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Research Article

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ANALYZING THE RELATIONSHIP BETWEEN GENITAL HYGIENE BEHAVIORS IN WOMEN AND URINARY TRACT INFECTION IN ANY PERIOD OF LIFE

KADINLARDA GENİTAL HİJYEN DAVRANIŞLARI İLE YAŞAMININ HERHANGİ BİR DÖNEMİNDE İDRAR YOLU ENFEKSİYONU GEÇİRME ARASINDAKİ İLİŞKİNİN İNCELENMESİ

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Öz

Amaç: Bu çalışmada yaşamının herhangi bir döneminde İdrar yolu enfeksiyonu (İYE) geçirme ile genital hijyen davranışları arası ilişkiyi değerlendirme amaçlanmıştır.
Materyal ve Metot: Çalışma tek merkezli, tanımlayıcı niteliktedir. Şişli Hamidiye Etfal Araştırma Hastanesi Aile Hekimliği Polikliniği'ne başvuran kadın hastalardan katılmayı kabul edenler alınmıştır. Katılımcıların sosyodemografik özellikleri ve genital hijyen davranışlarını sorgulayan 36 sorudan oluşan bir anket yüz yüze uygulanmıştır.
Bulgular: Çalışmaya 142 hasta dahil edilmiştir. Yaş ortalaması 38,5±14,2 (min=8, maks=70). Herhangi bir zamanda İYE geçiren 104 (%73,2) kişi idi. Yaşamının herhangi bir döneminde İYE geçirme ile sosyodemografik özellikler arasındaki ilişki saptanmamıştır(p≥0,05). Kadın Hastalıkları ve doğum bilgileri sorgulanmasında ise gebelik sayısı, doğum sayısı, en son yaptığı doğum şekli ve şu an menopozda olma ile herhangi bir zamanda İYE geçirme arasında ilişki saptanmazken(p≥0,05); jinekolojik operasyon geçirme ile ilişki saptanmıştır(p=0,038). Genital bölge temizliğini arkadan öne yapmak ile herhangi bir döneminde İYE geçirme arasında anlamlı ilişkili saptandı (p=0,041).
Sonuç: Sonuç olarak; genital bölge temizliğini arkadan öne yapmak, jinekolojik operasyon geçirmiş olmak yaşamının herhangi bir döneminde İYE arasında ilişki saptanmıştır. Doğru hijyen eğitiminin düzenlenmesi ve toplumun bilinçlendirilmesinin İYE'yi azaltacağını düşünüyoruz.

Anahtar Kelimeler: Kadın ürogenital hastalıkları, hijyen, enfeksiyon kontrolü.

Abstract

Objectives: In this study, it is aimed to evaluate the relationship between urinary tract infection [UTI] and genital hygiene behaviors in any period of life.
Materials and Methods: The study is single-center and descriptive. All women agreed to participate in the study from the patients admitted to the Health Sciences University Şişli Hamidiye Etfal Research Hospital Family Practice Clinic any reason is planned to be included in the survey. A questionnaire consisting of 36 questions questioning the participants' socio-demographic and genital hygiene behaviors was applied face to face.
Results: 142 patients were included in the study. The average age is 38.5 ± 14.2 (min=18, max=70). It was 104 (%73,2) people who had UTI at any time. There was no relation between socio-demographic features and UTI at any time (p≥0.05). In the questioning of Obstetrics and Gynecology information, there was no relationship between the number of pregnancies, the number of births, the most recent birth type, and currently being in menopause and UTI at any time (p≥0.05), but a relationship with the gynecological operation was found (p=0.038). There was a significant correlation between performing genital area cleaning from the back to the front and transmitting UTI in any period (p=0.041).
Conclusion: As a result, a relationship was found between performing genital area cleaning from the back to the front, having a gynecological operation, and transmitting UTI at any time in life. We think that organizing the right hygiene education and increase the awareness of society will decrease UTI.

Keywords: Female urogenital diseases, infection control, hygiene.

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Introduction

Urinary tract infection (UTI) is an inflammation of the urinary system, which can be asymptomatic or causes death due to sepsis. Nutritional disorders, metabolic diseases, long-term use of antibiotics, low socio-economic status, poor hygienic conditions, multiple and frequent pregnancies, births and miscarriages, sickness of hormonal balance, and life stages where body resistance decreases, leads to infections.[1] 40-50% of women experience symptomatic UTI at any time in their lives; recurrent infection develops in 20% within six months.[2] The reason is the anatomical features of women.[3,4] Other than that, personal hygiene behaviors, traditional habits, or wrong practices (pad that is not changed frequently in menstruation, cleaning the vagina after sexual intercourse, cleaning after toilet, etc.) establish a ground for UTI. [4] Since it is the first step to comply with hygiene rules in preventing infections, it is essential to maintain genital hygiene to avoid UTIs. Lack of handwashing habits, not using proper underwear, not correctly cleaning the genital area after toilet, not paying enough attention to menstrual hygiene, and improper applications such as vaginal douching may cause general and genital hygiene disorders. The understanding focusing on the protection and development of health rather than the treatment of diseases is becoming widespread all over the world, and its healthcare professionals' duty to teach and gain correct genital hygiene behaviors to individuals.[5,6] The perineal region cleaning habits of women are essential in protecting them from urogenital region infections. This study, it is aimed to evaluate the relationship between UTI and genital hygiene behaviors.

Materials and Methods

The study is single-center, descriptive. All women agreed to participate in the study from the patients admitted to the Health Sciences University Şişli Hamidiye Etfal Health Practice and Research Hospital Family Practice Clinic between March 10, 2018, and May 10, 2018, any reason is planned to be included in the survey. Patients with known congenital urinary tract pathology who were treated for urogenital complications due to chronic diseases were unincluded. A questionnaire consisting of 36 questions questioning the participants' socio-demographic and genital hygiene behaviors was applied face to face. Then, the participants were divided into groups that were UTI-impervious at any time in their life, and their sociodemographic characteristics, gynecology and birth information, and genital hygiene behaviors were compared. Approval was obtained from the local ethics committee. Besides, SPSS 15.0 software was used for statistical analysis. While evaluating the study data, the chi-square test was used to compare qualitative data and descriptive statistical methods (Mean, Standard deviation, frequency). The statistical alpha significance level was accepted as $p < 0.05$.

Results

142 patients were included in the study. The average age is 40.68 ± 14.20 (Minimum = 18 Maximum = 70). Most of the participants were married (n:83; 58.50%). Table 1 shows the sociodemographic characteristics of the participants; those with a high school or higher education level were 49.30% (n = 70). The frequency of housewives was 57% (n: 81). Non-smokers constituted 67.60% (n = 96) of the group and those who did not use alcohol constituted 81% (n = 115). Among the participants, there were 80 (56.30%) people without chronic disease. The number of people who had the gynecological operation was 28.90% (n = 41). It was 104 (73.20%) people who had UTI at any time. At the time of application, there were 44 (31.00%) people with UTI. People complaining of urinary incontinence were 59 (41.50%).

Obstetrics and birth information of the participants are given in Table 2; the average number of pregnancies was 2.93±2.64. The number of people with active sexual life was 113 (79.60%).

There were 104 (73.20%) people who had UTI in any period of their life. When the relationship between UTI and socio-demographic characteristics was examined in any period of life, no significant link was found between age, education, income, employment status, smoking, and alcohol use, and UTI at any time.

In the questioning of Obstetrics and Gynecology, the number of pregnancies, the number of births, the most recent delivery type, the presence of active sexual life, and currently no relation between being in menopause and transmitting a UTI at any time of life, and having a gynecological operation There was a relationship ($p = 0.038$).

The genital hygiene behaviors of the participants and the relationship between UTI at any time in their life are shown in Table 3. A significant correlation was found between performing genital area cleaning from the back to the front and having UTI in any period ($p = 0.041$).

The number of participants in menopause was 51 (35.91%). The relationship between menopause period and pre-toilet hand wash, use of non-pad materials, frequency of changing underwear, underwear washing style, sitting and bathing, and urinary incontinence were found to be significant ($p = 0.015$, $p<0.001$, $p<0.001$, $p<0.001$, $p<0.001$, $p<0.001$, $p<0.001$). Those in menopause had less frequent hand washing before the toilet, higher rates of using non-pad materials, less regular changing underwear, higher frequencies of sitting and bathing, higher urinary incontinence rates. And all of them were washing their underwear by hand.

Table 1. Evaluation of Participants' Socio-Demographic Features

		n	%
Education Level	Secondary school and below	72	50.70
	High school and above	70	49.30
Occupation	Housewife	81	57.00
	Working out of home	61	43.00
Marital Status	Married	83	58.50
	Single	59	41.50
Alcohol	Yes	27	19.00
	No	115	81.00
Smoking	Yes	46	32.40
	No	96	67.60
Chronic Illness	Yes	62	43.70
	No	80	56.30

Table 2. Profile, gynecology, and birth information of the participants

		n(142)	%
Gynecological Operation	Yes	41	28.90
	No	101	71.10
UTI At Any Time	Yes	104	73.20
	No	38	26.80
Urinary Incontinence	Yes	59	41.50
	No	83	58.50
The Menarch Status	Reproductive period	40	45.50
	Postmenopause	48	54.50
Last Form Of Birth	Normal spontaneous birth	61	69.30
	Cesarean Section	27	30.70
Pregnancy Number *	Mean±Standard Deviation	2.93 ± 2.64	
Number Of Birth **	Mean±Standard Deviation	2.20 ± 2.13	

*: Non-Virgos (n: 113) were taken. **: Those who gave birth (n: 88) were taken.

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Table 3. UTI and Genital Hygiene Behavior

UTI At Any Time								
		Yes (n=104)		No (n=38)		Total		P
		n	%	n	%	n	%	
Having a gynecological operation	Yes	35	85.40	6	14.60	41	*28.90*	*0,038*
	No	69	68.30	32	31.70	101	71.10	
Hand wash before toilet	Yes	62	71.30	25	28.70	87	61.30	0.504
	No	42	76.40	13	23.60	55	38.70	
Urinary incontinence	Yes	46	44.20	13	34.20	59	41.50	0.283
	No	58	55.80	25	65.80	83	58.50	
Genital area cleaning	BTF	24	88.90	3	11.10	*27*	19.01	*0.041*
	FTB	80	69,90	35	30.40	115	80.98	
Toilet paper	Yes	97	72.90	36	27.10	133	93.70	0.751
	No	7	77.80	2	22.20	9	6.30	
Hygienic product	Yes	24	70.60	10	29.40	34	23.90	0.689
	No	80	74.10	28	25.90	108	76.10	
Daily ped	Yes	53	72.60	20	27.10	73	51.40	0.860
	No	51	73.90	18	26.10	69	48.60	
Non-pad material	Yes	29	65.90	15	34.10	44	31.00	0.186
	No	75	76.50	23	23.50	98	69.00	
Reservoir wash *	Yes	56	73.70	20	26.30	76	53.52	0.820
	No	28	75.70	9	24.30	37	26.05	
Undergarment replacement frequency	2-3 in a week	28	70	12	30	40	28.20	0.585
	Every day	76	74.50	26	25.50	102	71.80	
Washing undergarment	Wash By Hand	29	67.40	14	32.60	43	30.30	0.304
	With Machine	75	75.80	24	24.20	99	69.70	
Cotton undergarment	Yes	92	72.40	35	27.60	127	89.40	0.532
	No	12	80	3	20	15	10.60	
Bath frequency	≥ 2 Per Week	50	78.10	14	21.90	64	45.10	0.234
	Every day	54	69.20	24	30.80	78	54.90	
Bathing while sitting	Yes	36	70.60	15	29.40	51	35.90	0.593
	No	68	74.70	23	25.30	91	64.10	
Go to the toilet outside	Yes	40	74.10	14	25.90	54	38.00	0.860
	No	64	72.70	24	27.30	88	62.00	
Continence	Yes	73	75.30	24	24.70	97	68.30	0.425
	No	31	68.90	14	31.10	45	31.70	

*: Non-Virgos (n: 113) were taken, BTF: Back To Front, FTB: Front To Back

Discussion

UTI is observed in one of every three women, but the recurrence rate is high; it may cause kidney damage and renal impairment (RI).[7] RI is a disorder that both decreases the quality of life and increases mortality.[8] Beside this, the cost of RI to countries is high.[9] Thus, protecting people from UTI will decrease UTI-related RI, which will increase the quality of life.

When congenital factors and chronic diseases are excluded, facilitating daily life changes are significant in controlling infections. Compliance with hygiene rules is one of them.

It is known that hand hygiene is an active infection prevention and control tool.[10] Acquiring the habit of handwashing is effective not only for UTI but also for protection from all infections. Mainly before and after the usage of toilets, protection can be provided from urogenital infections by hand washing action.[6,11] Because with adequate hand washing, the probability of contamination of the urogenital region can be reduced by removing microorganisms. Although those who do not wash hands before the toilet were found to have a higher UTI rate, this relationship was not statistically significant.

The female genital area has its flora.[12] Too much or wrong genital hygiene practices will disrupt this flora, causing pathogens to settle and multiply. Besides, the anatomical shortness of the urethra in women and the proximity of the urethral meatus, vagina, and anus increase the risk of urogenital infection.[13] This will cause contamination of the urinary system and an ascending infection.[14,15]

Participants who performed genital area cleaning from the back to the front had a statistically significantly more frequent UTI than those who did front to back cleaning. Similar results were obtained in the study of Yurttaş et al.[1] Similarly, in another study conducted in patients with urinary tract infections, those who applied randomly and from the back to the front had a 58.20% incidence, and the frequency of genital infections in these patients also increased.[16] After cleaning the perineum with water, it should be dried to prevent microorganism growth. The act of drying should also be done from front to back to avoid the contamination of the anal area into the vagina and urethra. [17]

In the literature, the frequency of vaginal douches varies between 42.98%, and 54.90% was found in our study.[16,18,19] Vaginal douching, which is widely used as part of female genital hygiene, change the vagina's chemistry and damages the healthy flora, and increases the risk of getting infections.[16,20,21] In our study, UTI was observed more frequently in those who frequently applied vaginal douching, but it is not statistically significant. However, in the literature study, there is a significant relationship between UTI and vaginal

douche.[22,23] Yet, avoiding vaginal douching among UTI prevention strategies have been included in health guidelines.[1]

Cultural, economic, and personal factors play a role in selecting absorbent material during the menstrual period.[24] While the use of ready-made pads throughout the menstruation period causes less genital infections than the use of diapers, daily pad use may increase the risk of infection.[6,16,15,25,26] The frequency of changing the pads used during the menstruation period can vary with the amount of bleeding.[6] The frequency of pad replacement decreases on days when there is less bleeding; The humid, warm and bloody environment formed by the accumulation of menstrual blood in the pads creates a suitable environment for the growth of microorganisms and increases the risk of infection.[16] In the study, those who used non-pad materials during the menstruation period and those who used daily pads were not significant, although the UTI rate was high.

Body bath, which is one of the personal hygiene habits, also contributes to genital cleansing. Women who often take a bath in the form of showers do not need additional applications in genital hygiene. Bathing by sitting on the stool may induce vaginal infection and urinary tract infection if the stool sitting is not hygienic.[1,6,27] Although the ones who sat and had a bath had a higher rate of UTI, this relationship was not statistically significant in the study.

Urinary incontinence and urinary tract infections are high prevalence in women and can cause a decrease in quality of life and even have fatal complications.[28] In the study, 78% of patients with urinary incontinence had UTI. There are studies in the literature where urinary incontinence is observed more frequently in the group with UTI.[4,29] It can be explained by the constant contamination of undergarments in patients with urinary incontinence. While microorganisms can easily multiply and cause urinary tract infection from the urethra, using a pad with urinary incontinence anxiety may cause chronic irritation and infection.[30] Urinary incontinence may be one of the symptoms of urinary system dysfunction, and it can also be presented as one of the recurrent UTI factors in the menopausal period.[29,30]

Changes in the vagina flora reduce the flora's resistance to harmful microorganisms and causing them to colonize. These colonized microorganisms cause UTI.[4] In the literature, the causes of UTI include using the antimicrobial drug in recent years, procedures applied to the vagina and antibiotics that have not been used regularly after these procedures.[4,29] In our study, it was observed that having a gynecological operation has a significant relationship with UTI.

In our study, many wrong genital hygiene behaviors such as not washing hands before the toilet, frequent vaginal showers, using non-pad materials during menstruation period, using daily pads, and sitting and bathing were common in those who had urinary tract infections under the literature. However, it may be due to the low sample size. This is the limitation of our study.

Genital hygiene care behavior is essential for the individual's health, well-being, and social well-being. Genital infections can adversely affect women's sexual and family life, impair quality of life, and cause social isolation. Many women refrain from discussing problems with their reproductive organs or asking healthcare professionals. Therefore, while taking an anamnesis from patients applying with UTI, we believe that genital hygiene practices can also be questioned, and UTI recurrence can be prevented with accurate information. Hence, all healthcare professionals, mainly physicians, have a duty to increase public consciousness and awareness by organizing training to spread the right hygiene practices.

As a result, performing genital cleansing from the back to the front and having a gynecological operation has been associated with the frequency of urinary tract infection. We think that organizing training to spread the right hygiene practices to prevent UTI infections will decrease UTI by increasing the awareness of society.

Ethical Considerations

This study was performed with the approval of the Istanbul Sisli Hamidiye Etfal Training and Research Hospital, University of Health Sciences Clinical Research Ethics Committee (06.03.2018; number, 1930). After giving the necessary explanation and information to the women participating in the study, written and signed approvals were obtained on the informed consent form. After a short explanation, the survey was started. The data was obtained from the surveys. The research was conducted under the Helsinki Committee's decisions.

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