Knowledge And Attitude Towards Vaginal Douching Among Females In Al Ahsa, Eastern Region, Saudi Arabia

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KEYWORDS
Saudi Arabia, Al Ahsa, vaginal douching.
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ABSTRACT:

Background: The practice of cleansing the vagina with water or other liquid solutions is known as vaginal douching (VD). In the female society douching helped them feel clean, healthy, however, vaginal douching has negative health consequences including bacterial vaginosis, upper genital tract infections, and cervical cancer, difficulties conceiving, and a higher risk of ectopic pregnancy.

Objectives: To evaluate the knowledge and attitude towards vaginal douching/hygiene practices among females in the Al-Ahasa region, Saudi Arabia

Methods: A cross-sectional questionnaire-based study was conducted in the eastern province of Saudi Arabia, 2022-2023 among adult females 18 years old and above, living in Al Ahsa, Saudi Arabia. A self-administered online survey was conducted to collect data.

Results: A total of 422 women completed the study survey, 81% were from urban areas. 187 44.3% of the study women reported they practice vaginal douching while 55.7% were not practicing VD. Vaginal douching was, when necessary, among 87 (46.5%), and weekly among 76 (40.6%). The most reported reason for VD was Cleanliness (64.7%) and 62% used antiseptic for douching.

64.5% of women with low education levels practiced VD compared to 41.2% of university graduates with recorded statistical significance (P=.026). Women's age, residence, and employment were insignificantly associated with VD practice.

Regarding the source of information, 29.4% were given information about douching by health workers. Totally, 342 (81%) of the study women had an overall poor knowledge regarding VD and only 80 (19%) had a good knowledge level (figure 1)

Only 27.5% of women with good knowledge practice vaginal douching compared to 48.2% of others with poor knowledge (P=.001). There was no significant relation between women's knowledge regarding VD and its frequency, reasons for practicing, and reasons for not practicing.

The most reported symptoms among women who had undergone vaginal douching included vaginal discharge (54% vs. 44.7% of others).

Conclusions: Most of the participants had poor knowledge and awareness regarding vaginal douching. A minority of participants received information regarding VD from healthcare workers. This warrants raising awareness of vaginal douching among females by organizing awareness campaigns by healthcare professionals to educate females about vaginal douching practices.

Introduction

The practice of cleansing the vagina with water or other liquid solutions is known as vaginal douching (VD). VD is common in societies that consider the female body, menstruation, and sexuality it's filthy. (1,2) Douching, according to female society, helped them feel clean, healthy, healed illnesses, increased their attractiveness to partners, and avoided conception. Furthermore, women used VD to protect themselves from diseases, during menstruation, to feel clean before sexual intercourse and gynecologic

examinations, and to reduce unpleasant odors (2). Moreover, a study shows VD use before oocyte retrieval showed to rate of postoperative infection, compared to females who didn't use VD (1).

Worldwide much research has been conducted regarding VD, A research in Zambia found that women who use specific douches had an increased chance of developing atypical cervical lesions. that particular douches may put women at a greater risk of atypical cervical lesions than water. Certain solutions, such as vinegar, ginger, lemon, sugar, and salt, pose a significant risk of VD (3). Another study in Nigeria found that vaginal douching is common among secondary school females in the study area. The study found that the majority of in-school female teenagers in this area had an incorrect view of vaginal douching and its health repercussions. According to the research, respondents still favor the practice. This is because the primary source of information about douching was the family, which recognized and supported vaginal douching as a good practice (4).

In Saudi Arabia, a clinical trial shows that vaginal washing before cesarean section with povidone iodine or chlorhexidine solutions can lower the risk of postpartum endometritis, postoperative fever, and postoperative wound infections (5).

Douching, according to some women, makes them feel cleaner. However, experts advise against douching since it can cause a variety of health issues, including difficulties conceiving and a higher risk of ectopic pregnancy (6). In addition, negative health consequences include bacterial vaginosis, upper genital tract infections, and cervical cancer linked to elevated risks of acquiring human papillomavirus infection (HPV) (7,8). Since the 1980s, the negative effects of douching in particular have been demonstrated (7). Despite these negative effects, several factors encourage women to continue vaginal douching. These motivational elements include the desire to tighten the muscles in the vagina, sexual pleasure, individual perspective, belief, and religion (9,10).

The Health Network underlines that no substances other than the application of water are advised around the vulva area because a healthy vagina is capable of self-cleaning (6,7). While maintaining good vaginal hygiene is essential, douching is not required. The industry that produces vaginal washing products needs to be held responsible for any potential harm that their products may cause to women (7).

According to health experts, including those at the American College of Obstetricians and Gynecologists (ACOG), women should avoid douching (6). It's normal to have some vaginal odor. A really unpleasant smell might indicate a health issue. Simply bathing the vulva externally with warm water and mild soap will keep it clean because the acidity of the vagina naturally controls microorganisms (6,7).

According to a survey conducted in the municipality of Bolgatanga, the majority of women douche because they are unaware that the behavior has negative health effects (11). Another study conducted on female teenagers in Lalitpur Metropolitan City, Nepal, revealed that their lack of information has resulted in poor genital hygiene practices (12). It is crucial to be aware of the need for information on healthy genital hygiene habits. So, Women's health problems require extensive health education to improve their health.

Products for intimate hygiene are frequently used by women as part of their everyday cleaning practice. There are many different intimate feminine hygiene products available today that can be used for odor control and/or cleanliness, but some of them can change the usual pH level and microbiota needed for infection prevention (13). There is a lot of literature on the internal vaginal environment, but less is known about the exterior vulva and how intimate personal hygiene habits may alter it. Education should be a primary focus because feminine hygiene has not gotten enough emphasis in medical literature.

There is still a lack of information about douching practices and the knowledge of its risks among Saudi Arabian women. In the literature search, no study was conducted in Al Ahsa, Saudi Arabia. As a result, the purpose of the current study aimed to evaluate women's vaginal douching practice, knowledge, and attitude in Al Ahsa, Saudi Arabia.

Materials & Methods

The study was conducted in the eastern province of Saudi Arabia in the year 2022-2023. It was a questionnaire-based cross-sectional study. A sample size of 422 was calculated by a sample size calculator with a 95% confidence interval and a 5% margin of error). Data was collected using a non-probability convenience sampling technique.

Inclusion criteria: Any female, 18 years and above, living in the eastern province of KSA.

Exclusion criteria: Females less than 18 years old, or not living in the eastern province of KSA.

-Study Procedure / Study instrument (data collection method and tools)

A self-administered online survey based on a literature review was distributed to the participants on social media apps. It's available in Arabic & English forms.

Statistical analysis

The data were collected, reviewed, and then fed to Statistical Package for Social Sciences version 21 (SPSS: An IBM Company). All statistical methods used were two-tailed with an alpha level of 0.05 considering significance if the P value is less than or equal to 0.05. Overall knowledge and awareness level regarding vaginal douching was assessed by summing up discrete scores for different correct awareness items. The overall awareness score was categorized as a poor level if the women's score was less than 60% of the overall score and a good level of knowledge was considered if the women's score was 60% or more of the overall score. Descriptive analysis was done by prescribing frequency distribution and percentage for study variables including women's data, and medical and obstetric history. Also, women's practice of vaginal douching and related factors including reasons for practicing and non-practicing were tabulated. Likewise, awareness and knowledge regarding vaginal douching were tabulated while overall knowledge was graphed. Cross tabulation for showing factors associated with vaginal douching and to assess the relation between women's knowledge and their practice of vaginal douching was carried out with Pearson chi-square test for significance and exact probability test if there were small frequency distributions.

Ethical consideration

The ethical approval was obtained from the Ethic Committee for Scientific Research at King Faisal University, Al Ahsa, Hofuf, Saudi Arabia) KFU-REC-2023- FEB-ETHICS626. (At the beginning of the questionnaire, we provided information about the purpose and the protocol of the study. Consent was taken from all participants before proceeding to the questionnaire. Participants were reassured that obtained information will be used for research purposes only.

Since the questionnaire didn't include personal data, the identity of the participants was unknown.

Results

A total of 422 women completed the study survey, most of them (81%) were from urban areas. Women's ages ranged from 18 to more than 60 years with mean age of 25.4 ± 12.9 years old. 60.9% were married, 76.5% were university graduates and 64.7% were unemployed. Husbands were university graduates among 57% of the married women. A total of 27.5% had chronic health problems. Considering pregnancy, 61.3% of married women had more than 1 pregnancy and only 20.3% never got pregnant.

44.3% of women reported that they practice vaginal douching. Regarding the frequency of douching 46.5% practice vaginal douching when necessary, while 40.6% practice weekly. The reported reasons for VD were Cleanliness (64.7%), Prevention of genital infections (54.5%), decreasing of unpleasant odors (54.5%), Cleaning after/before sexual intercourse (39.6%), and Prevention of vaginal discharge (31.6%). The most used products for VD included Antiseptics (62%), Water and soap (40.1%), Water only (29.4%), Lemon Juice (12.3%), and Vinegar (9.1%). Among the participant not practicing vaginal

douching 53.6% believes VD is unnecessary and have adverse consequences for women's health, 30.2% believes that it increases the risk of vaginal discharge and infection, and 16.2% were advised by healthcare providers to stop VD (16.2%) (Table 1).

64.5% of women with low education levels practiced VD compared to 41.2% of university graduates with recorded statistical significance (P=.026). 47.5% of married women practiced VD in comparison to 39.4% of non-married women (P=.049). VD was reported among 63.8% of women who had only 1 pregnancy versus 41.4% of others who had more than 1 pregnancy (P=.024). Women's age, residence, and employment were insignificantly associated with VD practice. (Table2)

81% of the study women had an overall poor knowledge regarding VD and only 80 (19%) had a good knowledge level (figure 1).

Participants believe that vaginal douching is not recommended after each sexual intercourse (37.4%), after menstruation (28.4%), and whenever there is a change in vaginal discharge (22.5%). 29.1% told that vaginal douching can hurt the vaginal mucosa, and 11.6% think that Vaginal douching causes a cystocele. 47.6% know that vaginal douching should not be done unless recommended by a doctor, 28.4% told that regular application of antiseptics prevents vaginal infections and 29.9% reported that regular vaginal douching prevents vaginal infections. With regard to the source of information, 29.4% were given information about douching by health workers, 34.8% got their information from media, 30.3% from re-experience, 19.2% from friends, and 10.2% from parents (Table 3).

27.5% of women with good knowledge practice vaginal douching compared to 48.2% of others with poor knowledge (P=.001). There was no significant relation between women's knowledge regarding VD and its frequency, reasons for practicing, and reasons for not practicing (Table 4).

Figure 2. The association of vaginal symptoms and vaginal douching behaviors among study women. The most reported symptoms among women who had undergone vaginal douching included vaginal discharge (54% vs. 44.7% of others), vaginal itching (51.3% vs. 38.3%), and vaginal odor (40.1% vs. 23%). Also, 41.7% of women who practice VD had treatment for vaginal symptoms versus 23.4% of others who did not.

Discussion

Vaginal douching is the process of washing or cleaning out the vagina with water or other fluids (6) However, doctors recommend that you do not douche because it can lead to many health problems, including infertility. (7) Douching upsets the natural balance of bacteria in the vagina (called vaginal flora) and makes the environment more favorable for the growth of bacteria that cause infection. (14) Vaginal douching is associated with adverse reproductive and gynecologic outcomes including bacterial vaginosis, preterm birth, low-birth-weight infants, pelvic inflammatory disease, chlamydial infection, tubal pregnancy, higher rates of HIV transmission, and cervical cancer. (15, 8) It is important to maintain good vaginal hygiene, but douching is not necessary and can be harmful. Instead, it is recommended to wash the external genital area with mild soap and warm water. (7)

The study revealed that less than half of the study women practiced vaginal douching which was mainly when necessary and weekly. The most reported reasons for VD were for cleanliness, prevention of genital infections, decreasing unpleasant odors, cleaning after/before sexual intercourse, and prevention of vaginal discharge. Antiseptics were the most used products for VD. Similar habits regarding VD were reported in the USA during the past years where 55% of non-Hispanic Black women, 33 % of Hispanic

women, and 21% of non-Hispanic White women reported “regular” douching. (16) Other studies revealed that 52 to 69% of adolescents douching at least once and one study showed that 56% reported douching one or more times a week. (17-20) A higher douching practice was reported in African countries where Laruche G et al. (21) in Côte d'Ivoire documented that the douching rate among women exceeded 97%. Also, In Ghana, Ziba FA et al. (11) reported that 67% of practiced vaginal douching, from which a similar proportion did it daily. Over two-thirds (67.7%) of the women used water for douching. The reasons for douching were cleansing the vagina (67.7%), therapeutic effects (12.8%) and tightening of the vaginal muscles (19.5%).

On the other hand, the current study showed that the most reported reasons for non-practice VD were thinking that VD is unnecessary and have adverse consequences for women's health, increasing the risk of vaginal discharge and infection, and being advised by healthcare providers to stop VD. This perception regarding the negative impact of vaginal douching among women who did not practice was consistent with the provided evidence by the literature. Holzman et al. (22) reported that vaginal douching within the past 2 months was linked with an increased incidence of bacterial vaginosis. Also, Fonck et al. (23) documented that douching in general and douching with soap and water were both significantly associated with bacterial vaginosis. In a recent prospective cohort study conducted by Royce et al. (24) it was clear that douching was associated with bacterial vaginosis.

The current study revealed that douching was significantly higher among low educated women, married, and others with few pregnancies as they have no experience with associated symptoms and try to have relief mainly with vaginal itching and discharge. No association was reported between women's residence, employment, or age with vaginal douching practice. The study also revealed that vaginal douching was also associated with experiencing vaginal symptoms mainly vaginal discharge, itching, and odor.

With regard to women's knowledge, the study showed that the vast majority of the study women had poor knowledge regarding vaginal douching, and this explains high practice mainly among low educated women. Healthcare workers' role in providing information was questionable as less than one-third of the sturdy women received information from this category. The main sources of information included the media and women's self-experience. Research showed that most commonly, women use vaginal douches because they wrongly believe they contribute to overall cleanliness, will prevent or treat vaginal odor or infections, and/or facilitate greater cleanliness associated with sex. (25-27)

Strengths and limitations

The study may not represent rural areas due to limited accessibility to the rural population of the Eastern province of Saudi Arabia. Due to limited data collection, we need further studies focusing on rural areas to establish an equal comparison between rural and urban practices of vaginal douching.

Conclusion

Most of the participants had poor knowledge and awareness regarding vaginal douching. A minority of participants received information regarding VD from healthcare workers. These warrants raising awareness of vaginal douching among females by organizing awareness campaigns by healthcare professionals to educate females about vaginal douching practices.

Financial support and sponsorship

The research is self-funded.

Conflicts of interest

There are no conflicts of interest.

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Table 1. Pattern of practicing vaginal douching among study females, Eastern region, Saudi Arabia

Pattern	**No**	**%**
Females not practicing VD	235	55.7%
Females practicing VD	187	44.3
Frequency of douching		
Daily	24	12.8%
Weekly	76	40.6%
When necessary	87	46.5%
Reasons for douching		
Cleanliness	121	64.7%
Prevention of genital infections	102	54.5%

Decreasing of unpleasant odors	102	54.5%
Cleaning after/before sexual intercourse	74	39.6%
Prevention of vaginal discharge	59	31.6%
During menstruation	52	27.8%
Religious beliefs	19	10.2%
Products used for douching		
Antiseptics	116	62.0%
Water and soap	75	40.1%
Water only	55	29.4%
Lemon Juice	23	12.3%
Vinegar	17	9.1%
Factors that determine the product used		
Purpose	141	75.4%
Availability	31	16.6%
Both of them	15	8.0%
Reasons for non-practice VD		
VD increases the risk of vaginal discharge and infection	71	30.2%
VD is unnecessary and has adverse consequences for women's health	126	53.6%
I was advised by healthcare providers to stop VD	38	16.2%

Table 2. Factors associated with vaginal douching among study females, Eastern region, Saudi Arabia

Factors	**Total**		**Douching**				**p-value**
			Yes		**No**		
	No	**%**	**No**	**%**	**No**	**%**	
Residence							
Urban	342	81.0%	154	45.0%	188	55.0%	.540
Rural	80	19.0%	33	41.3%	47	58.8%	
Age in years							
18-39	284	67.3%	123	43.3%	161	56.7%	.328$^{\$}$
40-59	131	31.0%	59	45.0%	72	55.0%	
60+	7	1.7%	5	71.4%	2	28.6%	
Educational level							.026*

Below secondary	31	7.3%	20	64.5%	11	35.5%	
Secondary	68	16.1%	34	50.0%	34	50.0%	
University graduate	323	76.5%	133	41.2%	190	58.8%	
Employment							
Unemployed	273	64.7%	119	43.6%	154	56.4%	.686
Employed	149	35.3%	68	45.6%	81	54.4%	
Marital status							
Not married	165	39.1%	65	39.4%	100	60.6%	.049*
Married	257	60.9%	122	47.5%	135	52.5%	
Monthly income							
<5000 SR	169	40.0%	81	47.9%	88	52.1%	
5000-10000 SR	120	28.4%	49	40.8%	71	59.2%	.543
10000-20000 SR	111	26.3%	46	41.4%	65	58.6%	
>20000 SR	22	5.2%	11	50.0%	11	50.0%	
Had chronic diseases							
Yes	116	27.5%	58	50.0%	58	50.0%	.148
No	306	72.5%	129	42.2%	177	57.8%	
Husband education level							
Below secondary	43	16.8%	27	62.8%	16	37.2%	
Secondary	67	26.2%	28	41.8%	39	58.2%	.074
University graduate	146	57.0%	66	45.2%	80	54.8%	
Number of pregnancies							
None	52	20.3%	26	50.0%	26	50.0%	
1 time	47	18.4%	30	63.8%	17	36.2%	.024*
>1 time	157	61.3%	65	41.4%	92	58.6%	

P: Pearson X2 test $: Exact probability test
* P < 0.05 (significant)

Table 3. Women's knowledge and awareness regarding vaginal douching, Eastern region, Saudi Arabia

Knowledge and awareness	**No**	**%**
Vaginal douching is recommended whenever there is a change in vaginal discharge		
Yes	188	44.5%
No	95	22.5%
I don't know	139	32.9%
Vaginal douching is recommended after each sexual intercourse		
Yes	116	27.5%
No	158	37.4%
I don't know	148	35.1%

Vaginal douching is recommended after menstruation		
Yes	154	36.5%
No	120	28.4%
I don't know	148	35.1%
Vaginal douching can hurt the vaginal mucosa		
Yes	123	29.1%
No	105	24.9%
I don't know	194	46.0%
Vaginal douching should not be done unless recommended by a doctor		
Yes	201	47.6%
No	86	20.4%
I don't know	135	32.0%
Vaginal douching causes a cystocele		
Yes	49	11.6%
No	105	24.9%
I don't know	268	63.5%
Regular application of antiseptics prevents vaginal infections		
Yes	120	28.4%
No	93	22.0%
I don't know	209	49.5%
Regular vaginal douching prevents vaginal infections		
Yes	126	29.9%
No	121	28.7%
I don't know	175	41.5%
Have you ever been given information about douching by health workers?		
Yes	124	29.4%
No	298	70.6%
Source of information about douching practices		
Media	147	34.8%
Self-experience	128	30.3%
Friends	81	19.2%
Parents	43	10.2%
Partner	23	5.5%

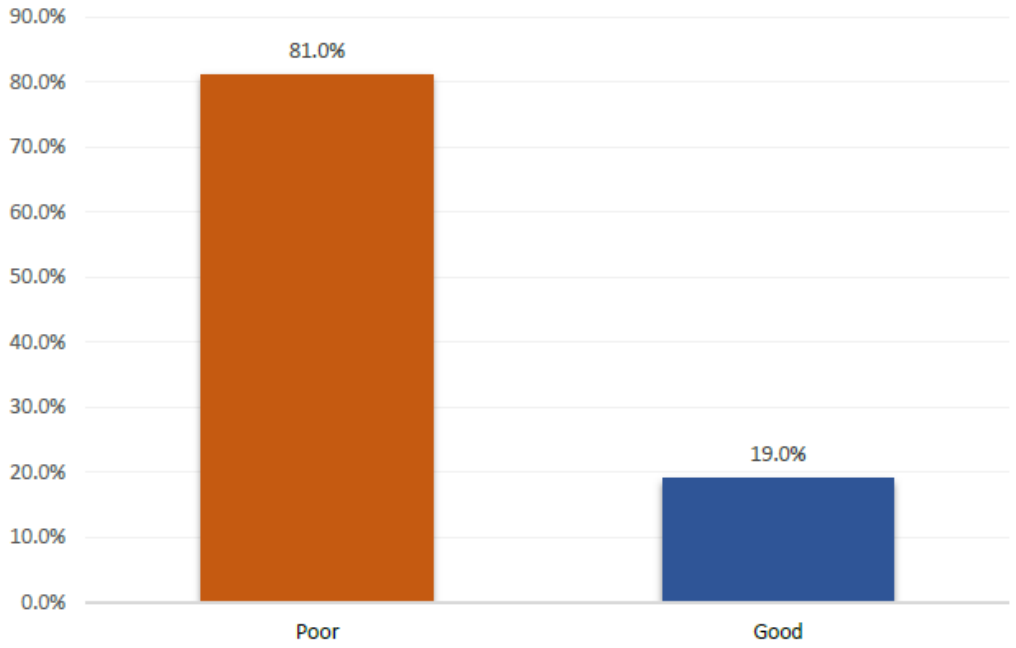

Figure 1. Overall knowledge and awareness of study women's regarding vaginal douching, Eastern region, Saudi Arabia.

Table 4. Relation between women knowledge and their practice of vaginal douching

VD	**Awareness level**				**p-value**
	Poor		**Good**		
	No	**%**	**No**	**%**	
Douching					
Yes	165	48.2%	22	27.5%	.001*
No	177	51.8%	58	72.5%	
Frequency of douching					
Daily	23	13.9%	1	4.5%	.463
Weekly	66	40.0%	10	45.5%	
When necessary	76	46.1%	11	50.0%	
Reasons for douching					.816$
Cleanliness	108	65.5%	13	59.1%	

Prevention of genital infections	90	54.5%	12	54.5%	
Cleaning after/before sexual intercourse	64	38.8%	10	45.5%	
During menstruation	47	28.5%	5	22.7%	
Prevention of vaginal discharge	54	32.7%	5	22.7%	
Decreasing of unpleasant odors	90	54.5%	12	54.5%	
Religious beliefs	15	9.1%	4	18.2%	
Reasons for non-practice					
VD increases the risk of vaginal discharge and infection	51	28.8%	20	34.5%	.189
VD is unnecessary and has adverse consequences for women's health	93	52.5%	33	56.9%	
I was advised by healthcare providers to stop VD	33	18.6%	5	8.6%	

P: Pearson X2 test $: Exact probability test
* P < 0.05 (significant)

Figure 2. The association of vaginal symptoms and vaginal douching behaviors among study women