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Qualitative Analysis of Sexually Experienced Adolescent Females: Attitudes about Vaginal Health

Jenny K R Francis, MD, MPH^{a,b}, Lauren Dapena Fraiz, MA^a, Marina Catallozzi, MD, MSCE^{a,b,c}, and Susan L Rosenthal, PhD^{a,b,d}

^aDepartment of Pediatrics, Columbia University Medical Center - College of Physicians and Surgeons, New York, New York, United States

^bNew York-Presbyterian Hospital, New York, New York, United States

^cHeilbrunn Department of Population & Family Health, Columbia University Medical Center – Mailman School of Public Health, New York, New York, United States

^dDepartment of Psychiatry, Columbia University Medical Center - College of Physicians and Surgeons, New York, New York, United States

Structured Abstract

Study Objective—To explore adolescent's perceptions of vaginal health, practices, and vaginally-placed products.

Design—Semi-structured interviews were audio-recorded and transcribed until achieving theoretical saturation.

Setting—Adolescent medicine clinics in NYC.

Participants—Adolescent females (n = 22) who were sexually experienced, predominately Hispanic (73%) with a mean age of 17.7 years (range 15–20 years).

Interventions—None

Main Outcome Measures—Interviews assessed perspectives on vaginal health, specific vaginal hygiene practices and attitudes about vaginally-placed products (contraceptive rings, intrauterine devices (IUDs), and proposed multi-purpose technologies (MPTs) administered as ring or gel). The interviews were transcribed and coded for relevant themes.

Results—Overlapping themes included young women's view of their vagina as a space that needed to be healthy for sexual partners and future fertility. The vagina could not be presumed to be healthy and conversations about vaginal health were limited to only include specific individuals. All reported a variety of practices to maintain their vaginal health, including showering 1 to 5 times a day and using soaps specifically for the vagina. Attitudes about vaginally-

Corresponding Author: Jenny K. R. Francis, MD MPH, Assistant Professor of Pediatrics, Adolescent Medicine, 622 West 168th St. VC4-402A, New York, NY 10032, Telephone: 212-342-4619, Fax: 212-342-4733 jf2815@cumc.columbia.edu.

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placed products revealed concerns about the sensory experience of having a product in the vagina, safety concerns and interest in the product's objective (prevention of pregnancy or infection).

Conclusions—Adolescents have very specific views and practices about their vaginas. Clinicians should initiate conversations about vaginal health and hygiene with adolescents and focus on the normalcy of the vagina. Development of vaginally-placed products should focus on the sensory experience, safety and purpose of the product.

Keywords

Vaginal health; reproductive health; qualitative; attitudes and perceptions; vaginal practices; contraception; multi-purpose technology

Introduction

Adolescent females likely hold unique views of their vagina, especially given their recent timing of menarche and puberty, onset of sexual activity and overall opportunity to establish healthy behaviors, including sexual and reproductive behaviors.¹ In a study of adult women with a mean age of 34 years, participants used strong emotional language when discussing their genitals, often evoking descriptions of anxiety, excess and the need for control.²

However, we know very little about how adolescents view their vaginal health. And beyond douching,^{3,4} we know even less about specific vaginal hygiene practices or their attitudes about the use of products within the vagina. With regards to vaginally-placed products, acceptability and uptake studies have been conducted on contraceptive rings,^{5–8} intrauterine devices (IUDs),^{9–11} and multi-purpose technologies (MPTs).^{12,13} MPTs are proposed vaginal rings or gels that would prevent both sexually transmitted infections (STI) and reproductive tract infections (RTI) and pregnancy. However, previous studies have not examined how adolescents specifically feel about a product that is placed within their vagina.

Understanding adolescent's perspectives on vaginal health and knowing their vaginal hygiene practices may be particularly useful for the promotion of vaginally-placed contraceptives and/or the development of proposed MPTs as well as guide clinical conversations with adolescents about their vaginal health behaviors. Thus, we explored how sexually experienced adolescent females view their vaginal health, their routine practices for managing their vaginal hygiene, and their attitudes about vaginally-placed contraceptives (rings and IUDs) and proposed MPTs.

Materials and Methods

Recruitment and Enrollment

Participants were identified from the roster of a previous research study that assessed adolescents' willingness to participate in a hypothetical microbicide safety trial.^{14,15} They were eligible for this study if they were between 14 and 20 years old, had previously reported being sexually experienced and completed the prior study in English. Both the adolescent and their parent/legal guardian (if under age 18) provided written informed

consent/assent. The private interview length ranged from 35–63 minutes, with an average of 52 minutes. Interviews were audio-recorded and transcribed. Adolescents were compensated for their time with \$50 in cash and a round-trip subway card. The Institutional Review Board of Columbia University Medical Center approved the study.

Semi-Structured Interview Content

Participants were queried about basic demographic and background information including their general health status and their sexual and reproductive history. They were asked a series of open-ended questions about 1) perspectives on their vaginal health, 2) their vaginal health practices, and 3) attitudes about the use of vaginally-placed products (Nuvaring®, IUDs, and proposed MPTs).

Analysis

The transcripts were read to identify themes within the broad categories of perspectives on vaginal health, vaginal practices, and attitudes about vaginally-placed products. Using NVivo (qualitative data analysis software; QSR International Pty Ltd. Version 10, 2012), two investigators coded for themes. Differences in coding were settled by consensus as themes / subthemes structures were refined and finalized.

Results

Study Sample

A total of 73 participants were eligible to participate from the previous study's roster; nearly half (n = 33) were unable to be reached (9 disconnected, 24 no answer). Two participants were not interested, and the remaining (n = 38) were contacted. Interviews occurred until theoretical saturation¹⁶ was reached for a total sample of 22 interviews.

Table 1 describes the background characteristics as well as sexual and reproductive history of the participants. They were largely Hispanic (73%) with a mean age of 17.7 years (range 15–20 years). Most (77%, n = 17) described their overall health as not problematic, using terms such as *good*, *okay*, *fine*, or *decent* to define their general health. Of note, four were current users of long acting reversible contraception (IUD or implant) and one participant had an IUD removed in the past (and subsequently became pregnant). Three were current mothers, and nine participants (41%) had experienced a prior STI and/or reproductive tract infection (RTI).

Perspectives on Vaginal Health

Each participant was able to share her perspective with the interviewer, although some acknowledged that the topic could be embarrassing, such as the 17-year-old African American and Hispanic participant (#09) who said, *"Managing your vagina is probably more difficult [giggles] because it's probably more of a touchy topic or a nervous topic or an embarrassing topic."*

Overall, adolescent perspectives on their vaginal health focused on four overlapping themes. These adolescents viewed their vagina as 1) a shared space that needed to be healthy for

their sexual partners and for 2) future fertility. Another theme was the perspective that the vagina could 3) not be presumed to be healthy and that 4) conversations about vaginal health were limited to include only specific individuals.

A Space Shared with Sexual Partners—Many viewed their vagina as a shared space with their sexual partner, and thus, focus on vaginal health most often during sex. This also included paying attention to the partner's experience and perception of their vagina, such as the 20-year-old Hispanic participant (#19) who stated:

...like more during sex because...I'm worried about like what it smells like and what it tastes like...it's like a vagina smells like a vagina, I'm not supposed to smell like a mango. But yeah, still like self-conscious about it.

Others viewed their vagina in the context of partner relationships, although less clearly connected to the actual act of intercourse. A 17-year-old Hispanic participant (#14) reported:

Vaginal health is what, like you're going to live with it until you get married—now that I'm a teenage girl. Because while I'm growing up, I have to think of...when I get married, have a husband...

Future Fertility as the Motivator to Maintain Vaginal Health—Some participants expressed concern or anxiety about their future fertility, and viewed that as a reason for taking care of their vagina now. An 18-year-old Hispanic participant (#04) said:

I think I take care of that [vagina] more than my health itself, if that doesn't sound weird...for example, if I want to have kids and I need it, it's like a system that you want to keep running all the time.

Vaginal Health Not Presumed—Most stated they would encourage a friend not to assume that their vagina was healthy and specifically take steps to take care of it, including an assessment by a doctor. For example, a 17-year-old Hispanic participant (#10) discussed the importance of going to her physician:

Keep it clean, shave, go to the doctor, make sure everything is perfectly fine down there. Have them tell you it's fine. You just can't assume that you're perfectly fine.

For some, not any physician would do, such as a 19-year-old Hispanic participant (#22) who stated:

It [vagina] is like its own old little building in a different building, so its own section, has its own doctor, its own priorities.

This same participant would also suggest a friend to self-examine one's own vagina:

I'd tell them, you know, that they shouldn't be shy of their vagina and they should just check it out every once in a while, you know, use a mirror or see what's going on. Yeah.

Not only did these participants believe that one should not assume the vagina was healthy, most expressed a need to seek immediate medical attention for specific concerns, as described by this 19-year-old African American participant (#08): *"if I feel like something is*

not normal, I go right to the emergency room.” Only one participant thought she could handle it on her own. A 17-year-old Hispanic participant (#15) said, *“I just figure it [vaginal symptoms] out myself.”* However, over half (n = 13, 59 %) would access other avenues (such as a trusted friend, partner or mother) as a resource before turning to a physician, such as a 16-year-old Hispanic participant (#06) who stated:

I would actually go to my boyfriend first and tell him to check it out. And then if he says that that looks weird or something, I will tell my mother and she will end up taking me to the doctor.

Conversations about Vaginal Health—The participants discussed to whom they would talk about their vaginal health. In general, most (n = 19, 87%) of the adolescents acknowledged talking about their vaginal health with others. Yet those conversations were often limited to close family members, best friends or their sexual partners (including one partner’s mother). A participant who clearly differentiated these categories of individuals stated (19-year-old Hispanic participant, #22):

I just don’t tell my mom things about my vaginal health at all...my mom doesn’t know anything about it [vaginal health] because it’s just something very private to me and something that I’d only—information I’d only share with somebody who I’m sharing it with my vagina. I’m sharing it with or if I want to get advice from somebody that’s not my mom.

Vaginal Health Practices

Specific vaginal health maintenance practices included a variety of showering routines as well as the use of specific soaps and products.

Showering—Most reported routinely taking two to three showers a day (only three participants reported showering once a day). Shower or washing frequency was noted to increase during warm seasons, during an infection or menstruation, possibly because they believed that is what one is supposed to do or they were preoccupied by odors. For example, a 17-year-old African American participant (#11) described:

A female is always supposed to like wash like twice a day or something. Or when you have your period, you’re supposed to wash like three times a day, morning, the noon and night.

Within the showering process, some of the participants had developed rituals or routines as to how they washed their vagina as the 18-year-old Hispanic participant (#16) who stated:

I use my underwear. Like when I get in the shower, I wash my underwear and I wash myself with my underwear and just wash it [vagina] over....After I scrub myself with my underwear, I wash it [vagina] again.

Hygiene Products—Many easily described specific products they use explicitly for their vagina, including soaps, sprays, deodorants and wipes. Several participants from the Dominican Republic often mentioned using products brought back to the United States. The products were chosen for their smells and the sensations that suggested the vagina was

clean. For example, a 17-year-old Hispanic participant (#01) described the soap she uses for her vaginal health:

There's this thing called Lemisol, it's for girls, and it's for hygiene, and it's like minty. It feels good too. It's like—feels—like everything is clean.

Attitudes about Vaginally-Placed Products (Nuvaring®, IUD, proposed MPT)

Participants were queried about their attitudes about Nuvarings®, IUDs and proposed MPTs (e.g. a hypothetical gel-filled vaginal ring or applicator that could be used to prevent STIs, RTIs and pregnancy). For all the products, the participants described concerns about the experience of having a product in the vagina and confidence in their safety. Several participants discussed the trade-off of the protection provided by the specific objectives of the products (infection vs pregnancy prevention) despite their concerns.

The Intra-Vaginal Experience—Across all types of products (rings, gels, and IUDs), most expressed concern about having something physically inside their vagina. A 19-year-old African American participant (#08) said about the Nuvaring®:

I didn't like it [Nuvaring®] because I didn't like the whole idea of stuffing something up there. I don't like that...it just made me feel like awkward like why and then you're just walking around with something inside you all day...because it was just always on my mind like, oh my God, is it going to fall out? Like, that was just always in my head.

A 17-year-old Caucasian participant (#12) said about the IUD: *“That's crazy. That scares me. I don't want anything being stuck up there.”* And an 18-year-old Hispanic participant (#02) stated about a proposed gel based MPT:

Like, I'm like imagining it, the gel is like squishy—like squishy in there...like probably to him [sexual partner] it will feel like all gooey and squishy with that gel...so it will feel weird.

Of note, this quote also highlights again, the view of the vagina as a shared space with their partner and the concerns for their partner's experiences.

Safety—A lack of faith in the safety of the products (both approved and proposed products) was also detected. A 17-year-old African American and Hispanic participant (#09) reported about the Nuvaring®:

I mean it [Nuvaring®] seems like, oh, it's cool because it's just there. You don't got to do nothin'. But it's weird...I just heard that it—I don't want to say that it can fall out, but something because of the plastic, can tear like wear down your walls or something like that that I heard of. But I don't—I just don't want to mess with it. That's it.

A 19-year-old Hispanic participant (#20) commented on the IUD:

I feel like it [IUD] has got to stop something. It's got to mess something up. There's no way that—they don't even put pacemakers in for that long, do they?...

Like for a reproductive system, I feel like that would just throw a whole lot of things out of whack.

And a 16-year-old Hispanic participant (#07) stated she would be nervous about using a proposed MPT:

I mean just like having something inside me that's like not part of my body or like, you know, maybe if I have an allergic reaction to it [MPT] or—because it's something new so I'm not used to it.

Attitudes about Product Objectives—Adolescents also appeared to trade-off their potential concerns about the vaginally-placed products against the reduction of anxiety offered by the products' objectives, such as avoiding pregnancy or preventing an infection. For example, a 19-year-old Hispanic participant (#22) IUD user said:

I feel like I'm a little more...more updated I guess or modern...I mean I worry sometimes that it [IUD] may mess something up or it might cause something else but mostly it makes it so that I feel like I don't need to think about it [pregnancy] as much.

When the participants were asked specifically about a hypothetical MPT to use for the prevention of multiple pathogens (STIs and RTIs) as well as pregnancy prevention, several expressed excitement about the MPT product when its objective became more purposeful, or protected against more than one infection and finally protected against pregnancy. For example, a 19-year-old Hispanic participant (#20) was delighted by the protection offered by the proposed multipurpose product:

Hell yes. Yes, very much so...It's a Triple Whammy...Like, you know, it's just—I think it's more realistic to kill three birds [prevents BV, STI, and pregnancy] with one stone.

When discussing MPTs, some acknowledged that contraceptive protection should be a separate option from STI or RTI control. For example, an 19-year-old African American participant (#18) explained:

Because that way, like...if it's all three-in-one, it would be harder for a lot of people to take it because like what if, okay, I want to get pregnant but I also want to stay protected [against infections].

Discussion

Sexually experienced adolescents view their vagina as requiring specific maintenance and hygiene practices in order to keep it healthy. These adolescents do not believe that they can presume the vagina to be healthy on its own. Most rely on health care providers to make this determination and only have conversations about vaginal health with specific individuals with whom they are close. The need to keep their vagina healthy and clean was driven by the concept of sharing their vagina with their partners and the need to protect their future fertility. Although we did not query these young women about anticipatory guidance conversations on vaginal health, previous research suggests that adolescents often prefer that

physicians initiate topics about sensitive subjects¹⁷ even though physicians rarely feel comfortable introducing these topics.^{18–21} And given that adolescent knowledge of the vagina has shown large gaps in the basic understanding of female anatomy,^{1,22} menarche,²³ sexual health^{24,25} and contraception,^{26,27} it seems logical to assume that conversations about vaginal health and hygiene are not initiated often enough by health care providers.

These young women reported showering several times a day with specific rituals, including the use of specific products. Historically, the focus about vaginal hygiene practices has centered on douching^{3,4} and its ability to increase the risk of infection.²⁸ These adolescents did not seem to be describing practices that were inherently dangerous. However, if physicians do not query each adolescent about their particular vaginal practices, situations that may be dangerous or unnecessary may not be uncovered.

Vaginal sensations are important to these young women and influence their sense of vaginal health, their vaginal hygiene practices and the acceptability of vaginally-placed products for infection and pregnancy prevention. Most in this study were focused on the intra-vaginal experience of having something “stuck in there” as well as the sensory perception (i.e. feeling “weird”) when something is inside or placed in or via the vagina. Previous microbicide research has focused on leakage^{29,30} as a primary concern, but perhaps more attention should be paid to the perception young women experience when the product is placed inside the vaginal canal.³¹

Adolescents do seem to respond to trade-offs. Some discussed the acceptability of using vaginally-placed contraceptives in order to be less worried about pregnancy despite not liking the concept of a vaginally-placed product. Others were intrigued by proposed products with multiple purposes (prevention of STIs, RTIs, and pregnancy) and might be willing to make a trade-off against their safety concerns or “weird” sensations.

Limitations of this study include first, its predominately urban Hispanic population. Adolescents from other backgrounds may have different perspectives. Next, some of the adolescents in this study were followed by adolescent medicine specialists, which may have unintentionally biased the adolescent’s comfort in discussing the health of their vagina more than other participants. Finally, although we addressed hygiene practices, we did not probe more specifically about the personal cosmetic appearance of vaginas³² or views about sexual identity³³ in terms of vaginal health.

Despite the limitations, the results of this qualitative study can inform clinical conversations. Health care providers should be prepared to initiate conversations addressing concerns about what constitutes normalcy of the vagina, future fertility, and “sharing” their vaginas with their partners. This should include informing adolescents of when to seek medical care – both from their primary care health provider and when (if ever) a visit to the emergency department is indicated. By identifying their current hygiene practices and products, health care providers can make sure that adolescents are making safe and appropriate choices. In addition, the results of study can help to guide future research in the development, acceptability and promotion of vaginally-placed products.

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Table 1

Participant Characteristics (n = 22)

Adolescent Female Characteristics	n (%) ^a Mean (SD)
DEMOGRAPHICS	
Age Distribution, <i>years</i>	
15	1 (4)
16	2 (9)
17	8 (37)
18	4 (18)
19	5 (23)
20	2 (9)
Ethnicity/Race	
Hispanic	16 (73)
African American	5 (23)
White	1 (4)
Educational experience	
Dropped out of high school	4 (18)
In high / alternative school	12 (54)
Finished high school / GED	3 (14)
Some college	3 (14)
SEXUAL AND REPRODUCTIVE HISTORY	
Sexual debut, <i>mean in years</i>	15.3 (0.9)
Lifetime number of partners, <i>mean in years</i>	
Male ^b	2.15 (1.9)
Female	0.4 (0.7)
Ever pregnant (<i>number reporting yes</i>)	5 (23)
Total number of terminations	3 (14)
Total number of teen mothers	3 (14)
Prior or current use of hormonal contraception	
Pill	6 (27)
Patch / Nuvaring®	1 (4)
Depo-Provera®	10 (46)
LARC (IUD or implant)	5 (23)
Prior vaginal infection	
▪ Yeast, BV, or UTI	6 (27)
▪ Prior STI (chlamydia, gonorrhea)	5 (23)

^aNumber of participants (%) reported unless noted to be *mean in years (SD)* in description

^bDoes not include one outlying participant (VH20) who reported 35 sexual partners

GED = General educational diploma, LARC = Long acting reversible contraception, IUD = Intrauterine device, BV = Bacterial vaginosis, UTI = Urinary tract infection, STI = Sexually transmitted infection