ORIGINAL ARTICLE

Knowledge, attitude and preventive practices of South Indian women towards breast cancer

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ABSTRACT

Background: Indian women typically present late at advanced stages of breast cancer when little or no benefit can be derived from any form of therapy. Recent global cancer statistics indicate that incidence of breast cancer is rising and the increase is occurring at a faster rate in populations of the developing countries that hitherto enjoyed low incidence of the disease. This prevailing situation supported by recent data suggesting that health behavior may be influenced by level of awareness about breast cancer, prompted us to design a cross-sectional study to assess the knowledge, attitude and practices of community-dwelling women in South India towards breast cancer. **Methodology:** Three hundred community-dwelling women from rural and peri-urban neighborhoods in Medchal mandal of Andhra Pradesh province, India were recruited for the study in May and June 2011. Data was collected using interviewer-administered questionnaires designed to elicit socio-demographic information and knowledge, attitude and practices of these women towards breast cancer. Data analysis was carried out using Epi_Info. **Results:** Study participants had poor knowledge of breast cancer. 21.4% participants knew that breast cancer presents commonly as a painless breast lump. Practice of breast self examination was low; only 4.58% participants were aware of the procedure, and none had clinical breast examination in the past year. Women with higher level of education (X^2=33.446, p<0.001) and those who were married (X^2=10.176, p<0.05) were significantly more knowledgeable about breast cancer. **Conclusion:** Community-dwelling women in Medchal mandal have poor knowledge of breast cancer, with minority practicing BSE and none practicing CBE. Educational status appears to be the major determinant of level of knowledge and health behavior among the study participants. We recommend establishment of policy guidelines that will enhance adequate and urgent dissemination of knowledge about breast cancer to all women in South India.

Key words: *Breast cancer, breast self examination, South India*

INTRODUCTION

Breast cancer, the most common cancer causing the largest burden of cancer deaths in women worldwide [(1)], accounts for 19-34% of all cancer cases among women in India.[(2)] The incidence of breast cancer is gradually overtaking cancer of the cervix which was hitherto the major cancer among Indian women. Usually, it is after the age of 45 years that breast cancer develops, but current evidence is suggestive of decreasing age of onset. [(3)] Most of the patients seek medical advice when the disease is fairly advanced. For women with symptomatic breast cancer, prolonged delay, defined arbitrarily as an interval greater than 3 months from first detection to time of diagnosis and treatment has been shown to be associated with increased tumor size and more advanced stage of disease and with poor long-term survival.[(4)] An estimated 20–30% of Caucasian women wait for at least 3 months before seeking help for breast cancer symptoms[(5)] compared with over 70% of Indian women presenting with advanced stages at which time little or no benefit is derived from any form of therapy resulting in poor survival and high mortality rates.[(6)]

The incidence/mortality ratio in India is 0.48 compared with 0.25 in North America.[7] The recent fall in deaths from breast cancer in Western Nations is partly explained by earlier diagnosis as a result of early presentation. Understanding the factors that cause patient delay is, therefore a prerequisite for development of strategies to shorten delays.[8] Evidence suggests that older women in the developed countries are more likely to delay their presentation with breast cancer[9], whereas other data indicate that factors related to women's knowledge and beliefs about breast cancer and its management may contribute significantly to medical help-seeking behaviors.[10-12] It has also been shown that women of low socio economic strata have a low incidence of breast cancer compared to women of higher socio economic strata, but they experience a higher mortality rate, due to higher late stage diagnosis.[13]

The three screening methods recommended for breast cancer include breast self-examination (BSE), clinical breast examination (CBE), and mammography. Unlike CBE and mammography, which require hospital visit and specialized equipments and expertise, BSE is inexpensive and is carried out by women themselves. Several studies, based on breast cancer patient's retrospective self-report on their practices of the exam, have established that a positive association exists between performance of the exam and early detection of breast cancer.[14] There is also evidence that most of the early breast tumors are self-discovered and that the majority of early self-discoveries are by BSE performers.[15]

Breast cancer presents most commonly as a painless breast lump; a smaller proportion of women have non-lump symptoms. For women to present early to hospital, they must be able to recognize symptoms of breast cancer through routine practice of screening. Routine mammography cannot be recommended in developing countries for financial constraints and the lack of accurate data on the burden of breast cancer in these countries. Few studies, mostly on small samples in specialized groups have examined the knowledge, attitude and practice of women towards breast cancer in India.[16-18] Very few of them have been done on community-dwelling women who constitute the majority of at risk women both for the disease and late presentation. The present study was, thus, designed to evaluate the knowledge, attitude, and practices of community-dwelling women from a rural community in Medchal mandal, Andhra Pradesh towards breast cancer.

METHODOLOGY

The present cross sectional study was conducted from March through July, 2011, and included 300 women visiting a teaching hospital in Medchal Mandal, Andhra Pradesh from its rural and peri-urban field practice area with a population of approximately 52,000. Participants, females of all ages who were either patients or caretakers, were recruited randomly from the out- patient departments of the hospital. The Institutional Research and Ethics Committee of Mediciti Institute of Medical Sciences approved the study protocol and written informed consent was obtained from study participants prior to inclusion.

Data was collected using questionnaires administered by a trained interviewer, designed to obtain relevant socio-demographic characteristics, knowledge, attitude and practice towards breast cancer. The questionnaire, including questions on Socio-demographic information relating to age, educational status, place of residence and marital status, and specific questions about knowledge of the common symptoms and signs of breast cancer and diagnostic procedures available for the disease, as well as attitude towards breast cancer and practice of breast self examination (BSE) and clinical breast examination (CBE) was developed by the authors based on information in the literature on risk-factors, common symptoms and signs of breast cancer, and common methods of early detection for the disease. The questionnaire was pre-tested in a nearby village and adopted for

use according to feasibility. Women presenting from the pretested village were excluded.

Data analysis was done using the Epi_Info 2000 Version 8.5. Chi-square test was used to assess relationship between knowledge and socio-demographic variables. The practice of breast self-examination (BSE) was examined to determine factors that might influence this behavior. Variables considered for this analysis included education, age, and marital status. The differences were considered to be statistically significant at p value less than 0.001.

RESULTS

Socio-demographic characteristics

Three hundred women were included in the study. The socio-demographic characteristics of study participants are shown in Table 1. The ages of the women ranged from 15–45 years with a mean of 26.50 ± 7.16 years. Majority (88.33%) of the study participants were married. About 28.67% of the participants were illiterate, 8.33% had primary education, 37.00% had secondary education and 14.33% had intermediate education while 11.67% were graduates. The mean years of schooling were 7.16 ± 5.18 years.

Knowledge about breast cancer

The questionnaire was designed to elicit participant's knowledge in three key areas, including risk factors for breast cancer and common symptoms, methods of early detection, and their attitudes and practices including practice of breast self examination (BSE) and clinical breast examination (CBE). Knowledge about breast cancer was present in less than half (43.67%) of the participants. Their knowledge about symptoms of breast cancer was poor. Very few participants (28 out of 131; 21.37%) knew that breast cancer presents commonly as a painless breast lump. Fewer participants (6.87%) were able to respond correctly to questions on non-lump symptoms of breast cancer such as pain in the breast, nipple discharge and ulceration of the nipple. It was also found that knowledge about risk factors for breast cancer was low. For example, in response to the question on whether breast cancer could be inherited, only 18 (13.74%) were aware that breast cancer could be inherited among families. In terms of methods of diagnosis, only six participants (4.58%) out of the 131 who were aware of breast cancer were able to correctly identify breast self-examination (BSE) as a method for detection of breast cancer. None of the participants had ever heard about clinical breast examination (CBE).

Table 1: Distribution of respondents according to socio-demographic characteristics (N=300)

Variable	Number	Percentage
Age distribution (years)		
15-19	26	8.67
20-24	135	45.00
25-29	55	18.33
30-34	28	9.33
35-39	27	9.00
40-45	29	9.67
Marital status		
Married	265	88.33
Unmarried	35	11.67
Education		
Illiterate	86	28.67
Primary	25	8.33
Secondary	111	37.00
Intermediate	43	14.33
Graduate	35	11.67
Place of residence		
Rural	225	75.00
Peri-urban	75	25.00

Attitude towards breast cancer and practice of Breast Self- examination

Seeking medical help was cited as the best approach to breast cancer care by majority of participants (70.23%). Only 11 (8.40%) indicated visiting alternative health practitioners for breast cancer care. In terms of practice, only six participants (4.58%) were aware of and periodically conducted BSE; the source of information about BSE was from the health workers in 50% participants, newspapers in 33.33%, televisions in 16.67% and through friends in 16.67% participants (Table 2). None of the participants had clinical breast examination (CBE) in the past year, the main reason cited for which was non- awareness about CBE.

Table 2: Distribution of respondents according to practice of breast self examination

Parameter	Number (%)
Practice of breast self examination	6 (4.58)
Source of knowledge of breast self examination	
Health worker	3 (50.00)
Television	1 (16.67)
Newspapers	2 (33.33)
Friends and others	1 (16.67)

Determinants of knowledge of breast cancer

Only 131 participants (43.67%) had knowledge of breast cancer. Knowledge was found to be significantly related to level of education and marital status as shown in Table 3. Although age was not significantly related to knowledge, we found that more number of younger women appeared to have correct knowledge compared with older women. 48.61% of women aged less than 30, compared with 27.27% of those aged 30–39 years and 37.93% of those aged 40 years and above, had knowledge of breast cancer (X^2=8.54,df=2,p=0.014). Place of residence was not significantly related to knowledge.

Table 3: Knowledge of breast cancer according to socio- demographic variables

Variables	Knowledge of breast cancer		X^2	P value
	Present n=131	Absent n=169		
Education				
Illiterate	14	72	33.446 *d.f.*=4	<0.0001
Primary	7	18		
Secondary	53	58		
Intermediate	28	15		
Graduate	29	6		
Marital status				
Married	104	161	10.176 *d.f.*=1	0.0014
Unmarried	27	8		
Age				
< 30 years	105	111	8.54 *d.f.*=2	0.014
30–39 years	15	40		
≥ 40 years	11	18		

DISCUSSION

The findings of this study suggest that community-dwelling women in Medchal region of Andhra Pradesh have rather poor knowledge of breast cancer and highlight the abysmal level of ignorance about risk factors and common symptoms of breast cancer amongst this representative sample of rural South Indian women. The low level of knowledge found in this study is similar to reports from other Indian states [16-18] as well as developing countries.[4,10,19,20] Uche [19] reported only 32% of the women having knowledge of breast lump as a warning sign for breast cancer, 58.5% being unaware of most warning signs and only 9.8% knowing methods of detecting breast cancer. We found that only 21.4% women were aware of a painless breast lump as a common presentation of breast cancer and far less proportion of these women were able to identify non-lump presenting symptoms of breast cancer, while only 43.2% were aware of BSE as a screening tool for breast cancer. Even professional health workers such as nurses were reported to have similar low knowledge scores with Odusanya and Tayo[10] finding that only 27% of nurses in a tertiary health institution in Lagos, Nigeria could identify up to 3–4 risk factors for breast cancer. In addition, 51% of these nurses wrongly identified the using fingertips for performing BSE.

These results among South Indian women are not in agreement with reports from the Western counterparts. Grunfeld *et al*.[21] reported that 90%, 70%, and 60% of the British women respectively, were able to quantify the relative risk of breast cancer associated with family history, previous history of breast cancer, and smoking, respectively. They also found that over 70% of the surveyed women were able to identify painless breast lump, lump under the armpit and nipple discharge/bleeding as symptoms of breast cancer. However, a much smaller proportion was able to recognize other non-lump symptoms such as dimpling of the breast skin, inversion/pulling in of the nipple, and scaling/dry skin in the nipple region.

Our results indicate that education and marital status significantly influenced knowledge of breast cancer. Other demographic variables including age and religion were not significantly

related to knowledge. These results are concordant with the findings of Grunfeld *et al*.[21], who found that older British women demonstrated poorer knowledge of risk factors for breast cancer; they noted that this poorer knowledge was also apparent among women of lower social economic status. Surveys in other developed countries [22,23] have demonstrated that older women have poorer knowledge of key risk factors for various cancers. It has been suggested that older women may attribute non-lump breast symptoms to the aging process, and therefore ignore these warning signs of breast cancer.[21]

Participants, though a very small proportion, in our study had the right attitude towards breast cancer as majority indicated visiting the doctor for breast complaints. The use of screening methods was very low among our study subjects; only 34.9% practice BSE and none had CBE in the past. In a survey of practice of BSE among black women in the US, Jacobs *et al*.[24] found that 89% of respondents indicated practicing BSE during the past year, with 74% indicating having done so during the past six months.

Though the value of BSE is less established, the rationale behind extending BSE practice as a screening test is the fact that breast cancer is frequently detected by women themselves without any other symptoms. A meta-analysis of studies investigating the possible benefits of BSE has shown that regular practice increases the probability of detecting breast cancer at an early stage.[11] Routine breast cancer screening is currently not being practiced in South India. In addition, some other cultural factors militate against routine breast cancer screening. The actual burden of breast cancer in the population is unknown due to lack of adequate cancer statistics. The age specific incidence of the disease needs to be established to make a case for routine screening of women of specific age groups. Women need to be "breast aware" to stimulate their interest in screening. Given the non-availability of adequate data to justify mammography screening and the high cost and skilled expertise required for the procedure, current efforts at breast cancer screening in India must rely on a combination of BSE and CBE. Women can be taught the techniques of monthly BSE and nurses, midwives, and other healthcare providers can be trained to assist physicians in the performance of clinical breast examinations.

CONCLUSION

The results of this study have demonstrated the extremely low level of breast awareness among community-dwelling women in Medchal mandal of South India. Emphasis should be given on encouraging women to practice BSE and CBE. Health education programs should be targeted at women through various media including leaflets, television, and radio. In addition, health education should be channeled through women friendly agencies/organizations such as hospital antenatal and postnatal clinics, religious organizations, and women's self-help groups. In the rural areas, it may be easier to reach a wide cross-section of women through organizations built around the pre-existing community institutional framework, apart from electronic media which is widely available in South India. Available data suggest that people prefer to learn about cancer-related issues from their doctors and health organizations. Within the hospitals, we suggest that breast awareness education be integrated into already existing health education programs. We recommend that policy guidelines be framed and established that will enhance adequate and urgent dissemination of knowledge about breast cancer to all women in South India. In addition, doctors should endeavor to educate women on "breast awareness" during regular physician visits for other health issues.

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