



The Male Voice: A Qualitative Assessment of Young Men's Communication Preferences About HPV and 9vHPV

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Abstract

In the U.S. there is an epidemic of sexually transmitted diseases (STIs). One of the most prevalent STIs is the Human Papillomavirus (HPV). Certain high risk strains of HPV are believed to cause virtually all cervical cancers, over 90% of anal cancers, 70% of oropharyngeal cancers, and the majority of anal genital warts. HPV is preventable through vaccination and is available for both men and women. Several educational interventions have been employed, yet baseline awareness and knowledge related to HPV and 9vHPV remains relatively low among young men. What is not known is the most effective method for providing HPV and 9vHPV information to young men. The purpose of this qualitative study was to learn from young men on how they would like to receive HPV and 9vHPV information. Men between the ages of 18–26 were invited to participate in the study. Ten focus group sessions with a total of 68 participants were conducted from three Midwest community colleges. Analysis resulted in themes related to STIs, HPV and 9vHPV knowledge, 9vHPV receipt, sexual health communication, and communication strategies. Findings suggest that there is not a “one size fits all” preferred communication modality. Recommendations for effective HPV communication include healthcare practitioner self-awareness, community environments where healthcare practitioners can engage in HPV related cancer prevention activities and advocacy for medically accurate sexual health education. Insight into the best way to communicate HPV and 9vHPV information to young men will lead toward improvement in health literacy around HPV, increased 9vHPV uptake, as well as effective health promotion and disease prevention.

Keywords HPV · Men · Communication · Vaccine · 9vHPV · Cancer prevention

Background

Exposure to the Human Papillomavirus (HPV) infection may increase the risk of developing certain cancers. HPV is the most common sexually transmitted infection (STI) in the United States [1]. HPV is a group of more than 200 related viruses, of which over 40 types can be easily spread through

direct sexual contact [2]. Twelve types, also known as high-risk types, have been classified as carcinogenic to humans [3]. The National Cancer Institute (NCI) defines “high-risk types” as those that can cause cervical cancer as well as cancers of the anus, vagina, vulva, penis, and oropharynx [2]. Nationwide, it is estimated that 6300 new cases of anal cancer are caused by HPV each year [4]. Historically, HPV has been associated with cervical cancer in women, however, each year an average of 2197 HPV-associated anal cancers are found in men [1]. Furthermore the incidence of oral cancer among men (7.8 per 100,000) now surpasses incidence rates of cervical cancer among women (7.4 per 100,000) [5].

For men, HPV low-risk Types 6 and 11 can present in the form of genital warts [6]. These types are responsible for 90% of all genital wart cases. Most of the time, the virus can be asymptomatic. Therefore, a young man who has HPV can unwittingly expose his partner(s) to the virus, thus putting their lives in jeopardy. Although the body often rids itself of the virus naturally, it may be difficult to determine if an

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infected male is carrying one of the high-risk cancer-causing types. Unlike females, there is currently no approved test to detect HPV in men in the United States [1].

In 2009, the Food & Drug Administration (FDA) approved quadrivalent HPV vaccine for young men [7]. The vaccine was first approved for males between the ages of nine to 26 against genital warts and certain cancers caused by HPV [7]. In 2015, Gardasil© 9vHPV was approved to prevent certain cancers and diseases caused by the nine HPV types covered by the vaccine [7]. Although HPV-associated cancer prevention vaccines have been available to young men since 2009, vaccine uptake remains low. Boakye [8] carried out a nationally representative study to determine vaccination rates and found that only one out of six 18–26 year old study participants completed the required vaccine doses. Furthermore, men are less likely than women to initiate and complete the HPV vaccination series [8].

Increased knowledge of HPV has been associated with increased vaccination [9–11]. Yet, many young men still have not heard of HPV, nor are they aware of an HPV vaccine for males [12–14]. Empowering young men to make decisions regarding their health is of the utmost importance. Making informed decisions about HPV-related cancer prevention means finding the best information and using that information to determine what is right for one's health [15]. The question remains: What is the most effective way to communicate HPV and 9vHPV information to young men? The overall aim of this study was to give voice to young men on how they would like to receive HPV and 9vHPV information.

In the literature, varied education intervention strategies concerning men have focused on increasing HPV knowledge, awareness and intent to vaccinate. However, the communication approach was predetermined prior to the study interventions. The subjects did not get to choose their preferred method. For instance, a 2014 [16] study implemented a 5–10 min presentation to a small group of young adults as a way to increase HPV knowledge and vaccine intent. In one study, a “fotonovela” or a photographic short story similar to a comic book was developed as a source for HPV vaccination information for young men and women [17]. In another study, a randomized controlled trial, researchers evaluated an intervention based on the Health Belief Model (HBM). This intervention was compared to traditional knowledge based educational interventions, to determine if the HBM aided an increase in HPV vaccination among college males [18]. Similarly, in a study by Krawzyk [19], participants were randomly assigned to either a written HPV pamphlet, an HPV video or a control group. The researchers looked at how to inform young men about HPV. These studies used different methods to increase HPV knowledge and vaccination, however, men's modes of learning a priori were not included.

Recent efforts to involve young men with HPV communication methods have focused on technology based interventions. In a recent systematic review, researchers examined communication technologies to improve HPV vaccination initiation and completion [20]. Of the final 12 relevant studies included in the review of randomized controlled trials, seven were of mixed male/female and none included men between the ages of 18–26. Additional studies regarding technology interventions with men are often geared towards modification of the intervention material, not to assess if the intervention itself would be accepted as a means of HPV communication. Many of these studies focus on matters such as electronic messaging or what information should be included in digital communication and how the messages should be framed. A randomized intervention study addressed whether electronic messaging would increase HPV vaccine completion among college students [21]. The intervention included four education messages about HPV and two HPV vaccine reminders. In an experimental study, [22] researchers looked at customization of avatars in an HPV digital gaming intervention for college-age males. This study looked at how avatar type and self-perception impacted HPV risk perception and intent to receive the 9vHPV.

There is a paucity of research explicitly addressing HPV communication preferences with young men. Research concerning HPV communication modes, prior to study intervention development, have not incorporated the opinions of young men. The purpose of this study was to determine how they would like to receive HPV and 9vHPV information. Tailoring the method *prior to tailoring the message* may increase young men's HPV knowledge. Which in turn, may lead to improvement in health literacy around HPV, increase in 9vHPV uptake, and effective health promotion and disease prevention.

Methods

Study Design

A qualitative descriptive design utilizing a focus group methodology was employed for this study. The focus group method is a research tool that gives a voice to the participants by giving them an opportunity to define what is relevant and important in understanding their experience [23]. The reporting of this study set out to meet the recommendations of The Standards for Reporting Qualitative Research (SRQR) [24].

Sample Selection

The study was approved by Washington University's Institutional Review Board as well as the St. Louis Community College Human Subjects Review Board. The study sample was recruited from three community colleges located in the same Midwestern region of the United States. Students were recruited during the summer and fall academic semesters of 2017. A convenience sampling methodology was used in this study [25]. Male students, between the ages of 18–26, who were currently enrolled in one of the study sites, were invited to participate in the study. The age range for study inclusion coincided with FDA approved age range for males to receive the 9vHPV vaccine at that time the study was conducted [7].

A two-pronged participant recruitment process was used as follows: (1) one week prior to the scheduled focus group session, members of the study team placed recruitment fliers at approved locations throughout the college site and (2) on the day of the scheduled focus group session, team member's set up a recruitment table at the student activities center at each college. A copy of the recruitment flier was displayed on the recruitment table to attract interested students. When students approached the table, a team member would describe the study, eligibility criteria, study activities as well as the time and location of the focus group session. Interested students were given a piece of candy with a reminder tag attached regarding the two focus groups sessions offered that day. Students were also given a copy of the recruitment flier to share with their peers.

Data Collection

Focus group sessions were held at 12:00 and 1:00 on that same day. Pizza and snacks were made available to the participants during the discussion. Each participant received a \$25 gift card in remuneration for their time. The sessions were held in a room within the student union building at each college campus site. Ten focus group sessions were conducted between June 2017 and September 2017, using a semi-structured interview process. Written consent was obtained from the men on the day of the focus group session. All participants received a copy of the consent form. Once all of the men were consented into the study, the focus group session began.

A male trained sexual health educator was selected to lead the discussions. Additionally, the facilitator emphasized "Vegas rules" where participants' comments and questions would remain in the room and that an atmosphere of respect for others would ensue. The participants, however, were encouraged to share the factual information gained from the focus group session with peers, family and friends. Participants were then given approximately 10 min to complete the anonymous assessment sheet containing demographic

information and participant awareness of Sexually Transmitted Infections (STIs), HPV and 9vHPV. Upon completion, all assessments were placed in a sealed envelope and the facilitator began the educational program. The facilitator emphasized that the educational information and conversation would involve factual sexual health information, including details on signs and symptoms of STIs with graphic pictures. The facilitator began the educational session by discussing items included in the participant packet: Human Papillomavirus and 9vHPV Vaccine Assessment and Demographic document, Centers for Disease Control and Prevention HPV and Men Fact sheet [1], copy of the PowerPoint presentation given during the focus group session, Merck's Vaccine Patient Assistance Program information sheet [26], and four Lifestyle© condoms. The educational portion of the focus group ensured that all participants had the most current and accurate information before engaging in the discussion concerning HPV and 9vHPV communication.

After the educational session was completed, the focus group session began and was divided into two parts. Part I of the focus group used an open-ended question format designed to engage the participants in a discussion of STIs with a particular focus on HPV and cancer prevention by way of the 9vHPV. Research has shown that, overall, young men lack general knowledge of STIs [12–14]. There is an even greater lack of awareness and understanding of HPV and 9vHPV among young men [9, 10]. Therefore, for participants to be able to discuss the best method for communicating this information, they would first have to have an understanding of this information. Part II of the discussion centered on the different methods of communicating STIs, HPV and 9vHPV information to young men in the community. Data saturation was attained following focus group session seven. However, we carried out the final three sessions to confirm data saturation [27].

Data Analysis

Descriptive statistics were used to analyze sociodemographic characteristics as well as the sexual health behaviors of participants. Young men's HPV and 9vHPV knowledge and awareness were also assessed. All focus group sessions were transcribed verbatim by a professional transcriptionist, external to the study team. Participant names were de-identified to maintain anonymity.

Hsieh and Shannon [28] describe conventional qualitative content analysis, in which coding categories are derived directly and inductively from the raw data. With little known regarding the phenomenon of interest, an inductive approach was applied to the analysis of the focus group transcripts. Content analysis usually uses individual themes as the unit for analysis. A theme may be expressed in a single word, phrase, sentence, paragraph, or the entire document [29].

The unit of analysis is the text based on the 10 focus group sessions.

Two team members began analysis by reading and rereading the first two focus groups session transcripts. The two researchers then independently performed open coding by first identifying ‘meaning units’ that were then further condensed into a description close to the text [30]. The researchers applied a color-coding method to identify headings with corresponding notes within the text. This allowed for initial category development to occur without restriction. The next step of the open coding method involved data abstraction to form a general description of the research topic through generating categories [31]. The number of categories were then grouped under higher order headings. This allows for the number of categories to be reduced by collapsing them into those that are similar or dissimilar into broader higher order sub-categories [32]. This procedure allowed for analogous sub-categories to be further grouped into generic categories. Finally, generic categories were identified and grouped to construct the main categories.

Inter-coder agreement was determined by having a co-investigator code the first two transcripts for coding consistency. Any questions concerning the code definitions or categories were resolved early on. A coding manual was developed which included meaning units, codes, category names, definitions, notes, and examples [33]. The Principal Investigator maintained reflective notes throughout the study to enhance reflexivity [34].

Trustworthiness of the Data

Lincoln and Guba’s [35] trustworthiness framework for evaluating qualitative research served as a guide in the examination of trustworthiness of the data. *Credibility* was established through focus group sessions with a heterogeneous sample and the use of excerpts. Site triangulation occurred with the inclusion of three community colleges. Triangulation via data sources was established through the HPV and 9vHPV Vaccine Assessment and Demographic document completed by the participants [36]. Member checking was conducted “in the moment” when the moderator reiterated comments for clarity and accuracy [37].

Transferability was further established through data saturation [38]. *Dependability* of the data was realized when individual team members analyzed the same data separately then compared results. *Confirmability* was established by having an objective, outside focus group facilitator of the same gender as the participants. Reflexivity among the investigators was consistently carried out to offset any preconceived notions about the research which might interfere with data analysis and interpretation [39]. Intellectual and physical audit trails were maintained throughout the research study [40]. *Authenticity* was actualized throughout the study

process by listening to the young male participant’s voice, educating the men on HPV and related cancer prevention methods, as well as giving them the resources to receive the 9vHPV at a reduced cost.

Results

Participant Characteristics

Fifty-five out of the original 68 male participants completed the HPV and 9vHPV Vaccine Assessment and Demographic document. Thirty-three unique zip codes were represented in this sample. The mean age of the participants was 20.75 (SD = 2.56), as described in Table 1. Regarding race, 65% (n = 36) of the participants reported being African American. About half of the men were either single and dating (22%, n = 12) or single, but in a committed relationship (27%, n = 15). Thirteen (24%) of the participants were employed full-time and 47% part-time (n = 26). Although 76% (n = 42) of respondents stated they had insurance, it is unknown if their insurance covered the 9vHPV for men in this age group.

As described in Table 2, when asked if they had ever had sex, 37 participants (67%) stated that they had. Of those who stated that they had sex, 81% (n = 30) had their sexual debut on or before the age of 18. When asked, “Do you use a condom consistently to prevent STDs”, 51% (n = 18) of the sexually active participants stated that they do not. Of the sexually active participants, 36% (n = 13) stated that they did not use a condom during their last sexual encounter. When asked about STIs, most of the respondents had heard of Chlamydia (84%, n = 46) and Gonorrhea (93%, n = 50). Thirty-five (64%) stated that they had heard of an STI called Human Papillomavirus or HPV. Although many participants stated that they had heard of HPV, when asked what puts them at risk for HPV most responded with “not using a condom” (98%, n = 54). Yet, very few were aware of the risk factors for HPV infection [2], sex at an early age (11%, n = 4); having many sex partners (67%, n = 23); and being under the age of 25 (3%, n = 1). Unsurprisingly, 86% (n = 46) of the participants did not know there was an HPV vaccine for women. Thirty-five (64%) participants were unaware that there was an HPV vaccine for young men.

Focus Group Discussion

While the purpose of this study was to give voice to young men on how they would like to receive HPV and 9vHPV information, additional pertinent information emerged from the conversations. Four main categories emerged from the focus group discussions: (1) sexually transmitted infections;

Table 1 Sociodemographic characteristics of male students (n = 55)

Characteristics	n	%
<i>Age</i>		
18	13	23.6
19	9	16.4
20	9	16.4
21	5	9.1
22	8	14.5
23	1	1.8
24	3	5.5
25	2	3.6
26	5	9.1
<i>Race</i>		
American Indian/Alaska Native	1	1.8
Asian	2	3.6
Hispanic or Latino	2	3.6
Black or African American	31	56.4
White or Caucasian	9	16.4
Asian and Native Hawaiian	2	3.6
Black and White	2	3.6
Asian, Black and White	1	1.8
Other	2	3.6
Did not respond	3	5.5
<i>Relationship status</i>		
Single and dating	12	21.8
Single, but in a committed relationship	15	27.3
Not currently dating	27	49.1
Married	1	1.8
<i>Sexual orientation</i>		
Sex with women	50	90.9
Sex with men	3	5.5
Sex with men and women	2	3.6
<i>Currently employed</i>		
Yes, full-time	13	23.6
Yes, part-time	26	47.3
No	16	29.1
<i>Health insurance</i>		
Yes	42	76.4
No	12	21.8
Did not respond	1	1.8

Table 2 Sociodemographic characteristics of male students (n = 55)

Characteristics	n	%
<i>Age at first intercourse</i>		
7	1	1.8
10	1	1.8
12	1	1.8
13	4	7.3
14	3	8.5
15	6	10.9
16	7	12.7
17	2	3.6
18	5	9.1
19	5	9.1
20	1	1.8
22	1	1.8
Never had sex	18	32.7
<i>Use a condom to prevent STD (n = 37 sexually active)</i>		
Never	5	13.5
Sometimes	13	35.1
Every time	17	46
Did not respond	2	5.4
<i>Use a condom during last sex (n = 37 sexually active)</i>		
Yes	23	62.2
No	13	35.1
Did not respond	1	2.7
<i>Heard of HPV</i>		
Yes	35	63.6
No	20	36.4
<i>What puts you at risk for HPV (n = 35 heard of HPV)</i>		
Sex at an early age	4	11.4
Having frequent sex	10	28.6
Many sex partners	23	65.7
Alcohol use	3	8.6
Being under the age of 25	1	2.9
Drug use	5	14.3
<i>There is a vaccine to prevent HPV infection for women (n = 55)</i>		
Yes	9	16.4
No	46	83.6
<i>There is a vaccine to prevent HPV infection for men</i>		
Yes	20	36.4
No	35	63.6

(2) HPV and 9vHPV; (3) sexual health communication; and (4) communication strategies.

Sexually Transmitted Infections

STI Fact vs Fiction

There were several instances of young men expressing false beliefs about STI transmission that were untrue.

Examples included, “You can catch Chlamydia or Gonorrhea or something from a public restroom”; to the uncommon myths such as, “If you take ear wax and stick it in there you can tell if she has a STD.” Some of the beliefs regarding STI transmission were not only false, but increased the risk of transmission, “That you can’t get an STD from oral sex.”

Knowledge and Attitudes Regarding Safer Sex

Safer sex practices have been known to reduce the risk of pregnancy and STI transmission when used correctly. However, there were knowledge gaps in the existence and proper use of common safe-sex practices. Focus group participants shared their feelings on methods such as male and female condoms, dental dams, and withdrawal methods. They showed a general disdain for male condoms by making comments such as, “I don’t like the feeling of it. I ain’t gonna lie to you...it takes away a lot.” When female condoms and dental dams were presented, the participants commented “Say what?” and “I never seen one of these before.” Similarly, the participants did not know that withdrawal method still put them at risk for STI transmission, “So you’re saying you can still catch it (STI) even when you pull out?” These young men are at increased risk of STI infection simply due to their lack of knowledge regarding safer sex practices.

Seeking Symptom Relief

The participants did not know about the signs and symptoms of STIs. They indicated that they only inquire about STIs when they suspect they may have an infection, “When you’re having sex and feel like something’s wrong, that’s when you start searching for information.” When seeking symptom relief, participants reported turning to resources such as Google, WebMD, emergency rooms, urgent care centers, or their primary care provider. Some participants indicated that they might want to turn to their parents but would not feel safe discussing their condition “I’m afraid to go to my momma. I’m afraid she gonna take that cast iron skillet and hit me in my head like I’m a baseball.”

HPV and 9vHPV

HPV and 9vHPV Awareness

An overall lack of knowledge exhibited by the participants regarding STIs also extends to knowing about HPV specifically. Most of the participants indicated in the assessment sheet that they had heard of HPV. However, comments made during the focus group discussion indicate that they did not fully understand the implications of contracting the infection “That’s scary” “It’s a new one.” When asked if they knew what HPV stands for, one participant replied, “Some type of Hepatitis?”

Because the participants knew very little about HPV, it follows that they would know even less about the 9vHPV. Comments ranged from a lack of understanding about how vaccines generally work to concerns about contracting HPV from the vaccine “And that will completely cure it?” “I’d

honestly be worried about the chance of me being a victim of that as well...the actual disease.”

Barriers to 9vHPV Uptake

The participants expressed concerns about getting the 9vHPV, including financial limitations, the safety of the vaccine and fear of vaccines in general. “If it was free I’d take it, but that’s about it” “I have been healthy to this point, and what if I take this vaccine and get sick? So it would be like a risk thing for me.” One participant vehemently stated “I ain’t gonna get the vaccine because one, I don’t like needles. Two, I don’t like clinics, because the body is nasty and three, I just don’t like needles.” Some of the concerns appeared to be related to a fear of deceitful practices from healthcare providers, “I’m scared. You don’t ever know... Because some cases, some people they may end up shooting something else in.”

Sexual Health Communication

Friends

The young men indicated that they were hesitant to seriously discuss sexual health with their friends for fear of judgement. Instead, they would only speak about sex in a joking manner or to compare sexual conquests among one another. “In a joking sense, yes. As a joke, not really a serious thing.” When it came to discussing safer sex practices or STI testing with partners, the participants indicated that they feared bringing up the subject because they did not want to offend their partner or be denied sex because of it, “Females don’t usually care about none of that...when you ask they gonna get defensive.”

Family

When asked about whether they spoke about sexual health with their parents or guardians, most participants indicated that they would be shamed for bringing up the topic. While some had guardians willing to discuss these matters: “My mom is hip already. She like, ‘what you doing? You got a condom on big fella?’” or “My grandpa said, ‘you gonna go to war you got to have a helmet on...’” The majority explained their guardians’ intense discomfort with talking about sex. “Because it’s like the adults {parents}, if there’s questions and they raise their voice and it’s like I ain’t got time for this. I came to you personally and now you want to act like I’m the bad guy?” “My parents would not talk about it, and it was pretty much you’re going to hell if you do it before marriage” “My mom’s also a nurse, but apparently she doesn’t want to talk to me about this stuff. I told her

about it and said, ‘why haven’t you told me? Why haven’t I been vaccinated?’”

School

Schools offer very little information in the way of sexual health, pregnancy prevention, and STI prevention. The participants expressed their frustration with the lack of information thusly: “There was like a gym teacher with a whistle and a coach would come in and teach about sex. ‘Don’t have sex, have sex and you will die.’ It was ridiculous.” This is concerning since these young men are seeking information and being shut down. When this happens, their ability to have a thorough understanding of STIs, particularly HPV, how they are transmitted, and how to protect themselves is limited.

Communication Strategies

Participants were asked to discuss different communication strategies for receiving information about HPV and 9vHPV. Various examples of receiving information on HPV and 9vHPV as described by the participants included social media, print media, and face-to-face modalities. The facilitator probed further to elicit additional methods of communication to clarify how these young men would like to receive information. After robust discussion, participants generally agreed upon several methods that they believed would be effective and others that they considered ineffective.

Methods to Enhance Communication

Participants in all focus groups endorsed face-to-face interaction as a preferred and effective communication strategy. This preference was supported regardless of whether face-to-face interaction took place in a group setting or one-on-one human interaction. One participant stated, “I would appreciate face-to-face...communication like this is good...it sticks a lot more.” Another young man explained, “It’s more comfortable for the individual to be able to go someplace... where you’re able to discuss and have open dialogue.” While this participant also favored YouTube and online videos, he found them “a little bit impersonal” compared with face-to-face interaction. Another participant with a similar view said, “I would say YouTube, social media, and a lot of face-to-face, like little help seminars.” When asked to expand on his point, he referred to the focus group session because it provided education about HPV and other STIs and allowed for an opportunity for discussion with a facilitator in a college campus setting. Support was also expressed for “a mandatory class in high school” but one that was taught by a trained professional “not the gym teacher.”

One of the strongest and most powerful statements came from a young man who believed that the very best way to

convey information about HPV and 9vHPV was peer-to-peer. He said, “...if you get to one guy, that guy is gonna tell his guy friend what he heard about...because that’s what we guys do...it’s like watering a seed. If you can water that one seed it’s gonna spin to the other, make roots, and that’s how you get information out there.” At the close of the session, he and some of the other participants commented that this was the first time hearing about HPV and the vaccine and they now planned to tell their friends.

Many participants expressed positive comments for using advertisements or commercials to communicate HPV information. They suggested that commercials or pop-up ads could be placed on YouTube, gaming channels, podcasts, and streaming or social media sites as an effective communication strategy to “grab that attention.” While some participants supported “The ones you cannot skip” because, as one young man explained, “...you have no choice, you have to watch it...[you] get the point,” others agreed with “the best way to do it is where you’re not forcing it on people.” There was overall agreement that the message would have to be quick and interesting or as one man said, “something catchy and eye opening.”

While most participants expressed favorable opinions about social media, concerns were voiced. For example, while one young man stated the following, “Everybody finds out everything on Facebook...Facebook, Instagram, Twitter, Snapchat. Any social media site [is] the news of our generation” another participant was not so enthusiastic saying, “It really depends on the people you talk to. I know so many people who refuse to use Facebook so they wouldn’t get the social media. Like me.” Most participants recommended YouTube videos, one participant stating, “...YouTube and videos are very nice to have and they’re very descriptive...” However, reservations were expressed about the accuracy of information and mistrust of social media. Thus, the focus group data illustrate that social media based communication methods may be effective for many but not all young men. Because individuals receive information in diverse ways, this finding was not surprising.

Ineffective Communication Approaches

Multiple participants stated that they no longer use broadcast television or radio. Instead, young adults are streaming TV and using personalized Internet radio, Netflix, and YouTube. Print material such as handouts and brochures were not even mentioned by participants as methods to enhance communication. Advertisements on buses or public transportation systems were generally not met with enthusiasm. One young man said, “I’m not really paying attention to no bus ads when I’m trying to get where I’m going.”

Participants felt strongly that they would not use a cell phone app for information about HPV, the vaccine, or where

to go to receive vaccinations. In general, the participants agreed with one young man who stated, “I wouldn’t really use apps. Most of the people our age won’t even download the app.” Another participant said, “They just load up your phone and they’re annoying.” One young man expressed a privacy concern, stating, “Yeah, you don’t want anybody like saying ‘can I use your phone real quick’ and like oh, you’ve got this app and they look at you weird.” While the participants were in an age group and demographic that might consider apps useful and appealing, these young men did not support using an app for this sensitive health care topic.

Internet websites were also found to be ineffective for communicating information about risks related to HPV and the importance of the 9vHPV. Participants reported that they used certain websites for information about symptoms they were experiencing but not to find sexual health or health promotion recommendations.

Discussion

This study aimed to investigate young men’s preferred methods for receiving HPV and 9vHPV information with young men in a Midwest urban community. Several overarching themes emerged from the focus group sessions. First, young men in this study had low levels of knowledge of STI’s overall, particularly that of HPV. Although several participants responded “yes” to the question, “have you heard of HPV”, on the initial assessment form, it became evident during the focus group discussion that they did not understand what HPV is and how it can affect young men. Most concerning, is that over half of the men were uninformed about 9vHPV as a cancer prevention strategy. This too is consistent with 9vHPV knowledge and awareness studies in recent literature [9, 10]. There have been several HPV education intervention studies with young men over the past ten years. While these studies may show slight improvement in HPV and 9vHPV awareness at posttest, baseline knowledge remains relatively low. In order to “point the needle” in the right direction, we need to learn what communication methodologies will make a difference in how young men receive HPV and 9vHPV information.

In this study, participants expressed strong feelings against certain methods, such as apps, for obtaining HPV information. This was surprising considering that most college students spend a substantial amount of time on their cell phones. Recent data from Statista found that the group that spends the most time on apps monthly in the US in 2017 were 18–24 years of age (93.5 h/month) [41]. A 2018 study by Darville et al., looked at college students’ preference for and against using Short Message Service (SMS) text messages compared to mobile apps to

communicate about HPV and the HPV vaccine. Darville found that overwhelmingly, 65% (n = 110) of the sample was hesitant of the idea of using a mobile app to educate, inform and motivate one to receive the 9vHPV. Like our sample, respondents expressed concern that having an HPV icon could be embarrassing if it was seen by others.

Participants in this study expressed mixed opinions regarding social media outlets as methods to obtain HPV and 9vHPV information. The men in this sample were very much into gaming apps and YouTube videos. They suggested placing ads on these sites to garner attention to HPV and the 9vHPV. This was followed with lively discussion as to how the ads would play out in the real world. One young man stated “The only bad thing is like most gamers are gonna be like duh...skip that [Ad].” Young men stated that they would ignore or skip the ads related to HPV. Even if they clicked on the ad, they would then be directed to a website, which they already stated they would not be interested in as a means to obtain sexual reproductive health (SRH) information.

Findings from this study suggest that there is not a “one size fits all” preferred communication modality. However, in order to be most effective, the voice of young men should be heard and included in the development stage of HPV and 9vHPV education intervention models. What was clearly expressed throughout the focus group discussions was the sparse or non-existent dialogue around SRH in general and specifically about STIs, HPV, and 9vHPV. Men of this age group expressed a strong desire to receive factual SRH information and be a part of those conversations starting from an early age.

The authors recommend a three-tiered course of action for healthcare practitioners, community members and school teachers to take to enhance their knowledge of as well as ways of informing young men about STIs, HPV and 9vHPV. The overall objective is to create a culture of open dialogue about sexual health, particularly in relation to HPV related cancer prevention.

Healthcare Practitioners

From a self-awareness perspective, it is incumbent upon healthcare practitioners to obtain knowledge about STIs, HPV and 9vHPV. This means understanding of HPV transmission and risks, the guidelines and recommendations for 9vHPV [7], and how to obtain the financial resources to offset the cost of the vaccine. Healthcare professionals (HCPs) need to set aside bias about HPV in order to fully inform the patients we serve. In this vein, HCPs must become confident in having these sensitive and at times, uncomfortable conversations with patients and families.

Community Environments

At the community level, HCPs can engage in HPV and HPV related cancer prevention activities. In the work environment, HCPs can educate and inform colleagues about HPV and cancer prevention by holding in-services or “lunch and learn” sessions. It is a misnomer to believe that because one is in the healthcare profession that they are versed in HPV and HPV related cancer prevention. Studies have shown that greater clinician knowledge of HPV and 9vHPV is associated with higher rates of 9vHPV initiation and completion [42]. Furthermore, a study examining adult men’s willingness to talk about sexual reproductive health, including HPV found that young men are willing to discuss SRH topics with their healthcare provider [43]. Findings further suggest that HCPs take a proactive stance in promoting these types of conversations.

Healthcare practitioners can collaborate with public health clinics, area hospitals and medical and allied health colleges to develop community outreach for parents with young boys. Community outreach efforts can focus on informing parents regarding SRH, STIs, HPV and cancer prevention. These efforts should include workshops on how to have “the talk” with their sons in comfortable and factual ways, without embarrassment or shame.

Advocacy

Opportunities to impact the community also lie in the school system. Participants in the current study expressed a strong desire to have comprehensive and medically accurate sexual health education (Sex Ed) while they were in junior high or high school. A recent publication by the Centers for Disease Control and Prevention state that “Many U.S. schools are not providing adequate sexual health education to students” [1]. One way HCPs can advocate for comprehensive sexual health education is to become involved with the Parent Teacher’s Association (PTA). PTAs are a way for parents and teachers to engage in conversation and decision making surrounding sexual health curriculum development at schools [44]. What we know from the literature is that parents have a general lack of awareness about HPV and 9vHPV. A principal finding in a recent systematic and meta-analysis review was parents’ limited knowledge and understanding surrounding HPV and 9vHPV vaccination [45]. Furthermore, there is a false belief from parents that discussion about HPV with their children will lead to engagement in sexual activity [46]. HCPs can educate parents, which in turn may lead to the PTA endorsing medically accurate Sex Ed, including HPV and HPV-related cancer prevention by way of the 9vHPV.

Healthcare professionals can further support cancer prevention efforts by supporting legislation that mandates the 9vHPV for young men. Currently, there are only three

jurisdictions that require HPV vaccines for school attendance: Rhode Island, Virginia, and the District of Columbia [47]. A requirement such as this throughout the states would provide HPV and cancer prevention education to parents. It would also allow for all young men to obtain the coverage needed to prevent the negative outcomes associated with an HPV infection, particularly cancer. Additionally, this would decrease barriers associated with the HPV vaccine including awareness, knowledge and cost.

Limitations

Our study findings are limited in that we examined communication methods with a sample of young men enrolled in community colleges from the Midwest. Findings may not be generalizable to young men in different areas of the country. Because of the sensitive nature of the topic, participants could have withheld information for fear of embarrassment or shame. However, the facilitator was able to put them at ease by utilizing an engaging approach intermingled with an appropriate level of humor and humility.

Conclusions

The current study is one of few to explore users’ perspective before a communication intervention is developed. To the best of the authors’ knowledge, this is the only study to explore young men’s perspectives about how they would like to receive HPV and 9vHPV information. Findings from this study are congruent with current research in that there remains a lack of knowledge and awareness of HPV and 9vHPV with young men, as well as safe sex practices in general. The good news is that young men in this study expressed a yearning for sexual health information, especially in regard to HPV and 9vHPV. They offered insights into HPV-related communication methods that would be ineffective for them. From a cancer prevention standpoint, it is imperative that young men receive factual information on HPV and 9vHPV.

The supposition is that this generation of young men, Generation Z, wants to conduct health communication via technology. Overarchingly, men in this study preferred face to face interaction as a means of receiving sexual health information. The authors of this study recommend ways HCPs can become better informed and how they can educate their male patients, families and communities on HPV and 9vHPV with young men. Future studies on HPV and 9vHPV communication interventions should elicit the users’ needs prior to intervention development. Taking the users’ voice into account will allow for tailored HPV and HPV-related cancer prevention learning modalities for young men.

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Compliance with Ethical Standards

Conflict of interest The authors declare there is not conflict of interest.

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