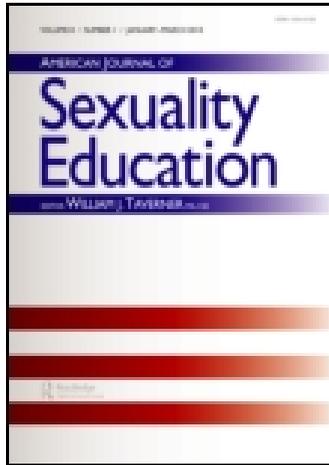


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Sex Is Like Jelly Beans: Educating Students on the Risks of Oral Sex

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This study provides a description of an innovative workshop that educated college students about the risks of unprotected sexual behavior, particularly oral sex, and methods of risk reduction using a metaphor of “sharing and eating jelly beans.” Intervention development was guided by the Information-Motivation-Behavioral Skills model. Ninety-five students attended this workshop, with 69 (73%) participating in a workshop assessment in the form of a one-group pretest-posttest design with no control group. The surveys obtained information about participants’ demographics, sexual experience, protective sexual behaviors, perception of risk, motivation to engage in protective behaviors, and response to the workshop. Most participants rated the workshop as “very useful,” and many reported the jelly bean metaphor specifically interesting and effective. Motivation to use condoms during oral sex significantly increased after the workshop, as did motivation to use condoms during vaginal and anal sex. Most participants were also motivated to get tested for sexually transmitted infections and obtain human papillomavirus vaccination. This educational workshop is easy to implement to promote engagement in protective behaviors and could be adapted to be part of an existing health program or delivered as a stand-alone workshop.

KEYWORDS *Oral sex, health promotion, college students, condoms*

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Of the 19 million new sexually transmitted infections (STIs) each year, half occur among young adults aged 15–24 (Centers for Disease Control and Prevention [CDC], 2011). STIs can have significant physical and psychological consequences for those who become infected, and prevention is a national concern. STIs can be transmitted through numerous sexual behaviors, including oral sex, and it has been established that syphilis, herpes simplex virus, human papillomavirus (HPV), and gonorrhea can infect the mouth and/or pharynx (D'Souza, Agrawal, Halpern, Bodison, & Gillison, 2009; Edwards & Carne, 1998a, 1998b). More recent research has established that pharyngeal chlamydia infections are becoming increasingly common (Karlsson, Österlund, & Forssén, 2011). Although much less likely compared to vaginal or anal sex, human immunodeficiency virus (HIV) transmission through oral sex is possible (Hawkins, 2001; Rothenberg, Scarlett, del Rio, Reznik, & O'Daniels, 1998), primarily if there are cuts in the oral cavity. The consequences of oral STI transmission are becoming more widely known. For example, HPV has been linked to a rise in throat cancer (Chaturvedi et al., 2011; Nichols et al., 2013).

Still, many college students are unaware that STIs can be contracted through engaging in oral sex (Chambers, 2007; Moore & Smith, 2012). Additionally, many may decide that taking any protective measures are unnecessary because they do not consider oral sex to really count as “having sex” (Chambers, 2007; Gute, Eshbaugh, & Wiersma, 2008; Hans, Gillen, & Akande, 2010). Qualitative research found that others believe that oral sex is associated with fewer risks than vaginal intercourse (Vannier & Byers, 2013). This lack of concern regarding oral sex is reflected in the fact that college students frequently engage in oral sex—national research found that 70.9% of male college students and 68.4% of female college students engaged in oral sex in a 30-day period (American College Health Association [ACHA], 2013)—yet few used condoms or other barriers during oral sex. ACHA (2013) found that of those who had oral sex in a 30-day period, 92.6% reported never or rarely using condoms or other protective barriers during oral sex. The authors' academic institution participated in spring 2012 ACHA-National College Health Assessment administration, and their students were found to engage in oral sex at similar rates to national data (68% of males and 68% of females engaged in oral sex in a 30-day period) with equivalent low condom/barrier use rates (92.6% reporting never or rarely using condoms during oral sex) (Stetson University Institutional Data Report, 2012). A search of literature did not identify any sex education programs that focused specifically on risk reduction during oral sex among college students. As such, there may be a need for education programs focused specifically on the risks of having unprotected oral sex at the undergraduate level.

This workshop was inspired by a Planned Parenthood poster promoting STI testing: the poster showed a pile of jelly beans and a hand holding a card with jelly beans labeled with STI names (White, 2013). The tagline

was “Sex is like jellybeans. Sometimes you want to know what you just put in your mouth.” Jelly beans have been incorporated into educational programs before; Pinkston, Carruth, and Goggin (2008) described their use of jelly beans in creating empathy among practitioners for patients taking highly active antiretroviral therapy, with jelly beans serving as substitutes for medication. It was believed by the authors that eating jelly beans could serve as an effective metaphor for oral sex and the transmission of STIs: they enter the body through the mouth where any contaminants on the jelly beans could then potentially invade the rest of the body.

Additionally, workshop content was shaped through application of the Information-Motivation-Behavioral Skills (IMB) model, which postulates that receipt of information, motivation, and behavioral skills are key determinants of whether health behaviors will actually be performed (Fisher & Fisher, 2002; Fisher, Fisher, & Harman, 2003). The IMB model was developed originally to guide interventions regarding HIV preventive behavior. It asserts that promoting safer sex behavior is dependent on providing individuals with *information* about modes of transmission and preventive behaviors, increasing their personal *motivation* to utilize preventive behaviors through improving attitudes towards preventive behaviors and clarifying perceptions of personal risk level, and developing their *behavioral skills* for actually performing preventive behaviors. The IMB model has been used previously to develop safer sex interventions for college students, focusing on HIV risk reduction (Fisher, Fisher, Misovich, Kimble, & Malloy, 1996; Singh, 2003), although they have involved three sessions. It can be difficult to deliver multi-session programs to groups of college students outside of a classroom setting, and, even within classroom settings, time can be limited, necessitating the use of effective brief sexual health interventions (Moore, Smith, & Folsom, 2012). The purpose of this article is to provide a descriptive analysis of a promising IMB-based presentation that utilizes an innovative activity of sharing jelly beans to clarify personal risk for STIs, along with pre- and post-test results from its initial delivery.

METHOD

Participants

All students at a small, private Southern university with approximately 2,700 undergraduates were invited to attend an educational workshop held in September 2013. Students were eligible to receive one cultural credit (24 cultural credits required to graduate) for participating in the workshop as well as research participation credit for class if needed. Unless students chose to use attendance at this workshop to meet a course-required research participation credit, completing surveys was optional. Students were advised that they could choose not to respond to any questions on the surveys that

made them uncomfortable. Based on the cultural credit sign-up sheets, a total of 95 students attended the event, with 69 completing both pre- and post-test surveys (72.6% participation rate). The university's institutional review board approved all study procedures.

Measures

This study used a primarily quantitative approach one-group pretest-posttest study design. A 26-item paper-and-pencil pretest developed for this study was distributed and collected prior to the start of the workshop. Participants were asked to report demographics (sex, age, race/ethnicity, living situation, sexual orientation, relationship status). They also indicated whether they had ever engaged in oral, vaginal, and anal sex (yes/no); if they had, participants were asked to indicate whether they had used a condom/dental dam the last time they had oral sex or a condom for vaginal/anal sex (yes/no). If they did not use protection, they were asked to respond to an open-ended item regarding why they did not ("If you did not use a condom/other barrier the last time you engaged in either oral, vaginal or anal sex, please explain why"). Three items assessed their motivation to use protection the next time they had oral, vaginal, or anal sex (response options: very motivated, somewhat motivated, or not at all motivated); if they indicated not being motivated, they were asked to respond to an open-ended item explaining their lack of motivation ("If you are not motivated to use a condom/barrier the next time you engage in either oral, vaginal or anal sex, please explain why"). Two items assessed whether they had ever been tested for chlamydia or gonorrhea (yes/no); if no, an open-ended item asked why they had not been tested ("If you have not been tested for chlamydia or gonorrhea, please explain why you have not been tested"). A single item assessed whether they had ever received an HPV vaccination (yes/no); if no, an open-ended item asked why they had not been vaccinated ("If you have not received the HPV vaccine, please explain why not"). Participants' perception of STI prevalence was assessed with a single item asking participants to write in the percentage of STIs that occur among young adults between ages 15 and 24. Three items assessed their belief on how likely contracting an STI was from oral, vaginal, and anal sex (response options: very likely, somewhat likely, or not at all likely). Lastly, an open-ended item asked to explain why they chose to attend the workshop.

A 16-item paper-and-pencil posttest was distributed at the end of the workshop. The posttest asked participants' sex and age, as well as their motivation to: a) use a condom/dental dam the next time they have oral, vaginal, and anal sex, b) get tested for chlamydia and gonorrhea, and c) get vaccinated for HPV (response options: very motivated, somewhat motivated, or not at all motivated). If they were not motivated to do any of those, an

open-ended item asked them to explain why (“If you are not motivated to do any of the above, please explain why”). The posttest also included the same perception of STI prevalence and likelihood of contracting an STI items from the pretest. Two open-ended items asked participants to explain what they found most interesting about the workshop and what they would change about it. A final item asked participants to rate how useful the information was for them (response options: very useful, somewhat useful, or not at all useful).

Workshop Description

The workshop was promoted on campus two weeks prior to the event via fliers posted on-campus and via emails sent to students via the Psychology Department to promote the opportunity for research participation. As participants arrived for the workshop (held on-campus in the student union), the study was explained to them and informed consent was provided verbally to ensure confidentiality. Those who decided to participate were given the pretest to complete. Students were instructed to create a code from their day of birth and last two digits of their phone number to put on the pretests and posttests to link them; furthermore, participants’ age and sex were collected on both surveys to help confirm matched surveys in the case of similar codes or difficulty reading participants’ handwriting.

A female psychologist with a research specialization in sexual health and a male health educator lead the workshop, which lasted approximately 45 minutes and was guided by a PowerPoint. It began with a welcome from the presenters and an exercise involving the distribution of jelly beans to attendees. The presenters individually handed a few jelly beans to the first two rows of attendees and for the remaining several rows asked the first seated participant to “pass the jelly beans down” to students farther down the row (to audible groans from the students sitting at the opposite end). They instructed the attendees that they could now eat their jelly beans if they wanted to and asked anyone who was not comfortable eating their jelly beans to raise their hand. Approximately half of all attendees raised their hand; reasons for discomfort included not knowing whether the presenters’ hands were clean (no gloves were worn during exercise) and because other people had touched their jelly beans. One person asked if the presenters had washed their hands prior; they were told yes but were then asked if they could be taken at their word. Attendees were also asked whether the presenters wearing a glove would have made a difference, which some agreed but others stated that they would have only been comfortable if they had seen the glove removed from the box. The presenters explained how the jelly beans served as a proxy for having sex. A glove—or even a condom or dental dam—could be used to make it safer. The importance of

not just taking people at their word that they had washed their hands or were STI-free was also discussed.

This led to a discussion of STIs as something that participants may be putting into their mouths. National and Florida STI rates were highlighted, emphasizing that approximately 50% of all new STIs occur among young adults aged 15 to 24 annually (CDC, 2011; Florida Health, n.d.). Chlamydia, gonorrhea, and HPV were discussed in depth, as well as how transmission could happen through oral, vaginal, and anal sex. Oral sex was reviewed, with NCHA national and institutional-specific prevalence of oral sex and barrier use during oral sex noted. Potential symptoms and consequences of an oral STI were noted, with two pictures depicting vaginal and penile discharge from chlamydia, two showing a standard outbreak of vaginal and penile warts from HPV, and one depicting a reddened throat caused by oral gonorrhea infection. However, it was emphasized that many STI cases are asymptomatic or symptoms are often mild and not identified as being related to an STI. This section helped to address both the information and motivation components, as it provided participants with facts about modes of transmission and sought to help students clarify their personal level of risk by discussing STI prevalence among young adults in Florida and behaviors that could increase risk.

Addressing the behavioral skills component, the discussion then focused on how participants could protect themselves, talking about the HPV vaccination first, asking attendees what they had heard about the vaccine and any misconceptions were addressed. Oral STI testing was discussed next, emphasizing that it would likely need to be requested. Locations to obtain vaccination and testing and associated costs were displayed on slides. Condom use was addressed, with an attendee invited to perform a condom demonstration on a penis model. A female student volunteered and was asked to explain what she was doing as she did it. She correctly modeled application of a condom, although the presenters added to her demonstration by emphasizing the need to check the condom's expiration date and squeeze any air out of the tip of the condom. Attendees were asked why someone would not use condoms during oral sex; responses were given such as condoms tasting bad, it does not feel as good, and it is not sexy. The female presenter explained that using condoms during oral sex can be part of foreplay and considered sexy; she then demonstrated putting a condom on a penis model using her mouth, explaining the need to fold lips over teeth when sliding the condom down (also a time to remind students not to open a condom with their teeth to reduce tearing risk). It was also noted how flavored condoms exist specifically for oral sex to address the "bad taste" issue; however, attendees were instructed that they should not use flavored condoms for vaginal sex as it could increase the chances of yeast infections. This portion of the presentation emphasized the positivity of safer sex behaviors. The demonstrations ended with a discussion of the explanation of

what a dental dam was and how it could be used when performing oral sex on a female partner or oral-anal sex on any partner. Attendees were shown a dental dam and how to make a dental dam from a male condom using a pair of scissors. The presenters shared locations where condoms and dental dams could be obtained for free both on- and off-campus.

The workshop ended with a discussion about the importance of communication between sex partners. This included sharing STI results and encouraging participants to go with their partners to be tested and asking for documentation of test results, rather than just accepting their partner's word. It also included discussion about negotiating condom use during sex. Lastly, the importance of consent was addressed, which included discussing what both partners were comfortable doing sexually and how talking about sexual desires could also be a part of foreplay. The presenters asked participants if they had any questions about information from the workshop or about sexual health in general and a five-minute question-and-answer session occurred. Following this, the posttest was distributed. See Table 1 for more information on how workshop components fit in the IMB model.

RESULTS

For participants who completed both the pretest and posttest, the majority was female with an average age of 19.2 ($SD = 1.2$). More than half were currently single; for those currently in relationships, length of relationship ranged from three weeks to five years with the median length being 9.5 months. Most participants were sexually experienced, with 88.4% ($n = 61$) reporting engaging in oral, vaginal, and/or anal sex. Among the 60 participants who reported having oral sex, only 6.7% ($n = 4$) reported using a condom/dental dam the last time they had oral sex. For the 50 reporting having had vaginal sex and 19 reporting anal sex, 60% ($n = 30$) and 26.3% ($n = 5$) reported using a condom, respectively. Cross-tabulation analyses examined demographics and sexual behaviors and found only two significant differences. Females were significantly more likely to report having had vaginal sex than males, $\chi^2(1) = 4.44, p < .05$. Those who reported currently being in a committed relationship were significantly more likely to report having had anal sex than those who were single or dating, $\chi^2(2) = 9.70, p < .01$. See Table 2 for other sample characteristics.

Forty-three participants wrote something regarding why they did not use a condom during sex, which often combined several reasons:

"Usually because both of us are drunk. Or too deep in the moment."

(female, age 18)

"It doesn't feel good/she is on birth control" (male, age 20)

TABLE 1 IMB Theory Components in Workshop

Theory component and definition	Workshop component
Information (Provide participants with facts about a particular behavior and its consequences)	Jelly Bean Metaphor Exercise – <i>STIs can be transmitted via oral sex but transmission can be prevented</i> STI Symptoms – <i>information on what symptoms may or may not be present</i> Oral Sex – <i>defining fellatio and cunnilingus and how they can lead to STI transmission</i> Open Q&A – <i>the end of the workshop was left open to answer any remaining questions</i>
Motivation (Increase personal motivation to act responsibly by increasing positive attitudes about preventive behaviors and clarifying an individual's personal risk level)	National and Florida STI Prevalence – <i>helped students realize the degree of risk of coming into contact with someone with an STI to serve as motivation to protect themselves</i> Oral-Application of Condom Demonstration – <i>to dispel negative attitudes about condoms being unsexy, a demonstration of applying a condom with one's mouth was performed; furthermore, discussion of flavored condoms targeted negative attitudes about condoms tasting too bad for oral sex use</i> Partner Discussion – <i>to dispel negative attitudes about bringing up sexual safety with a partner, it was noted how discussion of sexual desires can be a part of foreplay</i>
Behavioral Skills (Provide participants with the means to engage in preventive behaviors and reduce risk)	Methods of Prevention and Condom Demonstrations – <i>HPV vaccination, condoms, and dental dams were discussed as behaviors that can prevent STI transmission; condom demonstrations provided a correct example of executing this skill; demonstration on how to make a dental dam from a condom</i> STI Testing Methods, Local Providers, and Associated Costs – <i>Testing was noted to be a behavior that can prevent transmission by knowing own and partner's status</i> Partner Discussion – <i>ways to negotiate condom use, STI testing, and affirming consent were discussed</i>

Note. IMB = Information-Motivation-Behavioral Skills, STI = sexually transmitted infection, HPV = human papillomavirus.

Five participants wrote something vague (i.e., “because I didn’t” or “didn’t need to”); specific reasons included: only having sex with one partner and using an alternative form of birth control ($n = 10$), condom was not available ($n = 6$), heat of the moment ($n = 5$), was intoxicated during sex ($n = 4$), and sex does not feel as good with a condom ($n = 3$). One participant reported not using a condom because sex happened without her consent,

TABLE 2 Description of Sample

Variable	% (n)
Sex	
Male	20.3%(14)
Female	79.7%(55)
Race/Ethnicity	
Caucasian	68.1%(47)
African American	4.3%(3)
Latino/a	8.7%(6)
Asian American	2.9%(2)
Other/Multiracial	14.5%(10)
Sexual Orientation	
Heterosexual	71% (49)
Bisexual	8.7%(6)
Gay/Lesbian	10.1%(7)
Unsure	7.2%(5)
Living Situation	
On-Campus	82.6%(57)
Off-Campus	17.4%(12)
Relationship Status	
Single, Not Dating Anyone	55.1%(38)
Dating But Not in a Committed Relationship	5.8%(4)
In a Committed Relationship	39.1%(27)
Ever Had Oral Sex	
Yes	87% (60)
No	13% (9)
Ever Had Vaginal Sex	
Yes	72.5%(50)
No	27.5%(19)
Ever Had Anal Sex	
Yes	27.5%(19)
No	72.5%(50)

and another identified as a lesbian and did not think two women needed to use barriers. Related to this, several participants noted never having heard of dental dams. Ten participants who used condoms during vaginal sex but not oral sex specified reasons against using a condom/other barrier during oral sex, with some stating that they had never heard of someone using condoms for oral sex and others with experience condemning condom flavor:

“I think it’s weird to have oral sex with a condom” (female, age 19)

“Because the condom tastes bad” (female age, 19)

For sexually experienced participants, less than half (42.6%, $n = 26$) reported having been tested for chlamydia and gonorrhea. Regarding reasons for not getting tested, many fell into a category of participants just not seeing the need to be tested ($n = 13$), which was often associated with the number of partners they had been with or who their partners were:

"I haven't felt the need to. Haven't been with many partners" (male, age 19)

"I don't have sex with random people" (female, age 18)

The second most reported reason was related to not showing any symptoms of infection ($n = 9$): *"I would have symptoms by now if I had them and I've only had sex with one person"* (female, age 21). Two participants did not get tested because of infrequency of sex. Two others did not know why they had not been tested: *"Good question. . . Just haven't"* (male, age 22). One female participant said that she did not know where to go to get tested. Most participants felt that they were not at risk for STIs, but this belief did not translate into risk-reducing behavior. For those who reported not having been tested, only 5.9% ($n = 2$) used a condom/dental dam the last time they had oral sex and 64.3% ($n = 18$) and 50% ($n = 3$) used a condom the last time they had vaginal and/or anal sex, respectively.

More than half (60.9%, $n = 42$) reported they had received HPV vaccination. For the 26 people who had not been vaccinated, one stated that she planned to get it in the future. Most that had not wrote they did not know why or were not sure what the vaccine was ($n = 7$). Four participants reported being suspicious of the vaccine or had heard bad things about potential side effects, and three others reported their parents advised them against it. One participant reported not getting it for religious reasons, another reported he did not get it because he was male, another put she was born in a developing country, and a fourth expressed that cost was a concern because she did not have health insurance. Three remaining participants said they had not gotten it because they were not sexually active; one female participant (age 19) wrote: *"Was not sexually active until recently and was advised to not receive vaccination until sexually active (advised by a doctor)."*

Workshop Results and Evaluation

When asked on the pretest why they chose to attend the workshop, 30.4% ($n = 21$) indicated that they came purely to obtain cultural credit/research credit. For the majority, however, while many still mentioned the incentives, stated that the topic was interesting to them and they wanted to learn more about sex. The name of the workshop was a definite draw: *"The title of the presentation is catchy"* (female, age 19). Overall, participants responded positively to the workshop and found it to be useful, with 76.8% ($n = 53$) reporting they found it "very useful" and 20.3% ($n = 14$) rating it "somewhat useful;" none rated it "not at all useful."

On the pretest, 14.5% ($n = 10$), 68.1% ($n = 47$), and 43.5% ($n = 30$) indicated they were very motivated to use a condom the next time they

engage in oral, vaginal, and anal sex, respectively. Posttest motivation to use a condom increased for all types of sex; 44.9% ($n = 31$), 82.6% ($n = 57$) and 68.1% ($n = 47$) indicated they were very motivated to use a condom the next time they engage in oral, vaginal, and anal sex, respectively. Comparing pretest motivation to use condoms to the posttest, motivation significantly improved for all types of sex; oral, $t(66) = -9.15$, $p < .001$, $r = .75$ (large effect size), vaginal, $t(63) = -2.86$, $p < .01$, $r = .34$ (medium effect size), anal, $t(52) = -3.65$, $p < .001$, $r = .45$ (large effect size).

For sexually experienced participants, 47.5% ($n = 29$) indicated they were very motivated to get tested in the next three months and 41% ($n = 25$) indicated they were somewhat motivated. For the 11.5% ($n = 7$) who indicated not being motivated, three gave reasons: having been tested three weeks ago, not currently being sexually active, and being married. There were no significant differences in motivation to get tested according to relationship status, previous condom use, or previous testing history. Among the 26 participants who had not yet received the HPV vaccine, 61.5% ($n = 16$) indicated they were very motivated and 34.6% ($n = 9$) were somewhat motivated to get vaccinated in the next three months. Only one person indicated not being motivated, and she had not had oral, vaginal, or anal sex.

In assessing participants' perception of STI risk on the pretest, they were asked to write in the percentage of STIs that occur in young adults between the ages of 15 and 24. Responses on the pretest ranged from 4% to 95%, although the average percentage was 56.7% (median = 63%). Posttest responses ranged from 50% to 95%, with 87% ($n = 60$) identifying the correct percentage of 50%. Regarding likelihood of contracting an STI from oral, vaginal, and anal sex, no participant put that it was "not at all likely" on either the pretest or posttest. They did believe it was far more likely that STI transmission would occur from vaginal sex (95.7%, $n = 66$ selected "very likely") compared with anal sex (71%, $n = 49$ selected "very likely") and oral sex (55.1%, $n = 38$ selected "very likely") on the pretest. On the posttest, all participants believed that it was equally "very likely" for STI transmission to occur from oral (94.2%, $n = 65$), vaginal (95.7%, $n = 66$), and anal sex (94.2%, $n = 65$).

Regarding the information that participants found interesting, analysis of the responses found that 36 referred to the condom demonstrations, with 22 specifically noting watching the demonstration of putting a condom on with one's mouth. Five responses highlighted learning about dental dams and seeing a demonstration of how they could be used for oral sex and oral-anal contact. Two participants appreciated learning about the option of flavored condoms. Five responses referred to the statistics as being most interesting, particularly the statistics for students at their institution. Seven responses referred to learning about the consequences of oral sex, one specifically mentioning HPV and two appreciating the visual depictions of STI

symptoms. Four participants noted appreciation of receiving information about where STI testing was available and the cost of testing. Additionally, four comments praised the presenters and the way the information as presented as their favorite thing. Seven comments expressed appreciation for the jelly bean metaphor and exercise done at the beginning of the workshop. Lastly, there were also seven comments about just generally finding the workshop interesting and entertaining.

In describing what they would change about the workshop, 31 participants specified that they would not change anything. Three participants would have preferred a later start time for the workshop. For two participants, they found the pictures of STI symptoms to be too graphic. Four wanted additional jelly beans or other food at the event. Lastly, two participants identifying as gay or lesbian felt that the workshop emphasized heterosexual sex at the expense of the needs of gay/lesbian participants.

DISCUSSION

Overall, this interactive workshop guided by the IMB model was well-received by students; they reported finding the information useful, particularly the condom demonstration. The workshop increased attendees' motivation to use condoms, get tested for chlamydia and gonorrhea, and obtain vaccination against HPV. However, based on participants' responses to open-ended items, many participants in this study indicated that they still did not perceive as many risks for oral sex and thus less need to use condoms, which is in line with other research (Chambers, 2007; Moore & Smith, 2012; Vannier & Byers, 2013). Other research has noted that college men who engaged in oral sex are aware of the potential risk of contracting HPV and oral cancer as a result, which was associated with higher endorsement of intentions to obtain HPV vaccination (Crosby et al., 2012). It may be that participants consider some risks more acceptable (i.e., contracting a curable oral infection) than others (e.g., contraction of oral cancer). However, results highlighted some students do not feel a need to get vaccinated against HPV if they had not yet engaged in sex. It is crucial to encourage students to seek vaccination early, before becoming sexually active if possible, to decrease the probability of prior exposure to one of the strains the vaccines protect against. Given one student's comment that her physician advised her against vaccination until she was sexually active, it may also be important to involve providers in education workshops about HPV to ensure that they are aware of the best ways that students can reduce their risk and are prepared to deliver accurate information about vaccination.

This workshop strove to be applicable to all students regardless of sexual orientation, as oral sex is a sexual behavior prevalent among and relevant to heterosexual, bisexual, gay, and lesbian students and was discussed as such.

The workshop focused on use of condoms, dental dams, and other barriers during oral sex, as well as condom use during vaginal and anal sex. Sexual acts were discussed in terms meant to be divorced of orientation. However, two participants identifying as gay and lesbian respectively commented that the workshop was heteronormative and ignored sexual behaviors of gay students. The comments did not highlight any desired changes, but the educators will do follow up evaluations with students of diverse orientations on how to increase inclusivity within programming to better serve the needs of gay and lesbian students. Changes could be made to enhance inclusivity; statistics on student behavior can be presented by sexual orientation to highlight engagement in sexual behaviors and rates of STIs, which may better allow students to determine personal risk based on their behaviors. Language can be refined to make references to who should use specific protections during sex acts (i.e., men and women who perform oral sex on a male partner should make sure the penis is fully covered with a condom before beginning). Given that one female participant specifically wrote she did not think two women needed to use protection, clarification on how risk exists for lesbians regarding fluid exchange during oral sex or tribadism could enhance relevance of the workshop. Additionally, vaginal sex can mean more than penile-vaginal contact; it can refer to use of toys, and condoms should be used on toys and a new condom applied if switching the toy from one partner to another. Future research should solicit specific feedback from gay, lesbian, and bisexual students about how a safer sex workshop can meet their educational needs. Any student regardless of sex or sexual orientation is at risk for contracting STIs through engagement in unprotected sexual behavior, which should be emphasized by all workshops delivered to a general undergraduate audience.

Education programs often focus on the individual, but safer sex practices occur within complex relationship dynamics. Highlighting communication with one's partner as an essential part of positive, healthy sexuality was emphasized in this workshop. Communication efficacy has been found to be a significantly stronger predictor for female college students' intentions to discuss condoms with their partner than males (Wang, 2013). While males can simply put a condom on without needing to negotiate for it, females may feel more uncertain about their ability to insist their partner use a barrier. Additionally, while IMB is a valid theory for designing sex education programs, it could be supplemented using additional theories, such as Theory of Gender and Power (TGP; Connell, 1987). Societal inequities can lead to individuals being at a disadvantage within their sexual relationships; power dynamics within a relationship can determine who ultimately makes the decision regarding use of protective behaviors within heterosexual, lesbian, gay, and bisexual relationships. Future research should explore the use of TGP along with IMB in ensuring that educational programs meet the needs of all college students in helping them negotiate barrier use, refuse unsafe

sexual activities, and insist on STI testing before initiating sexual contact within the boundaries of their relationship.

Limitations

This study is not without limitations. Students self-reported their behaviors and attitudes, and it is possible that students responded in ways they considered to be socially acceptable. This is particularly possible with a sensitive topic like sex. No names were collected at any time to encourage honesty on surveys and decrease social desirability bias. Additionally, although most attendees completed surveys, the sample size was small. The workshop should be delivered again to a larger audience or delivered several times to further evaluate findings. The workshop should also endeavor to recruit more male participants, as the sample was primarily female, to demonstrate that the workshop is equally effective for both men and women. The study design was a one-group pretest-posttest design with no control group. The time between completion of the pre- and post-tests was short; as such, there is the possibility of pretesting effects.

Additionally, because information was only collected immediately prior to and after the workshop, there was no long-term follow up to evaluate the effects of the workshop on behavior. Previous evaluations of IMB-based interventions have found them to be effective in follow up (Fisher et al., 1996), but future iterations of this workshop should attempt to collect longitudinal follow up data to determine the actual impact on students' condom/dental dam use, STI testing, and receipt of HPV vaccination. Additionally, it would be beneficial to track numbers of condoms or dental dams taken by attendees as they leave and have STI testing available on-site after delivering the workshop to determine how many students obtain testing.

Lastly, a potential criticism of the workshop itself was that it was brief (approximately 45 minutes). However, it has been established that brief sex education workshops can be effective in promoting long-term change regarding condom use (Bryan, Aiken, & West, 1996). The condom promotion workshop developed by Bryan et al. (1996) is promoted by the CDC (2013) as best practice. Brief condom promotion workshops have demonstrated effectiveness with college students.

CONCLUSIONS

Overall, this workshop offered a promising, brief educational workshop that can easily be delivered to college students to educate them on the risks of oral sex. It could be delivered as a stand-alone workshop, offered in conjunction with other workshops on sexuality, or delivered as an activity in a college-level course on human sexuality. It provided students with valuable

information regarding STI transmission via oral sex and methods available to students to reduce that risk. The jelly bean exercise appeared to be a useful and cost-effective metaphor for helping students to understand the STI risks of unprotected oral sex specifically, as well as vaginal and anal sex. Future administrations of this workshop can address students' needs, including offering the workshop at a later start time and adding further emphasis to the needs of gay, lesbian, and bisexual students.

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