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HPV knowledge, attitudes, and cultural beliefs among Hispanic men and women living on the Texas-Mexico Border

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Abstract

Background—U.S., Hispanic women have higher cervical cancer incidence rates than non-Hispanic Whites and African Americans and lower rates of cervical cancer screening. Knowledge, attitudes, and cultural beliefs may play a role in higher rates of infection of HPV and decisions about subsequent diagnosis and treatment of cervical cancer.

Study aim—To explore the level of HPV knowledge, attitudes, and cultural beliefs among Hispanic men and women on the Texas-Mexico border.

Methodological Approach—Informed by feminist ethnography, the authors used an interpretive approach to understand local respondents' concerns and interests. Focus group sessions were analyzed using thematic content analysis.

Recruitment and sample—*Promotoras* (lay health workers) recruited participants using convenience sampling methods. Group sessions were held in public service centers in Brownsville. Participants' ages ranged from 19 to 76 years.

Methods analysis—Focus group discussions were audio-recorded and transcribed in Spanish. Researchers read and discussed all the transcripts and generated a coding list. Transcripts were coded using ATLAS.ti 5.0.

Key findings—Participants had little understanding about HPV and its role in the etiology of cervical cancer. Attitudes and concerns differed by gender. Women interpreted a diagnosis of HPV as a diagnosis of cancer and expressed fatalistic beliefs about its treatment. Men initially interpreted a diagnosis of HPV as an indication of their partners' infidelity, but after reflecting upon the ambiguity of HPV transmission, attributed their initial reaction to cultural ideals of *machismo*. Men ultimately were interested in helping their partners seek care in the event of a positive diagnosis.

Implications for practice—Results suggest that understanding Hispanics' cultural norms and values concerning disease, sexuality, and gender is essential to the design and implementation of preventive interventions for HPV and cervical cancer.

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Keywords

qualitative; focus groups; Texas-Mexico border; HPV; cervical cancer; Pap test; Hispanics; Latinos; fatalism; *machismo*; cultural beliefs

Introduction

In the U.S., Hispanic women have higher cervical cancer incidence rates than non-Hispanic Whites and African Americans and lower rates of cervical cancer screening. High rates of human papillomavirus (HPV) infection and low rates of Pap test screening in Hispanic women contribute to cervical cancer-related health disparities in this population (Coughlin, *et al.* 2003, Downs, *et al.* 2008, McDougall, *et al.* 2007, O'Brien, *et al.* 2003, Reis, *et al.* 2002, Singh, *et al.* 2004, Ward, *et al.* 2004).

HPV is one of the most common sexually transmitted infections (Bosch, *et al.* 1995, Centers for Disease Control and Prevention 2008); most sexually active individuals have been exposed to HPV (Trottier and Franco 2006). While approximately 90% of infections clear within 2 years (Franco, *et al.* 1999, Moscicki, *et al.* 1998), HPV is responsible for genital warts and high-risk types cause 99% of all cervical cancers (Dunne, *et al.* 2007, Walboomers, *et al.* 1999). A vaccine that protects against cervical cancers caused by the most common high-risk types (HPV types 16 and 18) was licensed in the United States in 2006 and recommended for girls aged 11 to 12 years (Koutsky, *et al.* 2002, Markowitz, *et al.* 2007, Villa, *et al.* 2005).

Although HPV is common and consequences of infection can be severe, knowledge of HPV is low or non-existent among most populations in the U.S. This is particularly true among ethnic minorities, populations of lower socioeconomic status, and those less educated (Austin, *et al.* 2002, Gerberding 2004, Onyeka and Martin-Hirsch 2003, Pitts and Clarke 2002, Pruitt, *et al.* 2005, Scarinci, *et al.* 2003, Singh, *et al.* 2004, Vanslyke, *et al.* 2008, Waller, *et al.* 2005). Studies demonstrate that Hispanic women's knowledge of HPV and its relationship to cervical cancer is low, and that misconceptions about HPV are prevalent (Austin, *et al.* 2002, Pruitt, *et al.* 2005, Scarinci, *et al.* 2003, Vanslyke, *et al.* 2008). Attitudinal and cultural factors concerning HPV, cervical cancer, and STIs in general also may play a role in higher rates of infection of HPV, lower rates of vaccination against HPV, and delays in diagnosis, early detection, and treatment of cervical cancer.

Hispanic cultural norms related to sexuality, gender, and disease may be associated with this populations' increased risk of sexually transmitted infections (STIs) and cervical cancer (Austin, *et al.* 2002, Hirsch 2002, Hirsch, *et al.* 2002, Martinez, *et al.* 1997, Perez-Stable, *et al.* 1996, Scarinci, *et al.* 2003, U.S. Department of Health and Human Services 2001). Scholars have documented how Hispanics' ideas about appropriate sexual behavior, gender roles, and fatalism in relation to cancer can affect safe sex practices, desire to be screened for cancer, and treatment seeking behaviors for cancer (Coronado, *et al.* 2006, Fernandez, *et al.* 2008, Hirsch, *et al.* 2002). Illustrating how Hispanic cultural norms about appropriate sexual behavior and gender roles can affect sexual practices, Hirsch described how Mexicans' ideas about ideal marriages and marital relations between men and women impede safe sex practices. For example, young Mexican women married to migrant husbands believed that an ideal marriage was based on trust, fidelity, and intimacy. For these women, condom use as an STI prevention strategy was contrary to their marital ideals, and they were reluctant to use them, putting them at a greater risk for STIs such as HIV (Hirsch, *et al.* 2002).

Hispanic cultural norms of masculinity and fatalism can influence Hispanics' health behavior in relation to cancer screening and treatment. Fernandez documents some Hispanic men's

rejection of colorectal cancer screening because they viewed the screening as a “violation” of their manhood (Fernandez, *et al.* 2008). Chavez suggests that Hispanics ideas concerning breast cancer and fatalism may deter Hispanics from appropriate screening or disclosure practices (Chavez, *et al.* 1997). In light of past research, it may be particularly important to explore documented cultural norms such as *fatalismo* (pre-determinism or pessimism about the probability of surviving disease) and *machismo* (a set of attitudes, behaviors, and gender role characteristics associated with the Hispanic construct of masculinity) in studies of Hispanics' knowledge and beliefs concerning HPV and cervical cancer (Abraido-Lanza, *et al.* 2007, Florez, *et al.* 2009, Hirsch, *et al.* 2002, Perez-Stable, *et al.* 1992).

Risks associated with exploring and interpreting cultural attitudes and norms in this type of research include the potential for researchers to ignore structural factors and social constraints such as access to health care, availability of health insurance, or the ways that immigration status or racism can affect health care seeking behaviors (Farmer 2004). Structural factors and social constraints could also impede information-seeking about HPV among Hispanics as well as their willingness or ability to seek treatment for HPV or cervical cancer. Additionally, there is the danger of stereotyping a group of people regarding certain cultural norms, such as *machismo*, that are indeed changing, flexible, and can include both positive and negative aspects (Torres, *et al.* 2002, Walter, *et al.* 2004). Attuned to these issues, we have focused our analysis on participants' own use and interpretations of these terms and themes.

Researchers have done little comparative research among Hispanic *men* and *women* regarding their HPV knowledge and attitudes and relevant cultural beliefs. This study helps fill that gap by examining gendered ideas and beliefs. While seeking to identify gaps in Hispanics' knowledge about HPV and its relationship to cervical cancer, we also explored cultural attitudes that might influence future HPV and cervical cancer educational, screening, and treatment interventions for this population.

Study Site

Brownsville, Texas is located in the Lower Rio Grande Valley (LRGV) on the Texas-Mexico border. Over 80% of the population is of Mexican descent and most residents are predominantly Spanish speaking, although there exist varying levels of acculturation within this population. For example, 75% to 90% of Hispanics in McAllen and Brownsville, respectively, report speaking Spanish at home (Shin and Bruno 2003). However, over half also report speaking English “very well.” In general, the population is young, poor, and rapidly growing. Many residents live in substandard housing, are under- or unemployed, undocumented, and belong to low-income or impoverished households (Giuliano, *et al.* 2005, Parkin, *et al.* 2005). With an average annual per capita income of \$13,622 in 2000, the region is the poorest in the country (Day 2004, Warner and Jahnke 2003). The LRGV is an area of medical under-service with a ratio of 1500 to 2000 people per physician (Warner and Hopewell 1999), and 32.4% of the population lacks health insurance (Strayhorn 2005).

Methodology

Methodological Approach

As a methodology, feminist ethnography aims to give voice to neglected members of society who otherwise would not be heard (Madriz 2003). Focus groups can offer participants a safe environment in which to offer their opinions on topics they may otherwise find threatening. The authors, trained in medical anthropology, history, and public health, used focus groups to capture the multivocality of underrepresented participants from the LRGV (Caelli, *et al.* 2003). The interview guide developed and used was informed by health behavior theory, in particular, Fishbein's integrated model (Fishbein 2008). The aim of our interpretive approach

is to understand the world from the view of local participants (Green and Thorogood 2005). The themes derived from these focus groups will be used to develop a logic model of the factors influencing the adoption of the HPV vaccine among Hispanics residing in the LRGV.

Sample and recruitment

In 2005, we conducted five focus groups in Brownsville, Texas. Eligibility criteria included age 18 or older, no past or current cancer diagnosis, and self-identification of Hispanic ethnicity (Bradby 2003). Hispanics in the U.S are generally defined as individuals who indicated that their origin is Mexican, Puerto Rican, Cuban, Central or South American, or some other Hispanic origin (U.S.Census Bureau 2007). It should be noted that persons of Hispanic origin may be of any race. In the Brownsville, Texas area, most Hispanics are of Mexican origin (U.S. Census Bureau 2009). We conducted three groups of 6-15 Hispanic women (n=30) and two groups of 3-8 Hispanic men (n=11).

Participants were recruited for the study using a convenience sampling method. *Promotoras* (lay health workers) distributed recruitment flyers at local community centers, school parental involvement centers, and to volunteer groups in several lower-income neighborhoods. Group sessions were held at a community center and at an educational center of a large subsidized housing apartment complex in Brownsville. Participants were given a \$15.00 gift card for a local grocery store. At the conclusion of the one-and-a-half hour focus group discussions, the moderators distributed resource and educational materials about HPV. The Committee for the Protection of Human Subjects (CPHS) at the University of Texas Health Science Center at Houston approved the study protocol and instruments, including the consent forms.

Methods Analysis

Before each focus group began, we administered a brief demographic questionnaire. The questionnaire and five focus groups were part of a larger public health study examining HPV in the lower Rio Grande Valley. The data from both these sources form the basis for the findings in this article.

Moderators used a discussion guide that we developed using an interpretive approach aiming to understand local respondents' concerns and interests. The discussion guide included questions about HPV awareness, knowledge and attitudes about HPV and cervical cancer, and reactions to learning about a HPV diagnosis. The discussion guide topics are listed in Table 1 below. The focus group discussion guide was translated and back translated by the study personnel and pilot-tested with local *promotoras* who worked on contract with the University of Texas School of Public Health, Brownsville Regional Campus. A female moderator led the women's group discussions and a male moderator led the men's group discussions.

After providing the information described above, no further information about HPV was provided until the end of the focus group discussion. At the end of the focus groups, participants were provided written information about HPV and all of their questions regarding HPV were answered.

Following a question about whether or not the participants had heard about the Pap test, the moderator described the Pap test and clarified that while a Pap test is given during a pelvic exam, not all pelvic exams include Pap tests. HPV-related questions included the following: "What have you heard about HPV?" "After hearing about HPV, what do you think? How does this information make you feel?" "How would you like to learn about HPV?"

The guide also included questions to elicit reactions to a positive HPV diagnosis and their thoughts about disclosing their HPV positive status to others. We presented hypothetical scenarios about a woman hearing the results of her Pap test, learning of her positive HPV status,

and disclosing her status to her partner. Following the scenario descriptions, the moderator asked such questions as: “If you were Lupita (the person mentioned in the scenario), what would be your first reaction to being told you have HPV?” Men were asked to respond to a scenario in which their partner was the women being diagnosed.

We conducted thematic content analysis on the transcribed focus group discussions to identify the main themes arising from our participants' responses (Green and Thorogood 2005). All focus group discussions were audio-recorded and transcribed in Spanish. Transcripts were coded using ATLAS.ti 5.0. The research team read all the transcripts and met to discuss them and generate a preliminary coding list that began with codes for knowledge about HPV, reactions to HPV positive status, and disclosure of HPV positive status. Two researchers then independently coded the data using these preliminary codes and codes that emerged during analysis. The two coders assigned these codes to agreed upon segment lengths within the texts (MacQueen, *et al.* 2008). The coders met daily and then weekly to review their coding, share new codes, and establish agreement about the code meaning and which text fragments should be labeled with particular codes. The research team had ongoing meetings where the team settled any discrepancies about codes and made decisions about recoding. Related codes were then grouped together under themes related to particular issues. The initial coding, creation of themes, and use of visual displays to examine the relationships between different codes and themes was conducted simultaneously and allowed us to explore interconnected sets of concepts and relationships that arose from the transcripts (Creswell 2007, Green and Thorogood 2005, Miles and Huberman 1994).

Results

Sample Description

Women's age ranged from 20 to 74 years with a mean age of 41.3 years (SD 15). Men's age ranged from 19 to 76 years with a mean age of 38.8 years (SD 12). Twenty-four women had ever received a Pap test, one woman said she did not know if she had been tested, and five had not been tested. Nine out of 11 men reported that their female partner had received Pap-smear testing and one reported hearing about an abnormal test result.

Awareness and Knowledge of HPV

Knowledge of HPV—Both men and women reported that they had almost no knowledge about HPV and believed that most people did not know about HPV either. Because they were unfamiliar with HPV and its transmission, men and women tended to compare it with AIDS or other STIs. Men's and women's misconceptions about HPV included issues about the transmission, the symptoms, and the consequences of HPV. Throughout the discussions, participants continued to show confusion about the new information as they attempted to fit it into their current schemas for sexually transmitted diseases, infection, cancer, and other illness.

Knowledge of HPV Transmission—Men did not know that males could transmit the virus, and that it could lead to cervical cancer in women. One asked the moderator to tell him how it could be transmitted. Another said,

[I'd like to know] if it is transmitted only through sexual contact or saliva... AIDS, I think we know how it is transmitted: blood, sperm... Since this is the first time [I've heard of HPV], when you tell us that we've all been exposed... how? Could it have been in some clinic that someone could have been exposed to this [virus] without knowing what it was?

Upon learning that HPV could affect both men and women, one woman reasoned that only women could get HPV since only women got cervical cancer and had Pap tests done. She said,

“Because if you have cervical cancer, a cancer you would think only affects women; like Paps are only for women.... My partner has never gone to get a Pap test, never. They [men] just go to a general doctor...”

Participants also believed that it was possible to contract and transmit the virus by giving a blood sample or via another type of infection. Some men connected the practice of poor genital hygiene to the spread of infections, including HPV, and some men and women revealed that they believed HPV could be caught from contaminated bathrooms or toilet seats.

Knowledge of HPV Symptoms, Consequences, and Treatment—Most men showed a lack of knowledge about the possible consequences of HPV infection for both women and men. Even after it was briefly mentioned, it seemed that most men did not grasp the idea that HPV could cause cervical cancer or penile cancer as evidenced by a lack of discussion about those diseases. One man thought that HPV infection could evolve into prostate cancer.

For the most part, men were concerned with obtaining information about the symptoms and diagnosis of HPV. They worried about the ability to detect HPV themselves, particularly without having any external manifestation (warts). One asked, “If [warts] are on the outside [of the penis it is easy to detect], but how do you detect it from the inside [i.e. inside of the body if no warts are present], how do you know?” Many men asked the moderator for more information about the symptoms. One man asked how to detect his own possible HPV infection before transmitting it to his partner. He said, “Could you tell us a little bit more? What are the symptoms? How can you detect it on time before a partner gets it?” Some men expressed their own interpretations of what the symptoms might be, such as burning or itchiness. For example, one thought it would be “...like a pain, fever, or headache.” In contrast to the men, women did not ask for information or discuss possible symptoms of HPV.

Though many women participants had some knowledge about cancer, infections, and other viruses, they exhibited almost complete lack of knowledge about the relationship between HPV, abnormal Pap tests, and cervical cancer. Once cancer was mentioned, however, most of the conversation revolved around stories of cancer, other illnesses, and Pap tests. Therefore, it was unclear whether the women grasped the relationship between HPV and cervical cancer even after the facilitator's description of HPV. One woman who had received an abnormal Pap test result thought it was due to what she referred to as the “agitated” life she had led because of walking long distances during her last pregnancy.

Participants described the treatment for HPV by using language similar to how patients may describe cancer treatment. For example, one man wondered how HPV could be removed from a woman if she is at an advanced stage, and whether it could be treated in the same manner as uterine cancer (burning cysts or a hysterectomy). He stated, “A woman, if she is advanced, how do they get it out of her?... I imagine that it is like cancer. Many say that they take out the cervix, burn cysts, and all that stuff.”

Emergent Themes: Fear of Disease and Infidelity

In order to determine possible reactions to a positive HPV diagnosis from both women and men, hypothetical scenarios of a fictitious woman who received a positive diagnosis were read to participants. Women were asked about their reactions if they were the fictitious woman, while men were asked about their reactions if the woman receiving the diagnosis was their partner.

Women's Reactions: Cancer Fatalism, Denial, and Stoicism—After being told that HPV caused most cases of cervical cancer, many women interpreted the diagnosis of HPV as equivalent to a diagnosis of cancer and in turn, expressed fatalistic beliefs. For example, one

remarked, “I hear cancer, I hear death. I really do. Right off the bat. We’re dealing with something that is really hard.” And another said, “If the doctor tells me that I have cancer, treatment doesn’t matter. I am already dead. That is what I think. I’m very scared.”

Denial of having the disease, and its degree of severity, and how it might affect them, was evident in women who had previously received an abnormal Pap test result. For some, reasons for denial were: a lack of symptoms or feeling “normal,” and the importance of protecting loved ones from worry. These women revealed how their concern for loved ones motivated the way they acted and how they dealt with the information. For example, one woman who from her statements seemed to have had an abnormal Pap said, “I saw the sadness on my husband’s and my children’s faces and [I told them] that they shouldn’t be sad.... I said, ‘Don’t be scared. Nothing is going to happen to me’.... I denied it.... I don’t accept it. I am normal. Very stubborn. Very, very stubborn.” Another woman with an abnormal Pap result stated, “I was already sent papers after my Pap test, but I didn’t read them, I didn’t bother with them. I read one and then just ignored it. My husband got all worried. Everyone made a big fuss and I didn’t bother with them.”

Some women described their stoic reactions in terms of concern for their family; others expressed stoicism in terms of enduring whatever illness comes to them. Women spoke of enduring or withstanding (*aguantar*) pain and disease. For example, one woman described pain from illness as something that “you bear or withstand” (“*Te aguantas*”). Nevertheless, while some women believed stoicism was an appropriate response when facing HPV or other infections, others thought that women should take an active role in their own health and seek appropriate treatment.

Some women felt that if they had no symptoms, they would not think that they had the disease or needed to get a Pap test. For example, one stated, “Me, the Pap, I’ve never had it done. I feel perfectly fine. If I had something bothering me, more than likely I would do it, but thanks to my Christ, no.”

In the event of a positive HPV diagnosis, some women said that such structural factors as economic hardship would prevent them from seeking treatment. Women felt that even if they wanted to, it might be difficult to seek treatment. One stated, “I think that most of us here only go to the doctor when we are seriously ill because we don’t have money. We don’t go to the doctor first because we don’t have money to pay for the visit and second for the same reason... because we don’t have money for the medicine. If you cannot buy the medicine, you don’t go to the doctor.”

Men’s Reactions: A Focus on HPV Infection and Treatment—In contrast to the women, men did not express fatalism, denial, or stoicism in response to their partners’ hypothetical diagnosis of HPV. Men’s responses and discussions tended to be more action-oriented and focus on the HPV infection rather than cancer. They wanted to know how to take control of the situation and how to manage it. On the possibility of hearing the news that their partner had HPV, many men said that they would get tested for the virus themselves. This desire to get tested seemed to be based primarily on their belief that the effects, evolution, and treatment of HPV would be similar to those of other STIs. Others felt that it was necessary that both partners get tested, since so many have been exposed. One suggested, “...speaking with her and going to the doctor to get checked together. To see if both have the infection so that both can be cured.” Repeating the information about HPV given by the moderator, this man went on to elaborate that since 80% of people have it, it was likely that the man may have it as well, regardless of whether the woman had been with him for a very long time.

Many men said they would accompany their partner to the doctor. Their reasons for this were to not only to provide support to their partner, but to get more information about the disease, and address concerns for their own health as well.

I would ask, what is going to happen to you, what is going to happen to me? And how are you going to get sick? How are they going to give you medicine? Ok, and then you go to the doctor together and afterwards one has to get more information about the disease. Because the truth is that people do not know much about it.

Disclosure of Positive HPV Status: Women's Thoughts on Partner Reactions—

Women discussed possible partner reactions if she told him that she had HPV. Most women said that their partner would be angry, doubt their fidelity, and possibly abandon them. They attributed this to the *machismo* of Mexican men. One woman stated that "...Mexican men are very *machista* and would ask "where did you catch it? Not from me." Another woman said, "...he will not want to have a relationship with her."

Most women thought that, at least initially, they would be blamed for the disease by their partner. One woman, however, believed that a man's initial reaction of anger could be overcome. She predicted that "at first he'll get mad, he's going to be angry. But later after you've explained and given him information, he'll understand and will calm down." Only two women expressed the idea that a partner would respond to news of her diagnosis of HPV by providing her with emotional support—one clarified that this reaction would depend upon the man.

In contrast to their worries that they themselves would be accused of infidelity, women did not seem as concerned with the possibility that an HPV diagnosis could be an indication that their partners had had other sexual partners, either before or during their relationship. A few women mentioned this possibility explicitly yet focused on men's reactions and denial. Various women stated that their partners would initially accuse her of infidelity instead of considering the possibility that he was responsible for transmitting the disease to her. One participant firmly believed that men would deny any infection, or possible transmission of the disease, to their partners. Furthermore, women contended that a man's indifference signaled his responsibility for causing the illness. One remarked, "Many men ignore the disease because it is them [who were infected first]."

Although women struggled with the uncertainty that surrounds HPV transmission, after the moderator's brief description of HPV it seemed that some understood that transmission of the disease could have occurred prior to her present marriage or relationship, thus making it difficult to determine whether or not any infidelity had occurred. One woman indicated that blaming one another would be useless because *either* partner could have brought the infection into the relationship from their pasts. She stated, "If he got it, in the past, and then it turns out that he gave it to his wife, girlfriend, or lover. It can be from both sides, but you don't even know if this disease was from the past. And it develops, but since these two were sleeping around, no one knows."

Another woman pointed out that men liked to believe that they were their wife's or girlfriend's only sexual partner in her lifetime, and not know the real extent of a woman's sexual history. As a result, women believed communication to be an important mediator of a man's concern about infidelity. One said,

Maybe couples that don't have a lot of communication or that don't know very much and they assume certain things... and it's not that you have only had me as a partner, but like you said, it could be from 10 years before but they think that you have only been with one person.

A different woman reasoned that the origin of the disease was the least of the couple's worries and would just cause arguments. She said that it would be best if the couple could discuss how things could be resolved.

Partner Disclosure of Positive HPV Status: Men's Reactions—In contrast to the women, male participants focused on their uncertainty about HPV transmission and its implications about the infidelity of either partner. Not knowing about HPV tended to evoke a great deal of frustration and feelings of helplessness. One man stated, “The simple fact of not knowing what it came from, from where or how it was transmitted. As a man, I think that most men want everything to have an explanation.”

Unlike the women, the ambiguity and uncertainty about HPV transmission was not as clear for men, who believed infidelity in the relationship would have been *necessary* for transmission. When asked how they would react if their partner told them she was HPV positive, most male participants responded that they would suspect infidelity by their partner. While some men understood that their own infidelity could be the cause of their partner's infection, most stated that their first reaction would be to question the woman's faithfulness. One man stated that he would ask “how she got the disease and why it happened,” while another man believed that he would feel “angry at the thought of having been deceived.”

Finally, one man predicted the reaction of what he referred to as the “classic” or “typical” Hispanic man, contending, “If we think of the typical man...the first thing he would do would be to say to the woman, ‘You didn't take care of yourself and you didn't protect yourself’ because the man will always blame the woman.” The men suggested that they would not consider their own possible role in transmitting the disease until they had thought further about the situation, but many believed that it would happen eventually. One man stated:

Yes, the first thing we do is blame the woman, but after thinking through the situation we realize that we are probably the cause of the problem. One feels confused and angry when one thinks they've been deceived. They don't know how she got the virus, or how to cure her.... She must also have her head going round and round. It is something that one can't resolve but little by little when they begin to talk and look for an answer... support, support is what is needed and has to be given. I too could be infected. At this time there are many emotions. One feels anger, sadness; there is nothing one can do....

Men's discussions of male infidelity occurred in mixed tones of levity and seriousness. Though one comment brought laughter to the group, “Being men, sometimes we get involved in... [laughter]... affairs or one-night stands.” Yet the tone became serious when men admitted that they could be the one to blame for their partner's infection. Male participants recognized and referred to the cultural ideal of *machismo* as that most likely to influence their reactions. To demonstrate this common understanding, the men imagined and hoped that the woman would begin the conversation about her HPV diagnosis by assuring her partner that she had not been involved with anyone else.

A few men stated that suspecting that their female partner could have had another sexual partner would be difficult for them. They also suggested that it would result in negative feelings and a lower sense of self-worth (*te baja la moral*). In addition to having a negative impact upon the relationship, men expressed a generalized sense of anger and frustration when they learned that HPV could be contracted even if one had had only one sexual partner in their lifetime.

Discussion

This study demonstrates that knowledge about HPV was scant among Hispanic men and women living on the Texas-Mexico border who participated in this study. We found that misconceptions about transmission, symptoms, consequences of HPV infection, and treatment of HPV existed among participants in the five focus groups. After being given summary information about HPV and cervical cancer, both men and women had difficulty linking HPV to cervical cancer. Some participants equated HPV to AIDS or to cancer. There was also confusion about transmission and who could get HPV. For example, after being told about the relationship of HPV to cervical cancer, women assumed that only women could be infected with the virus.

While previous studies have found that Hispanic women have limited knowledge of HPV and cervical cancer, which in turn has negatively impacted their screening practices (McMullin, *et al.* 2005), few studies have focused attention on Hispanic men and their knowledge of HPV or its connections to cervical cancer. The findings from this study reveal that Hispanic men also have very limited knowledge about HPV, about their role in its transmission, and about its relationship to cervical cancer. The study also shows that providing only brief information about HPV, transmission, and the relationship between HPV and cervical cancer can lead to further confusion and misconceptions.

Results suggest that Hispanic women's beliefs about cancer and HPV, including fear, pessimism about survival, denial, and stoicism, could influence the way HPV is understood and managed. Once they were told that HPV was linked to cancer, female participants directly equated HPV with cancer and appeared to be very worried and frightened by this. The women in this study who had had abnormal Pap results had denied the existence of disease and did not seek treatment. It is unclear whether they did this only to protect their families from distress, or if their denial was their way of coping with their own fear of a cancer diagnosis.

Most women in this study imagined that a diagnosis of HPV was equivalent to a diagnosis of cervical cancer, and to them, this meant certain death. This result is consistent with other findings about *fatalismo* and cancer (Abraido-Lanza, *et al.* 2007, Coronado, *et al.* 2006, Fernandez, *et al.* 2008, Florez, *et al.* 2009, McMullin, *et al.* 2005). Nevertheless, many of the studies that have characterized Hispanic's "fatalistic beliefs," and suggest an association between these beliefs and cancer-control behaviors, suffer from methodological and conceptual limitations (Abraido-Lanza, *et al.* 2007). In general, cancer fatalism has been defined as a belief that cancer is unavoidable and predetermined or that once diagnosed with cancer, death is inevitable (Abraido-Lanza, *et al.* 2007, Chavez, *et al.* 1997, Powe and Finnie 2003). In our study, women expressed the belief that cancer was "a death sentence" but did not describe getting cancer as something that was predetermined. This distinction is an important one particularly during the development of intervention approaches and messages.

As suggested by other authors, it may be that fatalistic beliefs are produced or exacerbated by structural factors that include racism, economic hardship, and the inaccessibility to health care services for many Hispanic residents on the border (Abraido-Lanza, *et al.* 2007). In particular, one woman pointed out the economic barriers she might encounter in her efforts to treat HPV. As other scholars have suggested, pessimistic attitudes about cancer control may have more to do with a woman's own experience and reality, such as friends or family members who have died of cancer due to late diagnosis and lack of appropriate treatments, than with the traditional definitions of fatalistic beliefs (predeterminism and the inevitability of death) (Abraido-Lanza, *et al.* 2007, Hubbell, *et al.* 1996, Powe and Finnie 2003).

Interestingly, fatalistic beliefs were not expressed in male responses. Men were eager to get tested and seek treatment for HPV if their partner had been infected. The absence of fatalism

in men could be because men were cognizant that HPV would not cause cervical cancer in them. Although the moderator mentioned that HPV could cause penile cancer in men, it was not elaborated upon and, in fact, men did not seem to react to this information. It is likely that since the focus of the questions were about a partner being infected, the men did not fully assimilate the information about the relationship between HPV and penile and other anogenital cancers. Another reason that fatalism may not have been discussed among the men was perhaps because they were not asked about how they would react if they themselves were infected, but rather if their female partner was infected with the disease. The knowledge gaps among the participants, in addition to the confusion and misunderstanding that surfaced after being given brief information, underscores the need for more intensive and complete educational programs. Furthermore, the difference between men's and women's reactions and the general display of fatalistic beliefs about cancer points to new avenues for future study.

This study found that an HPV diagnosis confronts Hispanic men and women with the possibility of infidelity. While men and women similarly described a man's reaction to a woman's disclosure of her positive HPV status, there were gender differences about the perceived likelihood of a partner's potential infidelity. Interestingly, both men and women predicted that men would respond to a woman's disclosure of positive HPV status with anger and accusations of infidelity. Both women and men attributed this reaction to *machismo*. They believed that men would initially assume that his partner's positive HPV diagnosis was proof that she had "deceived" him and had had sex with someone else. Some women expressed reluctance to, and fear of, disclosing their HPV positivity to their partners. Hispanic men made light of their own infidelity, but wanted fidelity from their female partners.

In contrast to the men, the women participating in this study did not place as much importance on their male partner's infidelity, a finding that supports Hirsch's conclusion about the way infidelity is perceived by Hispanic women (Hirsch, *et al.* 2002). Hirsch has described an "illusion of fidelity" as it was expressed by Hispanic women living in the United States, and which has been identified as a risk factor for HIV infection (Hirsch 2002, Hirsch, *et al.* 2002). She argues that Hispanic women continue to ignore the possibility that their husbands may have other sexual partners and could infect them (Hirsch, *et al.* 2002). Women in this study seemed to hold a similar belief and were not concerned about the implications of male infidelity due to a positive HPV diagnosis. Future prevention programs should emphasize to Hispanic women that HPV can be transmitted from male sexual partners.

While there is continued debate among scholars surrounding the use of the term *machismo* and its relationship to health and health care utilization (Galanti 2003, Gonzalez-Lopez 2005, Hirsch, *et al.* 2002, Sobralske 2006a, Torres, *et al.* 2002), the participants in our study used the term to describe cultural attitudes and behaviors that influenced strong negative reactions among men when learning of an HPV infection in a partner. These aspects of *machismo*, as they are tied to ideas about disease and infidelity, could increase the possibility of infection for Hispanic women, hinder women from disclosing their health status to their partners, and keep women from seeking treatment.

Nevertheless, our findings also suggest some positive attributes associated with *machismo*, such as taking responsibility for family health issues and being a knowledgeable caretaker (Gutmann 2006, Walter, *et al.* 2004). These attributes were also prevalent among the men in this study. In this study, male participants wanted to learn more about HPV and how to seek care for themselves if they had it. They also expressed concern for their partners' health and accepted their role and responsibility in HPV transmission. Men discussed helping and supporting their partner's health care seeking efforts in the face of a positive diagnosis of HPV. In fact, many men stated that they would accompany their partner to the doctor to learn more information about the disease. Men viewed issues such as a partner's possible infidelity as

something they could ignore in order to focus on their partner's necessary treatment. Researchers have documented how Hispanic men's cultural obligation to be healthy can serve to instigate health care seeking behavior (Sobral 2006a, Sobral 2006b). Our findings support this research.

Finally, the possible reactions to an abnormal Pap test or an HPV diagnosis expressed by the participants—in women, denial, stoicism, fatalism, and fear, and in men, confusion, anger, and guilt—should be understood not only as cultural beliefs that need attention or change, but also as logical mechanisms of defense in a population at the edge of economic survival, lacking health education and access to medical care services. Previous studies have observed education levels and insurance status to be predictors of fatalistic beliefs (Chavez, *et al.* 1997). Therefore, it was expected that these beliefs would be prevalent among this population due to the low education levels among this study population and the high percentage who lack health insurance in this region of the country (32%) (Strayhorn 2005). Hence, health educators and health providers should consider reframing those emotional responses in the particular social context of the women who are informed about a positive HPV status and need to disclose it to their male partners.

Study limitations included low numbers of men in focus groups and a wide age range within groups. Additional studies with men are warranted as are studies with different age groups to better understand potential differences in HPV knowledge and attitudes by age. As with all qualitative studies, findings should not be generalized to other populations or geographic areas. The study was conducted in the southeast region of the Texas Mexico border (the Lower Rio Grande Valley) and participants were of Mexican origin. Because of the small number of participants interviewed and because participants did not represent the diversity of Hispanics in Texas or the U.S., study findings should not be generalized to other Hispanic subgroups or other Mexican Americans from other regions of the country.

These participants' knowledge gaps, continued confusion, and culturally influenced beliefs about disease and gender underscore the need for more intensive and culturally competent health promotion programs for HPV and cervical cancer control. Brief interventions, however, that provide only the basic facts about HPV are likely to be insufficient and only raise more questions and concerns. The information provided during our study was designed to stimulate discussions about HPV even among individuals who had not heard about it. Our findings showed that as participants discussed the new information, initial reactions of alarm and concern related to the knowledge that HPV causes cervical cancer, and evolved to include complex issues, questions, and concerns about the cause of HPV infection, the possible role of infidelity, and the impact of a HPV diagnosis on a relationship as well as on health.

Cervical cancer and HPV programs for this population should focus on the relationship between HPV and cervical cancer, particularly on the difference between HPV and cervical cancer, and on the high probability of preventing cervical cancer with early diagnosis and treatment. Our findings suggest that educational programs should go beyond providing basic facts about HPV, and instead include opportunities for participants to discuss and process new information and ask questions to clarify confusion. This study showed that men and women focused on different elements of HPV transmission, consequences, and treatment when they first learned about the disease and this indicates the potential need for gender-specific or targeted intervention approaches. This study supports the idea that health promotion programs must be developed to increase basic knowledge about HPV; to address attitudes about prevention, diagnosis, and treatment; and to facilitate access to health care services. Such strategies could reduce the rates of HPV infection and increase the early diagnosis and treatment of cervical cancer among Hispanics along the Texas-Mexico Border.

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References

- Abraido-Lanza AE, et al. Commentary: *fatalismo* reconsidered: A cautionary note for health-related research and practice with Latino populations. *Ethnicity and Disease* 2007;17(1):153–158. [PubMed: 17274225]
- Austin LT, et al. Breast and cervical cancer screening in Hispanic women: A literature review using the health belief model. *Women's Health Issues* 2002;12(3):122–128. [PubMed: 12015184]
- Bosch FX, et al. Prevalence of human papillomavirus in cervical cancer: A worldwide perspective. *Journal of the National Cancer Institute* 1995;87(11):796–802. [PubMed: 7791229]
- Bradby H. Describing ethnicity in health research. *Ethnicity and Health* 2003;8(1):5–13. [PubMed: 12893581]
- Caelli, K.; Ray, L.; Mill, J. Clear as mud: Toward greater clarity in generic qualitative research. 2003 [21 July 2009]. Available from: <http://ejournals.library.ualberta.ca/index.php/IJQM/issue/view/376>
- Centers for Disease Control and Prevention. Genital HPV infection [CDC Fact Sheet]. Apr 102008 [23 July 2009]. Available from: <http://www.cdc.gov/std/HPV/STDFact-HPV.htm>
- Chavez LR, et al. The influence of fatalism on self-reported use of Papanicolaou smears. *American Journal of Preventive Medicine* 1997;13(6):418–424. [PubMed: 9415785]
- Coronado GD, et al. Attitudes and beliefs about colorectal cancer among Mexican Americans in communities along the US-Mexico border. *Ethnicity and Disease* 2006;16(2):421–427. [PubMed: 17682244]
- Coughlin SS, et al. Breast and cervical cancer screening practices among Hispanic and non-Hispanic women residing near the United States-Mexico border, 1999-2000. *Family and Community Health* 2003;26(2):130–139. [PubMed: 12802118]
- Creswell, JW. *Qualitative inquiry and research design: Choosing among five approaches*. 2nd. Thousand Oaks, CA: Sage Publications; 2007.
- Day, RS. *Nourishing the future: The case for community-based nutrition research in the lower Rio Grande valley of Texas*. Houston: The University of Texas School of Public Health; 2004.
- Downs LS, et al. The disparity of cervical cancer in diverse populations. *Gynecologic Oncology* 2008;109(2, Suppl 1):s22–s30. [PubMed: 18482555]
- Dunne EF, et al. Prevalence of HPV infection among females in the United States. *JAMA: Journal of the American Medical Association* 2007;297(8):813–819.
- Farmer P. An anthropology of structural violence. *Current Anthropology* 2004;45(3):1–18.
- Fernandez ME, et al. Colorectal cancer screening among Latinos from U.S. cities along the Texas-Mexico border. *Cancer Causes and Control* 2008;19(2):195–206. [PubMed: 18038186]
- Fishbein M. A reasoned action approach to health promotion. *Medical Decision Making* 2008;28(6):834–844. [PubMed: 19015289]
- Florez KR, et al. Fatalism or destiny? A qualitative study and interpretative framework on Dominican women's breast cancer beliefs. *Journal of Immigrant and Minority Health* 2009;11(4):291–301. [PubMed: 18253833]

- Franco EL, et al. Epidemiology of acquisition and clearance of cervical human papillomavirus infection in women from a high-risk area for cervical cancer. *Journal of Infectious Diseases* 1999;180(5):1415–1423. [PubMed: 10515798]
- Galanti GA. The Hispanic family and male-female relationships: An overview. *Journal of Transcultural Nursing* 2003;14(3):180–185. [PubMed: 12861920]
- Gerberding, JL. Report to Congress: Prevention of genital human papillomavirus infection. Jan2004 [21 July 2009]. Available from: <http://www.cdc.gov/std/HPV/2004HPV%20Report.pdf>
- Giuliano AR, et al. Human papillomavirus prevalence at the USA-Mexico border among women 40 years of age and older. *International Journal of STD and AIDS* 2005;16(3):247–251. [PubMed: 15829027]
- Gonzalez-Lopez, G. New dictionary of the history of ideas. New York: Charles Scribner's Sons; 2005. Machismo; p. 1328–1330.
- Green, J.; Thorogood, N. Qualitative methods for health research qualitative data analysis. Thousand Oaks, CA: Sage Publications; 2005.
- Gutmann, MC. The meanings of macho: Being a man in Mexico City. Berkeley: University of California Press; 2006.
- Hirsch J. Que, pues, con el pinche NAFTA? Gender, power and migration between Western Mexico and Atlanta. *Urban Anthropology* 2002;31(3-4):351–387.
- Hirsch JS, et al. The social constructions of sexuality: Marital infidelity and sexually transmitted disease-HIV risk in a Mexican migrant community. *American Journal of Public Health* 2002;92(8):1227–1237. [PubMed: 12144974]
- Hubbell FA, et al. Beliefs about sexual behavior and other predictors of Papanicolaou smear screening among Latinas and Anglo women. *Archives of Internal Medicine* 1996;156(20):2353–2358. [PubMed: 8911242]
- Koutsky LA, et al. A controlled trial of a human papillomavirus type 16 vaccine. *New England Journal of Medicine* 2002;347(21):1645–1651. [PubMed: 12444178]
- MacQueen, K., et al. Team-based codebook development: Structure, process, and agreement. In: Guest, G.; MacQueen, K., editors. *Handbook for team-based qualitative research*. Lanham, MD: AltaMira Press; 2008. p. 119–135.
- Madriz, E. Focus groups in feminist research. In: Denzin, NK.; Lincoln, LS., editors. *Collecting and interpreting qualitative materials*. 2nd. Thousand Oaks, CA: Sage Publications; 2003. p. 363–388.
- Markowitz LE, et al. Quadrivalent human papillomavirus vaccine: Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR Recommendations and Reports* 2007;56 (RR-2):1–24.
- Martinez RG, Chavez LR, Hubbell FA. Purity and passion: Risk and morality in Latina immigrants' and physicians' beliefs about cervical cancer. *Medical Anthropology* 1997;17(4):337–362. [PubMed: 9241992]
- McDougall JA, et al. Racial and ethnic disparities in cervical cancer incidence rates in the United States, 1992–2003. *Cancer Causes and Control* 2007;18(10):1175–1186. [PubMed: 17805982]
- McMullin JM, et al. Influence of beliefs about cervical cancer etiology on Pap smear use among Latina immigrants. *Ethnicity and Health* 2005;10(1):3–18. [PubMed: 15841584]
- Miles, MB.; Huberman, AM. *Qualitative data analysis*. 2nd. Newbury Park, CA: Sage; 1994.
- Moscicki AB, et al. The natural history of human papillomavirus infection as measured by repeated DNA testing in adolescent and young women. *Journal of Pediatrics* 1998;132(2):277–284. [PubMed: 9506641]
- O'Brien K, et al. Cancer statistics for Hispanics, 2003. CA: A Cancer Journal for Clinicians 2003;53(4): 208–226. [PubMed: 12924775]
- Onyeka BA, Martin-Hirsch P. Information leaflets, verbal information and women's knowledge of abnormal cervical smears and colposcopy. *Journal of Obstetrics and Gynaecology* 2003;23(2):174–176. [PubMed: 12745564]
- Parkin DM, et al. Global cancer statistics, 2002. CA: A Cancer Journal for Clinicians 2005;55(2):74–108. [PubMed: 15761078]
- Perez-Stable EJ, et al. Misconceptions about cancer among Latinos and Anglos. *JAMA: Journal of the American Medical Association* 1992;268(22):3219–3223.

- Perez-Stable EJ, et al. Pathways to early cancer detection for Latinas: En Accion Contra el Cancer. *Health Education Quarterly* 1996;23(Suppl):S59.
- Pitts M, Clarke T. Human papillomavirus infections and risks of cervical cancer: What do women know? *Health Education Research* 2002;17(6):706–714. [PubMed: 12507346]
- Powe BD, Finnie R. Cancer fatalism: The state of the science. *Cancer Nursing* 2003;26(6):454–465. [PubMed: 15022977]
- Pruitt SL, et al. Knowledge of cervical dysplasia and human papillomavirus among women seen in a colposcopy clinic. *Gynecologic Oncology* 2005;99(3 Suppl 1):S236–S244. [PubMed: 16150483]
- Reis, LAG., et al. SEER Cancer Statistics Review, 1975-2002. 2002 [25 October 2008]. Available from: http://seer.cancer.gov/csr/1975_2002/
- Scarinci IC, et al. An examination of sociocultural factors associated with cervical cancer screening among low-income Latina immigrants of reproductive age. *Journal of Immigrant Health* 2003;5(3): 119–128. [PubMed: 14512766]
- Shin, HB.; Bruno, R. Language use and English-speaking ability: 2000 [Census 2000 brief]. Oct2003 [23 July 2009]. Available from: <http://www.census.gov/prod/2003pubs/c2kbr-29.pdf>
- Singh GK, et al. Persistent area socioeconomic disparities in U.S. incidence of cervical cancer, mortality, stage, and survival, 1975-2000. *Cancer* 2004;101(5):1051–1057. [PubMed: 15329915]
- Sobralles M. Machismo sustains health and illness beliefs of Mexican American men. *Journal of the American Academy of Nurse Practitioners* 2006a;18(8):348–350. [PubMed: 16907695]
- Sobralles MC. Health care seeking among Mexican American men. *Journal of Transcultural Nursing* 2006b;17(2):129–138. [PubMed: 16595400]
- Strayhorn, CK. Special report: The uninsured: A hidden burden on Texas employers and communities. Austin, TX: Apr2005 [22 July 2009]. Available from: <http://www.window.state.tx.us/specialrpt/uninsured05/>
- Torres JB, Solberg VS, Carlstrom AH. The myth of sameness among Latino men and their machismo. *American Journal of Orthopsychiatry* 2002;72(2):163–181. [PubMed: 15792057]
- Trottier H, Franco EL. The epidemiology of genital human papillomavirus infection. *Vaccine* 2006;24 (Suppl 1):s1–s15. [PubMed: 16406226]
- U.S. Census Bureau. Table B03001. Hispanic or Latino Origin by Specific Origin: Total Population, from 2007 American Community Survey 1-Year Estimates (American Community Survey, Puerto Rico Community Survey). 2007 [23 July 2009]. Available from: http://factfinder.census.gov/servlet/DTTable?_bm=y&-context=dt&-ds_name=ACS_2007_1YR_G00_-CONTEXT=dt&-mt_name=ACS_2007_1YR_G2000_B03001&-mt_name=ACS_2007_1YR_G2000_C03001&-tree_id=307&-redoLog=false&-caller=geoselect&-geo_id=04000US06&-geo_id=04000US12&-geo_id=04000US48&-geo_id=04000US72&-search_results=01000US&-format=&-_lang=en
- U.S. Census Bureau. Table B03001. Hispanic or Latino Origin by specific origin: American Community Survey, 2007 1-Year estimates, Brownsville, Texas. 2009 [23 July 2009]. Available from: [http://factfinder.census.gov/Choose American Community Survey; Get Data; 2007 American Community Survey 1-Year Estimates; on right, Enter a table number; B03001; to "Nation" and "United States" click Add: State, Texas and Add: MSA Principal City, Brownsville-Harlingen Texas; Show Results](http://factfinder.census.gov/Choose American Community Survey; Get Data; 2007 American Community Survey 1-Year Estimates; on right, Enter a table number; B03001; to)
- U.S. Department of Health and Human Services. Healthy people 2010. Jan 302001 [23 July 2009]. Available from: <http://www.healthypeople.gov/Publications/>
- Vanslyke JG, et al. HPV and cervical cancer testing and prevention: Knowledge, beliefs, and attitudes among Hispanic women. *Qualitative Health Research* 2008;18(5):584–596. [PubMed: 18337618]
- Villa LL, et al. Prophylactic quadrivalent human papillomavirus (types 6, 11, 16, and 18) L1 virus-like particle vaccine in young women: A randomised double-blind placebo-controlled multicentre phase II efficacy trial. *Lancet Oncology* 2005;6(5):271–278. [PubMed: 15863374]
- Walboomers JM, et al. Human papillomavirus is a necessary cause of invasive cervical cancer worldwide. *Journal of Pathology* 1999;189(1):12–19. [PubMed: 10451482]
- Waller J, et al. Making sense of information about HPV in cervical screening: A qualitative study. *British Journal of Cancer* 2005;92(2):265–270. [PubMed: 15655553]

- Walter N, Bourgois P, Margarita LH. Masculinity and undocumented labor migration: Injured Latino day laborers in San Francisco. *Social Science and Medicine* 2004;59(6):1159–1168. [PubMed: 15210088]
- Ward E, et al. Cancer disparities by race/ethnicity and socioeconomic status. *CA: A Cancer Journal for Clinicians* 2004;54(2):78–93. [PubMed: 15061598]
- Warner, DC.; Hopewell, J. NAFTA and the US/Mexico border health: The impact on HRSA sponsored programs. San Antonio, TX: Center for Health Economics and Policy, The University of Texas Health Science Center at San Antonio; Oct. 1999
- Warner, DC.; Jahnke, LR. San Antonio, TX: Apr2003 [23 July 2009]. U.S./Mexico border health issues: The Texas Rio Grande valley. Available from:
<http://www.uthscsa.edu/RCHWS/Reports/NAFTA2.pdf>

Table 1**Discussion Guide Topics**

Pre-discussion	Demographic questionnaire administered <ul style="list-style-type: none"> • age • educational level • Pap test screening (for female participants)
Discussion	<p>Participants asked about awareness of HPV</p> <p>Facilitator read brief paragraph on HPV that included the following information:</p> <ul style="list-style-type: none"> • HPV is a sexually transmitted infection. • 80% of sexually active adults are likely to have been exposed to HPV. • The majority of HPV cases are temporary and do not show symptoms. • Some types of HPV can cause cervical cancer in women and, although uncommon, can cause ano-genital cancers in men or women and penile cancer in men. • Some types of HPV can cause genital warts in men and women. <p>Participants asked about knowledge and attitudes about HPV and cervical cancer</p> <p>Hypothetical scenarios about a woman hearing the results of her Pap test, learning of her positive HPV status, and disclosing her status to her partner.</p>
Post-discussion	Participants allowed to ask questions and given printed information and resource sheets