


■ Original Article

## Investigation of genital hygiene behavior: An example of slum area

### *Genital hijyen davranışlarının belirlenmesi: Gecekondu bölgesi örneği*

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#### ABSTRACT

**Aim:** This study was conducted to evaluate the genital hygiene behaviors of women living in a slum area.

**Method:** This descriptive research, which was conducted with women living in low socioeconomic level in Akıncılar and Suluca region of Adana. The population of the study was composed of approximately 420 women who living in Akıncılar and Suluca region. The sample was calculated by simple random sampling method and 146 women were included in the study. Data was collected using a Personal Information Form and Genital Hygiene Behaviors Inventory. The obtained data was analyzed using Mann-Whitney U, Kruskal-Wallis and Post-hoc test statistics.

**Results:** It was determined that the average age of the women was  $31.25 \pm 10.42$ , 48.6% of them are illiterate, all of them married, not working and income perceptions are less than the income. It was determined that total median score of women from Genital Hygiene Behaviors Inventory are 46. It was found that the difference between Genital Hygiene Behaviors Inventory median scores of women according to educational status, educational status of spouses, perceptions of nutritional status, smoking status and frequency of changing daily pad were significant ( $p < 0.05$ ).

**Conclusions:** In this research, it was determined that Genital Hygiene Behaviors of women living in a slum area are insufficient.

**Keywords:** genital hygiene, women health, socioeconomic status

**ÖZ**

**Amaç:** Bu araştırma gecekondü bölgesinde yaşayan kadınların genital hijyen davranışlarının belirlenmesi amacıyla yapılmıştır.

**Yöntem:** Tanımlayıcı tipte bu araştırma, Adana'nın Akıncılar ve Suluca bölgesinde yaşayan sosyoekonomik düzeyi düşük kadınlar ile yürütülmüştür. Araştırmanın evrenini Akıncılar ve Suluca bölgesinde yaşayan yaklaşık 420 kadın oluşturmuştur. Örneklemi ise basit rastgele örneklem yöntemi ile hesaplanmış ve 146 kadın araştırmaya dâhil edilmiştir. Veriler; Kişisel Bilgi Formu ve Genital Hijyen Davranışları Envanteri kullanılarak toplanmıştır. Verilerin değerlendirilmesinde Mann Whitney U, Kruskal Wallis ve Post-hoc test istatistiği kullanılmıştır.

**Bulgular:** Kadınların yaş ortalamasının  $31,25 \pm 10,42$  olduğu, %48,6'sının okuryazar olmadığı, tamamının evli olduğu, çalışmadığı ve gelir durumu algılarının gelirlerinin giderlerinden az olduğu belirlenmiştir. Kadınların Genital Hijyen Davranışları Envanteri toplam puan ortanca değeri 46 olarak saptanmıştır. Kadınların eğitim durumları, eşlerinin eğitim durumları, beslenme durumu algıları, sigara içme durumları ve günlük ped değiştirme sıklığı değişkenlerine göre Genital Hijyen Davranışları Envanteri toplam ortanca değerleri arasında istatistiksel olarak anlamlı farklılık saptanmıştır ( $p < 0,05$ ).

**Sonuç:** Bu araştırmada gecekondü bölgesinde yaşayan kadınların genital hijyen davranışlarının yetersiz olduğu saptanmıştır.

**Anahtar kelimeler:** genital hijyen, kadın sağlığı, sosyoekonomik statü

**INTRODUCTION**

Genital infections are one of the health problems from which women have frequently suffered. Genital infections result from many reasons, among which the anatomical structure ranks first. Although the normal vaginal flora in the female reproductive system provides a natural protection mechanism, the risk of the genital infection does increase since the urethra, vagina and anus are juxtaposed [1,2]. In addition, many factors including more than one partner, inappropriate menstrual, toilet and post-coital hygiene habits, the wear of narrow and synthetic clothing, malnutrition, systemic diseases (diabetes), more than one birth, miscarriage and curettage, long and intense stress, long-term antibiotic and steroid use, vaginal douching, tampon use, poor environmental conditions caused by low socio-economic status, and lack of education contribute to the development of genital infections [1,3,4]. Ensuring genital hygiene is one of the most critical elements in the protection and maintenance of women's health and reproductive health.

Susceptibility to the genital infection can increase when great attention is not paid to genital hygiene. Serious complications occur when the infection is not treated [5]. These complications are low birth weight infants, fetal abortion and fetal death, congenital infections in the newborn, ectopic pregnancy, sepsis, cervical cancer, infertility and chronic pelvic pain [1,6]. Moreover, psychological and sexual problems, social isolation, fatigue

and deterioration in the quality of life can be observed in women [7].

Gypsies in Turkey go on with their lives especially in rural areas [8]. It is known that half a million to 5 million Gypsy citizens reside in Turkey [9]. From the past to the present, the Gypsies have maintained their life along with many problems such as social exclusion, poverty, unemployment, housing, and the inability to access and benefit from basic rights and services [8].

Gypsies in Turkey, in general, have been living in the slum areas that are lack of sanitary conditions [10]. Early marriages, adolescent pregnancies, drug addiction, infant and child deaths, difficulties of nomadic life, insufficient hygiene conditions, malnutrition, unprotected sexual intercourse, unwillingness to use condoms, high incidence of infectious diseases, limited use of healthcare resources, lack of communication with health professionals and many negative behaviors affecting health are more common among Gypsies [11-13].

There are many studies examining genital hygiene behaviors in Turkey [5,14-20]. However, a limited number of studies investigating genital hygiene behaviors have been found especially in disadvantaged groups [2,4,21-23]. Midwives and nurses play very important roles in the protection, maintenance, and improvement of women's health. Therefore, identifying disadvantaged groups with especially low socioeconomic status and high environmental risk factors, assessing whether women in this

group are aware of the risk factors for the prevention of genital infections and determining whether they need education are the first actions to be taken in terms of maintaining preventive health services. Thus, this study was aimed to evaluate the genital hygiene practices of women living in slum areas.

## MATERIAL AND METHODS

**Type of research:** This study was conducted in a descriptive manner to evaluate the genital hygiene behaviors of women living in a slum area.

**Research site:** This study was carried out with women living in Akıncılar and Suluca that are densely populated by Gypsies in the district Yüreğir of Adana.

**Population and Sample of Study:** When the population of the study is considered to consists of approximately 420 women living in Akıncılar and Suluca, a minimum of  $n = 146$  women able to be included in the study was calculated by simple random sampling method whose population is known and 146 women were included in the study.

**Inclusion Criteria:** All women, who accepted to participate in the research and were Gypsies and married, were included in the study. Women with communication difficulties and mental disabilities were excluded from the study.

**Data Collection Forms and Tools:** The study data were gathered using a Personal Information Form and Genital Hygiene Behavior Inventory (GHBI).

**1- Personal Information Form:** This is a 22-item data collection form that is prepared by the researcher in accordance with the literature review and evaluates socio-demographic, obstetric and gynecological characteristics of women [2,5,7,21].

**2- Genital Hygiene Behavior Inventory:** GHBI was developed by Ege and Eryılmaz in 2005 [24]. The inventory consists of 27 questions regarding general hygiene, menstrual hygiene, toilet hygiene, and sexual hygiene. GHBI is a one-dimensional measurement tool specific to Turkish culture. The inventory is suitable for all sexually active women found in a group of ages from 15 to 49. Questions in GHBI were answered as "1-never", "2-sometimes", "3-often", "4-always. The negative items (17, 26 and 27) of the inventory were coded in reverse order to ensure compliance with the measurement. The lowest score from the inventory was 27 and the highest score was 108. The total score from the inventory gives the score of genital hygiene behavior. As the score increases, it is understood that genital hygiene

behaviors reach the desired level. Cronbach's alpha coefficient of the scale was 0.86 [24].

**Data Collection:** The data were gathered by the researcher between May 10 to September 10, 2019. The researcher went to the relevant areas once a week on average to collect data. Data were collected through the face-to-face interview method in a suitable environment by protecting the privacy of women who meet the sampling criteria. Data collection was completed within approximately 5-10 minutes.

**Data Evaluation:** Coding and evaluation of the data were carried out in a computer environment. SPSS (Statistical Package of Social Science) 24.0 software was used to analyze the data. Frequency tables and descriptive statistics were employed for the analysis of the data. Kolmogorov-Smirnov test was used to test whether the data are normally distributed, and it was found that they did not exhibit a normal distribution. Mann-Whitney U test was used to compare two independent groups with measurement values while Kruskal-Wallis test was utilized to compare three or more independent groups with measurement values. The post-hoc test was used for further analysis. Results were evaluated at a 95% confidence interval.  $p < 0.05$  was considered statistically significant.

**Ethical Declarations:** The study was conducted in accordance with the principles of the Declaration of Helsinki. The Ethics Committee Decision (Date: 06.05.2019, Permission no: 2019/7/1) permission were obtained from Scientific Research and Publication Ethics Committee of Osmaniye Korkut Ata University. In addition, the objective of the study was explained to the participants and written approval was obtained from them via an informed consent form.

## RESULTS

The mean age of the women was  $31.25 \pm 10.42$  (min: 20 - max: 55). 48.6% of them were illiterate. All were married and were not working. Their incomes were lower than their expenditure. 53.4% of them had 3 or more children. 44.5% of them did not use any contraceptive methods. 46.6% of them had no normal vaginal discharge. 87.7% of them had vaginal douching after sexual intercourse. 76.1% of them changed pad four times or less a day at periods when menstruation was intensified. **Table 1** presents other findings related to the descriptive, obstetric and gynecological characteristics of women.

**Table 1.** Distribution of women according to descriptive, obstetric and gynecological characteristics

Descriptive characteristics	X±SD	Min-Max
Age average	31.25±8.78	20-55
Average number of pregnancies	3.56±2.2	0-18
Average number of children	2.72±1.3	0-9
Average number of curettages	0.74±1.0	0-7
Age average of menarche	12.65±1.2	10-17
Average of smoking per day	13.95±9.3	2-40
	<b>n</b>	<b>%</b>
<b>Educational status</b>		
Illiterate	71	48.6
Literate	6	4.1
Primary school	59	40.1
Secondary school	10	6.8
High school	0	0.0
<b>Educational status of spouse</b>		
Illiterate	39	26.7
Literate	9	6.2
Primary school	76	52.1
Secondary school	14	9.6
High school	8	5.5
<b>Age</b>		
20-29	63	43.2
30-39	53	36.3
40-49	24	16.4
50-59	6	4.1
<b>Working condition</b>		
No	146	100
<b>Income perception</b>		
Income less than expenditure	146	100
<b>Nutritional status perception</b>		
Good	26	17.8
Moderate	47	32.2
Poor	73	50.0
<b>Number of pregnancies</b>		
0-2	46	31.5
3 and over	100	68.5
<b>Number of living children</b>		
0-2	68	46.6
3 and over	78	53.4
<b>Smoking status</b>		
Yes	45	30.8
No	101	69.2
<b>Contraception Methods</b>		
OK	10	6.8
RIA	37	25.3
Condom	3	2.1
Withdrawal	14	9.6
Injection	9	6.2
Tube-ligation	7	4.8
No contraception	65	44.5
<b>Menopause</b>		
Yes	5	3.4
No	141	96.6
<b>Discharge</b>		
Normal, odorless, itchless	78	53.4
Anormal (malodorous/plentiful/itchy,cheesy)	68	46.6
<b>Vaginal douching</b>		
Yes	128	87.7
No	18	12.3
<b>Presence of gynecological disease</b>		
Yes	14	9.6
No	132	90.4
<b>Frequency of changing pad (piece per day)</b>		
0-4	111	76.1
5 and over	35	23.9

**Table 2.** Mean of Genital Hygiene Behavior Scale (GHBS)

Scale	Score mean of GHBI	Median (Min-Max)
<b>n=146</b>		
<b>Total score of GHB</b>	46.17±4.27	46 (36-58)

The total median GHBI value of women was found as 46 (min: 36 - max: 58), as shown in **Table 2**. Cronbach's alpha value of the scale was calculated as 0.658. When the findings comparing the GHBI scores according to the descriptive, obstetric and gynecological characteristics of women were examined, a statistically significant relationship was found between women's educational status and total median values of GHBI ( $p<0.05$ ). Further analysis revealed that the difference results from the illiterate group ( $p<0.05$ ; **Table 3**). There had been a statistically significant relationship between the education status of women's spouses and the total median values of GHBI ( $p<0.05$ ). Further analysis showed that the difference is due to the group who finished high school education ( $p<0.05$ ; **Table 3**). There existed a statistically significant relationship between the nutritional status of women's spouses and the total median values of GHBI [ $p<0.05$ ]. Further analysis demonstrated that the difference was caused by the group with a poor perception of nutritional status ( $p<0.05$ ; **Table 3**). A statistically significant relationship was found between the total median values of GHBI according to the smoking status and daily frequency of pad change of women ( $p<0.05$ ; **Table 3**).

## DISCUSSION

This study was conducted with women living in Akinclar and Suluca rural areas of Adana. The most important feature of these areas is that the socio-economic level is low and gypsies mostly live. It has been found that 48.6% of the gypsy women living in the study area were illiterate, all of them were not working, all of them had poor income perceptions and 50% of them had poor perceptions of nutritional status. Eskioçak et al. (2017) carried out a study on the health of the gypsies living in Edirne. They reported that being born as a gypsy constitutes a disadvantage in terms of healthily holding on to life and gypsies live a disadvantaged life in the fields of housing, nutrition, education, employment and social security [25]. In addition, it has been indicated that the research results carried out in Turkey and worldwide are similar to the scene in Edirne. These studies revealed that the unemployment rate is higher in gypsies, and gypsies are poorer than non-gypsies [25-27]. Kolkurk (2006) also reported that the biggest problems perceived by the gypsies were unemployment, poverty and lack of education [28]. Similarly, a study by Tanriverdi (2014) reported that poverty and unemployment

**Table 3.** Comparison of GHBI scores by the descriptive, obstetric and gynecological characteristics of women

	<b>Total median score of GHBI (min-max)</b>	<b>Test statistics</b>
<b>Educational status</b>		
Illiterate	44(36-57)	<b><math>\chi^2=17.065</math> <math>p=0.002</math></b>
Literate	47.5(42-51)	
Primary school	47(39-56)	
Secondary school	49.5(47-58)	
<b>Educational status of spouse</b>		
Illiterate	45(36-58)	<b><math>\chi^2=10.639</math> <math>p=0.031</math></b>
Literate	45(41-51)	
Primary school	46(38-57)	
Secondary school	48(41-51)	
High school	49.5(46-56)	
<b>Age</b>		
20-29	47(36-58)	$\chi^2=0.787$ $p=0.675$
30-39	46(39-55)	
40-49	47(39-57)	
50-59	41(38-46)	
<b>Nutritional status perception</b>		
Good	49(44-54)	<b><math>\chi^2=15.779</math> <math>p=0.000</math></b>
Moderate	46(36-58)	
Poor	44(38-57)	
<b>Number of pregnancies</b>		
0-2	46(36-58)	$Z=-0.154$ $p=0.877$
3 and over	46(38-57)	
<b>Number of living children</b>		
0-2	46(36-58)	$Z=-0.380$ $p=0.704$
3 and over	46(39-56)	
<b>Smoking status</b>		
Yes	44(36-57)	<b><math>Z=-2.278</math> <math>p=0.023</math></b>
No	47(39-58)	
<b>Contraception Methods</b>		
OK	45.5(42-50)	$\chi^2=2.760$ $p=0.838$
RIA	45(39-57)	
Condom	47(44-48)	
Withdrawal	47(39-55)	
Injection	48(39-51)	
Tube-ligation	50(40-50)	
No contraception	46(36-58)	
<b>Menopause</b>		
Yes	40(38-56)	$Z=-1.926$ $p=0.054$
No	46(36-58)	
<b>Discharge</b>		
Normal, odorless, itchless	46(38-58)	$Z=-0.659$ $p=0.510$
Anormal (malodorous/plentiful/itchy,cheesy)	45(33-54)	
<b>Vaginal douching</b>		
Yes	46(36-58)	$Z=-0.904$ $p=0.366$
No	47(41-53)	
<b>Presence of gynecological disease</b>		
Yes	44.5(39-56)	$Z=-0.213$ $p=0.831$
No	46(36-58)	
<b>Frequency of changing pad (piece per day)</b>		
0-4	45(36-57)	<b><math>Z=-3.888</math> <math>p=0.000</math></b>
5 and over	48(41-58)	

Z-table value: Mann-Whitney U test,  $\chi^2$ -table value: Kruskal-Wallis H test

were the most commonly experienced problems [11]. Consistent with the literature, the disadvantages from which

the gypsies suffered are overlapped with our research findings.

We found that 76.1% of gypsy women changed pad four times or less a day at intensive periods of menstruation. The low frequency of pad changing shows that women have insufficient knowledge about the maintenance of genital hygiene. In a study on the living conditions and genital hygiene practices of seasonal agricultural workers, Yağmur and Ergin (2017) found that only 12.2% of women changed pad 4 or more times per day during menstruation [4]. Karatay and Özvarış (2006) investigated the genital hygiene practices of women living in the slum area and found that 93.3% of women changed pad 4 or less per day [2]. Daşikan et al. (2015) reported that 50.4% of women changed their pads or tampons 1-2 times per day [5]. Other studies also reported that the frequency of changing pad during menstruation was insufficient [14,23,29-31]. We established that 87.7% of the gypsy women applied vaginal douching after sexual intercourse. Vaginal douching, which destroys the normal flora of the vagina, poses a high risk for many female genital diseases and thus predispose women to vaginal infections, is often preferred by women in many countries of the world, especially in Muslim countries [18,32-34]. Pete et al. (2019) reported that women in Cameron used vaginal douching, which has been a cultural practice, and that 53.8% of them have inherited this tradition from their family [33]. Another study in Africa reported that they performed mostly vaginal douching since black women believed that the vagina contained germs [32]. Sunay et al. (2011) reported that women performing vaginal douching had a 3.9-fold higher risk of abnormal vaginal discharge than those who did not [34]. Cangöl and Tokuç (2013) reported that almost all of the women clean their vagina after sexual intercourse [15]. Other studies also indicated that vaginal douching was performed by women within the range of 51.4 to 87% [2, 5, 14, 18]. In line with these results, it is possible to say that some incorrect practices of genital hygiene have still continued to be done.

One of the important indicators of poor genital hygiene behavior is abnormal vaginal discharge. Several studies revealed that insufficient genital hygiene behaviors are one of the most important reasons for vaginal infection [20,31]. We found that 46.6% of the gypsy women had abnormal vaginal discharge (malodorous/abundant/itchy-cheesy). Yağmur and Ergin (2017) reported that approximately one-fifth of women working seasonally in agricultural activities had previously faced vaginal infection [4]. Karatay and Özvarış (2006) stated that 72.8% of the women living in the slum area experienced an abnormal discharge problem in

the past and 28.7% of them have still suffered from abnormal discharge problems [2]. Arslan Özkan and Kulakaç (2011) reported that 30.1% of women prisoners faced abnormal discharge problems [22]. In addition, Yılmaz and Kahraman (2019) found the rate of incidence of abnormal vaginal discharge as 62.7% [35]. Srivastava (2010) reported that 72.6% of women living in the rural areas of India developed one or more genital infections and that more than half of the participating women had poor menstrual hygiene practices [36]. All these results show us that women living in regions with especially low socio-economic level need more gynecological help and counseling.

In this study, the total median value of GHBI of women was found as 46 (min: 36 - max: 58) (**Table 2**). When the lowest score to be obtained from the scale is 27 and the highest score is 108, it can say that the total median values of GHBI of gypsy women are less than expected. This is a possible outcome in especially gypsies who are regarded as disadvantaged groups. When the relevant studies are examined, Ilgaz et al. (2015) found that the total score of GHBI was 72.1, and genital hygiene behaviors in women living in regions with low socioeconomic level were 5.5 times more negative than those living in regions with high socioeconomic level [21]. Arslan Özkan and Kulakaç (2011) found the mean GHBI of female prisoners to be 86.6 [22]. Karatay and Özvarış (2006) also reported that rural life entails a risk for genital hygiene behaviors. A study on Indian women revealed that genital infections were more common in rural areas than in urban those [37]. Research results show that rural life poses a risk for genital hygiene.

A statistically significant relationship was found between the total median values of GHBI of women according to their educational background ( $p < 0.05$ ). Further analysis revealed that the difference was due to the illiterate group ( $p < 0.05$ ; **Table 3**). In other words, a low level of education leads to a decrease in the total score of GHBI. The studies have already reported that the education level of gypsies is generally low [11,25,28]. Tanrıverdi et al. (2014) found that gypsies suffered badly from negativities such as unhealthy nutrition, adverse environmental conditions, inadequate use of secondary and tertiary health care services, poor hygiene and insufficiency in healthy lifestyle behaviors [11]. Koştu and Beydağ (2009) stated that the genital hygiene behaviors of women in high school and higher education level were better [14]. Daşikan et al. (2015) found that women with the educational level of primary education and below experienced more complaints of genital discharge [5]. Yağmur and Ergin found vaginal infection to be mostly seen in the illiterate group [4]. A statistically significant

relationship was found between the total median values of GHBI according to women's perceptions of nutritional status ( $p < 0.05$ ). Further analysis showed the difference resulted from the group with a poor perception of nutritional status ( $p < 0.05$ ; **Table 3**). Women with poor nutritional status perception had lower total median values of GHBI. Tanrıverdi et al. (2014) reported that gypsies could not eat properly due to economic deficiency in general [11]. Half of the women participating in our study were found to have poor perceptions of nutrition. We can say that these emergent outcomes are caused by low socioeconomic level.

Tanrıverdi et al. (2014) reported that smoking was widespread among gypsy women [11]. A statistically significant relationship was found between the total median values of GHBI according to the smoking status of women ( $p < 0.05$ ; **Table 3**). Smoking women had lower total median values of GHBI. We can say that the general health outcomes of women who do not exhibit healthy lifestyle behaviors may be poor and their genital hygiene behaviors may also be more negative. There was a statistically significant relationship between the total median values of GHBI of women according to the frequency of daily pad change during the menstruation period ( $p < 0.05$ ; **Table 3**). Women changing pad 5 or more times per day had a higher total median value of GHBI. Koştu and Beydağ (2009) found that women with more frequent pad change daily had a higher mean score of GHBI [14]. Yağmur and Ergin (2017) found that vaginal infections were highly seen in those with the insufficient frequency of daily pad changing [4]. Kahyaoğlu Süt (2016) reported that changing pad less than 4 during the intensive days of menstruation increases the incidence of a genital infection [17]. Our results show that women frequently changing pads during menstruation care more about genital hygiene behaviors.

## CONCLUSIONS AND RECOMMENDATIONS

The results of this research suggest that women living in slum areas of the province Adana are poor genital hygiene behaviors and women's genital hygiene behavior is affected by educational level, nutritional status, smoking status, and frequency of changing pad daily. It has been found that women have educational requirements of genital hygiene behaviors.

In line with these results, the researcher prepared a training program involving the protection of genital infections and the proper application of genital hygiene practices for women living in the study area.

**DECLARATION OF CONFLICT OF INTEREST**

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