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Cervical Cancer

Katie Redmon

Otterbein University, redmon1@otterbein.edu

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Cervical Cancer

Katie Redmon, BSN, RN

Otterbein University, Westerville, Ohio

Introduction

"More than half a million women are diagnosed with cervical cancer and the disease results in over 300,000 deaths worldwide" (Cohen, Jhingran, Oaknin, & Denny, 2019, p. 169). Studies have shown that the human papilloma virus (HPV) is what causes cervical cancer (Johnson, James, Marzan, & Armaos, 2019). "Globally, 70% of invasive cervical cancers are caused by infection with HPV 16 and 18" high-risk subtypes (Kusumlata & Devi, 2019, p. 2). Due to the lack of organized screening, lower income countries are more at risk of the disease. The rates of mortality have decreased over the past 30 years in higher-income countries due to HPV screening programs and vaccines (Cohen et al., 2019). The Papanicolaou (Pap) test is what healthcare providers use to screen for cervical cancer (Akinlotan et al., 2017). Prophylactic vaccination for HPV is considered the most preventative against cervical cancer (Kessler, 2017). The two most common forms of cervical cancer are squamous cell carcinoma and adenocarcinoma (Johnson, et al., 2019). The stage of prognosis determines what treatment option is used, whether its surgery, chemotherapy, radiation or a combination of them all. There is an 85% to 90% success rate for early treatment for cervical cancer that's confined to the cervix by having surgery to remove the cancer tissue (Kusumlata & Devi, 2019). Today's healthcare providers have plenty of opportunities to impact the community on education and preventative measures for cervical cancer to reduce the number of incidences (Johnson et al., 2019).

Underlying Pathophysiology

The cervix is located on the lower end of the uterus. The "cervix connects the body of uterus to the vagina (birth canal)" (American Cancer Society, 2016). There are two types of cervix cells which are glandular cells in the endocervix and squamous cells in the exocervix near the vagina side; Both cells meet in an area called the transformation zone, where the cells can change into pre-cancerous cells (American Cancer Society, 2016). Squamous cell carcinomas and adenocarcinomas are the two most common cervical cancers.

The HPV is contracted by having sexual intercourse. When infected with HPV it can infect the cells of the cervix by producing E6 and E7 proteins that turn off tumor suppressor genes that would normally control cell growth, but if turned off, cells can now grow and can change into pre-cancerous cells (American Cancer Society, 2016). HPV is not the only risk factor to cause cervical cancer. Other risk factors are smoking, overweight, poor diet that's low in fruits and vegetables, long-term use of oral contraceptives, chlamydia, herpes simplex virus 2, multiple full-term pregnancies, and immune deficiency (Kessler, 2017).

"HPV is the most common sexually transmitted infection worldwide and is the cause of nearly all cases of cervical cancer"; Approximately 79 million men and women in the US are infected with HPV and about 14 million will become newly infected each year" (Kessler, 2017, p. 173). Most people are unaware they have HPV due to being non-symptomatic. Once infected with the virus the body's immune system can usually clear it within 2 years. The two most common high-risk HPV strands that cause pre-cancerous lesions are types 16 and 18; The most common low-risk HPV strands that can cause genital warts are types 6 and 11 (Kessler, 2017).

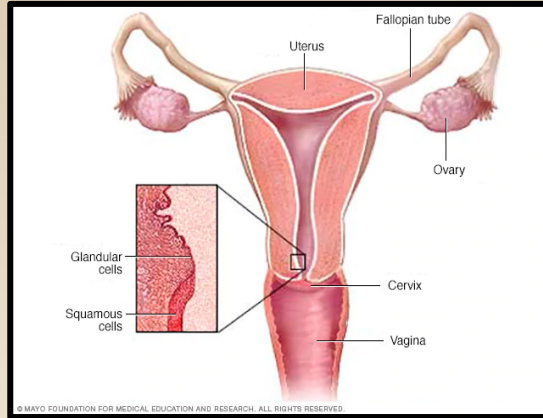


Image 1: Cervix (Mayo Clinic, 2019).

Significance of Pathophysiology

It is important for healthcare providers to be familiar with methods of early prevention and detection strategies for cervical cancer incidences. "Nearly 100% of cervical cancer cases test positive for HPV" (Kessler, 2017). A way for both males and females to decrease their chances of being infected with HPV is by practicing safe sex practices whether by using a condom, limiting partners, or avoiding sex. Another solution is getting the prophylactic HPV vaccination.

The US Food and Drug Administration (FDA) have made three vaccines available which are Gardasil (4vHPV) in 2006, Cervarix (2vHPV) in 2009 and Gardasil 9 (9vHPV) in 2014 (Kessler, 2017). Each individual vaccine prevents an HPV type that is either cancerous causing or warts.

- The most recent vaccine Gardasil 9 prevents HPV types "6, 11, 16, 18, 31, 33, 45, 52, and 58" and is FDA approved for use in females ages 9 to 26, and males ages 9 to 15 up to three doses can be administered (Kessler, 2017, p. 176).
- "The world health organization recommends that the primary target population for the vaccination should be selected based on the age of initiation of sexual activity and the feasibility of reaching young adolescent girls through schools, health-care facilities, or community-based settings" (Swain & Parida, 2018, p. 38).

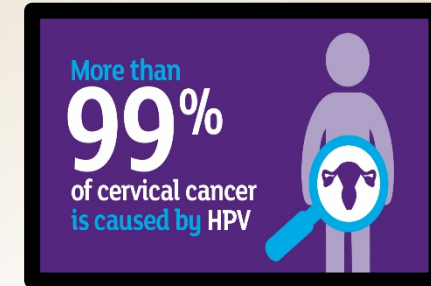
Cervical screening called the Papanicolaou cytology (Pap) tests is recommended starting at age 21 in the U.S. to screen for abnormal cells in the cervix (Johnson et al., 2019). Then at age 30, women should receive a pelvic exam annually, with a Pap tests every 3 years, and HPV testing every 5 years till the age of 65 (Johnson et al., 2019). Depending on the women's risk factor for cervical cancer, the frequency of screenings could change per healthcare providers recommendation.

Signs & Symptoms

- The early stages of cervical cancer can be asymptomatic (Johnson et al., 2019).*
- The "most common symptoms at presentation are "irregular or heavy vaginal bleeding, particularly following intercourse; Some women may present with vaginal discharge that may be watery, mucoid, or purulent and malodorous" (Johnson et al., 2019, p. 167).*
- Advanced stages of cervical cancer are "pelvic or lower back pain; Bowel or bladder changes, such as pressure-related complaints" (Johnson et al., 2019).*
- A pelvic exam should be performed with any symptom complaints previous mentioned. There could be a visible lesion or normal cervix during the speculum exam, and the questionable lesion should be biopsied, with a Pap smear performed (Johnson et al., 2019).*



Image 2: Gardasil 9 Vial (Merck, 2015).



(Cancer Institute NSW, 2019).

Implications for Nursing Care

Ways healthcare providers can encourage cervical cancer screenings and prevention is by educating not only the adults of the community, but the younger generation. The parents of the younger generation need to be informed before their children become sexually active and contract HPV by unprotected intercourse. Educating as early as 11 years of age is recommended (Kessler, 2017). The HPV vaccinations needs to be encouraged not only for females but males who can also be infected with HPV. There is a cost barrier for males to get vaccinated for HPV, so healthcare providers can help find clinics that offer reduced prices (Kessler, 2017). It is also important to help women overcome barriers they may have getting a Pap tests whether they are uninformed, anxiety, lack of insurance coverage, or transportation (Kessler, 2017). The Health Belief Model and the Transtheoretical Model can be useful to healthcare providers to promote health behavior that will help increase screenings and vaccinations (Kessler, 2017). Knowledge alone does not promote behavior change, so healthcare providers need to be convincing (Kessler, 2017). Using the models mentioned can help better promote behavioral change. Studies have shown that planned teaching programs are effective in improving cervical cancer knowledge to help women in early prevention and detection (Kusumlata & Devi, 2019).

Conclusion

Cervical cancer incidences have declined over the years in higher-income areas due to proper cervical cancer screenings such as the Pap tests, known risk factors such as HPV, and receiving the HPV prophylactic vaccine. "It is the third most common cause of death worldwide for those women who live in low-resource or less developed countries" (Kessler, 2017, p. 172). The proper education and resources for the community on preventing cervical cancer can help a community lower their risk. Women need to be aware of any abnormal symptoms to inform their healthcare provider and get screened. Early detection is vital to preventing the cancer from spreading.

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