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Original Research Article

Breast cancer awareness among undergraduate medical students in a tertiary healthcare centre in Mangalore, India

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ABSTRACT

Background: Breast cancer is currently one of the leading causes of cancer related deaths in India. Early detection of breast cancer can improve the survival rates. The aim of this study was to assess the breast cancer awareness among undergraduate medical students in a tertiary healthcare centre in Mangalore, India. This was an observational study conducted among 95 medical students from first to final year in a tertiary healthcare centre.
Methods: Data was collected using a standard self-administered questionnaire. Participants were given printed copies of the questionnaire and were given time to fill their responses in a confidential setting. Participants were then asked to return these questionnaires anonymously. Statistical analysis used- Frequency distribution statistics.
Results: All the participants had good knowledge about breast cancer and 78.94 % had good overall awareness about Breast self-examination (BSE). 88.42 % of the participants believed that breast cancer is curable. 75.78 % of the participants knew the technique of performing BSE and around 98.93% agreed that BSE is important. Almost all the participants (98.94%) stated that Breast self-examination, Clinical breast examination and Mammogram can detect breast cancer.
Conclusions: To improve the breast cancer awareness in the community, more effective health education programmes will be required to enlighten healthcare professionals as well as the general public regarding the risk factors, early detection and management of breast cancer.

Keywords: Breast cancer, Breast cancer awareness, Breast self-examination, Hormone replacement therapy, Mammogram

INTRODUCTION

In India , the incidence of breast cancer has surpassed cervical cancer and is currently the leading cause of cancer related deaths, although cervical cancer still remains most common in rural India.[1] Although age adjusted incidence rate of breast cancer is lower (25.8 per 100 000) than United Kingdom (95 per 100 000) ,the mortality rate is at par (12.7 vs 17.1 per 100 000) with United Kingdom.[2] Current studies have shown a significant increase in the incidence and cancer-associated morbidity and mortality in the Indian subcontinent.[3,4] The survey carried out by Indian Council of Medical Research (ICMR) in the metropolitan cities during 1982 to 2005 has shown that incidence of breast cancer has almost doubled.[4] Indian women having breast cancer are found a decade younger in comparison to western women suggesting that breast cancer occurs at a younger premenopausal age in India.[5] The only way to effectively tackle the alarmingly increasing trends in the incidence of breast cancer and related morbidity and mortality is by early detection. Better knowledge and attitude of healthcare professionals influences the uptake of screening methods for breast cancer in the community,

thereby facilitating early detection. The purpose of this study was to assess the awareness of breast cancer among undergraduate medical students in a tertiary healthcare institution in Mangalore, India.

METHODS

This was an observational study on undergraduate medical students in Father Muller Medical College, Mangalore.

This study was conducted in October 2018 after due clearance from the Ethical Committee and after obtaining written informed consent from the participants. Ethical committee approval was obtained prior to conducting this study.

After obtaining written informed consent from the undergraduate medical students, they were subjected to a self-administered questionnaire for breast cancer. This is a standard questionnaire comprising three sections: Socio-demographic characteristics, knowledge regarding Breast self-examination and knowledge regarding breast cancer.[6] The consenting participants were given printed copies of the questionnaire and were given time to fill their responses in a confidential setting. Participants were then asked to return these questionnaires anonymously.

Inclusion criteria

Undergraduate medical students

Exclusion criteria

Interns

Sample size

A total of 95 undergraduate medical students from a tertiary healthcare centre were included in this study. The sample size is calculated as follows.[7]

- $n = Z\alpha^2 p(1-p)/e^2$
- $Z\alpha = 1.96$ at 95% confidence interval
- $p = 45\%$
- $e = 10\%$ (allowable error)
- $n = 95$

Data analysis

Data from the questionnaire was entered into a spreadsheet and analysed using Microsoft Excel. Data was analysed using Frequency distribution statistics.

RESULTS

Socio demographic characteristics of the participants (Table 1). Present study included 95 participants. The students were aged between 18-25 years out of which 35 were in the 20-21 age group (36.84 %) and 31 were 22 years or more (32.63%).

Table 1: Socio demographic characteristics.

Characteristic		Frequency	%
Age	18-19	18	18.94
	19-20	11	11.57
	20-21	35	36.84
	22 or more	31	32.63
Marital status	Single	93	97.89
	Married	2	2.10
Religion	Christian	59	62.10
	Hindu	28	29.47
	Muslim	6	6.31
	Others	2	2.10
Residence	Urban	89	93.68
	Rural	6	6.31
Year of study	First	18	18.94
	Second	11	11.57
	Third	35	36.84
	Fourth	36	37.89

Table 2: Knowledge regarding breast self-examination (BSE).

Knowledge/practice	Response	No.	%
Ever heard about BSE	Yes	93	97.89
	No	2	2.10
How do you know about BSE	Lecture	83	87.36
	Television	4	4.21
	Radio	0	0
	Friends	2	2.10
	Internet	4	4.21
	No response	2	2.10
Overall awareness on BSE	Not aware	2	2.10
	Partially aware	18	18.94
	Substantially aware	75	78.94
How is BSE done	1 finger palpation	21	22.10
	Palm and 3 finger palpation	72	75.78
	Don't know	2	2.10
At what age should BSE be done	<20 years	0	0
	21-40 years	37	38.94
	41-60 years	45	47.36
	>60 years	11	11.57
	Don't know	2	2.10
Frequency of BSE	Monthly	66	69.47
	Every 3 months	23	24.21
	Every 6 months	1	1.05
	Once a year	3	3.15
	No idea	2	2.10
Impression on importance of BSE	Important	93	98.93
	Not important	0	0
	No response	2	2.10

Out of the 95 participants, most were single (97.89%). 59 were Christians (62.10%), 28 (29.47%) were Hindus, 6 (6.31%) were Muslims and 2(2.10%) belonged to other communities. 89 (93.68%) participants were from urban population and 6 (6.31%) were from rural population.

Table 3: Knowledge regarding breast cancer.

Knowledge	Response	Frequency	%
Heard about breast cancer	Yes	95	100
	No	0	0
BSE in detection of breast cancer	Important	95	100
	Not important	0	0
Breast cancer is curable	Yes	84	88.42
	No	9	9.47
	Don't know	2	2.10
Early signs of breast cancer	Lump in breast	91	95.78
	Nipple discharge	3	3.15
	Discolouration	0	0
	Change in breast size	1	1.05
	Don't know	0	0
Method of breast cancer detection	Breast self-examination	0	0
	Clinical breast examination	0	0
	Mammogram	1	1.05
	All the above methods	94	98.94
	Don't know	0	0
Appropriate time of BSE for early detection of breast cancer	Few days before menses	39	41.05
	Few days after menses	24	25.26
	During menses	3	3.15
	No specific time	12	12.63
	Don't know	17	17.89
What are the risk factors for breast cancer			
Family history	Yes	95	100
Early menarche	Yes	92	96.84
Radiation/hazardous chemical exposure	Yes	94	98.94
Advance age	Yes	95	100
Overweight after menopause	Yes	95	100
Hormone replacement therapy	Yes	90	94.73
Alcohol	Yes	78	82.10
Smoking	Yes	85	89.47
Pregnancy after 30 years	Yes	93	97.89
Prolonged use of oral contraceptives	Yes	79	83.15
Sedentary lifestyle	Yes	55	57.89
Never breast feeding	Yes	85	89.47
Others (god's curse/ witchcraft/genetic modified food consumption)	No	95	100

Participant's knowledge regarding breast self-examination (Table 2).

Almost all the participants (97.89%) had heard of Breast self-examination (BSE). Most of them had heard about BSE through lectures (83%), rest of them through internet (4.21%), television (4.21%) and friends (2.10%). 78.94 % had good overall awareness about BSE. 75.78 % of the participants knew the technique of performing BSE and around 98.93% agreed that BSE is important. Despite knowledge about BSE, around 2.10% of the participants had no idea regarding the frequency of performing BSE, while 69.47% agreed that it should be done every month.47.36% of the students believed that BSE should be done starting between 41-60 years of age while 38.94% of them believed it should be between 21-40 years of age.

Knowledge regarding breast cancer (Table 3). All of our 95 participants had heard about breast cancer and knew

the importance of BSE in detection of breast cancer. 88.42 % of the participants believed that breast cancer is curable. For early detection of breast cancer, 95.78% participants stated that palpable lump in the breasts should be looked for, followed by nipple discharge (3.15%) and change in breast size (1.05%). Almost all the participants (98.94%) stated that Breast self-examination, Clinical breast examination and Mammogram can detect breast cancer. 41.05 % of the participants believed that Breast self-examination is done few days before menses while 25.26% believed that it should be done few days after menses. 12.63% had opined that there was no specific time to perform BSE, 3% stated that it should be done during menses while 17.89% had no idea at all.

Almost all the participants believed that the following were risk factors in developing breast cancer- Family history (100 %), early menarche (96.84%), radiation/hazardous chemical exposure (98.94%), advance age (100 %), being overweight after menopause (100%), Hormone replacement therapy (94.73%), Alcohol (82.10%), Smoking (89.47%), pregnancy after 30 years (97.89%), prolonged use of oral contraceptives (83.15%), never breast feeding (89.47%). 57.89% believed that sedentary lifestyle was one of the risk factors while none of them believed in other causes such as God's curse/ Witchcraft/Genetic modified food consumption.

DISCUSSION

In India, breast cancer is currently one of the leading causes of cancer related deaths.[1] Early detection helps in improving the survival rates. Early detection also depends on the knowledge, attitude and practices of healthcare professionals towards breast cancer which in turn influences the uptake of screening methods for breast cancer in the community, thereby facilitating early detection. The purpose of this study was to assess the awareness of breast cancer among undergraduate medical students in a tertiary healthcare institution in Mangalore, India. According to present study, 97.89% of the participants had heard about breast self-examination and 100% of them believed that it is important in detection of breast cancer.

Sama CB et al. conducted a cross sectional study in April 2016 involving 345 consenting female undergraduate students in the Higher teachers Training college, Bambili, Cameroon utilizing data collected using a pretested self-administered questionnaire and analysed using descriptive methods. This study concluded that though most students were aware of the existence of breast cancer, their overall knowledge on its risk factors and clinical presentation was insufficient with a concomitant low practice of breast self-examination.[8]

The awareness levels of the participants in present study regarding Breast self-examination seems to be higher than that of females in Yemen and Nigeria.[7,9] However, our participants were medical students and the awareness rates were better as expected. Only 25.26% of the participants in present study knew the appropriate time to do BSE i.e., few days after menses. These findings are similar with previous studies investigating awareness and knowledge of breast cancer and practices of breast self-examination among women and university students in Saudi Arabia.[10]

Ameer K et al. conducted a cross sectional study using a pre-tested structured self-administered questionnaire in the College of Health and Medical Sciences Campus at Haramaya University, Ethiopia in September 2013 which demonstrated that despite the adequate knowledge of Breast self-examination and Breast cancer, the actual practice of Breast self-examination was very low (23%) among the medical students.[6]

87.36% of the students in this study have heard of BSE through lectures which was higher than that reported (44.7%) in Yemen and 54% in Ethiopia.[6,9] This study showed that majority of students knew about the different breast cancer screening methods. Almost 98.94% % knew all the three methods namely Breast self-examination, Clinical breast examination and mammography.

In present study the overall knowledge about various risk factors of breast cancer was found to be good in the medical students. It was comparable to a similar study conducted in Ethiopia.[6] It was also observed that the overall knowledge on breast cancer improved as the students progressed to advanced levels of their medical training.

CONCLUSION

To improve the breast cancer survival rates, early detection through breast self-examination is the most suitable option. This calls for the need to intensify the existing breast cancer awareness in the community. Better and more effective health education programmed will be required to enlighten the healthcare professionals as well as the general public regarding the risk factors, early detection and management of breast cancer.

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