

VAGINAL DOUCHING BEHAVIOR OF WOMEN AND RELATIONSHIP AMONG VAGINAL DOUCHING AND VAGINAL DISCHARGE AND DEMOGRAPHIC FACTORS

Didem SUNAY¹, Erdal KAYA¹, Yusuf ERGUN²

¹ Department of Family Medicine, Ankara Training and Research Hospital, Ankara, Turkey

² Department of Obstetrics and Gynecology, Ankara Training and Research Hospital, Ankara, Turkey

SUMMARY

Objective: To investigate vaginal douching behavior of women and relationship among vaginal douching and vaginal discharge and demographic factors.

Design: Cross-sectional and observational.

Setting: Out-patient clinic of gynecology.

Patients: Two hundred women with abnormal vaginal discharge and 150 women without abnormal vaginal discharge who were married or sexually active and 15-49 years of age were included into study.

Interventions: Questionnaire forms consisted of 13 questions were performed by face to face interviews.

Main outcome measures: Vaginal douching behavior, socio-demographic characteristics and relationship between vaginal discharge and vaginal douching.

Results: It was determined that 59.4% of women had vaginal douching and vaginal douching was commonly made after sexual intercourse (%49.7). Risk of abnormal vaginal discharge was found to be increased 3.9 fold in women who had vaginal douching compared to those who had not ($p=0.001$, $OR=3.86$, %95 Confidence Interval= 0.651-1.534) and vaginal douching behavior was found to be higher in those married and with low income ($p=0.030$ and $p=0.001$, respectively).

Key words: vaginal discharge, vaginal douching

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KADINLARIN VAJİNAL DUŞ DAVRANIŞLARI VE VAJİNAL DUŞUN VAJİNAL AKINTI VE DEMOGRAFİK FAKTÖRLERLE İLİŞKİSİ

ÖZET

Objektif: Kadınların vajinal duş davranışları ve vajinal duş uygulamasının vajinal akıntı ve demografik faktörlerle ilişkisinin araştırılması.

Planlama: Kesitsel ve gözlemsel

Ortam: SB.Ankara Eğitim ve Araştırma Hastanesi jinekoloji polikliniği

Hastalar: Evli veya cinsel olarak aktif olan 15-49 yaş arası, anormal vajinal akıntı şikayeti olan 200 kadın ve vajinal akıntı şikayeti olmayan 150 kadın çalışmaya dahil edildi.

Girişim: On üç sorudan oluşan anket formu hastalarla yüz yüze görüşme tekniği ile uygulandı.

Address for Correspondence: Didem Sunay, SB Ankara Eğitim ve Araştırma Hastanesi, Aile Hekimliği Koordinatörlüğü, 06690 Altındağ, Ankara

Phone: + 90 (312) 595 42 47

e-mail: didemsunay@gmail.com

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Değerlendirme parametreleri: *Vajinal duş davranışı, sosyo-demografik özellikler ve vajinal akıntının vajinal duşla ilişkisi.*
Sonuç: *Kadınların %59,4'nün vajinal duş yaptığı, vajinal duşun en fazla cinsel ilişki sonrası (%49,7) yapıldığı saptandı. Vajinal duş yapmayanlara göre yapanlarda anormal vajinal akıntı görülme riskinin 3,9 kat ($p=0,001$, $OR=3,86$, %95 Güven aralığı= 0,651-1,534) daha fazla olduğu, evli olanlarda ve gelir düzeyi düşük olanlarda vajinal duş alışkanlığının daha fazla olduğu saptandı (sırasıyla, $p=0,030$ ve $p=0,001$).*
Yorum: *Vajinal duş halen yaygın olarak uygulanan ve anormal vajinal akıntı gelişmesini önemli derecede artıran bir davranıştır.*

Anahtar kelimeler: *vajinal akıntı, vajinal duş*

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INTRODUCTION

Vaginal douche (lavage) is the method of cleansing of the vagina with water and with/without solutions and this traditional method is widely used in the world. In most countries vaginal douche is performed to sustain personal hygiene, to reduce discomfort and to prevent pregnancy^(1,2). Women believe that vaginal douche provides genital hygiene. In Islamic countries in addition to the reasons given above women use vaginal douche for religious reasons⁽³⁾.

A number of studies show that different applications of vaginal douche have in fact common threats. Women perform vaginal douche as a necessity for being healthy and hygienic, generally before or after the intercourse, after the period' for the prevention of foul odor, discharge, itchiness and rarely for the protection from sexually transmitted diseases (STD) and pregnancy. Women begin to use vaginal douche with the advice of their mothers' friends and medical personnel. In general water and water with soap is used, it is known that also homemade preparations are used together with commercial products⁽⁴⁾.

However in Turkey, there are different aspects regarding the research for vaginal douche. First of all hygienic use is followed by religious reasons⁽³⁾. However, at this point it would be difficult to draw hypotheses with a single study. Moreover, since post-defecating cleansing is common in our country, this paves the way for more frustrating results when combined with vaginal douche. It has been determined that one fifth of women who perform vaginal douche do this after urinating or defecating⁽³⁾.

Over the last 30 years several scientific studies have been performed to elaborate vaginal douche and its effects on health. The final point that these studies reach is as follows; vaginal douche damages vaginal

flaura and causes many health problems due to the transfer of pathogen microorganisms bottom up⁽⁵⁾. There are only a few studies that show positive effects of vaginal douche over health. Two studies conducted in Africa found evidences that it reduces incidents of HIV and HPV^(6,7). Since these studies were conducted on groups of high risk for sexually transmitted diseases, the hypothesis that they come up to is questionable. Effects of vaginal douche on health are still being discussed. However, most of the opinions are in favour of vaginal douche being a harmful habit. In United States Food and Drug Administration's (FDA) meeting held in 1997 on commercial products used for vaginal douche, scientific proofs were presented to show that vaginal douche is a harmful habit for health which should not be supported. World Health Organization and many other professional organizations report that vaginal douche causes harmful effects on health⁽¹⁾. The hereby study aims to research vaginal douche behaviors of women population served by our hospital, the related factors and the relationship between vaginal douche and vaginal discharge.

MATERIALS AND METHOD

The study, which was planned to be sectional and observational, covered 200 women with abnormal vaginal discharge complaint and 150 women with no vaginal discharge complaint, between ages 15-49, married or sexually active, who applied to gynecology clinic of MoH Ankara Training and Research Hospital. Women at pregnancy or postpartum periods, single women or women who applied for abortion were not included in the research. Discharge with foul odor due to vaginal infection (bacterial vaginosis, candida vaginitis and trichomonas vaginitis), inflammation

characterized with irritation and itching were accepted as abnormal vaginal discharge. All women were informed about the research and their verbal consent was received. Their medical histories were recorded and gynecological examination was performed. This was followed by the face-to-face questionnaire prepared according to literature information and conducted to

inquire vaginal douche behaviors of patients(Appendix 1).

Collected data were processed through SPSS (Statistical Package for Social Science) 15.0 programme. Ki-Square Dependency test was used for categorical data and logistic regression analysis for calculation of risk multipliers. $p < 0,05$ was accepted as meaningful. The

Additional 1:

GENITAL HYGIENE QUESTIONNAIRE TO DETERMINE PATIENTS WITH VAGINAL DISCHARGE

A) SOCIODEMOGRAPHIC CHARACTERISTICS

1. Age: a) 15-20 b) 20-30 c) 30-40 d) 40-49

2. Educational status: a) Illiterate b) Primary school c) High school d) University

3. Occupation:.....

4. Marital status: a) Married b) Single c) Widow d) Other

5. Monthly income: a) <500 TL b) 500-1000 TL c) 1.000-2.000 TL d) >2000 TL

6. The duration of marriage: a) 0-5 years b) 5-10 years c) 10-20 years d) 20 years and ↑

B) INVESTIGATION OF ABNORMAL DISCHARGE AND INFORMATION ABOUT ABNORMAL DISCHARGE

1. Currently, there is an abnormal discharge: a) I have discharge b) I have not discharge

2. Abnormal discharge in the past: a) I had b) I have not

3. How they behave when the abnormal discharge: a) Did nothing, get of spontaneously b) I tried to take care of myself c) I went to a doctor

4. To get information about abnormal discharge a) Yes, I get b) No, I didn't get

5. From where/whom they get information a) Health staff b) TV c) Books

6. Birth control method used: a) COC (pill) b) Barrier (sheath) c) Calendar
d) Coitus interruptus c) IUD (spiral) f) Tube ligation (Tube installed in your home)g) None them

C) GENITAL HYGIENE BEHAVIOUR

1. Frequency of hand washing: a) 8-10 times a day b) 5-7 times a day c) When necessary d) I do not remember
e) Other

2. Hand-washing habits: a) Before going toilet b) After toilet c) Before and after the toilet
b) Before and after the toilet and changing pad

3. The frequency of cleaning the perineum: a) After each toilet b) After each bath

4. Genital hair cleaning: a) Razor/Scissors b) Pine resin/wax c) Depilatory cream

5. Cleaning of genitals region: a) Water b) Water-Toilet paper/cloth
c) Water-Soap/Water-Gel d) All

6. The frequency of bathing: a) 1 time a day b) 2-3 times a week c) 1 time per week d) All

8. Cleaning after sexual intercourse: a) Shower b) Cleaning genital region c) Douche

9. Frequency of vaginal douche: a) Every day at least 1 times b) 1 time per week
c) 1 time per month or less d) I do not

10.Vaginal douche periods: (More than one option can be marked)

a) After sexual intercourse b) After menstruation c) When I want to feel myself fresh
d) Before going to a doctor e) After the bath
f) When I felt odor g) When there is vaginal discharge
h) During menstruation i) After urination and defecation
j) When there is itching k) before sexual intercourse
l) After ablution

11.The reason of vaginal douche: (more than one option can be marked)

a) To feel good and fresh b) Religious beliefs
c) To clean menstrual blood d) To get rid of vaginal odor
e) To ged rid of discharge f) To clean up microbes
g) To prevent pregnancy h)To get rid of vaginal itching and irritation
i) To look clean to my spouse j) Not to go a doctor
k) Because everyone do this l) Habit

12.Substances used for vaginal douche: a) Only water b) Water and soap c) Shampoo
d) Bath gel for genital organs e) Shower gel
f) Antiseptic liquid / cologne g) Vinegar and water

13. Where vaginal douche was learned:	a) Seniors	b) Self	c) Friends
	d) Health staff	e) Religious books and preachers	
14. Cleaning after defecation:	a) Yes	b) No	c) Sometimes
15. Drying after defecation:	a) Yes	b) No	c) Sometimes
	d) Unanswered		
16. Style of cleaning after defecation:	a) From front to back	b) Back to front	
	c) I pay not attention	d) Unanswered	
17. The color of the underwear:	a) White	b) Color	
18. The Type of underwear:	a) Cotton	b) Nylon	c) Satin
	c) Cotton-nylon	d) Other	
19. Frequency of changing underwear:	a) 1 time a day	b) 1 time in 2 days	c) 1 time per week
20. How do they wash underwears:		d) Other	
	a) Whites at high temperatures in the machine	b) Handwash	
	c) Machine at a low temperature with colors	d) By boiling	
21. Washing the wears with the others except family:	a) Yes	b) No	c) Sometimes
22. What they use in menstrual period:	a) Pad	b) Cloth	c) Tampon
23. Frequency of changing pad or cloth:	a) 1-2 times a day	b) 3-4 times a day	c) 5-6 times a day
24. Shower frequency during menstruation:	a) I do	b) I do not	c) Sometimes
25. Type of shower during menstruation:	a) Standing	b) Sitting	
27. Daily pad use:	a) Yes	b) No	c) Sometimes
28. Relationship between the pad changing and hand wash		a) Before changing pad	
		b) After changing pad	
		c) Before and after changing pad	
		d) None of them	

study was conducted with approval of local ethic committee.

RESULTS

Age average of research group was 31,3±8,2. Socio-demographic feature of the group is as follows: 58,6% primary school graduates, 30% high school graduates, 7,4% university graduates, 74,9% unemployed, 50% have family income between 500-999 TL. Birth control methods used by women are 35,1% spiral, 14,3% condom, 14,0% oral contraceptive, 10,4% recession. 23,1% of the women do not use any birth control method (Table I).

The rate of women who expressed their habit of vaginal douche is 59,4%. The performance of vaginal douche takes place after sexual discourse (49,7%), after menstruation (39,1%) and when odor is felt (34,9%). When reasons for performing vaginal douche were questioned, the answers were to get rid of odor (67,1%), clean the germs (60,1%) and get rid of discharge (58,2%). Majority of women who perform vaginal douche learned this by themselves (44,2%), whereas some learned it from health staff professionals (18,3%) and only very few from religious books and Muslim preachers (3,8%) (Table II).

Table I: Socio-demographic characteristics of the study group.

	Patient n (%)	Control n (%)	Total n (%)	p
Education status				0,028
Illiterate	9 (64,3)	5 (35,7)	14 (4,0)	
Primary school	126 (61,5)	79 (38,5)	205 (58,6)	
High school	54 (51,4)	51 (48,6)	105 (30,0)	
University	11 (42,3)	15 (57,7)	26 (7,4)	
Working status				0,749
Not working	151 (57,6)	111 (42,4)	262 (74,9)	
Working	49 (55,7)	39 (44,3)	88 (25,1)	
Marital status				0,232
Married	181 (56,2)	141 (43,8)	322 (92,0)	
Widowed/divorced	19 (67,8)	9 (32,2)	28 (8,0)	
Monthly income				0,865
<500 TL	48 (65,8)	25 (34,2)	73 (20,9)	
500-999 TL	93 (53,1)	82 (46,9)	175 (50,0)	
1000-1999 TL	53 (60,2)	35 (39,8)	88 (25,1)	
≥2000 TL	6 (42,9)	8 (57,1)	14 (4,0)	
Family planning method				0,062
Oral contraceptives	22 (44,9)	27 (55,1)	49 (14,0)	
Condom	23 (46,0)	27 (54,0)	50 (14,3)	
IUD	72 (58,5)	51 (41,5)	123 (35,1)	
Tubal ligation	7 (63,6)	4 (36,4)	11 (3,1)	
Coitus interruptus	19 (52,7)	17 (47,3)	36 (10,4)	
Not protected	57 (70,4)	24 (29,6)	81 (23,1)	

FP: Family planning, IUD: Intrauterine Device

Table II: Vaginal douching status of study group, when and why they do vaginal douche and where did they learn.

	N	%
Frequency of vaginal douche		
Everyday		29,7
1 time per week		25,4
1 time per month		4,3
Period of vaginal douche		
After sexual intercourse	174	49,7
After menstruation	137	39,1
When I want to feel myself fresh	69	19,7
Before going to a doctor	88	25,1
After the bath	57	16,3
When there is odor	122	34,9
When there is vaginal discharge	112	32,0
During menstrual	50	14,3
After urination and defecation	69	19,7
When there is itching	92	26,3
Before sexual intercourse	58	16,6
After ablution	106	30,3
Reasons for performing vaginal douche		
To Feel good and fresh	101	48,6
Religious beliefs	72	34,6
Clean up the menstrual blood	104	50,0
Get rid of vaginal odor	139	67,1
Get rid of discharge	121	58,2
Remove microbes	125	60,1
Prevent pregnancy	26	12,6
Get rid of vaginal itching and irritation	116	55,8
Look clean to my spouse	75	36,1
Not go to a doctor	25	12,0
Because everyone do	1	0,5
Habit	56	26,9
Where vaginal douche was learned		
Seniors	49	23,6
Self	92	44,2
Friends	21	10,1
Health staff	38	18,3
Religious books and preachers	8	3,8

When vaginal discharge and vaginal douche frequencies are compared, a statistically significant difference was determined between women who have vaginal discharge and those who do not have (p=0,001) (Table III). The ratio of women who perform vaginal douche is higher than those who have vaginal discharge. The logistic regression analysis shows that the risk of abnormal vaginal discharge is 3,9 times higher in women who perform vaginal douche in comparison with those who do not (p=0,001, OR=3,86 95% confidence interval = 0,651-1,534).

Women who perform vaginal douche were also evaluated according to their socio-demographic characteristics., this shows that although a significant relationship does not

appear between age, education level and working employment status, there is a significant meaningful relationship between income status and vaginal douche habit. Vaginal douche habit occurs more among those of lower income level (p=0,001) (Table IV).

Table III: The frequency of performing vaginal douche in patient and control groups, and distribution of substances used for vaginal douche.

	Patient n (%)	Control n (%)	Total n (%)	p
Frequency of vaginal douche				0,001
Every day	68 (%56,4)	36 (%34,6)	104 (%29,7)	
Once a week	62 (%69,7)	27 (%30,3)	89 (%25,4)	
Monthly	11 (%73,3)	4 (%26,7)	15 (%4,3)	
I do not	59 (%41,5)	83 (%58,5)	142 (%40,6)	
substances used for vaginal douche				0,770
Water	32 (%69,6)	14 (%30,4)	46 (%22,1)	
Water and soap	73 (%68,9)	33 (%31,1)	106 (%51,0)	
Shampoo	15 (%57,7)	11 (%42,3)	26 (%12,5)	
Vaginal shower gel	13 (%65,0)	7 (%35,0)	20 (%9,6)	
Shower gel	5 (%71,4)	2 (%28,6)	7 (%3,4)	
Antiseptic/cologne	1 (%100,0)	0 (%0,0)	1 (%1,0)	
Vinegar and water	2 (%100,0)	0 (%0,0)	2 (%1,0)	

Table IV: The relationship between socio-demographic characteristics and the habit of vaginal douche.

	Performing Vaginal douche n (%)	Not Performing Vaginal douche n (%)	p
Age			0,299
15-20	17 (%60,7)	11 (%39,3)	
21-30	81 (%59,1)	56 (%40,9)	
31-40	82 (%64,1)	46 (%35,9)	
41-49	28 (%49,1)	29 (%50,9)	
Education status			0,494
Illiterate	9 (%64,3)	5 (%35,7)	
Primary school	128 (%62,4)	77 (%37,6)	
High school	57 (%44,3)	48 (%45,7)	
University	14 (%43,8)	12 (%46,2)	
Working status			0,515
Not working	152 (%58,0)	110 (%42,0)	
Working	56 (% 63,6)	32 (%36,4)	
Marital status			0,030
Married	192 (%59,6)	130 (%40,4)	
Widowed/divorced	7 (%38,9)	11 (%61,1)	
Other	9 (%90,0)	1 (%10,0)	
Monthly income			0,001
<500 TL	59 (%80,8)	14 (%19,2)	
500-999 TL	94 (%43,7)	81 (%46,3)	
1000-1999 TL	50 (%46,8)	38 (%43,2)	
≥2000 TL	5 (%59,4)	9 (%64,3)	

DISCUSSION

Vaginal douche habit which traditionally takes place in our country, is widely used also in other countries as part of feminine hygiene. Vaginal douche causes a decrease in the number of lacto basils in vagina and a decline of tissue resistance, hence the decay of natural vagina flora, which paves the way for openness to infection. One of the most imminent causes of vaginal infections is womb lavage and no matter what is the aim of this action, it modifies the vaginal flora and increases the aptitude for vaginal infections⁽⁸⁻¹¹⁾. Researches show that vaginal douche is an important factor for bacterial vaginosis and the sequence of bacterial vaginosis is 1,8 times higher in women who perform vaginal douche more than once in a week^(12,13). Moreover, there is also researches that claim vaginal douche being a factor that increases the risk for ectopic pregnancy, infertility, low birth weight, premature birth, sexually transmitted diseases, cervical cancer, pelvic inflammation and similar health conditions^(14,15). Our research also proves that abnormal vaginal discharge risk is 3,9 times higher in women who perform vaginal douche when compared with those who do not.

Researches conducted abroad (except for Muslim countries) show that women's womb lavage habit is mostly takes place for cleansing purposes^(9,16-19). It is also known that women perform vaginal douche to prevent post-menstruation odor, and to prevent pregnancy right after sexual discourse^(20,21). In our country most of the women believe that they would not be religiously clean unless they wash inside their womb⁽³⁾. Güzel et al.⁽²²⁾'s study conducted in rural areas of Diyarbakır showed that 91,6% of women conduct vaginal douche due to religious reasons. Most of our women think that local lavage and vaginal douche are necessary to be performed after sexual contact⁽²³⁾. This habit is also performed for birth control purposes and this makes it an even more important issue^(20,24,25). Akin et al.⁽²¹⁾ reported in their study that 54,6% of women perform vaginal douche and the reasons are mostly post sexual contact and religious motives. Karatay et al.⁽²⁰⁾ showed in their study that 72,1% of women perform vaginal douche following sexual discourse. Our study showed that 59,4% of women perform vaginal douche and the occurrence is mostly after sexual discourse and menstruation. Although Islamic belief

requires that general douche (body shower) is performed after sexual discourse, no mention is made to vaginal douche during this shower⁽²⁶⁾.

Most of the researches showed that women mostly perform vaginal douche to feel themselves clean, to get rid of discharge and to clean menstruation blood^(23,25,27,28). Occurrence of vaginal douche to prevent pregnancy is between 0,5-0,9%^(27,28). Our study showed that patients mostly perform vaginal douche to get rid of vaginal odor, to clean germs and to get rid of discharge. While the ratio of those who perform vaginal douche to prevent pregnancy is 12,6%, the ratio of those who perform due to religious belief is 34,6%. Although our consequences mostly comply with literature, the ratio of pregnancy prevention is very high in our study and this shows that women in the region where the study was conducted still see vaginal douche as a birth control method and they need more education on this issue.

Temel et al.⁽²⁹⁾'s study showed that 48,7% of women who perform vaginal douche use only water. Filikçi et al.⁽³⁰⁾'s study also showed similar findings. Research conducted in US showed that commercial products or homemade vinegar-water solutions are widely used⁽³¹⁾. A study conducted in Gambia showed that 57% of women use just water for vaginal douche, whereas 22,2% use water and soap⁽³²⁾. Our study showed that 51% of women use soap and water for vaginal shower, while 22,1 use only water and 9,6% use bath jel used for genitals. The reason why in our country water and soap are more widely used for vaginal douche is that commercial products manufactured for vaginal douche purposes are much more expensive than water and soap.

Temel et al.⁽²⁹⁾'s research showed that 34% of women learn vaginal douche from friends, 23,9% from health professionals, 31,5% from media. McKee et al.⁽²⁷⁾'s research showed that vaginal douche is learnt 35,5% from family, 50% from friends. Çalışkan⁽³⁾ and Foch⁽³³⁾'s study showed that vaginal douche is mostly learnt from elderly people. In Akin et al.⁽²¹⁾'s research 17% of women claimed that they learnt vaginal douche from religious leaders, 6,6% from health professionals. In our study most of the patients (44,2%) claimed that they learnt to perform vaginal douche by themselves, while the ratio of those who learnt from health professionals is 18,3% and those who learnt from religious books and preachers clerks is 3,8%. When compared to other studies, the ratios of self-learning

and learning from health professionals are higher in our research. These findings show that women in our region need training and since they have a very high effect⁽³⁴⁾, also health professionals need in-service training on these subjects.

Temel et al.⁽²⁹⁾'s research drew attention to the fact that 46,6% of women who perform vaginal douche are primary school graduates and there is a significant relationship between education level and this habit. Most of the studies support the correlation between education level and vaginal douche habit^(30,35,36). Our study only shows a statistically significant correlation between income rate and vaginal douche habit and no significant correlation was depicted between vaginal douche habit and age, education level, employment status and duration of length of marriage. However, it was also determined that as the education level increases, the frequency of vaginal douche decreases and this decrease is also valid for women over the age of 40. This might be due to the fact that most of the women in our research group are primary school graduates or illiterates and the rate of women from other education levels is respectively lower.

CONCLUSION

Although it is harmful to feminine health, vaginal douche is still widely performed and highly increases the occurrence of abnormal vaginal discharge. Women need correct information and training on vaginal douche and health professionals have a remarkable responsibility on this.

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