Attitudes and perspectives regarding the HPV vaccine among young adults in the rural Pacific Northwest

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ABSTRACT

Gardasil, the vaccine for HPV in the United States, protects against high-risk strains and strains that cause genital warts. Despite the proven efficacy of the vaccination to prevent cervical cancer, only one-third of adolescent girls have completed the three doses. Thus far, research has shown that the largest predictor of vaccination completion is a recommendation from a healthcare provider. Therefore, it's important to understand where adolescents obtain information about HPV vaccines. Overall, HPV vaccination rates have increased, but there is still a large discrepancy between rates in rural compared to urban areas. Rates are lower among teens living in non-metropolitan areas, regardless of socioeconomic status. We distributed researcher-generated surveys via social media platforms to participants ages 18-25 who grew up in rural and micropolitan Pacific Northwest. We had 90 respondents. 88.8% of participants received at least one dose of the vaccine, and 83.1% completed the series of three injections. The most common reason participants received the vaccine was that a "doctor recommended it to their parents/guardians," cited by 43.8%. 18.8% of respondents stated their doctor directly recommended it to them, and another 17.2% cited that their parents/guardians wanted them to get the vaccine. The majority of those surveyed, 56.6%, admitted they first heard about the vaccine from a doctor or medical professional. 22.4% heard about the vaccine from a parent or guardian, and 9.2% heard about it from a TV ad. HPV associated male cancers are on the rise, and 16.7% of our participants were male. We explored the perceptions of the female-dominated narrative of HPV by asking if participants believed the vaccine only protects females. 8.9% believed this statement was true. This research underpins the importance of educating youth about the HPV vaccine and leaves room to improve educational and advertisement campaigns to maximize vaccination rates and eliminate HPV-associated cancers, especially in rural communities.

OBJECTIVE

The purpose of the study was to discover how young adults in rural areas of the Pacific Northwest learn about the HPV vaccine, what they know about it, and how they choose to act on that knowledge. This information may be used to improve education about the HPV vaccine in the target population, potentially resulting in higher vaccination rates.

INTRODUCTION

Gardasil is the vaccine for the Human Papillomavirus (HPV) used in the United States. It protects against high-risk strains of the virus that are more likely to cause cervical cancer and other HPV associated cancers as well as strains that cause genital warts (2). Despite the proven efficacy of the vaccination to prevent cervical cancer, only one-third of adolescent girls have completed all three doses. The vaccine is most effective when given to younger patients because of a stronger immune response, and because the vaccine is only effective if given prior to exposure to HPV (4). The biggest predictor of vaccination completion is a strong recommendation from a health care provider, although parental attitudes about the vaccine are also strongly associated (5). Therefore, it is important to understand where adolescents get their information about the HPV vaccine.

Previous studies have shown adolescents who received information "from television advertisements, the Internet, clinicians, and mothers had higher knowledge about HPV vaccines and more positive perceptions" (6). Importantly, HPV elimination cannot be achieved with the government implemented 'girls-only' strategy, especially with the rise in HPV associated male cancers (7). However, the government did not issue vaccine recommendations for adolescent males until 2011; only 16.5% of men reported they have received at least one dose of the HPV vaccine (8).

According to recent studies, there has been an overall increase in vaccination rates, but there is still a large discrepancy between rates in rural compared to urban areas. Vaccination rates are consistently lower among teens living in non-metropolitan areas, regardless of socioeconomic status (10).

To learn more about attitudes and knowledge about the HPV vaccine among young adults living in rural and micropolitan areas, a survey was developed and disseminated through social media. This goal of this survey was to gain a better understanding of how young adults living in non-metropolitan areas are learning about the HPV vaccine. The survey also assessed accuracy of this information by conducting a knowledge check about HPV and the vaccine. Finally, to understand how young adults are acting on the information they receive, the survey asked participants to indicate their vaccination status and why they had made that decision. This information may be useful for future advertising campaigns that work on addressing the disparity in vaccination rates between metropolitan and more rural areas.

STUDY DESIGN

Student researchers designed a survey through Qualtrics, which was disseminated through social media. Inclusion criteria was adults age 18-25 who lived in a rural or micropolitan area of the Pacific Northwest for the majority of their lives from age 10 to current age. Survey entries were excluded if the participant did not meet this criteria. The survey asked participants about their HPV vaccination status as well as why they decided to get the vaccine if they had been vaccinated. Participants were asked where they first learned about the HPV vaccine and their view on whether the vaccine is important for teens to receive or not. The survey also included a series of questions to assess basic knowledge about HPV and the HPV vaccine. Participants were asked to identify their gender and age. 166 responses were received, and after exclusions 90 responses were viable. The results were analyzed by student researchers with tools available through Qualtrics.

RESULTS

Demographics

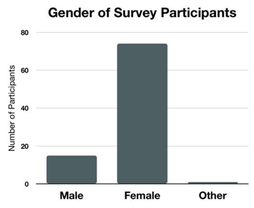

Figure 1

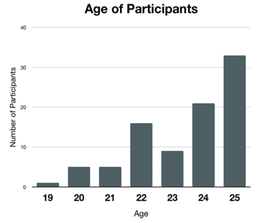

Figure 2

Vaccine Specifics

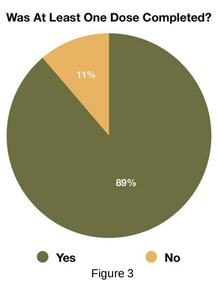

Figure 3

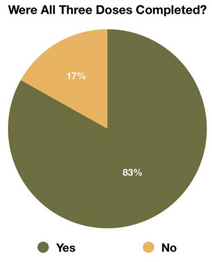

Figure 4

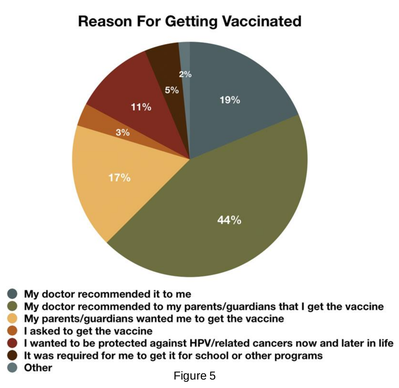

Figure 5

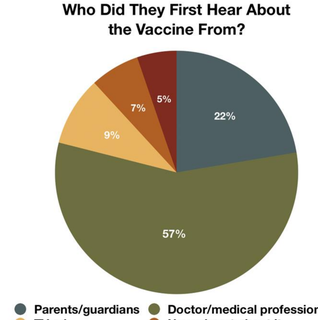

Figure 6

Perceptions

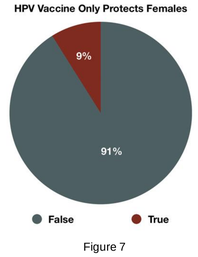

Figure 7

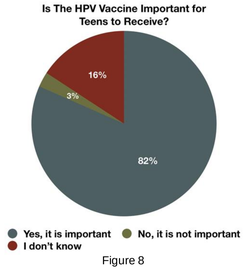

Figure 8

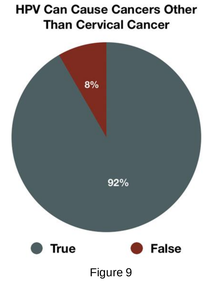

Figure 9

RESULTS

In total, 166 survey responses were received. After exclusions, the final number of viable respondents was 90. Of those, 74 were submitted by participants identifying as female, 15 from participants identifying as male, and 1 from a participant identifying as other, seen in **figure 1**. There was good age distribution within the selected age criteria, as shown in **figure 2**.

Of the 90 viable responses, 89% of participants reported that they had received at least one dose of the HPV vaccine, **figure 3**. Of those participants, 83% reported they had received all three doses, **figure 4**. When asked why they chose to receive the vaccine, 44% reported that they received the vaccine because a doctor recommended it to their parents/guardians, 19% reported that they received it because a doctor recommended it to them directly, and 17% reported that they received it because their parents wanted them to receive the vaccine. 11% reported that they got the vaccine because they wanted to be protected against HPV-related cancers. 3% reported that they asked to receive the vaccine themselves and 5% reported that they were required to have the vaccine for school or another program, as detailed in **figure 5**.

All participants were asked to report how they had first learned about the vaccine, shown in **figure 6**. The majority of participants, 57%, learned about the vaccine from a doctor or another medical professional, 22% learned about the vaccine from their parents/guardians, and 9% learned about it from a TV advertisement. 7% of participants reported that they had never heard anything about it.

One of the knowledge check questions asked participants to indicate whether the statement, "The HPV vaccine only protects females," was true or false. 91% marked false, which was correct, and 9% marked true, **figure 7**. Similar results were seen in the knowledge check true or false question, "HPV can cause cancers other than cervical cancer." 92% marked true, which was correct, while 8% marked false, **figure 9**. The last question asked participants to indicate if they believe it is important for teens to receive the HPV vaccine. 82% responded that they did believe it was important, 16% reported that they did not know, and 3% did not think it was important, as shown in **figure 8**.

DISCUSSION/CONCLUSION

The purpose of this study was to discover the methods by which young adults in rural areas of the Pacific Northwest learn about the HPV vaccine, their knowledge about the vaccine, and whether or not they receive the vaccine, in order to improve education and follow-through on receiving the HPV vaccine.

This study found that the majority of individuals who received the vaccine did so because their doctor recommended it to their parents/guardians. This could be due to the fact that the HPV vaccine is often first offered to children between the ages of 11-14, when parents are still involved in their children's healthcare decisions. This data suggests that increasing education and communication with children's parents/guardians could help to increase the HPV vaccination rate and increase awareness of the vaccine to their children as well.

The second most common reason for patients receiving the vaccine was due to their doctor recommending it to them directly. This suggests that an increase in physician knowledge/education, communication and recommendation to their patients could help to improve HPV vaccination rates.

Both of the above recommendations could be accomplished through providing physicians with more knowledge on HPV/vaccine communication methods and distributing more verbal and written information on the availability and importance of the HPV vaccine to patients and their parents/guardians.

Limitations of this study include the gap between female vs. male respondents, as well as the uneven distribution of age groups. The participants of our study included a wide range of age groups but did not represent the younger teenage population. Collecting more data on the younger teenage population could provide insight on the current education and vaccination rate of a vital age group for the HPV vaccine. Minimizing the gap between female and male respondents could give more insight into increasing male knowledge of the vaccine. Future research on how to reduce the perception that only women need to receive the vaccine could increase vaccination rates in male patients.

Future development of this topic could address the relationship between each participant's method of information on the vaccine and their knowledge, and whether that information subsequently resulted in their follow-through with receiving the vaccine or not. It would also be important to discover why some of the participants began the first dose of the vaccine but did not complete the entire series. This information could find ways to improve vaccination follow-through and compliance and increase HPV vaccination rates among teens and young adults, subsequently minimizing the detrimental health outcomes of HPV infection.

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