



Effectiveness Of A Structured Teaching Programme On Breast Self Examination Knowledge Among Adolescent Girls In Rural School: A Study In Jalandhar, Punjab

Sharandip Kaur^{1*}, Jaspal Kaur²

^{1*} Research scholar (Sociology), Lovely Professional University, Phagwara
Sharandipaps@gmail.com

²Assistant professor (Sociology), Lovely Professional University, Phagwara
jaspal.28308@lpu.co.in

Citation: **Sharandip Kaur**, et al (2024) Effectiveness Of A Structured Teaching Programme On Breast Self Examination Knowledge Among Adolescent Girls In Rural School: A Study In Jalandhar, Punjab , *Educational Administration: Theory and Practice*, 30(4), 7764-7772 Doi:10.53555/kuey.v30i4.2641

ARTICLE INFO

ABSTRACT

Background: Breast cancer is a major health concern affecting millions of women worldwide. In India, it ranks as the second widespread cancer among women. This study aims to assess the impact of an educational intervention on breast cancer awareness and knowledge of breast self-examination (BSE) among school girls.

Methodology: The research employed a one-group pre-test post-test design. A total of 30 girls from a government senior secondary school in Lohian Khas, Jalandhar, participated in the study. The girls received an educational intervention on breast cancer, including information on definition, risk factors, diagnostic findings, treatment, and prevention. Pre-test knowledge was checked before the intervention, followed by a post-test assessment.

Results and Conclusion: After the intervention, there is a considerable improvement in knowledge related to breast cancer and BSE. However, the association between knowledge levels and social/demographic characteristics (age, educational status, religion, family type, and information sources) was not significant. Educational programs play a important role in enhancing awareness and knowledge about breast care and cancer prevention. Targeted interventions among school girls can contribute to early detection and better health outcomes.

Keywords: Breast cancer, breast self-examination (BSE), educational intervention, knowledge improvement, early detection.

Introduction

Prevention is better than cure. Prevention is action take prior to the occurrence of disease which removes the possibility that disease will never ever occur, or that is the action which halts the progress of disease as its incipient stage and prevents complications. A large number of diseases can be prevented with a little or no medical interventions if people were adequately informed about them (Park, 2007). Adolescent is the significant period of human growth and maturation. After the early childhood adolescence growth spurt occurs. These complex changes from childhood to adulthood are particularly crucial for girls, the female morphology. From childhood to adulthood are particularly crucial for girls. The female morphology also undergoes considerable changes in this. These are:

1. Development and enlargement of breast.
2. Increase in height and widening of pelvis.
3. Increased fat deposition in the subcutaneous tissue and especially in the hips and breast.

Breasts are symbol of femininity so female should be protecting from the risk of developing breast cancer. It is dreadful for 2 reasons. Firstly, it was a cancer with relatively bad prognosis and secondly it implies the necessity of multi-million dollar surgery, which is the important part of the body of woman, the announcement of cancer of breast is always distressing As with breast cancer are the symbol of femininity is compromised and the basic technique for early detection of breast cancer is breast self examination (BSE).

Need of the Study

Breast Cancer is a major health problem that affects millions of women every year. It is the 2nd most frequent cancer amongst women in India. In India, during the year 2018, breast cancer was a chief health concern for women aged 25 to 49. Out of an estimated total of 186,965 cancer cases, 61,264 were attributed to breast cancer within this age group. This means it accounted for approximately 32.8% of all cases of cancer among Indian women in that specific age 25 to 49. Tragically, 21,892 women lost their lives due to breast cancer within this age group. Additionally, cervical cancer was the 2nd most prevalent cancer followed by ovarian cancer in the same demographic group. Together, these three types of cancer constituted over 60% of all cancers affecting Indian women aged 25 to 49 in 2018 (Breast Cancer India, n.d.). The International Agency for Research on Cancer (IARC), 2022 report which was released on World Cancer Day, the global cancer burden remains significant. In 2022, there were 9.7 million deaths due to cancer (compared to 9.96 million in 2020), and 20 million new cancer cases (up from 19.6 million in 2020). The report indicates that 1 in 9 men and 1 in 12 women are expected to succumb to cancer. Early detection plays a fundamental role in increasing survival rates (GLOBOCAN 2022). The Malwa belt is particularly affected. Breast cancer accounts for a significant number of female deaths in Punjab. The Malwa region exhibits the highest average of 136 cancer patients per 1 lakh people, go beyond the national average of 80 per lakh (Godara, 2015). However, despite awareness raising efforts, there is still a lack of awareness about BSE technique among adolescent girls. This study aims to bridge the gap in BSE knowledge among the adolescent girls in rural schools, with the ultimate goal of improving their health outcomes.

Objectives

1. To identify the demographic variables.
2. To assess the pre-test knowledge score about BSE among school girls in selected school, Lohian Khas.
3. To assess the post-test knowledge score on BSE among school girls in selected school.
4. To compare the pre-test knowledge score with post-test knowledge score on BSE among school girls in selected school.
5. To find out the association between post-test knowledge score regarding BSE among school girls with selected demographic variables like educational. Status, Religion, Type of family, Source of information.

Hypothesis

H₀₁- The mean post-test knowledge score on BSE of school girls after exposure to structure teaching programme will be significantly high than their mean pre-test knowledge score on BSE. H₂- There will be significant association between the demographic characteristics and post-test knowledge score in BSE.

Null Hypothesis

H₀₁- There will be no difference in mean pre-test knowledge score on BSE of girls exposed to STP and their main post-test knowledge score on BSE. H₀₂- There will be no significant association between the demographic characteristics and the post-test knowledge score on BSE.

Review of Literature

Breast cancer is the most prevalent cancer in the world among women, particularly in poor and middle-class countries. 670,000 deaths reported from breast cancer over the world in 2022. Approximately half of the breast cancers arise in women who have unidentified risk factors other than their gender and age. Breast cancer was the most widespread among women in 157 out of 187 countries (WHO, 2024). Research consistently indicates that adolescent girls often lack of knowledge about BSE. However, teaching interventions have been demonstrated to enhance their awareness and attitudes toward BSE. Despite this, the actual practice of BSE remains inadequate among teenage girls, with only a small percentage regularly performing self-exams. The Health Belief Model (HBM) provides insightful information for understanding and promoting BSE in this age range. Breast cancer affects every country in the globally. A recent study in the town of Gondar in Northwest Ethiopia found that 56% of women had sufficient knowledge, 46% had positive attitudes towards BSE, and 45% practiced BSE (breast self-examination). The study highlighted the importance of comprehensive education programs to improve women's knowledge, attitudes and practices toward BSE (Asmare et al., 2022). Breast cancer has become the most prevalent cancer among Indian women. According to a recent Tamil Nadu study, most women had poor BSE practices (89.6%), negative attitudes (73.8%), and insufficient knowledge (58%). The study indicated that educational and cultural barriers should be addressed. It also highlighted the effect of general self-care and cultural factors on the knowledge, attitude, and practice of BSE (Jadhav et al., 2024). In India's rural areas, the problem is more severe. A research from rural regions in Vellore district, Tamil Nadu, found that a substantial percentage of women had limited understanding and unfavourable attitudes regarding BSE, with the great majority not practicing it regularly. A survey from northwest Madhya Pradesh indicated that just 29.7% of rural women had heard of BSE and only 25.5% had conducted it. These studies advocate for focused initiatives in rural regions to increase knowledge and practice of BSE. Gupta (2023) conducted an educational programme with the goal of improving the practice of breast self-examination (BSE) in adolescent girls. The outcomes revealed that the structured training significantly increased BSE awareness. As a result, girls who participated in the programme exhibited enhanced knowledge

of BSE techniques and were more inclined to perform regular self-examinations. The pre-test mean knowledge score for breast self-examination was 8.35, while the post-test mean was 24.18. The comparison of these scores at the 0.05 significance level revealed a statistically significant improvement due to the educational programme. Overall, the study emphasizes the positive impact of the teaching program in promoting BSE practices among adolescent girls.

Methodology

The present study utilized “one group pre-test post-test design”. Subjects were randomly chosen after the pre-test experimental treatment was given. Post-test was administered after the experimental treatment. The study was carried out in government senior secondary school, Lohian Khas, Jalandhar under the supervision of the principle on girls of 10th, 11th, and 12th. This study consists of total 30 girls and 10 girls were chosen by lottery method from each class. The questionnaire has two sections: Section A-Demographic Characteristics- This section includes 5 items to collect demographic information from the participants. Section B- Knowledge Assessment- This section is a structured questionnaire with 30 multiple-choice questions (MCQs). Each question has 4 options, and the participants are required to choose one correct answer. - The scoring system is 1 point for each correct answer. 0 point for each incorrect answer. Reliability refers to the consistency of the measurement. Reliability was checked using the test-retest method, which involves administering the same test to the same subjects at two different points in time and then correlating the scores. The reliability coefficient (R) was found to be 0.83, which indicates a high degree of reliability. The Karl Pearson’s method has been used to compute this reliability coefficient. After receiving approval from the school principal, the study was conducted over a four-week period. In January 2023, the researcher visited the Government Senior Secondary School in Lohian Khas, Jalandhar, to engage with female students. During this interaction, the students provided general information about themselves and their abilities by completing a self-structured questionnaire. The systematic organization and synthesis of research data, along with hypothesis testing in quantitative studies, were carried out. The collected data was accurately organized, resulting in the making of a master data sheet. Subsequently, inferential and descriptive statistics were applied to analyze the data using the Statistical Package for the Social Sciences (SPSS) version.

Analysis and Interpretation of Data

Objective-1:- To identify the demographic characteristics.

1. Age

Table-1 Distribution of school girls according to age group. N=30

Age	N	%Age
16-18 Years	15	50%
18-20 Years	15	50%

Table 1 shows age distribution of school girls. For age group 16-18 and 18-20 years, there was equal number of girls i.e. 15(50%).

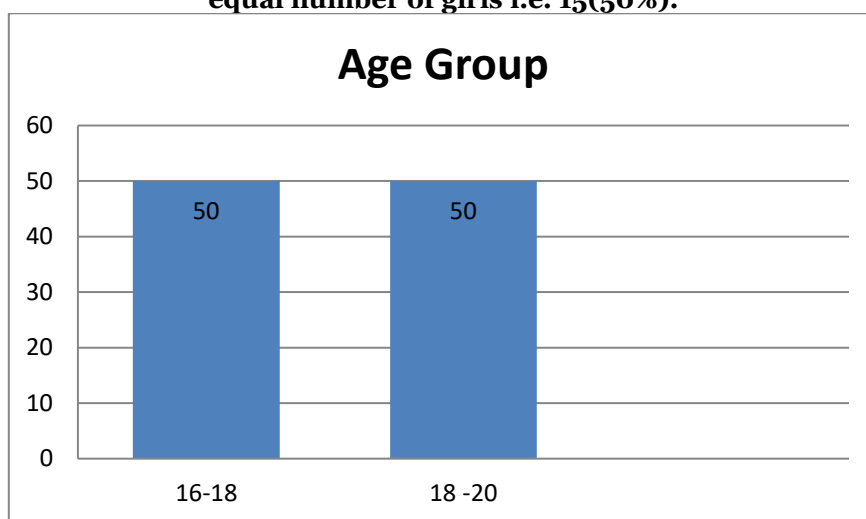


Table -2 Distribution of school girls according to education level

Level Of Education	School Girls(N)	Percentage(%)
10 th	10	33.33%
10+1	10	33.33%
10+2	10	33.33%

The Table 2 the shows the education level of girls. It shows that the school girls were equally distributed in each class i.e. 10 (33.33%) in 10th 10 (33.33%) 10+1 and 10 (33.33%) in 10+2.

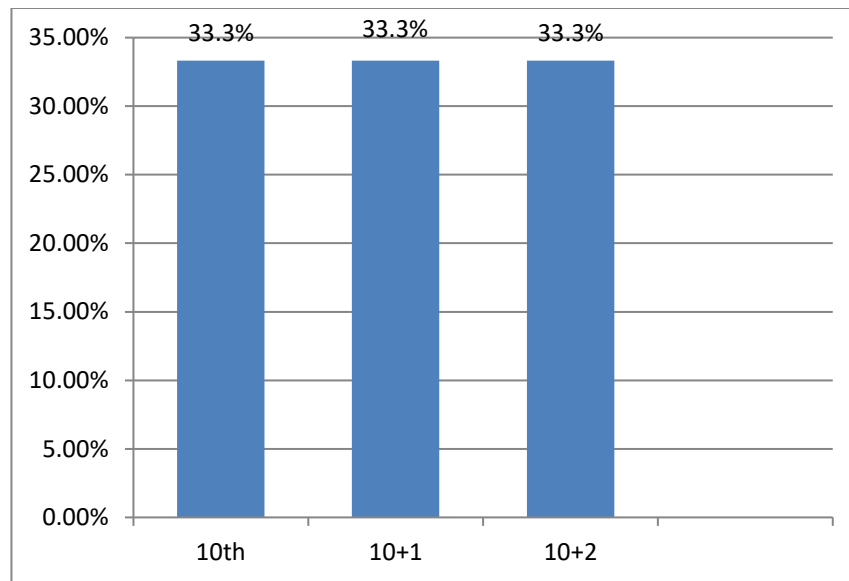


Table 3 - Distribution of school girls according to religion.

Religion	N	Percentage(%)
Hindu	10	33.33%
Sikh	15	50.00%
Christian	5	16.66%

The table 3 shows that the highest number of girls, i.e. 15 (50%) belongs to Sikh religion followed by Hindu i.e. 10 (33.33%) and the least i.e. 5 (16.66%) belongs to Christian religion.

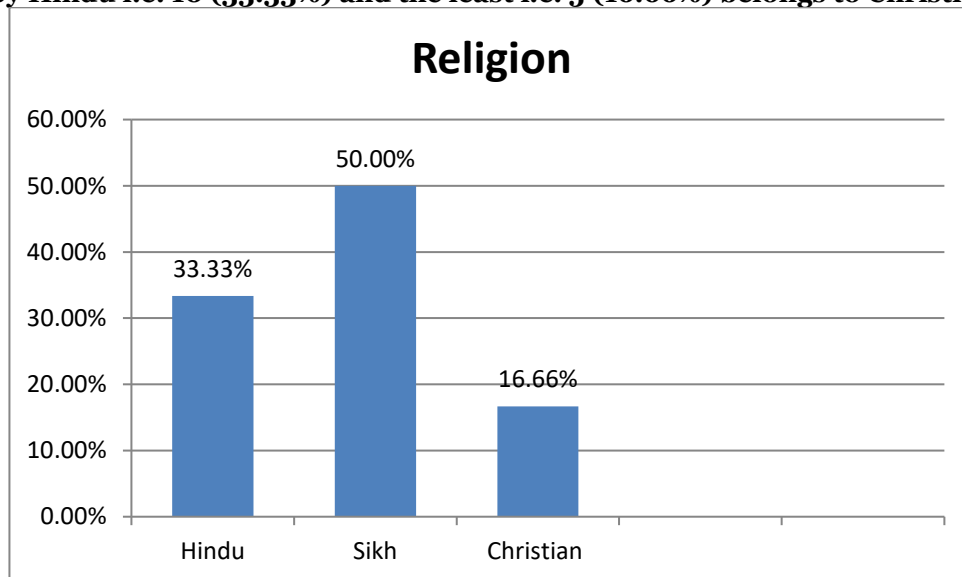


Table -4 Distribution of school girls according to type of family.

Types Of Family	N	Percentage(%)
Joint	20	66.66%
Nuclear	10	33.33%

The table number 4 shows that most of school girls that is 20(66.66%) were from joint family and only 10(33.33%) are from the nuclear family

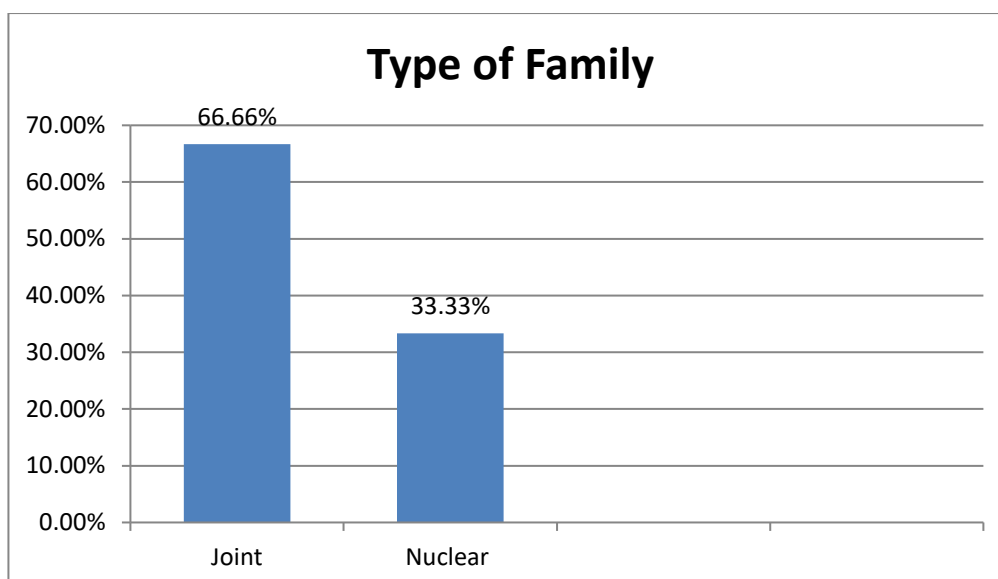
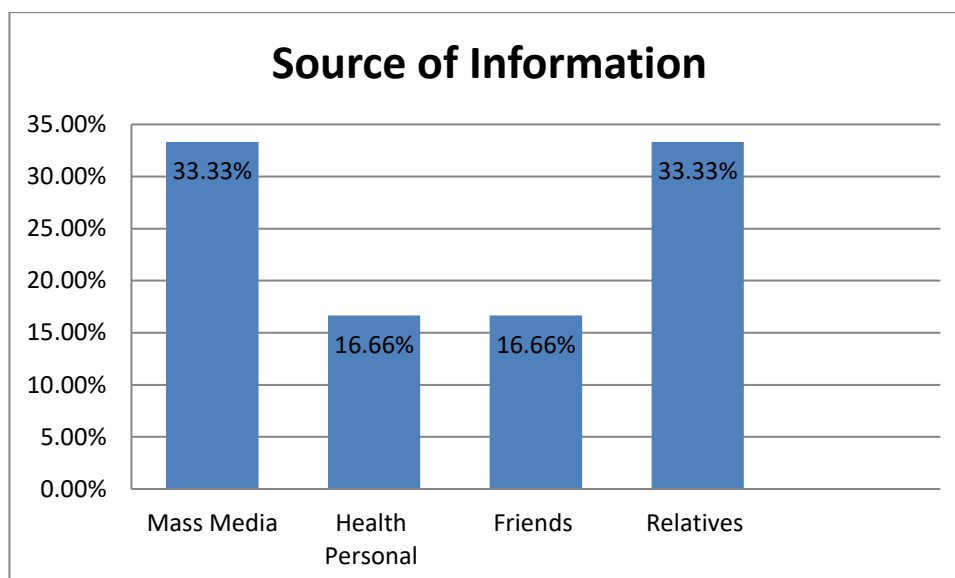


Table 5 -Distribution of school girls according to the source of information.

Source	N	Percentage (%)
Mass Media	10	33.33%
Health Personal	5	16.66%
Friends	5	16.66%
Relatives	10	33.33%

The Table number 5 shows that 10 (33.33 %) each who got information from mass media and relatives. The remaining 5 (16.66%) each got information from friends and health personnel.



Assessment of Knowledge

Objective 2- To assess the pre test breast self examination knowledge score (BSEKS) among school girls in selected school. The analysis for this objective is done in 2 ways: 1. The level of pre-test BSEKS of school girls. 2. Distribution of mean and standard deviation (S.D) of pre-test BSEKS of schoolgirls according to demographic variables

Table 6 Level of pretest BSEKS of school girls

Level of Knowledge (Pre-test)	Frequency	Percentage
Low (0-10)	-	-
Moderate (11-20)	30	100%
High (21-30)	-	-

Maximum score is 30. Minimum score is 0.

Table number 6 shows that all the girls 30 (100%) had moderate level of knowledge i.e. 11-20. The pre-test mean KSBSE is 13. The mean percentage KSBSE is 43.33% and the range lies 11-15.

Table- 7 Distribution of mean and S.D. of pre-test BSEKS of school girls according to demographic variables.

Demographic Variables	N	Pre-Test BSBTK Mean	SD	Range
Age Group				
16-18 Years	15	12.86	0.53	11-15
18-20 Years	15	13.13	0.27	11-15
Level Of Education				
10 th	10	12.8	0.30	12-15
10+1	10	12.8	0.30	11-15
10+2	10	13.4	0.32	12-14
Religion				
Hindu	10	12.8	0.30	12-15
Sikh	15	13.2	0.31	11-15
Christian	5	12.8	0.19	12-14
Types Of Family				
Joint	20	12.8	0.22	11-15
Nuclear	10	13.4	0.32	12-15
Source of Information				
Mass Media	10	12.8	0.30	12-15
Health Personal	5	13	0.26	11-15
Friends	5	12.6	0.29	11-15
Relatives	10	13.4	0.32	12-15

Table 7 shows that mean is highest in the girls, i.e.13.13 belongs to age group 18-20,13.4 in 10 + 2 standard, 13.2 belongs to Sikh religion, 13.4 belongs to nuclear family 13.4 who gained information from the relatives. Objective 3 - To assess the post-test BSEKS among school girls in selected school.

Table 8 Level of post Test BSEKS of School girls.

Level of Knowledge (Post-test)	Frequency	Percentage
Low (0-10)	-	-
Moderate (11-20)	5	16.66%
High (21-30)	25	83.33%

Table 8 shows that 5 girls i.e. 16.66% had moderate level of knowledge and 83.33% have highest level of knowledge score

Table 9- Distribution of mean and SD post-test BSEKS of school girls according to BSEKS

Demographic Variables	N	Post-Test BSBTK Mean	SD	Range
Age Group				
16-18 Years	15	21.93	0.24	20-24
18-20 Years	15	21.86	0.26	20-24
Level Of Education				
10 th	10	21.6	0.37	20-24
10+1	10	21.6	0.37	20-23
10+2	10	22.5	0.27	21-24
Religion				
Hindu	10	21.6	0.37	20-24

Sikh	15	22	0.23	20-24
Christian	5	22.2	0.45	21-24
Types Of Family				
Joint	20	21.6	0.27	20-24
Nuclear	10	22.5	0.27	21-24
Source of Information				
Mass Media	10	21.6	0.37	20-24
Health Personal	5	22.6	0.20	22-23
Friends	5	20.6	0.20	20-21
Relatives	10	22.5	0.27	21-24

The table 9 shows that the mean is highest in girls that is 21.93 belonging to age group 16 -18 ,22.5 in 10+2 standard ,22.2 belonging to Christian religion,22.5 belonging to nuclear family and 22.6 who acquired information from health personal.

Objective-4 To compare the pretest knowledge score with post-test knowledge score on BSEKS among school girls in selected school.

Table 10 -Area wise comparative BSEKS of schoolgirls.

Knowledge Area	Max Possible Score	BSEKS Pre-test X		BSEKS Post-test Y		Improvement (Y-X)	
		Mean	Mean %	Mean	Mean %	Mean	Mean %
Knowledge regarding definition and risk factors of breast cancer	12	5.03	41.90	8.66	72.06	3.63	30.25
Knowledge regarding diagnostic finding, treatment and prevention	9	3.8	42.22	6.46	71.77	2.66	29.55
Knowledge regarding breast self examination	9	3.96	44	6.73	74.77	2.77	30.77

The Table 10 indicates that the mean and mean percentage of post-test of knowledge about definition ,risk factor, diagnostic finding, treatment and prevention and breast self examination is higher than pre-test mean and mean percentage. H_1 the mean post-test knowledge score on BSE of girls will be significantly more than their mean pre-test knowledge score on BSE at the 0.05 level. H_0 There will be no difference in mean pre-test knowledge score on BSE of girls exposed to Structured Teaching Programme (STP) and their mean post-test knowledge score on BSE.

Table 11 - Comparative Assessment of Pre-test and Post-Test BSEKS.

Test	Mean	S.D	t' value
Pre-test	13.0	1.20	38.6
Post-test	21.9	1.26	
Difference	8.9	0.06	

The table 11 indicates that the mean post-test knowledge score is 21.9 on BSE among school girls exposed to STP is significantly higher at the 0.05 level than the mean pre-test knowledge score 13 on BSE and therefore H_0 is rejected. It shows that STP on BSE was effective in improving the knowledge of girls.

The calculated value for 't' i.e. 38.6 is more than table value of 't' i.e.1.699, at 0.05 level. It is significant at 0.05 level. Hence H_0 is rejected. It shows that STP is effective. H_2 There will be significant association between the demographic characteristics and acknowledge score on BSE at 0.05 level and H_0 there is no significant association between the demographic variables of girls and their post-test knowledge score on BSE.

Objective 5.

Table 12 - Association between the level of post-test knowledge score on BSE among school girls with their demographic characteristics.

Demographic characteristics	N	Level of knowledge Post test KSBSE			DF	X ²	Table value	Result
		Low 1-10	Moderate 11-20	High 21-30				
Age								
16-18	15	0	3	12	1	0	3.84	NS
18-20	15	0	2	13				
Educational								
10 th	10	0	3	7	2	0.02	5.99	NS
10+1	10	0	2	8				
10+2	10	0	2	8				
Religion								
Hindu	10	0	3	7	3	0.19	5.99	NS
Sikh	15	0	2	13				
Christian	5	0	0	5				
Types Of Family								
Joint	20	0	2	18	1	3.63	3.84	NS
Nuclear	10	0	3	7				
Source of Information								
Mass Media	10	0	3	7	3	0.96	7.81	NS
Health Personal	5	0	1	4				
Friends	5	0	0	5				
Relatives	10	0	1	9				

CONCLUSION AND DISCUSSION

The calculated value of x^2 for demographic characteristics :-

Age $x^2 = 0$, Table value = 3.84.

Educational level $x^2 = 0.02$, Table value = 5.99.

Religion $x^2 = 0.19$, table value = 5.99

Family type $x^2 = 3.63$, $x^2 =$ table value 3.84

Source of information $x^2 = 0.96$, table value 7.81 is less than the table value at 5%. Hence the researcher fails to reject the null hypothesis H_{02} .

The intend of the study was assess the efficiency of STP regarding knowledge on BSE for prevention of breast cancer among school girls. The results are discovered in relation to objectives of the study .Respondents were in each group of 16-20 years and were equally distributed i.e. 15 (50%) in 16-18 years and 15(50%) in 18-20 years. Equal number of respondents were from each class i.e. 10 (33.33%) from 10th ,10 (33.33%) from 10+1 and 10 (33.33%) from 10 + 2. Higher percentage respondents are belonging to joint family i.e. 20 (66.66%). Most of them got information regarding BSE, through mass media i.e. 10 (33.33%) and through relatives i.e. 10(33.33%). Area Wise Analysis of Knowledge score on BSE of school girls. Results revealed the pre-test mean is 13 and mean percentage 43.33%, post-test mean is 21.9 and mean percentage is 73%. Knowledge related to definition and risk factors of breast cancer (Maximum score is 12). Pre-test mean is = 5.03, mean percentage 41.91, post test mean 8.66, mean percentage 72.16. Knowledge related to diagnostic finding, treatment and prevention (Maximum score = 9) Pre-test mean 3.8, mean percentage 42.22, post test mean 6.46 ,mean percentage 71.77. Knowledge regarding BSE (Maximum score = 9), Pre-test mean 3.96, mean percentage 44.0,post-test mean 6.73 ,mean percentage 74.77. There is a considerable improvement in the knowledge about definition, risk factor, diagnostic finding, treatment and prevention of breast cancer and BSE. The levels of knowledge on BSE among school girls, and its association with social/demographic characteristics i.e. age, educational status. Religion, family type and source of information was not significant. In order to check the Chi Square test was worked out among the characteristics accounted for association, the characteristics age ($x^2=0,df =1$), education level ($x^2=0.96,df =3$), religion, family ($x^2=0.192,df =2$), family type ($x^2=3.63,df =1$), source of information ($x^2=0.96,df =3$) were found to be statistically non significant at 5% level. The study result shows that the "T" value (38.6) more than table value "T" i.e. 2.015. So there is enhancement in post-test knowledge level of school girls.

Recommendations

1. A replication of present study can be carried out with a large group.
2. A descriptive study can be conduct regarding knowledge on breast cancer and BSE among school girls.
3. A follow up study can be perform to assess the effectiveness of teaching and its practices.

References

1. Asmare, K., Birhanu, Y. & Wako, Z. (2022). Knowledge, attitude, practice towards breast self-examination and associated factors among women in Gondar town, Northwest Ethiopia, 2021: a community-based study. *BMC Women's Health*, 22(174). <https://doi.org/10.1186/s12905-022-01764-4>.
2. Breast Cancer India. (n.d.). *Latest Statistics of Breast Cancer in India 2020*. Retrieved from https://www.breastcancerindia.net/statistics/latest_statistics_breast_cancer_india.html
3. Godara, N., (2015) A review study of Malwa region of Punjab: As cancer belt *International Journal of Applied Research*, 1(3), 145-147
4. Gupta, J., (2023) Effectiveness of Structural Teaching Programme on Knowledge and Practice Regarding Breast Self-Examination among Female Students – A Quasi Experimental Study” *South Asian Research Journal of Nursing and Healthcare*, 5(4). 56-60.
5. Jadhav, B.N., Abdul Azeez, E., Mathew, M. *et al.* (2024). Knowledge, attitude, and practice of breast self-examination is associated with general self-care and cultural factors: a study from Tamil Nadu, India. *BMC Women's Health* , 24(151). <https://doi.org/10.1186/s12905-024-02981-9>.
6. Park, K. (2007). *Park's Textbook of Preventive and Social Medicine* (19th ed.). M/S Banarsidas Bhanot Publishers, Jabalpur. (pp. 5-6)
7. UICC. (2024, February 1). *GLOBOCAN 2022: Latest global cancer data shows rising incidence and stark inequities*.
8. <https://www.uicc.org/news/globocan-2022-latest-global-cancer-data-shows-rising-incidence-and-stark-inequities>