

BREAST
CANCER
HUBSM

Cervical Cancer

By Team EXCErate

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Abstract

Cervical cancer is a less known form of cancer in this world, but increasingly deadly for that matter. As we explore the cause and statistics behind cervical cancer, we aim to understand the social taboos surrounding it. For the majority of this project, the research centered around what is already known about cervical cancer, such as general information, mainly focusing on how it is caused. We also found data trends relating countries with the highest cervical cancer incidence and mortality rates with the countries that censor the topic more. We then understood with further research that these countries had more reserved views on the female anatomy, and that women are ashamed to talk about it. The late detection combined with hard to access hospitals that aren't always the best lead to more deaths as a result. With this presentation, we hope to reduce the mortality rate of cervical cancer.

What is cervical cancer?

- Cancer is a disease that occurs when the body's cells start to divide at an abnormal rate, and continue without stopping. From there, it often spreads to surrounding tissues and creates masses called tumors. When cancerous cells and tissues escape into the bloodstream, they spread around, becoming malignant. ¹
- Cervical cancer is a type of cancer that affects the cervix (the lowest part of the uterus). Cervical cancer occurs when cancerous cells and tissue began to form a tumor(s) on the cervix. Most types of cervical cancers are due to the human papillomavirus (HPV). Most of the time, people who have HPV are protected by their immune system.¹

What is cervical cancer? (part 2)

- However, if the HPV stays in the body for years, it can cause cause cancer. The most common types of cervical cancer are: Squamous cell carcinoma - cancer in the thin, flat cells on the outer part of the cervix; and Adenocarcinoma - cancer in the vertical glandular cells lining the cervical canal. Sometimes, cancer can occur with both types of cells, and rarely occurs in other cells in the cervix. ¹
- Symptoms include watery, smelly vaginal discharge, pelvic pain, and vaginal discomfort. Cervical cancer is usually diagnosed through a Pap smear test to detect abnormal cells. If abnormal cells are found, you will most likely go through a biopsy and other tests. ¹

What is cervical cancer? (part 3)

- The best way to prevent the cancer before it is too late is to get frequent screenings. The most common forms of treatment are surgery, radiation treatment, and chemotherapy. Treatment varies based on multiple factors, such as tumor size, if the cancer has spread, or if you want to get pregnant after the surgery.
- You are more at risk to develop cervical cancer if you smoke, have had multiple children, use birth control for long periods of time, or if you have HIV infection

How cervical cancer is medicated and portrayed

Developed vs. Developing countries (part 1)

- Around the world cervical cancer is treated differently, not only on how it is medicated, but also on how it is portrayed. In most developing countries cervical cancer is seen as “dirty” and “something that should be kept to yourself”. Most women in these countries are not educated about this disease, and are not tested for them as well.
- In the past 5 years only 5% of women in developing countries have been screened for the precancerous stages of cervical cancer(cervical dysplasia), while in developed countries 40% to 50% of women have been screened. Although in developed countries doctors are more open about diseases such as cervical cancer. As a result women can be treated and can detect any symptoms they have, and remove any cancerous tissue/cells before it is too late.

How cervical cancer is medicated and portrayed

Developed vs. Developing countries (part 2)

- In addition to not knowing much about cervical cancer, women in developing countries don't go for a yearly checkups to the doctor. This is because there are a scarcity of hospitals in these countries and lots of people have to travel hours just to reach one. Another reason that leads to the lack of checkups is that many of the doctors are men, and many women think it is shameful for a man to handle her medical problems. Because of this cervical cancer cannot be caught in its early stages, and when women do decide to attend a doctor, in most cases it is too late.

How cervical cancer is medicated and portrayed

Developed vs. Developing countries (part 3)

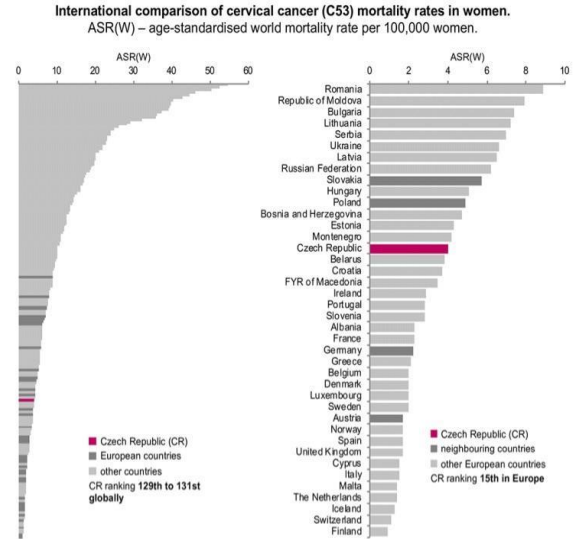
- Not only is cervical cancer portrayed differently it is medicated differently as well. In developed countries cervical cancer has lots of adequate treatments and your chance of survival is much higher, while in developing countries there are not lots of options. In developing countries women aren't treated at all, they are not treated properly, or not treated in time. Some treatments for cervical cancer include: Radical Hysterectomy (surgical removal of the cervix, uterus, and surrounding tissue known as the parametrium), radiation therapy usually with a combination of chemo, a cone biopsy, external beam radiation therapy, and many more.

How cervical cancer is medicated and portrayed Developed vs. Developing countries (part 4)

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- In conclusion, women in developing countries don't get as many options and are not properly educated about these things, while in developed countries they are more fortunate and are aware of their situation. Luckily, there are many organizations to help women in developing countries to be educated about this topic. This is how cervical cancer is different in developed vs. developing countries.

Cervical cancer statistics

- Each year, cervical cancer affects 490,000 new women with more than 270,000 deaths worldwide. 85% of women dying from the cancer reside in developing countries.
- The main cause of cervical cancer is HPV or human papillomavirus, and HPV types 16 and 18 accounts for 70% of cervical cancer cases although some regional variations exist.
- HPV is a very common infection among women, and it is estimated that up to 70% of women will get HPV in their lifetime.

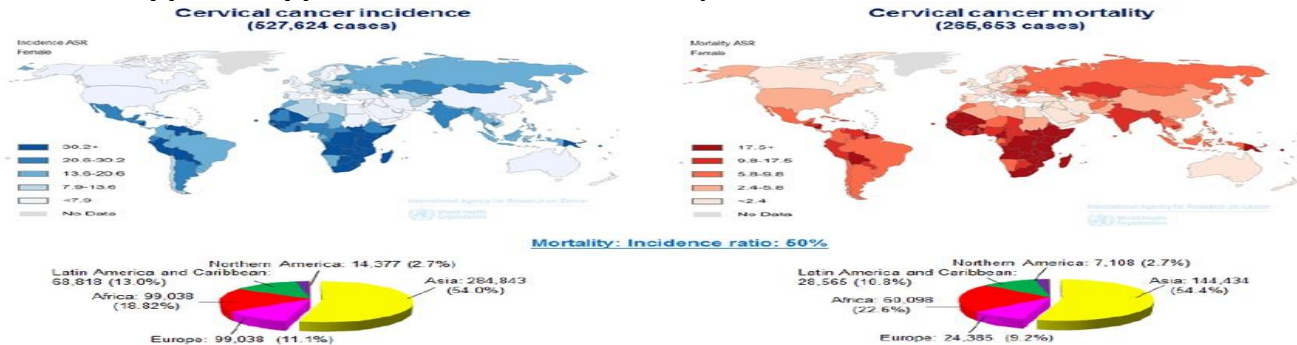


Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2018). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed on 4 October 2018.



Statistics

Cervical cancer incidence is highly concentrated in the southern part of the hemisphere. The highest concentration of cervical cancer would be in central South America (constituting of about 71,000 cases a year), sub-Saharan Africa (constituting of 78,000 a year), followed by India and Southeast Asia (260,000 cases occurring in a year). The lowest incidence for cervical cancer occurs in North America, Europe, and Australia. This is a result of programs which aim to attract women for cervical cancer screenings (such as Pap smears and subsequently identify precancerous cells which are treated to protect the women from getting cervical cancer)

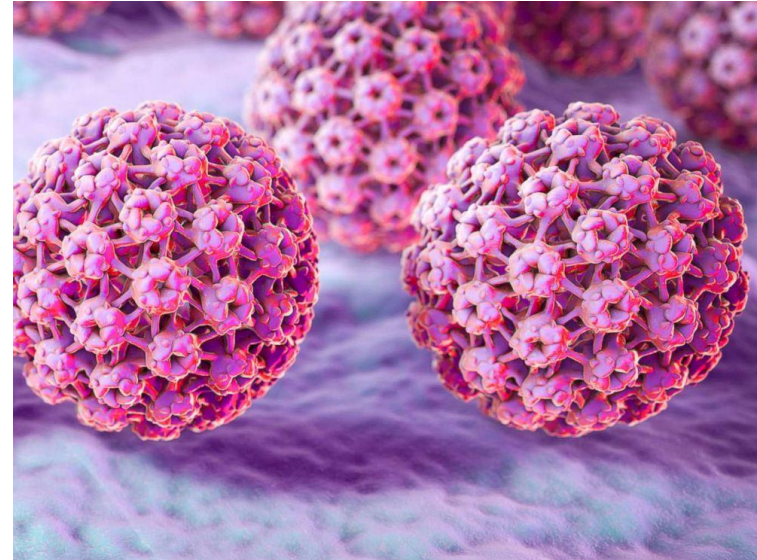


Statistics

Age-specific cervical cancer mortality rates per 100,000 women show us another difference between countries that are developed vs. less developed countries. Almost five times more women were dying in the less-developed countries compared to the developed countries between the ages of 45 and 54. The same pattern is replicated among women 55 to 64 years of age and this pattern really is a typical example of health care delivery systems whereby in the less-developed countries things like surgical care, radiotherapy, and chemotherapy are less available to women with cancer compared to their counterparts in developed countries.

HPV Vaccine

- HPV stands for Human Papilloma Virus
- There are over 100 types of HPV, 14 which are cancer causing
- HPV 16 and 18 are the cause of 70% of cervical cancer cases
- Vaccines can be used to prevent being infected with HPV and thus, being diagnosed with cervical cancer
- HPV is sexually transmitted
- HPV cause precancerous lesions that can develop into invasive cervical cancer
- It can take 15-20 years to develop



- In some under developing countries, women (and men) may be scared to open up about their disease, and that can increase the risks of HPV
- When in a higher economic status, people have benefits that can reduce the risks of HPV, such as a better healthcare system, better environment, and access to quick medical care
- Ethnicity can give a hint on the region you live in, and what your environment is like. It can predict the access you have to medical care and your risk of HPV
- Higher rates of cervical cancer and HPV are commonly found among low income and racial or ethnic minority women
- Some poor or minority women face more barriers to healthcare access, therefore higher rates of cervical cancer are found in regions with large minority and impoverished populations
- African Americans (AA) have higher rates of HPV infections than do others of other racial/ethnic groups, which increases the importance of early HPV vaccination for young AAs.

- Other forms of developing cervical cancer that are not from HPV consist of:
 - Excessive sexual encounters
 - Smoking
 - Use of birth control pills over a long period of time
 - Engaging in early sexual contact
- Ways to reduce risk of Cervical cancer
 - Limit sexual encounters
 - Limit smoking or completely stop smoking
 - Speak to a professional about the use of contraceptives and which one can be used, and which shouldn't
 - Refrain from engaging in sexual contact until a mature age
 - Visit your OB/GYN at the slightest suspicion, and be an active tester. The faster you detect any abnormalities, the faster your recovery will be.

Resources

1. <https://www.mayoclinic.org/diseases-conditions/cervical-cancer/symptoms-causes/syc-20352501>
2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1071564/>
3. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4751981/>
4. <https://www.cdc.gov/cancer/hpv/statistics/race.htm>[https://www.clinicaltherapeutics.com/article/S0149-2918\(13\)01070-9/pdf](https://www.clinicaltherapeutics.com/article/S0149-2918(13)01070-9/pdf)