

Understanding the causes of cervical cancer: A call for awareness and action.

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Introduction

Cervical cancer, a malignant tumor of the cervix—the lowermost part of the uterus—remains a significant public health issue worldwide, despite advances in medical research and screening techniques. Each year, thousands of women are diagnosed with this disease, which can be both devastating and life-threatening. Understanding the causes of cervical cancer is crucial in preventing its occurrence and improving outcomes for those affected. This article delves into the primary causes of cervical cancer, emphasizing the need for increased awareness and proactive measures to combat this preventable disease [1].

The most significant cause of cervical cancer is the human papillomavirus (HPV), a group of more than 200 related viruses. Of these, at least 14 are high-risk types that can lead to cancer. HPV is transmitted primarily through sexual contact, and it is extraordinarily common—most sexually active people will contract the virus at some point in their lives. However, only a small fraction of those infected will develop cervical cancer.

High-risk HPV types, such as HPV-16 and HPV-18, are responsible for approximately 70% of cervical cancer cases. These viruses can cause changes in the cervical cells, leading to precancerous conditions known as cervical intraepithelial neoplasia (CIN). If left untreated, CIN can progress to invasive cervical cancer over several years. This long development period underscores the importance of regular screening and early detection [2].

While HPV infection is the primary cause, other factors can influence the likelihood of developing cervical cancer. These include, Women who smoke are about twice as likely to develop cervical cancer as non-smokers. Smoking exposes the body to numerous carcinogens, which can damage the DNA of cervical cells and make it harder for the immune system to combat HPV infections effectively. Individuals with weakened immune systems, such as those with HIV/AIDS or those taking immunosuppressive drugs, are at a higher risk of HPV infections and subsequent cervical cancer. A compromised immune system is less capable of fighting off infections, including HPV [3].

Some studies suggest that long-term use of oral contraceptives may slightly increase the risk of cervical cancer. The exact

mechanism is not well understood, but it may be related to hormonal changes affecting cervical cells. Women who have had three or more full-term pregnancies are at increased risk of cervical cancer. Pregnancy-related hormonal changes and the physical trauma of childbirth may contribute to this elevated risk. Engaging in sexual activity at an early age and having multiple sexual partners increase the likelihood of HPV infection. The more partners a person has, the greater the chance of contracting a high-risk strain of HPV.

Preventing cervical cancer involves addressing its primary cause—HPV infection. The most effective tool in this regard is the HPV vaccine, which protects against the most common high-risk strains of the virus. Vaccination programs targeting preteens, both girls and boys, have shown significant success in reducing the incidence of HPV infections and, consequently, cervical cancer rates. It is essential to continue promoting HPV vaccination and addressing any misinformation or vaccine hesitancy that may hinder its uptake [4].

Regular cervical screening, such as Pap smears and HPV tests, is another critical component of cervical cancer prevention. Pap smears detect precancerous changes in cervical cells, allowing for early intervention and treatment before cancer develops. HPV testing identifies high-risk HPV infections that may lead to cervical cancer. Combining both tests can provide a comprehensive assessment of a woman's risk and guide appropriate follow-up care.

Despite the availability of effective prevention and early detection methods, significant challenges and inequities remain. Globally, cervical cancer disproportionately affects women in low- and middle-income countries, where access to healthcare services, including HPV vaccination and cervical screening, is often limited. These regions account for nearly 90% of cervical cancer deaths, highlighting a stark disparity in healthcare access and outcomes [5].

Efforts to reduce this disparity must include improving healthcare infrastructure, increasing awareness and education about cervical cancer prevention, and making vaccines and screening more accessible and affordable. International organizations, governments, and non-governmental organizations (NGOs) play a vital role in these efforts, working to implement comprehensive cervical cancer control programs [6].

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Cervical cancer is largely preventable, yet it continues to claim the lives of thousands of women each year. Understanding its causes, particularly the central role of HPV, is the first step in combating this disease. By promoting HPV vaccination, encouraging regular cervical screening, and addressing the factors that contribute to increased risk, we can significantly reduce the incidence and mortality of cervical cancer [7].

However, achieving this goal requires a concerted effort from all sectors of society. Healthcare providers must advocate for vaccination and screening, policymakers must ensure equitable access to these services, and individuals must be informed and proactive about their health. Together, we can turn the tide against cervical cancer, saving lives and improving the health and well-being of women around the world. The time to act is now, for the sake of current and future generations [8-10].

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