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RESEARCH ARTICLE

PREVALENCE AND CAUSES OF CERVIX CANCER AMONG WOMEN OF AGE (35-45 YEARS) BELONGING TO REGION OF DELHI (NCR)

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ABSTRACT

Cancer is the third leading risk for global deaths. At least 2.8 million adults die each year as a result of being cancer victim. World Health Organization (WHO) further projected that by 2015 approximately 700 million individuals, both young adult males and females were survivor of cancer. Cancer is a condition that results from proliferation and abnormal division of body cells, which interferes with proper functioning of the body and has undesirable systematic effects. Although cancer is a condition or a disease which cannot be cured by diet. Drugs, chemotherapy, radiotherapy and removal of cancerous cells from the body through surgery play an important role in treatment of an individual suffering from the disease. But as a result of these drugs, the body of the suffering patient gets totally deteriorated; let it be in terms of immunity, body fatigue, and energy or food intake. Thus, to prevent and cure such side effects to an extent, it is of utmost importance to keep the patient nutritionally fulfilled. This goal can be only achieved by supplying the patient with every nutrient (carbohydrates, proteins, fats, vitamins, minerals) through diet. The present study was carried out on fifty women of age 35 – 45 years who were suffering from cervix cancer belonging to region of Delhi – NCR. The dietary history subjects were calculated by seven day recall method. Then the General Information and Medical history of the subjects was collected by interview cum questionnaire method. The causes of cervix cancer were found by questionnaire method. The nutritional education was imparted to patients to lessen the side effects of treatment.

INTRODUCTION

Cervical cancer is a cancer arising from the cervix. It is due to the abnormal growth of cells that have the ability to invade or spread to other parts of the body (Medline Plus, 2015) Cervix is the lower part of the uterus, the place where a baby grows during pregnancy. Cervical cancer is caused by a virus called HPV. The virus spreads through sexual contact. Most women's bodies. Early development shows typically no symptoms. Later symptoms may include abnormal vaginal bleeding, pelvic pain, or pain during sexual intercourse (NCI, 2014). While bleeding after sex may not be serious, it may also indicate the presence of cervical cancer (Tamey *et al*., 2014). Treatment may include surgery, radiation therapy, chemotherapy, or a combination of both. The choice of treatment depends on the size of the tumor, whether the cancer has spread and whether the patient is planning pregnancy (Medline Plus, 2015). Worldwide, cervical cancer is both the fourth-most common cause of cancer and the fourth-most common cause of death from cancer in women. In 2012, an estimated 528,000 cases of cervical cancer occurred, with 266,000 deaths. This is about 8% of the total cases and total deaths from cancer. About 70% of cervical cancers occur in developing countries. In low-income countries, it is the most common cause of cancer death (WHO, 2014). Human papillomavirus (HPV) infection appears to be involved in the development of more than 90% of cases.

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(Kumar *et al*., 2007). Most people who have had HPV infections, however, do not develop cervical cancer. (Dunne, 2013) Other risk factors include smoking, a weak immune system, birth control pills, starting sex at a young age, and having many sexual partners, but these are less important. (NCI, 2014).Cervical cancer typically develops from precancerous changes over 10 to 20 years. About 90% of cervical cancer cases are squamous cell carcinomas, 10% are adenocarcinoma, and a small number are other types. Diagnosis is typically by cervical screening followed by a biopsy. Medical imaging is then done to determine whether or not the cancer has spread (WHO, 2014). In developed countries, the widespread use of cervical screening programs has dramatically reduced the rates of cervical cancer (Canavan, 2000). Malnutrition can also be a consequence of cancer itself or a result of chemotherapy. Nutritional support aims to reverse malnutrition seen at diagnosis. The aim should be to prevent malnutrition associated with treatment and promote weight gain and growth (Ward *et al*., 2015).

Review of Literature

The review of literature of the topic of research is not confined to India only, as cervix cancer is an epidemic that has spread all over the world (WHO, 2000). Cancer is a disorder that has become very common among the population since the last decade. Vaccines can protect against several types of HPV, including some that can cause cancer (Medline Plus, 2015). Vaccines have been developed that prevent infection by some

carcinogenic viruses (National Cancer Institute, 2006). Human papillomavirus vaccine (Gardasil and Cervarix) decreases the risk of developing cervical cancer. Invasive cervical cancer is thought to decline in women over 65 years old, the age at which cessation of routine cervical cancer screening is recommended. The highest corrected incidence was among 65- to 69-year-old women, with a rate of 27.4 cases per 100,000 women as opposed to the highest uncorrected rate of 15.6 cases per 100,000 aged 40 to 44 years (Rositch AF, 2014). The casual role of human papillomavirus infections in cervical cancer has been documented beyond reasonable doubt. The association is present in virtually all cervical cancer causes worldwide. It is the right time for medical societies and public health regulators to consider this evidence and to define its preventive and clinical implications (FX Bosch, 2002). A study carried out in Gujarat, Western India states that oral and cervical cancers are major malignancies in men and women, respectively, in India. This study evaluated occurrence of human papillomavirus (HPV) 16 and 18 infections in oral and cervical cancers to estimate HPV-associated burden of these cancers in the population from Gujarat (Patel *et al*., 2014). Diet low in fruits increased the risk of cervical cancer by 40 percent and low intakes of vegetables increased risk by 16 percent (Steinmaus *et al*., 2000). Studies have shown that tomato products may help prevent cervical and prostate cancer. Consuming large amounts of raw tomatoes reduces its rick 11 percent, and consuming large amounts of cooked tomato products reduced its risk 19 percent (Etminan *et al*., 2004).

Materials and Methods

Locale of the study

The study was conducted on adult females belonging to the region of Delhi and NCR.

Selection of the subjects

Fifty adult females between age group of 35 – 45 years were selected from Delhi State Cancer Institute (East Delhi), and NCR cities including Noida.

All the selected fifty females were suffering from cervical cancer by purposive random sampling.

Prior consent of the subjects was taken before taking every information.

Experimental Plan

Phase I: The phase one includes 50 women of age group 35 – 45 years for the study. For the purpose, field study and medical history as well as assessment were performed as under:

Field Studies: These studies consist of collection of data regarding general information, health record, and assessment of nutritional status by using dietary survey, and anthropometry measurement.

Medical History:- The data related to the past three months of the medical history of the samples was collected and analyzed.

Phase II: In the second phase, the nutritional education to the subjects was imparted, i.e., they were provided with the knowledge of calories, carbohydrates, proteins and fats according to Recommended Dietary Allowances (RDA's) by ICMR.

Development of Questionnaire

A background questionnaire was created and was made filled by the subjects in which they were to give various information like their daily physical activity patterns, eating habits, the number of times they visit a restaurant or eat junk food and other diseases they are suffering from.

Diet Counseling

The diet history of the subjects was collected through a 7 – Day Diet Recall method so as to find out their diet habits.

RESULTS AND DISCUSSION

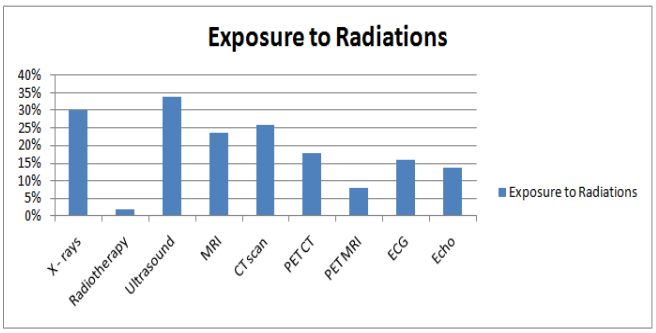

Figure 1. Bar Graph depicting the percentage of Exposure to Radioactive Rays among Cervical Cancer Subjects of Age Group 35 – 45 Years Belonging To Region of Delhi – NCR

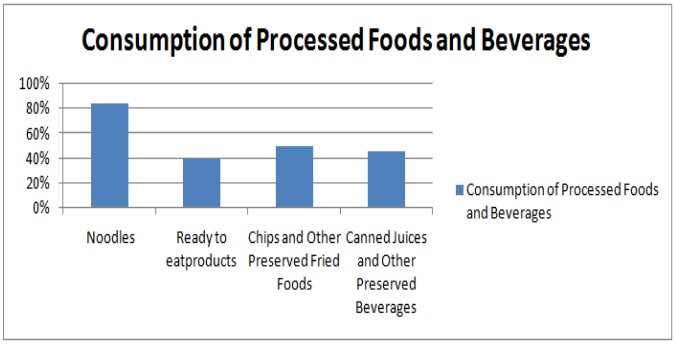

Figure 2. Bar Graph Depicting The percentage of Consumption of Processed Foods and Beverages Among Cervical Cancer Subjects Of Age Group 35 – 45 Years Belonging To Region Of Delhi – NCR

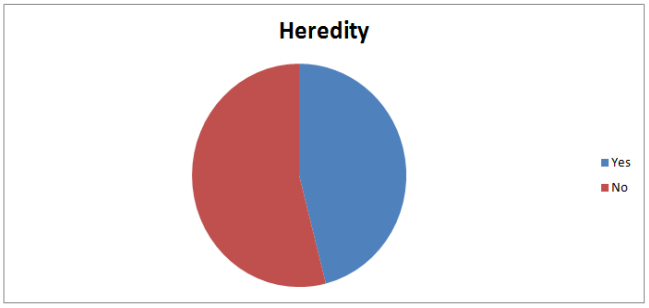

Figure 3. Pie Chart Depicting The percentage of Heredity Of The Disease (Cancer) Among Cervical Cancer Subjects Of Age Group 35 – 45 Years Belonging To Region Of Delhi – NCR

The causes of cervix cancer were found and are as follows: Fig. 1 The major cause of prevalence of cancer in undertaken subjects came out to be exposure to radiations like X – rays, radiotherapy, ultrasounds, MRI (Magnetic Resonance Imaging), CT (Computed Tomography), PET (Positron emission tomography) and ECG (Electrocardiography) scans. These radiations alter the genetic material of the DNA and contact with such radiations in higher frequencies can even change the metabolism of body cells, and hence can turn them into cancerous cells. Fig. 2 The secondary cause of cervical cancer in the subjects could be the frequency of intake of processed foods like noodles and other noodles, ready to eat food products, preserved chips and other snacks and canned fruit juices and beverages. Fig. 3 Another cause of cancer in subjects may include the heredity of the disease, i.e., prevalence of same disease in any of close relatives of the subjects. In the total of 50 subjects, about 46% of the total subjects had cancer prevalent in their family members (parents, siblings, or grandparents) while 54% of the subjects had non – heredity of cancer.

Human Papillomavirus (HPV): HPV integration is a key genetic event in cervical carcinogenesis (Hu Z *et al*, 2015). HPVs are the major etiological agents for cervical cancer, but other factors likely contribute to cervical cancer, because these cancers commonly arise decades after initial exposure to HPV (Tiffany Brake, 2005).

Conclusion

Though cancer is a disease which cannot completely be cured with interventions in the dietary regimen of an individual, but some of the side effects of the medications, chemotherapies, radiotherapies and surgeries can be controlled by modifying the normal diets and nutrition uptake of the patient. In this study it was concluded that, there is a strong need to spread awareness among people especially young adult women about the cause factors that lead to this disease condition and implementing the healthy eating habits, purchasing habits and about the false eating habits regarding junk food and processed food. Awareness for less or no consumption of tobacco and alcohol should be spread. The people should be aware of calorie and protein content of different food groups like cereal, fats and nuts, oilseeds, vegetables and milk and milk products so that they can compare the calorie and proteins of different foods prepared by different methods. As the people are not aware of harmful effects of processed foods, they were eating low calorie and low fat foods without knowing their harmful effects that developed after processing.

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