Original Research Article

Awareness of breast cancer risk factors and practices of breast self-examination among North Indian unmarried females

Kavita[1]*, Damanpreet Kaur[1], Jarnail Singh Thakur[2], Darshna[1], Pushplata [1], Shilpa[1]

[1]National Institute of Nursing Education (NINE) Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh, India,
[2]Department of community medicine and School of Public Health, PGIMER, Chandigarh, India

*Correspondence:
Dr. Kavita,
E-mail: gaurikavita@rediffmail.com

ABSTRACT

Background: Breast cancer is a leading health problem in females in developing countries. It is associated with various risk factors which are largely preventable. Risk factor awareness and adherence to healthy life style can play a significant role in prevention of cancer. So, study was undertaken to assess the awareness of risk factor of breast cancer and practices of breast self-examination among unmarried females.
Methods: A descriptive cross sectional study design was adopted to recruit 150 subjects. Purposive sampling technique was used to enrol unmarried females above 19 years of age. Written informed consent was taken from participants. Interview schedule was constructed, validated and used for data collection. The data was analysed using SPSS version 20.0.
Results: Findings of the study revealed that mean age of participant was 22.65±3.21 years. Most of the females were aware that non breast-feeding practices (94.7%), infertility (84.7%), using oral contraceptives pills (50.7%), advancing age (48%), and any trauma to breast (36.7%) are risk factors of breast cancer. Nearly three fourth (76%) of the subjects had good awareness of breast cancer risk factors. However, breast self-examination was only practiced by 14.6% (22) subjects from total 150 subjects.
Conclusions: Study concluded that most of the women were aware about the risk factors of breast cancer, however only few were practicing breast self-examination. Since screening and early detection of breast cancer is crucial for cancer control, nurses as health professionals have a significant role to play in early detection and increasing awareness among individuals and communities.

Keywords: Breast self-examination, Breast cancer, Awareness, Risk factor; NCDs

INTRODUCTION

Non communicable diseases (NCD) refer to those medical condition that are not caused by infectious agents are non-transmissible. NCDs progress slowly and last for long duration. NCDs are a major cause of mortality worldwide including India.[1] In 2012, globally there were 68% deaths due to NCDs, principally cardiovascular diseases (46.2%), cancer (21.7%) and chronic respiratory diseases (10.7%), diabetes (4%).[2] In 2010. Cancers and circulatory diseases together accounted for 19% of global disability adjusted life years (DALYs).[1] Various Studies revealed that between 2008 and 2012, the proportion of deaths from non -communicable diseases substantially increases from 7.6 million (in 2008) to 8.2 million (2012). In 2012, there were 167.8 per one lack incident cancer cases, and 7.4% DALYs (disability-adjusted life-years) in

2010 occur globally. Despite long-standing national programmes for cardiovascular disease, diabetes, cancer, and stroke (NPCDCS) to increase awareness and early detection behaviour the incident of diseases is still high.[1]

Globally, all cancer accounts for huge burden over the health care system. Breast cancer ranks 5th as cause of deaths among females.[3]As per the report of Population based cancer register from India, breast cancer is the leading cancer among females.[4] In 2013 Incident rate of breast cancer age standardize rate (ASR) is 7.8 in Delhi. Worldwide the leading cause of death among females was breast cancer with an estimate 50% cases and 508000 deaths in 2011.[3]

Between 1980 and 1990s breast cancer incident rate rose approximately 30% in western countries. Some risk factors have been identified which are classified under modifiable and non- modifiable risk factors. Modifiable risk factors include exposure of high radiation to the chest, tobacco smoking, blow to chest, having too many children, repeated abortion, never fed a child, high fat diet, obesity, not giving birth, lack of exercise, Having first baby after age of 30. Non modifiable risk factor women having no children, infertility, hereditary, advancing age, menarche before 12 years of age, women with null parity and multi parity etc increases the chances of breast cancer. Breast cancer is 100 times more prevalent among female than male, inheritance of BRCA1 and BRCA2 genes increases the risk of breast cancer.[5]

Breast cancer is different from other cancer because it involves the organ which is clearly visible which can be detected and treated in early stage of development. There is various level of prevention of breast cancer which includes primary level, secondary level, tertiary level. Primary prevention involves risk reduction and health promotion in population. These primary prevention measures include the cessation of smoking, lifestyle and diet modification, identification of genetic risk factors and identification of carcinogens. The identification and treatment of premalignant or subclinical cancer, screening involves breast-self-examination and mammography, FNAC (fine needle aspiration cytology), clinical BSE, ultrasound, biopsy, breast magnetic resonance imaging etc are included in secondary prevention. Among all listed above BSE is an important screening method for early detection of breast cancer. It is simple and easy to perform. Study shows that women who are aware about risk factors of breast cancer and routinely practice BSE correctly every month can easily detect the lump in the early stage of development. Early diagnosis has been reported to influence early treatment and better survival.[6] Risk factor awareness and adherence to healthy life style can play a significant role in prevention of cancer. Thus, the present study aimed to assess the awareness of risk factors of breast cancer and practices of BSE among unmarried females of a north Indian village.

METHODS

A descriptive study was conducted on 150 unmarried females (age >19 years) residing in Dhanas, Chandigarh, U.T. India. The study was approved by the institutional ethics committee of the national institute of nursing education, PGIMER, Chandigarh. An informed written consent was taken from the subjects. Inclusion criteria was unmarried females above 19 years of age who were willing to participate in study. All subjects who were meeting the inclusion criteria were included in the study.

The purposive sampling technique was used to enrol the eligible participants. Interview schedule was used to elicit information on socio-demographic data (age, educational status, occupational status, monthly income) from the subjects. Body mass index (BMI) of subjects was calculated.

The awareness of breast cancer risk factors was assessed by using interview schedule that was developed according to review of literature and validated by experts in the field of nursing and community health and preventive medicine. Interview schedule consisted of multiple-choice questions on risk factors of breast cancer classified under non-modifiable and modifiable was used to collect data. The practices of breast self-examination were observed by using checklist on breast self-examination.

Descriptive and inferential statistics was used to analyse data that was presented in the form of tables, graph and figures. Collected data was analysed by using descriptive and inferential statistics with the help of SPSS (SPSS version 20.0). The total score of breast cancer risk factors awareness ranges between 0-28, and classified into three categories are average (7-14), good (15-21) and excellent (22-28).

RESULTS

A total of 150 unmarried females age above 19 years participated in the study. Results revealed that mean age of participant was 22.65±3.21 years. Two third (66.7%) of women were in the age group of 19-23 years and as per education qualification,99 (66%) women were graduated. Nearly 120 (80%) of the women were unemployed and 19 (12.7%) were private employee. Most of the women (72%) belongs to Hindu religion whereas 76% belongs to nuclear family (Table 1).

NCDs are largely preventable and if people are aware of their risk factors it can play a vital role in prevention of disease. Present study also assessed the awareness about risk factors of breast cancer (Table 2). Awareness results for modifiable risk factor depicted that majority of (94.7%) females were aware that practices of breast feeding reduce the risk of breast cancer. Whereas most of females (91.3%) had knowledge that smoking is a risk factor of breast cancer. Half of the females (50.7%) were

aware that oral contraceptive pills increase the risk of breast cancer. Only 36.7% knew that any trauma to breast increases the risk of breast cancer. Regarding non-modifiable risk factors of breast cancer results revealed that majority of (84.7%) female was aware that infertility is a risk factor of breast cancer. Two third (67.3%) females had knowledge that women with null parity and multi parity are at highest risk of acquiring the breast cancer. Approximately half of the females (48%) knew that increasing age is risk factor of breast cancer. Only one third (36%) females were aware that hereditary is non modifiable risk factor of breast cancer.

Table 1: Socio demographic profile of the unmarried females of North India (n=150).

Variables	N (%)
Age (years)*	
19-23	100 (66.7)
24-28	39 (26.0)
29-32	11 (7.3)
Educational status	
Primary class	3 (2.0)
Middle standard	11 (7.3)
Senior secondary	37 (24.7)
Graduation and above	99 (66)
Occupational status	
Government employee	6 (4.0)
Private employee	19 (12.7)
Self employed	5 (3.3)
Unemployed	120 (80.0)
Per capita income as per Prasad's SES classification	
SES-I (>6277Rs)	2 (1.3)
SES-II (3139-6276)	21 (4.0)
SES-III (1883-3138)	18 (12.0)
SES-IV (942-1882)	109 (72.2)
Religion	
Hindu	108 (72.0)
Muslim	7 (4.7)
Sikh	35 (23.3)
Type of family	
Nuclear	114 (76.0)
Joint	36 (24.0)

*Figures in parentheses are percentages.

Breast self-examination (BSE) is very important and easy method for early identification of breast cancer. Table 3 shows awareness regarding breast cancer disease and BSE among unmarried females (age >19 years). Majority (97.7%) of females were aware about best time to perform Breast self-examination (7 days after menstruation counting from first day of last menstrual period). Whereas majority (94%) of females knew that breast cancer is non-contagious type of disease.

Approximately 89.3% females had awareness regarding symptoms of breast cancer. Almost all (95.3%) females were aware regarding the alternate therapies i.e., meditation, yoga and exercise. More than half of the females (55.3%) knew that dysmenorrhoea is not related to breast cancer. Only 34.7% females were aware about painless breast lump as a warning sign of breast cancer. As shown in Figure 1, 4.7% females were ranked in average category as per the knowledge scores. Nearly three fourth (76%) of unmarried females were ranked in good category. Only 19.3% unmarried females were ranked in excellent category.
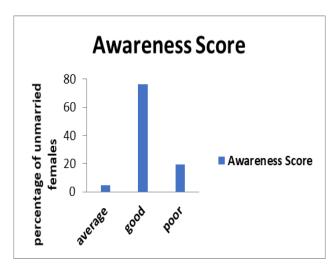

Figure 1: Level of aawareness about breast cancer risk factors among of unmarried females of North India.

Table 2: Awareness of modifiable and non-modifiable risk factors of breast cancer among unmarried females of North India (n=150).

Risk factors	Correct response in N (%)
Modifiable risk factor	
Any trauma to breast	55 (36.7)
Non breast-feeding practices	142 (94.7)
Obesity	62 (41.7)
Oral contraceptive pills	66 (50.7)
Smoking	137 (91.3)
Diabetes mellitus	74 (49.3)
Non-modifiable risk factor	
Women having no children	97 (64.7)
Infertility	127 (84.7)
Hereditary	54 (36.0)
Advance age	72 (48.0)
Menarche before 12 years of age	92 (61.3)
Women with null parity and multi parity	101 (67.3)

*Figures in parentheses are percentages.

Table 3: Awareness regarding breast cancer disease among unmarried females of North India (n=150).

Variables	Correct response in (%)
Breast cancer is most common cancer in females	130 (86.7)
Breast cancer is non-contagious type of disease	141 (94.0)
Burden of breast cancer globally is 10.4%	121 (80.7)
Breast cancer more prevalent in females	123 (82.0)
breast cancer has 4 stages	125 (83.3)
Dysmenorrhea is not a risk factor of breast cancer	83 (55.3))
Black magic is not a risk factor of breast cancer	132 (88.0)
Change in shape and size of breast, nipple discharge or redness, pain in breast is symptom of breast cancer	34 (89.3)
Antiviral medications are not a treatment of breast cancer	89 (59.3)
Radiotherapy is not a method of early detection of breast cancer	135 (90.0)
Best time to perform BSE is 7 days after menstruation including day of period	136 (97.7)
Frequency of BSE is once in a month	75 (50.0)
Benefits of BSE is early detection of breast cancer	131 (87.3)
Parallel treatment of breast cancer is meditation, yoga and exercise	143 (95.3)
Painless breast lump is warning sign of breast cancer	52 (34.7)
Now days obesity is main cause of breast cancer	54 (36.0)

*Figures in parentheses are percentage

DISCUSSION

Adequate awareness regarding risk factors of breast cancer and breast self-examination can help in early detection and prevention of disease. Present study assessed the awareness of women related to risk factors of breast cancer and practices of BSE.

According to the study which was conducted among the students of university of Bueu (Africa) in July 2014. Aim of study was to evaluate awareness and attitude towards breast self-examination. This study included 182 students in an age range of 17-30 years by simple random sampling. Finding of study revealed that 37.3% of them knew that BSE should be performed monthly and 9% of them knew, how to perform BSE correctly whereas present study reveals that 75% unmarried females knew

about BSE and only 14.6% perform BSE correctly. Studies reveals that most of the women had knowledge about BSE but very few are practicing correctly.[7]

As per findings of the study which was conducted in Bombili, University of Bamenda in Northeast region of Cameroon in 2016 which include 345 students of under graduation (UG). Aim of study was to assess knowledge about breast cancer and breast self-examination among undergraduate students. Result revealed that 5.9% had family history of breast cancer and students were aware about risk factors of breast cancer like 58.9% knew about exposure to radiation 58.2% knew smoking is a risk factor, 8.2% early menarche and high fat diet (45.4%). where as in present study reveals that only 3.3% had family history, 90% knew about exposure to radiations is a risk factor, 91.3% aware about smoking is a risk factor, 13.3% knew high fatty diet cause breast cancer and early menstruation 61.3% is also a known risk factor.[8] Results reveals that present study participants are more aware about risk factors of breast self-examination.

Study was conducted in Zarqa city in 2011 among 112 of registered nurses and midwives. Objective of study was to persuade regarding practice of BSE and knowledge about risk factor of breast cancer. Finding revealed that family history of breast cancer was 12.5% only 19.5% practice BSE where as in our study 3.3% family history of breast cancer 75% unmarried females knew about BSE and only 14.6% perform BSE correctly. This study concluded that there was a gap between knowledge and practice of BSE among Jordanian nurses.[9] The findings are consistent with our study results where only few were practicing BSE.

Present study revealed that out of 150 females only 22(14.6%) females performed BSE steps. Only (19) (86.3%) females verbally explained first step (undress clothes from waist up). Majority (8 steps) of steps were correctly performed by 21 unmarried females (95.4%). Four steps were correctly performed by 22(100%) females and 97.7% subjects knew that best time to perform BSE is 7 days after menstruation including days of period. Whereas another study conducted in Bombili, university of Bamenda in the Northwest region of Cameroon in 2016 revealed that out of 345 participants only 7% participant knew about right time to perform BSE.[8]

One more study conducted in major market Ibadan Nigeria in 2012. Objective of study was to assess knowledge and belief on BSE among 603 women. It revealed that out of 603 women only 8.1% of them knew about right time to perform BSE.[10] One more study conducted among students of university of Bueu (Africa) in July 2014, revealed that out 182 participants only 9% of them knew that how to perform BSE correctly.[7] Another conducted at ADAMA science and technology university of Ethopia in 2014. Goal of study was to assess knowledge, attitude and practice of BSE.

findings of the study revealed that 9.7% of participants practice BSE monthly, 8.7% of them had knowledge about BSE.[11] One more study conducted at Eritrea in 2006 among health sciences and known health sciences. Objective of study was to assess the knowledge and practice of BSE. Findings of the study revealed that out of 60 participants 11.7% of them practice BSE.[12]

One more study was conducted among the women of an Urban resettlement colony in 2008. Aim of study was to check awareness related to breast cancer. This reveals that 35% participant know about risk factor of breast cancer.[13] Another study conducted at Manisa, Turkey in 2008 aim of study was to assess the knowledge and practice of BSE. Its finding reveals that 68.7% know about risk factor of breast cancer.[14]

The evidences of these studies suggest that most of females are aware about risk factor of breast cancer but practices of BSE are poor among them. The study also has certain limitations i.e., small sample size limits the generalizability of the findings.

CONCLUSION

Study concluded that most of the women were aware about the risk factors of breast cancer, however only few were practicing breast self-examination. Since screening and early detection of breast cancer is crucial for cancer control, nurses as health professionals have a significant role to play in early detection and increasing awareness among individuals and communities.

REFERENCES

1. Thakur JS. Public health approaches to non–communicable diseases. 2017;1:3-19.
2. World Health Organization. Global status report on Non communicable diseases.
3. Estimate of Worldwide burden of Cancer in 2008: GLOBOCAN 2008. Available from http://online library.wiley.comdoi/full/10.1002/ijc.25516. Accessed on 17 October 2017.
4. Cancer Burden in Chandigarh and Punjab states. Population based cancer registries report. 2013-14.
5. Smeltzer SC, Bare BG, Hinkle JL, Cheever KH, Brunner, Suddarth. A textbook of Medical surgical nursing. 2010;12:50-69.
6. Ali M, Amri-AL. Prevention of breast cancer. J family community med. 2005;12(2):71-2.
7. Nde FP, Assob JCN, Kwenti TE, Njunda AL, Tainenbe TRGT. Knowledge, attitude and practice of breast self-examination among female's undergraduate student in the university of Buea. Biomed center Res Notes. 2015;8:43.
8. Sama CB, Dzekem B, Kehbila J, Ekabe CJ, Vofo B, Abua NL et al. Awareness of breast cancer and breast self-examination among female undergraduate student in higher teachers training college in Cammaroon. Pan Afr Med J. 2017;28:91.
9. Amasha HDR. Breast self-examination and risk factors of breast cancer: Awareness of Jordanian nurses. Health Sci J. 2013;7(3):303-14.
10. Oladimeji KE, Gwegweni JM, Igbodekwe FC, Twomey M, Akolo C, Balarabe HS. Knowledge and belief of Breast self-examination and breast cancer among market women in Ibadon, South West, Nigeria. Plos one J. 2015;10:11.
11. Segni MT, Tadesse DM, Amdemichael R, Demissie HF. Breast Self-examination: Knowledge, Attitude, and Practice among Female Health Science Students at Adama Science and Technology University, Ethiopia. Obstet gynaecol. 2016;6:368.
12. Kifle MM, Kidane EA, Gebregzabher NK, Tewelbederhan AM, Sielu FN, Kidane KH et al. Knowledge and Practice of Breast Self-examination Among Females College Students in Eritrea. Am J health Res. 2016;4:104-8.
13. Somdatta P, Baridalyane. Awareness of breast cancer in women of an urban resettlement colony. Indian J cancer. 2008;45(4):149-53.
14. Karayurt O, Ozmen D, Cetinkaya AC. Awareness on breast cancer risk factors and practice of breast self-examination among high school student in Turkey. Biomed centre. 2008;8:359.