

Factors Affecting and Genital Hygiene Behaviors of Married Women

Evli Kadınların Genital Hijyen Davranışları ve Etkileyen Etmenler

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ABSTRACT Objective: To investigate the factors affecting genital hygiene behaviors of married women. **Material and Methods:** The sampling of this cross-sectional study was constituted 402 married, literate and volunteer women who applied between December 1, 2006 and March 26, 2007 in gynecology outpatient clinic of the Maternity-Gynecology and Children's Hospital in Ordu, Turkey. A convenience sampling method was used in this study. The data of the study were collected via a questionnaire form and the Genital Hygiene Behaviors Inventory (GHBI) developed by Ege and Eryılmaz (2005). In this present study, the GHBI's Cronbach alpha internal consistency coefficient was 0.77. Analysis of the data was performed using descriptive statistics, the Kruskal-Wallis test, the One-Way ANOVA test and the independent t test. Differences between groups were evaluated with the Mann-Whitney U test and Scheffe test. **Results:** The average score on the GHBI was 80.28±10.82 (range 48-107). A statistically significant difference was determined regarding the socio-demographic factors, including level of education (p<0.001), level of income (p<0.05), job (p<0.05), and number of children (p<0.05). Furthermore, better genital hygiene behaviours were found among women who had knowledge of sexually transmitted diseases (p<0.001), women who had normal discharge (p<0.01) and those who had a yearly gynecological examination (p<0.01), and the differences were statistically significant. **Conclusion:** Results of this study showed that the genital hygiene practices of women were above average, however, women need more accurate information related to genital hygiene habits and behaviors. Health professionals should provide education and counseling about positive genital hygiene practice. Furthermore, performing community-based studies on this subject is recommended.

Key Words: Genital hygiene; behavior; women; Turkey

ÖZET Amaç: Bu çalışma, evli kadınların genital hijyen davranışları ve etkileyen etmenleri incelemek için yapılmıştır. **Gereç ve Yöntemler:** Bu kesitsel çalışmanın örnekleme evli, okuma yazma bilen ve araştırmaya katılmaya gönüllü olan 402 kadın alınmıştır. Çalışma, Ordu Kadın-Doğum ve Çocuk Hastalıkları Hastanesi Jinekoloji polikliniğinde, 1 Aralık 2006-26 Mart 2007 tarihleri arasında yürütülmüştür. Örnekleme seçim kriterlerine uygun olan kadınlar, araştırma kapsamına alınmıştır. Çalışmanın verileri soru formu ve Ege ile Eryılmaz (2005) tarafından geliştirilen Genital Hijyen Davranışları Envanteri (GHDE) ile toplanmıştır. Bu çalışmada GHDE Cronbach alfa güvenilirlik katsayısı 0.77 bulunmuştur. Verilerin analizi tanımlayıcı istatistiksel yöntemler, Kruskal Wallis testi, One-Way ANOVA testi, t testi, Mann-Whitney U testi ile yapılmıştır. Farkın hangi gruplar arasında olduğunu değerlendirmesinde Mann Whitney-U testi ve Scheffe testi kullanılmıştır. **Bulgular:** GHDE puan ortalaması 80,28±10,82 (aralık 48-107) bulunmuştur. Eğitim seviyesi (p<0,001), gelir düzeyi (p<0,05), meslek (p<0,05) ve çocuk sayıları (p<0,05) gibi sosyo-demografik özelliklere göre istatistiksel olarak önemli fark belirlenmiştir. Ayrıca cinsel yolla bulaşan hastalıklar hakkında bilgisi olan (p<0,001), normal vaginal akıntısı olan kadınlarda (p<0,01) ve her yıl jinekolojik muayene olan kadınlarda (p<0,01) genital hijyen davranışlarının daha iyi olduğu ve gruplar arasında farkın önemli olduğu bulunmuştur. **Sonuç:** Bu çalışmanın sonuçları, kadınların genital hijyen uygulamalarının orta düzeyin biraz üzerinde olduğu, bununla birlikte bu konuda daha doğru bilgiye ihtiyaçları olduğunu gösterdi. Bu konuda sağlık profesyonelleri tarafından eğitim ve danışmanlık verilmesi gerekir. Ayrıca, bu konu üzerine toplum temelli çalışmalar yapılması önerilir.

Anahtar Kelimeler: Genital hijyen; davranış; kadınlar; Türkiye

Urogenital infection is estimated that one billion women around the world suffer from nonsexually transmitted urogenital infections, including bacterial vaginosis, urinary tract infection and yeast vaginitis in a year.¹ Genital infections are so common that at least 75% of all women have experienced them at one time or another.¹ In the previous studies, the frequency of genital infection among women was found 65% by Öner et al. and 71.1% by Hacıaloğlu et al.^{2,3} Yet women do not seem to be adequately informed about these infections and what they can do to prevent them.^{1,2} For this reason, these infections are among the most common reasons for applying to gynecologic outpatient clinics of women.⁴ The female genitals are susceptible to infection due to an environment which is conducive the proliferation of microorganisms.^{5,6} Another contributing factor which increases the risk of infection for women is the anatomical structure and the closeness of the urethra, vagina and anus to one another.⁵ Genital infections occur as a result of both individual and environmental risk factors.⁷ Environmental risk factors include a lack of infrastructure facilities and no access to safe drinking water, while the most important individual risk factor is the lack of proper hygiene.⁷ Risk factors related to hygiene include failure to properly clean the genital area after using the toilet, improper hand-washing habits or not washing at all, washing the genital area too frequently, wearing underwear which contributes to infection, and the lack of proper menstrual hygiene.^{8,9} Because individual factors can more easily be controlled, modifying individual habits becomes more important.^{1,5-9} Studies conducted on the topic of genital hygiene have shown that many females have poor genital hygiene practices.^{3,10}

The prevalence of genital infections among women in the lower socio-economic levels of society often prevents them from being recognized as the diseases they actually are. The women who might perceive this condition as related to disease often attempt to treat themselves in an effort to avoid being examined by a medical professional.⁷ However, when left untreated, genital infections can cause pelvic inflammatory disease, ectopic

pregnancy and congenital infections in newborn. They can also affect fertility and cause cancers of the genital organs. These infections may also adversely affect a woman's sex life and lower the quality of family life.^{3,7,11,12}

Positive genital hygiene behaviors should be gain to women for prevention of genital infections among women. The promotion and protection of women's health will be able to take more responsibility for their own health. Nurses can help as consultant and as trainer in the prevention of genital infections.

This study was conducted to investigate factors affecting and the genital hygiene behaviors of women.

MATERIAL AND METHODS

STUDY DESIGN

This cross-sectional study was conducted between December 1, 2006 and March 26, 2007 in gynecology outpatient clinic of the Ordu Maternity-Gynecology and Children's Hospital in Ordu, Turkey. Among 28 007 women admitted to the hospital between the specified dates, married, literate and volunteer 402 women were included in the study via convenience sampling method. The data of the research were collected using a questionnaire (14 questions) and the Genital Hygiene Behaviours Inventory (GHBI) developed by Ege & Eryılmaz.¹³ The Cronbach alpha value was determined as 0.86 by Ege and Eryılmaz. In this present study, the GHBI's Cronbach alpha internal consistency coefficient was 0.77. The GHBI point range was 27-108 points. The questionnaire was pilot-tested with 20 women and found acceptable. All the women in the sample completed the questionnaire using face to face interview techniques. The women were then shown how to complete the remaining data collection tool GHBI. The questionnaire form and the inventory took approximately 15-20 minutes to complete. Dependent variable was total GHBI score. Independent variables were age, education status, occupation, family income, child number, knowledge about sexually transmitted diseases (STDs), vaginal discharge characteristic, being

treatment for abnormal discharge, gynecologic examination frequency of woman.

INSTRUMENT

The GHBI is a Likert-type scale with 27 items which scores each answer from 1 to 4. For positive questions, a “never” response scores 1 point; a “sometimes” response scores 2 points; an “often” response 3 points, and a response of “always” scores 4 points. In the GHBI, items 17, 26 and 27 of the GHBI scale have a negative slant. These items scores reverse. The highest possible score for the GHBI is 108; the lowest possible score is 27. A high score on this inventory was considered positive, so the higher score is, the better.¹³ For this study the Cronbach alpha coefficient was determined to be 0.77. The Cronbach alpha value was determined as 0.86 by Ege and Eryılmaz.¹³

ETHICAL CONSIDERATIONS

The women were given information about the research and their verbal consent to participate was obtained. They were also advised that the study would pass through an ethical approval protocol and that they would not be paid for their participation in the study. The researchers guaranteed participants that their identities and answers would be kept confidential. The written permission from the institution to conduct the research was received. The study conformed to the principles of the Declaration of Helsinki.

STATISTICAL ANALYSES

Descriptive statistic methods such as frequency, percentage, and the arithmetic mean were used to analyze the data. Dependent and independent variables were compared using the Kruskal Wallis test (differences between groups were evaluated with the Mann-Whitney U test), One-Way ANOVA (differences between groups were evaluated with the Scheffe test) and independent t test. The level of significance was $p < 0.05$.

RESULTS

The study was conducted with 402 women. The average score of the GHBI was 80.28 ± 10.82 (range

48-107), (Table 1). The highest mean scores of women from items of GHBI were determined that “I wash my hands after visiting restroom” was 3.57, “I wash my hands after changing my hygienic pad” was 3.54, “I wash my genital area after sexual intercourse” was 3.52, “After urine and feces, I dry with toilet paper” was 3.50, “I pay attention to cleanliness of the genital area” was 3.50 and “I change my underwear every day” was 3.44 (Table 1).

The lowest mean scores of women from items of GHBI were determined that “I join to the training sessions related to sexual health” was 1.89, “I go to regularly for exam to gynecologist” was 2.14, “I get information from health professionals about the cleaning of genital area” was 2.20, “I would like to use condom, when I have foul-smelling discharge” was 2.52, “I wash my hands before sexual intercourse” was 2.62 (Table 1).

GHBI scores and the distribution according to socio-demographic characteristics of women are shown Table 2. It was determined that 21.6% of the women participating in the research were between the ages of 22-26. Study results showed that 31.1% of the women had graduated from elementary school, 66.4% of them were housewives, 47.8% of them perceived their family income as “partially adequate”, and 34.6% of the women had three children. A statistically significant difference was found in GHBI scores according to socio-demographic factors. These included the women’s education level ($p < 0.001$), occupation ($p < 0.05$), family income ($p < 0.05$) and number of children ($p < 0.05$), but the GHBI scores according to participants’ age groups were not significant ($p > 0.05$). Differences between groups were evaluated via Scheffe test and Mann Whitney-U test. It was revealed that GHBI scores of women who had literate (71.48 ± 12.87), housewife (78.94 ± 10.60), inadequate family income (78.57 ± 12.64) and a large number children (75.15 ± 10.74) were lower than other women and differences were significant (Table 2).

GHBI scores and the distribution according to some characteristics of women are shown Table 3.

TABLE 1: Mean scores of women according to GHBI items.

Numbers of Items	GHBI Items	Scores of GHBI Items
1	I join to the training sessions related to sexual health	1.89±1.08
2	I watch carefully sexual area for signs of disease	2.81±1.00
3	I follow sexual health-related news at the media.	2.66±0.96
4	I get information from health professionals about the cleaning of sexual area.	2.20±1.38
5	I go to regularly for exam to gynecologist.	2.14±0.88
6	I pay attention to cleanliness of the sexual area.	3.50±0.80
7	I change my underwear every day.	3.44±0.79
8	I do ironing my underwears.	2.32±1.46
9	My underwears are cotton.	3.02±1.01
10	I use hygienic pad during menstruation.	3.20±1.10
11	I do shower at longitudinal position during menstruation.	3.08±0.93
12	I would like to use condom, when I have foul-smelling discharge.	2.52±1.16
13	After urine and feces, I dry with toilet paper .	3.50±0.81
14	I go to the doctor when I have the foul-smelling discharge.	3.09±1.04
15	I go to the doctor when I itch in my genital area .	3.10±1.04
16	I go to the doctor when pain or bleeding during sexual intercourse.	3.21±1.02
17*	I use cloth during the menstruation	3.14±1.11
18	I wash my hands before changing my hygienic pad	3.04±1.04
19	I wash my hands after changing my hygienic pad	3.54±0.80
20	I wash my hands before sexual intercourse	2.62±1.15
21	I wash my hands after sexual intercourse	3.41±0.93
22	I wash my genital area before sexual intercourse	2.94±1.14
23	I wash my genital area after sexual intercourse	3.52±0.84
24	I wash my hands before visiting restroom	2.93±1.06
25	I wash my hands after visiting restroom	3.57±0.82
26*	I wash from my anus to my urethra.	2.79±1.29
27*	I use continuously hygienic leaf pad	2.87±1.06
Total		80.28±10.82

*In the GHBI, 17., 26. and 27. items have a negative slant and scores reverse.

A majority of the women reported that they had knowledge about STDs (78.1%), abnormal discharge characteristics, such as bad odor, color or pruritis (52.7%), and had been treated for abnormal discharge (33.1%). It was found that 11.8% of the women went once every year for a gynecological examination; however, 54.8% of them only visited the gynecologist if they had a problem. Women noted vaginal bleeding (57.4%), discharge with bad odor (54.4%), pruritis (47.7%), genital warts (32.8%) and pelvic pain (45.7%) as reasons to go to a gynecologist. Furthermore, better genital hygiene behaviours were found among women who had knowledge about STDs ($p<0.001$), had normal discharge characteristics ($p<0.01$), and who

went once every year for a gynecological examination ($p<0.01$). The difference was statistically significant (Table 3). GHBI scores of women who had knowledge about STDs (81.62 ± 10.33), "normal" vaginal discharge (82.03 ± 10.48), no treatment abnormal discharge (80.45 ± 10.99), visit to doctor for gynecologic examination every year (83.59 ± 10.32) higher than other women and differences were significant.

DISCUSSION

In this study, the GBHI mean score was found to be 80.28 ± 10.82 (range 48-107). It was revealed that GHBI mean scores of women who had literate

TABLE 2: GHBI scores according to socio-demographic characteristics of women (n=402).

Variables	n	%	GHBI score±SD	p value
Woman's age groups (years)				
17-21	29	7.2	80.10±11.34	p>0.05
22-26	87	21.6	79.67±9.96	
27-31	82	20.4	82.31±10.15	
32-36	76	18.9	79.34±10.73	
37 and above	58	14.4	78.41±11.19	
Woman's education status*				
Literate ^a	31	7.7	71.48±12.87	p<0.001*
Primary school ^b	125	31.1	79.10±9.38	
Secondary school ^c	54	13.4	79.79±11.02	
High School ^d	114	28.4	81.80±10.71	
University ^e	78	19.4	83.80±10.11	
Differences are between a-b, a-c, a-d, a-e and b-e.				
Woman's occupation				
Housewife ^a	267	66.4	78.94±10.60	p<0.05**
Civil servant ^b	81	20.1	82.97±11.55	
Worker ^c	33	8.2	83.21±9.87	
Retired ^d	9	2.2	80.22±10.25	
Self employment ^e	12	3.0	84.00±9.37	
Differences are between a-b and a-c.				
Family income				
Adequate ^a	146	36.3	82.38±9.56	p<0.05*
Partially adequate ^b	192	47.8	79.40±10.94	
Inadequate ^c	61	15.2	78.57±12.64	
Difference is between a-b.				
Child number				
1 child ^a	64	15.9	80.31±10.43	p<0.05*
2 children ^b	91	22.6	80.90±9.95	
3 children ^c	139	34.6	81.91±10.69	
4 children ^d	69	17.2	79.07±11.84	
5 children ^e	39	9.7	75.15±10.74	
Difference is between b-d.				

*Differences between groups were evaluated via Scheffe test.

** Differences between groups was evaluated Mann Whitney-U test.

(71.48±12.87), housewife (78.94±10.60), inadequate family income (78.57±12.64) and a large number children (75.15±10.74) were lower than other women. The GHBI mean scores of women according to their education level, occupation, family income, and number of children were statistically significant difference.

Ege & Eryılmaz (2006) stated that after receiving education about genital hygiene behaviors, the GHBI scores of women in the experimental group

increased from 73.5±12.2 in the pretest to 91.2±8.0 in the post-test (p<0.001), but there was no increase for the control group (p>0.05).¹⁴ Beydağ (2009) noted that the GHBI mean score of women was 74.89±11.74.¹⁵

In previous studies reported that, higher educational level and employment status of women positively affect the genital hygiene behaviors.^{14,16,17} Özkan & Demir reported a correlation between vaginal infection and genital hygiene.⁶

TABLE 3: GHBI scores according to some characteristics of women (n=402).

Variables	n	%	GHBI score±SD	p value
Knowledge about STDs				
Yes	314	78.1	81.62±10.33	p<0.001
No	88	21.9	75.51±11.23	
Vaginal discharge characteristics				
Normal (without color and odor)	190	47.3	82.03±10.48	p<0.01
Abnormal (odor, color or pruritis)	212	52.7	78.72±10.91	
Treatment for abnormal discharge				
Yes	33	33.1	79.94±10.51	p>0.05
No	269	6.9	80.45±10.99	
Gynecologic examination frequency				
Every year ^a	47	11.8	83.59±10.32	p<0.01*
Only having problem ^b	219	54.8	81.13±10.30	
If the complaint is bothering me a lot ^c	134	33.5	77.88±11.37	

*Differences between groups were evaluated via Scheffe test. Differences are between a-b and a-c.

Beydağ found a statistically significant difference between genital hygiene behaviors and education level, occupation, residential housing type and frequency of changing pads during menstruation.¹⁵ Erbil & Göktaşlar stated that genital infection prevention behavior and general reproductive health protective attitudes of women were better in women using effective contraceptive methods than in women using ineffective contraceptive methods and the differences were significant ($p<0.001$).¹⁶ These differences were found when comparing women's reproductive health protection attitudes with their education level, occupation and family income.¹⁶ Similarly, Kavak et al. found that GHBI mean score of pregnant women was 81.68 ± 11.79 and education level, where they mostly live, income level, number of pregnancies and to get information related to genital hygiene affect genital hygiene behaviors of pregnant women. Higher educational level was increased health-related positive behaviors.¹⁸

Previous studies have reported that women with a higher education level and working status exhibit more positive and effective genital hygiene practices and have fewer genital infections.^{3,17} Hacıoğlu et al. reported that the rate of genital tract infections increased parallel with the increase in the number of births.³ Women's higher level of

education, adequate family income, working status positively affect their attitudes and actual health behaviors, increase awareness of health protection and health seeking behavior. In this study, there was a significant difference in the GHBI scores of women according to their education level, occupation, family income. The results of this study are similar to the literature.^{3,17}

The GHBI mean score was higher in women with normal vaginal discharge and in women who underwent a gynecological exam each year than for women with abnormal discharge or who only saw their gynecologist when they perceived a problem. The score was also higher for women who correctly understood the importance of regular gynecological examinations. When compared to those without this knowledge, the difference was significant. Although there was no statistically significant difference, the GBHI mean score was higher in women with untreated abnormal genital changes (Table 3). In a previous study, 72.8% of them had previous vaginal problems, and 36.9% of those who have vaginal problems go to a doctor and 28.7% have still such problems.⁷ Similar results have been reported in the study of Koştu & Taşçı (2009).¹⁷ Hacıoğlu et al. found as 71.1% incidence of infection related to poor genital hygiene in women.³ Erçi et al. stated that 66.8% of women

who had pathogenic microorganisms on their hands also had pathogenic microorganisms in their vaginal culture, and 51.9% of the women complained of genital infection.¹⁰ The findings of this study show that women's education about genital hygiene behavior positively affects both genital hygiene and reproductive health behavior.

Ünsal et al., revealed that 97.5% of the women cleaned their genital area after going to toilet, methods of cleaning the genital areas of 39.9% of them were wrong and haphazard.¹⁹ Also, they reported that 81.5% of the women cleaned their hands before visiting restrooms and 98.8% of them cleaned their hands after visiting restrooms, 67.6% of them dried genital area after urine and feces, 70.1% of the women used to dry toilet paper.¹⁹ Karatay and Özvarış demonstrated that 25.8% of the women change regularly underwears every day, 79.2% of them clean their genital area by unappropriate methods, 33.6% of them never dry such areas.⁷ Only 12.8% of them mention that they wash their hand before and after visiting restrooms, 72.1% of women make vaginal cleansing after sexual intercourse.⁷ Similarly our study found that "I wash my hands after visiting restroom", "I wash my hands after changing my hygienic pad", "I wash my genital area after sexual intercourse", "After urine and feces, I dry with toilet paper", "I pay attention to cleanliness of the genital area" and "I change my underwear every day" were the highest GHBI items mean scores of women (Table 1). Cleaning form perineum area of women is extremely important to prevent from urogenital infections. The perineum should be cleaned from front to back in order to not contaminated the vagina.⁹

This result suggests that women who have a yearly gynecological examination also receive more education from health care personnel on genital hygiene practices. This study further revealed that information about genital hygiene was first given by the mothers of the study participants. Conversely, the women in the study Ünsal et al., indicated they received most information about genital hygiene behaviors from health care

team members.¹⁹

LIMITATIONS OF THE STUDY

This study had some limitations. The study was cross-sectional and participants were recruited the sample with the convenience method from married women who had admitted to the gynecologic outpatient. Therefore, the results of this study can only be generalized to the sample of this study. Future studies should include a larger sampling from the community.

CONCLUSION

In conclusion we found the GBHI mean score of married women was 80.28 ± 10.82 and women's genital hygiene behavior positively related to the level of education, income level, the number of children, knowledge about STD, vaginal discharge characteristics, being treatment for abnormal discharge, gynecologic examination frequency.

It is clear that more information and educational programs related to genital health should be offered to women with the goal of improving not only their genital health but their overall health. Health professionals should be up to date in their knowledge about genital hygiene behaviors during routine health checks. Nurses, especially nurses of woman health, and other health professionals fill a very important role in educating and counseling women about genital hygiene practices. This study provides additional information about factors affecting and genital hygiene behaviors among Turkish married women. At the same time, future studies are needed to bring new understanding to the many factors which affect women's genital hygiene behaviors. Also, in future studies results to examine relationship between diagnoses and genital hygiene behavior of women is recommended.

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