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ORIGINAL ARTICLE

Effect of Simulator Assisted Teaching on Knowledge and Practice Regarding Self Breast Examination among Adolescent Girls

Navya Joy A.*, Asha C.G., Soumya Jacob*****

*MSc. Nursing, Medical Surgical Nursing Neuro Science, **Assistant Professor ***Associate Professor, Medical Surgical Nursing, Aswini College of Nursing, Thrissur, Kerala 680751, India.

Abstract

The adolescent period is a time of rapid changes that provides teaching opportunities for shaping health behaviors into adulthood. Hence the study was undertaken to evaluate the effect of simulator assisted teaching on knowledge and practice regarding self breast examination among adolescent girls in selected college, Thrissur. The other objectives of the study were to assess the pre test knowledge and practice score, to correlate the knowledge and practice of adolescent girls and to find out the association of knowledge and practice with selected demographic variables. The design of the study was quasi experimental one group pre testpost test design conducted over 60 adolescent girls selected by using simple random sampling technique. Pre test was done using structured knowledge questionnaire and self reported practice check list. After that the researcher rendered simulator assisted teaching programme regarding self breast examination. Post test was done after 7 days and analysis showed that there was a significant increase in knowledge and practice after rendering simulator assisted teaching programme. The pre and post test mean knowledge score were 14.47 and 26.62 respectively, regarding practice it was 3.976 and 0.0993. The findings also showed that there was no correlation between knowledge and practice (r=0.099ns, p=0.452).The significant association was found with knowledge and practice of adolescent girls with selected demographic variables such as attend education programme regarding self breast examination and previous practice of self breast examination. Thus the study concluded that simulator assisted teaching programme was effective in improving knowledge and practice of adolescent girls regarding self breast examination.

Keywords: Adolescent; Simulator Assisted Teaching; Self breast examination; Knowledge; Practice.

Introduction

Throughout the history the female breast has been regarded as a symbol of beauty, sexuality, and motherhood. Breast problems are significant health concern to woman. In a women's life time there is one in 8th chances that she will be diagnosed with breast abnormalities such as fibroids, cancer or discharges from nipple. The potential loss of breast or a part of a breast may lead to significant psychological, social, sexual and body image devastating for many women [1]. There are three methods for early detection of breast disease. The first method is self breast examination (SBE) or breast self examination (BSE) whereby a woman examines her own breast once in a month after taking lessons from an expert. The second method is mammography i.e. X-ray of the breast and the third method is clinical examination by an expert.

Reprint Request: Asha C.G., Assistant Professor ***Associate Professor, Medical Surgical Nursing, Aswini College of Nursing, Thrissur, Kerala 680751, India.
E-mail: ashacg86@gmail.com

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In India there is high mortality rate of breast cancer because of late diagnosis of thedisease. This was supported by lack of awareness and non existent breast cancer screening programmes. The Indian council for medical research has published the latest cancer incidence and prevalence projections for Kerala, based on the actual incidence data collected by the population based cancer registry (PBCR) at the regional cancer centre (RCC) in 2014.

Data shows that 55,857 new cases of cancer are reported yearly. Over 1.5 lakh people in the state are currently living with cancer. Regarding mortality estimation of 21,285 is dying due to cancer every year in Kerala. Out of that, 52% females are suffering breast cancer [10].

Presently millions of women do not perform SBE for a variety of reasons, including lack of confidence, not knowing what to look for, limited tactile sensitivity, fear of finding an abnormality and discomfort in touching in their own breast. The investigator felt that a well skill is needed for SBE which makes them capable of identifying the changes at the earliest. So it is necessary to teach women about SBE [19].

Early detection of cancer greatly increases the chance for successful treatment. The review of literature showed that now a days breast disease or breast cancers are common in early adulthood itself. Early detection and prompt treatment helps to reduce the complication and mortality. Focusing on primary prevention, researcher felt that the adolescent girls are the ideal group to educate regarding self breast examination. If the adolescent girls are educated on this screening method, they can practice it in their life.

Hence this study aims to provide necessary information to the adolescent girls regarding SBE. There are varieties of studies which were conducted to teaching and demonstrating the steps of SBE procedure. But there is no studies which are conducted regarding the effectiveness of simulator assisted teaching regarding self breast examination. Hence the researcher is planned to construct a simulator assisted teaching on self breast examination and test its effectiveness in terms of knowledge and practice of adolescent girls regarding SBE.

Statement of the Problem

A study to assess the effect of simulator assisted teaching on knowledge and practice regarding self breast examination among adolescent girls in selected college, Thrissur.

Objectives of the Study

1. To assess the knowledge and practice regarding self breast examination among adolescent girls.
2. To evaluate the effect of simulator assisted teaching on knowledge and practiceregarding self breast examination among adolescent girls.
3. To find out the relationship between the knowledge and practice of self breast examination among adolescent girls.
4. To find out the association of knowledge and practice regarding self breast examination among adolescent girls with their selected demographic variables.

Assumptions

- The adolescent girls may have inadequate knowledge and practice on self breast examination.
- Simulator assisted teaching may improve the knowledge and practice of adolescent girls regarding self breast examination.

Hypotheses

H1: There is a significant difference between pre and post test level of knowledge and practice on self breast examination among adolescent girls.

H2: There is a significant relation between knowledge and practice of adolescent girls regarding self breast examination.

H3: There is a significant association of knowledge and practice regarding self breast examination among adolescent girls with their selected demographic variables.

Conceptual Frame Work

The framework of the study was based on General System Theory developed by Ludwig Von Bertalanffy (1968). All living systems are open in that there is continual exchange of matter energy and information. Open system has varying degree of interartion with environment from which the system receives input and gives output in the form of matter, energy and information.

Methodology

Research Design

The research design used for this study was quasi experimental one group pre testpost test research

design. In this study researcher used randomization for sample selection and manipulation by simulator assisted teaching regarding self breast examination amongadolescent girls but there was no control group.

Setting of the Study

This study was conducted in Vimala College, Thrissur. The college was situated at a distance of 10 km away from Aswini College of Nursing. Vimala Collegehas strength of 1450 women candidates.

Population

In this study the population comprised of all adolescent girls whowere residing in Thrissur.

Sample and Sampling Technique

In this study samples are 60 adolescent girls, who are studying in Vimala College, and who met the inclusion criteria. And 60 samples were selected by simple random sampling technique (lottery method).

Criteria for Sample Selection

Inclusion Criteria

For this study, the inclusion criteria's were:-

- Adolescent girls who are in 18 years of age.
- Adolescent girls who are studying in art stream.

Exclusion Criteria

For this study, the exclusion criteria's were:-

- Adolescent girls who are not willing to participate in the study.
- Adolescent girls who are not available during data collection.

Research Tool

Section A: *Demographic Data*

The demographic data of adolescent girls consisted of 12 variables such asreligion, area of residence, type of accommodation, occupation of father, occupation of mother, source of information related to health, family history of breast cancer, history ofbreast disease, attend education program regarding self breast examination and itsduration, previous practice of self breast examination.

Section B: *Structured Knowledge Questionnaire on Self Breast Examination*

The structured knowledge questionnaire consisted of 30 multiple choice items to assess the level of knowledge on self breast examination among adolescent girls. Each item had 4 alternative responses; among them three are distracters and only one was correct response. Every correct answer was awarded a score of 1 and incorrect /unanswered was awarded 0. The maximum score on structured knowledge questionnaire was 30, and minimum score was 0.

Section C: *Self Reported Practice Checklist on Self Breast Examination*

The self reported practice check list included steps and technique of self breast examination. It consisted of 15 yes or no questions to assess the practice of self breast examination. Each yes response carried one mark and no answer carried 0 marks. The maximum score was 15 and minimum score was 0.

Section D: *Simulator Assisted Teaching on Self Breast Examination*

Since the study was aimed to assess the effect of simulator assisted teaching programme,the investigator adopted the following steps for the development of simulator assisted teaching education content. They were: Formulation of objectives, Review of literature, Preparation of lesson plan, Content validity, Preparation of final draft of lesson plan.

Testing of the Tool

Content Validity

To ensure the validity, the tool, lesson plan and methodology were submitted to experts in the field of Medical Surgical Nursing and General Surgeons. 3 medical surgical nursing experts and 2 General Surgeons validated the tool.

The experts gave their acceptance that the content and the tool were valid and appropriate for thepresent study with slight modifications. Necessary modifications were done based on the experts opinions and suggestions.

Ethical Consideration

Ethical clearance was obtained from the institutional ethical committee constituted by the

Aswini College of Nursing on 08.04.2016. Verbal consent was obtained from the study participants, with a right to withdraw during the study. Human dignity was preserved and human right also was protected.

Reliability of the Tool

Reliability is concerned with the consistency and accuracy with which aninstrument measures the attribute for which it is design to measure.The reliability of the structured questionnaire and self reported practice checklist were done by split halfmethod by using Karl Pearson correlation coefficient formula, which were r = 0.92 and0.86 respectively. This indicated that the tool was reliable for the study.

Data Collection Process

The investigator obtained formal permission from Principal of Vimala College Thrissur. Data collection was done with in a period of 4 weeks from 2-2-2017 to 2-3-2017 in a 2 phases. During the first phase, selection of adolescent girls, pre test administration of knowledge questionnaire and practice checklist to the samples. The duration of the data collection was 45 minites. The simulator assisted teaching was implemented on the same day itself. After 7 days post test was conducted with the same questionnaire for the same group of adolescent girls.

Major Findings

Section I

Description of the Subjects

- Regarding the religion, majority of the samples 32 (53.3%) were Christians and the remaining 2 (3.4%) belongs to Muslim community majority of the samples 25 (41.7%) were lived in rural area and the remaining 35 (58.3%) were in urban area.
- Majority of samples 59 (98.3%) were day scholars, and only 1 (1.7%) was in hostler.
- Source of information regarding SBE, 15 (25%) were not getting any health information 45 (757%) were getting the health information, and out of this 14 (31.1%) samples got information from the health professionals and mass media, 16 (35.6%) from parents, and only 1 (2.22%) received information from friends.
- The family history of breast cancer majority, 58 (96.7%) adolescent girls had no family history of breast cancer, and only 2 (3.3%) samples were having a family history of breast cancer.
- Regarding breast disease none of the adolescent girls had any kinds of breast disease.
- With respect to attend education programme on SBE, majority 47 (78.33%) have not attend any education programme regarding SBE and the remaining 12 (92.3%)have attend the education programme less than 6 months and 1 (7.7%) were participated in the education programme more than 6 months back.

Table 1:

Level of Knowledge	Pre Test Frequency (N)	Pre Test Percentage (%)	Post Test Frequency (N)	Percentage (%)
Inadequate knowledge	6	10.0	0	0
Moderate knowlede	53	88.3	1	1.7
Adequate knowledge	1	1.7	59	98.3

- In relation with previous practice of self breast examination, majority ofadolescent girls 32 (53.3%) have not practice self breast examination previously. Only 28 (46.7%) have practice the self breast examination previously.

Section B

Pre test and post test of knowledge scores of adolescent girls regarding self breast Examination

Table 2:

Level of Practice	Pre Test Frequency (N)	Pre Test Percentage (%)	Post Test Frequency (N)	Percentage (%)
Poor	41	68.3	0	0
Average	18.0	30.0	0	0
Good	1	1.7	60	60

Table 3:

Knowledge	Mean	S.D	N	t- value	p-value
Pre test	14.47	3.154			
Post test	26.62	2.330	60	22.442	0.001

Table 4:

Practice	Mean	S.D	N	t- value	p-value
Pre test	3.13	3.976			
Post test	14.38	0.993	60	6.770	0.001

Table 5:

Variables	N	R value	P value
Knowledge practice	60	0.099	0.452

Section C

Description on assessment of pre test and post test practice scores ofadolescent girls regarding self breast examination.

Section D

Description on effect of simulator assisted teaching on knowledge andpractices regarding self breast examination among adolescent girls. The mean pretest score of knowledge on self breast examination was 14.47 with SD of 3.154 and the mean post test score was 26.62 with SD of 2.330. The calculated 't' value was 22.442 with a 'p' value 0.001, which is significant at 0.01 level. The mean pretest score of practice of self breast examination was 3.13 with SD of 3.976 and mean post test score was 14.38 with SD of 0.993. The calculated 'Z' value was 6.770 with a 'p' value of 0.001, which was significant at 0.01 level.

Section E

Description of correlation between knowledge and practice regarding self breast examination among adolescent girls.

The correlation between knowledge and practice among adolescent girls by using Spearman's rank correlation. It exhibits the 'r' value was 0.099with a 'p' value of 0.452, which is non significant at 0.05 level. Hence the researcher accepted the null hypothesis and rejected the research hypothesis. There was no significant relation between knowledge and practice regarding self breast examination among adolescent girls.

Section F

Description on the association between knowledge and practice scores ofadolescent girls regarding self breast examination with selected demographic variables.

Association between knowledge regarding SBE among adolescent girls with selected demographic variables.

Association between attend education programme on SBE, the calculated 't' value is 2.142 and 'p' value is 0.036, which was significant at 0.05 level. Hence the researcher accepted research hypothesis and rejected null hypothesis.

Association between practice regarding SBE among adolescent girls with selected demographic variables.

Association between attend education programme on SBE, the calculated 'Z' valuewas 2.312 and 'p' value is 0.021, which was significant at 0.05 level and previous practice of SBE, the calculated 'Z' value was 6.894and 'p' value was 0.001, which was significant at 0.01 levels. Hence the research hypothesis was accepted and null hypothesis was rejected.

Summary

Breast cancer is a malignant neoplasm mostly affecting women all over the world. Health behaviors such as SBE can help empower women to take some control and responsibility over their health promotion. The best way to fight a breast cancer is to havea plan that helps the adolescent girls to detect the disease in its early stage through self breast examination. Hence the investigator need to assess the effect simulator assisted teaching programme on knowledge and practice regarding self breast examination amongadolescent girls. Total 60

samples were selected by simple random sampling techniqueand provided structured knowledge questionnaire to assess the knowledge and self reported checklist to assess the practice regarding self breast examination. The results showed that most of the adolescent girls had moderate knowledge (88.3%) and poorpractice level (68.3%) regarding self breast examination and also there was no relationwith the knowledge and practice level. The result showed that, simulator assistedteaching programme was effective to improve knowledge and practice among adolescentgirls regarding self breast examination.

Nursing Implications

Nursing Practice

1. Nurses can use simulators effectively to teach women on SBE in order to detect early signs and symptoms of breast diseases.
2. Self reported practice check list can be a guide for all nurses especially community health nurses to assess the practice of women to detect the breastdisease by breast simulator.
3. The staff nurse and student nurse can evaluate and improve their clinical skills by practicing complex procedures in a simulator.

Nursing Education

1. This study helps the nurse educators to teach the nursing students about self breastexamination and to increase their skill to identify the breast disease.
2. It paves the way in educating the women about the steps of self breastexamination.
3. Nurse educators can teach, demonstrate and evaluates the skill of nursing students in procedure by using simulators.
4. Nurse educators can arrange OSCE stations in the Nursing Colleges by using simulators.
5. Simulator assisted teaching programme should be incorporated into the curriculum planning as an AV aid.

Nursing Administration

1. Findings of the research study emphasize the need to organize in service education on SBE among female health workers to refine their knowledge.
2. Nurse administrator can adopt simulator assisted teaching in their hospital for educating health professionals as well as patients and care givers.
3. Nurse administrator can use structured knowledge questionnaire regarding SBE as an evaluation tool to assess the knowledge of health professionals regarding SBE.

Nursing Research

1. Findings of the research study is guiding force for nurse researcher to conduct further research studies related to knowledge and practice of women regarding SBE.
2. Research tools of this study can be used as guide for developing newer research tools to conduct more researches in nursing field.
3. The present study findings could be presented in international, national and state level conferences and should publish in nursing journals which helps all the nurses to be aware of the finding and help them to strengthen their research.

Limitations

1. Generalization of study results is limited because of small sample size.
2. This study is limited to 18 years adolescent girls in Vimala College.
3. The study period is limited to 4 weeks.
4. The investigator had found difficulty in collecting review of literature as there were limited number of nursing studies on effect of simulator assisted teaching on knowledge and practice regarding self breast examination among adolescent girls.

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