

# **Use of Natural Food on Preventing Bone Marrow Depression in Cancer Patients Who are Under Chemotherapy**

## **INTRODUCTION:**

When one knows that he/she has cancer, he/she goes into a state of anxiety, grief, panic, fear and so on. It comes as a shock, like punishment. The suffering individual and the family tries all means to fight against this disease.

There are about 100 kinds of cancer which attack human beings. It is a disease in which cells multiply uncontrollably, destroy healthy tissue and harm life. It has been a leading cause of death in many countries including Nepal. It can attack any part of the body, however, the parts most affected are the skin, the lungs, the digestive organs and the female breasts.

Cancer in Greek means crab. The word was first used by Hypocrates. Tumors in Egyptian mummies dating back 5,000 years represent the first known human cancer. Cancer cases are increasing all over the world day by day. In the US about 8,00,000 new cases are diagnosed annually and there are over 8,00,000 deaths due to cancer every year. Cancer is a leading killer in the western world. It is a disease which is difficult to control.

Two third cases of cancer in India and Nepal is tobacco related. Tobacco in our country is as addiction. Tobacco leaves are flavoured with saffron. The rich and the poor take it mixed with lime. This tobacco is instantly prepared by crushing it by the thumb on one's palm. It is pressed between the gum and the cheek and gradually dissolves in the saliva and is absorbed through the mucosa. It is also taken as snuff and sometimes used as tooth powder. Betel nuts added to a variety of tobacco and lime are widely used in Nepalese and in Indian society. Lime and betel nuts increase the risk. Cigarette is to be the number one carcinogenic in the world. Poor people can not afford expensive cigarettes. They smoke bidis, hukka or chilum. They chew tobacco many times a day and share with others as a gesture of friendship. When used for 10-15 years continuously, tobacco brings the lung cancer. It could also be a cancer of the gum, cheek, tongue or any other part of buccal cavity, Larynx, oesophagus, bladder, pancreas and kidney. The great impact of cigarette smoke is lung cancer in smokers who smoke 2 or more packets per day. Chances are more than 20 times among non smokers.

Alcoholic beverages multiply the effect of tobacco smoking on cancer of mouth, pharynx, oesophagus and larynx. Heavy drinkers are more prone to cancer of the liver. Nutritional deficiency associated with heavy drinking is the suspected cause of cancer. As lung cancer is common among the males so is the breast cancer among the females. Breast cancer is the second most common form of cancer in Nepalese women after that of cervix. Late marriage, bearing less children, or no children is the high risk for breast cancer.

Poor vaginal hygiene and excessive sexual act is the risk for cervical cancer, Long hours in the hot sun, may give melanoma, a form of skin cancer, Carcinogens we are exposed to every day are asbestos dust, dust in the plastic factory, rubber and leather factories, nuclear waste, lead filled exhaust fumes of motor vehicles, nitrates, drained into the drinking water from fertilised fields, drugs, food colourings, reagents used in the industry etc. Repeated exposure to x-ray, exposure to atomic blasts, working in an atomic power station, medical use of radiation in cancer treatment, exposure to the radium dial of the watch, uranium and radium paints could be dangerous. In modern times, items like potatoes, onions and milk are exposed to radiation to increase their storage capacity. During treatment of contaminants of drinking water (chlorination), several halogenated organic compounds are produced which are carcinogenic. High level of these compounds in drinking water has shown co-relation with the rates of

cancer in bladder, colon and rectum. Synthetic oestrogen taken during pregnancy produces adenocarcinoma of the vagina and cervix. Estrogen used for menopausal reason can cause the cancer of the uterus. The oral contraceptive has been known to cause cancer of liver, uterus or breast. Even certain drugs used to treat cancer can cause cancer. Immune suppressant drugs given to patient with kidney transplant can cause cancer of liver, gallbladder, lungs, skin or lymphoma. The high dietary fat increases ones risk of colonic cancer.

Dietary fat, high caloric non- vegetarian diet, refined foods can give rise to the cancer of uterus, rectum, large intestine and stomach. A low intake of vitamin A, carotene and selenium may cause lung cancer. The risk of cancer of the stomach is more in a diet deficient in fruits and vegetables containing vitamin C. Excess use of coffee increases the chance of cancer of the pancreas and urinary bladder. Food grains, not well dried, when stored in humid condition, a fungus, aspergillus flavour may grow on them and form a toxin, aflatoxin which may cause cancer. The artificial sweetener like saccharine and cyclamate are weak carcinogens of urinary bladder. Cooking practices like frying, browning and roasting may release hydrocarbons which are carcinogenic. Negative attitudes like sudden fear, recurrent grief, emotional disturbance, hopelessness affects our immune system and can cause cancer.

In the beginning cancer shows no signs. But symptoms may appear before the disease spreads; such as change in bowel or bladder habits; a sore that does not heal, unusual bleeding or discharge; lump in breast or elsewhere; difficulty in swallowing, obvious change in wart or mole, nagging cough or hoarseness. A person who has any of these symptoms longer than two weeks should consult a physician promptly. Cancer treatment is normally done through surgery; radiation therapy and drug therapy (chemotherapy). People who never develop cancer have an immune system that reacts strongly to cancer antigens. Large doses of vitamin A, C and E have proved to be useful in preventing some cancers in laboratory animals. Some foods contain substances that can prevent cancers, like broccoli, cauliflower, cabbage, spinach, carrots, whole grain breads, cereal and some sea foods.

Chemotherapy is the treatment of cancer by drugs. It prevents the spread of cancer to other organs. It can be given orally also. But intravenous injection is the most common method. The course of chemo-therapy is usually, six cycles of drugs. There are gaps of a few days in one cycle and three weeks in between cycles.

Usually two or three drugs are given in combination. Antivomiting and antiallergic drugs are also combined to prevent as well as reduce some of the side effects.

Drugs kill normal as well as diseased cells. However, normal cells are formed afterwards. The side effects of the drugs vary depending upon the type and dose of the drugs. The side effects include nausea, vomiting, indigestion, diarrhoea, weakness, hotness in head, hand, foot and whole body, itching in the genital and urinary region, burning in stool and urine, loss of body hair usually of head, beards and mustaches, black spots in nails, puffiness on face and irregularities in menses. Some patients experience less side effects and some more. These side effects are due to adverse effect of drugs in bone marrow, heart, liver, kidney and other organs.

Blood count should be done before each dose of chemo-therapy. If the white blood count (WBC) is below 4000, the treatment should be postponed until the white blood count becomes 4000.

Of course, there are drugs like Neuphagin that increase blood counts but it costs NcRs 7,000 to 8,000 and a patient may need to take more than one dose. One dose increases about 1000

WBC. Blood transfusion also raises blood count. But these are costly, need intravenous route, can cause inflammation and infection of veins etc..

Thus, in trying to escape diseases, man becomes a victim of drugs and medicines. He can save himself if only he knows the fact that right food has exceptionally healing properties. Hippocrates the Greek physician who is regarded as the Father of Medicine had very rightly said “ Let thy food be thy medicine”. Natural food can be gainfully employed to prevent as well as cure disease. Fruit juices are the best form of natural food. This is because they contain a large number of nourishing and disease fighting nutrients like vitamins, minerals and enzymes. The possible effect on cancer by green vegetables especially wheat grass juice and fresh fruits has been related to the specific nutrients contained in them, particularly vitamin A and C, beta carotene, vitamin E and selenium. These foods also prevent human beings and animals against cancer of oral cavity, oesophagus, stomach and intestines. In contrary to naturopath, a doctor of modern medicine may advise a patients under chemo-therapy not to eat raw food, salad or fruits. But the natural food is of low cost, full of vitamins, enzymes and minerals. It fulfils belly, gives energy and satisfaction to individuals under therapy. It also helps in treating and preventing other illness.

### **Need of the Study:**

The investigator of this study has met many cancer patients who are in miserable condition due to these side effects. She also interviewed many patients who have discontinued treatment due to these side effects and was in search of something that could prevent the side effect and help to continue the treatment.

### **Statement of the Problem:**

A patient with cancer is in panic state of mind, emotion and body. He performs all sorts of treatment and rituals in order to get rid of this disease. Chemotherapy are of the mostly used treatment methods. It adds the suffering of the clients due to its side effects. The natural food helps to maintain the health of the patient as it contains lots of vitamins, minerals, enzymes, chlorophyll in it. Therefore the statement of problem “the effect is to see of natural food in preventing bone marrow depression among cancer patient who are taking chemotherapy as measured by the blood value of Haemoglobin White Blood Cell and platelets”.

## **OBJECTIVES:**

The main objective of the study is to prevent bone marrow depression in patients who are getting chemo-therapy.

### **Specific Objectives are:**

- to compare the blood count specially white blood cells, platelets and haemoglobin of the cancer patient who are getting chemotherapy before and after using natural foods.
- to counsel cancer patients who are getting chemotherapy regarding, natural foods, wheat grass juice and ways of healthy living.

## **RESEARCH HYPOTHESIS:**

The research hypothesis is as follows:

The blood count of patients taking extract of Natural food experimental group will be significantly higher than patient not taking the extract (control).

## **Operational Definitions of the Terms:**

### **Natural Food:**

Natural food in this study means all the food items that can be eaten in raw form especially wheat grass juice, fruits, and fruit juice, vegetables and vegetable juices.

### **Cancer Patient:**

Cancer patient in this study means all kinds of cancers who are getting chemotherapy treatment.

### **Assumptions:**

Cancer is a life threatening disease. Chemotherapy cures and controls cancer but some patient can not tolerate it and die due to its toxicity. Side effects of chemotherapy can be reduced and tolerated if the immunity of the patient can be sustained. Natural foods are best means to sustain immunity. Body has healing power. The body's healing power is enhanced by natural food.

### **Limitations of the Study:**

The Study had the Following Limitations:

1. The study was confined to convenient sampling which limits the generalisation of the study.
2. The study was confined to patient who come to get chemotherapy doses in hospital and go back home. They come again to hospital for the next cycle of treatment. Therefore, there was no control on home environment and working environment of clients.
3. Counselling was done for the type, preparation and doses of natural food but there was no control on the method of preparation and follow-up of instruction.
4. As the clients were living at home with their family, there was no control on the family pressure and social pressure put on the client under study.
5. The investigator had no control over the selection of subject.

### **Conceptual Framework of the Study:**

The teaching learning experiences often begins when an individual learns to identify his or her need for gaining insight to do something for meeting his needs. The process of teaching learning brings change in behaviour of the learner in terms of knowledge, attitude and practice. The information which is meaningful and realistic is learned faster and remembered longer than the information which is not need based and not oriented to life experiences. The meaningful experiences is repeated again and again. Repetition of healthy behaviour improves the status of health.

Clients getting chemotherapy have bad experience of the side effects. If he/she takes natural food, will develop positive health and is liable to continue it to improve the health.

## **Sources of Natural Foods for Cancer Prevention**

1. Citrus fruits like lemons, limes, oranges, grapes and ruby red grapes fruits, cherries, strawberries, apples, cucumber, orange fruits, yellow squash, papaya, mangoes, peaches, apricots, pine, apples, plantain, nuts like walnuts, almonds, avocados.
2. Vegetables; orange, yellow, greens, tomatoes (golbheda), pumpkin(farsi), carrots (gajar), parsley, cabbage(banda), broccouli, cauli flowers, turnip, celery, green, yellow or red onions(pyaj), garlic(lasun), liquorice, dark green leafy vegetables, green mustard, mushroomms, lettuce, spinach, corriander green, asparagus, kohlrabi, green peppers, sweet potatoes, wheat grass.
3. Herbs like rosemary, basil (Tulasi), mint(pudina), green teas(hariyo chiya).
4. Whole grains, flex, oats, peanuts, sunflower seeds (suryamukhi), wheat grass.
5. Legumes kidney beans (simi), chick peas, soyabeans(bhatmas).
6. Citrus oil, vegetables oils.
7. Fish, cooked egg, yolk, liver, raw meat, milk butter.

### **These food contain following Vitamins:**

Vitamin A, B, B12, C, E, K,  
Betacarotenoids  
Selenium  
Catechins  
Cruciferous Indoles  
Glutathione  
Lignans  
Monoterpenes  
Pectin  
Phytetes  
Psoralens  
Retenoids  
Folic acids

Carotenoids  
Lycopene  
Lutein  
Caumarins  
Ellagic acid  
Isoflavines  
Limonene  
Omage 3, fattyacids  
Phenolic acid  
Protese inhibitors  
Quiones  
Sulphides

### **Effect:**

- Treats certain kinds of cancer
- Reduces growth of precancerous and cancerous cells.
- Protects against certain kinds of cancer
- Deactivates oestrogen
- Prevents oxidation
- Counteracts carcinogens
- Deactivates steroidal hormones.
- Prevents the conversion of normal cell to cancer cell.
- Helps immune system battle against unwanted invaders.

### **Presentation of the Study:**

This chapter has dealt with the introduction of the study, statement of the problem, objectives of the study, hypothesis, operational definition of the terms, assumption, limitation and conceptual framework of the study. The 2nd chapter presents the review of related literature, 3rd chapter provides information about the methodology adopted, 4th chapter deals with the analysis and 5th chapter consists of discussions, delimitations and recommendations of the study. The study ends with a selected bibliography and annexes.