Mediterranean Nursing and Midwifery

Mediterr Nurs Midwifery 2025; 5(1): 31-38 DOI: 10.4274/MNM.2024.24236

ORIGINAL ARTICLE

Determination of Genital Hygiene Behaviors and Affecting Factors of Women of Reproductive Age

Üreme Çağındaki Kadınların Genital Hijyen Davranışlarının ve Etkileyen Faktörlerin Belirlenmesi

Arzu Abiç

Department of Nursing, Eastern Mediterranean University Health Sciences Faculty, Via Mersin 10, Famagusta, North Cyprus, Turkey

Abstract

Objective: It is estimated that women worldwide have high rates of genital infections. Although not life-threatening, these infections can lead to loss of reproductive capacity if not treated early. Therefore, prevention of genital infections is of great importance. The most important, simple, easy, and cost-free method for preventing genital infections is the practice of correct genital hygiene practices. This study aimed to determine the genital hygiene behaviors of women of reproductive age and the factors that influence these practices.

Method: A descriptive study was conducted between March 25 and May 25, 2023, on 108 women of reproductive age residing in the Famagusta district of North Cyprus. The data of the study were collected using the "personal information form" and the "genital hygiene behavior scale (GHBS)" prepared by the researcher.

Results: Mean scores for the GHBS and its subscales of general hygiene, menstrual hygiene, and abnormal finding awareness were 74.33±26.12, 40.12±14.23, 24.27±9.43, and 9.92±3.86, respectively. The GHBS scores were higher in participants who had graduated from a university (p=0.001), earned income greater than expenses (p=0.003), and had received previous training on genital hygiene (p=0.010). These findings suggest that increasing women's awareness of the importance of maintaining genital hygiene from an early age may contribute to improvements in women's health by preventing complications.

Conclusions: The findings of our study indicate that the genital hygiene behaviors of women in reproductive age are, for the most part, positive. Our analysis revealed that variables such as education level, income status, and information on genital hygiene may influence genital hygiene behaviors.

Keywords: Women, reproductive age, genital hygiene

Öz

Amaç: Dünyada kadınların genital enfeksiyon yaşama oranları yüksektir. Yaşamı tehdit etmemekle birlikte genital enfeksiyonların erken tedavisi yapılmadığında üreme yetisinin kaybına yol açabilmektedir. Bu nedenle genital enfeksiyonların önlenmesi büyük önem taşımaktadır. Genital enfeksiyonların önlenmesi için basit, kolay ve maliyetsiz en önemli yöntem genital hijyen uygulamalarının doğru uygulanmasıdır. Bu çalışmada üreme çağındaki kadınların genital hijyen davranışları ve etkileyen faktörlerin ortaya koyulması amaçlanmıştır.

Yöntem: Tanımlayıcı olarak yapılan araştırmanın örneklemini 25/03/2023 ve 25/05/2023 tarihlerinde Kuzey Kıbrıs Türk Cumhuriyeti Gazimağusa ilçesinde yaşayan toplam 108 üreme çağındaki kadınlar oluşturmuştur. Araştırmanın verileri araştırmacı tarafından oluşturulan "kişisel bilgi formu" ve "genital hijyen davranışları ölçeği (GHDÖ) ile toplanmıştır.

Bulgular: Kadınların GHDÖ'den aldıkları toplam puan ortalamalarının "74,33±26,12" olduğu saptanmıştır. GHDÖ'nin alt boyutlarının puan ortalamalarına bakıldığında, genel hijyen alışkanlıkları alt boyututnun 40,12±14,23, adet hijyeni alt boyutunun 24,27±9,43, anormal bulgu farkındalık alt boyutunun 9,92±3,86 olduğu bulunmuştur. Ölçek toplam puan ortalaması üniversite ve üstü mezunlarda (p=0,001), gelir durumu iyi olanlarda (p=0,003) ve daha önceden genital hijyen eğitimi alanlarda (p=0,010) daha yüksek bulunmuştur. Araştırmadan elde edilen sonuçlar doğrultusunda genital hijyenin sürdürülmesinde kadınların erken yaşlarda eğitilerek farkındalıklarının arttırılması oluşabilecek komplikasyonların önüne geçerek kadın sağlığının geliştirilmesine katkı sağlayacaktır.

Sonuç: Çalışmamızda üreme çağında bulunan kadınların genital hijyen davranışlarının olumlu olduğu ve eğitim, gelir durumu, daha önceden genital hijyene yönelik eğitim alma gibi değişkenlerin genital hijyen davranışlarını etkisi olduğu saptanmıştır.

Keywords: Kadın, üreme çağı, genital hijyen

Corresponding Author:
Arzu Abiç, arzu.abic@emu.edu.tr

Cite this article as: Abiç A. Determination of genital hygiene behaviors and affecting factors of women of reproductive age. Mediterr Nurs Midwifery. 2025; 5(1): 31-38

Received: May 24, 2024
Accepted: August 08, 2024
Epub: February 03, 2025
Publication Date: April 21, 2025

Introduction

It is estimated that approximately 75% of women worldwide are exposed to genital infections on an annual basis (1). The relatively high prevalence of genital infections may be attributed to the fact that the genital area serves a multitude of functions, including micturition, defecation, sexual intercourse, sweating, and secretion. Additionally, the anus, vagina, and urethra are in close proximity to one another in women (2,3). Furthermore, unfavorable environmental conditions, compulsory use of unhygienic toilets, vaginal douche habit, nutrition, and menstrual hygiene, and improper genital hygiene all contribute to the risk of genital infections. A number of studies have indicated that inadequate genital hygiene may give rise to the development of genital infections and often result in abnormal genital discharge (4,5). Genital infections are also known to be the most prevalent cause of hospital admissions in reproductive health. The most notable symptom of genital infection is abnormal genital discharge. The majority of women do not consider genital discharge as a significant issue and therefore do not seek treatment. If genital infections are not identified and treated in a timely manner, they may progress to pelvic inflammatory disease and even genital organ cancer, which can have a detrimental impact on a woman's fertility (6-8). Despite the fact that genital infections are among the diseases that can be easily prevented and treated, it is well documented that they represent a significant threat to women's health, with a high incidence of complications (9).

The most effective and cost-efficient method for preventing genital infections is the correct application of genital hygiene practices (7,9). Genital hygiene behavior refers to care practices developed by individuals in line with their knowledge, beliefs, and habits. This behavior is influenced by several factors, including age, education level, income status, fertility, unprotected sexual intercourse, general hygiene behaviors, and knowledge about hygiene (10). To safeguard women's well-being and avert genital infections, nurses must equip women with knowledge about genital tract infections and facilitate the development of optimal genital hygiene behaviors. The assessment of reproductive women's knowledge and behaviors regarding genital hygiene may contribute to an increase in the number of educational activities. The objective of this study was to ascertain the prevalence and determinants of genital hygiene behaviors among reproductive-age women.

Main Points

- Women of reproductive age demonstrate positive behaviors related to genital hygiene.
- The genital hygiene behaviors of women of reproductive age are influenced by age, education level, income level, and previous education in genital hygiene.
- Women who received genital hygiene education exhibited more positive genital hygiene behaviors than women who did not receive genital hygiene education.

Objectives

The objective of this descriptive study was to ascertain the genital hygiene behaviors of women of reproductive age residing in the Famagusta district of Turkey (TRNC).

Research Questions

- What behaviors do women of reproductive age engage in to maintain genital hygiene?

- What factors influence the genital hygiene behaviors of reproductive-age women?

Material and Method

Population and Sampling

The study population consisted of women of reproductive age (15-49 years) who had applied to the Famagusta Maraş Development Academy in the Famagusta district of the TRNC. The Famagusta Development Academy is a center affiliated with the Famagusta Municipality. The center offers a variety of activities, including yoga, Pilates, painting courses, drama, and others, which are accessible to the local population. The required sample size was calculated using OpenEpi v. 3.0 (Online). Based on the assumption that the number of women applying to the center in two months is 175 and the expected prevalence is 50%, the minimum sample size was calculated to be 107 for a two-sided maximum type 1 error margin of 5%, a 95% confidence interval, a statistical power of 0.90, and a pattern effect of 1. A similar sample size was obtained by performing the sampling calculation $[(N.t^2 \times p.q) / (d^2(N-1)+t^2x(pxq))]$ with a known universe. Consequently, 108 voluntary women between the ages of 15 and 49 who could read and write in Turkish were included in the study.

Data Collection Procedures

The data were collected through face-to-face interviews conducted between March 25, 2023, and May 25, 2023. The interviews took place at the Development Academy, where the women were attending the event. Prior to data collection, participants were informed about the research and were asked to sign the "informed volunteer consent form". The data collection process took approximately 10 minutes.

Data collection tools

The personal information form and genital hygiene behavior scale were used for data collection.

Personal information form

The form was developed by the researchers through a review of the relevant literature (6,7,10) and consists of 21 questions designed to identify the descriptive and genital hygiene characteristics of the participants.

Genital hygiene behavior scale (GHBS)

The GHBS is a five-point Likert scale developed by Karahan (11). The scale consists of 23 items, which are grouped into three subscales: general hygiene (items 1-12), menstrual hygiene (items 13-20), and abnormal finding awareness (items 21-23). The items were scored on a five-point Likert scale, with scores ranging from 1 (strongly disagree) to 5 (strongly agree). Items 7, 14, 19, 20, and 23 were reverse scored. Possible scores ranged from 23 to 115, with higher scores indicating more positive genital hygiene behavior. The Cronbach's alpha of the scale was 0.80 (11).

Statistical Analysis

SPPS version 25.0 was used for data analysis. Normality and homogeneity of variables were assessed by Shapiro-Wilk and Levene tests. The results indicated the need for nonparametric data analysis techniques. The Mann-Whitney U test was used to compare paired groups, whereas the Kruskal-Wallis H test was employed to compare three or more groups. When the results of the Kruskal-Wallis H test were found to be statistically significant, the Mann-Whitney U test was used to identify whether there were any significant differences between the groups. Bonferroni correction was applied when a significant difference was observed between the two groups. Descriptive statistics include number, percentage, mean, and standard deviation. Statistical significance was set at $p<0.05$.

Ethical Considerations

Prior to the commencement of the study, ethical approval was obtained from the Scientific Research and Publication Ethics Boards of East Mediterranean University (no: ETK00-2023-0054, date: 23.03.2023).

Results

Table 1 presents the socio-demographic characteristics of the participants. The mean age of the participants was 26.39±8.04 years, with 57.4% of the participants falling within the 21-30 age group. The majority of the participants, 62.0%, were single, 64.8% had obtained a university degree, 60.2% were unemployed, and 46.3% had an income that was less than their expenses.

Table 2 shows that 73.1% of the participants had previously received information on genital hygiene, with 34.3% having received this information at school. Furthermore, 87% of the participants cleaned the genital area from front to back, 97.2% used products, such as cream and perfume in genital cleaning, 76.9% had regular menstruation, 91.7% took a shower standing up, 40.7% shaved pubic hair, and 55.6% did not receive education on vaginal discharge. We also found that 49.1% of the participants had vaginal discharge with an unpleasant odor, and 18.5% frequently changed their underwear in response to the discharge. Finally, 59.3% of the participants had previously experienced a urinary tract infection, 34.3% had sought medical attention for this condition, 87.0% had undergone regular gynecological examinations, 89.8% had placed particular emphasis on maintaining the genital area in a dry state, and 65.7% had utilized cotton underwear.

Table 3 presents the scores for the GHBS and its subscales. The mean total GHBS score was 74.33±26.12. The mean scores for the general hygiene, menstrual hygiene, and abnormal finding awareness subscales were 40.12±14.23, 24.27±9.43, and 9.92±3.86, respectively.

Table 4 compares the GHBS scores according to the various descriptive characteristics. A statistically significant difference was observed between the education level and the scores obtained from the GHBS (X^2=10.20; p=0.006), as well as its subscales of general hygiene (X^2=9.41; p=0.009) and menstrual hygiene (X^2=14.08; p=0.001). The participants with an education level of university or above exhibited statistically significant higher scores on the GHBS (U=545.5; p=0.001) and its subscales of general hygiene (U=563.0; p=0.002) and menstrual hygiene (U=481.0; p=0.000) when compared with those who had graduated from secondary schools. Additionally, a statistically significant difference was observed between income levels and scores obtained from the GHBS (X^2=11.90; p=0.003) and its subscales of general hygiene (X^2=12.46; p=0.002) and menstrual hygiene (X^2=9.95; p=0.007). The participants who earned an income equal to their expenses exhibited statistically significant higher scores on the GHBS (U=761.5; p=0.001) and its subscales of general hygiene (U=761.0; p=0.001) and menstrual hygiene (U=792.5; p=0.002) when compared with the participants with an income less than expenses.

Table 1.
Sociodemographic characteristics

Variables	**n**	**%**
Age group		
18-20 years	19	17.6
21-30 years	62	57.4
31 years and above	27	25.0
Age Mean±SD: 26.39±8.04 - **Median:** 22.00- **Min:** 18.0- **Max:** 51.0		
Marital status		
Single	67	62.0
Married	41	38.0
Education level		
Primary school	11	10.2
Secondary and high school	27	25.0
University and above	70	64.8
Working status		
Employed	43	39.8
Unemployed	65	60.2
Income level		
Less than expenses	50	46.3
Equal to expenses	49	45.4
More than expenses	9	8.3

Table 2.
Descriptive information about genital hygiene practices

Variables	n	%
Has ever received information on genital hygiene		
Yes	79	73.1
No	29	26.9
Source of information on genital hygiene		
Friends	15	13.9
Social and mass media	12	11.1
Health professionals	15	13.9
School	37	34.3
Did not receive information	29	26.9
Method of genital area cleaning		
Front to back	94	87.0
Back to front	14	13.0
Uses products (cream, perfume) in genital cleaning		
Yes	3	2.8
No	105	97.2
Regular menstruation		
Yes	83	76.9
No	25	23.1
Bathing position		
Sitting	9	8.3
Standing	99	91.7
Pubic hair removal by		
Waxing	25	23.1
Shaving	44	40.7
Epilator	26	24.1
No pubic hair	13	12.0
Training on vaginal discharge		
Yes	48	44.4
No	60	55.6
Presence of foul-smelling discharge		
Yes	53	49.1
No	55	50.9
Reactions to foul-smelling discharge		
Visited a health center	17	15.7
Vaginal douching	2	1.9
Frequently changed underwear	20	18.5
Did nothing	7	6.5
Used daily pads	4	3.7
Drank a lot of water	3	2.8
Did not experience	55	50.9
Previous experience of urinary tract infection		
Yes	64	59.3
No	44	40.7
Reactions to urinary tract infection		
Visited a health center	37	34.3
Did nothing	11	10.2
Cleaned genital area with vinegar	3	2.8
Drank a lot of water	10	9.3
Used medications	3	2.8
Did not experience	44	40.7
Regular gynecological examination		
Yes	14	13.0
No	94	87.0
Keeps genital area dry		
Yes	97	89.8
No	11	10.2
Underwear fabric		
Cotton	71	65.7
Synthetic	37	34.3

Table 3.
Descriptive statistics on the GHBS scores

Scales	Mean	SD	Median	Min.	Max.
GHBS Total	74.33	26.12	86.00	24.0	115.0
General hygiene	40.12	14.23	47.00	12.0	60.0
Menstrual hygiene	24.27	9.43	26.00	8.0	40.0
Abnormal finding awareness	9.92	3.86	11.00	3.0	15.0

SD=Standard deviation, Min= Minimum, Max= Maximum

Table 4 demonstrates a statistically significant difference between receiving information on genital hygiene and the median rank scores obtained from the GHBS (U=776.5; p=0.010), as well as its subscales of general hygiene (U=818.5; p=0.023), menstrual hygiene (U=820.05; p=0.024), and abnormal finding awareness (U=862.0; p=0.048). The participants who had previously received genital hygiene training demonstrated higher scores on the GHBS and its subscales than those who had never received any information on the subject.

Table 4.
Comparison of the GHBS scores according to descriptive characteristics

Variables	n	GHBS Total				General hygiene				Menstrual hygiene				Abnormal finding awareness			
		Mean	SD	Median	Mean rank	Mean	SD	Median	Mean rank	Mean	SD	Median	Mean rank	Mean	SD	Median	Mean rank
Age group																	
a-18-20 years	19	71.21	23.48	82.00	47.97	37.63	12.68	44.00	45.95	24.00	8.10	27.00	53.18	9.58	3.93	11.00	52.21
b-21-30 years	62	75.71	26.11	88.00	56.09	41.26	14.13	47.00	57.10	24.61	9.28	27.00	55.72	9.84	3.94	11.00	53.74
c-31 years and above	27	73.37	28.54	84.00	55.44	39.30	15.67	46.00	54.56	23.70	10.88	23.00	52.63	10.37	3.74	11.00	57.85
Statistical analysis		X^2=1.01 p=0.604				X^2=1.84 p=0.397				X^2=0.224 p=0.894				X^2=0.453 p=0.798			
Marital status																	
Single	67	75.10	25.88	87.00	54.33	40.78	14.23	47.00	55.19	24.04	8.80	27.00	53.56	10.28	3.99	11.00	58.22
Married	41	73.07	26.80	84.00	54.78	39.07	14.35	46.00	53.37	24.66	10.49	24.00	56.04	9.34	3.62	10.00	48.43
Statistical analysis		U= 1362.0 p=0.942				U= 1327.0 p=0.768				U= 1310.5 p=0.690				U= 1124.5 p=0.113			
Education level																	
a-Primary school	11	75.00	28.48	84.00	55.05	41.55	15.36	46.00	58.45	23.45	10.19	23.00	52.32	10.00	4.47	12.00	56.64
b-Secondary and high school	27	60.41	26.66	51.00	38.09	32.52	14.53	26.00	38.52	18.67	8.35	19.00	35.59	9.22	4.29	8.00	50.28
c-University and above	70	79.60	23.85	88.00	60.74	42.84	13.03	47.50	60.04	26.57	8.89	27.50	62.14	10.19	3.62	11.00	55.79
Statistical analysis		**X^2=10.20 p=0.006 / c>b**				**X^2=9.41 p=0.009 / c>b**				**X^2=14.08 p=0.001 / c>b**				X^2=0.669 p=0.71 6			
Working status																	
Employed	43	75.63	27.91	88.00	58.63	40.26	14.96	47.00	56.42	25.63	10.78	28.00	59.56	9.74	3.67	10.00	51.93
Unemployed	65	73.48	25.06	85.00	51.77	40.05	13.85	46.00	53.23	23.38	8.40	26.00	51.15	10.05	4.01	11.00	56.20
Statistical analysis		U=1220.0 p=0.265				U=1315.0 p=0.604				U=1180.0 p=0.172				U=1287.0 p=0.485			
Income																	
a-Less than expenses	50	68.72	25.07	82.00	45.89	37.22	13.87	44.00	46.00	22.00	8.47	24.50	46.12	9.50	4.04	10.00	51.41
b-Equal to expenses	49	82.47	24.29	90.00	65.81	44.47	13.07	49.00	65.99	27.35	9.43	28.00	64.91	10.65	3.49	11.00	59.73
c-More than expenses	9	61.22	30.70	48.00	40.78	32.67	16.56	26.00	39.17	20.22	10.46	15.00	44.39	8.33	4.47	8.00	43.17

Table 4.
Continued

Variables	n	GHBS Total				General hygiene				Menstrual hygiene				Abnormal finding awareness			
		Mean	**SD**	**Median**	**Mean rank**	**Mean**	**SD**	**Median**	**Mean rank**	**Mean**	**SD**	**Median**	**Mean rank**	**Mean**	**SD**	**Median**	**Mean rank**
Statistical analysis		**X^2=11.90 p=0.003 / b>a**				**X^2=12.46 p=0.002 / b>a**				**X^2= 9.95 p=0.007 / b>a**				X^2= 3.07 p=0.215			
Received genital hygiene education																	
Yes	79	78.19	24.44	88.00	59.17	42.23	13.13	47.00	58.64	25.58	9.19	27.00	58.62	10.38	3.73	11.00	58.09
No	29	63.83	28.06	73.00	41.78	34.41	15.73	37.00	43.22	20.72	9.33	22.00	43.28	8.69	4.04	9.00	44.72
Statistical analysis		**U=776.5 p=0.010**				**U=818.5 p=0.023**				**U=820.0 p=0.024**				**U=862.0 p=0.048**			
Source of genital hygiene education																	
a-Friends	15	70.87	28.34	87.00	53.47	38.33	15.09	47.00	53.10	23.40	9.92	25.00	52.07	9.13	4.60	10.00	48.83
b-Social and mass media	12	52.00	24.52	46.00	34.08	27.75	12.47	25.00	32.58	16.58	9.13	13.00	30.42	7.67	3.98	7.50	36.71
c-Health professionals	15	74.47	27.87	84.00	55.57	40.60	15.63	46.00	58.33	23.60	10.08	22.00	52.07	10.27	4.20	11.00	58.27
d-School	37	91.16	8.17	90.00	71.08	49.16	3.96	49.00	69.46	30.19	5.23	29.00	73.08	11.81	2.22	12.00	68.70
e-Did not receive education	29	63.83	28.06	73.00	41.78	34.41	15.73	37.00	43.22	20.72	9.33	22.00	43.28	8.69	4.04	9.00	44.72
Statistical analysis		**X^2= 20.30 p= .000 / d>b d>e**				**X^2= 18.36 p= .001 / d>b – d>e**				**X^2= 24.07 p= .000 / d>b – d>e**				**X^2= 15.19 p= .004 / d>b – d>e**			

*Bonferroni correction was performed for differences between two groups; **X^2**=Kruskal-Wallis H, **U**= Mann-Whitney, SD= standard deviation*

Furthermore, a statistically significant difference was observed between the source of information on genital hygiene and the median rank scores obtained from the GHBS (X^2=20.30; p=0.000), and its subscales of general hygiene (X^2=18.36; p=0.001), menstrual hygiene (X^2=24.07; p=0.000), and abnormal finding awareness (X^2: 15.19; p=0.004). The participants who received information on genital hygiene at school obtained higher scores on the GHBS and its subscales than those who received information via social and mass media as well as those who had never received any information.

Discussion

Genital infections have emerged as a significant public health concern, affecting both developed and developing countries. In order to safeguard women's reproductive health and well-being, it is imperative to prioritize prevention strategies for genital infections. A growing body of evidence suggests that genital hygiene behaviors play a pivotal role in the occurrence and prevention of genital tract infections (12-14). In order to prevent genital infections, it is essential to identify and correct any inappropriate genital hygiene behaviors, as well as to encourage the development of positive hygiene practices. In this context, the aim of this study was to determine the genital hygiene behaviors of reproductive women and the factors affecting.

The study found that 73.1% of the participants received information on genital hygiene, with 34.3% indicating that the source of this information was their schools. When most literature studies are examined, women receive genital hygiene training. However, Toroman et al. (15). It has been reported that almost all women do not receive genital hygiene training. Education on genital hygiene is a lifelong process that begins in the family and continues in schools. It is particularly important to instill this knowledge early in life because it can have a significant impact on the occurrence of genital infections. Factors such as maintaining genital area dryness, the method of cleaning the genital area, the products used for genital cleaning, and the bathing position can influence the likelihood of developing genital infections (16-18). The majority of the participants in our study engaged in genital hygiene practices that involved cleaning the genital area from front to back, refraining from the use of products such as cream and perfume during genital cleaning, taking a shower in a standing position, and wearing underwear made of cotton.

The participants of this study exhibited moderate-to-high GHBS scores, indicating positive genital hygiene practices. Previous studies on different populations have reported GHBS scores ranging from 68.63±4.83 to 95.25±8.57 (18-21). The extent to which women engage in genital hygiene behaviors varies. While some studies have indicated that women's genital hygiene behaviors are at an optimal level, others have reported that they are not. Similar to our findings, Kurt et al. (18) found that the mean GHBS score of women who visited a gynecology polyclinic in Turkey was 68.63±4.83. The mean GHBS scores in the study of Demirağ et al.(22) on female students in a vocational health school in Gümüşhane province of Turkey were 86.89±7.124. In the studies of Abiç et al. (23), the GHBS scores of adolescent girls were reported as 85.85±9.64. However, there are also findings in the literature that do not support our results (22,24,25). Özkan and Tosun (24) found that the GHBS scores were lower in female workers. In their study conducted by Ratna et al. (25) with Indonesian women aged 15-24, they found the genital hygiene knowledge scores to be 59,710. Despite technological advancements, low levels of genital hygiene practices remain a concern, which may be improved through health education.

The study found that 64.8% of the participants had graduated from university. Education level is an important factor affecting general health and genital hygiene behaviors. A statistically significant intergroup difference was observed between the level of education and the scores obtained from the GHBS and its subscales of general and menstrual hygiene ($p<0.05$). The findings indicated that an increase in education level was associated with higher scores on the GHBS and its subscales of general and menstrual hygiene. Participants with a university education level or above exhibited statistically significant higher scores on the GHBS and its subscales of general hygiene and menstrual hygiene than those who had graduated from secondary schools. Our findings align with those of previous studies, which demonstrated that education level of women has a positive effect on genital hygiene behaviors (16,26). Various studies have reported a positive correlation between the levels of education and health literacy (27-29). Consequently, we may infer that higher levels of education among the participants of this study may have facilitated the implementation of proper health behaviors, which, in turn, may have contributed to a higher level of GHBS.

The results revealed that 60.2% of the participants were unemployed, and 46.3% had an income that was lower than their expenses. Participants who earned an income equal to their expenses exhibited statistically significant higher scores on the GHBS and its subscales of general hygiene and menstrual hygiene ($p<0.05$). The results of this study are consistent with those of Kurt et al. (18), who found that the frequency of genital infection was higher in women with low incomes than in those with high incomes. This finding may be explained by the possibility that an increase in income could result in greater access to health facilities and hygiene materials.

The GHBS scores of the participants who received information on genital hygiene were significantly higher than those who did not ($p<0.05$). The subsequent analysis demonstrated that the information received at the school was more effective than the other methods of gathering information ($p<0.05$). Health education aims to improve individuals' health by providing knowledge, attitudes, and behaviors on health-related issues. The positive genital hygiene behaviors exhibited by the participants who received information on genital hygiene education can be interpreted in light of the aforementioned information.

Study Limitations

This research is limited to women aged 15-49 who are registered at Famagusta Maraş Development Academy. Therefore, the results can only be generalized to women. Qualitative studies can be conducted to collect more detailed data.

Conclusion

The findings of this study indicate that the genital hygiene behaviors of women of reproductive age are, for the most part, positive. The results also indicate that women's education and income levels and previous knowledge of genital hygiene are associated with more positive genital hygiene behaviors. Improved genital hygiene behaviors are associated with a reduction in the incidence of genitourinary infections and enhanced women's health, which, in turn, contributes to the health economy of the country. Based on these findings, nurses should consider femalesing proper genital hygiene behaviors. Further studies with a larger sample size will provide more comprehensive insights.

Ethics

Ethics Committee Approval: Prior to the commencement of the study, ethical approval was obtained from the Scientific Research and Publication Ethics Boards of East Mediterranean University (approval no: ETK00-2023-0054, date: 23.03.2023).

Informed Consent: Prior to data collection, participants were informed about the research and were asked to sign the "informed volunteer consent form".

Footnotes

Funding: The author declared that this study received no financial support.

References

1. Centers for disease control and prevention, CDC. Sexually transmitted diseases treatment guidelines 2010. Available from: http://www.cdc.gov/std/treatment/2010/vaginaldischarge.htm, Access date: 11.02.2024.
2. Graziottin A. Maintaining vulvar, vaginal and perineal health: Clinical considerations. Womens Health (Lond). 2024;20:17455057231223716. [Crossref]

3. Akca D, Türk R. Determination of genital hygiene behaviors of women. Kafkas J Med Sci. 2021;11(1):1-9. [Crossref]
4. Adıbelli D, Kılınç NÖ. Genital hygiene practices in 18-49 age group women working in greenhouse agriculture in rural areas. JAREN. 2021;7(1):26-35. [Crossref]
5. Majigo MV, Kashindye P, Mtulo Z, Joachim A. Bacterial vaginosis, the leading cause of genital discharge among women presenting with vaginal infection in Dar es Salaam, Tanzania. Afr Health Sci. 2021;21(2):531-537. [Crossref]
6. Bilgiç D, Yüksel P, Gülhan H, Şirin F, Uygun H. Genital Hygiene Behaviors and Resulting Health Status of Female Students Staying in A University Dormitory. ACU Sağlık Bil Derg. 2018. [Crossref]
7. Karadeniz H, Öztürk R, Ertem G. Analysis of genital hygiene behaviors of women who applied to women's illnesses and birth policlinic. Erciyes Medical Journal. 2019;41(4):402-408. [Crossref]
8. Centers for Disease Control and Prevention. STDs in Women and Infants - 2018 Sexually Transmitted Diseases Surveillance. 2019. [Crossref]
9. Felix TC, de Araújo LB, Röder DVDB, Pedroso RDS. Evaluation of vulvovaginitis and hygiene habits of women attended in primary health care units of the family. Int J Womens Health. 2020;12:49-57. [Crossref]
10. Calik YK, Erkaya R, Ince I, Yildiz NK. Genital hygiene behaviors of women and their effect on vaginal infections. Clin Exp Health Sci. 2020;10:210-216. [Crossref]
11. Karahan N. Development of a genital hygiene behavior scale: validity and reliability study. Istanbul Medical Journal. 2017;18(3):157-162. [Crossref]
12. Umami A, Paulik E, Molnár R, Murti B. The relationship between genital hygiene behaviors and genital infections among women: a systematic review. Jurnal Ners. 2022;17(1):89-101. [Crossref]
13. Holdcroft AM, Ireland DJ, Payne MS. The vaginal microbiome in health and disease-what role do common intimate hygiene practices play? Microorganisms. 2023;11(2):298. [Crossref]
14. Daşıkan Z, Kılıç B, Baytok C, Kocairi H, Kuzu S. The genital hygiene practices of women who have genital discharge gynecology outpatient clinic. Gümüşhane University Journal of Health Sciences. 2015;4(1):113-124. [Crossref]
15. Toraman B, İldan Çalım S, Biçici S. The genital hygiene behavior of women living in a women's shelter: the case of Manisa province. Journal of Samsun Health Sciences. 2021;6(3):625-640. [Crossref]
16. Belayneh Z, Mekuriaw B. Knowledge and menstrual hygiene practice among adolescent school girls in southern Ethiopia: a cross-sectional study. BMC Public Health. 2019;19:1595. [Crossref]
17. Yurttaş Akar ÇB. Bir Aile Sağlığı Merkezi'ne kayıtlı 15-49 yaş kadınlar arasında vajinit prevalansı ve etkileyen faktörlerin belirlenmesi. Ebelik ve Sağlık Bilimleri Dergisi. 2020;3(2):100-114. [Crossref]
18. Kurt M, Durmuş M, Zengin N. Investigation of genital hygiene behaviors of women. J Health Pro Res. 2020;2(3):113-120. [Crossref]
19. Kartal YA, Engin B, Teke B. Genital hygiene behaviors of midwifery students. International Journal of Caring Sciences. 2020;13(3):2029-2036. [Crossref]
20. Tiryaki S, Gezginci E, Göktaş S. Determination of genital hygiene behaviors of faculty of health sciences students. Journal of Inonu University Health Services Vocational School. 2021;9(2):510-522. [Crossref]
21. Şolt A, Hür S, Karaman S, Avcı N, Aka N. Effects of genital hygiene behaviors of midwifery and nursing students on vaginal and urinary tract ınfections IGUSABDER. 2022;16:202-222. [Crossref]
22. Demirağ H, Hintistan S, Cin A, Tuncay B. Investigation of genital hygiene behaviors of health services vocational school students. Bozok Med J. 2019;9(1):42-50. [Crossref]
23. Abiç A, Yatmaz G, Altinisik M, Can AA. Effects of planned education on genital hygiene behavior of adolescent females in a secondary school: a quasi-experimental study in Northern Cyprus. African Journal of Reproductive Health. 2024;28(2):107-115. [Crossref]
24. Özkan E, Tosun H. Investigation of genital hygiene behaviors and related factors in women applied to gynecology polyclinic. STED. 2023;31(6):418-427. [Crossref]
25. Ratna RN, Mariza A, Yuviska IA, Putri RD. The effect of vulva hygiene education video media on the knowledge level and attitude of adolescent women with fluor albus. JKM (Jurnal Kebidanan Malahayati), 2023;9(2):293-301. [Crossref]
26. Yesilcicek Calik K, Erkaya R, Ince G, Korkmaz Yildiz N. Genital hygiene behaviors of women and their effect on vaginal infections. Clinical Experimental Health Sciences. 2020;10:210-216. [Crossref]
27. Ozen N, Bal Ozkaptan B, Coskun S, Terzioglu F. Health literacy of nursing students and its effective factors. Nurs Forum. 2019;54:396-402. [Crossref]
28. Peerson A, Saunders M. Health literacy revisited: what do we mean and why does it matter? Health Promot Int 2009;24:28596. [Crossref]
29. Yılmaz M, Tiraki Z. What is the Health Literacy? How Assessment?. DEUHFED. 2016;9:142-147. [Crossref]