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**RESEARCH ARTICLE**

**KNOWLEDGE ON BREAST CANCER AMONG ADOLESCENT GIRLS IN A SELECTED  
PRE-UNIVERSITY COLLEGE AT MANGALURU**

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**ABSTRACT**

Adolescence is a decisive age for girls around the world. What transpires during a girl's teenage years shapes the direction of her life. Breast cancer is a serious, stressful and life threatening disease, it is assumed that the diagnosis of cancer evokes greater distress than many other diseases, regardless of the prognosis. This study attempts to assess the knowledge among adolescent girls regarding breast cancer and create awareness on breast cancer. A non-experimental descriptive design was adopted the study. Data was collected from purposively selected 100 adolescent girls in a selected pre-university college at Mangaluru, using structured interview schedule. The study result reveals that 52% of the adolescent girls had average knowledge level, 34% of adolescent girls had good knowledge on breast cancer, 12% of adolescent girls had poor knowledge and 2% had very good knowledge on breast cancer. The mean percentage of knowledge regarding breast cancer was 42.8% and SD was 6.543. The result of the study shows that there is significant association between the knowledge score with selected demographic variables ( $P < 0.05$ ). Most of the adolescent girls have average knowledge on breast cancer. Hence it is necessary to provide a health education to the adolescent girls on breast cancer in-order to improve their knowledge.

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**INTRODUCTION**

Health is the precious possession of all human beings as it is an asset for an individual and community as well.<sup>1</sup> It is accepted that women's health and reproductive rights are important means of women's empowerment and quality of life. The concept of women's health today has become a major concern among the developing countries because of high prevalence of infant, child and maternal mortality and the deteriorating quality of life. Available evidence in India points to poor reproductive health status among women. Though India has made considerable progress in social and economic development, it lags behind in the improvement of women's health. India is one of the few countries where males significantly out number females (933 females for 1000 males) and its maternal mortality rate is among the worlds highest. As women experience malnutrition, anemia, infectious diseases, cervical and breast cancer and are less likely to receive timely medical treatment<sup>2</sup>.

Cancer is a group of diseases with similar characteristics, which can occur in all living cells in the body and different cancer types have different natural history. 50 persons die of various kinds of cancers, and 100 are diagnosed with them in

India every hour<sup>1</sup>. Cancer prevalence in India is estimated to be around 2.5 million, with over 8, 00,000 new cases and 5, 50,000 deaths occurring each year due to this disease. More than 70% of the cases report for diagnostic and treatment services are in the advanced stages of the disease, which has leads to a poor survival and high mortality rate, whereas the predominant cancer in the female population is breast cancer<sup>3</sup>. Breast cancer is an uncontrolled proliferation of breast cells. Cancer occurs as a result of mutations or abnormal changes. Genes are responsible for regulating the growth of cells and keeping them healthy. The genes present in each cell nucleus, acts as the "control room" of each cell. Normally, the cells in our bodies replace themselves through an orderly process of cell growth: healthy new cells take over as old ones die out. But over time, mutations can "turn on" certain genes and "turn off" others in a cell. Changed cell gains the ability to keep dividing without control or order, producing more cells just like it and forming a tumor. A tumor can be benign (not dangerous to health) or malignant (has the potential to be dangerous)<sup>2</sup>.

The best way to find breast lumps is to do 3 things have regular mammograms (usually every 1-2 years starting around age 40yrs), have your doctor check your breasts and check your breasts yourself every month. A mammogram is the most

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effective way to find breast cancer early, up to 2 years before the lump is even large enough to feel. A mammogram is a special kind of X-ray towards breast. The amount of radiation used in the X-ray is very small and not harmful. Breast cancer is always caused by a genetic abnormality (a “mistake” in the genetic material). However, only 5-10% of cancers are due to an abnormality inherited from your mother or father. About 90% of breast cancers are due to genetic abnormalities that happen as a result of the aging process and the “wear and tear” of life in general <sup>4</sup>.

Public health data indicate that the global burden of breast cancer in women, are measured by incidence, mortality, and economic costs, is substantial and on the increase. Worldwide, it is estimated that more than one million women are diagnosed with breast cancer every year, and more than 4, 10,000 will die from the disease. Globally, every three minutes a woman is diagnosed with breast cancer in the world, amounting to one million cases annually. The incidence could go up by 50 percent to 1.5 million by 2020, said the World Cancer Report <sup>1</sup>.

During the next decade, a rapid increase in the number of new cancer diagnosis in the population as well as a growing number of cancer survivors can be expected. Cancer is anticipated to exceed cardiovascular disease as the primary cause of mortality in the United States population. In reality, about 1 in 8 women is at United States or 13%, or 13 out of every 100 can expect to develop breast cancer over the course of an entire lifetime. Women, especially in the semi-urban areas and Tier 2 cities, should be told that they are important to society and efforts must be made to preserve their health <sup>2</sup>.

Globally, in 2012, 1.7 million women were diagnosed with breast cancer and there were 6.3 million women who had been diagnosed with breast cancer in the previous years. In India, the prevalence of breast cancer among a younger age group is 15-20% of all cancers. It indicates each year 1, 82,000 women are diagnosed with breast cancer and 43,000 die with breast cancer and there will be approximately 2, 50,000 new cases of breast cancer in India by 2015, says ICMR. Breast cancer is increasing; the average increase over a 30 year period in Mumbai was 11% per decade. Breast cancer is increasing both in young (11% per decade) and old women (16% per decade). The number of breast cancer cases in India is estimated to double by 2025<sup>5</sup>.

Whereas in Karnataka the total population of is 52,850,562 in which 25,951,644 (49.11%) are females (2001 census) among these there would be about 1.5 lakhs cancer cases at any given time and about 35,000 new cancer cases are added to this pool each year <sup>6</sup>. Incidence of breast cancer in Mangalore increased from 14.5 % in the year 1990 to 23.5 % in the year 2005. One woman in eight either has or will develop breast cancer in her lifetime. Expert oncologists say that while earlier breast cancer was common among women in their 60s, they are now seeing cases in women as young as 20 <sup>7</sup>.

**MATERIALS AND METHODS**

A non-experimental descriptive design was adopted for the study. Hundred adolescent girls who are studying in pre-

university college at Mangaluru were selected by using non-probability purposive sampling technique. Data collection was done by using demographic proforma and structured interview schedule. The content validity of the research tool was established with the help of experts from the related field. Reliability of the tool was established by using split half method. The calculated reliability was found to be 0.85 which indicated that the tool was reliable. Pilot study was conducted on 4<sup>th</sup> June 2015 among 10 adolescent girls in Hira women’s Pre-university college, Thokkottu, Mangaluru. After analysis of the data of the pilot study, it was found that the study was feasible and researchable.

The researcher obtained permission from the respective authority of the pre-university college and ethical clearance from Ethics Committee of Yenepoya University. Informed consent was obtained from the participants and data collection was done on 12<sup>th</sup> June 2015. After data collection information booklet was distributed for the participants. The data were analyzed by using both descriptive and inferential statistics.

**Table 1** Frequency and Percentage distribution of adolescent girls according to the level of knowledge score n = 100

Sl. No	Level of knowledge	Scores	Frequency	Percentage	Mean Score	SD
1	Poor	Less than 7	12	12%	12.84	6.543
2	Average	8-14	52	52%		
3	Good	15-21	34	34%		
4	Very good	22-30	2	2%		

**Table 2** Mean score, maximum score, mean percentage and standard deviation of knowledge score of adolescent girls n = 100

Sl no	Area of knowledge	Max.possible score	Mean score	Sd	Mean %
1	Knowledge regarding meaning and general information of breast cancer	5	2.29	1.122	17.85%
2	Risk factors of breast cancer	7	2.35	1.250	18.32%
3	Clinical manifestations of breast cancer	3	1.40	0.816	10.91%
4	Diagnosis of breast cancer	4	1.64	0.927	12.78%
5	Prevention, Treatment and Complications of breast cancer	11	5.16	2.428	40.22%

**RESULTS**

**Demographic characteristics of the adolescent girls**

The findings of the study revealed that majority 56% of adolescent girls were in the age group of 16 years, majority 95% adolescent girls were Muslims, majority (90%) of adolescent girls belonged to nuclear family and 51% of adolescent girls belongs to B.P.L. category. Most of the adolescent girls (61%) were having the previous knowledge regarding the breast cancer.

**Level of knowledge regarding breast cancer among adolescent girls**

The findings of the present study disclosed that majority (52%) of adolescent girls had average knowledge, 34% had good

knowledge, 12% had poor knowledge and very few (2%) had very good knowledge regarding breast cancer. The mean knowledge score of the adolescent girls was  $12.84 \pm 6.543$ . Analysis of area wise knowledge score depicted that adolescent girls had highest mean percentage score (40.22%) in the area of knowledge regarding prevention, treatment and complication of breast cancer. The mean knowledge score on general information on breast cancer was 2.29 with the SD of  $\pm 1.122$ , minimum score was 1 and maximum score was 10. Detail information is displayed in Table 1 and 2.

#### **Association between the level of knowledge and selected variables**

Analysis of the association between the level of knowledge regarding breast cancer among adolescent girls and their selected variables revealed that there is significant association between the knowledge score and previous knowledge ( $\chi^2 = 35.49$ ;  $P < 0.05$ ), source of information ( $\chi^2 = 67.741$ ;  $P < 0.05$ ). There was no significant association between the level of knowledge of adolescent girls and age, religion, type of family and socio-economic status ( $P > 0.05$ ).

#### **DISCUSSION**

Findings of the present study revealed that 52% of adolescent girls were having average knowledge, 34% were having good knowledge, 12% were having poor knowledge and very few (2%) were having very good knowledge regarding breast cancer. The mean knowledge score regarding breast cancer among the participants was  $12.84 \pm 6.543$ . This result shows that more adolescent girls have average knowledge about breast cancer. This study is contradictory to the study result conducted in Colombo, Sri-lankain 2013 which showed that nearly 68% of the adolescent girls had previous knowledge regarding breast cancer.

This study also evidenced that the highest mean percentage (40.22%) of knowledge score obtained by the participants was in the area of general information regarding breast cancer. The mean knowledge score on general information on breast cancer was  $2.29 \pm 1.122$ , minimum score was 1 and maximum score was 10. This study is conflicting to the study conducted in the year of 2000 in Vergenia, which exposed that mean percentage of knowledge score was highest in screening test of breast cancer (65%).

Analysis of the association between the level of knowledge and selected demographic variables exposed that there was significant association between the level of knowledge and previous information and source of information ( $P < 0.05$ ). It was also evident from the study that there was no significant association between the level of knowledge related to breast cancer and age, religion, type of family and socio-economic status ( $P > 0.05$ ). The result of the study is inconsistent with the findings of the study conducted in Abuja, Nigeria which reported that there was association between level of knowledge related to breast cancer and socio-economic status and source of information.

#### **CONCLUSION**

The findings of the study illustrates that nominal number of adolescent girls are having very good knowledge on breast cancer and its management which indicates that there is still lack of adequate knowledge. Thus, health education programs are required to enhance the knowledge regarding breast cancer to create awareness among adolescent girls which further helps to reduce breast cancer. The best place to impart the education is in schools, colleges and in community. Nursing students, peer groups and health personnel can be mobilized to conduct these educational programs. Governmental and non-governmental organization should also take initiation to create awareness in public through its various health institutions and health personnel. In addition to this, further researches should be conducted to cover other community areas and different part of the country in terms of knowledge, attitudes and practice of healthy life style to prevent breast cancer.

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