



HHS Public Access

Author manuscript

Sex Transm Dis. Author manuscript; available in PMC 2023 May 17.

Published in final edited form as:

Sex Transm Dis. 2021 May 01; 48(5): e64–e67. doi:10.1097/OLQ.0000000000001273.

Intravaginal Practices Among Women Attending a Sexually Transmitted Disease Clinic—Philadelphia, 2017

Felicia M.T. Lewis, MD^{*,†}, Jill Diesel, PhD, MPH^{*,‡}

^{*}Division of STD Prevention, Centers for Disease Control and Prevention, Atlanta, GA

[†]Philadelphia Department of Public Health, Philadelphia, PA

[‡]Michigan Department of Health and Human Services, Lansing, MI

Abstract

We conducted a survey among women attending an urban public sexually transmitted disease clinic to determine the type and frequency of intravaginal cleansing practices. Both intravaginal washing and douching were frequent, performed mostly for routine hygiene, and associated with self-report of sexually transmitted infection and bacterial vaginosis (douching and intravaginal washing).

Internal cleansing, washing or wiping, and insertion of products into the vagina is common worldwide,¹ although the practices, their frequency, and the reasons that women perform them vary widely.² These intravaginal practices (IVPs), including douching, can disrupt the protective microenvironment of the vagina³ and have been consistently linked to a number of adverse outcomes, such as increased risk of sexually transmitted infections (STIs), bacterial vaginosis, and HIV.⁴ The recent literature on IVPs has focused on populations in HIV-endemic countries, with an eye to determining the contribution of these practices to HIV acquisition.⁵ With the exception of douching, few studies have assessed the frequency of IVPs and their potential sequelae among women in the United States. The available literature suggests intravaginal washing is common among Black or African American women and may lead to adverse sequelae such as bacterial vaginosis.^{4,6,7} Moreover, there is no formal recommendation against these practices from the American College of Obstetrics and Gynecology, the Centers for Disease Control and Prevention, or other medical associations. Many clinicians may be unaware that these practices exist in their patient population.⁸ To investigate local practices and to guide clinician counseling, the Philadelphia Department of Public Health conducted a survey to assess IVPs among women using its main sexually transmitted disease clinic.

MATERIALS AND METHODS

We enrolled a convenience sample of women who visited District Health Center No. 1, the larger of 2 public sexually transmitted disease clinics in the city of Philadelphia. These clinics provide comprehensive, confidential diagnosis and treatment, and services are free to

all city residents. An anonymous, written questionnaire in English was distributed at the time of registration to all women attending the clinic for any reason from March 1, 2017, to May 8, 2017. Questions included assessments of the frequency and reasons for IVPs, whether respondents used various products or substances, and self-report of prior STI and vaginitis. Questionnaires were completed by hand before the start of the clinical visit and collected in a drop box in the clinic waiting room. This study was determined exempt from review by the institutional review board of the city of Philadelphia.

We assessed the frequency of IVPs and examined themes among the responses to the question asking for reasons why IVP products were used. These responses were then classified into categories covering hygiene, menstruation, and other. Covariates were self-reported STI or vaginitis. Pearson χ^2 tests were used to assess bivariate differences. All analyses were conducted using Stata SE version 14.1 (College Station, TX, 2017).

RESULTS

During the study period, 763 women registered for a visit at District Health Center No. 1. Of these, 197 (26%) returned a questionnaire. Nine respondents did not complete questions related to whether or not they practiced intravaginal washing or douching and thus were not included in the final analysis. Participants tended to be Black (79%), non-Hispanic (92%; data not shown), and 20 to 29 years old (59%); did not have a college degree (77%); and had annual incomes \leq \$40,000 (82%; Table 1). This differed demographically from women in the general clinic population in 2018, 67% of whom identified as Black and 23% of whom were 25 to 29 years old (information on education and income is not routinely collected). Overall, 54% of women responding to the survey reported ever having douched at least once during their lifetime, 47% reported ever having intravaginally washed, and 71% reported ever having performed either intravaginal washing or douching. Approximately one-third of women reported intravaginal washing or douching at least once per month (38%) or once per week (29%). A minority reported very frequent intravaginal washing or douching: once daily (11%) or more than once daily (5%).

Ever having douched was more common among women who were older or Black; however, ever having intravaginally washed did not differ by age, race, education, or income. Frequent or routine IVPs were more common among low-income women but did not differ by age, race, or education.

Why Do Women Perform IVP?

Women reported a variety of reasons for performing IVPs; the most common reason was for regular hygiene not related to sex ($n = 65$; 35%), followed by hygiene after menstruation ($n = 50$; 27%) and menstruation ($n = 42$; 23%). Responses were not mutually exclusive, as many women reported multiple reasons for intravaginal cleansing. Responses were classified based on 4 themes: any hygiene reason, hygiene related to menstruation, hygiene not related to menstruation, and other reasons (Table 1). Overall, among women reporting any IVPs, the most common reasons for using intravaginal cleansing products were related to hygiene; this was consistently the most common reason reported across all levels of IVPs (range, 84% for ever wash or douche to 92% for routine wash or douche). Hygiene related to menstruation

was less frequently given as a reason than hygiene unrelated to menstruation. Approximately half of women reported other reasons for using intravaginal cleansing products; these included vaginal odor (26%) and to smell good (13%).

What Products Do Women Use for IVP?

The most commonly reported substances used for IVP were soap or the combination of soap and water (17%), fresh water (14%), and vinegar or the combination of vinegar and water (8%). Women also reported inserting the following into the vagina: tampons (23%), fingers (11%), cloth or washcloth (6%), baby wipes (2%), and tissues (2%). Lubricants (5%), oil-based products (2%), lotions (2%), creams, medications or suppositories (5%), commercial douches (4%), and other cleaning products (1%) were infrequently reported.

Self-Reported STI and Vaginal Conditions

Self-reported STI, vaginal candidiasis, and bacterial vaginosis were common (Table 1). Nearly half of respondents (46%) reported a prior diagnosis of chlamydia, and more than one-third reported bacterial vaginosis (42%) or vaginal yeast infection (41%). Compared with those who reported never having performed IVP, those who had ever washed or douched were significantly more likely to have reported a diagnosis of chlamydia, gonorrhea, or trichomonas. Ever having douched was significantly associated with report of past chlamydia, gonorrhea, trichomonas, vaginal candidiasis, and bacterial vaginosis; however, ever having washed was only associated with a report of bacterial vaginosis. Women who reported routine or frequent washing or douching were more likely to report a diagnosis of bacterial vaginosis.

DISCUSSION

Our data indicate that IVPs were very common among women in our clinic population, and Black women were more likely than others to report ever having washed or douched. Very low-income women were more likely to report routine (1 times per month) or frequent (1 times per week) intravaginal washing and/or douching. We also found that ever having douched or ever having performed washing and/or douching was associated with a diagnosis of bacterial vaginosis; washing and/or douching at least once per month was also significantly associated with bacterial vaginosis. Similar results have been found among women in Alabama, Miami, and Los Angeles^{4,7,9}; nationally representative data from the 2002 National Survey of Family Growth found that non-Hispanic Black women douched significantly more frequently than did white or Hispanic women.¹⁰ Multiple studies have generally associated intravaginal cleansing practices with no health benefit and a number of adverse health outcomes, including an increased risk of bacterial vaginosis^{3,11} and a significantly increased risk for HIV acquisition.^{12,13} Bacterial vaginosis is highly prevalent in the United States and is consistently found to be more common among Black women¹⁴; low income status has also been associated with increased prevalence of bacterial vaginosis in Black women.¹⁵ It is possible that some of this disparity may be attributable to a higher prevalence of IVPs in Black women.

The reasons for performing IVPs most commonly involved regular hygiene; types and techniques of intravaginal washing and douching varied widely in our small clinic sample. Different substances used to cleanse the vagina have been shown to have differential but overall deleterious effects on optimal vaginal flora as assessed both by culture and quantitative polymerase chain reaction^{3,16} and on vaginal mucosal inflammation and integrity.^{17,18} Therefore, it is important to both determine the type and frequency of IVPs on a larger scale and determine the particular effects of common products, soaps, and types of manual washing on the vaginal microenvironment. Appropriate, culturally competent recommendations for patients regarding IVPs should be formulated.

Participants in our survey were all attending a clinic serving patients at high risk for STIs; therefore, the results may not be generalizable to the general population. These high-risk women may experience more vaginal symptoms, which may, in turn, prompt more frequent IVPs and confound the associations between washing and vaginal conditions. Surveys were available only in English, thereby undersampling patients who could not read written English; however, most women seen at our clinic speak English. Women self-reported health behaviors and previous diagnoses, and these were not verified by linking to disease reporting or other biological outcomes. Response rate was low, and respondents may have differed significantly from nonrespondents.

Despite the limitations, our study indicates that IVPs were very common in these English-speaking, predominantly Black, urban women, and that routine or frequent IVPs were associated with low income and a self-report of bacterial vaginosis. More research is needed to estimate the prevalence of intravaginal washing, wiping, and douching among American women. In addition, the impact of specific IVPs on vaginal flora should be further investigated.

Conflict of Interest and Sources of Funding:

The authors report no affiliations with or involvement in any organization or entity with any financial or nonfinancial interest in the subject matter or materials discussed in this article.

REFERENCES

1. World Health Organization. A multi-country study on gender, sexuality and vaginal practices: Implications for sex health. 2012. Available at: https://www.who.int/reproductivehealth/publications/sexual_health/rhr_12_25/en/. Accessed February 25, 2020.
2. Carter M, Gallo M, Anderson C, et al. Intravaginal cleansing among women attending a sexually transmitted infection clinic in Kingston, Jamaica. *West Indian Med J* 2013; 62:56–61. [PubMed: 24171329]
3. Lokken EM, Manguro GO, Abdallah A, et al. Association between vaginal washing and detection of *Lactobacillus* by culture and quantitative PCR in HIV-seronegative Kenyan women: A cross-sectional analysis. *Sex Transm Infect* 2019; 95:455–461. [PubMed: 30696752]
4. Brown JM, Poirot E, Hess KL, et al. Motivations for intravaginal product use among a cohort of women in Los Angeles. *PLoS One* 2016; 11:e0151378. [PubMed: 26967165]
5. Myer L, Kuhn L, Stein ZA, et al. Intravaginal practices, bacterial vaginosis, and women's susceptibility to HIV infection: Epidemiological evidence and biological mechanisms. *Lancet Infect Dis* 2005; 5:786–794. [PubMed: 16310150]

6. Brown JM, Hess K, Brown S, et al. Intravaginal practices and risk of bacterial vaginosis and candidiasis infection among a cohort of women in the United States. *Obstet Gynecol* 2013; 121:773–780. [PubMed: 23635677]
7. Alcaide ML, Rodriguez VJ, Fischl MA, et al. Addressing intravaginal practices in women with HIV and at-risk for HIV infection, a mixed methods pilot study. *Int J Womens Health* 2017; 9:123–132. [PubMed: 28280394]
8. Wald A Intravaginal washing and insertion of commercial products are common—should they be? *NEJM Journal Watch* 2013. Available at: <https://www.jwatch.org/wh20130425000004/2013/04/25/intravaginal-washing-and-insertion-commercial>. Accessed August 12, 2020.
9. Anderson C, Gallo MF, Hylton-Kong T, et al. Randomized controlled trial on the effectiveness of counseling messages for avoiding unprotected sexual intercourse during sexually transmitted infection and reproductive tract infection treatment among female sexually transmitted infection clinic patients. *Sex Transm Dis* 2013; 40:105–110. [PubMed: 23321990]
10. Funkhouser E, Hayes TD, Vermund SH. Vaginal douching practices among women attending a university in the southern United States. *J Am Coll Health* 2002; 50:177–182. [PubMed: 11910951]
11. Chandra A, Martinez GM, Mosher WD, et al. Fertility, family planning, and reproductive health of U.S. women: Data from the 2002 National Survey of Family Growth. *Vital Health Stat* 23 2005; 1–160. [PubMed: 16532609]
12. Low N, Cherisch MF, Schmidlin K, et al. Intravaginal practices, bacterial vaginosis, and HIV infection in women: Individual participant data meta-analysis. *PLoS Med* 2011; 8:e1000416. [PubMed: 21358808]
13. McClelland RS, Lavreys L, Hassan WM, et al. Vaginal washing and increased risk of HIV-1 acquisition among African women: A 10-year prospective study. *AIDS* 2006; 20:269–273. [PubMed: 16511421]
14. Hilber AM, Francis SC, Cherisch M, et al. Intravaginal practices, vaginal infections and HIV acquisition: Systematic review and meta-analysis. *PLoS One* 2010; 5:e9119. [PubMed: 20161749]
15. Koumans EH, Sternberg M, Bruce C, et al. The prevalence of bacterial vaginosis in the United States, 2001–2004; associations with symptoms, sexual behaviors, and reproductive health. *Sex Transm Dis* 2007; 34:864–869. [PubMed: 17621244]
16. Paul K, Boutain D, Manhart L, et al. Racial disparity in bacterial vaginosis: The role of socioeconomic status, psychosocial stress, and neighborhood characteristics, and possible implications for preterm birth. *Soc Sci Med* 2008; 67:824–833. [PubMed: 18573578]
17. Pavlova SI, Tao L. In vitro inhibition of commercial douche products against vaginal microflora. *Infect Dis Obstet Gynecol* 2000; 8:99–104. [PubMed: 10805365]
18. Wilkinson EM, Laniewski P, Herbst-Kralovetz MM, et al. Personal and clinical vaginal lubricants: Impact on local vaginal microenvironment and implications for epithelial cell host response and barrier function. *J Infect Dis* 2019; 220:2009–2018. [PubMed: 31539059]

TABLE 1.
Demographic Characteristics Overall, and by Wash or Douche Practices (n = 188)

	Overall	Wash				Ever				Frequent (1x/wk)				Routine (1x/mo)			
		No		Yes		No		Yes		No		Yes		No		Yes	
		n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)
Overall, n (%)	188	100 (53)	88 (47)	87 (46)	101 (54)	51 (27)	137 (73)	133 (71)	55 (29)	116 (62)	72 (38)						
Age, n (%)																	
<19 y	25 (13)	16 (64)	9 (36)	21 (84)	4 (16)*	12 (48)	13 (52)*	19 (76)	6 (24)	18 (72)	7 (28)						
20–24 y	61 (32)	29 (48)	32 (53)	30 (49)	31 (51)	20 (33)	42 (69)	47 (77)	14 (23)	43 (71)	18 (30)						
25–29 y	51 (27)	32 (63)	19 (37)	24 (47)	27 (53)	16 (31)	36 (71)	37 (73)	14 (28)	31 (61)	20 (39)						
30 y	51 (27)	23 (45)	28 (55)	12 (24)	39 (77)	6 (12)	46 (90)	30 (59)	21 (41)	24 (47)	27 (53)						
Race, n (%)																	
Black	147 (79)	74 (50)	73 (50)	54 (37)	93 (63)*	30 (20)	117 (80)*	102 (69)	45 (31)	86 (59)	61 (42)						
Non-Black	39 (21)	24 (62)	15 (39)	33 (85)	6 (15)	21 (54)	18 (46)	29 (74)	10 (26)	28 (72)	11 (28)						
Education, n (%)																	
Some high school/high school graduate	76 (41)	42 (55)	34 (45)	31 (41)	45 (59)	17 (22)	59 (78)	51 (67)	25 (33)	42 (55)	34 (45)						
Some college/junior college degree	67 (36)	30 (45)	37 (55)	30 (45)	37 (55)	17 (25)	50 (75)	47 (70)	20 (30)	41 (61)	26 (39)						
4-y college degree/postcollege	43 (23)	27 (63)	16 (37)	25 (58)	18 (42)	16 (37)	27 (63)	33 (77)	10 (23)	31 (72)	12 (28)						
Income, n (%)																	
<\$10,000	56 (32)	28 (50)	28 (50)	23 (41)	33 (59)	13 (23)	43 (77)	30 (54)	26 (46)*	24 (43)	32 (57)*						
\$11,000–\$20,000	31 (18)	17 (55)	14 (45)	12 (39)	19 (61)	7 (23)	24 (77)	26 (84)	5 (16)	23 (74)	8 (26)						
\$21,000–\$40,000	55 (32)	30 (55)	25 (45)	23 (42)	32 (58)	13 (24)	42 (76)	43 (78)	12 (22)	39 (71)	16 (29)						
\$41,000	31 (18)	15 (48)	16 (52)	18 (58)	13 (42)	12 (39)	19 (61)	23 (74)	8 (26)	19 (61)	12 (39)						
Most common reasons why products used, among those reporting IVP ^{†,‡,§} , n (%)																	
Hygiene related to menstruation			9 (10)		22 (22)		24 (18)		0 (0)		7 (10)						
Hygiene not related to menstruation			39 (45)		38 (38)		54 (40)		31 (56)		36 (50)						
Any hygiene reason			77 (89)		84 (85)		113 (84)		49 (89)		66 (92)						
Other reasons			46 (53)		52 (53)		71 (53)		30 (55)		35 (49)						
Previous diagnoses, n (%) ^{†,¶}																	
Chlamydia	85 (46)	40 (47)	45 (53)	29 (34)	56 (66)*	14 (17)	71 (84)*	60 (71)	25 (29)	49 (58)	36 (42)						

	Ever						Frequent (1x/wk)		Routine (1x/mo)	
	Wash		Douche		Wash or Douche		Wash or Douche		Wash or Douche	
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Overall										
Gonorrhea	27 (51)	26 (49)	13 (25)	40 (76)*	7 (13)	46 (87)*	33 (62)	20 (38)	27 (51)	26 (49)
Trichomonas	26 (52)	24 (48)	11 (22)	39 (78)*	7 (14)	43 (86)*	35 (70)	15 (30)	28 (56)	22 (44)
Yeast infection	41 (55)	34 (45)	25 (33)	50 (67)*	17 (23)	58 (77)	59 (79)	16 (21)*	50 (67)	25 (33)
Bacterial vaginosis	48 (62)	29 (38)*	23 (30)	54 (70)*	17 (22)	60 (78)	62 (81)	15 (20)*	54 (70)	23 (30)*

* χ^2 test; $P < 0.05$.

† Nonmutually exclusive (can overlap) categories to accommodate multiple responses.

‡ Most common reasons why products used were classified as follows: any hygiene reason (indicated at least one of these): hygiene before sex, hygiene after sex, regular hygiene unrelated to sex, hygiene after menstruation, and menstruation; hygiene not related to menstruation: hygiene before sex, hygiene after sex, and regular hygiene unrelated to sex; hygiene related to menstruation: hygiene after menstruation and menstruation; and other reasons: to prevent infection, to prevent pregnancy, vaginal odor, to smell good, to decrease dryness, to increase lubrication, to increase sexual pleasure, to decrease discomfort, to treat an infection, my partner wanted me to, and other.

§ Most common themes for the reasons why products were reported as used among those reporting IVP.

¶ Previous diagnoses compares reported diagnoses with those who did not report those diagnoses.