

## AN AYURVEDIC PERSPECTIVE IN PREVENTION OF CANCER W.S.R TO LIFESTYLE MODIFICATION

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### ABSTRACT

*Cancer is a preventable disease. The genetic defects hold their dominance on only 5–10% of all cancer cases, whereas the remaining 90–95% have their origins in the environment and lifestyle. The lifestyle factors include cigarette smoking, diet (fried foods, red meat), alcohol, sun exposure, environmental pollutants, infections, stress, obesity, and physical inactivity. This type of lifestyle disorder may be influenced by behavioral factors and mental status of the person stress, working condition, family environment etc. All these factors can cause mutation in cells and lead to cancer. Cancer preventive measures and therapies, today, are under continual advances, as we pursue new and better ways to prevent the global cancer incidence. Ayurveda has a vast description about the prevention of such lifestyle disorders. A lot of herbs of our day to day life have the potential to prevent cancer to some extent. Some common examples are curcumin, garlic, black cumin, red chili, fenugreek. So, it is high time to move to our basic culinary habits than to run blindfolded to the western diet and lifestyle options. This article highlights some of the potential herbs which can be used as preventive measure for cancer.*

*Key words: Cancer, Prevention, Ayurveda, Spices*

### INTRODUCTION:

Yes! Cancer is a preventable disease. The genetic defects hold their dominance on only 5–10% of all cancer cases, whereas the remaining 90–95% have their origins in the environment and lifestyle. The lifestyle factors include cigarette smoking, diet (fried foods, red meat), alcohol, sun exposure, environmental pollutants, infections, stress, obesity, and physical inactivity. There are references in Ayurvedic Samhita not with the name of Cancer but Shotha and Arbud. Their symptomatology is very much similar to cancer. Even the treatment of Arbuda is mentioned in Samhitas in a stepwise manner. Acharya Charakhas mentioned that in early stages it should be treated with initially with Panchakarma treatment following the internal medication. In second stage, the local blood should be purified with the help of Jaloka or Tumbi and after that the wound should be operated and then it should be cauterized (Agnidagdha). This procedure of Cancer treatment is followed now a days which include Surgery and Chemotherapy and Radiation therapy (Agnikarma). Acharya Sushruta in Sushrut Samhita NidanSthan chapter 11 has mentioned all the recent and remote causes and presentation of Cancer.

## RISK FACTORS FOR CANCER

### Tobacco

Tobacco Smoking has strong association with lung cancer and considered to be the risk factor for at least 14 different types of cancer hence avoiding tobacco smoking is the first step towards defeating cancer. Tobacco contains at least 50 carcinogens. Some dietary agentseg curcumin, derived from turmeric, may have potential applications against tobacco induced cancer.

### Alcohol

Alcohol metabolism (ethanol) generates acetaldehyde and free radicals, which are responsible for alcohol-associated carcinogenesis, causing alteration in metabolism, alterations in cell-cycle behavior, nutritional deficiencies and alterations of the immune system. Tissue injuries like cirrhosis of the liver are a major precondition to Liver Cancer. In addition, alcohol can activate tumorigenesis. Up to 80% of these tumors can be prevented just by abstaining from alcohol and smoking.

### Diet

Most carcinogens are ingested from food or food additives or from cooking. Heavy consumption of red meat is a risk factor for several cancers, especially of the gastrointestinal tract, colorectal, prostate, bladder, breast, gastric, pancreatic and oral cancers. Besides, bisphenol from plastic food containers can migrate into food and may increase the risk of breast and prostate cancers. Saturated fatty acids, trans fatty acids, and refined sugars and flour present in most foods have also been associated with various cancers. Some cheap hydrogenated oils which are used for cooking and in processed and preserved foods have increased amount of nickel which is responsible as a cancer hazard.

The soap leftovers from improperly cleaned utensils are contributing a major portion of health hazards including cancer. We should be cautious to use clean utensils. The fruits and vegetables which are available in market are full of unnecessary hormones, wax, added colours, preservatives and insecticides and pesticides. Adulterations in food is a very common thing we come across everyday life. All of these are adding their portions to compromise with human health.

### Lifestyle

Sedentary lifestyle is giving rise to improper metabolism of food. The alteration in sleep wake cycle, continuous 24 hours incautious stress of mobile phones and computers are putting unnecessary mental load and affecting the psychosomatic health of people. Either almost nil body activity or excessive imbalanced ways of body transformations are some practices which include continuously playing with body metabolism. The increasing rate of obesity has become a burden in many countries. Obesity is responsible for mortality from colon cancers, breast (in postmenopausal women), endometrium,

kidneys, esophagus, pancreas, prostate, gallbladder, and liver.

### Infectious Agents

Human papillomavirus, Epstein Barr virus, Kaposi's sarcoma-associated herpes virus, human T-lymphotropic virus 1, HIV, HBV, and HCV are associated with risks for cervical cancer, ano-genital cancer, skin cancer, nasopharyngeal cancer, Hodgkin's lymphoma, adult T-cell leukemia, B-cell lymphoma, and liver cancer.

### Environmental Pollution

Environmental pollution includes outdoor air pollution by carbon particles associated with indoor air pollution by tobacco smoke, formaldehyde, and volatile organic compounds and pesticides. These increases the risk of childhood leukemia and lymphoma, and children as well as adults exposed to pesticides have increased risk of brain tumors etc. Long-term exposure to chlorinated drinking water has been linked with increased risk of cancer.

### Radiation

Major cancers induced by radiation are leukemia, lymphoma, thyroid cancers, skin cancers, sarcomas, lung and breast carcinomas. In fact, the risk of breast cancer from x-rays used in medical settings for diagnostic or therapeutic purposes is highest among girls exposed to chest irradiation at puberty, a time of intense breast development. Radiations from sunlight include UV rays, which are carcinogenic and are a risk for basal cell carcinoma, squamous cell carcinoma, and melanoma.

## PREVENTION OF CANCER

By modifying the diet and lifestyle a rationally good division of cancer deaths can be prevented. Various phytochemicals have been identified in fruits, vegetables, spices, and grains that exhibit chemo preventive potential. Some of these substances are called antioxidants, because they fight the oxygen-induced damage to body tissues that occurs as a result of normal body processes.

### Aahar (Diet)

- Various natural carotenoids present in fruits and vegetables have anti-inflammatory and anticarcinogenic activity. For eg. lycopene, which is present in fruits like watermelon, apricots, pink guava, grapefruit, and tomatoes.
- Resveratrol has been found grapes, peanuts, and berries. It exhibits anticancer properties against a wide variety of tumors, including lymphoid and myeloid cancers, multiple myeloma, and cancers of the breast, prostate, stomach, colon, and pancreas.

- Spices  
Research has demonstrated that most of our culinary spices has various phytochemicals which have the potential to fight with or prevent cancer, for example turmeric has curcumin, garlic has diallyldisulfide, Black cumin contains thymoquinone, red chili has capsaicin, ginger contains gingerol, fenugreek has diosgenin and clove and cinnamon possesses eugenol. Other phytochemicals with this potential include ellagic acid (clove), ferulic acid (fennel, mustard, sesame), apigenin (coriander, parsley), betulinic acid (rosemary), kaempferol (clove, fenugreek), sesamin (sesame), piperine (pepper), limonene (rose- mary), and gambogic acid (kokum).
- Wholegrain Foods  
Whole grains contain chemopreventive antioxidants such as vitamin E, tocotrienols, phenolic acids, lignans, and phytic acid which reduce the risk of several cancers including those of the oral cavity, pharynx, esophagus, gallbladder, larynx, bowel, colorectum, upper digestive tract, breasts, liver etc.

#### (Vihara) Physical Activity

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. Regular physical exercise may reduce the incidence of various cancers.

Cancer is caused by both internal factors (such as inherited mutations, hormones, and immune conditions) and environmental/acquired factors (such as tobacco, diet, radiation). Hence most cancers are not of hereditary origin and lifestyle factors have a profound influence on their development. Although the hereditary factors cannot be modified, the lifestyle and environmental factors are potentially modifiable. The lesser hereditary influence of cancer and the modifiable nature of the environmental factors point to the preventability of cancer.

Many research by National Institute of Health\* shows that that leisure-time physical activity, which is done to improve or maintain fitness or health eg. Walking, running etc. was associated with a lower risk of colon, breast, and endometrial cancers. They also determined that leisure-time physical activity was associated with a lower risk of 10 additional cancers. The physical activity reduces inflammation, improves immune function, reduces oxidative stress and improves overall metabolism.

- Ayurvedic Treatment  
The treatment of cancer should include drugs who have the property of –
  - i- TridoshaNivarana,
  - ii- RaktdushtiVinashana and Raktamokshan
  - iii- Mansa DoshaApaharan – (Kshara- Agnikarma)

- iv- Vedanopashaman
- v- Sarvadhatusoshan
- vi- Vishlishtalakshan and Upadrava Shaman
- Common Treatment  
Raktashthevan (hemoptysis) – Mukdashuktishti, ShuddhaSuvarnaGairik, NagkesarChurna  
Parshwashoola (Pain in flanks)- Snehan, Swedan – Pottalisweda (Alasi, Arka, Shunthi, Erand)  
,Lepa- DashangLepa  
SatwavajayaChikitsa
- Specific Treatment – HartalBhasma, HeerakBhasma, SwarnaBhasma, Arogyavardhini,  
Mahalakshami Vilas Ras, TrailokyaChintamani, Rasamanikya, Shiva gulika,  
PanchatiktaGhrita, Lohasava, TriphalaGuggulu etc. which can be designed according to the  
invading organs and presenting symptoms.

## REFERENCE

\*Moore SC, et al. Leisure-time physical activity and risk of 26 types of cancer in 1.44 million adults. JAMA Internal Medicine. May 16, 2016. DOI:10.1001/jamainternmed.2016.1548.