ASSESSMENT OF THE LIFE STYLE AND FOOD HABIT PATTERN OF BREAST CANCER PATIENTS

[1]Deepika Pal, [2]Neeru Bala, [3]Anisha Verma
[1]M.Sc Student, Department of Food Nutrition and Public Health, Ethelind College of Home Science, Sam Higginbottom University of Agriculture, Technology and Sciences, Allahabad, Uttar Pradesh, India
[2]Associate Professor, Department of Food Nutrition and Public Health, Ethelind college of Home Science, Sam Higginbottom University of Agriculture, Technology and Sciences, Allahabad, Uttar Pradesh, India
[3]Assistant Professor, Department of Food Nutrition and Public Health, Ethelind college of Home Science, Sam Higginbottom University of Agriculture, Technology and Sciences, Allahabad, Uttar Pradesh, India

Received: May 28, 2018 Accepted: July 06, 2018

ABSTRACT *The present study was carried out **"To assess the life style and food habit pattern of breast cancer patient"** with the objectives to assess the lifestyle pattern of the selected respondents and their food habits. A cross section survey which was conducted on a sample of 184 patients. Life style pattern of the respondent showed that 100 per cent respondents had sedentary activity. Most of the respondents had (breakfast + lunch + evening tea + dinner) patterns. BMI of the respondents was observed before chemotherapy which indicated 1.08 per cent underweight, 34.81 per cent normal weight, 31.0 per cent overweight, 15.23 per cent grade I obese, 16.30 per cent grade II obese and 1.63 per cent grade III obese whereas after chemotherapy, 12.5 per cent underweight, 17.93 per cent normal weight, 36.99 per cent overweight, 15.23 per cent Grade I obese and 17.4 per cent Grade II obese were recorded.*

Keywords: *Breast cancer, Life style, food habit pattern, Anthropometric measurement.*

Introduction:

In India cancer prevalence is estimated around 2.5 million, with over 0.8 million new cases and 0.5 million deaths occurring each year **(Nandakumar, 1990-96).** Breast cancer is the most common female cancer worldwide representing nearly a quarter (23 Per cent) of all cancers in women. The global burden of breast cancer is expected to cross 2 million by the year 2030, with growing proportions from developing countries. Although age-standardized incidence rates in India are lower than in the United Kingdom (UK) (25.8 versus 95 per 100,000), mortality rates are nearly as high (12.7 versus 17.1 per 100,000, respectively) as those of the UK (**Jemal*et al.,*** 2011).The most common type of breast cancer is ducal carcinoma, which begins in the lining of the milk ducts (thin tubes that carry milk from the lobules of the breast to the nipple). Another type of breast cancer is lobular carcinoma, which begins in the lobules (milk glands) of the breast. Invasive breast cancer is breast cancer that has spread from where it began in the breast ducts or lobules to surrounding normal tissue **(National Cancer Institute, 2015).**The incidence of breast cancer is increasing in the developing world due to increase life expectancy, increase urbanization and adoption of western lifestyles. There is a high mortality due to late stage diagnosis as patients usually present at an advanced stage because of lack of awareness and non-existent breast cancer screening programs. Women have poor knowledge about breast cancer be it about risk factors, warning signs, or early detection procedures. Therefore it is important to create awareness and educate the community and to remove the misconceptions associated with ignorance through community based educational/awareness campaign. Early warning signs, significance of a painless lump need to be emphasized. Educating health care workers is also very important aspect. We also have to keep in mind only campaigns will not be enough, information need to be disseminated in a form which is appealing to the community **(P Somdatta, AIIMS, New Delhi, 2008).** Reeve *et al.,* (2007) observed in their several studies, including the Million Women Study, report that the risk of breast cancer decreases with increasing BMI with a linear relationship along the BMI scale starting from 20 kg/m2. Although nutrition has an important effect during treatment, oncologists often avoid giving advice, particularly about supplements. Individualized dietary advice during treatment is important so that undesirable weight loss or excessive weight gain can be avoided. During cancer treatments with either chemotherapy or radiation, patients often experience nausea, vomiting, diarrhea, and loss of appetite, leading to a lower intake of dietary constituents and weight loss. Supplemental intakes of essential vitamins and minerals may seem to be desirable but may not always be so. Before taking any

supplements, patients should discuss the matter with their physicians because dietary interactions with the treatment may affect the outcome of therapy. Of special concern here are dietary supplements with antioxidant properties, but supplements without antioxidant properties may also influence the efficacy of cancer treatments. Dietary supplements include macronutrients, vitamins, and minerals that are essential to human health as well as a wide variety of nonessential nutrients, such as certain phytochemicals, hormones, and herbs. The recommendation for cancer patients is to take only moderate doses of supplements because evidence from human clinical studies that confirm their safety and benefits is limited **(National Research Council, 1989).** World Cancer Research Fund/American Institute for Cancer Research (2007/2010) suggested that women who get regular physical activity have a 10 Per cent -25 Per cent lower risk of breast cancer compared to women who are inactive, with stronger evidence for postmenopausal than premenopausal women.

Methodology: The present study was a hospital based cross sectional study which was conducted in J. K. cancer hospital Kanpur, U.P. 184 patients were purposively. The data was analyzed by using statistical tools i.e. Percentage, Mean score, t-test **(Kothari and Garg, 2014)**

Result and Discussions: The finding of the presented study pertaining study to the topic "To assess the life style and food habit pattern of breast cancer patients" was conducted by survey method and result obtained were analyzed and discussed in this chapter.

Table 1: Distribution of the patients according by socio-demographic profile

S.NO.	Particulars		Frequency (N=184)	Per cent
1.	**Age (Years)**	21-30	20	10.86
		31-40	64	34.78
		41-50	59	32.06
		51-60	41	22.28
2.	**Educational Status**	Illiterate	53	28.80
		High School	34	18.47
		Intermediate	20	10.86
		Graduate	41	22.28
		Post-Graduate	27	14.67
		Any Other(P.HD)	9	4.89
3.	**Type of Family**	Joint Family	113	61.41
		Nuclear Family	71	38.58
4.	**Occupation**	Service	18	9.78
		Business	9	4.89
		Agriculture	0	0
		Home Maker	154	83.69
		Any Other	3	1.63
5.	**Annual income of family**	55,001/- to 88,800/-	79	42.93
		88,801/- to 1,00,000/-	61	33.15
		Above Rs. 1,50,000/-	44	23.92

Table 1 shows the distribution of the respondents according to the general information and life style pattern.The pooled data showed that the patients in the age group 21-30 years were 10.86 Per cent. In the age group 31-40 years were 34.78 Per cent. In the age group of 41-50 years (32.06 %). Majority of the age group 51-60 years were 22.28 Per cent. Study revealed that Out of total patients, 28.80 Per cent were illiterate, 18.47 Per cent were educated up to high school, 10.86 Per cent were educated till intermediate, and 22.28 Per cent were graduates, similarly 14.67 Per cent respondents were post graduates, 4.89 Per cent were having any other (Diploma, PhD) education. Maximum patients i.e. 61.41 Per cent were belonged to joint families whereas, 38.58 Per cent belonged to nuclear families. According to table 4.1 Out of total patients, 9.78 Per cent were doing service, 4.89 Per cent were doing business, 0 Per cent was having agriculture as their occupation, 83.69 Per cent were homemaker and 3 Per cent were having any other occupation. Maximum number of patients (42.93) belong to low income group and earn annually Rs.

55,001/- to 88,800/- , 33.15 Per cent had an annual family income between Rs. 88,801/- to 1, 00,000/- and about 23.92 Per cent had an annual family income above Rs. 1, 50,000/- and they belonged to high income group. Available information is limited about the health status and health practices within diverse cultural groups and socio-demographic factors, and there is poor understanding about the amount of these factors affecting health education. It appears that many barriers to breast cancer screening are related to culture, income, education, immigration status, and language barriers.(**Hoare *et al*., 1994).**

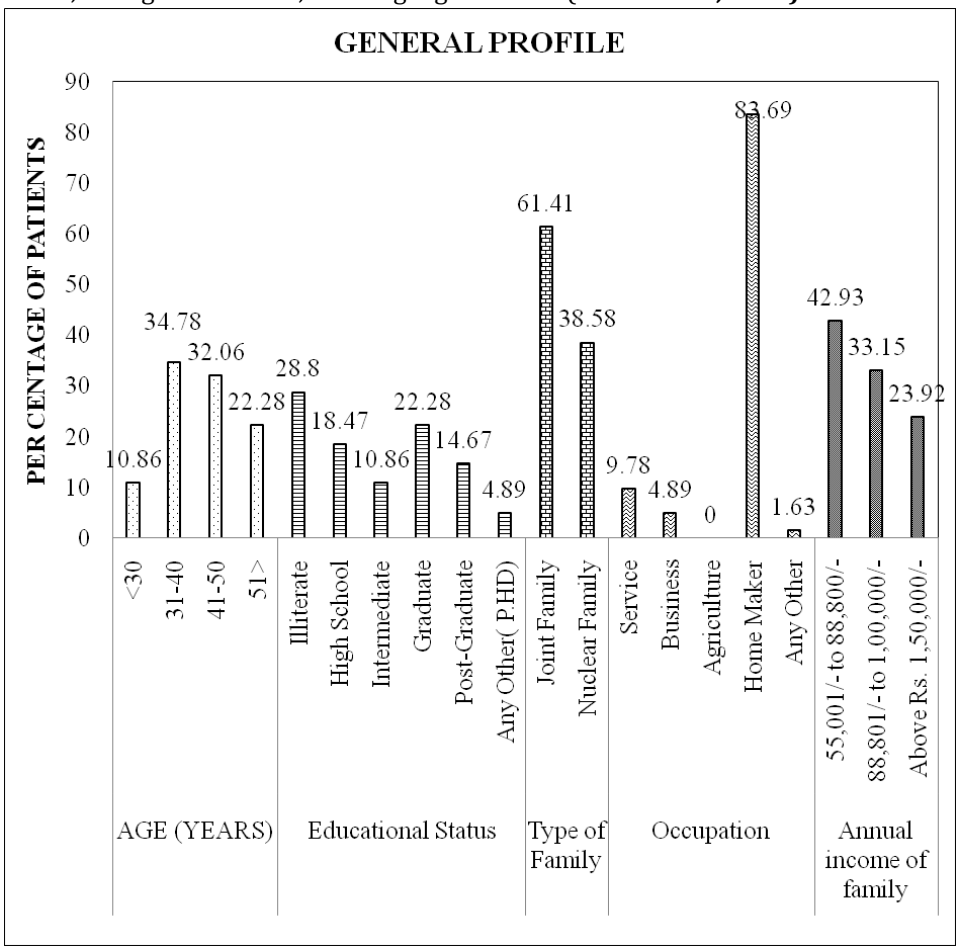


Table: 2 Distribution of the patients according to their lifestyle pattern.

S.No.	Variables		Patient	
			N=184	Per cent
1	Activity pattern	Sedentary	184	100
		Moderate	0	0
		Heavy	0	0
2	Physical pattern	Walking	69	37.5
		Light exercise	12	6.52
		Jogging	2	1.08
		Any other	12	6.52
		No	89	48.36
3	Sleeping time	5 hours	30	16.32
		6 hours	66	35.9
		7 hours	88	47.87
		More than that	0	0
4	Harmful substance	Alcohol	0	0

		Cigarette	0	0
		Betal leaves	24	13.05
		Pan parag	5	2.72
		Tobacco	29	15.77
		No	126	68.54

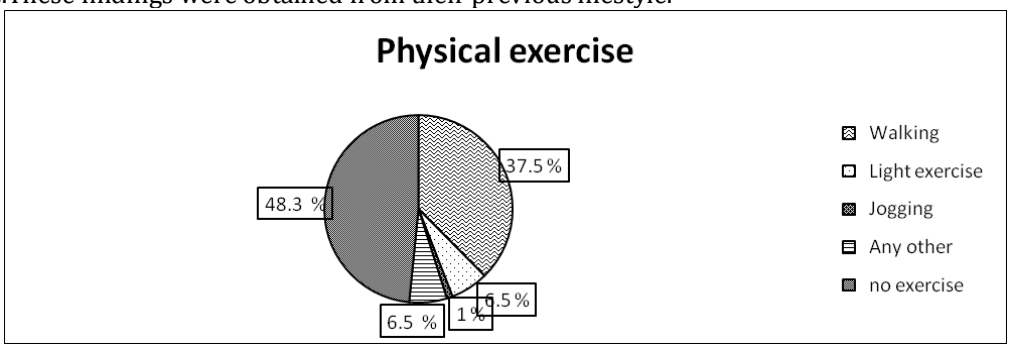
Activity pattern: Table shows that all patients were having sedentary life style.

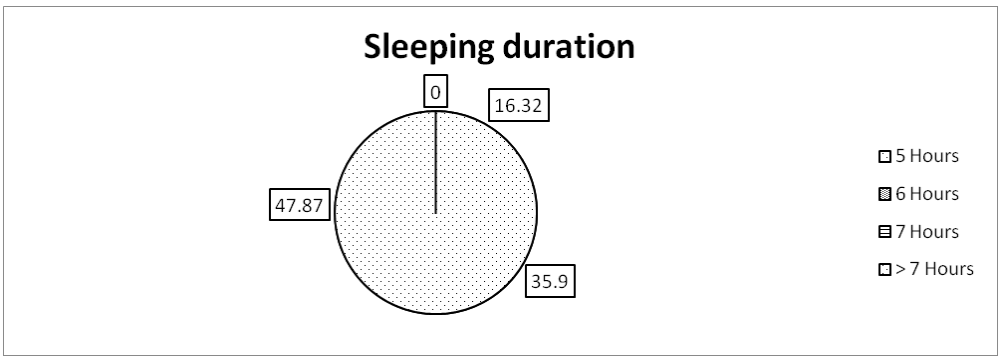
Exercise performed by selected respondents: Out of 184 respondents, 37.5 Per cent respondents preferred walking, 6.52 Per cent respondents preferred light exercise, and 1.08 Per cent jogging as an exercise, 6.52 Per cent any other means of exercise, 48.36 never preferred any of the above exercises.

Henderson *et al.,* (1985) physical activity is a lifestyle factor which is considered as a breast cancer risk factor. It is considered protective against breast cancer because it reduces the regular adulatory cycles and increases the level of catechol-O-methylated estrogens.

Sleeping hours of the respondents: the above table indicated the sleeping time of the selective respondents. Most of the respondents slept for 7 hours (47.87 Per cent), 35.9 Per cent respondents slept for 6 hours, 47.87 Per cent slept for 7 hours, none of respondents slept for more than 7 hours.

Harmful substance intake: According to the above data, out of total 184 respondents**,** 0 Per cent took alcohol, 0 Per cent took cigarette, 13.05 Per cent took betal leaves, 2.72 Per cent respondents took pan parag, 15.77 Per cent respondents took tobacco, 68.54 Per cent respondents do not consume these harmful substance.These findings were obtained from their previous lifestyle.





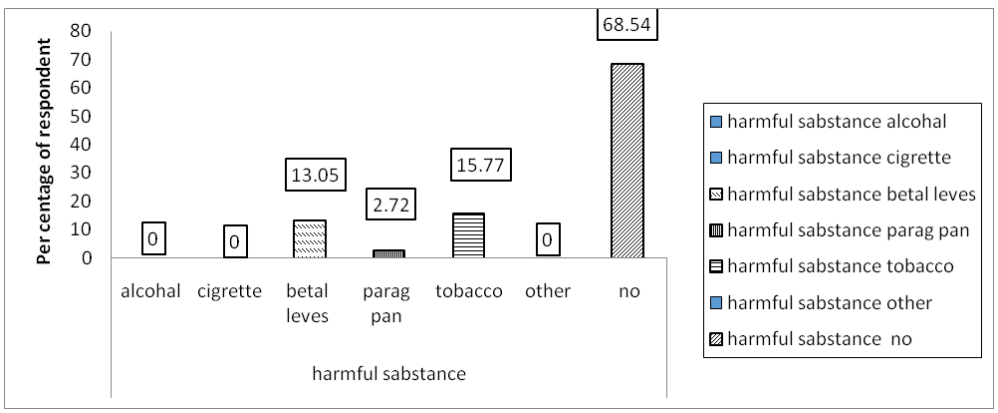


Table: 3 Distribution of the respondents according to the food habits and dietary pattern.

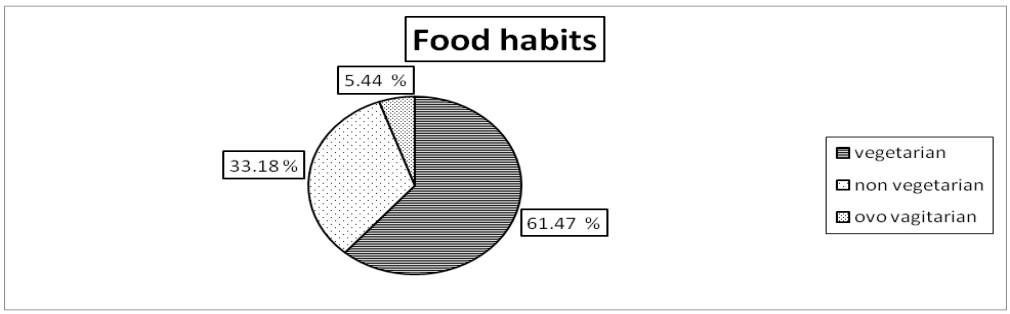
	Particulars	Patient	
		N=184	Per cent
1.	Foods habits		
	Vegetarian	113	61.47
	Non vegetarian	61	33.18
	Ova vegetarian	10	5.44
2.	Dietary pattern		
a)	Brunch+ dinner	4	2.17
b)	Breakfast+ lunch+ dinner	34	18.49
c)	Breakfast+ lunch +evening tea+ dinner	135	73.44
d)	Breakfast+ lunch+ evening tea+ dinner+ bed time	11	5.98
3.	Type of fat		
	Saturated	2	1.08
	Unsaturated	182	99.01

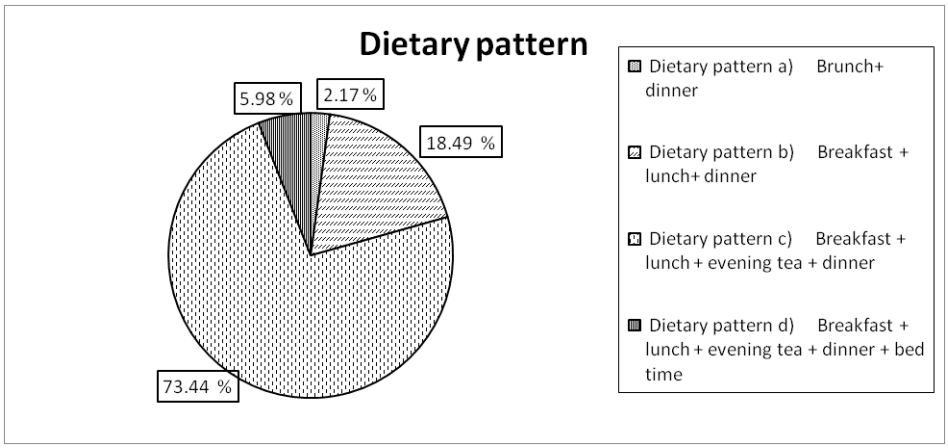
Food habits: Out of 184 respondents, 61.47 Per cent were vegetarian, 33.18 Per cent were non vegetarian and 5.44 Per cent were ova-vegetarians.

Dietary pattern: out of 184 respondents, 2.17 Per cent respondents followed (a) type of dietary pattern, 18.49 Per cent respondents followed (b) type of dietary pattern, 73.44 Per cent respondents followed (c) type of dietary pattern and 5.98 Per cent respondents followed (d) type of dietary pattern.

Type of fat: out of total patients, 1.08 Per cent used saturated fat in term of ghee, dalda and butter for cooking, and 99.01 Per cent patient used unsaturated fat (mustard oil, refine oil, coconut oil, avocado oil and olive oil) for cooking.

According to **Rohan *et al.*, (1998), Van gils *et al,* (2005)** studies, diet has a direct influence on breast cancer risk. As discussed by **Bingham *et al.,*(2003)** and **Freedman *et al.,*(2006)** studies that used FFQs to assess intake did not detect relations between fat intake and breast cancer risk, whereas studies that used food diaries and diet histories, both which are superior methods of dietary assessment, did detect a relations between fat intake and breast cancer risk.





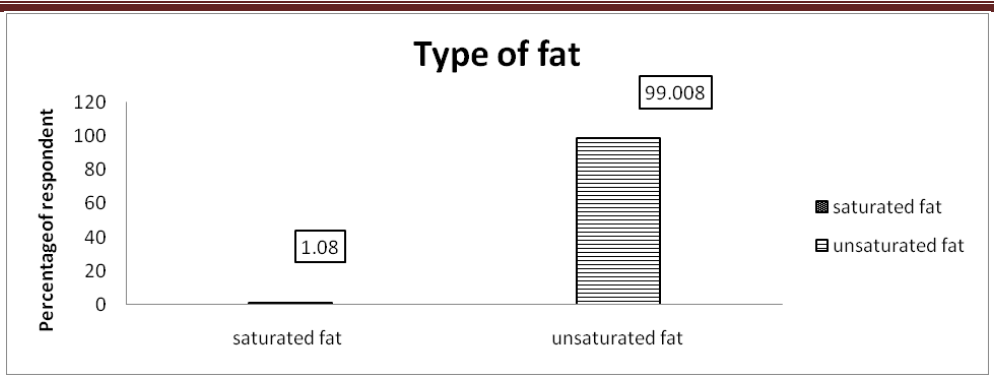


Table: 4 Distribution of the patients according to the BMI.

		Before		After	
S.No.	**Particulars**	**N=184**	**Per cent**	**N=184**	**Per cent**
1	**Underweight**	2	1.08	23	12.5
2	**Normal range**	64	34.81	33	17.93
3	**Overweight**	57	31.0	68	36.99
4	**Grade I obesity**	28	15.23	28	15.23
5	**Grade II obesity**	30	16.30	32	17.4
6	**Grade III obesity**	3	1.63	0	0

Table 4.10 shows that out of total patients, before chemotherapy, 1.08 Per cent patients were underweight, 34.81 Per cent patients were normal, 31.0 Per cent patients were overweight, 15.23 Per cent patients were grade I obese, 16.30 Per cent patients were grade II obese, 1.63 Per cent patients were grade III obese, similarly, after chemotherapy, 12.5 Per cent patients were underweight, 17.93 Per cent patients were normal weight, 36.99 Per cent patients overweight, 15.23 Per cent patients were Grade I obese, 17.4 Per cent patients were Grade II obese, no patients were grade III obese. **According to Renehan *et al.*, (2008)** increased body mass index (BMI) is associated with a significant increase in the risk of breast cancer, although with some differences in age and menopausal status. The association between being overweight (defined as a BMI of 25 to 29.9 kg/m^2) or obese (BMI of 30 kg/m2 or greater) and breast cancer incidence has been found in many studies. Most studies and meta-analysis showed an increased risk of breast cancer for postmenopausal women and an inverse association between obesity and survival after breast cancer.

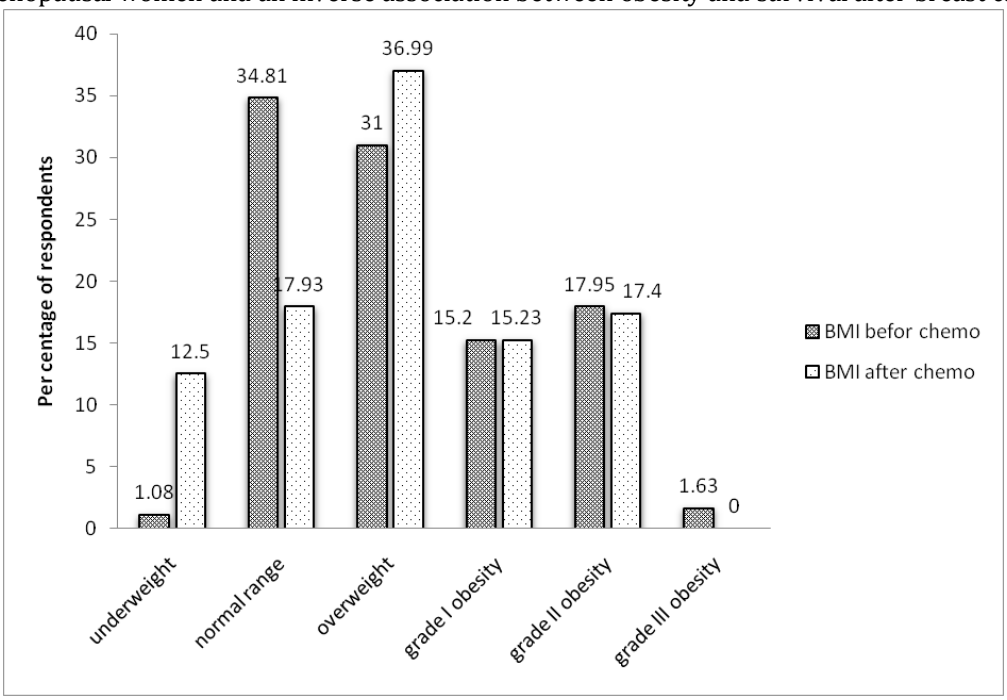


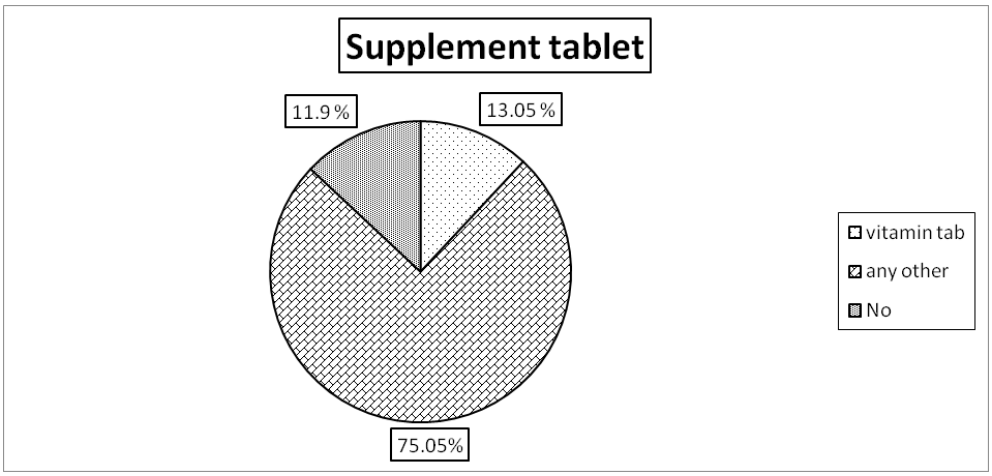
Table 5 Distribution of patients according to their supplement during chemotherapy.

S.No.	Supplement	N=184	Per cent
1	Vitamin tablet	22	11.09
2	Any other (Omega-3 or omega-6, antioxidant)	138	75.07
3	No	24	13.05

Table 5 out of total patients, 11.96 Per cent patients were taking vitamin tablets, 75.07 Per cent patients were taking any other (Omega-3 or omega-6, antioxidant) antioxidant supplements as diet alone is insufficient to provide the amount of antioxidants needed to fight against the cancerous cells, and 13.05 Per cent patients were not taking antioxidant supplements.

Prasad *et al.,* (1999), Lamson *et al.,* (1999), Conklin (2000), Dietary supplementation with antioxidants may provide a safe and effective means of enhancing the response to chemotherapy and improving quality of life by reducing or preventing side effects.

Helen *et al.*, (2003) a daily multivitamin containing supplements at the levels of the Dietary Reference Intakes can be used safely as part of a program of healthy nutrition. In addition, the AICR Cancer Resource Advisory Council concluded that further scientific research is needed to provide a set of firm guidelines for the use of vitamin and mineral supplements by cancer patients during treatment.



CONCLUSION

- It is concluded that out of 184 patients, 66.84 per cent patients were diagnosed breast cancer at the age of 31-50 years. All selected patients had been spent sedentary lifestyle. 61.47 Per cent were vegetarian, 33.18 Per cent were non vegetarian and 5.44 Per cent were ova-vegetarians. Most of the respondents had four meal patterns (breakfast + lunch + evening tea + dinner).
- Most of the patients 64.16 per cent were overweight before chemotherapy and only 34.81 per cent were found in normal category whereas after the chemotherapy 69.62 per cent patients were found in overweight category. According to the finding all patients had been taking bland diet.

REFERENCE

1. Bingham, S. A., Luben, R., Welch. A., Wareham. N., Khaw. K. T. and Day. N.(2003). Are imprecise methods obscuring a relation between fat and breast cancer? Lancet ;362:212–4.
2. Conklin, K. A. (2000). Dietary antioxidants during cancer therapy: impact on chemotherapeutic effectiveness and development of side effects. Nutrition. Cancer 37: 1–18
3. Freedman, L.S., Potischman, N. and Kipnis, V. et al., (2006). A comparison of two dietary instruments for evaluating the fat-breast cancer relationship. International Journal Epidemiology ;35:1011–21.
4. Helen, A., Norman, Ritva, R., Butrum, Elaine, Feldman,David, Heber, Daniel, Nixon, Mary, Frances, Picciano, Richard, Rivlin, Artemis, Simopoulos, Michael, J., Wargovich, Elizabeth, K., Weisburger, and Steven, H. Zeisel. (2003). The Role of Dietary Supplements during Cancer Therapy, Journal of Nutrition, 133,11:(1):3794S-3799S ·DOI: 10.1093/jn/133.11.3794S ·

5. Henderson, B. et al., (1985). Do regular ovulatory cycless increase breast cancer risk? Cancer. 56, 1206-1208
6. Hoare, T., Thomas, C. Biggs, A., Booth, M., Bradley, S. and Friedman, E. (1994). Can the uptake of screening behavior by Asian women be increased? A randomized controlled trial of link worker intervention. Journal of Public Health Medicine, 16(2), 179-185.
7. Jemal, A., Bray, F., Melissa, M.C., Jacques, F., Elizabeth, W., and Forman D. (2011) Global cancer statistics. CA Cancer J Clin. ;61:69–90.
8. Kailajarvi, M., Ahokoski, O., Virtanen, A., Salminen, E. and Irjala, K. (2000). Alteration in laboratory test results during adjuvant breast cancer treatment. Clincal hematology of laboratory Medicine. 38(5):443-51
9. Lamson, D. W. and Brignall, M. S. (1999). Antioxidants in cancer therapy; their actions and interactions with oncologic therapies. Alternate Medicine Review 4: 304–329.
10. National Research Council (1989) Recommended Dietary Allowances,10th ed National Academy Press, Washington, DC
11. National Cancer Institute.(2015). Understanding Breast Changes: A Health Guide for Women. Available at: https://www.cancer.gov/types/breast/understanding-breast-changes
12. Nandakumar, A. and National Cancer Registry Programme. (1990-96). Indian Council of Medical Research, Consolidated report of the population based cancer registries, New Delhi, India
13. P, somdatta., N, baridalynecentre for community medicine And AIIMS. (2008). Awareness of breast cancer in women of an urban resettlement colony. 149-153; 45; 4
14. Prasad, K. N., Kumar, A., Kochupillai, V. and Cole, W. C. (1999). High doses of multiple antioxidant vitamins: essential ingredients in improving the efficacy of standard cancer therapy. Journal of America College Nutrition. 18: 13–25.
15. Reeves, G.K., Pirie, K. and Beral, V. et al., (2007). Cancer incidence and mortality in relation to body mass index in the million women study: cohort study BMJ 335 1134 DOI: 10.1136/bmj.39367.495995.AE PMID: 17986716 PMCID: 2099519
16. Renehan, A.G., Tyson, M. and Egger, M. et al., (2008). Body-mass index and incidence of cancer: a systematic review and metaanalysis of prospective observational studies Lancet 371 569–578 DOI: 10.1016/S0140-6736(08)60269-X PMID: 1828032
17. Rohan, T.E., McMichael, A.J. and Baghurst, P.A. (1988). A population-based case-control study of diet and breast cancer in Australia. American Journal Epidemiology 128: 478-489.
18. Srilakhsmi, B. (2014) Nutrition Science, 7th Edition, New Age International (P) limited. Publisher, 2010, 417-440.
19. Swaminathan, M. (2013) Diet and Nutrition in India. Essentials of food and Nutrition. 2nd Edition
20. World Cancer Research Fund/American Institute for Cancer Research. (2007). Food, nutrition, physical activity, and the prevention of cancer: a global perspective. Washington, DC: AICR,
21. Van-Gils, C.H., Peeters, P.H., Bueno-de-Mesquita, H.B., Boshuizen, H.C. and Lahmann, P.H. et al., (2005). Consumption of vegetables and fruits and risk of breast cancer. JAMA 293: 183-193.