

Role of diet and lifestyle of women suffering from breast cancer

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Cancer is an intimidating disease. It is commonly associated with severe pain, suffering and death. Cancer is not a new disease. The rate of incidence and mortality from breast cancer in India are approximately five times as high as in North America and North Europe. The present study was design to access the diet and lifestyle of women suffering from breast cancer. The data were collected from breast cancer patients under the age of 20-75 years for the study. Food preferences in cancer patients appear to be associated with insufficient intake of nutrients. A high percentage of respondents consumed supari regularly (60%) followed by pan masala (22%) and alcohol (4%). A high intake of macronutrients, proteins, lipids and carbohydrates in the form of excess energy has some cancer stimulation properties. Stress in the family was one of the major causes (48 %) of breast cancer followed by stress at work place (6 %) only.

Key Words : Diet, Lifestyle, Malignant, Breast cancer

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INTRODUCTION

Breast cancer is the most common cancer in women worldwide and the high incidence of this cancer coupled with improvements in initial treatments has led to an ever-increasing number of breast cancer survivors (Ferrini *et al.*, 2015). Cancer is a term use to refer malignant neoplasm or tumors'. Neoplasia means cells in a tissue proliferate without the normal controls on growth. In malignant neoplasm the cell spread to adjacent tissues and interferes with the function and often has undesirable systematic effects. Benign tumours represent the accumulation of cells which have been transformed to reproduce in abnormal numbers. Cancer is caused by

mutation or abnormal activation of cellular genes that control cell growth and cell mitosis (Srilakshmi, 2014).

Cancer occurs as a result of mutations, or abnormal changes, in the genes responsible for regulating the growth of cells and keeping them healthy. Normally, the cells in our bodies replace themselves through an orderly process of cell growth; healthy new cells take over as old ones die out. That changed cell gains the ability to keep dividing without control or order, producing more cells just like it and forming a tumor. A tumor can be benign (not dangerous to health) or malignant (has the potential to be dangerous). Benign tumors are not considered cancerous: their cells are close to normal in appearance, they grow slowly and they do not invade nearby tissues or spread to other parts of the body. Malignant tumors are cancerous. Left unchecked, malignant cells eventually can spread beyond the original tumor to other parts of the body. The term "breast cancer" refers to a malignant tumor that has developed from cells in the breast. Usually breast cancer either begins in the cells of the lobules, which are

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the nipple. Less commonly, breast cancer can begin in the stromal tissues, which include the fatty and fibrous connective tissues of the breast. Life cannot be sustained without adequate food for sustainable growth, development and also to lead an active and happy life. Health and good nutrition are therefore, considered to be interdependent systems. Intake of the right kinds and amount of food can ensure good nutrition and health.

Nutrition is the “Science of Food” the nutrients and other substances in it. It deals with their action, interaction and balance in relationship to health and disease. It encompasses the process by which the organism ingests digests, absorbs, transports and utilizes nutrients and disposes their end products. Besides, nutrition’s is also concerned with social, economic, cultural and psychological implications of food and eating. Diet has been implicated as a risk factor for cancer in humans. Numerous nutritive and non-nutritive dietary components influence cancer risk both as carcinogens as well as ant carcinogens (Jussawala *et al.*, 1983).

The increase in body weight at young years contribute to morbidity from cardiovascular disease, hypertension, diabetes and cancer, particularly, cancer of the breast and endometrial following menopause in women. The increase risk for endometrial cancer in postmenopausal obese women in fifteen times greater than in their lean counterparts. Breast cancer is one of the leading causes of death in women in the age group of 35-54 years in the developed countries (Simopoulos, 1990).

Fibre may have a protective role because of its influence on oestrogen metabolism and excretion. Fibre from grains resulted in a decreased risk in pre-menopausal and post-menopausal women (Pryor *et al.*, 1989). It has been proved beyond any doubt that cancer is strongly associated with the dietary practices and lifestyle behaviour of people in the world. According to the World Health Organization, breast cancer is the most common cancer among women worldwide. Yet many people are still unaware of their risk and of which factors or lifestyle choices are most significant.

Ranchi has comprehensive cancer center catering to 500-1500 new cancer cases per year. There are Curie-Abdur Razzaque Ansari Cancer Institute, Irba, Ranchi, and Bhagwan Mahavir Medica Superspeciality Hospital, Ranchi are coming up as pioneering medical institutes in Jharkhand. It provides counseling and treatment facilities to the cancer patients. So, it is very important to evaluate

and assess the health and dietary profile of women suffering from breast cancer to know the causes of breast cancer and to overcome.

Maximum deaths worldwide is not war, infection or natural calamities but due to modern lifestyle factors such as eating fast junk food, obesity, a high fat diet, lack of physical activity, alcohol and smoking, paan and gutkha. Family history (A host of genetic), stress and tension, special causes in women (menopause) are likely to develop cancer. Variation in breast cancer risk is probably multifactorial: A combination of heredity, diet, lifestyle and environment. Breast cancer is rising very rapidly in world figures, including the developing nations. All age groups of women are affected by breast cancer, but mainly between 20-75 years. Cancer affects the physical and mental efficiency of human beings. This research work helps to know the magnitude of the problems which is presently need of the society to know the cause of breast cancer especially in Ranchi.

METHODOLOGY

This study aimed to evaluate the diet and lifestyle behaviour of women breast cancer patients and assess their nutritional knowledge and health awareness. The present study was conducted in selected hospitals of Ranchi district. Only female breast cancer patients under the age of 20-75 years were selected for the study. The sample consisted of fifty women breast cancer patients selected from hospitals 25 from Curie-Abdur Razzaque Ansari Cancer Institute, Irba, Ranchi, and 25 from Bhagwan Mahavir Medica Super specialty Hospital, Buti more, Ranchi. The information of the patients was collected through a specially designed scheduled for the purpose. The data were coded, tabulated and analysed for drawing the relevant interferences.

OBSERVATIONS AND ASSESSMENT

Western culture factors such as socio-economic status, early age of menarche and late age at first pregnancy may be risk factors in the development of breast cancer (Devita *et al.*, 1985). Demographic features of the respondents revealed that maximum number (62 %) of the cases was between the age group of 41-50 years followed by 51-60 years (20%) (Table 1). With the growing age, there is more risk of having breast cancer. Hence, every woman after 40 should go for mammography annually where the x-ray of the breast is

Table 1 : Demographic features of the respondents

Age of respondent	Cancer patients	
	Number	Per cent
Above 20	2	4
30-40	3	6
41-50	31	62
51-60	10	20
61-75	4	8
Total	50	100
Education		
Illiterate	36	72
Primary	2	4
High School	4	8
Higher Secondary	5	10
Graduate	2	4
Post Graduate	1	2

done and cancer is detected. At the age of 50, one should go for it once in two years and at the age of 60 once in three years. In case of educational level maximum respondent (72%) were illiterate followed by only 2 per cent post graduate. It reveals that illiteracy is one of the major factors for breast cancer.

The socio-economic status of women also affects the incidence of breast cancer. Maximum respondents were housewives (66%), followed by labourers (26%) and employed (6%). There was significant difference in the incidence of breast cancer with the socio-economic status. Women from high income group had relatively lower incidence of breast cancer (Table 2).

Table 2 : Socio-economic status of the patients

Occupation	Number	Per cent
Housewife	33	66
Service	3	6
Business	1	2
Labourer	13	26
Income		
Less than 3000	28	56
3001-4000	12	24
4001-5000	8	16
5001 and above	2	4

Ailments of women have role in spreading breast cancer. Majority of the respondents (70%) were having good health and only 10 per cent of them reported poor health (Table 3). Problems of hypertension were more number (30). The ailments suffering from hypertension 60 per cent, asthma 20 per cent, fever 10 per cent, 4 per

Table 3 : Physical condition of the respondents

Health	Number	Per cent
Good	35	70
Fair	10	20
Poor	5	10
Other ailments		
Hypertension	30	60
Heart disease	2	4
Diabetes	2	4
Tuberculosis	1	2
Fever	5	10
Asthma	10	20

cent heart disease and diabetes and only 2 per cent tuberculosis.

There are three interdependent fields that act as key determination of individual's health such as lifestyle, environmental and biomedical. Nutritional status is the state of our body as a result of the foods consumed and their use by the body. It can be good, fair or poor.

Many families had strong hereditary tendency to cancer. Two components are invariable involved in the etiology of cancers-a genetic and environmental one (Table 4). 22 per cent respondents used hormone pills to postpone the menstrual cycle whereas 28 per cent for contraceptive purpose. A family history of cancer was reported by 10 per cent of the respondents. Mesko *et al.* (1990) reported that maximum number of post-menopausal women had their menopause less than 10 years back. Late menopause increases the time of exposure of breast tissue to oestrogenic stimulation thereby increasing the risk.

Table 4 : Family and own history of breast cancer and intake of hormone pills

Family history	Number	Per cent
Present	5	10
Own history		
Benign breast lesions(past)	14	28
During lactation	17	34
Problem in the breast before menstrual cycle	19	38
Intake of hormone pills		
For contraceptive purpose	14	28
To prepone/postpone menstrual cycle	11	22

In case of signs and symptoms of the disease breast lump 30 per cent and pain in the breast 16 per cent and discharge from nipple 12 per cent where the most frequent complaints reported by the patients (Table 5). Some

Table 5 : Signs and symptoms of the disease

Characteristics	Number	Per cent
Lump	15	30
In drawing of the nipple	7	14
Discharge from the nipple	6	12
Abscess in the breast	5	10
Pain	8	16
Eczema	14	8
Erosion of the nipple	2	4
Difficulty in hand movement	3	6

patients complaint eczema, erosion of the nipple and difficulty in the hand movement.

Foods may cause cancer by direct use of carcinogen that is produced by cooking. Sometimes micro-organism may produce carcinogens in stored foods. Exercise can have significant benefits for breast cancer survivors during and after treatment. Fifty per cent respondents were non-vegetarian followed by vegetarian (46%) and eggitarians (4%). There was maximum stress in the family (48%) than at a work place (6%) (Table 6). Occurrence of cancer was more in non-vegetarian (Chandrasekhar and Sujatha, 1989). Easwaran and Thomas (1987) reported a strong association between intake of meat and rate of breast cancer. There is a strong positive correlation between fat intake and breast and colon cancer. Alcohol appears to play an important role in cancer of the mouth pharynx. Obesity is an important factor in endometrial cancer and may have some role in postmenopausal breast cancer in women (Rao, 2003).

Table 6 : Diet and life style

Type of diet	Number	Per cent
Vegetarian	23	46
Non-vegetarian	25	50
Eggitarians	2	4
Lifestyle and stress		
Family	24	48
Work	3	6
Environment	11	22
Spiritual inclination	12	24

Anthropometric data acts as an important tool in the evaluation. Highest number was found in less than 145 cm (68%), Majority (18%) of the cases had the height of 145-155 cm followed by (8%) 155.5-165 cm (Table 7). Majority (28%) of the cases was found to be between 61-70 kg. 26 per cent cases were having 51-60 kg weight.

Table 7 : Height (cm), weight (kg) and mid-arm circumference (cm)

Height	Number	Per cent
Less than 145	34	68
145-155	9	18
155.5-165	4	8
165.5- 175	3	6
Weight		
Less than 40	8	16
41-50	12	24
51-60	13	26
61-70	14	28
71-80	2	4
81-90	1	2
Mid-arm circumference (cm)		
Less than 20	4	8
20-25	16	32
26-30	18	36
31-35	10	20
36-40	2	24

4 per cent women having weight between than 71-80 kg. 16 per cent were reported less than 40 kg weight. Majority (36%) of the cases was found to have the mid arm circumference between 26-30 cm and (32%) were reported between 20-25 cm. Elevated body weight, body mass, stature and frame size is associated as risk factor for breast cancer in women (Kritchevsky, 1990).

Overweight and obesity are risk factors for post-menopausal breast cancer and many women diagnosed with breast cancer, irrespective of menopausal status, gain weight after diagnosis (Wahnefried *et al.*, 2012). After a diagnosis of cancer, individuals are often motivated to change their diet, exercise habits, and other lifestyles. Many are also interested in learning more about dietary supplements and nutritional complementary therapies to manage persistent symptoms of disease or treatment (Hewitt *et al.*, 2005). With increasing longevity and more effective cancer therapies, the population of cancer survivors is increasing (Kushi *et al.*, 2007).

There is need to educate the cancer patients to adopt the various treatments, proper planning of meals and dietary counseling and a good deal of guidance and encouragement. It will help to improve the nutritional knowledge and awareness of major section of society, as women are very important part of a family and society. So to minimize nutritional health problems and related disease suitable measures must be adopted and make

the life happy.

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