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Adolescent Girls' Communication with "Mothers" About Topical Microbicides

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Abstract

Study Objective—Topical microbicides, a female-initiated method to protect against sexually transmitted infections (STIs) and pregnancy, will only be effective if found acceptable. Mothers may have an influence on acceptability and use among adolescent girls. The current study examined the communication between girls and mothers to understand the potential predictors and nature of conversations regarding surrogate microbicide products.

Design—Sexually experienced girls, 14 to 21 years, were recruited for a 6-month study examining microbicide acceptability. During face-to-face interviews, qualitative data were collected regarding communication between girls and mothers. Two independent raters coded the responses, which were organized into themes. Themes were interpreted according to the conceptual understanding of mother-daughter communication.

Results—Fifty percent of the 171 girls with codable responses had a conversation with their mother. Higher levels of indirect parental monitoring were related to being more likely to have a conversation. Concrete events related to the study (i.e. receiving phone call from the researcher, having an appointment, or seeing the product) or inquiries by mothers appeared to promote conversation. Barriers to conversation included the private nature of the information and relationship issues between the mother and daughter. Conversations often addressed issues related to girls' participation in the study, although some conversations included global issues related to sexuality.

Conclusions—Girls may talk to their mothers about new products for STI prevention, and such conversations may provide opportunities to promote use.

Keywords

Adolescence; Mothers; Parental Monitoring; Communication; Topical Microbicides

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Synopsis: An examination of predictors of and descriptions by adolescent girls of their conversations with mothers regarding participation in a research study on topical microbicide acceptability.

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Introduction

Currently in clinical trials, topical microbicides are an emerging prevention method for sexually transmitted infections (STIs).¹ Topical microbicides can be used intra-vaginally or intra-rectally to prevent infection and or pregnancy.² Microbicides must be both safe and effective for frequent use, and must be accessible and acceptable to potential users. The potential for a female-initiated product is appealing for many populations including adolescent girls, since they may lack the skills to ensure that their male partners use condoms.³ Also, the high rates of STI infections among U.S. adolescents, i.e., 1 in 4 sexually experienced adolescents,⁴ suggest that they are in need of a method which they can use to protect themselves. Thus, adolescent girls are an important target group for microbicide use; however, microbicides will only be effective if they are used correctly and consistently.²

Given that mothers of many adolescent girls have a significant impact on the sexual decision making of their adolescent daughters, mothers will likely have a role in the consistent and proper use of microbicides by their daughters. For example, communication about sexual risk between mothers and daughters and strong maternal disapproval of sex has been shown to be associated with daughters' delaying first intercourse and negative attitudes about pregnancy.^{5–8} Mothers have also been found to influence daughters' sexual behavior once it has been initiated. For example, mother-daughter communication has been linked to daughters' having increased feelings of self-efficacy related to condom use and being less likely to have unprotected sex.^{7,9} Girls who had conversations with their mothers about sexuality were also more likely to have fewer partners.⁹ Thus, examining mothers' communication with their daughters regarding potential topical microbicides may help professionals understand how mothers might be utilized to promote appropriate microbicide use by daughters.

In the present study, we examined communication between mother figures and adolescent girls regarding the use of a surrogate topical microbicide in the context of a study on the developmental acceptability of microbicide use. Microbicides currently are not available for actual use outside enrollment in clinical trials. Several over-the-counter vaginal moisturizers have properties similar to candidate microbicides. These products were used to assess the developmental context of microbicide-like products. The purpose of this study was to evaluate potential predictors of conversations regarding the microbicide surrogate between mothers and daughters and to describe the nature of those conversations or the reason why there was no conversation.

Methods

Study Design

Girls between the ages of 14 and 21 years were recruited from a school-based teen health center, a local college, and through snowball sampling to participate in a 6-month study examining the acceptability of a surrogate microbicide product, including a vaginal moisturizer (a gel – *Replens® Vaginal Moisturizer* (Warner Wellcome, Morris Plains, NJ) and a suppository – *Lubrin® Inserts* (Bradley Pharmaceuticals, Fairfield, NJ). The study was approved by the University's Institutional Review Board. Those under the age of 18 were required to have parental consent to participate, and the adolescent provided assent. Those 18 years and older provided consent. At the intake interview, girls were asked to use a surrogate microbicide when they had sexual intercourse.

Girls then were seen 3 months into the study to collect detailed data of their experience with product use. At that time, they were asked "Have you talked about the study or the product with your mother or parent figure or has your mother or parent figured asked you about the study?" If they said yes, they were asked, "Tell me what you told them regarding the study,"

and if they said no, they were asked, “Why not?” For 7 girls who missed the 3-month interview, responses to the same question at the 6-month interview were examined. From this point forward, the term “mother” will refer to both mothers and other parental figures mentioned by girls.

Quantitative Analysis: Predictors of Talking

We examined whether factors which might influence the developmental or cultural context of the mother-adolescent relationship (age, race/ethnicity), the nature of the mother-adolescent relationship (adolescent’s living situation and degree of parental monitoring), and girls’ comfort with their sexuality (length of time sexually experienced) were related to whether or not a girl reported a conversation with her mother (talking status). Age was dichotomized (under 18 vs. 18 and over), given that mothers of adolescents under the age of 18 had provided consent for participation. Race/ethnicity was categorized as African-American, Hispanic, and Non-Hispanic Caucasian/Other. Length of sexual experience in years was calculated by subtracting the age of sexual debut from the girl’s current age. Living situation was dichotomized as living with a parent or parent figure vs. living with someone else (partner, boyfriend, or husband, roommate, alone – with or without a child, or in a group home).

Three types of parental monitoring were assessed: direct monitoring, direct monitoring when with peers, and indirect monitoring (i.e., supervision through knowledge of the adolescent’s whereabouts).¹⁰ For general direct monitoring and peer-related direct monitoring, responses could range from 1 to 4, with a higher score being indicative of a lower level of parental monitoring. Although the range is identical for the measure of indirect parental monitoring, higher scores indicate a higher level of indirect monitoring. This measure has been used in several studies examining adolescent girls’ sexual behaviors. In these studies, indirect monitoring was related to a greater likelihood that adolescent girls will view the timing of their sexual initiation as “just right”¹¹, and to their being less likely to have an relationship outside of their primary romantic relationship¹²; and direct monitoring was related to the use of hormonal birth control methods at last intercourse¹⁰ and to having an older age of sexual initiation.¹³ Monitoring questions were administered at the intake interview and reflect the current level of monitoring perceived by girls with regard to a parent or parent figure. Chi-squared analyses and logistic regression were used to assess whether each predictor was associated with girls’ talking status (talked to mother vs. did not talk to mother). All data were analyzed using the SAS 9.1 software package.¹⁴

Qualitative Analysis: Framework Analysis

To analyze girls’ qualitative responses regarding communication with their mothers, framework analysis was used.¹⁵ First, all investigators read over girls’ responses in order to familiarize themselves with the data. Next, responses of girls who talked to their mothers and girls who did not talk to their mothers were divided and examined separately to identify themes present in conversation and reasons for lack of conversation, respectively. The two sets of themes were then utilized to construct two coding schemes: one for girls who talked to their mothers and one for girls who did not talk to their mothers. Two authors independently coded girls’ responses according to the two coding systems. Discrepancies between the two coders were discussed and resolved with the fourth author present. When the coding scheme was revised, all responses were re-coded according to the revised scheme and discussed by the authors. The responses then were categorized by theme (charting) to identify broader ideas across themes. These ideas were interpreted according to the current theoretical understanding of adolescent-parent relationships.

For those girls who talked to their mothers, several non-mutually exclusive themes were identified: a) to whom a girl talks (contact with research staff); b) what a girl “gets” (physical

objects a girl can get from the study); c) what a girl “does” (the process of the study); d) sexuality conversations (i.e. sex, STIs, or pregnancy), including deliberately leaving sexuality content out of a conversation; and e) offering to share with, or demonstrating/showing the product to their mother. Reasons for not talking were organized into mutually exclusive categories: a) specific avoidance of study and/or related topics (i.e., sex, STIs, pregnancy); b) general avoidance of conversations with mother; c) the topic never came up; or d) no reason/don’t know. Although the initial themes coded differed between those who talked and those who did not talk with their mothers, the broader findings presented below (reasons for conversation, use of questions, barriers to conversations, and content of conversations) reflect the integration of coded themes regardless of talking status.

Results

Sample Composition

The study sample consisted of 208 girls. Of these 208 girls, 176 were seen at the 3-month visit, and 7 additional girls who missed their 3-month visit responded to the relevant questions at the 6-month visit, yielding a potential sample size of 183. Five girls were dropped from these analyses because they did not identify a mother or parent figure (2 girls described their only mother figure as deceased and 3 girls were residing in a group home without a clear mother-figure). Thus, the final sample size was 178 girls for purposes of the quantitative analysis predicting talking status. Those excluded from analysis were not significantly different from the final sample in demographics, parental monitoring, living status, or length of sexual experience. A total of 7 girls gave answers to the qualitative questions that were too vague to code (e.g., “*I told her what it was about*,” “*No one knows except for my boyfriend and a friend*”) leaving a total of 171 codable answers for the qualitative analysis.

The 178 girls had a mean age of 17.6 years (SD = 1.9 years; range 14 to 21 years) at the time of study enrollment. Forty-five per cent (n=80) were under 18, and 55% (n=98) were 18 or over. Forty-one percent (n=72) were African American, 33% (n=60) were Hispanic, and 26% (n=46) were non-Hispanic Caucasian/Other. The mean length of sexual experience of the 178 girls was 3.2 years (S.D. = 1.8 years; range 0–9 years). Seventy-two percent (n=129) lived with at least 1 parent or with a parent figure, and 28% (n=49) lived with someone else. One girl living with parents/parental figures did not answer monitoring questions and thus, was not included in analyses related to parental monitoring. The mean level of direct parental monitoring was 2.2 (SD = 0.9) and of direct monitoring with peers was 2.7 (SD = 0.9). An answer of “2” indicated that the adolescent reported being unsupervised on average of 1 to 4 hours a week; a score of “3” indicated an average of 5 to 10 hours of unsupervised time. The mean level of indirect parental monitoring was 3.1 (SD = 0.8). A score of 3 indicated that the parents “almost always” knew where the adolescent was and with whom.

Predictors of Talking Status

One-half of the sample (n=89) had talked to their mothers about the study, and the other half had not. Three girls reported that they did not “talk” to their mothers, but described conversations similar to those of girls who “talked” to their mothers. For purposes of considering predictors of talking, they were considered as “not talking,” but their qualitative answers were examined based on the content (i.e. their conversations were coded using the scheme for girls who talked to their mothers). Of those who clearly did not have any conversation with a parent (n = 86), just under half (47%, n=40) had obtained parental consent to participate in the study.

Talking status did not differ significantly based on age (being under 18 vs. being 18 years or older), by race/ethnicity, by length of sexual experience, or by living status. In order to evaluate

the relationship of parental monitoring to talking status, all three types of parental monitoring were placed in the model using logistic regression with backwards elimination. Only indirect monitoring was significant (Wald $\chi^2 = 8$, $p < .01$), that is those girls who had more indirect monitoring were more likely to talk to their mothers. Since indirect monitoring was correlated with age ($r = -0.19$, $p < 0.05$), the model was re-run for indirect monitoring with the girls' age included in the model. Age dropped out of the model suggesting that indirect monitoring, rather than age of the girl, was related to talking status. Results were identical regardless of how talking status was coded for those girls whose qualitative and quantitative answers were not consistent.

Conversations with Mothers

Prompts for Conversations—Many of the girls described conversations with their mothers for which they did not indicate how the conversation was initiated. However, for those girls who mentioned a prompt, the presence of specific objects or particular events appeared to be helpful for the conversation to occur. These included phone calls from research staff, appointments with the study team, or questions resulting from the mother's observation of a physical object (e.g. package, pager). For example, one girl said, *"My mom found out when you left the product. We came home and she thought it was a package from the mailman. I opened it up and then I told her about the study."* Another girl said that her mother, *"had asked [her], cause she got the letter..."* These girls did not describe these mothers' inquiries as a perceived violation of confidentiality or as making them uncomfortable. Rather, it seemed to help them to have a concrete event to promote conversations.

Use of Questions—Questions asked by mothers served as both prompts for and barriers to conversation. Some girls indicated that they talked to their mother about some aspect of the study because their mother specifically asked them questions; in this case, questions functioned as a prompt for conversation. However, not all girls were comfortable with their mom asking questions or initiating conversation. A few girls reported that they considered their mothers to be too nosy (e.g. *"she ask too many questions"*), citing this as the reason for not having had a conversation. Other girls did not have a conversation with mothers perhaps because, for some girls, their involvement in the study did not seem important to their mother (e.g. *"They don't care probably," "She probably forgot I was in it anyway."*). A few of these girls specifically mentioned that they did not talk to their mothers because they perceived an inadequate level of inquiry about their participation in the study (e.g. *"cause she aint' never asked me about it."*). In these cases, excessive or insufficient questioning appeared to function as a barrier to conversation.

Barriers to Conversations—As discussed above, both excessive and insufficient inquiry on the part of mothers appeared to be a barrier to communication with adolescent daughters regarding the study and/or microbicide. However, other aspects of the mother-daughter relationship also appeared to play a role in preventing conversation from taking place, or in limiting the scope of conversation. Some girls specifically avoided study or study related topics because they considered it a private matter or were too uncomfortable to discuss such topics with their mothers. For example, one girl stated, *"We have a mom/daughter boundary. We can talk about anything, but there are some things I want to keep private."* Another said, *"I haven't talked to them about it (the study). I don't feel comfortable talking to them about stuff like that."* For a few girls, this discomfort was specifically related to cultural or religious backgrounds or concerns about their mother knowing they were sexually experienced. One remarked, *"I am from a strong Catholic background. We do not talk about it,"* and another said, *"My mom thinks I am a virgin, or she hopes I am, she is in denial."*

Other girls described a mother-daughter relationship that would not be conducive to communication about the study or related topics. These girls seemed to avoid all conversation with their mother and may have had a somewhat limited or impaired relationship with their mothers (e.g. *“Not really on speaking terms with my mom”*).

Content of Conversations—Many girls talked about the concrete aspects surrounding their participation in the study. Girls discussed communication with the research team, the steps of the study, and the physical objects a girl received as part of the study. For example, girls often reported that they told their mother about the pagers, condoms, or reimbursement obtained through the study. Girls also talked to their mothers about their interview appointments or about their weekly contact with the research staff.

A few girls and mothers appeared to broaden the conversation beyond just the specifics of the study and experiences with the product to discuss a variety of sex/STI related topics., including a few who reassured their mothers that they were not sexually active (*“Don’t worry, I’m not having sex,” “I tell her I am in it, but I don’t need to have sex”*), while others discussed the STI prevention potential of real microbicides or the STI and pregnancy testing offered as part of the study (*“it (product) was a lubricant that was going to prevent STDs,” “I told her I was going to a study and they tested me for STDs”*).

Girls also talked to their mothers about the product itself, with some girls sharing their experiences of using the product (*“[She] asked me do you like the product and I said yeah, it’s alright”*). One girl actually demonstrated how to use the product to their mother (*“I showed it to her and squeezed it out just like you did to me. I showed her the other one too”*) and some even offered to share it. For example, one girl said, *“Yeah, I showed it to her, but I also put it in the refrigerator and told her if she needed some, she could go and get some.”* A few girls and mothers further discussed the mother’s experience of use afterward – one girl’s mother told her daughter that the product *“was good, it worked good.”*

Discussion

Indirect parental monitoring was related to girls’ having had a conversation with their mothers about participation in this study or the product. Indirect monitoring requires communication and also may represent a close parent-adolescent relationship. Studies have consistently found that the general quality of the parent-adolescent relationship and parental monitoring are related to increased sexual health communication,^{16,17} which in turn decreases risky sexual decision-making.^{7,8,17–23} Neither of the two direct monitoring scales was related to communication. It may be that direct monitoring plays a more important role for behaviors in which direct supervision may have a direct impact on the behavior, such as the age of sexual initiation¹³ or the use of hormonal contraception.¹⁰ In those cases, parents may influence the sexual behavior by limiting opportunity through supervision or by taking the adolescent to a physician’s appointment.

In this study, evidence for the impact of the general quality of the mother-daughter relationship on communication was found in the qualitative descriptions from girls who did not talk to their mothers. Many of these girls described a lack of sufficient interest about their activities by their mothers or an impaired relationship. Conversely, many girls reported responding positively and having a conversation with their mother after the mother inquired about an event or an object such as a pager. This may present interesting options for initiating adolescent-parent conversations. In addition, a few girls and or mothers used the opportunity provided by study participation to broaden the discussion to sex and STI-related topics. Since the girls were not asked specifically if the discussion included other topics, it may be that this occurred even more often. In any event, mothers should be encouraged to notice and comment on their

daughter's lives as a way to find out in which activities they are involved and to take advantage of "teachable moments" to initiate broader conversations. However, it is clearly possible for a mother to be perceived as too nosy. Mothers of adolescent girls appear to have the challenge of expressing "just enough" interest; sometimes daughters only share information when asked, but daughters are also sensitive to intrusion into what they may consider a very private topic.

Mothers will not have had personal experience with microbicides when they first become available, even though they may have had exposure to other forms of STI and pregnancy prevention options. Mothers have indicated that they would like to have direct access to information about new STI prevention options for their daughters, suggesting magazines and television shows that they are likely to read or watch.²⁴ Some of the girls in our study addressed their mother's lack of personal experience by either demonstrating how the product is used or by sharing or offering to share the product with their mother. It is possible that sharing or offering to share was more common in this study because the girls were aware that the product was actually a vaginal moisturizer, and the offer to share was connected to that advantage of product use. However, it serves as a reminder about the importance of providing mothers with opportunities to become knowledgeable about products that are recommended to their daughters.

While beyond the scope of the current study, it is notable that there was no difference in age, talking status, or living status between those who talked to their mothers and those who did not talk to their mothers. This suggests that situational variables (living with the adolescent and providing parental consent) do not always lead to continued conversation about the research process in a minimal risk longitudinal study. The lack of age difference may reflect parents providing their adolescents appropriate autonomy; however, understanding the process over time of adolescent-parent discussions of research participation could inform the further refinement of guidelines for adolescent participation in research studies.^{25,26}

It should be noted that this was a convenience sample of girls who were willing to participate in a study requiring conversations about their sexual behaviors and, if under 18 years of age, who were able to obtain parental consent. Thus, girls in the study may have been more willing to talk with their mothers about the product than many girls for whom topical microbicide use may be encouraged once they are available. However, care providers can inquire about the mother-daughter relationship and tailor their interactions based on this assessment.²⁷ In addition, this study focused on many aspects of the context of microbicide use for adolescent girls; thus, it represents only a broad view of mother-daughter conversations. We were not able to examine mothers' perceptions of the conversations or adolescents' perceptions of how these conversations might have influenced decisions surrounding actual use. Finally, conversations may differ once there is a safe and effective product which is available to the public and is being used for the purpose of STI prevention rather than as part of a research study.

Despite these limitations, these results remind us once again that for most adolescents, this is a developmental time period in which relationships with parents are changing, but not becoming non-existent. As new methods, such as topical microbicides, become available, mothers will need access to additional information so that they can be well-informed about the options for their daughters.²⁴ Even with existing methods, we need to continue to develop ways of engaging the support of mothers who are involved in their daughters' lives to foster use of STI and pregnancy prevention methods, while ensuring that adolescents retain their right and ability to access confidential reproductive health care. While many health care providers involve mothers in the care of the adolescents²⁷, these efforts have not been systematically evaluated to determine the most effective strategies. Interventions have demonstrated the ability to increase parents' comfort with discussing sexuality with their teens²⁸ but have shown less impact on influencing actual adolescent sexual behaviors.²⁹ Some adolescents also may

benefit from therapeutic interventions to improve the quality of their mother-daughter relationships. By addressing the range of needs of adolescent girls and their mothers, we should be able to maximize the likelihood that each adolescent girl will be able to protect herself from the acquisition of an STI and maintain her reproductive health.

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