(RESEARCH ARTICLE)

A study to assess the effectiveness of structured teaching program on knowledge of breast self-examination and practices regarding preventive aspects of breast cancer among reproductive age group of selected rural areas of Nagpur region

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Abstract

Introduction: Brest cancer is more common cancer in women's and second leading cause of death in worldwide.

Objectives: 1**.** To assess the pre-test knowledge regarding breast cancer among reproductive age women from selected rural area of Nagpur region. 2. To assess the post-test knowledge regarding breast cancer among reproductive age women from selected rural area of Nagpur region. 3. To evaluate the effectiveness of Structured Teaching Program on knowledge regarding breast cancer among reproductive age women from selected rural area of Nagpur region. 4. To associate the post-test knowledge score regarding breast cancer among reproductive age women with selected demographic variables**.**

Methodology: A interventional research approach with experimental one group pre-test post-test research design are used. The sample population was reproductive age group (15-<44) women in Hingna, Nagpur. There was sample of 100 women in Hingna, Nagpur. The self-structured questionnaire was used for tool of data collection which is based on knowledge of breast cancer and its prevention.

Result: Assessment was done by using self- structured questionnaire on knowledge on breast cancer and breast self-examination among reproductive age group women's in Hingna, Nagpur. The result shows that Minimum knowledge score in pre- test was 0 and maximum knowledge score in pre- test was 7. Mean knowledge score in pre-test was 3.53±1.44 and 1.44 and mean percentage of knowledge score in pre-test was 17.65±7.22. Minimum knowledge score in post-test was 11 and maximum knowledge score in post-test was18. Mean knowledge score in post-test was14.42±1.58 and mean percentage of knowledge score in post-test was72.10±7.91.

Conclusion: Analysis reveals that there is association of knowledge score with educational status of reproductive age group women is statistically associated with their posttest knowledge score. Overall conclusion was structure teaching program should use for spreading awareness on breast cancer and its prevention. It is very effective way of teaching.

Keywords: Structured teaching program; Breast self-examination; Breast cancer; Reproductive age; Rural areas

1. Introduction

Cancer commences in our body in any system when cells started to grow rapidly without control. In cancer cell growth is considered abnormal. The out of all men one-half and out of all women one-third population will develop cancer during their lifetimes in the United States. Today, a large number of people are living with cancer or they had confirmed

cancer. Breast cancer is one of the major hidden burdens worldwide which develops tumors in the mammary gland and disrupts the usual function of breast tissue. It is the most common cancer in females in more than 150 countries including the developed and developing world. Breast cancer starts when cells in the breast begin to grow out a tumor that can often be seen on an x-ray or felt as lump. The tumor is a malignant (cancerous) if the cells can grow into (invade) surrounding tissues or spread (metastasize) to distant area of the body. Breast cancer occurs almost entirely in women, but men can get it, too cells in nearly any part of the body can become cancer, and can spread to other area of the body. Breast cancer starts from different part of the breast. Most breast cancers begin in the ducts that carry milk to the nipple (ductal carcinoma) some start in the gland that makes breast milk (lobular cancer). There are also other types of breast cancer that area less common. A small number of cancers start in the other tissues in the breast. Theses cancer is called as sarcomas and lymphomas and are not really thought of the breast cancer. Although many types of breast cancer can cause a lump in the breast, not all do. There are other symptoms of breast cancer. It's also important to understand that most breast lump are not cancer, they are benign breast tumor is abnormal growth, but they do not spread outside of the breast and they are not life threatening, but some benign breast lump can increase a women's risk of getting breast cancer.

Breast cancer is the second leading cause of cancer death in women worldwide. The significantly higher mortality rate has been considered due to poor knowledge of women, delay in diagnosis, and initiation of treatment. Therefore, This Community based study aimed to assess the knowledge regarding prevention aspect of breast cancer among reproductive women in rural area.

1.1. Need of the study

In 2022 an estimated 287,500 new cases as invasive breast cancer will be diagnosed in women in the U.S. as well as 51,400 new case of non-invasive (In site) breast cancer .65% of breast cancer cases are diagnosed as at a localized stage (there is no sign that the cancer has spread outside of the breast), for which the 5 year relative survival rate is 99%.This year an estimated 43,550 women will die from breast cancer in the US. One (1) in eight (8) women in the United States will be diagnosed with breast cancer in her lifetime. It is estimated that in 2022approximately 30% of all new women cancer diagnosis will be breast cancer on average every 2 minutes a woman is diagnosed with breast cancer in the United States. (National breast cancer.org) In, India, being the most common type of cancer in women, breast cancer accounts of 14% cancers in Indian women. It is reported that within every 4 minutes an Indian woman is diagnosed with breast cancer. Breast cancer is on the rise, both in rural and urban India. Cancer survival becomes more difficult in higher stages of its growth. Post cancer survival for women with breast cancer was reported 60% for Indian women. The simplest way to breast cancer prevention is by being able to do a breast self-examination. Women should be being this on a regular basis after they turn 30. After evaluating the epidemiological data in India about breast cancer, we are finding many more cases of breast cancer, so we realize that there is a need of providing the knowledge about the breast cancer and to create awareness in reproductive women regarding preventive aspects like breast self-examination. The breast self-examination will help the women to prevent or detect the breast cancer symptoms as early as possible.

1.1.1. Title

A study to assess the effectiveness of structure teaching program on knowledge of breast self-examination and practices regarding preventive aspects of breast cancer among reproductive age group of selected rural areas of Nagpur region.

Objectives

- Primary objectives

  To assess the knowledge and practices regarding preventive aspects of breast cancer among Reproductive age group of selected rural areas of Nagpur region.

- Secondary Objectives
  o To assess the Pre-test knowledge regarding prevention of breast cancer among reproductive women in rural areas.
  o To evaluate the effectiveness of awareness program on prevention aspect of breast cancer among reproductive women in rural areas.
  o To assess the Post-test knowledge regarding prevention of breast cancer among reproductive women in rural areas.
  o To associate knowledge regarding prevention of breast cancer among reproductive women related to their demographic variable.

1.2. Operational definition

1.2.1. Assess

In this study, assess refers to know the knowledge of prevention of breast cancer among reproductive age group.

1.2.2. Knowledge

In this study, it refers to women's awareness, regarding breast cancer, risk factors cause, symptoms, screening and prevention of breast cancer.

1.2.3. Effectiveness

According to American dictionary, the ability to be successful and produce the intended results.

1.2.4. Breast Cancer

In this study, it refers to cancer of breast which is the part of milk bag in female reproductive system.

1.2.5. Reproductive Age Women

In this study, it refers to reproductive age (15-<44 years) who are married or in union who have their need for family planning satisfied with modern contraceptive methods.

1.3. Hypothesis

- Ho: - There will be no significant difference and association between the pre-test and post-test knowledge score regarding breast cancer among reproductive age women.
- H1: - There will be significant difference and association between pre-test and post-test knowledge score regarding breast cancer among reproductive age women.

1.4. Ethical aspect

- Information about the sample was handled properly so that confidentiality and anonymity are maintained.
- Information outside of the terms of the agreement has not been used or released.
- Subjects were protected from the damage of all kinds.

1.5. Conceptual framework

Health belief model theory will be applied as conceptual framework in this study.

2. Methodology

- Research approach: -Interventional approach
- Research design: -A Quasi-experimental one group pre-test post-test research design.
- Setting: -Selected rural area of Nagpur region.
- Duration of study: -1/03/2023 to 1/04/ 2023

2.1. Methods of selection of study subjects

2.1.1. Inclusion criteria

Reproductive age group women are:

- Women who are come under 15-45 age group.
- Able to read the English /Marathi /Hindi.
- Willing to participate in study.
- Available at the time of data collection.

2.1.2. Exclusion criteria

- Reproductive age group women who have already attended similar type of study before 6 months.
- Reproductive age group women will be excluded those were critically ill and mentally ill.

- Men will be excluded.

Subject Withdrawal criteria: -Participant will have the right to quite the study at any stage of the research study for this purpose, little more sample will be taken.

2.1.3. Variables

- Independent Variable: - Assessment of knowledge
- Dependent Variable: -knowledge regarding prevention aspect of breast cancer.
- Demographic variables: -The demographic variables are Age, Religion, and Educational status, Family history.

2.1.4. Population

Reproductive age group women.

- Target population: -Reproductive age group women in selected rural area of Nagpur region.
- Accessible population: -Reproductive age group women in selected rural area, who are present during time of data collection.
  - o Section A-Demographic variables.
  - o Section B- Structured questionnaire on knowledge and practices regarding prevention aspect of breast cancer and breast self-Examination.
  - o Validity- Content and construct validity will be done by subject experts from all head of
  - o Department.
- Reliability- Split half method will be used to check reliability of the tool.
- Pilot study -Pilot study will be done on 10% sample.
- Sample -Reproductive age group women in selected rural area of Nagpur region.

3. Result

3.1. Section A- distribution of women with regards to demographic variables.

Table 1 Percentage wise distribution of reproductive age women according to their demographic characteristics. n=100

Demographic Variables	No. of women	Percentage (%)
Age in Year		
15-24 yrs.	12	12
25-34 yrs.	24	24
35-44 yrs.	43	43
>44 yrs.	21	21
Marital Status		
Single	12	12
Married	82	82
Widow	5	5
Divorced	1	1
Education		
Primary	64	64
Secondary and higher secondary	29	29
Graduate	6	6
Other	1	1
Religion		

Hindu	41	41
Muslim	8	8
Buddhist	50	50
Other	1	1
Occupation		
Homemaker	58	58
Employee	10	10
Student	10	10
Labour	22	22
Family history of breast cancer		
Yes	0	0
No	100	100

3.2. Section B – Assessment of level of knowledge regarding breast cancer among reproductive age women from selected rural area of Nagpur region

Table 2 Assessment with level of pre- test knowledge n=100

Level of pre-test knowledge	Score Range	Level of Pre-test Knowledge Score	
		No of women	**Percentage**
Poor	0-25% (1-5)	95	95
Average	26-50% (6-10)	5	5
Good	51-75% (11-15)	0	0
Very Good	76-100% (16-20)	0	0
Minimum score		0	
Maximum score		7	
Mean knowledge score		3.53 ± 1.44	
Mean % Knowledge Score		17.65 ± 7.22	

Table 3 Assessment with level of post- test knowledge n=100

Level of post- test knowledge	Score Range	Level of Post- test Knowledge Score	
		No of women	**Percentage**
Poor	0-25% (1-5)	0	0
Average	26-50% (6-10)	0	0
Good	51-75% (11-15)	76	76
Very Good	76-100% (16-20)	24	24
Minimum score		11	
Maximum score		18	
Mean knowledge score		14.42 ± 1.58	
Mean % Knowledge Score		72.10 ± 7.91	

3.3. Section C- Evaluation of Effectiveness of Structured Teaching Program on Knowledge Regarding Breast Cancer Among Reproductive Age Women from Selected Rural of Nagpur Region

Table 4 Significance of difference between knowledge score in pre and posttest of reproductive age women n=100

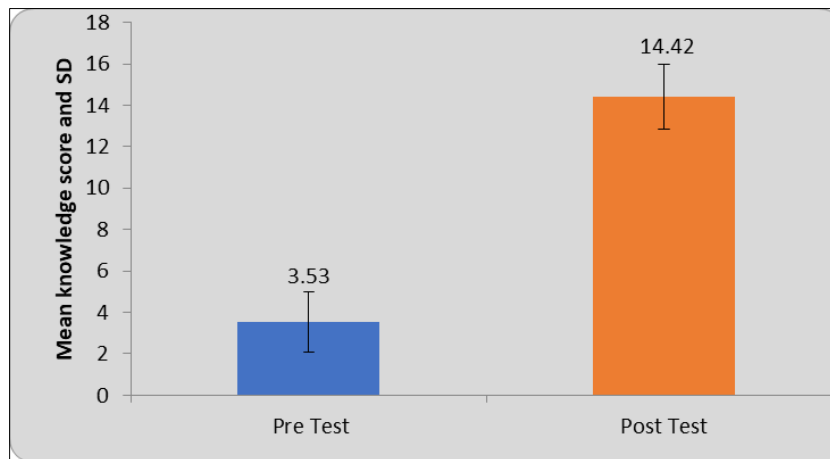| Overall	Mean	SD	Mean Difference	t-value	p-value
Pre-Test	3.53	1.44	10.89±1.63	66.46	0.008 S,p<0.05
Post Test	14.42	1.58			

Figure 1 Significance of difference between knowledge score in pre and post-test of Reproductive Age women

3.4. Section D- Association of Level of Post Test Knowledge Score Regarding Breast Cancer Among Reproductive Age Women from Selected Rural Area of Nagpur Region in Relation to Demographic Variables

Table 5 Association of post- test knowledge score regarding Breast Cancer among reproductive age women in relation to age in years. n=100

Age (yrs.)	No. of women	Mean post-test knowledge score	F-value	p-value
15-24 yrs.	12	14.75±1.76	1.71	0.17 SNMPs>0.05
25-34 yrs.	24	14.08±1.31		
35-44 yrs.	43	14.23±1.58		
>44 yrs.	21	15±1.67		

4. Discussion

An institutional based cross-sectional study was conducted on breast cancer in GNM School of nursing at SCBMCH, Cuttack, and a tertiary care hospital in the state of Odisha in eastern India. In Feb 2018 with to identify the knowledge of breast cancer among a nursing college student. The data was collected using a structure questionnaire on breast cancer and BSE.A total 253 students gave consent to participate in the program. The finding of the study pre-test revealed that 58.74% students had inadequate knowledge on breast cancer and BSE. Whereas after the orientation program 237 students (94.05%) had a good score in practice. (Dr. Sikata Nanda, 2018 vol-3).

In our study we research on the assess the effectiveness of structure teaching program on knowledge of breast self-examination and practices regarding preventive aspects of breast cancer among reproductive age group of selected rural areas of Nagpur region. In this study we used experimental research design for data collection 100 sample used by non-purposive sampling technique. At the end we finding pre-test and post-test knowledge score after structure teaching program on breast self- examination.

5. Conclusion

Pre-test and post-test knowledge score of reproductive age women regarding breast cancer. In the pre-test (95%) had poor knowledge and only (5%) had average knowledge regarding breast cancer and its prevention. Minimum knowledge score in pre-test was 0 and maximum knowledge score in pre-test was 7. Mean knowledge score in pretest was 3.53±1.44 and mean percentage of knowledge score in pretest was 17.65±7.22. The above table shows that 76% of the reproductive age women had good level of knowledge score and 24% of them had very good level of knowledge score. Minimum knowledge score in post-test was 11 and maximum knowledge score in post-test was 18. Mean knowledge score in post-test was 14.42±1.58 and mean percentage of knowledge score in posttest was 72.10±7.91. The finding reveals that there is association of knowledge with educational status and rest of others were not associated with the knowledge score breast self-examination and preventive aspects of breast cancer.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all reproductive age group women participants included in the study.

References

[1]   Dean Ornish Quote: "Poor health is not caused by something you don't have; it's caused by disturbing something that you already have. Health..."

[2]   World Health Organization, Regional Office for South-East Asia. Self-care for health: a handbook for community health workers & volunteers. New Delhi: The Regional Office; 2013.

[3]   history_cancer.pdf

[4]   Fatema, Mehejabin, Knowledge and perception of breast cancer among women of reproductive age in Chattogram, Published online 2022 Sep 20.

[5]   Abeloff MD, wolff AC, weber BL, et al. cancer of the breast. In; Abeloff MD, Armitage JO, Lichter As, et al eds. Clinical oncology: 4th edition Philadelphia, Pa: Elsevier ;2008.

[6]   World health organization, Fact sheet of breast cancer, who.int 07 dec 2022

[7]   National breast cancer foundation, INC. Fact sheet, nationalbreastcancer.org 13 oct 2022

[8]   Cytecare.com was first indexed by Google in March 2015.

[9]   Text Book of foundation of nursing, author of lakvindar kour

[10]   Sharma Suresh K. Nursing research and statistic. Second edition. Elsevier publication

[11]   Rodney, Richie, MD, FACP, FCCP; John O. Swanson, MD -breast cancer: A Review of the literature, Journal of insurance Medicine., J Insur Med (2003); 35:85-101.

[12]   P Kanovas; The raising burden of cancer in the developing world. Annals of Oncology; officials of the European Society for medical Oncology (2006).

[13]   Vendhan Gajalakshmi Aleyamma mathev, breastfeeding and breast cancer risk in India; a multicenter case-control study, International journal of cancer 2009 August, Volume 125/ page no 662-665.

[14]   Ramchandra kamat, Mahajan ks, Ashok L, Sand TS. A study on risk factors of breast cancer among patients attending the tertiary care hospital, in Udupi district, Indian Journal community Med. 2013 Apr -Jun.

[15]   Mumtaz Ali Memon et.al., Rohani Salleh, Haryanni Harun, Rafidah Abdul Rashid and Zurina Abu Bakar..., Training, Engagement, Social Exchange Ideology and Employee Turnover: A proposed moderated medication conceptual framework. Aust. J. Basic $ Appl. Sci, 8(5): page no.151-156, (2014)

[16] Shatabdi Paul, Prem Prakash Solanki et.al; Epidemiological study on breast cancer Associated Risk factors and Screening Practices among women in the Holy city of Varanasi, Uttar Pradesh, India. Asian Pacific Journal of cancer prevention vol.16(2015) Pre-(8163-8171).

[17] Parkin DM, brayf, ferlay j, Pisani p, Global cancer statistics,2002. A cancer Journal for clinicians. March / April / 2005: Volume 55, Issue 2/ page no. 74-108.

[18] Alhas shaista, Munkar Madhavi et.al; A study to assess knowledge, attitude of breast cancer and Practice of breast self-Examination in females of self-help Group (SHG). In tribal Area of Raigad District. International Journal of current Medical and applied Sciences; (2016) July, 11(2) (86-93).

[19] Awatif Ali Alam, knowledge of breast cancer and its risk and protective factors among women in Riyadh, Ann Saudi med. (2006) Jul-Aug, 26 (4): page no.272-277.

[20] Alice. R. Richman, Janice P. Tzeng, Mayer D, Lipkus I, Han PK, Valle CG, Carey LA, Brewer NT, women experience with quenomic testing for breast cancer recurrence risk. American cancer society Journals, published: 06 April (2010) / volume 116, Issue 8/ page no. 1992-2000.

[21] Taranikanti M, Panda S, Dash AK, Siddique ARO, Behara J. Knowledge of nurses about breast cancer risk factors, general awareness and screening procedures in south India. Int J Med Sci Public Health 2014; 3:1372-1375.

[22] Terfe s. kene, Vincent I. odigie, Lazarus MD. Yusufu. Pattern of presentation and survival e.g. Breast cancer in a teaching hospital in north western Nigeria, Oman Medical Journal. 20/April: (2016): 25(2) :/04-/07.

[23] Mrs. M. Jaslin, A study to evaluate the effectiveness of Vedio Assisted Teaching on Knowledge regarding Breast Self- Examination among school students at selected School in Madurai District: Asian journal of nursing Education and Research (2016) vol-6 Page 5-6.

[24] Siddharth Rao, D Gupta, R Narana, P Singh; knowledge attitude and practice about breast cancer and breast self-examination among women seeking outpatient care in a teaching hospital in central India. Indian journal cancer (2016) Apr -Jun; 226-229.

[25] Ankita Vaishnav, yashaswini Deepak; "effectiveness of information booklet on Knowledge regarding breast cancer among female young adults in selected teachers training colleges at Udaipur, Rajasthan ". IOSR Journal of nursing and health Science, Vol-7, no.1(2018), 06-10.

[26] Nitin Gangane; Breast cancer in Rural India: Knowledge, attitudes, Practices; Delays to care and quality of life. Department of public health and clinical Medicine unit of Epidemiology and global health Umea University 2018.

[27] Farkhonda Alizadam, Abhishek S. Lachyan an Naveen H. Simon; A literature Review assessing knowledge, attitude and preventive practices towards breast cancer among Indian women. International Journal of Recent scientific Research (2021) 12. (04): 41496-41498

[28] A Gupta, K. Shridhar, and P.K Dhillon; A review of breast cancer awareness among in India: Cancer literate or awareness deficite Europeon (Eur. Journal Cancer (2015) Sep; 51(14):2058-2066.

[29] Dr C. Padmavathy; A Critical Review on Breast cancer literature, Screening, Awareness and Preventive Measures. Mediterranean journal of Social Sciences (MCSER), publishing August (2015) Vol-6 ISSN 2039-2117.

[30] Ms. M. Swapana, Dr. C. Padmavathy; A Critical Review on breast cancer Literature; Screening, Awareness and preventive measures, Mediterranean Journal of Social sciences MCSER publishing, Reme – Italy. Agust (2015) vol-6 ISSN 2039-2117(Online).

[31] Dey, Subhojit, Mishra Arti, Govil Jyotsna, Dhillon Preet k; Breast cancer awareness at the community level among women in Delhi India: Asian pacific journal of cancer prevention (2015) vol- 16 Issue 13/pages 5243-5251.

[32] Anita Gadgil, Catherine Sauvaget; Breast cancer Awareness among middle class urban women in a community-based study from Mumbai, India. Asian Pacific Journal Cancer prevention (2015): 6249-54.

[33] Dr. Sikata Nanda A study on the effectiveness of a structured teaching program on breast cancer prevention and breast self-examination among students in a nursing college in Eastern, India. SJAMS (2018) 979-984.

[34] Sharma Suresh K. Nursing research and statistic. Second edition. Elsevier publication.