RESEARCH COMMUNICATION

Breast Cancer: Awareness and Risk Factors in College-going Younger Age Group Women in Rajasthan

Priyanka Yadav*, D P Jaroli

Abstract

<u>Objectives</u>: To determine awareness about breast cancer and its risk factors. <u>Study design</u>: Community based prospective cross sectional analysis. <u>Setting</u>: College-going younger age group women of Rajasthan, with women's knowledge about breast cancer, risk factors, treatment, detection and preventive modalities as main outcome measures. <u>Results</u>: All the respondents had heard of breast cancer. Awareness about breast mass/lump to be cardinal symptom of breast cancer was true for 65% of respondents. The main early diagnostic modality mammography was known by 19% of respondents while 49% aware about ultrasonography. Some 28% of the women were not aware about self breast examination. <u>Conclusions</u>: Women do have knowledge deficits about breast cancer and various related factors.

Keywords: Breast cancer awareness - lump characteristics - mammography - India

Introduction

Despite decreases in the cancer death rates in high-resource countries, such as the USA, the number of cancer cases and deaths is projected to more than double worldwide over the next 20-40 years. Cancer is now the third leading cause of death, with >12 million new cases and 7.6 million cancer deaths estimated to have occurred globally in 2007. By 2030, it is projected that there will be ~26 million new cancer cases and 17 million cancer deaths per year. The projected increase will be driven largely by growth and aging of populations and will be largest in low- and medium-resource countries. Under current trends, increased longevity in developing countries will nearly triple the number of people who survive to age 65 by 2050 (Thun et al., 2010).

Incidence of breast cancer in India too is rising steeply and catching up with rates in western world at present. Breast cancer accounts for 19.3% of all cancer cases among women. The age standardized incidence rates here vary from 9-28.6% per 100,000 women. A 2005 study conducted by the international association of cancer research, based in Lyon, France, projected that there would be 250,000 cases of breast cancer in India by 2015 a 3% increase per year currently. In the present scenario India reports roughly 100,000 new cases annually and 1 in 26 women are expected to be diagnosed with breast cancer in their life time (Raina et al., 2005). Undoubtedly breast cancer will become an epidemic in India in another 10 years, if the current status of detection continues. As there is no exact etiological agent for breast cancer, early diagnosis and treatment is of paramount importance in improving the morbidity and mortality status. It has

also been cited and validated in many studies that early detection reduces mortality by 30 % (Shyyan et al., 2006).

Breast cancer among Indian women is the second most common cancer after cervix and is already the leading cancer in certain metros. Approximately 80 000 cases are estimated to occur annually; the age adjusted incidence rates varying between 16 and 25/100 000 population. Statistics also show that locally advanced breast cancer constitutes more than 50-70% of patients presenting for treatment. Lack of awareness regarding the disease coupled with nonaffordability or nonavailability of facilities for early detection and treatment are some of the major determinants of this. Today more than 50% of cancer patients seek treatment in advanced stage and the onus is primarily shared by the inadequate awareness about breast cancer (Rao et al., 2005).

However, when there is no established national screening program for breast cancer, it is pertinent to assess the knowledge about various modalities of early detection too. Of the various methods of detection for breast cancer, mammography is the method of choice in other side of globe but in developing world its use is limited, owing to high cost and its abysmal awareness in masses. Under these circumstances breast self examination (BSE) is an appropriate, convenient and cost effective method that can be done by every woman with little training.

Various studies on breast cancer published from India reflect the disease profile and treatment. The breast cancer awareness at community level is largely unrepresented. Hence, the present exploratory study was designed to gather information pertaining to breast cancer and related variables, so as to plan future interventions in this field.

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Materials and Methods

The study was conceived in the field practice and the adjoining area of urban educational centre of Jaipur district of Rajasthan. The survey sample comprised 407 women aged 17–23 years. This study was done from June 2009- October 2009.

Study Design:

A Community based prospective cross sectional analysis. Participants: Women, above 17 yrs of urban educational centre of Jaipur district of Rajasthan. Sample size: In the pilot survey done in the same area, the percentage of women aware of breast cancer was found to be 50%. So, taking this factor at 95% confidence interval and 10% permissible error, a sample size of 370 was calculated. Considering the refusal rate to be 10%, 407 females were thought to be contacted to reach predetermined sample. Out of 407, 23 (5.6%) had no interest and filled incomplete questionnaire, 15 (3.7%) lack of time and said no belief in such activities.

Sampling Design:

Stratified random sampling was used for selection of study subjects. First, by help of random number tables, the number of first college was selected. Then, the women in every alternative college, above 17 yrs, were interviewed. If the woman had no time or no belief in such activities, then next woman was chosen. If contacted woman was not co-operative during visit then the subject was considered as non respondent. Hence in total 369 subjects were enrolled

Instruments and Techniques:

For collecting information instrument so used was questionnaire was designed after discussing with experts of this field as well as with help of breast cancer awareness questionnaire (L Linsell, CC Burgess and AJ Ramirez, 2008). It was modified with necessary changes so felt after the pilot study. The data was gathered by research scholar of university of Rajasthan. The main part consist of five heading dealing with knowledge of breast cancer symptoms, knowledge of the risk of developing breast cancer and solicited information pertaining to awareness of diagnostic modalities. In the first question, participants were provided with a description of 11 breast cancer symptoms and asked which ones were symptoms of breast cancer. A score was produced of the number of symptoms correctly identified (range 0–11). Details of the other categorical items used in the questionnaire are shown in result section.

The women were interviewed after explaining them the purpose of study and to encourage responses from them, the subjects were interviewed after establishing rapport and assuring them of confidentiality.

Statistical Analysis:

Data was collected, complied and analyzed. It was analyzed using Biostatistics formulas. Also statistical comparisons were examined for major variables in the study.

Results

In total, 392 women (excluding 15 women who were having lack of time) of Jaipur, constituted the study population. The median age of respondents was 21 years. Majority of respondents were of age group >18 years.
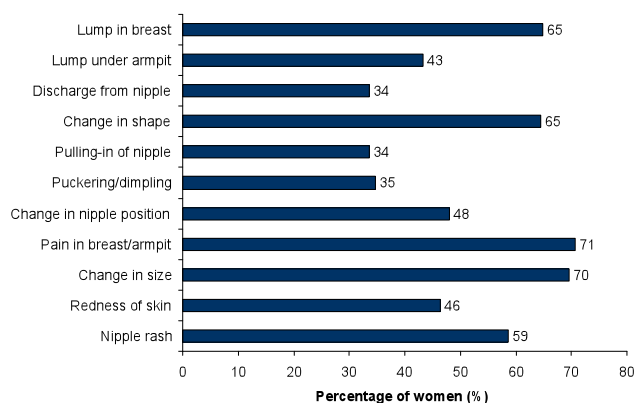
Knowledge of breast cancer symptoms:

Most women (over 50%) were aware that a lump in the breast, change in shape/size, nipple rash or pain in breast/armpit was a symptom of breast cancer (Figure 1).

However, they were less knowledgeable about other symptoms; less than half of the women recognized a redness of skin, lump under armpit and change in position of nipple as signs of breast cancer. The median number of symptoms identified from the set of 11 provided was

Table 1. Summary of Responses to Breast Cancer Awareness Questionnaire (n = 392)

Questionnaire item	Response categories	Median
Knowledge of breast cancer symptoms		
Which of the problems below do you think could be a symptom of breast cancer? (n=392)	Scattered list of 11 breast cancer symptoms provided	6
Knowledge of risk		N (%) of women
How many women will develop breast cancer in their lifetime? (n=360)	1 in 3 women	10 (3)
	1 in 9 women	110 (31)
	1 in 100 women	147 (41)
	1 in 1000 women	75 (21)
	1 in 10 000 women	18 (5)
Does your age make you more or less likely to develop breast cancer? (n=392)	More likely	110 (28)
	No difference	140 (36)
	Less likely	142 (36)
How often do you examine your breasts? (n=294)	Weekly	56 (19)
	Monthly	97 (33)
	Every 6 months	58 (20)
	Rarely or never	83 (28)
Awareness of diagnostic modalities (n=392)	Mammography	76 (19)
	Ultrasonography of breast	192 (49)
	Others	22 (6)
	No knowledge	102 (26)

Figure 1. Proportion of Women Identifying Each Symptom from a set of 11 Potential Breast Cancer Symptoms (n=392)

6, for the whole sample (Mean: 5.5, 95% CI: 5.2–5.7).

Knowledge of risk of developing breast cancer:

Women were overly optimistic regarding a woman's lifetime risk of developing breast cancer, with more than half believing that the chances were less than 1 in 100 (Table 1). Around a third (31%) correctly indicated a 1 in 9 risk, whereas a small proportion (3%) overestimated the risk to be 1 in 3.

Most of the women were also not aware of the increased risk of breast cancer with age; one third (36%) believed they were less at risk whereas 36% perceived no difference. Around fifty percent of the women reported that they checked their breasts on a weekly or monthly basis (52%), but one third (28%) claimed that they rarely or never checked their breasts for changes (Table 1).

Awareness of diagnostic modalities:

Mammography option was answered by (19%) and fifty percent thought that USG breast are the investigation methods for diagnosis. One quarter of respondents was not aware about the diagnostic modalities.

Discussion

Breast cancer is commonly diagnosed at late stages in countries with limited resources. Efforts aimed at early detection can reduce the stage at diagnosis, potentially improving the odds of survival and cure, and enabling simpler and more cost-effective treatment. Early detection of breast cancer entails both early diagnosis in symptomatic women and screening in asymptomatic women. Key prerequisites for early detection are ensuring that women are supported in seeking care and that they have access to appropriate, affordable diagnostic tests and treatment. We therefore propose the following sequential action plan: 1) promote the empowerment of women to obtain health care, 2) develop infrastructure for the diagnosis and treatment of breast cancer, 3) begin early detection efforts through breast cancer education and awareness, and 4) when resources permit, expand early detection efforts to include mammographic screening. Public education and awareness can promote earlier diagnosis, and these goals can be achieved in simple and cost-effective ways, such as dissemination of messages through mass media. All women have the right to education about breast cancer, but it must be culturally appropriate and targeted and tailored to the specific population.

When resources become available for screening, they should be invested in screening mammography, as it is the only modality that has thus far been shown to reduce breast cancer mortality. Clinical breast examination (CBE) and breast self-examination (BSE) are important components of routine breast care in countries with access to mammography and are important for general breast health education in all countries. However, the evidence does not support the use of CBE and BSE as lifesaving screening methods at this time, recognizing that data from countries with very limited resource are lacking. When widespread screening is not possible, screening can begin in an institution, city, or region, or by targeting screening to women at highest risk. A pilot program can be an ideal way to define the best approach to screening. To succeed, early detection efforts must include the health care providers with whom women have contact; these providers may be physicians, nurses, midwives, traditional healers, or others. There are tremendous differences among and within countries, and a program to promote early detection must be tailored to each country's unique situation. (Anderson et al., 2003).

The findings of this study depicted a wide gap in knowledge about breast cancer and its risk factors among younger college going women of Jaipur, Rajashan. Though all of the women had heard about breast cancer but only half of them were aware of the cardinal symptoms of breast cancer. This indicates that in spite of massive efforts done globally and nationally, for awareness of breast cancer knowledge has not reached at the community level. The onus for this lies on the inadequate or inefficient education. Now due to globalization and adoption of western life styles, Indian Women are marrying late, not having first child birth at an early age and also not breast feeding till long. These are the risk determinants of breast cancer as evident in many studies (Grindel et al., 2004).

In India mortality due to breast cancer is high with incidence/mortality ratio of 0.48. Main contributing factors for increased mortality is late diagnosis and the cause is basically attributed to lack of access to medical facilities virtually non existent breast cancer screening programs and lack of awareness detecting techniques (Raina et al., 2005). The ignorance about how to go for investigation on a suspicion of a case of breast cancer was pretty evident by the fact that 19% of them thought that mammography breast is the way to diagnose it. Low response was elicited for mammography; cause was of course lack of awareness.

In developing countries owing to resource crunch and diagnostic facilities being too costly, breast self examination is an effective and economic preventive mode. Hence, early detection and screening by self examination has to generated and promoted. Many studies have corroborated to the above findings that poor information about risk factors lead to low prevalence of self examination among participants. Almost 50% of participants were knowledgeable about BSE. On asking them about how to elicit it, only few were aware of correct methodology.

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Despite numerous breast cancer early detection campaigns being organized locally and a lot of activities done nationally by Government, women still displayed knowledge deficits. Our study highlights the need for awareness and wide scale cancer screening activities in consistence with local beliefs. Also, educational efforts should be designed specifically to influence variables related to compliance with early breast cancer detection behaviors.

Along with this cancer prevention program should emphasize the provision of factual information about cancer and cancer screening behaviors in the context of an exploration of inaccurate beliefs about cancer that may inhibit health behaviors. It was felt that women cancer screening practices must be reinforced and also women must be educated to practice recommended age appropriate breast cancer screening.

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