Breast Self-Examination for the Early Detection of Breast Cancer: A Quantitative Research Approach

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Abstract

Breast cancer now accounts for almost one in four cancers diagnosed in women, the second leading cause of cancer deaths in women today (after lung cancer). According to Globocan 2012, India along with United States and China collectively accounts for almost one third of the global breast cancer burden. India is facing challenging situation due to 11.54% increases in incidence and 13.82% increase in mortality due to breast cancer during 2008-2012.¹ The present study was conducted to assess the knowledge of breast self-examination among college girls. A descriptive research design was used to conduct the study. The study was conducted among the college girls of a selected college of Delhi (Rufaida College of Nursing, Jamia Hamdard). The sample size was 70 and the subject was selected using the convenient sampling technique. A structured questionnaire was developed to assess the knowledge of breast self-examination among college girls. Findings of the present revealed that majority of the subjects (88.6%) possess previous information of breast cancer, while few of the subjects (11.4%) were not aware much about the breast cancer. The study concludes that emphasis should be given to the studies that are related to the breast self-examination as there is an urgent need to look after the issues of growing risk of breast cancer and their poor health seeking behavior in young age.

Keywords: Breast Cancer, BSE, Knowledge

Introduction

In 2012, an estimated 14.1 million new cases of cancer occurred worldwide. More than 4 out of 10 cancers occurring worldwide are in countries at a low or medium level of Human Development Index (HDI). India accounts for the third highest no. of cancer cases among women after china and the U.S., growing annually at 4.5%-5%.² According to the report ‘CALL FOR ACTION: Expanding cancer care for women in India, 2017’, cancer among women in India is estimated at 0.7 million. However, the real incidence is much more - between 1 and 1.4 million per year, as many cases go undiagnosed or unreported.³ Breast cancer now accounts for almost one in four cancers diagnosed in women, the second leading cause of cancer deaths in women today (after lung cancer). Breast cancer is the most common invasive cancer in women, and the second main cause of cancer death in women, after lung cancer. The risk of a woman developing breast cancer is 12.6%, one out of 8 women in united states is at risk of developing breast cancer at some point in her life. With an estimated 2, 52,710 cases expected breast cancer will be the most frequently diagnosed non-skin malignancy in U.S. women in 2017.⁴ Collectively U.S., India, and China accounts for almost one third of the global breast cancer burden. In the year 2012, there were about 2, 32, 000 breast cancer cases reported in U.S., whereas in India 1, 45, 000 new cases were diagnosed. Compare the incidence and death rates of U.S., China and India, for the year 2012 (as compared to year 2008); United States reported 4,000 more deaths; China reported 4,000 more deaths; and India reported 17,000 more deaths. If we compare these three countries, we can easily make out that no. is huge (17,000). What the United States has achieved today (i.e. decrease in mortality, even...
with an increase in no. of women diagnosed with breast cancer) has taken several decades of untiring, persistent efforts. With a death rate of 70,000 and ever increasing, even if we start today, positive results will start showing not before the next 25-30 years at least, if not more so far. The rate of rise of breast cancer in India is so rampant, that if we do not act now, we are in for a major shock in the next 20 years.  

There is no single specific cause for breast cancer. A combination of genetic, hormonal and possibly environmental factors may increase the risk of its development. More than 80% of all cases of breast cancer are sporadic, meaning that patients have no known family history of the disease, and the remaining cases are either familial or genetically acquired. Major risk factors are: female gender: 99% of cases occur in women, increasing age: Increasing age is associated with increased risk, personal history of breast cancer: Once treated for breast cancer, the risk of developing breast cancer in same or opposite breast is significantly increased, family history: having first degree relative with breast cancer (mother, sister, daughter) increases the risk two-fold. Having two first degree relatives increases the risk five-folds, genetic mutation, hormonal factors, early menarche (before 12 years of age), late menopause (after 55 years of age), null parity (no full-term pregnancies), late age at first full term pregnancy (after 30 years of age), hormone therapy, exposure to ionizing radiations: during adolescents and early adulthood, obesity, high fat diet intake and alcohol intake.  

The American Cancer Society recommends that, women at average risk of breast cancer undergo clinical breast examination at least every 3 years while in their 20’s and 30’s, and then annually, thereafter. Thorough breast self-examination is considered as a primary modality to prevent breast cancer at a very early stage, which will account in reducing the incidences of breast cancer. Therefore, our interventions need to be focused on enhancing the knowledge of breast self-examination.  

India ranks among the top two countries globally on mortality for women specific cancer i.e. breast cancer. According to the report, released by E&Y in association with FICCI Flo in 2015 19% of cancer of breast contributed to 40% of all cancer incidence among women with states such as Kerala, Tamil Nadu and Delhi having the highest incidence. “It is alarming that awareness levels of women related cancers are low among the general population and even in medical professionals. Despite the established benefits of screening, coverage in India is low for women”, the report said. India based studies have confirmed that screening improves early detection of cancers by 1.5-2.5 times. For instance, cancer such as breast cancer can be cured if detected early and treated adequately.  

According to the report, of the 2,000 new women diagnosed with breast cancer every day, 1,200 are detected in late stages. This reduces five-year survival rate by 3-17 times for breast cancer late detection also adds to the cost of treatment. Estimates show treatment cost for late stage cancer is 1.5-2 times higher than the cost for early-stage cancer. Therefore, there is an urgent need for the awareness among women in their teen period about breast cancer and its prevention/screening, Viz. primarily done by breast self-examination. As it is said that - Prevention is better than cure. Therefore, there is a need to assess the knowledge of people (especially adolescents) on prevention aspects of breast cancer i.e. regarding breast self-examination (BSE). Breast self-examination (BSE), is a modality used for the early detection of breast cancer, variations in breast tissue occur during the menstrual cycle, pregnancy, and on the onset of menopause. Normal changes must be distinguished from those that may signal disease. Most women noticed increased tenderness and lumpiness before their menstrual period. Therefore, BSE is best performed after menses (i.e. day 5th to day 7th, counting the day one as day 1st). It is estimated that only 25% to 30% of women perform BSE proficiently and regularly, each month. Some find BSE to be anxiety producing, others find it too difficult to differentiate between normal changes and worrisome findings. Even women who perform BSE who detect change may delay seeking medical attention because of fear, lack of education and modesty. Despite these factors many women discover their own breast cancer, for this reason BSE should be taught.  

Breast care awareness among women at community level in Delhi was suboptimal and was associated with low socioeconomic status and educational level. Less than half of the women were aware of breast cancer detection method but prevalence of practice was much lower especially clinical breast examination or mammography.  

There was found to be the high gap between the knowledge of breast self-examination and actual practice among women in Delhi, which showed that the acceptability of breast self-examination was still low with almost one fifth of the participants in the study had never practiced it.  

Therefore, there was a need to conduct a study on the assessment of knowledge of women, especially adolescents regarding breast cancer.  

**Objective of the Study**  
The objectives of the study were to: to assess the knowledge of breast cancer among college girls in New Delhi and to assess the knowledge of breast self-examination among college girls New Delhi.  

**Materials and Methods**  
Quantitative research approach using descriptive research design was adopted for the study. The setting of the study was Rufaida College of Nursing, Jamia Hamdard, Delhi. There was no conflict in the study. Permission was taken...
from Institution and ethical board and hospital authorities. The population in this study comprised of college girls who fulfilled the sampling criteria. The sample in this study consisted of 70 college girls who met the eligibility criteria, that is 12-19 years of age group and students who can read and write English. The college girls were selected through convenient sampling technique, from two different groups of first year students of Diploma in General Nursing and Midwifery (DGNM) (30) and (40) B.Sc. (Hons) Nursing.

A knowledge Questionnaire of total score of 40 on Breast Self-Examination (BSE) and breast cancer was used to collect the data. Formal permission was obtained from the Principal of Rufaida College of Nursing and an informed consent was obtained from the participants. The confidentiality of subjects was maintained. The final study was conducted between February 12-13, 2018 at Rufaida college of nursing. Content validity was done by seven experts and the suggestions were in incorporated. Reliability of the questionnaire was found to be r=0.7, which is reliable. The final tool was found to be valid and reliable.

Results
Based on the objectives the study was analyze by using descriptive analysis.

Findings related to the Socio-demographic Data of the Subjects

Table 1 shows the demographic data of the subjects, in regard to religion, education, family monthly income, age of attaining menarche, dietary habit. More than half of the subjects (51.4%) were following Islam as their religion. More than half of the subjects (58.6%) were having Sr. Secondary level of education. For most of the subjects (47.1%), the family income was above Rs 20,000/-. Most of the subjects (34.3%) had attained menarche at an age of 13-14 years. Majority of the subjects (70%) were non-vegetarians

Breast Cancer and Breast Self-Examination

Figure 1 Depicts the subject’s awareness on Breast cancer. Majority of the subjects 88.6% possess previous information of breast cancer, while few of the subjects 11.4% were not aware much about breast cancer.

Findings related to family history of breast cancer

Figure 2 Depicts the subjects family history of breast cancer. Only few subjects 4.3% were having history of breast cancer in their family, while majority of the subjects 95.7% were not having any family history of breast cancer.

| Demographic variables      | Frequency | Percentage |
|----------------------------|-----------|------------|
| Religion                   |           |            |
| Hinduism                   | 27        | 38.6       |
| Christianity               | 3         | 4.3        |
| Islam                      | 36        | 51.4       |
| Buddhism                   | 4         | 5.7        |
| Education                  |           |            |
| Secondary                  | 3         | 4.3        |
| Sr. Secondary              | 41        | 58.6       |
| Diploma/ B.Sc. Nursing     | 23        | 32.9       |
| Any other                  | 3         | 4.3        |
| Family monthly income (Rs.)|           |            |
| 5000-10000                 | 17        | 24.3       |
| 11000-15000                | 12        | 17.1       |
| 16000-20000                | 8         | 11.4       |
| Above 20000                | 33        | 47.1       |
| Age of menarche (years)    |           |            |
| 11-12                      | 13        | 18.6       |
| 13-14                      | 24        | 34.3       |
| 15-16                      | 10        | 14.3       |
| 16 and Above               | 23        | 32.9       |
Figure 3 depicts the subject’s practice of breast self-examination only a few subjects 18.6% practice B.S.E.

Findings related to Knowledge of Subjects regarding Breast Cancer and Breast Self-Examination (BSE)

This section deals with the analysis and interpretation of knowledge of adolescent’s/college girls. For the purpose of analysis, scoring was done on knowledge items. One (1) mark was given for each correct answer and zero (0) for each wrong answer. The maximum marks that could be obtained were 20 from out of 20 questions. The possible range of knowledge score were from 0-20. Those who scored 60% and above were said to have adequate knowledge and those who scored below 60% were said to have inadequate knowledge.

Table 2. Frequency and percentage of knowledge scores of subjects regarding breast cancer

| Knowledge scores | Frequency (f) | Percentage (%) |
|------------------|--------------|----------------|
| Adequate (>60%) | 24           | 34.3%          |
| Inadequate (<60%) | 46           | 65.7%          |
| Total           | 70           | 100%           |

Table 2, shows that majority of subjects (65.7%) were having inadequate (<60%) knowledge on breast cancer, while less than half of the subjects (34.3%) were having adequate (>60%) knowledge on breast cancer.

Table 3, shows that majority of subjects (27.7%) were having adequate (<60%) knowledge on breast self-examination, while more than half of the subjects (72.9%) were having inadequate (>60%) knowledge on breast self-examination.

Table 3. Frequency and percentage of knowledge scores of subjects regarding breast self-examination

| Knowledge scores | Frequency (f) | Percentage (%) |
|------------------|--------------|----------------|
| Adequate (>60%) | 19           | 27.1%          |
| Inadequate (<60%) | 51           | 72.9%          |
| Total           | 70           | 100.0%         |

Discussion

The findings of the present study have been discussed in terms of awareness & family history of breast cancer and knowledge regarding breast cancer and breast self-examination. Major findings of the study have been discussed with the reference of previous studies, performed by other investigators. Majority of subjects (65.7%) were having inadequate (<60%) knowledge on breast cancer, while less than half of the subjects (34.3%) were having adequate (>60%) knowledge on breast cancer. The findings also showed that majority of subjects (27.1%) were having adequate (<60%) knowledge of breast self-examination, while (72.9%) half of the subjects were having inadequate (>60%) knowledge of breast self-examination.

The findings of the present study are contrast to a cross-sectional study conducted on awareness of breast cancer and BSE among 345 female undergraduate students (aged 19-25 years) in the higher teacher training college, Barbell, Cameroon, in 2016, using self-administered questionnaires. Results showed that, the mean age of respondents 22.5 + 3.2 years and a vast majority (n=303; 88.1%) had heard about breast cancer primarily from the television/radio (n=196; 64.5%). Overall less than a quarter (n=55; 21%) of respondents who had heard about breast cancer had sufficient knowledge on its risk factors and sign and symptoms. A plurality (53.3%) thought breast cancer can be prevented by while over a third (38.7%) opinion that breast cancer can be treated spiritually. Less than half (47%) of respondents who had heard about breast cancer had heard about BSE, amongst which only 55 (38.5%) had ever practiced it.

The findings of the present study are supported by, descriptive study on knowledge, attitude and practice of BSE among female nurses in Amine Kano teaching hospital, Kano, Nigeria, in 2014, using self-administered questionnaires. All the nurses’ studies are aware about BSE with 91.2% practicing it. There was poor knowledge of its timing, frequency and method. Only 45(41.2%) of the respondents practice BSE monthly and none of the respondents can accurately describe the exact method of B.S.E.

The findings of the present study are in concurrent with community level survey on breast cancer awareness among women in Delhi, India, in 2015 using self-administered...
questionnaires. Broadly, 53.4% of women were aware about various aspects of breast cancer. Only 34.9% women performed breast self-examination which is less than half. This study opposes the findings of the study which assessed the knowledge and practice related to screening for breast cancer among women in Delhi, India in 2017. As it concluded that more than three fourth women were aware about the initial screening and treatment in breast cancer. Also, in this study nearly half of the subjects reported few steps of breast self-examination correctly which is in contrast with the present study as only 27.7% were found to have adequate knowledge.

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Conflict of Interest: None

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