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A Study to Evaluate the Impact of Health Education Intervention Package on Knowledge of Breast Self-Examination Among Female Students of Selected B.ED. College of Belagavi.

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ABSTRACT:

Breast cancer remains a leading global health concern among women, with 2.3 million cases and approximately 670,000 deaths reported in 2022. Early detection is critical to improving survival, yet access to screening methods is often limited by cost and social barriers. Breast self-examination (BSE) offers a simple, cost-effective alternative, but awareness and practice remain inadequate due to lack of knowledge, cultural stigma, and low confidence. This study aimed to assess knowledgeof BSE among female B.Ed. students in Belagavi and to evaluate the effectiveness of a health education intervention package. An evaluative, one-group pretest-posttest quasi-experimental design was adopted with 100 participants selected through purposive sampling. Data were collected using a knowledge questionnaire. Knowledge scores before and after the intervention show a notable improvement. A significant increase in knowledge was indicated by the mean knowledge score rising from 18.42 (SD = 7.02) in the pre-test to 27.58 (SD = 6.90) in the post-test. In a similar vein, the median score increased from 17.00 to 30.00, indicating a shift in the general distribution of scores toward higher values following the intervention. Prior exposure to BSE training only this factor showed significant association. The study concludes that structured health education interventions are effective in enhancing awareness and promoting preventive health behaviors among young women.

INTRODUCTION:

Women are viewed as the backbone of society. They are worshiped in Indian culture, yet they suffer from social /economic inequalities, systemic discrimination, etc. They are vulnerable to numerous health issues, yet they are

neglected by themselves and other family members.[1] Most common health problems are Anemia, Cancer, PCOS (Poly cystic ovarian syndrome), many life style diseases such as DM (Diabetes mellitus), Hypertension, Obesity etc. According to WHO the prevalence of cancer is rising in the modern world, with breast cancer being the most frequent type.[1] Other than age and sex, it affects women without any particular risk factors.[2] If diagnosis early survival rates significantly improve and reduce complications. Techniques for screening like clinical breast examination, mammography, and breast self-examination play a significant part in diagnosing breast abnormalities in the initial stages. Among these methods, breast self-examination is one of the simplest, non-invasive, and no cost technique which women can perform by her own.[3]The practice of breast self-examination remains minimal it may be influenced by sociolect-cultural factors, myths, fear and lack of confidence in women's. India is a developing country with middle class and low income, where clinical testing methods are expensive and are not affordable for females. There are many social stigmas in India to discuss and express the problems related to reproductive organs. Young women and college students are in the age to adopt healthy behaviors early in life and also influence their peers and families.[4] Educational interventions, such as structured health education packages, have been shown to increase knowledge and encourage young ladies to take preventative measures.

Hence, the present study is undertaken to evaluate the impact of health education intervention package on knowledge of breast self-examination among female students of selected B.Ed. college.

MATERIALS AND METHODS:

A quasi-experimental, one-group pretest–posttest design was used to evaluate the impact of health education intervention package on knowledge of breast self-examination (BSE) among female students.The study was conducted at Chandragiri B.Ed. College for Women, Shri Siddarameshwar Education Trust, Belagavi, Karnataka. 100 participants was selected using a purposive sampling technique. Data were collected using a structured knowledge questionnaire.Health education intervention package consists of PPT teaching with video and demonstration on 1st day followed by distribution of pamphlets on 3rd day. Post-test was conducted on 7th day to find the effectiveness of health education intervention package. This study included only female students (1st and 2nd year) studying in selected B.Ed. college, of Belagavi, willing to take part in the research and who are present at the time of data being collected.This study excludes female studentsdiagnosed with breast issuesand who are on hormonal pills as a treatment.

RESULTS AND DISCUSSION

Table 1: Frequency & percentage distribution of female, students selected of B.Ed. college, by socio-demographic data. n=100

Variables		Frequency (f)	Percentage (%)
Age	21-23	41	41.0
	24-26	34	34.0
	27-29	17	17.0
	>=30	8	8.0
Course	1st	60	60.0
	2nd	40	40.0
Religion	Hindu	95	95.0
	Muslim	5	5.0
	Christian	0	0.0
	Other	0	0.0
Marital status	Married	20	20.0
	Unmarried	80	80.0
Have you ever attended any session on Breast Self-Examination	Yes	10	10.0
	No	90	90.0

Table 1. The socio-demographic distribution of the students shows that out of 100 female students 41% of participants being 21-23 years age and 34% being 24-26 years age. Majority were under younger age group, indicating a largely 21-26 years age population.In another investigation carried out by Shalini et al 52% of students were belongs to the age group of 18-19 years age group and 47% of students belongs to 20-21 age group there were contradicting findings because the study sample selected were undergraduate students.[5]In terms of schooling, 40% were in their second year and 60% were in their first. Ninety-five percent were Hindus,Dr. Rahul B. Pandit et al. study showed that 88.33% Hindus and Muslims 2 3.34%[6]and eighty percent were unmarried. There was a contrastfindings in the study conducted by Gurjar, NemaRam 87.5% were married, 5% were unmarried, 2.5%

were divorced and 5% were widows, this is because of the age of sample was between 18-60 all age group women's were included.[7] Importantly, ten percentage had ever participated in breast self-examination (BSE) session, suggesting a significant lack of prior knowledge and experience.

Table 2: Standard deviation, mean & median of knowledge scores of female students of selected B.Ed. College on BSE. n=100

Knowledge	Mean (SD)		Median (IQR)		Z`	Sig.
Pretest	18.42	7.02	17.00	13.00	-7.044	<0.05*
Post test	27.58	6.90	30.0	8.75		

*<0.05 significance is obtained by Wilcoxon sign rank test

Table 2: Knowledge scores before and after the intervention show a notable improvement. A significant increase in knowledge was indicated by the mean knowledge score rising from 18.42 (SD = 7.02) in the pre-test to 27.58 (SD = 6.90) in the post-test. In a similar vein, the median score increased from 17.00 to 30.00, indicating a shift in the general distribution of scores toward higher values following the intervention. The improvement in knowledge is statistically significant, according to the Wilcoxon signed-rank test, which produced a Z value of -7.044 with a p-value less than 0.05. This implies that students' comprehension of breast self-examination was greatly improved by the health education intervention package.Prasanna Deshpande and Sanjay M. Peerapur's investigation produced similar results. The results with the "t" computed value of 10.9 were greater than the "t" tabulated value. The pretest and post-test values differed significantly (t=9.88, P<0.05) Thus, B.Ed. students' knowledge and practice of BSE increased as a result of the planned educational program.[8]

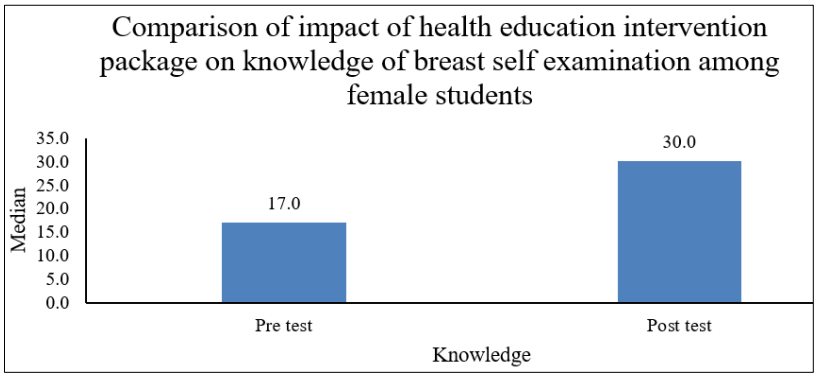

Table 3: Frequency & percentage distribution scores of female students of selected B.Ed. College on BSE. n=100

Knowledge		Frequency(n)	Percentage (%)
Pretest	Poor	23	23.0
	Average	54	54.0
	Good	23	23.0
Post Test	Poor	7	7.0
	Average	21	21.0
	Good	72	72.0

Table 3: Before the intervention, (54%) had average knowledge, while similar amounts (23% each) had poor and good knowledge, according to the categorical distribution of knowledge levels. A significant change occurred following the intervention, with the vast majority (72%) attaining good knowledge. Participants with poor knowledge dropped sharply to 7%, while those with average knowledge fell to 21%. This change makes it abundantly evident that the intervention helped individuals transition from lower to higher knowledge categories in addition to raising average knowledge scores.Similar results were observed in Prasanna Deshpande and Sanjay M. Peerapur. Out of the 42 participants, 54% had an average knowledge score and 46% had a poor knowledge score in the pretest, while 17% had good, knowledge and 79% had average, knowledge in the, post-test.8

Table 4: Association between knowledge of breast self-examination with socio-demographic variables.

Variables	Knowledge (Pretest)	Chi-square (Sig.)

		Poor		Average		Good		
		n	%	n	%	n	%	
Age	21-23	9	22.0	22	53.7	10	24.4	0.984 (0.996)
	24-26	9	26.5	18	52.9	7	20.6	
	27-29	4	23.5	9	52.9	4	23.5	
	>=30	1	12.5	5	62.5	2	25.0	
	13	6	20.0	17	56.7	7	23.3	
	14	9	22.0	24	58.5	8	19.5	
	>=15	4	40.0	3	30.0	3	30.0	
	Irregular	2	8.0	17	68.0	6	24.0	
Course	1st	16	26.7	30	50.0	14	23.3	1.304 (0.522)
	2nd	7	17.5	24	60.0	9	22.5	
Religion	Hindu	22	23.2	51	53.7	22	23.2	0.258 (1.000)
	Muslim	1	20.0	3	60.0	1	20.0	
	Christian	0	0.0	0	0.0	0	0.0	
	Other	0	0.0	0	0.0	0	0.0	
Marital status	Married	6	30.0	6	30.0	8	40.0	6.412 (.035)
	Unmarried	17	21.3	48	60.0	15	18.8	
	Government employee	2	15.4	7	53.8	4	30.8	
	Self-employee	3	37.5	2	25.0	3	37.5	
	No	23	23.0	54	54.0	23	23.0	
	2nd degree	0	0.0	0	0.0	0	0.0	
Have you ever attended any session on Breast Self-Examination	Yes	5	50.0	1	10.0	4	40.0	9.447 (0.005) *
	No	18	20.0	53	58.9	19	21.1	

Table no: 4 The association between knowledge levels and socio-demographic features was studied using the chi-square test. This demonstrated that there was no association betweenpretest knowledge scores and selected demographic characteristics (age, course, marital status, religion) at $p<0.05$ level.

Lastly, those that attended BSE sessions, 50% shown low knowledge, 10% shown intermediate knowledge& 40% shown strong knowledge. 20.0% of non-attendees had weak knowledge, 58.9% had intermediate knowledge, and 21.1% had strong knowledge. This association was statistically significant ($\chi^2 = 9.447$, $p = 0.005$), indicating that prior exposure to BSE sessions significantly influences knowledge levels.

Using socio-demographic data, Logistic regression analysis was employed to figure out the independent determinants of female student's knowledge levels (average & good) of breast self-examination. Following the model's adjustment for additional variables, the results demonstrate that not even a single sociodemographic factor shown a statistically significant association with knowledge levels ($p > 0.05$), indicating that these characteristics do not independently predict knowledge.

Despite not reaching the necessary level of statistical significance with other variables, marital status (Exp(B)=0.019, p=0.053) was nearly significant, suggesting a potential trend. Similarly, there was no significant independent effect on attendance at BSE sessions (Exp(B)=0.085, p=0.142).

A similar pattern was seen with good knowledge. Age,course, marital status, and previous attendance at BSE sessions did not exhibit any statistically significant association ($p > 0.05$). The extremely broad confidence intervals show instability and imprecision in these estimations, even though several variables showed large odds ratios (e.g.attendance at BSE sessions: Exp(B)=8.751).Research conducted by Juhi Gupta et al. contrast with the current study, it showed that there was a strong association between the pre and post test knowledge score and demographic characteristics, with a p value of 0.001 in all aspects.[9]

CONCLUSION:

The study concludes that structured health education interventions are effective in enhancing awareness and promoting preventive health behaviors among young women.Pretest knowledge scores did not significantly associate with socio-demographic factors. Finally, among those that attended BSE sessions, 40.0% had strong knowledge, 10.0% had intermediate knowledge, and 50.0% had low knowledge. Of those who did not attend, 21.1% had good knowledge, 58.9% had intermediate knowledge and 20.0% had weak knowledge. This association was statistically significant ($\chi^2 = 9.447$, $p = 0.005$), indicating that prior exposure to BSE sessions

significantly influences knowledge levels.

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