

Gynecological Cancer: Preventive Aspects

R. Beutlin MSc (N)¹, Dr. Sisy Jose MSc (N), Ph. D (N)²

¹Associate Professor, Obstetrics and Gynaecology Nursing Department, The Salvation Army Catherine Booth College of Nursing, Nagercoil

Corresponding author Email: [beutlinlal\[at\]gmail.com](mailto:beutlinlal[at]gmail.com)

²Associate Professor, Obstetrics and Gynaecology Nursing Department, Government College of Nursing, Medical College, Kottayam

Abstract: *Gynecological cancer is any cancer that occurs in the female reproductive system. It includes ovary, endometrium, cervix, fallopian tubes and vagina. The common cancers are ovarian cancer, endometrial cancer and cervical cancer. Ovarian cancer is one of the most challenging gynecological cancer, which has a profound negative effect on the quality and length of life because more than 70% of ovarian cancer is diagnosed at the advanced stage. Endometrial cancer is the sixth common cancer in women and commonly prevalent in high income countries. The rise is mainly attributed to the changing trends in the lifestyle and reproductive profile of women especially in urban areas. Cervical cancer is the commonest cause of cancer death among women in developing countries. Majority of the cervical cancer is because of Human Papilloma Virus (HPV). It is the preventable cancer as it has vaccination against HPV. Prevention is better is than cure. The preventive aspects includes vaccination, screening, breastfeeding, healthy lifestyle (diet, exercise, quitting smoking and alcohol), hygienic practices (sexual hygiene, menstrual hygiene). Practicing these preventive aspects in their daily life reduces the risk of developing cancer.*

Keywords: Gynaecological cancer, prevention, HPV Vaccination, Screening, sexual hygiene, menstrual hygiene.

“Prevention is better than cure”

1. Introduction

Gynaecological cancers are cancers rising from female reproductive tract. It includes the cervix, endometrium, fallopian tubes, ovaries, uterus, and vagina. Gynaecological cancers begin in the female reproductive organs. The most common gynaecologic cancers are endometrial cancer, ovarian cancer and cervical cancer. Less commonly gynaecologic cancers involve areas like vulva, fallopian tube, uterine wall (sarcoma), vagina, and placenta.

Cervical cancer:

Cervical cancer ranks fourth as the most common cancer among women globally. It is estimated that 604 000 new cases and 342 000 deaths had occurred in 2020. Around 90% of the newly diagnosed cases and deaths occurred in low - and middle - income countries worldwide. In 2022 it is estimated that every year 123907 women are diagnosed with cervical cancer and 77348 die from the disease. In India Cervical cancer ranks second most frequent cancer among women and the second most frequent cancer among women between the age group of 15 and 44 years.

There are more than 14 high risk HPV strains are available in which Human papillomavirus (HPV) types (16 and 18) are responsible for nearly 50% of high grade cervical pre - cancers. Through sexual contact HPV is mainly transmitted. Greater part of the people is infected with HPV soon after the onset of initial sexual activity.90% of the HPV infected persons clear the infection eventually. HIV infected women are 6 times more likely to develop cervical cancer compared to women without HIV.

Cervical cancer is associated with sexual behaviors such as poor genital hygiene, menstrual hygiene, early age of marriage and pregnancy, unsafe sex, multiple sexual

partners, and repeated pregnancies. Cervical cancer is a preventable cancer. HPV vaccination helps to prevent infection as it is the main reason for causing cervical cancer. Apart from vaccination, screening procedures are also available to detect cervical lesions in its early stage.

Endometrial cancer:

Endometrial cancer is the sixth common cancer in women and commonly prevalent in high income countries. Highest incidence in North America, Central and Eastern Europe with lowest incidence in Middle and Western Africa. Worldwide, there were over 0.3 million cases of ovarian cancer in 2020, almost 0.2 million deaths, and more than 0.8 million women are presently living after 5 years of diagnosis [1].

The increase in the diagnosis and death rate is due to the changing trends in the lifestyle and reproductive profile of women especially in urban areas. The majority of cases are present in 6th and 7th decade of life with the mean age of diagnosis being 60 years. Endometrial cancer is associated with increase in the level of estrogen, nulliparity, family history, obesity and insulin resistance, tamoxifen therapy, fibroids and hyperplasia in endometrium.

Ovarian Cancer:

Ovarian cancer is one of the most challenging gynecological cancers, which has a profound negative effect on the quality and length of life because more than 70% of ovarian cancer is diagnosed at the advanced stage. Globally, in 2020 there were over 0.3 million new cases, 0.2 million deaths, and more than 0.8 million women were presently living after five years of diagnosis. The number of newly diagnosed cases is expected to further rise by 0.4 million/year by the year 2040 with corresponding raise in deaths.

Ovarian cancer incidence is between 5.4 – 8/100000. The risk starts increasing from age 35 and reaches a peak between 55 – 64 years.

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Ovarian cancer has the worst prognosis with a 5 - year survival rate of 45%. The reason is most often it is diagnosed in Stage III or IV and there is no definite symptoms related to early stage diseases. There are no effective screening procedures because the exact cause of ovarian cancer is unknown. However ovarian cancer is associated with Parity, duration of ovulation, hormonal factors, dietary factors (high fat diet), and usage of talcum powder in the genital area.

Prevention of Gynecological Cancer

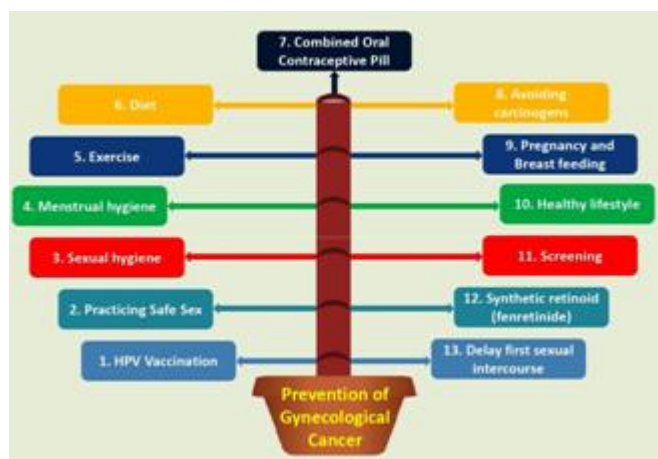


Figure 1.1: Prevention of Gynecological cancer

1) HPV Vaccination: HPV vaccination is the primary prevention of cervical cancer. Vaccination should be done for girls between the age group of 9 - 13 years or before the onset of sexual activity. The vaccine available is quadrivalent type and the name is Gardasil. The dose is 0.5ml and given intramuscularly. It is given as two doses over six months' interval for adolescents and for adults it is three doses. It is contraindicated to pregnant women, girls less than 9 years of age and allergic to vaccine. After vaccination the beneficiaries should be monitored for 15 minutes to detect side effects. The Government of India in partnership with Serum Institute of India launched a quadrivalent vaccine named Cervavac in September 2022. Cervavac will be priced at INR 200–400 per dose, considerably less than available HPV vaccines.

2) Practicing Safe Sex: Practicing safe sex using condom can reduce the risk of contracting HPV and sexually transmitted diseases. Practicing sex safely extensively reduces the risk of cancer by preventing exposure to the virus. Regular condom use (oral, vaginal, anal) is still considered the best means of preventing STDs like HPV and HIV. Think twice or thrice before beginning sexual relations with a new or unknown partner and limit sexual contact with only one person. Have a regular check on the self and partner's body for any signs of a sore, blister, rash or discharge. Sexual activities that does not involve the exchange of body fluids and contact between mucous membranes can be considered.

3) Sexual hygiene: It refers to the intimate hygiene factors that play a major role during, and after any kind of sexual activity. Sexual hygiene plays a key role to maintain good

intimacy and overall health of an individual and partner. A poor hygienic practices in sex has a deleterious effect on sexual act and on the health of the partner involved in the act. Sexual hygiene includes,

- For women it is essential to inform the direction of washing the genitals from vagina to anus to prevent the transfer of germs.
- For uncircumcised men, pull back the foreskin of the glans penis and gently wash with warm water. Special attention should be given to the inner skin of the foreskin, because it is susceptible to bacteria and dead cells and body fluids.
- Maintain hand hygiene before and after sex to prevent transfer of germs and bacteria.
- Trim the hair in the private parts. Do not shave hair in private parts.
- Avoid sexual contact during menstruation.
- Avoid oral sex if the partner has sores around the mouth or near the genitals.

4) Menstrual hygiene: Hygiene during menstruation or between menarche and menopause. Globally it is central to the women empowerment and well - being of women and girls. Tips to maintain menstrual hygiene,

- For every 4 - 6 hours napkin has to be changed. If cloth is used make sure to dry in direct sunlight and cloth has to be changed every 4 - 6 hours.
- Wash the genital area with clean tap water. Dry the area immediately. Do not use soap, deodorant, powder, sprays etc.
- Wear cotton undergarments. Change it daily, wash it properly and dry in direct sunlight.

5) Exercise: Exercising regularly reduces the risk of gynecological cancer. Exercising for 30 minutes every day decreases the risk (American Institute for Cancer Research). Staying active throughout the day help to feel better and reduce the risk for diseases like cancer. Exercise reduces the risk for cancer because,

- It helps to maintain a healthy weight. Being overweight or obese is linked to different types of cancer.
- It helps to regulate hormones. Increased levels of some hormones can increase the cancer risk.
- It supports healthy digestion and may reduce the number of toxins in the body.

6) Diet: Foods that provide Vitamin D and Vitamin A reduces the risk of developing gynecological cancer. Foods like beans, eggs, nuts, carrots, turmeric, cumin seeds, flax seed, cinnamon; citrus fruits, berries, olive oil and vegetables reduce the risk of cancer. A diet with elevated meat and animal fat increase the risk of ovarian cancer by up to 50 percent, while a diet with enormous amount of fruits and vegetables did not possess the risk. Animal fat seize a greater risk compared to plant - sourced fat.

7) Combined Oral Contraceptive Pill: OCP usage reduces the risk of familial and hereditary cancer. Decreased ovulation may be its main mechanism but progestational components of OCPs may also exert independent protective effects, including apoptosis on epithelial cells.

8) Avoiding carcinogens: Carcinogens are substances that are capable of causing cancer. Using substances such as talcum powder, vaginal deodorants in the genital area increases the risk of developing gynaecological cancer.

9) Pregnancy and Breast feeding: Women given birth atleast to one child before the age of 30 have a lower risk for developing gynecological cancer. As the parity increases the risk of developing ovarian cancer decreases. But as the parity increases the risk of developing cervical cancer increases. Breast feeding exclusively for six months benefits both mother and baby. It reduces the risk by preventing ovulation. Less the number of ovulation, the less exposure to estrogen and abnormal cells that transforms as cancer.

10) Healthy lifestyle: Health lifestyle includes exercise regularly and maintaining a healthy diet pattern reduces the risk. Quit tobacco chewing, smoking and alcohol consumption because it decreases the risk of developing gynecological cancer.

11) Screening: Screening helps in early detection. If cancers are identified in the early stages it can be treated and cured. Performing genetic screening for BRCA 1 and BRCA 2 for women with high risk for ovarian and breast cancer. Do annual mammographic screening for women with strong family history of breast cancer. Perform cervical cancer screening for every 3 to 5 years. Cervical cancer is a preventable cancer. Cervical cancer screening is done with pap smear, visual inspection with acetic acid or visual inspection with lugols iodine. Consult an obstetrician if unusual signs and symptoms appear. Don't hesitate even when minor problems occurs. If obstetrician is not available approach any health care personnel.

12) Synthetic retinoid (fenretinide): It protects women from gynecological cancer because it has anti - tumor activity. The mode of action is retinoid receptor - complexes will be binding to a selective region of nuclear DNA and regulating the gene expression, which involves protein synthesis. Therefore, modulating the relevant gene signaling pathways is able to inhibit the proliferation of cancer cells and the growth of tumors

13) Delay first sexual intercourse: It is better to avoid intercourse during teenage to prevent sexually transmitted diseases and occurrence of cervical cancer because HPV is transmitted through sexual intercourse.

2. Conclusion

Gynaecological cancers are among the most common cancers affecting women. Increase in the burden project it as an important public issue. The burden is due to the lack of cancer awareness, variable pathology of the cells, and lack of proper screening facilities and techniques, reporting at advanced stages thereby adversely affecting their prognosis and clinical outcomes. Many researchers in India have published important data in the field of gynaecologic oncology, covering all domains such as incidence, etiology, pathology, diagnosis, management and prognosis. Hence concentrating more in early detection and preventive aspects

helps to decrease the disease burden in the community thereby builds a better and healthy nation.

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