

Topic: Risk factors of Cervical Cancer

Title: Understanding Risks, Encouraging Prevention

- **Summary:**

Cervical cancer is one of the leading causes of mortality among women, particularly affecting females between the ages of 30 and 50 [1]. This cancer develops at the site of the cervix (part of the female reproductive system) and involves the abnormal, uncontrolled growth of cells in the lining of the cervix.

Figure 1. Shows the Anatomy of Female Reproductive System

Most cervical cancers are caused by long-term infections with high-risk HPV types, especially HPV 16 and 18. While HPV infections often clear on their own, in some cases, the infection persists, leading to changes in cervical cells. Over time, these changes can turn into a precancerous mass, which, if untreated, may develop into cancer. Regular screenings and early detection are crucial for reducing the risk of getting cervical cancer and improving treatment outcomes.

In this article, we will take a closer look at the **risk factors** associated with cervical cancer. Understanding these factors can help individuals make informed decisions and be cautious about their sexual health and hygiene.

Risk factors is a group of characteristic conditions or behaviour that indicates the probability of being diagnosed with a certain disease or injury. In context with cervical cancer, risk factors may be **biological, lifestyle related, environmental** etc.

Preventing cervical cancer involves addressing risk factors through lifestyle changes like quitting smoking and improving hygiene. Promoting awareness about HPV vaccination, regular screenings, and safe practices is essential for early detection and prevention. These steps can help women reduce their risk and lead healthier lives.

Figure 2. This diagram highlights the primary risk factors associated with cervical cancer

For further detailed explanation refer[2]

- **Major Risk Factors**

- 1. Human Papillomavirus Infection(HPV)**

The primary cause of Cervical Cancer is the human papillomavirus (**HPV**) which is transmitted through sexual activity, in most cases the immune system fights this

infection and clears HPV but in some cases this infection persists for many years leading to uncontrolled growth of cervical cells which gradually results in cancer. While HPV infection is an unavoidable factor, timely screening can indeed help in early diagnosis of cervical cancer and maximizing the chances of cure. Apart from HPV there are furthermore risk factors which are avoidable [3].

Figure 3. Illustration of how cancer progresses in cervix

2. Sexual History

Certain sexual behaviors can increase the risk of cervical cancer. For example, starting sexual activity at a young age, especially under 18, can make the cervix more vulnerable. Having many sexual partners or being with a partner who has a high-risk sexual history, like having multiple partners or an HPV infection, also raises the risk. It's important to practice safe sex, get regular check-ups, and make informed choices to reduce these risks [4].

3. Weakened Immune System

The AIDS causing virus Human immunodeficiency virus(**HIV**) weakens the immune system and puts people at a higher risk of developing HPV infection [5].

Immune system plays a very crucial role in destroying the cancer cells, however, in people with low immunity(**immunocompromised**) the body's tendency to fight infection decreases. HPV infection tends to progress more faster in such people having lower immunity. Similarly women taking drugs to weaken immune system(**immunosuppressive drugs**) (*for eg: to treat autoimmune disorders*) are also at a higher risk of developing cervical cancer as the ability of immune system to fight HPV infection lowers considerably

4. Smoking

Smoking is one such factor that dominantly increases the chances of cervical cancer. Women who smoke are more prone to be affected with cervical cancer as smoking considerably weakens the defence mechanism, thereby making it difficult to clear the HPV infection, which can lead to cancerous changes in the cervix. In addition to this, smoking introduces harmful chemicals like *for eg: nicotine* which can damage the cervical cells. Smoking restricts the body from repairing the cells allowing precancerous changes to progress into cervical cancer [6].

5. Long term use of Oral Contraceptive Pills(Birth Control pills)

Oral contraceptive pills are medications that are taken by mouth by women who want to avoid pregnancy. According to research it is observed that women who consume these pills for a longer period of time are at a higher risk compared to those who do not take pills. Yet the risk minimizes once the medication is stopped, although it takes a few years [7].

Figure 4. Graphical representation of percentage distribution of risk factors contributing to cervical cancer.

- **Risk factors that can be prevented!**

CERVICAL CANCER IS PREVENTABLE!

Cervical cancer is preventable, and women have the power to take charge of their health. By addressing the above mentioned risks and with regular screenings, HPV vaccination, avoiding smoking, and timely treatment, a healthy, cancer-free life is achievable. These proactive steps not only safeguard personal health but also inspire hope for a disease-free future for generations to come. Following are some major prevention methods to be taken into notice.

Figure 5. An image

1. HPV Vaccination

The HPV vaccine protects against the virus that causes most cervical cancers. It works best when given before someone is sexually active. The vaccine doesn't treat existing HPV infections but helps prevent new ones. It's approved for people aged 9 to 45 [8].

2. Timing of HPV Vaccination

Getting vaccinated early, ideally at ages 11 or 12, provides the most protection. Vaccination is still recommended up to age 26 if not done earlier, and adults up to 45 can discuss its benefits with their doctor. It's given as 2 or 3 doses depending on age.

3. Cervical Cancer Screening

Screening tests like the Pap smear or HPV test can detect early changes or infections before they turn into cancer. Even if vaccinated, regular screening is necessary because the vaccine doesn't cover all cancer-causing HPV types.

For more detailed information regarding prevention methods refer[9]

- **Summary**

Cervical cancer is not just a disease—it's a call to action for women to prioritize their health and well-being. By staying informed about its causes and understanding the risks, women can take proactive steps towards prevention and early detection. Every woman has the power to protect herself and inspire a healthier, brighter future for generations to come. Awareness and timely action are the keys to overcoming this challenge and leading a fulfilling, healthy life.

Figure 6. An awareness poster offering hope for cervical cancer survivors to lead healthy lives

Suggested next topic for readers shall be “**Early detection of cervical cancer**” after understanding the risk factors, it's important to learn how cervical cancer is diagnosed. Tests like **Pap smears** and **HPV tests** help detect abnormal changes or infections early, ensuring the best treatment plan is created.

To gain detailed insights about the screening techniques of cervical cancer, refer[10].

- **References:**

[1] <https://www.cancer.org/cancer/types/cervical-cancer/about/key-statistics.html>

[2] <https://www.who.int/news-room/fact-sheets/detail/cervical-cancer#:~:text=Risk%20factor%20for%20cancer%20progression,hormonal%20contraceptive%20use%2C%20and%20smoking.>

[3] <https://www.cancer.gov/types/cervical/causes-risk-prevention>

[4] <https://www.cancer.org/cancer/types/cervical-cancer/causes-risks-prevention/risk-factors.html>

[5] <https://www.cancer.org/cancer/types/cervical-cancer/causes-risks-prevention/risk-factors.html>

[6] https://www.urmc.rochester.edu/medialibraries/urmcmedia/ob-gyn/midwifery/resources/documents/smoking_and_cervical_cancer.pdf

[7] <https://www.cancer.gov/about-cancer/causes-prevention/risk/hormones/oral-contraceptives-fact-sheet>

[8]<https://www.cancer.gov/types/cervical/causes-risk-prevention>

[9]<https://www.cancer.org/cancer/types/cervical-cancer/causes-risks-prevention/prevention.html>

[10]<https://nonmalignant.org/index.php/early-detection-of-cervical-cancer/>

- **Images Section:**

Fig 1. <https://www.cancer.gov/types/cervical>

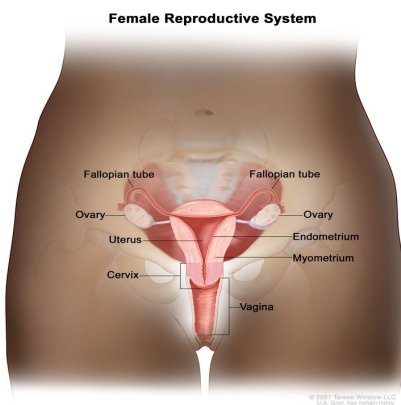


Fig 2. <https://www.indiancancersociety.org/cervical-cancer/>

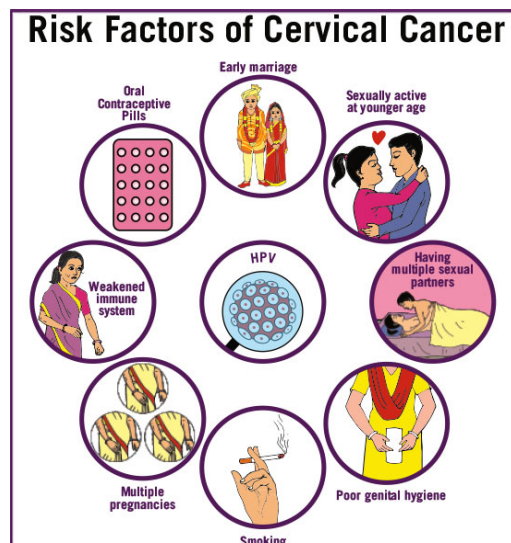


Fig 3. <https://www.news-medical.net/health/HPV-and-Cervical-Cancer.aspx>

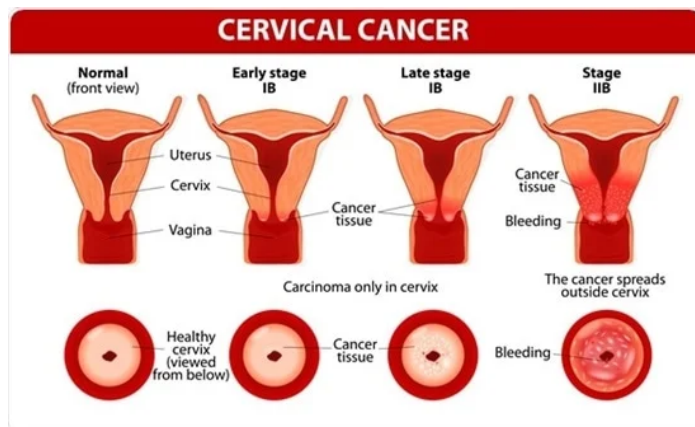


Fig 4.

https://www.researchgate.net/figure/Graphic-representation-on-knowledge-of-participants-about-cervical-cancer-risk-factors_fig4_315785253

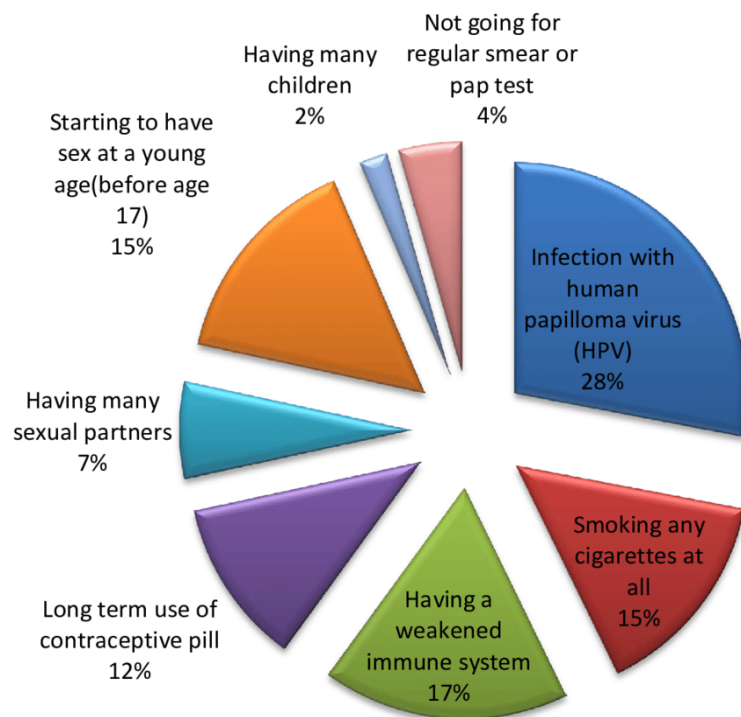


Fig 5.

https://www.emro.who.int/images/stories/ncds/cervical_cancer/ccam_global_11.jpg?ua=1



Fig 6. <https://dsresearchcentre.com/blogs/cervical-cancer---be-aware-do-not-fear>

