

# Radiation induced symptoms in gynaecological malignancies



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## CHAPTER I

### INTRODUCTION

Cancer is a condition where a specific part of the body cells grow and reproduce uncontrollably . The Cancerous cells invade and destroy the surrounding healthy tissues , including organs .( National Health Service, 2005).

Gynaecologic Cancers are the uncontrolled growth of cell and spread abnormally in the female reproductive organs, including the cervix , ovaries , uterus , fallopian tubes, vagina and vulva .(American Cancer Society, 2004).

Gynaecological cancer is the fourth most common type of cancer among women and annually it affects approximately 1 in 20 women. It is a frequent group of malignancies in women, which accounts approximately 18% of all female cancers Worldwide. The most common gynaecological cancers in women are cervical, endometrial and ovarian cancer, vaginal and vulvar cancers are rare. (Goker et al, 2004)

Cervix, which is the lowest part of the uterus there the cervical cancer is starting. Where in Uterine or endometrial cancer it starts from the uterus. The uterus is a pear shaped organ in a women's pelvis where the baby grows when a women becomes pregnant. Ovarian cancer begins in the Ovaries. Ovaries are located on each side of the uterus. Vaginal cancer starts in the vagina, which is a hollow organ, outside of the body and called birth canal and vulva is the outer part of the female genital organs that includes the

inner and outer lips of the vagina, the clitoris, and the opening of the vagina and its glands where it starts cancer namely vulval cancer. (Kearney, 2006)

Women are at risk for Gynecological Cancer, the risk factors include increasing age, strong family history, problems with gene mutation , multiple sex partners, exposure to hormones such estrogen pills , exposure to diethylstilbestrol in the womb, viral infection such as human papilloma virus, life style factors such as smoking and overweight . (Gynecological Cancer foundation Women's centre, 2002).

National Health Service (2004) , reported that the symptoms of Gynecological Cancer depends on where the tumor is situated, the size of the tumor and how quickly it is growing. The symptoms include abnormal or persist vaginal bleeding, bleeding after menopause and bleeding after sex, unusual vaginal discharges, pelvic pain , pressure or discomfort in the abdomen, swelling of the abdomen, change in bowel or bladder habits, pain during sex, itching, burning or soreness , lumps or warts like growth in the vulval area .

Gynaecological cancer can be treated depending on the stage, type of the disease, the severity of symptoms and the women's general health.

Treatment mostly involves surgery to remove tumor by determining its stage. Radiotherapy, chemotherapy and hormonal therapy, may also be used to treat the Gynaecological cancers. (National Health Service, 2004).

Cervical cancer accounted new cases for 493, 000 and 273, 000 will be dying, in which uterine cancer 199, 000 new cases and death was 50, 000.

Considering the ovarian cancer 204, 000 new cases and 125, 000 deaths.  
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Regarding vagina, vulva and choriocarcinoma together constituted 45,900 cases. Cervical cancer occurred 60% in the developing countries whereas in developed countries two thirds of it is uterine cancer. (Sankarnarayanan and Ferlay, 2006).

Cervical cancer is the third most common gynaecological cancer in the USA and second most common cancer among women worldwide. In Indian scenario annually, 132,000 new cases are diagnosed, and 74,000 deaths occur. The incidence rises during 30-34 years of age and peaks at 55-65 years with a median age of 38 years. It is mainly caused by HPV, multiple sex partners, use of contraceptive pills. The common signs are bleeding from the vagina before or after intercourse, pelvic pain during sex and Pap smear test used for diagnosis. The treatment options are surgery, chemotherapy and radiation therapy. (Karthikeyan, 2012).

Endometrial cancer is the sixth most common malignancy among females worldwide and fourth most common cancer in developed countries with an estimated incidence of 288,000 new cases in the year of 2008. It occurs in the age group of 50 years with a median age group of 63 years. The risk factors are Obesity BMI (> 30), long Lasting endogenous or exogenous, hyperestrogenism (polycystic ovary, tamoxifen therapy, anovulation, null parity), hypertension. Hysterectomy surgery, radiation therapy both external and internal combined with chemotherapy are management for treating the endometrial cancer. (Colombo et al, 2006)

Radiotherapy plays a key role in the treatment of patients with cancer in European countries. It is used for treating the palliative symptoms.

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Sometimes it may be combined with chemotherapy, surgery and hormone therapy for effective outcome. (Richardson, 2006).

In the last century, radiation has been successfully used as primary and adjuvant treatment in the management of gynaecological malignancies . It is anticipated that the radiation therapy will continues as an integral component in the treatment of cervical, endometrial , vulvar, and vaginal carcinoma. (Bradley, 2006)

Radiation therapy to any site in the pelvis can cause damage to many adjacent structures. The problems when treating pelvic areas include urinary problems such as pain or burning on micturition, increased frequency, and urgency of passing urine, incontinence or leakage and nocturia 23 % to 80%. Gastrointestinal effects such as nausea and vomiting, diarrhea and proctitis can occur as a result of the radiation therapy. 86% of the women receiving pelvic radiation therapy have these symptoms. Sexuality and fertility problems frequently affect men and women following pelvic radiotherapy (Kearney, 2006).

Advances in the treatment of gynecological cancer had extended the duration of survival of many patients. However , these patients frequently experience a variety of treatment and disease - related side effects that diminish their quality of life during and after treatment ; because of pain , nausea and vomiting, anemia , fatigue , peripheral neuropathy , emotional distress , and sexual dysfunction . Therefore, it is important to monitor the Quality of Life during the course of the disease and its treatment. (Wenzel, 2002).

Gynaecological malignancies receiving radiation therapy, experience more symptoms like fatigue, nausea and vomiting, constipation, radiation cystitis and stomach upset. Therefore, it needs prompt identification and management. (Cancer. net. com, 2012).

Barbara, (2004) reported more than 60% of all clients with cancer receive radiation therapy at some point during the course of disease. It can be used as a primary , adjuvant , or palliative treatment modality . the radiation therapy is the only primary modality of treatment used to achieve local cure of the cancer . As the adjuvant radiation therapy can be used either pre - operative or post operative to aid in the destruction of cancer cells. Chemotherapy also can be combined with radiation therapy and is administered before the Radiation therapy close in order to potentiate the effects of radiation therapy and as a palliative treatment modality to relieve pain caused by obstruction , pathologic fractures, spinal cord compression and metastasis

Rebecca (2011) reported that during 20<sup>th</sup> century nearly 60% of cancer patients received radiation therapy aimed at the specific area where the tumor was located. Radiation usually given daily 5 days per week for 5 to 8 weeks. Daily treatment lasts about 15 to 30 minutes. It may be delivered externally or internally. Those with cervical or endometrial cancer, receive both external and internal radiation therapy.

Henry. et al (2008) carried out the study, which examine the prevalence side effects and related treatment burden among cancer patients receiving chemotherapy or radiotherapy. The study design was cross sectional survey,

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63, 949 cancer patients were included. Data were collected regarding type of cancer, time since diagnosis, side effects of treatment, visits, caregiver burden, missed workdays and socio demographic characteristics. The result of the study showed that the patient experienced side effects were fatigue (80%), pain (48%), and nausea and vomiting (48%). They concluded symptomatic experienced, reported by a patients is considerable time burden during treatment. It is important to consider supportive care strategies that may effectively reduce side effects and their associated treatment burden.

#### NEED FOR THE STUDY

Cancer is a group of disease characterized by uncontrolled cell growth and spread of abnormal cell. The uncontrolled growth damages or mutations occur in the DNA. In our world, more than 100 types of cancer are existing. It is classified according to the type of cell that is initially affected in the body such as squamous cell carcinoma, adenocarcinoma, and transitional cell carcinoma etc., (Yarbo. et al, 2005).

Gynaecological cancers estimated surveillance in 2013 in which, those 91, 730 women will be diagnosed and in which, 28, 080 will die from her disease. About cervical cancer, 12, 340 were new cases and 4, 030 were estimated deaths. In uterine cancer, estimated new cases 49, 560 and 8, 190 deaths, regarding ovarian cancer 22, 240 were new cases and 14, 030 deaths occur and in Vaginal and Vulvar cancer 2, 890 found new cases and 840 deaths occur. (American cancer society, 2013).

In India about more than 10 lakhs people are affected by cancer among them one third is dying every year. The incidence of cancer will be increased by five times in the year of 2025. In the year of 2012, more than 5.55 lakhs people have died due to cancer in India. (Indian council for Medical Research, 2012).

Gynaecological Cancer is the cancer of the female reproductive system, which includes cervical cancer, endometrial or uterine cancer, ovarian cancer, vaginal cancer, vulvar cancer, other types include fallopian tube cancer and placenta cancer, primary peritoneal cancer. (Gynecological Cancer foundation Women's centre, 2002).

Cancer has become an important public health problem with over 800,000 new cases occur every year in India. It is the one of the ten leading cause of death. The incidence estimated to be around 70-90 /100,000 population. Cancer registries have also highlighted that more than 80% of cancer in females occur in the age group of 35-64. Nearly 1,500,000 people require facilities, treatment and follow up at given time. About 50-60% of all cancers among women in India are related mainly to the four organs; namely, cervix, uteri (endometrial), corpus uteri and ovaries. (Uma Devi, 2009).

Radiation therapy is an important therapeutic management for treating the Gynaecological malignancies. The evidence based treatment guidelines, epidemiologic analysis suggests that radiation therapy is indicated 60% for cervical cancer patients, 45% for endometrial cancer patients, 35% of vulvar cancer patients, 100% to the vaginal cancer patients, 5% of patients with ovarian cancer. (American cancer society, 2013)

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Radiotherapy is the one of the main treatment options for patients with cancer. One-half of all patients with cancer receive radiation therapy during the course of the disease. It can be administered from a variety of sources. It can be divided into those outside the body called external beam radiation or teletherapy and, those inside the body or close to the surface of the body is known as internal radiation or intra cavity radiation or brachytherapy . These patients have their special needs and using inclusive of the concept of holistic care. (Ramsharan Mehta, 2007).

Women with gynecological malignancies undergoing radiation therapy on the pelvic area may affect more in physical and sexual wellbeing. Radiation side effects such as nausea and vomiting, diarrhea, constipation, fatigue, urinary problems and sexually depression. We nurses are the person in a position do the necessary assessment, identify the problems, and provide quality of care in order to relief from the symptoms. (Ram sharan Mehta, 2007)

Dunberger & Bergmark (2012) stated that majority of cancer patients treated for gynecological, rectal and anal cancer suffer from physical symptoms such as bowel problems, the urinary bladder and the genitals. They supported the nurses are important role in managing these side effects with rehabilitation programme.

I have seen in my clinical posting many of the patients receiving radiation therapy for cancer treatment. In which, Woman who are undergoing radiation therapy for gynecological malignancy in that majority of them diagnosed as cervical and endometrial cancer. They have undergone both external and internal radiation therapy. However, during the course of the

treatment they apparently faced many side effects from the radiation source in which it affect the overall quality of life and disrupt the daily activities.

Most of the woman told mainly they have physical symptoms such as fatigue, nausea and vomiting, insomnia, anorexia, bowel incontinence, urinary problems, vaginal problems, and emotional upset. Therefore, they need to be addressed and provide the quality nursing care to reduce the symptoms experience. Nursing strategies implemented during the radiation therapy treatment help them to get rid of radiation-induced symptoms. Nurses are the experts in identifying the symptoms and providing best quality of care to relieve the symptom experienced by the patients.

#### STATEMENT OF THE PROBLEM:

A study to assess the Radiation Induced Symptoms and execution of Nursing Strategies among patients with Gynaecological Malignancies at KMCH, Coimbatore.

#### OBJECTIVES:

The objectives were to,

- assess the Radiation Induced Symptoms of patients with Gynaecological Malignancies.
- determine the effectiveness of Nursing Strategies on Radiation

Induced Symptoms among patients with Gynaecological Malignancies.

#### OPERATIONAL DEFINITION:

Radiation Induced Symptoms:

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It refers to the symptoms, which include pain, fatigue, nausea and vomiting, loss of appetite, insomnia, diarrhea, abdominal cramps, urinary incontinence, urgency, and vaginal problems that will be assessed by radiation induced symptoms assessment questionnaire.

#### Nursing Intervention:

Independent and collaborative nursing measures will be taken and direct to manage the Radiation Induced Symptoms such as pain, fatigue, nausea and vomiting, diarrhea, abdominal cramps, urinary incontinence, urgency, vaginal problems and psychosexual problems.

#### Radiation Therapy:

Radiation therapy is the one of the cancer treatment strategies by using external and internal radiation therapy to kill the cancer producing cells in the body.

#### Patients:

Patients with gynaecological malignancies such as cervical cancer, uterine cancer (endometrial), who are undergoing radiation therapy.

#### HYPOTHESIS:

H<sub>1</sub> : There is a significant difference between radiation-induced symptoms before and after execution of nursing strategies.

#### ASSUMPTIONS:

- Patients who receiving radiation therapy for gynaecological malignancies are developing radiation induced physical symptoms.
- Nursing strategies reduce the symptoms experience.

## CONCEPTUAL FRAMEWORK

Conceptual framework act as a building block for the research study. The overall purpose is to make research finding meaningful and generalisable. It deals with abstractions that are assembled by virtue of their relevance to a common theme (Polit and Hungler). Conceptualizations are a process of forming ideals, which are utilized for the development of research design. It helps the researcher to know what data is to be collected and gives direction to an entire research process. It provides certain framework of reference for clinical practice and research.

Nursing is complex field of study with a need for practical and hands- on training as well as knowledge of the theoretical and the historical basis. Conceptual framework for this study was developed based on Ernestine Wiedenbach's clinical nursing practice. She proposed her theory in 1970. This theory helps the nurse to guide practice and identify activities to help the patient the situation.

## Elements of Nursing

According to Wiedenbach, there are four essential components to the field of nursing:

### 1. Philosophy of nursing

Philosophy of nursing includes the attitudes and beliefs about life, the nurse maintains and how these beliefs affect the reality. Philosophy leads the nurse to act in a certain way to improve the patient outcome.

## 2. Nursing purpose

The purpose of nursing includes what a particular nurse wishes to accomplish through the profession and the activities that are directed to the overall good of the Patient.

## 3. Nursing Practice

The practice of nursing involves identifying and administering the required needs of a patients and determining whether the actions were helpful to the patient.

## 4. Art of Nursing

Wiedenbach encouraged nurses to see nursing as an art, which includes understanding whether those actions are helpful to the patient.

- Wiedenbach's view of nursing as an art based on goal directed care.
- Wiedenbach's vision of nursing closely parallels the assessment,

implementation and evaluation of the nursing practice.

- According to wiedenbach, nursing practice consists of identifying a patient's

need for help, ministering the needed help and validating that the need for help was met.

- According to her factual and speculative knowledge, judgment and skills are

necessary for effective nursing practice.

`This theory consists of three factors: central purpose, prescription and realities. A nurse develops a prescription based on a central purpose and implements it according to the realities of the situation. According to wiedenbach's central purpose is the overall goal towards which a nurse strives. Prescription refers to the plans of care for a patient. Realities refer to the physical, physiological, emotional and spiritual factors that come into play in a situation involving nursing actions.

The attributes adopted in this study are,

Central purpose:

The central purpose of this study is to assess the radiation induced symptoms and execution of nursing strategies among patient with Gynaecological Malignancies.

Prescription:

The investigator plans the prescription that will fulfill the central purpose by identifying various needs to achieve the goal. Thus, the investigator prepared nursing strategies for symptoms such as pain, fatigue, nausea and vomiting, appetite loss, bowel problems, urinary problems and vaginal problems.

Realities:

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The five realities identified by Wiedenbach are agent, recipient, goal, means and framework.

1. Agent - Investigator.
2. Recipient - Gynaecological patients receiving radiation therapy.
3. Goal - Reduces the symptom experience level and feel comfortable.
4. Means - Nursing strategies.
5. Framework - Radiation oncology department in KMCH.

Identification:

This includes identification of radiation-induced symptoms, the need for nursing strategies and its effectiveness on the symptom experience among Gynaecological Malignancies patients.

Ministration:

Ministration refers to the administration of nursing strategies for reduce the radiation induced symptoms such as pain, fatigue, nausea and vomiting, nutritional imbalances, bowel problems, urinary problems and vaginal problems among patients with gynaecological malignancies.

Validation:

It concerns the evaluation of the effectiveness of nursing strategies on radiation-induced symptoms among patients with gynaecological malignancies. A positive outcome represents patients had markedly decreased symptoms experience.