

Perceived Barriers and Facilitators to HPV Vaccination in African American Girls Ages 11–18

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BRIEF. This study identified barriers and facilitators to HPV vaccination as perceived by African American girls.

ABSTRACT. INTRODUCTION: Among African American women, there is higher incidence and mortality from cervical cancer than among Caucasian women [Cancer Health Disparities]. Since 2006, two vaccines have been approved preventing two high-risk types of HPV that cause about 70% of cervical cancer cases. By increasing HPV vaccine uptake among African American females, disparities in cervical cancer incidence and mortality may improve. **PURPOSE:** This work aimed to identify barriers and facilitators to vaccination as perceived by African American girls between the ages of 11 and 18, focusing on differences in responses between girls who completed the vaccine as compared with girls who were undecided about vaccination. **METHODS:** Two focus groups were conducted, one with vaccinated girls and one with undecided girls. Their responses to questions regarding perceived barriers and facilitators to vaccination were analyzed using ATLAS.ti then compared. **RESULTS:** Perceived barriers to vaccination included fear of side effects, fear of uncomfortable conversations with parents, belief that vaccination is not needed if a girl was not sexually active, fear that other people would think girl was having sex, cost, and limited knowledge. There were more perceived barriers among unvaccinated girls. Perceived facilitators to vaccination included protection from HPV, doctor recommendations, avoiding regret, and desire for safety.

INTRODUCTION.

It is estimated that in the United States each day thirty women are diagnosed with cervical cancer, and eleven women die from it. Almost all cervical cancers are caused by HPV (human papilloma virus), a family of related viruses, many of which can be sexually transmitted. The Food and Drug Administration (FDA) has approved the vaccines Gardasil® and Cervarix®. The FDA has approved Gardasil for use in females and males ages 9 to 26 and Cervarix for use in females ages 9 to 25. Given in three separate shots over a 6-month period, these vaccines can help prevent infections in both males and females of two high-risk types of HPV that cause 70% of cervical cancer cases. HPV vaccination has the potential to reduce cervical cancer deaths around the world by as much as two-thirds [National Cancer Institute, 2012].

There have been many studies on the different factors that may influence adolescent girls and their parents when deciding to receive the HPV vaccine. These studies examine many different influencers involved when making the decision to get vaccinated, including perceived barriers and facilitators to vaccination. Through these studies, valuable information has been gathered that could help increase the rates of vaccination in adolescent girls. However, many of these studies show conflicting results and conclusions. Since African American women have higher rates of cervical cancer incidence and mortality than Caucasian women, this clearly points to a need for further research, especially in African American communities.

Many factors have been identified which impact whether or not a girl receives the HPV vaccination. In a survey of African American parents in the St. Louis Metropolitan area, it was found that pediatrician recommendation for the vaccine and parental concern about sexually transmitted infections (STIs) were important factors in the decision-making process [Thompson *et al.*, 2011]. Another study of African Americans showed that additional important factors included receiving education and information about the vaccine, paying an affordable price for the vaccine, perceiving that there were good results in

vaccine trials, and whether or not the patient knew others who had already been vaccinated [Scarinci *et al.*, 2007]. These findings were further supported by a study using data collected from a questionnaire among students in historically black colleges and universities. Using these questionnaires, researchers found several factors associated with HPV vaccine uptake among young African American women, including knowledge of HPV, perceived severity of health outcomes, perceived barriers to vaccination, cues to action, and their age [Bynum *et al.*, 2011]. In a survey of Caribbean and African American parents and teens, researchers found that sexually active teens were 2.2 times more interested in HPV vaccination than non-sexually active teens [Read *et al.*, 2010]. Researchers have also examined factors discouraging African American youth from HPV vaccination. These factors included concerns about the vaccine's effectiveness, side effects and whether vaccinated teens would perceive themselves as being protected from HPV, leading them to increased promiscuity or engagement in unprotected sex [Scarinci *et al.*, 2007].

In a survey of adolescents in health clinics associated with a large urban hospital system, it was found that adolescents who had received the HPV vaccine were more likely to have heard of cervical cancer and Pap testing than girls who had not received the vaccine. It was observed that of the 143 adolescents who had not been vaccinated yet, only 52% were willing to be vaccinated and only 4% believed that they were at risk of HPV infection [Blumenthal *et al.*, 2012]. Only 55.8% of the girls surveyed in another study knew what HPV was, and knowledge of HPV was significantly associated with knowing that cervical cancer is caused by HPV [Read *et al.*, 2010].

The current study was designed to identify perceived barriers and facilitators to HPV vaccination among African American girls, with the expectation that the results will lead to a better understanding of some of the factors affecting whether or not African American adolescent girls receive the HPV vaccine. This deeper understanding will aid researchers in developing community-based and healthcare provider interventions, as well as developing ways to use social marketing to increase vaccination rates among girls. African American girls were chosen because it was observed that there was a disparity in cervical cancer-related health care access among African American women, and it was decided that the best way to understand this problem was to focus on the HPV vaccine and the age group that is recommended to receive it. Some research has been done on this in the past, but the results need more support, and more research is needed to be able to develop effective solutions.

MATERIALS AND METHODS.

Participant Recruitment.

The participants were recruited using fliers posted in health clinics and community centers near Vanderbilt University. To be eligible for the study, girls had to live in one of the counties surrounding the research institution, had to identify themselves as African American, and had to be between the ages of 11 and 18. This could potentially add bias to the study because the girls were all from similar areas, and could therefore all have similar opinions which would not be shared by girls in any other area.

Focus Group Assignment.

This study was part of a larger study performed by Vanderbilt University designed to increase HPV vaccine utilization among African American girls through the use of social marketing. It involved the participation of the girls

in focus groups in addition to the participation of the girls' parents/guardians in separate focus groups. Fifteen adolescent participants, all African American females between the ages of 11 and 18, were recruited for the two focus groups used in the current analysis. The first group was comprised of six participants, all of whom had received all three shots in the HPV vaccination series. The second group of participants contained nine girls who were not yet vaccinated and who described themselves as undecided about vaccination. For the group of girls who had completed their vaccination series, the age range was 14 years to 17 years, and the average age was 15.2 years. For the group of girls who were undecided or un-sure about vaccination, the age range was 11 years to 18 years, and the average age was 13.1 years.

Institutional Review Board approval.

The parents/guardians and adolescent girls read an informed consent form and had the opportunity to ask questions. The parents/guardians gave verbal consent for their daughters to participate in the study, and the adolescent girls gave verbal assent. All study procedures were approved by the research institutions' Institutional Review Boards or IRBs.

Conducting the Focus Groups.

The two focus groups containing African American adolescent girls were conducted separately on different days, but in the same location. Participants were asked about their knowledge of HPV and cervical cancer, and their opinions of HPV and the HPV vaccine. They were also asked about what would make them or a peer decide to receive the vaccination or not, and what they would recommend if they were on a committee responsible for encouraging vaccination among their peers. They were then given information about the vaccine and asked to respond with their reactions and opinions.

Recording and Transcription.

The focus groups were recorded with two digital recording devices to ensure that the participants' responses could be accurately documented. These recordings were then manually transcribed into text documents.

Analysis of Transcription Data.

The transcribed text documents were uploaded into Atlas.ti (Software), a computer-assisted qualitative data analysis software program used to facilitate the analysis and organization of large amounts of qualitative data. The responses were coded for whether the quotes were referencing barriers to vaccination (such as fear of shots) or facilitators to vaccination (such as desire to avoid an HPV infection). These coded quotations were then extracted from the document, grouped separately for participants who were in the vaccinated group or the un-decided group, and summarized to form the results. Since this was a qualitative study, the objective was not to measure the frequency of any specific barriers or facilitators, but rather to identify and present all mentioned barriers and facilitators.

RESULTS.

Perceived Barriers to Vaccination:

Perceived Barriers to Vaccination from Vaccinated Girls:

Fear of side effects: The girls mentioned that their vaccinations had led to side effects such as itching, tenderness, and soreness. Girls also mentioned fears of "bad reactions" from a vaccination, as well as fears of many of the side effects that they had heard listed on HPV vaccination commercials.

Fear of shots: The girls mentioned that they were afraid of needles and expressed a fear of vaccinations given using needles. Nearly all the girls mentioned that having to get three separate shots was a major disadvantage of the vaccine, and made their fear of getting the vaccine much worse.

Monetary cost: It was mentioned that the cost of the vaccine might be a barrier to vaccination, especially in cases where a girl was uninsured.

Lack of knowledge: It was brought up that not having any knowledge about the vaccine might deter girls from getting vaccinated.

Perceived Barriers to Vaccination from Not Vaccinated (Undecided) Girls:

Fear of side effects: The girls mentioned fears that vaccination may lead to nausea, dizziness, soreness, infection, bruising, pain, and allergic reactions. Many of these side effects that they feared they had heard of from advertisements for HPV vaccination on television.

Fear of shots: The girls mentioned fears of needles, and fear of pain from needles, as a primary reason to not get vaccination. It was cited several times as the only reason that a girl would not get the vaccine.

Uncomfortable talking to parents about sexual activity: It was observed that the girls expressed a fear that because HPV is a sexually transmitted infection, that getting vaccinated would lead to uncomfortable conversations with their parents about sexual activity.

Not sexually active: The girls mentioned that if they were not yet sexually active, then they didn't need to get the vaccine.

Others' opinions: The girls mentioned that getting a vaccine for an STD might cause others to assume that they were sexually active, even if they were not.

Lack of knowledge: It was brought up that not having any knowledge about the vaccine might deter girls from getting vaccinated. It was also pointed out that if a girl and her family have no knowledge of the vaccine, and are not aware of its existence, then they will not initiate any conversations about it with their health care provider, and consequently will not receive the vaccine.

Perceived Facilitators to Vaccination:

Perceived Facilitators to Vaccination from Vaccinated Girls:

Desire for prevention: All girls mentioned that vaccination would protect them from HPV and cervical cancer, both of which they wanted to avoid getting. It was also mentioned that parents would be likely to get their daughters vaccinated because they would want to protect their daughters from HPV infections and cancer.

Recommendations: The fact that several girls had doctors who recommended the vaccine made them much more likely to get it.

Perceived Facilitators to Vaccination from Not Vaccinated (Undecided) Girls:

Desire for protection: All girls mentioned that getting the vaccination would protect them from both HPV and cervical cancer, and thus possibly save their life in the future. It was also mentioned that many girls had a desire to not infect a future partner with HPV, and this was seen by many girls as a reason for vaccination.

Pain: It was mentioned that despite many of the participants being afraid of the pain that comes with vaccination, several girls reported that the pain would probably not be as bad as many of them feared.

Regret: It was mentioned by the girls that they feared that if they did not get the vaccine now when they had the opportunity, then if they later on in their lives got HPV they would regret rejecting the vaccine. This desire to avoid these feelings of regret was brought up repeatedly as a reason to get the vaccine.

Just to be safe: All girls mentioned that it would be wise to get the vaccine regardless of whether or not they were sexually active, or planning to be sexually active soon, simply to be on the safe side. The girls also said that getting the vaccination was a good idea because girls never know when they might first become sexually active. It was brought up that boys sometimes "can't control themselves," thus leading to a girl being forced into becoming sexually active and getting exposed to an HPV infection. Similarly, it was also mentioned that sometimes girls may get raped, and getting the vaccine would protect against an HPV infection that the girl may have been exposed to.

DISCUSSION AND CONCLUSION.

Perceived barriers to vaccination or the factors that girls saw as reasons not to become vaccinated, included fear of side effects and shots, fear that vaccination would lead to uncomfortable conversations with their parents about sex, belief

that vaccination was not needed if a girl was not sexually active, fear that other people would think the girl was having sex, inability to afford vaccination, and a lack of knowledge. There were more numerous and stronger perceived barriers among the girls that had not been vaccinated. Perceived facilitators to vaccination, or factors that girls saw as enabling them to receive the vaccination, or as reasons to get the vaccination, included a desire for protection from HPV, recommendations from doctors, a desire to avoid feelings of regret because of consequences of rejecting the vaccine, and a desire to be safe and protected from sexually transmitted infections.

These results confirm those of the studies discussed in the introduction, many of which show that cost and lack of knowledge are barriers to vaccination and that physician recommendations and knowledge are facilitators to vaccination. These results also add additional barriers and facilitators that have rarely been mentioned in similar studies. These barriers included a fear of side effects and shots and a fear that vaccination would lead to uncomfortable conversations with parents. The facilitators in this study that have rarely been reported in other studies, as seen in the introduction section, were a desire to avoid feelings of regret because of consequences of rejecting the vaccine.

This study suggests that in the future, more educational programs regarding HPV, cervical cancer, and the HPV vaccine need to be created. In particular, educational programs should target African American girls in order to help them to better understand the vaccine and be more likely to receive the vaccine. Future studies in this area should focus on how to best develop and implement these programs and consider effective ways to reach African American girls. Possible ways to do this would be to encourage healthcare providers to talk to and educate girls about the vaccine, increase access to educational materials, and offer educational classes at community centers.

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