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Original article

Hispanic Mothers' and High School Girls' Perceptions of Cervical Cancer, Human Papilloma Virus, and the Human Papilloma Virus Vaccine

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A B S T R A C T

Purpose: Cervical cancer incidence and mortality are higher for Hispanic women than for women in other population groups. However, the incidence could be reduced if teenaged Hispanic girls received the human papillomavirus (HPV) vaccine before they become sexually active. Unfortunately, few Hispanic girls receive this vaccine, which prevents cervical cancer. This study assessed Hispanic mothers' and girls' perceptions about cervical cancer, HPV, and the HPV vaccine. Results show factors that affect whether Hispanic high school girls receive the vaccine.
Methods: Twenty-four Hispanic mothers and 28 Hispanic girls from an urban school district in southeast Texas each participated in one of eight focus groups. Bilingual moderators facilitated the mothers' groups in English and Spanish and the girls' groups in English. We analyzed transcripts of the discussions and identified themes using the grounded theory approach.
Results: Our analysis found several themes that affect whether Hispanic girls get the HPV vaccine: gaps in knowledge; fears and concerns about the vaccine; sociocultural communication practices; and decision-making about HPV vaccination. Both mothers and girls had limited knowledge about cervical cancer, HPV, and the vaccine. Some girls who received the vaccine said they wished their mothers had involved them in making the decision.
Conclusions: Findings may help in developing school or community-based educational programs for Hispanic families. Such programs should provide information on the HPV vaccine and the link between HPV and cervical cancer, and they should assist mothers and girls in communicating to make informed decisions about the vaccine.

IMPLICATIONS AND CONTRIBUTION

We assessed Hispanic mothers' and girls' perceptions about cervical cancer, HPV, and the HPV vaccine. Results provide insight into factors that contribute to whether or not Hispanic girls receive the vaccine. Findings may assist in developing school or community-based educational programs for Hispanic families.

Infection with certain strains of human papillomavirus (HPV) is a major risk factor for invasive cervical cancer [1]. National data indicate Mexican American women and non-Hispanic white women aged 14 to 59 years have similar HPV prevalence [2]. However, Hispanic women in Texas have higher incidence (13.9 vs. 12.0 per 100,000) and mortality (4.1 vs. 3.1 per 100,000) rates of cervical cancer than women nationally [3–5].

Among sexually active women aged 14 to 24 years, the prevalence of HPV infection reaches 90% [2]. Factors associated with young women acquiring HPV include early age (≤16 years) at first sexual intercourse and four or more lifetime sexual partners [6,7]. Data show that among Hispanic high school girls, 45.4% are sexually experienced, 3.7% had sexual intercourse

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before age 13, and 10.4% had four or more lifetime sexual partners [8]. Hispanic girls engaging in these behaviors may be exposed to HPV, which puts them at risk for developing cervical cancer as women.

Two vaccines (a bivalent and a quadrivalent vaccine) are licensed and currently in use in the U.S. Both vaccines prevent HPV-16 and HPV-18, which are associated with 70% of cervical cancer cases [9]. The quadrivalent vaccine also prevents HPV-6 and HPV-11, which cause 90% of genital warts. The quadrivalent vaccine is recommended for girls and young women aged 11 to 26 [10]. Prevention efforts focus on vaccinating girls before they become sexually active. Parents are crucial to the success of HPV vaccination programs, because they are the primary decision makers in their daughters' medical care. Few studies [11–17] of the vaccines acceptability (post-licensure) focus on Hispanic parents, and none focus on Hispanic high school girls. This lack of data could be because the vaccine was licensed only recently (2006).

Studies conducted with Hispanic mothers indicate associations with various predictors and vaccine acceptability. Mothers' higher level of knowledge [11–13], beliefs that the vaccine prevents cervical cancer [14], and vaccines were safe [14] were associated with a higher likelihood to vaccinate. However, some studies showed no association between knowledge and vaccination status [15]. Other studies indicated mothers who perceived their daughters at low risk for contracting HPV [16], had insufficient knowledge about the vaccine [12,15], and believed their daughters were too young or not sexually active were less likely to vaccinate [12,15]. Despite evidence showing Hispanic parents are more accepting of HPV vaccination than non-Hispanic parents [17], vaccination rates are still low. In Texas, a smaller proportion of Hispanic girls aged 13 to 17 years than Hispanic girls nationwide receive one or more dose of the vaccine (40% vs. 45.5%) [18], and fewer receive all three doses (23.4% vs. 45.5%) [19]. This proportion falls short of the *Healthy People 2020* target of 80% of girls aged 13 to 15 receiving three doses [20].

Despite our knowledge that sexually active high school girls are at risk for contracting HPV, that HPV may lead to serious health outcomes [6], and that HPV vaccine efforts are aimed at this age group, little research exists on Hispanic girls' and mothers' beliefs and knowledge about HPV, the HPV vaccine, and cervical cancer. Using a qualitative design, we assessed Hispanic mothers' and girls' awareness of cervical cancer, HPV, and the HPV vaccine; identified their beliefs about the risks of acquiring HPV; assessed their willingness to obtain the HPV vaccine; and identified factors that mothers consider when deciding whether to allow their daughters to be vaccinated. This study is unique because it looks at perspectives of both mothers and girls eligible to receive the vaccine. Our findings may contribute to the literature by providing additional context to the current body of evidence and the development of school-based HPV vaccine education programs to increase vaccine use and dosage compliance.

Methods

Subjects

From October 2008 through February 2009, we conducted eight focus groups: four with Hispanic mothers and four with Hispanic high school girls. Participants were recruited from high schools in an urban school district in southeast Texas and were not biologically related. All focus groups took place in a classroom either at a high school or local community-based organization. Eligibility criteria for the mothers included being Hispanic and having a daughter between the ages of 11 and 17, and for girls included being Hispanic, between the ages of 14 and 17, and a current student at one of the recruitment high schools. Table 1 shows participants' demographics, awareness of HPV and the HPV vaccine, number of mothers offered the vaccine, and girls receiving one dose of the vaccine. Bilingual female moderators conducted the mothers' focus groups in English and Spanish and the girls' groups in English. Research staff audiotaped the discussions and transcribed them verbatim. The Institutional Review Board at the University of Texas Health Science Center-Houston approved the study.

Mothers' groups. We conducted three focus groups at two predominantly Hispanic high schools and one at a community-based organization. During recruitment, researchers provided an information sheet about the study to mothers that were distributed at each high school's open house. Mothers, who were interested in participating, provided their contact information on a sign-up sheet. These mothers were contacted at a later date to schedule them for a focus group. Discussions lasted 60 to 102 minutes. Mothers received $20 for participating.

Girls' groups. We conducted four focus groups at two predominantly Hispanic high schools. School principals gave researchers permission to recruit for the focus groups by announcing and passing out an information packet (that included parental consent)

Table 1
Demographic characteristics of Hispanic mothers and HS girls in an urban school district southeast Texas

Characteristics	Mothers (n = 24)	HS girls (n = 28)
Range of subjects in focus Groups	4–8	6–8
Mean age (range)	39.8 (31–63)	15.5 (14–18)
Marital status		
Married	54.2% (13)	NA
Common law	12.5% (3)	NA
Single, never married	20.8% (5)	NA
Separated, divorced, widowed	12.6% (3)	NA
Average number of children (range)	3 (1–7)	NA
Grade		
9th	NA	32.1% (9)
10th	NA	35.7% (10)
11th	NA	14.3% (4)
12th	NA	17.9% (5)
Birthplace		
Born in U.S.	29.2% (7)	78.6% (22)
FB	70.8% (17)	21.4% (6)
Range of years in US, FB (mean)	1–45 (16.9)	3–13 (6.9)
Generation status		
First generation	70.8% (17)	17.9% (5)
Second generation	16.7% (4)	53.6% (15)
Third generation	12.5% (3)	28.6% (8)
Ever heard of HPV	63.0% (15)	64.3% (18)
Ever heard of HPV vaccine	75.0% (18)	46.4% (13)
Offered HPV vaccine for daughter by provider[a]	29.2% (7)	NA
Accepted	4 of 7	NA
Refused	3 of 7	NA
Received 1 dose of HPV vaccine	NA	29% (8)

FB = foreign-born; HPV = human papillomavirus; HS = high school; NA = not applicable.

[a] Mothers who were asked by provider if they wanted to give their daughter the vaccine; Accepted = mothers who gave their daughter the vaccine; Refused = mothers who declined to give their daughter the vaccine.