

Creating Peer-led Media to Teach Sensitive Topics: Recommendations from Practicing Health Educators

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ABSTRACT

Purpose: The purpose of the study was to evaluate consumer (instructor) reception of Channel Surfing Contraceptives in order to determine components necessary for creation of peer-led educational videos to teach sensitive contraceptive topics. **Methods:** Two focus group interviews with introductory-level undergraduate personal health instructors were conducted to evaluate a peer-led contraception video. **Results:** Strengths of the video included (a) use as effective introduction of topic, (b) use of relevant content, (c) use of humor, and (d) inclusion of diverse cast. Additionally, several video weaknesses were (a) lack of in-depth content, (b) inappropriate content and visuals, and (c) lack of diverse cast. **Conclusion:** The use of peer-led educational media for sensitive topics is advantageous for several reasons. Peer-led media instruction is a way to engage students with more modern teaching techniques, rather than showing educational videos that are expensive or dated. Additionally, peer-led educational media can be a useful tool for topic introduction and incorporating moderate comic relief could help ease students into discussing sensitive topics. Nevertheless, this type of teaching method should be followed by formal instruction to ensure students' needs are met. **Recommendations:** Continuation of peer-led sexuality education videos is encouraged with the following recommendations: 1) provide real life, modern, and relatable scenarios, 2) prioritize and emphasize the most important information, 3) include a wide range of diverse cast members, 4) ensure that accurate and credible sources are used, 5) incorporate moderate use of humor, 6) use simple visuals to avoid distraction, and 7) avoid lengthy videos.

INTRODUCTION

Many studies have shown that most college-age women have positive attitudes about contraception. A favorable attitude results in consistent use of contraception (Bryant, 2009; Sable, Libbus, & Chiu, 2000; Singh Darroch, Vlassoff, & Nadeau, 2004). Despite this evidence, age groups for women with the highest unplanned pregnancy rate and lowest contraception rate are teenagers 15-19 and young women ages 20 to 24 (Finer & Henshaw, 2006; Kaiser Family Foundation, 2005; National Center for Health Statistics, 2006). Because most traditional college students are in the high-risk category for unintended pregnancies, the necessity in developing interventions for college students is a priority.

Recent research suggests that comprehensive education focusing on awareness and knowledge about the benefits and possible side effects of contraceptives help in reducing negative misconceptions and confusion in college students (Bryant, 2009). Contraceptive side effects, reliability, and protection against sexually transmitted infections should be addressed in order for individuals to make informed decisions about contraceptive use (Bryant, 2009). Some studies demonstrate a link between safe sex messages provided through media forms, such as instructional videos, and an increase in teen condom use with casual partners, as well as lower numbers of teens reporting sexual activity (Keller & Brown, 2002).

Addressing sensitive topics, such as sex education, can be intimidating and complex as educators decipher effective teaching techniques to reach diverse audiences. Past approaches include teacher training on sensitive topics; however, teacher comfort levels with presentation material continually remain a barrier within the classroom (Buston, Wight, Hart, & Scott, 2002; Lokanc-Diluzio, Cobb, Harrison, & Nelson, 2007). Additionally, many instructors teaching sex education have not received adequate preparation or training (Helleve, Flisher, Onya, Kaaya, Mukoma, Swai, & Klepp, 2009; Westwood & Mullan, 2007). As a result, students report not feeling adequately prepared or reluctant to ask questions due to teacher embarrassment (Office for Standards in Education, 2007; House of Commons Health Committee, 2003). Students feeling

uncomfortable in asking the instructor questions may turn to media sources for answers. A study published by the Kaiser Family Foundation (2004) found that teens rank media outlets as the primary source of sex information, even above parents and physicians. The utilization of various teaching methods to assist the delivery of educational content eases the instruction of sensitive material. Through the use of media and instructional videos, health education instructors are able to discuss sensitive subjects in a language that the students can relate to without causing embarrassment (Carey, Coury-Doniger, Senn, Vanable, & Urban, 2008; Keller & Brown, 2002; Merchant, Clark, Mayer, Seage, DeGruttola, & Becker, 2009).

The use of movies and comic strips deflect attention away from instructors and have been suggested as valuable tools to deliver sensitive material and limit psychological discomfort (Koch & Dollarhide, 2000; Lokanc-Diluzio, Cobb, Harrison, & Nelson, 2007). The use of multimedia in the classroom has an array of benefits. One study evaluated educational media as part of school curriculum and found that two-thirds of students learn more when videos are used. Additionally, nearly 70% of the students reported being more motivated to learn about the topic (Martinson, 2004). Other research has found that educational videos can help reinforce reading and lecture material, enhance discussion, provide great accommodation for learning styles, increase student learning, and promote teacher effectiveness (Lokanc-Diluzio, Cobb, Harrison, & Nelson, 2007; Shephard, 2003). Therefore, not only can instructional videos ease the discomfort of teaching sensitive topics, this teaching format is also a method that increases learning and educational capacities in students.

Another trend for teaching sex education is peer-led sex education. Peer-led education involves information, behaviors, and values being shared or taught by members of similar age or status group (Sciacca, 1987; Specher, Meyers, & Harris, 2008). Peer-led education has some advantages in sex education for emerging adults, since peer educators communicate in similar styles and identify shared experiences, challenges, and interests of the peer audience (Specher, Meyers, & Harris, 2008; Stakic, Zielony, Bodiroza, & Kimzeke, 2003).

Channel Surfing Contraception Background

The Channel Surfing Contraceptives video was created to replace outdated visual media used in sexuality education programs for college students at a major mid-western university. Peer educators trained by university health education faculty delivered the sexuality education program. The sexuality education programs were one hour, activity-centered forums, and involved roughly 20 students, with predominantly freshman and sophomore status.

The Channel Surfing Contraceptives video was aptly named for the video's focus on commercial- and television series-like vignette's to teach about contraceptives. Channel Surfing Contraceptives was used at the beginning to introduce the topic and assist the students in becoming comfortable enough to engage in meaningful discussions. The university's health education staff validated the information presented in Channel Surfing Contraceptives, and the vignette format was chosen to provide sufficient flexibility for student videographers to develop, shoot, and produce with limited resources. The video format chosen was designed through the collaborative efforts of college students from two universities, neither of which were attended by the researchers nor the participants. Additionally, the video was produced and filmed by undergraduate students at one of the participating universities. Students determined the design of the video accounting for the specific parameters of run time, amount of information, budget, and student availability as videographers and actors. The specific contraceptives discussed in the video were chosen based on representation of the most frequently used by college students, such as: male and female condoms, oral contraceptives, emergency contraception (Plan B®), NuvaRing®, implants (Implanon®), intrauterine devices (IUDs), and abstinence.

The choice to use humor was made for several reasons. Humor quickly captured the interest of the college students viewing the video and allowed for the presentation of a critical issue in a short amount of time. Also, humor assisted those students who might struggle with sensitive sexual issues in becoming more relaxed and open for discussion (Sciacca, Soysa, Wagoner, & Dawson, 2008; Johnson, 1990). Student planners also felt humor was the best approach to quickly and succinctly gain the students' attention, along with relieving concerns

about discussing sensitive sexual issues associated with proper contraceptive use.

Diversity was another important consideration the students addressed when planning the vignettes. Limited resources (i.e., money, time, and experience) and varying schedules dictated which students would serve as the actors and videographers. The entire video was shot and edited by students participating in a film studies course, with supervision and quality control provided by the university course instructor and another participating university's director of health education.

PURPOSE

The purpose of the study was to evaluate consumer (instructor) reception of Channel Surfing Contraceptives in order to determine components necessary for creation of peer-led educational videos to teach sensitive contraceptive topics.

METHODS

Participants

Focus group participants were instructors of an introductory-level personal health course at a midsized Midwestern university. Participants taught up to three sections of the personal health course; which was required to address sexual health including various types of contraceptives. All participants were doctoral students from the university's health education program. Participation was voluntary and eligible instructors were solicited via verbal and computer-mediated communication. There were two focus groups that yielded a total of ten participants (seven in the first focus group, and three in the second). With the exception of one male, all other participants were female. The age of participants were varied with two participants in their late 20s, four participants in their 30s, three participants in their 40s, and one participant in her early 60s. Racial/ethnic backgrounds were somewhat varied; five participants were identified as Caucasian, four Black/African American, and one Asian-American. The study followed all requirements set by Institutional Review Board and was approved prior to investigation.

Procedures

The research team consisted of four individuals, all of which were involved in the data

collection process. Focus groups were conducted in the following sequence: (a) project introduction and purpose; (b) informed consent form read aloud to participants; (c) presentation of the Channel Surfing Contraceptives educational video (no information was provided to focus group participants regarding the video development process or intended production choices of creators); (d) distribution of focus group questionnaire which included questions for participants and space to include additional comments regarding the video; and (e) focus group questioning prompted by researchers.

During the focus group questioning, two researchers facilitated predetermined open-ended questions while two researchers observed and documented participants' verbal responses and nonverbal behavior. Nonverbal behavioral cues included those of like or dislike (e.g. smiling or laughing while watching the video) concerning video content and delivery. In addition, the focus group discussions were audio recorded. During the focus group, the following questions were examined: (a) what are the strengths of the contraceptive video; (b) what are the weaknesses of the contraceptive video; (c) what is your perception of the student's reaction to the video; (d) what information, if any, do you believe students will take away from this video; (e) would you show this video to your students in class; and (f) why or why not?

Data Analysis

Immediately following each focus group, the observing researchers compared notes of nonverbal cues and key participant responses addressing focus group questions to ensure consistency in documentation and observation. The recorded interviews were then paraphrased, and open coding took place by all researchers to identify tentative ideas about themes or relationships among themes. After open coding, ideas were analyzed and sorted to identify overarching themes, which were then combined, narrowed, and adjusted throughout both focus groups to reflect participants' full thoughts and to determine final themes. Triangulating analysts (having two or more persons independently analyze the same qualitative data and compare their findings; Patton, 2002, p 560) contributed to the trustworthiness of this study as all four researchers were involved in data analysis, and multiple sources of data were used, including recorded interviews and observation notes (Merriam, 2009).

RESULTS

Although the opening question inquired about the strengths of the video, both groups immediately started discussing the video's weaknesses. Even so, the majority of instructors (7 out of 9) either verbally stated or non-verbally agreed (e.g. nodding their heads) that this video was approved for class use. Further, six instructors who said they would use the video stated that modifications were necessary. The major strengths and weaknesses pointed out by the instructors are detailed below.

Video Strengths

Effective introduction of topic for future class discussion

"It is a good start, but not the final product," one instructor stated at the end of the focus group. Another instructor affirmed, "It had surface level information, which is good for [Health] 101, it could bring up questions that they [students] may have." "There are a lot of things I would cover that weren't on there. I would add more, but it's a good supplement." This statement represented the consensus of the participants, even though they were adamant about wanting more in-depth information and explanation.

Relevant content

The short skits on different forms of contraceptives created a fast moving pace that was regarded by instructors as being well received by the intended audience. One participant stated "[the video skits] moved fast enough that it would keep their [the students'] attention and they wouldn't 'zone out' super early." Although the skits were around two minutes, many instructors felt the video did a good job of providing basic information on the contraceptives presented. One instructor commented on the basic level of information by describing the video as "surface level, which is good for a 101 [personal health course], it could bring up questions that they [students] may have. There are a lot of things I would cover that weren't on there. I would add more but it's a good supplement." Additionally, several instructors noted their appreciation for presenting the most popular forms of contraceptives among college-age students.

Many participants felt that the short skits were sufficient enough to provide valuable information, while keeping the audience's attention. The skits that were perceived as the

“most realistic” were also viewed as skits that college students would like or remember most through association. Particularly favorable skits included a skit using newscasters “reporting” information on IUDs and Implanon and a skit, which was a “play off” of the television series “Survivor” named “Reality Island” discussing the emergency contraception, Plan B.

Use of humor

Many instructors appreciated the use of humor that was incorporated into several skits. They believed the use of humor was a “way to break the ice, get them [students] laughing, and then us educators should deliver the message.” A couple of instructors noted that incorporating reasonable comic relief could help ease both instructors and students into discussing sensitive topics. When discussing this issue, one instructor exclaimed, “Yes, it reduces tension!!” Those who appreciated the use of humor also felt that the comical skits would be well-received among the intended audience “...because young teens could understand the information.”

Inclusion of diverse cast

Both focus groups noted diverse cast members included in the video. Information on actual race/ethnicity of cast members were not provided to the researchers; however, the race/ethnicity of cast members (as perceived by the researchers) were mostly white males and females, two Latina females, and one African American male. Those who felt the video portrayed a diverse cast “loved the different cultures & values demonstrated in the video.”

Video Weaknesses

Lack of in-depth content

While several instructors felt the short skits did an acceptable job of providing basic information on the contraceptives, some instructors were displeased with the lack of in-depth information and explanation on each of the contraceptives. Some participants believed the use of instructional videos must contain comprehensive information in order to meet the desired learning outcomes. In addition, the value of educational videos for learning effectiveness is contingent upon the provision of interactivity, which this video lacked (Zhang, Zhou, Briggs, & Nunamaker, 2006). While discussing the depth of information provided in the skits, one instructor noted, “Superficial information was there for each topic. Nothing [too] in-depth with each topic; pills, condoms, female condoms.

There was no ‘how[-to]’ part, like female condom. Not enough [information] for all people.” Both focus groups felt the video lacked adequate attention regarding abstinence. These participants felt strongly that more time should have been devoted towards the benefits of abstinence. One instructor stated, “At the start [of the video] they had a little bit about abstinence. They need some info about abstinence. Of course abstinence is the best but they [video actors] didn’t say why. If I tell students don’t do sex, then they will do it. They need some background information or examples.”

Inappropriate content and visuals

The instructors participating in this study were knowledgeable on current contraceptive methods, given that they were currently teaching a personal health course that covers a variety of contraceptives. Instructors did not note any untruthful facts or misinformation; however, many noted the video lacked the use of credible and reliable sources cited verbally by cast members. The skit that referenced Wikipedia was especially attacked, as Wikipedia is not an acceptable source to use in academia and information used “should’ve come from a credible website.”

Skits that were labeled “awkward” or “uncomfortable” by instructors were viewed as inappropriate and could possibly be perceived as misleading. For example, the “baking section [a comedic vignette describing contraceptives via baking in the kitchen] may lead users to ask, should this [Nuva Ring] be heated?” Although the majority of participants agreed they would show this video in class, even if only as an introduction to contraception, there were a few that did not think the video’s use of humor was appropriate. These instructors felt the humor came across as making light of the seriousness of choosing the right contraceptive method. These instructors did not want students to view sexually transmitted infections (STIs) and pregnancy prevention as “a joke.”

Lastly, anything considered as a minor visual distractor (i.e., use of foreign language and captions, scrolling words at the bottom of the scenes to warn or inform viewers, etc.) was mentioned as a weakness by many instructors. For example, the Nuva Ring skit caused instructors to think the “scrolling thing at the

bottom was kind of distracting. Some [students] might not have seen a Nuva Ring.”

Lack of diverse cast

Both focus groups mentioned the subject of cast diversity as both a strength and a weakness of the peer-led educational video. Both focus groups seemed appreciative of the use of diverse cast members, but they also believed more diversity would be beneficial. For example, “exclusively heterosexual relationships were highlighted” in the video. Further, several participants suggested a more inclusive cast of minorities, such as a cast with African American women and sexual minorities specifically. They also thought the cast should have been comprised of more women since, as one instructor stated and others agreed, “Most contraceptives concern the woman.”

CONCLUSION

The use of peer-led educational media for health-related topics is advantageous for several reasons. Peer-led media instruction is a way to engage students with more modern teaching techniques, rather than showing educational videos that are expensive or dated. Peer-led education is valuable for the peer educators too, as they develop increased sexual health knowledge and teaching experience (Bluhm, Volik, & Morgan, 2003; Wawrzynski, 2011). Furthermore, controversial and sensitive content may be difficult or uncomfortable for introductory instructors to teach and peer-led educational media can be a useful tool for topic introduction.

Additionally, incorporating reasonable comic relief could help ease instructors’ as well as students’ discomfort discussing sensitive topics. Overuse of humor should be avoided, as excessive use of humor was not always considered appealing, especially when discussing serious topics. However, instructors who verbalized the value and encouragement of humor use in the classroom setting had more positive statements about the video, in general. Thus, incorporating the use of humor in instruction seems to fit certain teaching and personality styles better than others. Those appreciating the use of humor were also more likely to show the video as-is than instructors who felt that the topic of contraception should be taken more seriously.

Along with many benefits, there are several caveats to using peer-led educational media,

especially when the media is brief. While utilizing a brief peer-led instructional video was largely considered as an appropriate way to hold the attention of the intended viewer, complex topics need additional attention and detail from other sources of instruction. Consequently, this type of teaching method should be followed up with formal instruction to ensure students’ needs are met.

RECOMMENDATIONS

Continuation of peer-led sexuality education videos is encouraged with the following recommendations: (a) provide real life, modern, and relatable scenarios (e.g. use a relatable story line from well-known television characters like Penny and Leonard from *The Big Bang Theory*); (b) prioritize and emphasize the most important information (e.g. give more time to important points, start and finish the video with key concepts); (c) include a wide range of diverse cast members (inclusive of race, ethnicity, gender, sexual orientation, etc.); (d) ensure accurate and credible sources are verbalized in the media content (avoid incredible sources such as Wikipedia and utilize accurate, credible sources such as National Institutes of Health); (e) incorporate moderate use of mild humor (e.g. use humor as an icebreaker, but not while providing important messages); (f) use simple visuals to avoid distraction (avoid words scrolling at bottom of your video – try keeping a short statement such as “99% effective” visible in the top corner of your video for an entire segment); and (g) avoid lengthy videos (keep video length appropriate for the length of class, allowing for questions and in-depth discussion).

Furthermore, approximately 73% of college students own smartphones (Ransford, 2013), thus making shooting videos fairly easy with the help of smartphone apps for editing. So with current technology, peer-led instructional media can be developed with limited resources and possibly no budget. Therefore, health education instructors are able to enhance instruction of sensitive health topics by developing or utilizing instructional media conforming to these recommendations.

REFERENCES

Bryant, K. D. (2009). Contraceptive use and attitudes among female college students. *The Association of Black Nursing Faculty Journal*, 12-16.

- Bluhm, J., Volik, M., & Morgan, N. (2003). Sexual health peer education among youth in Samara: The Russian federation. *Entre Nous: The European Magazine for Sexual and Reproductive Health*, 56, 10-11.
- Buston, K., Wight, D., Hart, G., and Scott, S. (2002). Implementation of a teacher-delivered sex education programme: Obstacles and facilitating factors. *Health Education Research*, 17(1), 57-72.
- Carey, M. P., Coury-Doniger, P., Senn, T. E., Vanable, P. A., & Urban, M. A. (2008). Improving HIV rapid testing rates among STD clinic patients: A randomized controlled trial. *Health Psychology*, 27, 833-838.
- Center for Disease Control and Prevention (CDC). (2006). *National Survey of Family Growth, 2006*. Retrieved from http://www.cdc.gov/nchs/nsfg/nsfg_2006_2010_puf.htm
- Finer, L. B., & Henshaw, S. K. (2006). Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspectives on Sexual and Reproductive Health*, 38, 90-96.
- Helleve, A., Flisher, A.J., Onya, H., Kaaya, S., Mukoma, W., Swai, C., & Klepp, K. (2009). Teachers' confidence in teaching HIV/AIDS and sexuality in South African and Tanzanian schools. *Scandinavian Journal of Public Health*, 37, 55-64.
- House of Commons Health Committee. (2003). Relationships and sex education. *Social Exclusion Unit's Third report of session*, Retrieved from <http://www.publications.parliament.uk/pa/cm200203/cmselect/cmhealth/69/6915.htm>
- Johnson, H. (1990). Humor as an innovative method for teaching sensitive topics. *Educational Gerontology*, 16(6), 547-559.
- Kaiser Family Foundation. (2004). *Sex education in America: General public/parents survey*. Menlo Park, CA: Kaiser Family Foundation.
- Keller, S.N., & Brown, J.D. (2002). Media interventions to promote responsible sexual behavior. *Journal of Sex Research*, 39(1), 67-72.
- Koch, G., & Dollarhide, C. (2000). Using a popular film in counselor education: Good Will Hunting as a teaching tool. *Counselor Education and Supervision*, 39(2), 203-210.
- Lokanc-Diluzio, W., Cobb, H., Harrison, R., & Nelson, A. (2007). Building capacity to talk, teach, and tackle sexual health. *Canadian Journal of Human Sexuality*, 16, 135-143.
- Martinson, D.L. (2004). Media literacy education: No longer a curriculum option. *The Educational Forum*, 68, 154-160.
- Merchant, R. C., Clark, M. A., Mayer, K. H., Seage, G. R., DeGruttola, V. G., & Becker, B. M. (2009). Video as an effective method to deliver pretest information for rapid human immunodeficiency testing. *Academic Emergency Medicine*, 16, 124-135.
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco, California: Jossey-Bass.
- Office for Standards in Education, Children's Services, and Skills. (2007). Time for change? Personal, social, and health education. *Office for Standards in Education, Children's Services and Skills*. Retrieved from http://www.bucksgfl.org.uk/pluginfile.php/20878/mod_resource/content/0/time_for_chnge_OfStEd_PSHE2007.pdf
- Patton, M.Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.
- Ransford, M. (2013). Majority of college students own smartphones, but dislike those ads. *Ball State Institute for Mobile Media Research*. Retrieved from <http://cms.bsu.edu/news/articles/2013/2/student-s-embrace-their-smartphones>
- Russell, B., Soysa, C., Wagoner, M., & Dawson, L. (2008). Teaching prevention on sensitive topics: Key elements and pedagogical techniques. *The Journal of Primary Prevention*, 29(5), 413-433.
- Sable, M., Libbus, M., & Chiu, J. (2000). Factors affecting contraceptive use in women seeking pregnancy tests. *Family Planning Perspectives*, 32(3), 124-131.

Sciacca, J, P. (1987). Student peer health education: A powerful yet inexpensive helping strategy. *Peer Facilitator Quarterly*, 5(2), 4-6.

Shephard, K. (2003). Questioning, promoting and evaluating the use of streaming video to support student learning. *British Journal of Educational Technology*, 34(3), 295-308.

Singh, S., Darroch, J., Vlassoff, M., & Nadeau, J. (2004). Adding it up: Benefits of investing in sexual and reproductive health care. New York: Alan Gluttmacher Institution.

Sprecher, S., Meyers, G., & Harris, A. (2008). Perceptions of sources of sex education and targets of sex communication: Sociodemographic and cohort effects. *Journal of Sex Research*, 45,17-26.

Stacic, S., Zielony, R., Bodiroza, A., & Kimzeke, G. (2003). Peer education within a frame of theories and models of behavior change. *Entre Nous: The European Magazine for Sexual and Reproductive Health*, 56, 4-6.

Wawrzynski, M. (2011). Why utilize peer education. *The Bacchus Network*. Retrieved from <http://www.bacchusnetwork.org/advisor-peer-education-effectiveness.html>

Westwood, J., & Mullan, B. (2007). Knowledge and attitudes of secondary school teachers regarding sexual health education in England. *Sex Education*, 7(2), 146-159.

Zhang, D., Zhou, L., Briggs, R., & Nunamaker J. (2006). Instructional video in e-learning: Assessing the impact of interactive video on learning effectiveness. *Information and Management*, 43(1), 15-27.