Research Paper Home Science

Lifestyle and Cancer

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ABSTRACT

Cancer is a dreadful word. It resounds as a lost battle of life. Various researches have been done for knowing the causes of cancer. It was found that only few of all cancer cases can be attributed to genetic defects, whereas the remaining majority have their roots in the environment and lifestyle 1. The lifestyle factors include cigarette smoking, poor diet (fried foods, red meat, processed food), lack of fresh fruits, alcohol, sun exposure for a longer period, environmental pollutants, infections, stress, obesity, stressful life and physical inactivity.

A detailed comparison of cancer rates around the world has shown that most cancers are avoidable 2. Many cancers that are related to dietary factors could be prevented with a careful attention to diet and lifestyle. A cancer resistant lifestyle includes regular exercise, maintaining an appropriate body weight and avoiding the use of tobacco and alcohol which may lead to reduce cancer risk.

CONCLUSION:

By streamlining mismanaged lifestyle, cancer can be prevented. There is need for paying attention towards cancer resistant lifestyle which includes regular exercise, maintaining an appropriate body weight, avoiding the use of tobacco and alcohol, by consuming fresh nutritious fruits and vegetables, by guarding against environmental pollutants, infections, stress, obesity, stressful life, physical inactivity and exposure to sun for a longer period.

Keywords : Cancer, life style, radiations, immune system, environmental pollutants

STRESS/DEPRESSION AND CANCER:

Researches have shown that many types of stress activate the body's endocrine (hormone) system, which in turn can cause changes in the immune system, the body's defense against infection which causes cancer[4]. However, the immune system is a highly specialized network whose activity is affected not only by stress but by a number of other factors.

Some studies of women with breast cancer have also shown significantly higher rates of this disease among those women who experienced traumatic life events and losses within several years before their diagnosis. One area that is currently being studied is the effect of stress on women already diagnosed with breast cancer[5].

DIET AND CANCER:

Diet is an important factor in cancer aetiology and prevention in India. The relationships between diet and lifestyle and cancer have been carried out in India (Table 1). Diets high in saturated fats are considered to be increased risk of Cancer [6]. Several studies have addressed the cancer chemopreventive effects of the active components derived from fruits and vegetables. Approximately 30 - 40 % of cancer cases worldwide are preventable by feasible dietary means (http://www.dietandcancercerreportorg/?p=ER). Vitamins, especially C, D, and E are cancer chemopreventive activity without apparent toxicity.

Table 1: Possible Dietary and Other Factors Associated with Cancer in India *

	Decreased Risk	Increased Risk
Oral Cancer	Diet high in vegetables and fruits, Fish, Egg [7]	Betel quid chewing [8], Smoking [9],
Esophageal cancer	Diet high in vegetables [10]	Chillies, Salted tea [11], Kalakhar[12]
Endometrial cancer	Diet high in vegetables, fruits, Vit. C. and Vit. E.	High body mass index[13], Saturated fat intake[13]
Cervical cancer	Vitamin C and E[13]	Human papilloma virus, tobacco use[14]
Ovarian cancer	Diet high in fish[13]	Saturated fat intake [13]
Breast cancer	Diet high in vegetables and fruits [15]. High physical activity[13].	Diet high in saturated fats[13], high body mass index[15] saturated fat [13]
Stomach cancer	Green tea[16], Turmeric, cumin [17] Tapioca[18].	Dried fish[16],High temperature foods, chillies and spicy foods, high consumption of rice [18]

ACLOHOL AND TOBACO:

A number of studies have revealed that chronic alcohol consumption is a risk factor for cancers of the upper aerodigestive tract, including cancers of the oral cavity, pharynx, hypopharynx, larynx, and esophagus [19–22], as well as for cancers of the liver, pancreas, mouth, and breast. Heavy intake of alcohol (more than 50–70 g/day) is a well-established risk factor for liver[25] and colorectal [26,27] cancers. Tobacoo contains at least 50 carcinogens and it leads to fourteen types of cancer; lung, bladder, larynx, oropharynx, oesopharynx, anus, cervix, vulva are some of the common cancers[14, 15].

ENVIRONMENTAL POLLUTION/RADIATION:

Environmental pollution causes various cancers. It includes outdoor air pollution by carbon particles associated with polycyclic aromatic hydrocarbons (PAHs), increases the risk of lung cancer; indoor air pollution by environmental tobacco smoke, formaldehyde, and volatile organic compounds such as benzene and 1,3-butadiene (which may particularly affect children); food pollution by food additives and by carcinogenic contaminants such as nitrates, pesticides, dioxins, and other organochlorines; carcinogenic metals and metalloids; pharmaceutical medicines; and cosmetics[28].

(Table 2): The relationships between environmental pollution and cancer [28].

TYPE OF POLLUTION	COMPONENTS OF POLLUTION	CANCER
Outdoor air pollutants	Polycyclic Aromatic Hydrocarbons (PAHs) & motor vehicle exhaust	Lung cancer and childhood leukemia
	Environmental organic pollutants	Testicular cancer
	Dioxan (environmental pollutant)	Sarcoma and lymphoma.
Radiation	Radioactive substances, UV rays, radon products, X-rays, sun rays	Skin cancer, breast cancer
Low-frequency electromagnetic fields	High-voltage power lines, transformers, electric train engines, mobiles.	Childhood Leukemia, brain tumors, breast cancer
Indoor air pollutants	Volatile organic compounds and Pesticides	Childhood leukemia and Lymphoma
	Pesticides	Brain tumors, Germ cell tumors
Long term exposure to chlorinated drinking water	Nitrates	Lymphoma, Leukemia, olorectal cancer and bladder cancer

OBESITY AND CANCER:

Obesity is associated with increased risks of the following cancer types:

- Kidney.
- Thyroid.
- Pancreas.
- Esophagus.
- Gallbladder.
- Colon and rectum.
- Breast (after menopause).
- Endometrium (lining of the uterus).

A study, using NCI (SEER) data, estimated that in 2007 in the United States, about 34,000 new cases of cancer in men (4 percent) and 50,500 in women (7 percent) were due to obesity. The percentage of cases attributed to obesity varied widely for different cancer types but was as high as 40 percent for some cancers, particularly endometrial cancer and esophageal adenocarcinoma. It was also estimated that continuation of existing trends in obesity will lead to about 500,000 additional cases of cancer in the United States by 2030. This analysis also found that if every adult reduced their BMI by 1 percent, which would be equivalent to a weight loss of roughly 1 kg for an adult of average weight, this would prevent the increase in the number of cancer cases and actually result in the avoidance of about 100,000 new cases of cancer[29].

EXERCISE/PHYSICAL INACTIVITY:

There is extensive evidence suggesting that regular physical exercise may reduce the incidence of various cancers. A sedentary lifestyle has been associated with most chronic illnesses. Physical inactivity has been linked with increased risk of cancer of the breast, colon, prostate, and pancreas and of melanoma [30]. The increased risk of breast cancer among sedentary women has been shown to be due to lack of exercise, larger fat masses, and higher serum insulin levels. Physical inactivity can also increase the risk of colon cancer [31].

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