulty expressing this problem and Kegel exercises practiced produced positive effects and positive contributions to the improvement of sexual satisfaction of women. Therefore; it was recommended that:

- Each woman who attends health institutions should be taught pelvic floor muscle exercises and programs to check whether or not they practice these exercises regularly should be designed;

- Especially for those health care personnel who work at sexual health departments; on-job-trainings should be held in order to create awareness about the effects of urinary incontinence upon sexual life and social life;

- History of sexual life of each patient diagnosed with urinary incontinence should be obtained and necessary interventions should be made to initiate the necessary treatments;

- Since it has been proved that urinary incontinence problem has affected women's sexual lives; qualitative and quantitative studies should be undertaken in order to explore sexual function and satisfaction of partners of these women;

- Studies which should include larger examples and continue ≥6 months should be done in

order to assess the effects of pelvic floor muscle exercises upon sexual satisfaction;

● Qualitative studies should be undertaken in order to explore the effects of urinary incontinence upon sexual life and to find women's *strategies* for *coping* with urinary *incontinence*.

Disclosure of conflict of interest

None.

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