

HPV vaccines

Introduction

The reason why I chose this topic for my fact sheet was because it is something that I have gotten and it was also something that I wanted to learn more information about. I have received the round of HPV vaccines so I have a small amount of previous knowledge on one of the vaccines and the way it works in the body. These vaccines are also very publicly displayed and advertised to the public through the media. Many more women are getting diagnosed with cervical cancer at a younger age on an annual basis. Since these vaccines are fairly new on the market in comparison to other vaccines I thought it would be helpful to learn new information about it. Seeing as the virus is linked to cancer and genital warts I thought it would be interesting to learn more about how this virus works in the body and the people who are of higher risk for contraction. Many new studies have shown that the vaccines can be beneficial to males. Even though males don't have a cervix they can still get genital warts and other types of cancer after becoming infected with one of the many HPV virus's. HPV and cervical cancer is sexually linked and can be totally preventable through safe sex, with the high rates in both males and females I thought it would be interesting to figure out why the rates are so high.

Section 1: Background and Problem Statement

- **Web site #1 Name: (Healthy People 2020)**
- **Web address:**
<http://healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicId=37>
- **Background Information:**
Healthy People 2020 talks about STDs and the many related health problems that they are causing in the United States. An STD is a sexually transmitted disease that is passed from one person to another through unprotected sex whether it be oral, vaginal, or anal. The problem that the US faces is the shocking amount of new cases that are diagnosed each year for these preventable diseases. HPV also known as human papilloma virus is a particular problem among STDs. Research shows the number of people who have contracted an STD but it often times leaves out numerous amounts of cases because many often go undiagnosed. Many of the viral infections like HPV never get reported to the CDC which then causes a false statistics to be reported because those infections are not included in the amount of people living with an infection.
- **Web site #2 Name: Guttmacher**
- **Web address:** <http://www.guttmacher.org/pubs/tgr/06/3/gr060304.html>
- **Background Information:**
 - This was an article that talked about HPV and the prevalent problem all around the world. Every year there are 5.5 million new genital HPV transmissions. This number is extremely high and shocking. Since we live in America there is more access to proper health care and protection against these diseases. The cervical cancer rate in the US is low because we have access to proper testing which helps prevent the cancer. In developing countries the death rate is much higher in comparison to the U.S. This is a public health problem because women are dying from improper health care and testing. About 85% of the deaths from cervical cancer are from developing countries.

This high death rate shows that the public health infrastructure is lacking in developing countries, because with the right access to care and education this high death rate could be prevented. Living in a poor country does not allow women to get the proper education to be able to protect themselves from harmful diseases. Having no money doesn't allow them proper health care, if they are lucky to have health care they have to travel a great distance to receive it. Many researchers are working to develop a public health initiative in these countries so that these women can be both educated and protected.

- **Web site #3 Name:** WebMD
- **Web address:** <http://www.webmd.com/sexual-conditions/hpv-genital-warts/hpv-virus-men?page=2>
- **Background Information:**
 - HPV was just known as a virus found in women which lead to cervical cancer in women for the longest amount of time until recent. Vaccinations have developed into protecting males against HPV infection. Awareness is just recently being started to be raised to get parents to vaccinate their males at a young age before they become sexually active. Since HPV is usually assumed to be in women, men often get left behind and fail to realize that they too can become infected with it. Males contracting this can increase their risk of genital cancer. More than half of the men that are sexually active will develop HPV at some point in their lives. This is a problem because without proper education and protection they can spread the virus they have on to other female or male sexual partners, which can in return turn into cancer in their body. There is no test to find HPV strands in their body. Since males can contract cancer, gay and bisexual males are highly encouraged to get anal pap tests to check against any possible developments of cancer. When males get genital warts they should go to the doctor and check to see if they have HPV. It is important to educate males that they too can contract HPV and that if they are not careful they can go on to infect other people. Vaccination is not just for females because if protection is available everyone should be using it.

Section 2: Research

Web site #1 Name: Science Direct

- **Web address:** <http://www.sciencedirect.com/science/article/pii/S1054139X05004283>
- **Summary of the research:**
 - The research in this article talks about gaining acceptance of all of the available HPV vaccines. The success of future HPV vaccines depends of the acceptance from individuals, and from the parents of potential vaccinated children. Research has shown that there is a great deal of confusion in regards to HPV infection and cervical cancer screening but many children and parents are interested in the vaccinations that prevent HPV and other sexually transmitted diseases. The research shows that education is the most important at this rate. Since HPV is contracted through sexual activity there is a stigma that follows the vaccine. Most parents have a hard time admitting

that their child is sexually active. Correct information is needed to teach parents how to protect their children even before they become sexually active or if they are vaccinated before it becomes too late.

- **Web site #2 Name:** UCSF
- **Web address:** <http://www.ucsf.edu/news/2011/02/9436/hpv-vaccine-works-boys-study-shows-first-clear-benefits>
- **Summary of the research:**
 - Research has recently been done on boys and the benefits of them getting the HPV vaccine. Use of this vaccine helps prevent 90% of warts in men before exposure. Once the vaccine first came out on the market it was for females but research has been done and shown to be beneficial for males. In 2009 the FDA approved the use of HPV vaccines in males as a prevention of genital warts. Vaccinating males at an early age will help prevent most extreme cases of genital warts found in the population. The vaccine in males not only prevents genital warts but it also provides protection against anal, throat and genital cancer. Not only will the HPV vaccine in males help prevent against STDs and cancers but it also helps reduce transmission from males to females and males to males. Further research is still being done to see the impact that vaccination can have on the prevention of various cancers in males.

- **Web site #3 Name:** Science Direct
- **Web address:** <http://www.sciencedirect.com/science/article/pii/S0264410X05000186>
- **Summary of the research:**
 - Research that has been done has shown an interesting clear cut link of HPV being the causal agent of cervical cancer. This is really interesting because no other cancer has been as clearly linked to a virus like cervical cancer and HPV have been. Developing countries have a much lower five year survival rate after being diagnosed with cervical cancer in comparison to the five year survival rate in the United States. Research has been done on the multiple strands of the HPV virus to see if certain strands will cause harm to the body. Some of the strands that enter the body cause no harm and are rid of through the body's immune system. While other HPV strands cause genital warts or the virus to develop prominently in the body. Different vaccines are being researched and developed but one of the main problems is figuring out which immunoglobulins from the various virus strands to use in the vaccine to make it more suitable and protect against more strands of the virus.

Section 3: Statistics

- **Web site #1 Name:** CDC
- **Web address:** <http://www.cdc.gov/hpv/vaccinesafety.html>
- **Summary of the statistics:**
 - As of June 22, 2011, approximately 35 million doses of HPV vaccine were distributed in the U.S.

- **Web site #2 Name: WHO**
- **Web address:**
http://apps.who.int/hpvcentre/statistics/dynamic/ico/country_pdf/USA_FS.pdf?CFID=5515206&CFTOKEN=72215573
- **Summary of the statistics:**
 - Current estimates indicate that every year 11069 women are diagnosed with cervical cancer and 3869 die from the disease.
- **Web site #3: CDC**
- **Web address:** <http://www.cdc.gov/features/dscervicalcancer/>
- **Summary of the statistics:**
 - In 2007 (the most recent year for which statistics are available), 12,280 women in the United States were told they had cervical cancer, and 4,021 died from the disease.

Section 4: Consumer Information.

- **Web site #1 Name: CDC**
- **Web address:** <http://www.cdc.gov/vaccines/vpd-vac/hpv/vac-faqs.htm>
- **Summary of the information:**
 - There are two different types of HPV vaccines that are legalized by the FDA and recommended by the CDC. One of the vaccines that is the most commonly administered to girls and young adults is known as Gardasil. This vaccine is highly recommended for girls who are ages 11 to 12 and suggested for females up to 26 years of age. This shot is administered in a round of three shots. The first shot can be administered whenever the patient decides to get it, the second booster shot is administered two months after the first shot was given, and the third and final round is given six months after the second shot. There are many different strains that collectively make HPVs, so Gardasil is the only vaccine that protects against types 6 & 11 which cause genital warts and types 16 & 18 which cause cervical cancer.
- **Web site #2 Name: Cervarix**
- **Web address:** <http://www.cervarix.com/yourshot/index.html>
- **Summary of the information:**
 - The second HPV vaccine that has been legalized by the FDA is known as Cervarix. This shot like Gardasil is administered in a three shot round. The first being when a patient decides to start the shot process, the second shot is given two months after the first shot, and the third and final shot is given six months after the second shot. Cervarix differs from Gardasil because it only protects against two HPV strands instead of four strands like Gardasil. Cervarix only protects against strands 16 & 18 which are the causes of cervical cancer. These shots also differ from each other because each has a

different adjuvant. Which means that both vaccines have different substances added to the small portion of the virus to make up the vaccine.

- **Web site #3 Name:** CDC
- **Web address:** <http://www.cdc.gov/std/hpv/STDFact-HPV-and-men.htm>
- **Summary of the information:**
 - The vaccine Gardasil has been used primarily in women since it came on the market but research has shown that vaccinating males can be beneficial to their health. HPV is the cause of genital warts and cancer in both males and females. Males do not have a cervix but contracting the HPV virus puts them at risk of contracting penile, anal or oral-pharyngeal cancer. Many males can get the virus and never actually become infected with something like warts or cancer.

Section 5: Solutions to the Problem (or Issue)

- **Web site #1 Name:** CDC
- **Web address:** <http://www.cdc.gov/hpv/Prevention.html>
- **Summary of the information:**
 - The Center for Disease control is responsible for keeping track of the diseases that are prominent in the U.S. and around the world. In this article it talks about prevention of genital warts and cervical cancer and the ways that both males and females can protect themselves. Getting vaccinated is one of the first steps there are two different vaccinations available to prevent against cervical cancer. Gardasil is now a legal vaccine for males so they can protect themselves from warts and other cancer types. For women getting routine pap smears can allow doctors to find any cell abnormalities that may be on someone's cervix. Having safe sexual contact should be done by both males and females. With every sexually activity a condom should be used from start to finish in order to protect yourself from any STDs and to lower your risk from contracting HPV or any other infection.
- **Web site #2 Name:** National Cervical Cancer Coalition
- **Web address:** <http://www.nccc-online.org/about.html>
- **Summary of the information:**
 - The National Cervical Cancer Coalition was founded in 1996 and is a board of people who are battling cervical cancer and HPV related issues. This organization is full of women, family members, friends and caregivers of those faced with cancer or HPV. This organization strives to educate women and the public about cervical cancer and HPV prevention. They focus primarily on how to reach out to people to teach them about what to look for and how to protect yourself. The NCCC helps educate the public on what HPV is, the tests to get done, and how to limit it. The free Pap test was developed through this organization where they offer a free pap smear to women on the second Friday of January for women who have not received a pap smear in the past three years. One of their top goals among outreach and

education is to reduce the stigma that can be associated with HPV infection and cervical cancer.

- **Web site #3 Name: Women Against Cervical Cancer**
- **Web address: <http://www.wacc-network.org/>**
- **Summary of the information:**
 - **WACC is an organization that stands for Women Against Cervical Cancer.** This organization has five missions which are to inform, to gather, to educate, to work together and most importantly to take action. Since cervical cancer and HPV is so widespread this organization strives to make all females aware of what can happen to them and make them responsible for their own body. They strive to make cervical cancer a top priority for women since sometimes it falls to the side. Many women forget that cervical cancer is totally preventable and can be stopped before it progresses in the body. Many projects are also done to help spread knowledge and awareness to women of different ages.

Conclusions

After writing this fact sheet I learned a lot about the HPV vaccines. Previously I had only known about the Gardasil shot because that is the one that I have but it is also widely advertised on the television. Not a single person wishes to become diagnosed with cancer, which takes over our bodies without our control. Cervical cancer is one of the only cancers that can be prevented and controlled. Many women in the U.S. and around the world have cervical cancer which I find extremely shocking. If I knew I could prevent myself from getting cancer I would do anything I could which is why I find it shocking that many people choose not to get vaccinated, tested, or have safe sex. I learned that a HPV vaccine is now available for men. I think that with this new availability the media needs to start advertising it for males and not just females. If both males and females vaccinate themselves, the number of men with genital warts and the number of women with cervical cancer can decrease tremendously, allowing many lives to be saved. I learned that education is the top priority for people of all ages and sexes because sometimes their ignorance gets in the way of them being able to protect themselves from harmful things. Knowledge is power; ignorance is bad which is something that every person should realize sooner rather than later.

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