

Evaluation of the Genital Hygiene Behavior and Related Factors of Women Aged 15-49

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ABSTRACT

Aim: Approximately one million people in the world are exposed to urogenital tract infections every year and at least 75% of women have a history of genital infection. The frequency of vaginal infections in women aged 15-49 in Turkey is known to be 35-68%. Genital infections can be asymptomatic and can cause negativity in sexual and family life. Therefore, it is important to take preventive measures. Mentioning correct genital hygiene behaviors in the training and consultancy services provided by healthcare professionals helps people to increase their awareness. In our study, we aimed to evaluate women's genital hygiene behaviors and related factors.

Methods: Our study was carried out with 457 women between the ages of 15-49 in the Gynecology Outpatient Clinic of Nisa Hospital. The socio-demographic characteristics and gynecological characteristics of the subjects were collected by face-to-face interviews using the questionnaire form that consisted of 20 questions and the "Genital Hygiene Behavior Inventory". The IBM SPSS version 22 program was used for statistical analysis.

Results: This study was conducted with 457 women. A significant negative correlation was found between the Genital Hygiene Behavior Inventory score and the number of pregnancies and number of children ($p=0.028$, $r=-0.128$, $p=0.037$, $r=-0.128$, respectively), and a significant positive correlation was found between education status, income status, and having children ($p=0.010$, $p=0.000$, $p=0.007$, respectively). Participants who stated that they had the knowledge and received this information from doctors and/or nurses had higher Genital Hygiene Behavior Inventory scores.

Conclusion: Questioning genital complaints of women by all healthcare professionals, determining hygiene behaviors, and correcting erroneous practices will positively affect urogenital health.

Keywords: hygiene, education, genital infection, reproductive health, family practice

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Introduction

Approximately one million people in the world are exposed to urogenital tract infections every year and at least 75% of women have a history of a genital infection (1). The frequency of vaginal infections in women aged 15-49 in Turkey is known to be 35-68% (2). In a study conducted in our country in 2020, this rate was found to be 78.6% (3).

Genital infections disrupt the quality of life by negatively affecting family and sexual life, and predispose to the development of complications such as infertility, pregnancy problems, and cervical cancer (4,5). However, most genital infections can be asymptomatic. Therefore, screening should be done especially in risky individuals to prevent complications (6).

The most common genital infections in women are vulvovaginitis; it is known that correction of faulty genital hygiene habits has a place in prevention (7). Mentioning correct genital hygiene behaviors in the training and consultancy services provided by healthcare professionals helps people to increase their awareness.

In our study, we aimed to evaluate women's genital hygiene behavior and related factors.

Methods

The type of our study was descriptive and we included non-pregnant, non-menopausal, and married women aged 15-49 in our study. It was carried out in the Gynecology Outpatient Clinic of Nisa Hospital between 7th August -30th October 2020. Our clinic is affiliated with a private hospital in Istanbul which is the most populous and advanced city in Turkey and generally serves patients with middle-upper income and education levels.

Ethical committee approval was obtained from the Medipol University Ethics Committee protocol dated 06.08.2020 and numbered 625.

A questionnaire consisting of an information form and an inventory of genital hygiene behaviors was used to collect data.

The number of outpatient clinic applications per month is around 1000 and the sample size has been

calculated to be 341 with 95% confidence interval and aimed to reach this minimum number.

The questionnaire form was filled in by face-to-face interviews with the researchers, and the Genital Hygiene Behavior Inventories (GHBI) were filled in by the women themselves in a private room in the outpatient clinic. Following the completion of the questionnaire, the researcher informed the participants about the subjects they wanted to learn and felt insufficient about genital hygiene behaviors.

The socio-demographic characteristics and gynecological characteristics of the subjects were collected by face-to-face interviews using the questionnaire form that consisted of 20 questions and the "Genital Hygiene Behavior Inventory".

Genital Hygiene Behavior Inventory consisted of a total of 23 items were developed by Ege and Eryılmaz (8) to evaluate the genital hygiene behaviors of women aged 15-49 years. Inventory items ranged from "totally agree" to "totally disagree" by giving numerical values from 5 to 1. 5 items in the inventory were scored inversely. The lowest total score was 23, while the highest total score was 115. A high-level total score from the inventory indicates that the genital hygiene behavior is at the desired level. Apart from the total score, there are three subgroups: "general hygiene behaviors", "menstrual hygiene" and "abnormal finding awareness".

The IBM SPSS version 22 (Statistical Package for the Social Sciences) program was used for statistical analysis. The socio-demographic data obtained were evaluated with their number and percentage dispersions. Chi-square and t-test were used in the statistical analysis. The results were evaluated within the 95% confidence interval, and significance was evaluated at $p < 0.05$.

Results

This study was conducted with 457 women and the mean age of the participants was 30.49 ± 6.56 . The sociodemographic and chronic disease histories of 457 participants are shown in Table 1.

Table 1. Sociodemographic features and chronic disease history of participants

		n	%
Education Level	Low (Educated under high school)	89	19.5
	High (Educated High school or higher)	368	80.5
Income status (per month)	Low (<2000 TL)	73	16.0
	Middle (2000–5000 TL)	248	54.3
	High (≥5000 TL)	136	29.7
Employment status	Employed	273	59.7
	Unemployed	184	40.3
Marital status	Married	334	73.1
	Not married (Single/Divorced/Widow)	123	26.9
Status of having children	Yes	267	58.4
	No	190	41.6
Chronic Disease History	None	395	86.4
	Hypertension	22	4.8
	Diabetes Mellitus	8	1.8
	Asthma/Chronic Obstructive Pulmonary Disease	7	1.5
	Others	25	5.5

(TL: Turkish lira)

There were 267 (58.4%) patients who had no vaginitis history and 181 (39.6%) patients who had no urinary tract infections history. 334 participants were married and 264 of them had children. The mean marriage year was 7.18±6.39 years. The mean number of pregnancies and births was 1.36±1.49 and 1.04±1.14, respectively.

The mean height of the participants was 163.10±5.85; the mean weight was 65.73±12.03 and the mean body mass index was 24.75±4.56. The distribution of the participants according to their body mass index is shown in Figure 1.

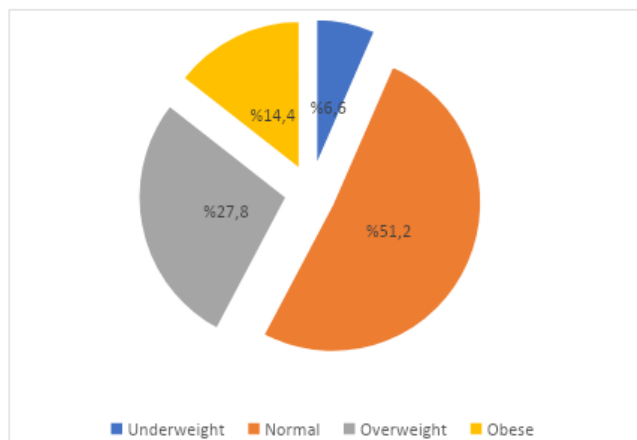


Figure 1. BMI groups of participants

The knowledge and behaviors of the participants about sexual life and genital hygiene are given in Table 2.

Table 2. Evaluation of sexual life and genital hygiene knowledge and attitudes

		n	%
Having knowledge about genital hygiene	Yes	338	74.0
	No	51	11.1
	No idea	68	14.9
Where did she get information about genital hygiene?	No information	75	16.4
	Social media/online	139	30.4
	Family/friend	49	10.7
	Doctor/nurse	142	31.1
	Newspaper/book	12	2.5
	Other	40	8.9
Is it important to pay attention to genital hygiene?	Yes	441	96.5
	No	16	3.5
Sexually Active	Yes	361	79.0
	No	96	21.0
Performing vaginal douche	Yes	233	51.0
	No	224	49.0
Using genital products during genital cleansing	Yes	392	85.0
	No	65	15.0
History of urinary tract infections	Yes	276	60.4
	No	181	39.6
History of vaginitis	Yes	190	41.6
	No	267	58.4

One hundred and ten (24%) of the participants who declared to be sexually active did not use any contraception method. Water and soap were the most commonly used materials for genital cleaning, the distribution of the products used were given in Figure 2.

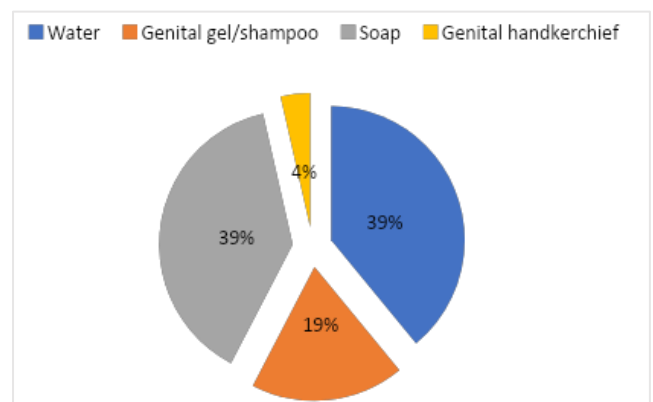


Figure 2. Genital cleaning methods of participants

Participants' mean score from the Genital Hygiene Behavior Inventory was 97.70±10.36, of the subgroups; menstrual hygiene mean score was 33.71±4.81, abnormal findings awareness mean score was 12.26±2.81 and genital hygiene awareness mean score was 59±5.34. The comparison of Genital Hygiene Behaviors Inventory and socio-demographic

data is shown in Table 3 and 4. A significant negative correlation was found between the GHBI and the number of pregnancies and children (p=0.028, r=-0.128, p=0.037, r=-0.128, respectively), and a significant positive correlation was found between education status, income status and having children (p=0.010, p=0.000, p=0.007, respectively).

Table 3. Comparison of genital hygiene behavior inventory and sociodemographic data

	Genital Hygiene Awareness Score		Menstrual Hygiene Score		Abnormal Findings Awareness Score		Total score	
	r	p	r	p	r	p	r	p
Age*	0.047	0.312	-0.071	0.128	-0.039	0.405	-0.007	0.882
Height*	0.002	0.972	0.055	0.237	0.142	0.002	0.52	0.270
Weight (kg)*	0.073	0.119	-0.001	0.979	0.007	0.881	0.050	0.288
Years of marriage*	-0.024	0.662	-0.121	0.027	-0.30	0.583	-0.065	0.237
Number of total pregnancies*	-0.84	0.147	-0.193	0.001	-0.15	0.794	-0.128	0.028
Number of children*	-0.089	0.145	-0.208	0.001	0.003	0.967	-0.128	0.037
Number of total abortions *	0.095	0.361	0.099	0.340	0.158	0.127	0.161	0.159

*Pearson Correlation

Table 4. Comparison of genital hygiene behavior inventory and sociodemographic data

		Genital Hygiene Awareness Score		Menstrual Hygiene Score		Abnormal Findings Awareness Score		Total score	
		Mean Rank±SD	p değeri	Mean Rank±SD	p value	Mean Rank±SD	p value	Mean Rank±SD	p value
Education status^x	Low	50.61±6.24	0.216	31.62±4.88	0.000	11.65±3.87	0.045	94.11±12.20	0.003
	High	51.83±5.08		34.21±4.66		12.40±2.73		98.57±9.69	
Income status ^x	Low	50.36±5.92	0.016	30.80±5.37	0.000	11.53±3.40	0.279	92.71±11.65	0.000
	Middle	52.15±5.39		34.32±4.56		12.35±2.75		98.99±10.54	
	High	51.23±4.79		34.16±4.38		12.47±2.53		98.02±8.40	
BMI groups ^x	Underweight	48.73±5.20	0.012	32.33±3.42	0.029	11.33±2.68	0.053	92.40±7.64	0.006
	Normal weight	51.63±5.16		34.29±4.56		12.49±2.81		98.62±9.39	
	Overweight	52.09±5.43		33.22±5.10		12.24±2.75		97.61±11.22	
	Obese	51.59±5.54		33.24±5.41		11.89±2.94		97.03±12.25	
Employment status*	Employed	51.67±4.88	0.637	34.43±4.56	0.000	12.28±2.86	0.790	98.47±9.63	0.132
	Unemployed	51.48±5.97		32.64±4.98		12.21±2.75		96.56±11.29	
Marital status*	Married	51.91±5.39	0.015	33.68±4.93	0.947	12.28±2.67	0.991	98.08±10.77	0.066
	Not married	50.74±5.11		33.78±4.48		12.18±2.67		96.65±9.13	
Status of having children*	Yes	52.08±5.39	0.005	33.81±5.15	0.180	12.31±2.70	0.721	98.44±11.12	0.007
	No	50.91±5.20		33.57±4.29		12.18±2.26		96.66±9.11	

*Pearson Correlation; ^xChi-square; SD: Standard deviation

A significant relationship was found between body mass index and the Genital Hygiene Behavior Scale, and the highest mean was found in individuals with normal body mass index (p=0.005).

In Table 5, the relationship between sexual life, genital hygiene knowledge and attitudes, and GHBI scores were given, and a significant relationship was found between the GHBI total score of those who said they knew about genital hygiene, those who thought it

was important to pay attention to genital hygiene, and those who received information from doctors and/or nurses (p=0.000; p=0.000; p=0.000 respectively). In addition, awareness of menstrual hygiene was found to be significantly higher in those without a history of vaginitis (p=0.015), while awareness of abnormal findings was significantly higher in those who did not do vaginal douching (p=0.031).

Table 5. Comparison of genital hygiene knowledge and attitude characteristics and genital hygiene behavior inventory scores

		Genital Hygiene Awareness Score		Menstrual Hygiene Score		Abnormal Findings Awareness Score		Total score	
		Mean Rank±SD	p	Mean Rank±SD	p	Mean Rank±SD	p	Mean Rank±SD	p
Having knowledge about genital hygiene? ¹	Yes	52.22±4.93	0.000	34.45±4.38	0.000	12.76±2.48	0.000	99.56±9.12	0.000
	No	49.27±6.31		32.39±4.94		11.50±2.75		93.37±11.60	
	No idea	50.20±5.84		31.02±5.57		10.29±3.41		91.70±10.36	
Where did she get information about genital hygiene? ¹	No information	49.81±5.72	0.008	31.17±5.57	0.000	10.64±3.22	0.000	91.52±11.75	0.000
	Social media/online	51.53±5.35		34.05±4.15		12.24±2.84		97.88±9.27	
	Family / friend	51.32±4.69		34.59±3.81		13.08±2.27		99.14±7.97	
	Doctor /nurse	52.09±5.30		34.03±4.98		12.74±2.65		99.27±10.55	
	Newspaper/ book	54.41±2.99		33.08±4.54		12.50±2.02		100.00±7.01	
	Other	52.85±5.21		35.25±4.51		12.55±2.20		100.65±9.94	
Is it important to pay attention to genital hygiene? ¹	Yes	51.79±5.19	0.002	33.90±4.72	0.000	12.38±2.77	0.000	98.22±10.02	0.000
	No	48.33±1.15		26.66±1.15		9.33±0.57		84.33±0.57	
	Other	45.53±7.10		28.76±4.69		8.84±2.03		83.15±10.72	
Sexually active ²	Yes	51.20±5.16	0.315	33.39±4.49	0.298	12.25±3.04	0.934	95.93±9.23	0.219
	No	51.70±5.39		33.79±4.89		12.26±2.76		97.90±10.65	
Performing vaginal douche ²	Yes	51.32±5.68	0.597	33.49±5.00	0.484	11.99±2.85	0.031	97.11±11.02	0.496
	No	51.86±4.98		33.93±4.61		12.52±2.76		98.29±9.65	
Using genital products during genital cleansing ²	Yes	51.63±5.29	0.868	33.70±4.87	0.859	12.31±2.87	0.159	97.83±10.43	0.450
	No	51.37±5.64		33.75±4.46		11.95±2.46		96.93±9.96	
History of urinary tract infections ²	Yes	51.98±5.24	0.231	33.79±4.88	0.707	12.31±2.81	0.819	98.26±10.37	0.481
	No	51.00±5.44		33.58±4.71		12.17±2.84		96.84±10.32	
History of vaginitis ²	Yes	51.26±5.45	0.241	33.09±4.98	0.015	12.48±2.62	0.215	97.04±10.48	0.205
	No	51.83±5.6		34.15±4.64		12.09±2.94		98.17±10.27	

¹Kruskal-Wallis H; ²Mann-Whitney U; SD: Standard deviation

Discussion

Vulvovaginitis is one of the most common reasons for hospital admissions among reproductive health problems (9,10). It has been shown that 75% of women experience vulvovaginitis at least twice in their life, studies conducted in our country have shown that this rate is 35-50% (11,12). In our study, the rate was 41.6%, which is consistent with the literature.

Studies have found that those with a high level of education have better genital hygiene practices (13,14). Consistent with this, in our study, the GHBI score was found to be significantly higher in women with a high level of education. The reason for this may be that as the education level increases, health literacy increases (15). In our study, as the number of pregnancies and children had increased, the GHBI scores of the individuals decreased and this was found to be statistically significant. However, in the literature, no significant difference was found between

pregnant and non-pregnant women in terms of genital hygiene behaviors (16). The reason for this difference may be related to the characteristics of the population, or it may be the result of the decreasing in self-care as the number of children increases. A similar result was obtained in a study conducted in our country (17).

In our study, the GHBI score was found to be high in normal-weight individuals. A study on the relationship between body mass index (BMI) and Genital Hygiene behavior has found an inverse relationship between BMI and genital hygiene behavior (18).

In our study participants thought that genital hygiene is important; those who stated that they had the knowledge and received this information from doctors and/or nurses had higher GHBI scores. This is a finding showing that getting education on genital hygiene, positively affects women's genital hygiene behaviors. Health education and counseling constitute an important part of the protection of women's and

reproductive health (19,20).

Vaginal douching is frequently used by Turkish women as a part of feminine hygiene (21,22). 233 (51%) participants in our study stated that they perform vaginal douching. In our country, women use vaginal douching not only as a part of general hygiene but also as a religious practice of ghusl and cleansing after menstruation (22). While there was no relationship between vaginal douching and GHBI scores, the scale score of those who did vaginal douching was lower, also, awareness of abnormal findings was significantly lower in those who had vaginal douching.

The rate of the participants who cleaned the genital area was 85%, and the two most commonly used methods were water and water plus soap together. In similar studies, it was found that the most frequently used material for this purpose was water at the rate of 63.9% and water plus soap at the rate of 25.5% (23). Compared to other studies, it is stated that in Muslim countries water and soap are used more whereas special products are used in western countries (24,25).

Questioning genital complaints of women by all healthcare professionals, determining hygiene behaviors, and correcting erroneous practices will positively affect urogenital health (26).

The present findings have provided an informative sample of beliefs and attitudes regarding genital hygiene only in the Istanbul region of Turkey. Future studies should investigate if there are additional motivations for women and their genital hygiene practices. Different populations (i.e. urban vs rural),

different socioeconomic groups, and regions of Turkey should be evaluated according to their genital hygiene behaviors.

It should be ensured that information brochures prepared specifically for women on correct genital hygiene practices and protection from genital infections are available and women's awareness should be increased with audio-visual tools. It is recommended that women be supported on issues they are conscious of and informed by training on issues they are inadequate.

We believe that it is important to organize training programs to be given to women on reproductive health and hygiene. We think that our nurses, who are especially intertwined with the public and who provide training, can investigate and evaluate the knowledge of this group of women on genital hygiene and how they behave, and then they can ensure that women have the right genital hygiene behaviors.

Conclusion

Genital infections are common in women and proper practice of genital hygiene behaviors has an important place in their prevention. Genital hygiene behavior increases with the education level of individuals, giving importance to this subject, getting information, and getting this information from the doctor/nurse.

We believe that it is important to organize training programs to be given to women on reproductive health and hygiene.

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