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Original Research Article

Awareness about preventive measures that reduce the risk of breast cancer among menopausal women

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ABSTRACT

Background: Breast cancer is the most common malignant cancer and the second leading cause of cancer death in women. In 2020, there were 2.3 million women diagnosed with breast cancer and 6,85,000 deaths globally. Mortality due to breast cancer is found to be high in the developing countries because they seek medical attention at advanced stages due to lack of awareness and low socio-economic status. As there is no uniform education policy for breast cancer prevention and there is no acceptable strategy for breast cancer prevention throughout the nation, we thought to assess about awareness of preventive measures that reduce risk of breast cancer in menopausal women.
Methods: For data collection, consent was taken from the participants and a questionnaire was given to them through Google form. Once the data was collected, descriptive data analysis was done on it.
Results: This study found that 80.6% of women are aware of the term 'breast cancer' in general. Women are comparatively more aware about primary preventive measures than about secondary preventive measures. The study also found that some women have myths regarding risk factors and preventive measures of breast cancer.
Conclusions: The study found that women are more aware about primary preventive measures than about secondary preventive measures. Also, some women have myths regarding risk factors and preventive measures of breast cancer.

Keywords: Breast cancer, Risk factors, Preventive measures

INTRODUCTION

Breast cancer is the most common malignant cancer and the second leading cause of cancer death in women.[1] The incidence of breast cancer has risen dramatically during the last four decades. In 2020, there were 2.3 million women diagnosed with breast cancer and 6,85,000 deaths globally.[2] Breast cancer has ranked number one cancer among Indian females with age adjusted rate as high as 25.8 per 100,000 women and mortality 12.7 per 100,000 women.[3] The incident cases of breast cancer are expected to increase by more than 40% by 2040 according to GLOBOCAN Cancer Tomorrow prediction tool.[4] Breast Cancer is most common in females over the age of 40 years. The development of breast cancer is a multi-step process involving multiple cell types, and its prevention remains challenging in the world.[5] One of the study concluded that breast cancer is preventable. Reducing breast cancer incidence will likely require both a population-based approach of reducing exposure to modifiable risk factors and a precision-prevention approach of identifying women at increased risk and targeting them for specific interventions as risk-reducing medications.[6] Reducing risk factors and taking chemoprevention are two main measures to prevent breast cancer. However there is a long way to go in creating

public breast cancer awareness. [5] The risk factors for breast cancer are categorized into two types: non-modifiable and modifiable. There is much evidence showing influence of lifestyle and environmental factors on the development of breast cancer.[7] Certain factors that increase the risk of breast cancer are increasing age, obesity, excessive consumption of alcohol, smoking, family history of breast cancer, history of excessive radiation exposure, use of tobacco, inadequate breast-feeding, reproductive behaviors of women (e.g. late age of first labor) and post-menopausal use of hormonal replacement therapy. [5,7] Some risk factors such as age, family history cannot be changed. However, there are certain modifiable risk factors that can lower the risk of development of breast cancer. Behavioral choices and related interventions that reduce the risk of breast cancer include prolonged breast-feeding, regular exercise, maintaining healthy diet, maintaining ideal body weight, avoidance of excessive use of alcohol, avoidance of smoking, avoidance of excessive radiation exposure, avoidance of use of exogenous hormones.[7] Primary and Secondary prevention has a significant impact on morbidity and the detection of cancer.[7] Modification of these risk factors (Primary prevention) contributes to a decrease in morbidity and mortality. Secondary prevention techniques comprises of diagnostic tests [For eg. Mammography, USG, MRI, breast self-examination (BSE) as well as modern and more precise imaging methods] helps in early detection of tumors or lesions predisposing to tumors.[7] Research suggests that Chemotherapy is also used in prevention of recurrence of breast cancer. A study by Nelson HD et al in 2013 proved that selective estrogen receptors modulators reduce the risk of breast cancer but increase the risk of thromboembolism and endometrial cancer. They are thus not recommended for the prevention of breast cancer in women at average risk but it is recommended they be offered for those at high risk and over the age of 35. Mortality due to breast cancer is found to be high in the developing countries because they seek medical attention at advanced stages due to lack of awareness and low socio-economic status. Detection of malignancy at advanced stages mainly leads to high death rates in India.[8] The Government of India initiated a national program for the prevention and control of cancers (breast, cervix), diabetes, cardiovascular and stroke (NPCDCS) during 2010-2011.[9] The primary focus of NPCDCS is on the promotion of healthy lifestyle, screening, early diagnosis and treatment.[9] Studies have shown that majority of women in developing countries do not perform breast self-examination (BSE). The reasons for the low rate of BSE among these women include fear of finding that they have breast cancer, inadequate knowledge regarding how to perform BSE, and lack of awareness about what to do if a lump is found. Studies have reported that these barriers can be eliminated by BSE education. Extending women's knowledge regarding the impact of their behavior on breast cancer development and educating them about the possibilities to gain control over this disease by implementing modifications of their habits is an important aspect.[7] As there is no uniform education policy for breast cancer prevention and there is no acceptable strategy for breast cancer prevention throughout the nation, we thought to assess about awareness of risk factors, preventive measures that reduce risk of breast cancer in menopausal women.

METHODS

This is a cross sectional study conducted between the months of December 2021- June 2022. The study participants were recruited through convenience sampling method from community settings of Pune with a sample size of 170 menopausal women. Sample size was calculated using the formula;

$$Sample\ size\ = Z1-\alpha/22\ p\ (1-p)/d2$$

The research population was menopausal women belonging to age group of 45-65 years of age. The women who have or had breast cancer were excluded from the research. Institutional Ethical Committee approval was obtained. Following that a structured questionnaire was made and validated from experts to assess the level of awareness. The questionnaire consisted of 14 close-ended questions about breast cancer risk factors, primary preventive measures, signs of breast cancer, BSE and mammogram. Post-validation, the Questionnaire was translated into vernacular language and was validated. Participants were explained about the purpose of the study and their consent for participation was taken. The questionnaire was distributed to them through Google form to be filled. Women were asked to fill all the questions compulsorily. Once the data was collected, descriptive data analysis was done on it using Microsoft Excel Worksheet 2010.

RESULTS

Profile of study participants

The study included menopausal women between age group of 45-65 years of age and mean age of women who participated in the study is 54 years. 74.70% of women are Housewife/ Non-working women. The percentage of women with different educational level is depicted in (Table 1).

Table 1: Profile of study participants.

Level of Education	%
School up to 12th class	64.11%
Undergraduate	17.64%
Post-graduate	18.82%

Breast cancer awareness

This study found that 80.6% of women are aware of the term 'Breast cancer' in general.

Awareness about risk factors of breast cancer

The graph in (Figure 1) shows that 56.5% of women believed that Family history of breast cancer is the risk factor for development of breast cancer which is one of the major non-modifiable risk factor. Amongst common modifiable risk factor, following percent of women believed that Physical Inactivity (42.9%), unhealthy diet (32.4%), smoking (26.5%), excessive alcohol consumption (25.9%) leads to development of breast cancer. Comparatively, more no. of women were aware about modifiable risk factors than non-modifiable risk factors.

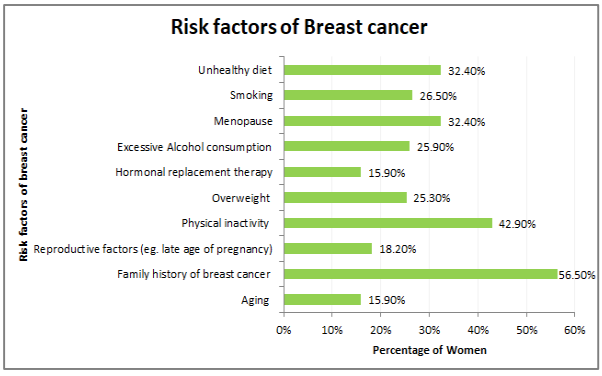

Figure 1: Risk factors of breast cancer.

Awareness about primary preventive measures

The Graph in (Figure 2) shows that women are aware that maintaining healthy diet (70.6%), performing Regular Physical exercise (65.9%) and Maintaining Ideal body weight (50.6%) helps to prevent development of breast cancer.

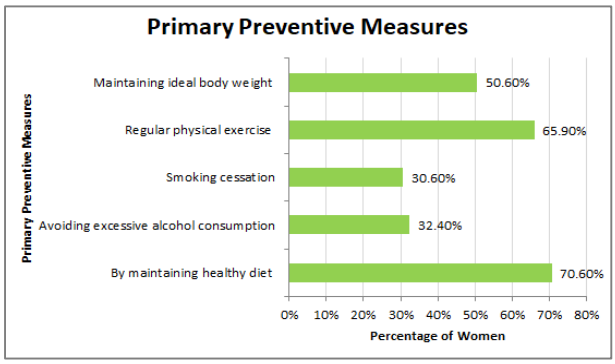

Figure 2: Primary preventives measures of breast cancer.

Awareness about signs of early detection of breast cancer

Graph in the (Figure 3) shows that 78.8% believe that mass in breast is one of the major signs of early detection of breast cancer which is also concluded in many literatures.

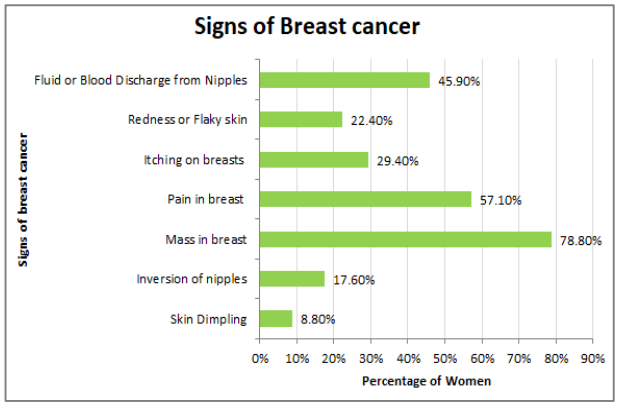

Figure 3: Signs of breast cancer.

Awareness about secondary preventive measures

BSE: Awareness about BSE was studied in two ways - one whether they are aware about the proper method of BSE and other that they have only heard about the name of BSE. As seen in Figure 4, only 27.6% of women are aware about what is BSE. Out of 27.6% of women who are aware about BSE, only 34.1% of women perform BSE. 65.9% of women have never performed BSE. 65.3% of women think that BSE is helpful in early detection of breast cancer and 31.8% of women don't know whether it is helpful in early detection or not. Mammogram screening: The graph in (Figure 4) shows that 21.8% women are aware about mammogram screening. 50.6% women think that mammogram should not be done regularly.

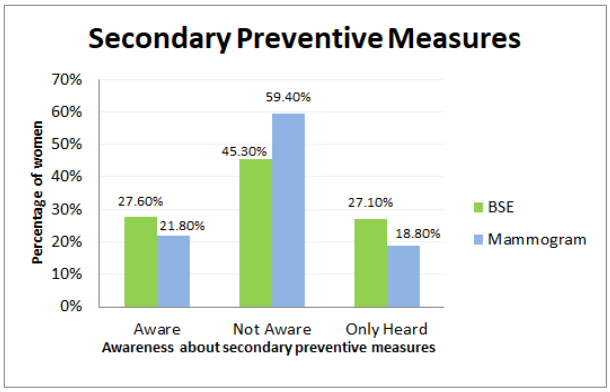

Figure 4: Secondary preventive measures of breast cancer.

Myths about risk factors and preventive measures of breast cancer

As seen in (Figure 5), women have myths like wearing inappropriate size bra (30%), leads to breast cancer. As seen in Figure 6, 42.4 % of women have myth that Wearing ideal size bra can prevent development of breast cancer. 38.8 % women have myth or false belief that medicines cannot prevent breast cancer.

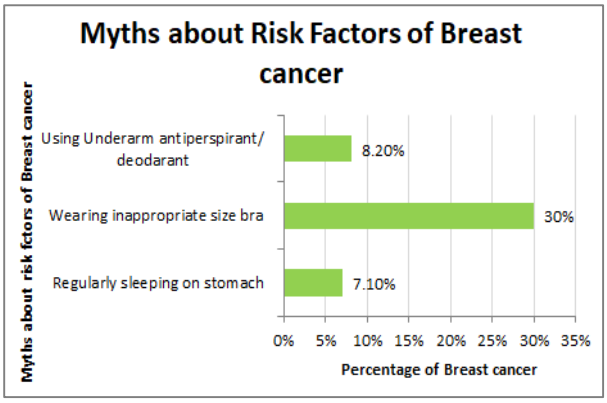

Figure 5: Myths about risk factors of breast cancer.

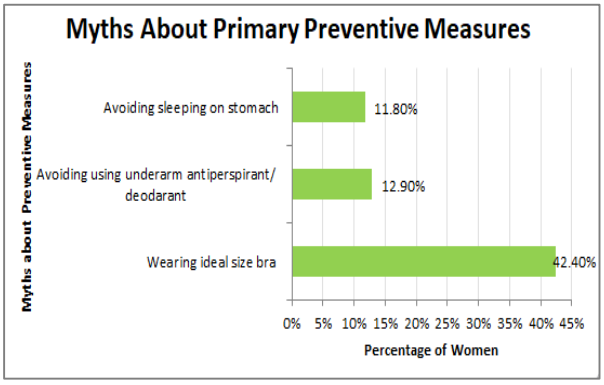

Figure 6: Myths about primary preventive measures.

DISCUSSION

The aim of the study was to assess the awareness about preventive measures of breast cancer in menopausal women. This study found that 80.6% of women are aware about the term 'Breast cancer'. According to the data analysis, it was found that less than half of women were aware about the risk factors of breast cancer. Women believed that physical inactivity is one of the commonest modifiable risk factor, followed by unhealthy diet, smoking, excessive alcohol consumption which is similar to the results found in the study by Subramanian et al in South India which also concluded low awareness about risk factors.[5] Additionally a study was done in low-socioeconomic area of Mumbai by Prusty et al which found that most women (44%) believed excessive alcohol consumption is the commonest risk factor for development of breast cancer.[8] On contrary, in this study it was found that less percent of women (25.9%) are aware about excessive alcohol consumption being a risk factor for breast cancer as shown in (Figure 1). It is also found that only 15.9% of women are aware that taking hormonal replacement therapy after menopause is a risk factor for breast cancer. The reason for this is reduced awareness about hormonal replacement therapy among women (21.76%) as seen in (Figure 1). Family history of breast cancer is being considered as one of the major risk factors by 56.5% of women. This means that some women are aware about genetic association of breast cancer. Knowledge regarding genetic association of breast cancer among women will help in identifying high risk women and help them approach hospitals earlier for screening procedures. This study gives a better understanding of the amount of awareness among women regarding various risk factors and preventive measures of breast cancer. The study also found that some women have myths regarding risk factors of breast cancer. Wearing inappropriate size bra is being considered as risk factor by 30% of women. This could be due to false or misleading information surfacing on social media which is highly used now-a- days.[10] This study found that more number of women were aware about lifestyle modifications than about addiction withdrawals as preventive measures of breast cancer. The probable reason for this could be due to more communication among women regarding lifestyle modification than about addiction withdrawal due to stigma related to smoking and alcohol consumption for women in Indian culture. Also there has been study done by Nirmala et al which proved that education intervention focused on health-promoting lifestyle management was effective in improving knowledge and attitude about life-style modification in post-menopausal women.[11] It was found that women have some awareness about primary preventive measures but also have myths or false beliefs regarding it. Wearing ideal size bra is considered to prevent development of breast cancer which correlates to the other finding of the study that wearing inappropriate size bra is risk factor for breast cancer as seen in (Figure 5 - 6). These false believes among women could be due to false or misleading information surfacing on social media.[10]

Secondary preventive measures include early detection of breast cancer by identifying signs and symptoms of breast cancer, by BSE and by screening methods like mammography. This study found that 78.8 % of women are aware that mass in breast is one of the major signs of breast cancer which could be due to basic knowledge among women about tumor being a mass. Women are also aware about other signs of breast cancer like pain in breast, fluid or blood discharge from nipples, itching on breast, redness or flaky skin, inversion of nipples and skin dimpling but to a lesser extent. Similar results were found by Brijesh et al in their study done on female residents in Nepal.[12] This could be due to lack of information or misleading information being surfaced on social media page or website or television advertisements, etc. It was also found that 65.3% of women think BSE is helpful in early detection of breast cancer but only 34.1% of women perform it which could be due to lack of awareness about BSE as found in the study. The study found that less no. of women (49.4%) think that mammogram should be done regularly in high risk women. This could be due to lack of awareness about mammogram screening among women as found in the study. The study by Brijesh et al done in Nepalese women also found low awareness about BSE and Mammogram. Less education among women could be one of the reasons of low awareness of breast

cancer among women. Similarly it was found that there is low awareness about breast cancer in less educated women in a study by Prusty et al in Mumbai.[13] Overall this study found that women are comparatively more aware about primary preventive measures than about secondary preventive measures which could be due to more emphasis on lifestyle modifications in awareness programs than about early diagnosis. The reason for this being limited health communication campaigns about the importance of screening for breast cancers, eligible age groups for screening, access to screening centres, and the government screening program.[14] This study concluded that women are comparatively more aware about primary preventive measures than about secondary preventive measures however there is still need for more awareness among women regarding it. The study advances knowledge of the readers about percentage of population of menopausal women aware about the different risk factors and preventive measures of breast cancer. Considering the fact that there is an epidemic of breast cancer, lesser knowledge about risk factors, preventive measures will further increase the burden of breast cancer and lesser knowledge about signs and symptoms of breast cancer will lead to delay in seeking treatment for breast cancer among women. Hence to overcome the emerging pandemic, it is responsibility of medical professionals to extend women's knowledge regarding modifiable risk factors and preventive measures. The questionnaire circulated among the study participants was structured in English and Vernacular Language hence women who could not read these languages were not recruited in the study which is the limitation of the study.

CONCLUSION

The study found that women are more aware about primary preventive measures than about secondary preventive measures. Also, some women have myths regarding risk factors and preventive measures of breast cancer.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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