

Effectiveness of video assisted teaching program on breast self-examination towards knowledge among adolescent girls studying at selected higher secondary schools at Tirupati.

P.M.Prathiba, Principal, KKC College of Nursing, Tirupati

Abstract: Breast cancer comprises 22.9% of invasive cancers in women ^[2] and 16% of all female cancers. A breast self-exam is a step-by-step method women can use to examine their breasts. Monthly breast self-exams can help you detect changes that may be signs of infection or breast cancer (such as breast lumps or spots that feel different). When breast cancer is detected early, the chances for survival are much better³. The present study has aimed to assess the effectiveness of video assisted teaching program on breast self-examination towards knowledge among adolescent girls studying at selected higher secondary schools at Tirupati. The present study adapted Quantitative approach and pre experimental pretest and posttest design. The findings of the study revealed that in the pretest 65% had inadequate knowledge and 35% had been recorded to have moderate knowledge. In the post-test 71% of students had moderate knowledge and 29% had adequate knowledge. The pretest mean obtained was 12.1 with a SD of 7.302 and the post-test mean obtained was 8.387 with a SD of 6.928 and the t value obtained was 6.928 which was significant at $p < 0.05$ level. The study concluded that the video assisted teaching on breast self-examination has improved the knowledge scores of the individual.

Key words: Breast cancer, breast self-examination, adolescent girls, video assisted teaching

Introduction: Breast cancer is the most commonly diagnosed cancer type, accounting for 1 in 8 cancer diagnoses worldwide. In 2020, there were about 2.3 million new cases of breast cancer globally and about 685 000 deaths from this disease, with large geographical variations observed between countries and world regions⁴. Increased health awareness, effective prevention strategies, and improved access to medical treatment are extremely important to curb the snowballing burden of breast cancer.⁵ A regular breast cancer screening is a necessary as early detection is a major factor in treating cancer. Cancer diagnosis at an early stage has a better prognosis and is easier to treat. Reducing the likelihood of dying from breast cancer requires regular screening. Breast self-examination is the most economical and potential screening procedure, which had provided significant results. Women are encouraged to get to know their breasts and become more attuned to any changes, without resorting to a strict regimen. ⁶

Objectives of the study:

- To assess the level of knowledge regarding breast self-examination among adolescent girls
- Evaluate the effect of video assisted teaching programme on knowledge level of adolescent girls
- Find the association between level of knowledge and selected demographic variables of the study

Materials and methods:

The research approach was quantitative and design adapted for the study was pre experimental research design. the study was carried out in selected higher secondary schools at Tirupati, Andhra Pradesh. The sampling technique adapted for the present study is of non-probability purposive sampling technique. The population includes adolescent girls in age group of 14-16years. Sample size is calculated at expected population mean of 12 and standard deviation of ± 3 and sample estimated mean of 11, alpha at 0.05 and power of 95% , and thus obtained sample size is calculated as 117 and with a 10 % drop out ratio a total of 129 is the sample size of the study.

Schematic presentation of research design:

| Group | Before (O₁) | Intervention (X) | After (O₂) |
|--------------|-------------------------------|-------------------------|------------------------------|
|--------------|-------------------------------|-------------------------|------------------------------|

| | | | |
|---|--|-------------------------|--|
| A | Pretest using structured knowledge questionnaire | Video assisted teaching | Post-test using structured knowledge questionnaire |
|---|--|-------------------------|--|

A: Adolescent girls within the age group of 14-16years

O: Pretest scores of Knowledge regarding self-breast examination

X: Video assisted teaching on breast self-examination

O: Pretest scores of Knowledge regarding self-breast examination

Variables of the study: Independent variable of the study comprises video assisted teaching, whereas dependent variable of the study comprises level of knowledge of adolescent girls regarding breast self-examination.

Description and development of tool: the tool comprises a self-structured questionnaire presented in three parts. First part comprises demographic profile of the adolescent girls such as age, religion, education and family income, family history of breasts cancer and knowledge of breast cancer. Part II comprises 16 structured questions on breast cancer and Part III comprises 14 questions with respect to breast self-examination.

Item analysis of each item in the tool is performed and necessary corrections were been carried out. Reliability of the tool was tested using test retest method and the obtained $r=0.92$ indicates that the tool is highly reliable. Tool validity was checked by submitting the tool to the experts and necessary corrections was carried out. Hence a highly reliable and valid tool is used in the present study.

Methods of data collection: Permission from the authorities of the school is obtained and a pre-test was conducted on the first day of the visit followed by where the adolescent girls were provided in-depth knowledge regarding breast self-examination using video assisted devices. Every component is explained in detail and necessary clarification is provided at times of need. After one month of gap a post test is conducted without any teachings. A written informed consent was obtained from the study participants.

Data analysis: thus the collected data is analyzed using descriptive and inferential statistics. Frequency and percentages are used to describe the demographic characteristics and mean, standard deviation are used to describe the pretest results. Paired t-test was used for comparing pre and posttest level of knowledge to assess the effect of video assisted teaching on breast self-examination. Chi-square was used to associate the level of knowledge on breast self-examination with that of selected demographic variables of the study.

Results

The results of the study are presented under three parts such as description of demographic variables, level of knowledge of adolescent girls and comparison of pre-test and post-test knowledge scores of adolescent girls.

Table.1: description of demographic variables of the participants under study

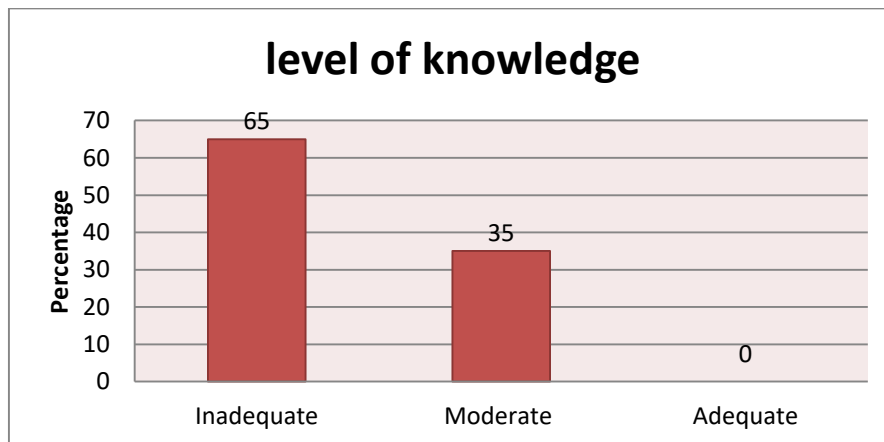
| S.No | Demographic variable | Frequency | Percentage |
|------|----------------------|-----------|------------|
| 1. | Age in years | | |
| | a. 14years | 43 | 33 |
| | b. 15years | 39 | 30 |
| | c. 16years | 47 | 37 |
| 2. | Religion | | |
| | a. Hindu | 61 | 47 |
| | b. Muslim | 33 | 26 |
| | c. Christian ‘ | 35 | 27 |
| | d. Others | - | |
| 3. | Family income | | |
| | a. Below 10,000 | 56 | 44 |
| | b. 10000-20,000 | 29 | 22 |
| | c. Above 20,000 | 44 | 34 |
| 4. | Area of residence | | |

| | | | |
|----|---------------------------------|-----|----|
| | a. Rural | 29 | 22 |
| | b. Urban | 64 | 50 |
| | c. Semi urban | 36 | 28 |
| 5. | Family history of breast cancer | | |
| | a. Yes | 03 | 2 |
| | b. No | 126 | 98 |
| 6. | Knowledge of breast cancer | | |
| | a. Yes | 23 | 18 |
| | b. No | 106 | 82 |

The above table describes that the maximum number of girls 37% were in the age group of 16 years, and maximum of the study group 47% where belonged to Hindu religion, maximum 44% adolescents family income ranged below 10,000Rs/month, maximum 50% of them resides in urban locality, and 3 of them had da family history while 23 of them (18%) had knowledge of breast cancer.

Table 2: Level of knowledge of adolescent girls regarding breast self-examination

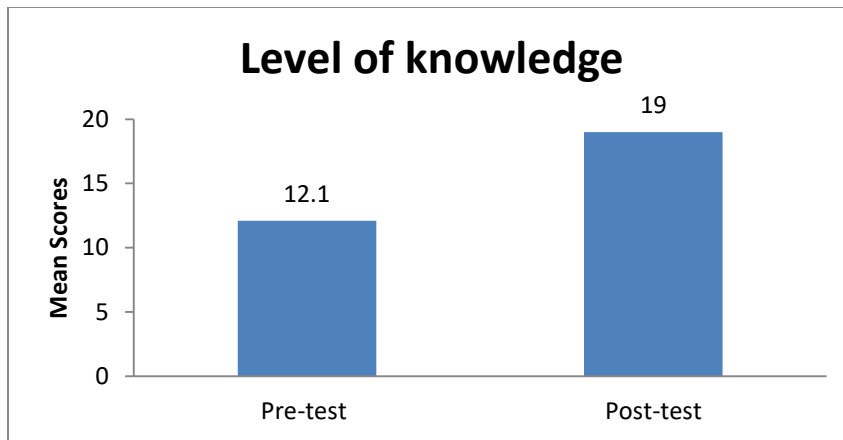
| Level of knowledge | Frequency | Percentage | Pre-test mean | Standard deviation (\pm) |
|--------------------|-----------|------------|---------------|------------------------------|
| Inadequate | 84 | 65 | 12.1 | 7.302 |
| Moderate | 45 | 35 | | |
| Adequate | 0 | 0 | | |



The pretest knowledge scores revealed that a maximum number of students 65% had inadequate knowledge of breast self-examination, 35% had moderate knowledge of breast self-examination, while none of them had adequate knowledge. The pre-test mean obtained was 12.1 with a standard deviation of ± 7.302 . From the table presented above it is evident that the adolescents lack knowledge regarding breast self-examination.

Table 3: Comparison of pre-test and post-test knowledge scores regarding breast self-examination

| S.No | Assessment | Mean and SD | Paired t-value | P value |
|------|------------|------------------|----------------|---------|
| 1. | PRE TEST | 12.1 \pm 7.302 | 6.928 | 0.0241 |
| 2. | POST TEST | 19 \pm 8.387 | | |



From the data presented above it is evident that the pretest mean obtained was 12.1 with a standard deviation of ± 7.302 , whereas post-test mean obtained was 19 with a SD of ± 8.387 . The paired t-test value obtained was 6.928 and the p value thus obtained was 0.02 which is highly significant at $p < 0.05$ level.

The association between level of knowledge and demographic variables was determined by chi-square test. Results revealed that the family history of breast cancer and previous knowledge of breast cancer found to have a significant association with that of level of knowledge of adolescent girls with regard to breast self-examination at $p < 0.05$ level.

Conclusion: The present study concluded that the maximum of adolescent girls in the study does not have adequate knowledge regarding breast self-examination. The pre-test mean score obtained was of 12.1 and the post-test mean score of 19 was found to have a highly significant difference at $p < 0.05$ level. The study findings also revealed that there exists a significant association between level of knowledge and demographic variable family history and previous knowledge of breast cancer.

Recommendations:

- From the preventive aspects it is recommended to teach the adolescent girls regarding breast self-examination which enables prevention, early diagnosis and promotion of health
- Health education regarding cancer prevention improves health economics
- Preventive measures with respect to cancer prevention promotes quality of life and reduces Disability Adjusted life Years. Hence necessary changes in the curriculum too promote knowledge is necessary.

References:

1. *World Cancer Report, International Agency for Research on Cancer. 2008. Archived from the original on 2011-01-14. Retrieved 2011-02-26.*(cancer statistics often exclude non-melanoma skin cancers such as basal cell carcinoma which though very common are rarely fatal)
2. Wikipedia contributors. Epidemiology of breast cancer [Internet]. Wikipedia, The Free Encyclopedia. 2023. Available from: https://en.wikipedia.org/w/index.php?title=Epidemiology_of_breast_cancer&oldid=1159801269
3. Breast self-exam: How to check for breast lumps and changes [Internet]. Breastcancer.org. [cited 2018 Jun]. Available from: https://www.breastcancer.org/symptoms/testing/types/self_exam
4. Lesa R, Dixon A. Physical assessment: implications for nurse educators and nursing practice. *Int Nurs Rev.* 2007 Jun;54(2):166-72. doi: 10.1111/j.1466-7657.2007.00536.x. PMID: 17492990.
5. Turnbull BJ, Roberts K. Teaching and breast self-examination: an insufficiency of instruction. *Contemp Nurse.* 2004 Jul-Aug;17(1-2):167-76. doi: 10.5172/conu.17.1-2.167. PMID: 17929748.

6. Clark JK, Sauter M, Kotecki JE. Adolescent girls' knowledge of and attitudes toward breast self-examination: evaluating an outreach education program. *J Cancer Educ.* 2000 Winter;15(4):228-31. doi: 10.1080/08858190009528703. PMID: 11199241.
7. Memis S, Balkaya NA, Demirkiran F. Knowledge, attitudes, and behaviors of nursing and midwifery students regarding breast self-examination in Turkey. *OncolNurs Forum.* 2009 Jan;36(1):E39-46. doi: 10.1188/09.ONF.E39-E46. PMID: 19136330.
8. Ifediora CO, Azuike EC. Sustainable and cost-effective teenage breast awareness campaigns: Insights from a Nigerian high school intervention study. *J EvalClinPract.* 2019 Apr;25(2):312-322. doi: 10.1111/jep.13101. Epub 2019 Jan 20. PMID: 30663203.
9. Nassif J, Sleiman AK, Nassar AH, Naamani S, Sharara-Chami R. Hybrid Simulation in Teaching Clinical Breast Examination to Medical Students. *J Cancer Educ.* 2019 Feb;34(1):194-200. doi: 10.1007/s13187-017-1287-3. PMID: 29019167.
10. Liyew B, DejenTilahun A, Kasew T. Knowledge, Attitude, and Associated Factors towards Physical Assessment among Nurses Working in Intensive Care Units: A Multicenter Cross-Sectional Study. *Crit Care Res Pract.* 2020 Aug 10;2020:9145105. doi: 10.1155/2020/9145105. PMID: 32850150; PMCID: PMC7436285.
11. Husna PH; Marni; Nurtanti S, Handayani S, Ratnasari NY, Ambarwati R, Susanto T. Breast self-examination education for skill and behavior. *Educ Health (Abingdon).* 2019 May-Aug;32(2):101-102. doi: 10.4103/efh.EfH_226_18. PMID: 31745006.
12. Mason TE, White KM. The role of behavioral, normative and control beliefs in breast self-examination. *Women Health.* 2008;47(3):39-56. doi: 10.1080/03630240802132344. PMID: 18714711.