



## IMPACT OF AWARENESS ON BODY MASS INDEX IN BREAST CANCER PATIENTS

**Dr Archana Kushwah**

Assistant Professor, Department of Nutrition, Government PG College, Beenaganj (473118) M.P.

**Dr Shailendra Singh Bhadauria\***

Associate Professor, Department of Biochemistry, Government Medical College, Banda (210001) U.P. \*Corresponding Author

**ABSTRACT** **Background:** Breast cancer is the most common cancer in women both in the developed and the developing countries, comprising 16% of all female cancers. The number of breast cancer patients has risen drastically in the developing world due to increase life expectancy, adoption of western lifestyles and increase urbanization. Indian women typically present late at advanced stages of breast cancer at which little or no benefit can be achieved from any form of therapy.

**Aims and Objectives:** The aim of the present study was to assess the impact of awareness on body mass index (BMI) of breast cancer patients.

**Materials and Methods:** Present study was conducted on 300 patients suffering from breast cancer. Interview schedule was structured to collect information regarding awareness of breast cancer patients. One way ANOVA test was applied to test significant effect on the body mass Index.

**Results:** It was found that the maximum breast cancer patients (N=242) exhibited average of awareness which was found to be (80.67%). The high status of awareness was observed only in 46 (15.33%) breast cancer patients which was comparatively a small number. The least number of breast cancer patients (N=12) showed low status of awareness (4%).

**Conclusion:** The study indicated that disease awareness in breast cancer patients had a non significant effect on their body mass Index.

**KEYWORDS :** Breast cancer, Female cancer, Body mass index

### INTRODUCTION:-

Cancer is a group of diseases that cause cell in the body to change and grow out of control eventually form a lump or mass called a tumor. Breast cancer grows in the breast tissue that is made up of glands for milk production, called lobules, and the ducts that connect the lobules to the nipple. The remainder of the breast cancer is made up of fatty connective and lymphatic tissues. Breast cancer typically produces no symptoms when the tumor is small and most easily cured.<sup>1</sup>

The etiology of breast cancer is not well known till date. However, several risk factors have been suggested to have an influence on the development of this malignant tumor including genetic, hormonal, environmental, socio-biological and physiological.<sup>2</sup> Weight gain or obesity is another potential risk factor which may influence the incidence of breast cancer.<sup>3,4</sup> There are numerous observational studies which have investigated the correlation between obesity and breast cancer.<sup>5,6</sup> However the results are inconsistent. Some researchers believe that body mass index greater than 30 may increase the risk of breast cancer both in pre and post menopausal periods whereas some researchers claim that obesity may reduce the risk of breast cancer during pre menopausal period but increase the risk during postmenopausal period.<sup>7</sup> In an observational prospective study consisting of about 350,000 US women, higher BMI was very significantly associated with increased risk of death from breast cancer. Although the impact of obesity on diabetes and heart disease is well known, its effect on cancer remains largely unexplored in clinical practice and no universal consensus reported on the relationship between BMI and breast cancer.<sup>8</sup>

Present study was aimed to assess the impact of awareness on body mass index in breast cancer patients.

### MATERIALS AND METHODS:-

The study was conducted between July 2016 and June 2018 on 300 breast cancer patients screened at Cancer Hospital and Research Institute, Gwalior in the age group of 30 to 80 years living in Gwalior division of Madhya Pradesh, India who were selected by purposive sampling with all ethical norms. A written consent was obtained from all participating subjects, who were then explained the study design and purpose of the study. This was hypothesized that "there is no significant effect of high, average and low awareness groups upon the mean scores of BMI of breast cancer patients". Interview schedule was prepared to collect information on awareness, regarding causes, prevention and side effect of treatment, their remedies and intake of adequate diet during the treatment. After collection of data tabulation and analysis of data was carried out by one-way ANOVA to test the whether the hypothesis was approved or rejected.

### RESULTS AND DISCUSSION:-

#### Table-1 Level of awareness

Awareness Group	Number of Women	Percentage of Awareness
High	46	15.33%
Average	242	80.67%
Low	12	4.00%
Total	300	100.00%

It is very much evident from the table-1 that 80.67% breast cancer patients exhibited average awareness about breast cancer, 15.33% and 4.00% breast cancer patients were found to have high awareness and low level of awareness respectively. This is consistent with the study, conducted on 333 women to determine the awareness about breast cancer. There is a need for programmes related to awareness to educate women about breast cancer, propagation of correct messages and promote early detection of breast cancer.<sup>9</sup>

#### Table-2 Summary of one-way ANOVA upon the BMI of Breast Cancer patient with regard to high, average and low awareness groups

Source of Variance	Df	Sum of Squares	Mean sum of Squares	F-value	Remark
BMI	2	1.795	0.897	1.747	p<0.05
Error	297	152.592	0.514		
Total	299	154.387			

**p value is non significant at 0.05 level**

It is evident that F-value is =1.747 is non significant at 0.05 level with df =2/297. This shows that there is a non significant difference in the mean scores of BMI of breast cancer patients among high, average, low awareness groups. Thus the null hypothesis stated that there is no significant effect of high average and low awareness groups upon the mean score of BMI of breast cancer patients is accepted. Many research studies revealed that there is no universal consensus on the relationship between BMI and breast cancer supporting the results of our study.<sup>10,11</sup>

### CONCLUSION:-

In the present study it is concluded that awareness among the breast cancer patients about the disease would have no significant effect on their BMI.

### REFERENCES:-

- World Health Organization. Breast cancer: prevention and control. WHO. 2012.
- Moon HG, Han W, Noh DY. Underweight and breast cancer recurrence and death: a report from the Korean Breast Cancer Society. J Clin Oncol. 2009; 27(35): 5899-905.
- Arnold M, Pandeya N, Byrnes G, Renehan PA, Stevens GA, Ezzati PM, et al. Global burden of cancer attributable to high body-mass index in 2015: a population-based study. Lancet Oncol. 2015; 16(1): 36-46.

4. Caan BJ, Kwan ML, Hartzell G, Castillo A, Slattery ML, Sternfeld B, et al. Pre-diagnosis body mass index, post-diagnosis weight change, and prognosis among women with early stage breast cancer. *Cancer Causes Control*. 2008; 19(10): 1319–28.
5. Ademuyiwa FO, Groman A, O'Connor T, Ambrosone C, Watroba N, Edge SB et al. Impact of body mass index on clinical outcomes in triplenegative breast cancer. *Cancer*. 2011; 117(18): 4132–40.
6. Hao S, Liu Y, Yu KD, Chen S, Yang WT, Shao ZM. Overweight as a Prognostic Factor for Triple-Negative Breast Cancers in Chinese Women. *Cancer*. 2015; 10(6): 12-19.
7. Scholz C, Andergassen U, Hepp P, Schindlbeck C, Friedl TW, Harbeck N, et al. Obesity as an independent risk factor for decreased survival in node-positive high-risk breast cancer. *Breast Cancer Res Treat*. 2015; 151(3): 569–76.
8. Berstad P, Coates RJ, Bernstein L, Folger SG. A casecontrol study of body mass index and breast cancer risk in white and African american women. *Cancer Epidemiol Biomarkers*. 2010; 19: 1532–544.
9. Somdatta PI, Baridalayne N. Awareness of breast cancer in women of an urban resettlement colony. *Indian J Cancer*. 2008; 45(4): 149–53.
10. Ryu SY, Kim CB, Nam CM, Park JK, Kim KS, et al. Is body mass index the prognostic factor in breast cancer?: a meta-analysis. *J Korean Med Sci*. 2001; 16: 610–614.
11. Suzuki R, Orsini N, Saji S, Key TJ, Wolke A (2009). Body weight and incidence of breast cancer defined by estrogen and progesterone receptor status-a meta analysis. *Int J Cancer*. 2009; 124: 698–712.