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A Study to Assess the Effectiveness of Structured Teaching Programme [STP] on Knowledge and Attitude regarding Breast Cancer among women (40-65 Years) residing in village Bhangrotu, Nerchowk, Mandi (H.P)

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ABSTRACT

Aim of the study:

To assess the effectiveness of a structured teaching programme [STP] on Knowledge and Attitude regarding Breast Cancer among women (40-65 years).

Methodology: A pre-experimental study was conducted using a one-group pre-test post-test design, selecting 60 women through a non-probability convenient sampling technique. Data were collected using a socio-demographic data sheet (12 items), a self-structured questionnaire (30 items) was prepared to assess the knowledge. A three-point Likert scale (20 items) was developed to determine the attitude of women. Ethical approval was obtained from the Ethical Committee of GNC SLBSGMC&H and the Executive Officer of the Municipal Corporation, Nerchowk, Mandi (H.P). Descriptive and inferential statistics were used for data analysis.

Results: The majority of participants were aged 40-45 years (48.3%), had high school or secondary education (26.7%), and were housewives (76.7%). Most participants began menarche between ages 13-15 (66.7%). The mean pre-test knowledge score was 9.37 (S.D. 2.033), while the post-test mean was 22.55 (S.D. 2.235), with a mean difference of 13.180. The mean pre-[4]test attitude score was 33.57 (S.D. 6.326), and the post-test mean was 51.63 (S.D. 3.444), resulting in a mean difference of 18.060.

Conclusion: The study's findings revealed that the STP significantly improved knowledge and attitude towards breast cancer. These improvements indicated the program's effectiveness and suggested its potential to reduce health disparities and enhance community well-being.

Keywords: Assess, Effectiveness, Structured Teaching Programme, Knowledge, Attitude.

INTRODUCTION

BACKGROUND OF THE STUDY

Breast cancer, the uncontrolled growth of malignant breast cells, is a leading cancer among women.[1] With cases projected to reach 2 million by 2030, early detection is critical, especially for women aged 40-65.[2] Breast cancer is typically diagnosed in middle-aged and older women. The median age of diagnosis is 63 years. Reducing breast cancer morbidity and mortality requires awareness of warning signs, early diagnosis through breast self-examination (BSE), clinical breast examination (CBE), mammography, and culturally tailored education campaigns. These efforts can encourage earlier detection, maximizing the benefits of treatment. [3]

The most common form of cancer among women is breast cancer in India. In the 1990s, it ranked fourth on the list of the most prevalent cancers in India; today, it is at the top. Since 2020, breast cancer is expected to surpass lung cancer as the most frequent type of cancer worldwide, accounting for 2.3 million new cases, or 11.7% of all cancer cases.[4] A new lump or mass is the most typical sign of breast cancer, even though the majority of breast lumps are benign. Although breast tumors can sometimes be soft, spherical, tender, or even painful, they are more likely to be cancerous if they are a painless, hard mass with irregular borders. Swelling of all or part of a breast (even if no lump is felt) is another potential sign of breast cancer. Skin dimpling, Nipple or breast soreness, nipple retraction, red, dry, flaky, or thicker breast or nipple skin, nipple discharge other than breast milk lymph nodes that are swollen under the arm or close to the collarbone.[5] Early detection and treatment can assist improve outcomes, it is essential for people to be aware of their risk factors and to undertake routine screening examinations.

NEED OF THE STUDY

Breast cancer incidences are steadily overtaking cervical cancer, which was the most frequent malignancy among Indian women also. Women must be "breast aware" to seek medical care early in the disease's progression. If breast cancer is found in its early stages, it can be completely treated. Women's breasts have traditionally been linked to sexuality, femininity, and motherhood. Any actual or suspected illness seems to reflect how society now views the breast. Due to the possible psychological, sexual, and body image repercussions of breast loss or mutation in women, it may be devastating. Studying the knowledge and attitude of women in the community about breast cancer is important for several reasons, especially for those aged between 40-65, who are at a higher risk of developing breast cancer.

Studying breast cancer in community women helps in identifying risk factors, developing screening programs, and promoting early detection and diagnosis. This can lead to improved outcomes and reduced mortality rates. Researcher can evaluate the effectiveness of various treatment modalities, including surgery, chemotherapy, radiation therapy, and targeted therapies. This leads to the development of evidence-based treatment guidelines and improved patient care. Research on breast cancer in community women allows for the examination of health disparities based on factors such as race, ethnicity, socioeconomic status, and access to healthcare. Understanding these disparities helps develop equitable interventions and improve healthcare delivery. In a community, women contribute to the understanding of survivorship issues and long-term quality of life. This includes evaluating the physical, emotional, and social aspects of survivorship and identifying strategies to enhance well-being.

PROBLEM STATEMENT

A Pre-Experimental study to assess the effectiveness of structured teaching programme [STP] on Knowledge and Attitude regarding Breast Cancer among women (40-65 years) residing in village Bhangrotu, Nerchowk, Mandi (H.P) 2023.

OBJECTIVES OF THE STUDY

1. To assess the Knowledge and Attitude regarding Breast Cancer among women (40-65 years) residing in village Bhangrotu, Nerchowk, Mandi (H.P)
2. To Develop and Administer STP on Breast Cancer among women (40-65 years) residing in village Bhangrotu, Nerchowk, Mandi (H.P)
3. To assess the effectiveness of a Structured Teaching Programme on Knowledge and Attitude regarding Breast Cancer among women (40-65 years) residing in village Bhangrotu, Nerchowk, Mandi (H.P)
4. To determine the Co-relation between Knowledge and Attitude regarding Breast Cancer among women (40-65 years) residing in village Bhangrotu, Nerchowk, Mandi (H.P)
5. To find out the Association between the level of Knowledge and Attitude regarding Breast Cancer among women (40-65 years) residing in village Bhangrotu, Nerchowk, Mandi (H.P) with their selected Socio-demographic variables.

OPERATIONAL DEFINITIONS

1. **Effectiveness:** Effectiveness in a breast cancer study could be the extent to which a particular treatment or intervention achieves its intended outcomes by finding significant differences between the pre-test and post-test scores.
2. **Structured teaching programme (STP):** The STP used in this study refers to a formal educational program designed to provide comprehensive and evidence- based information on breast cancer. The STP consists of a series of interactive and structured learning activities, including lectures, and audio-visual aids.

3. **Knowledge:** In this study, knowledge refers to awareness or information about breast cancer among women (40-65 years) which is evaluated by using structured questionnaire.
4. **Attitude: -** Attitude towards breast cancer could be the overall emotional and cognitive disposition that a person has towards the disease of breast cancer, including their beliefs, feelings, and behaviours related to it. It also includes observing a person's willingness to engage in breast cancer prevention behaviours, seek out information about the disease, or participate in breast cancer awareness events.
5. **Breast cancer:** Breast cancer is a malignant tumour that originates in the cells of the breast tissue, particularly in the milk ducts or lobules. It is characterized by the uncontrolled growth and multiplication of abnormal cells, which can invade surrounding tissues and potentially spread to other parts of the body through the bloodstream or lymphatic system.

HYPOTHESIS:

1. **$H_0$1: -**There is no significant difference between pre-test and post-test knowledge and attitude scores on Breast Cancer among women (40-65 years).
2. **H_1: -** There is a significant difference between pre-test and post-test knowledge and attitude scores on Breast Cancer among women (40-65 years).
3. **$H_0$2: -** There is no significant association between knowledge and attitude score with selected socio-demographic variables.
4. **H_2-** There is a significant association between knowledge and attitude scores with selected sociodemographic variables.
5. **$H_0$3: -** There is no significant correlation between knowledge and attitude regarding breast cancer among women (40-65 years).
6. **H_3-** There is a significant correlation between knowledge and attitude regarding breast cancer among women (40-65 years)

REVIEW OF LITERATURE

A crucial step in the research study is the literature review. A critical analysis and synthesis of prior research and academic writings on a certain subject constitute a literature review. It entails looking over and assessing the existing literature, including books, journal articles, conference papers, theses, and dissertations, in order to get a thorough understanding of the state of knowledge in a certain topic or study area. A literature review's objective is to pinpoint the most important theories, concepts, approaches, findings, and knowledge gaps in the body of prior research on the subject at hand. It establishes the background for the research topic, demonstrates its importance, and directs the research design and methods, acting as the basis for a research study.

Bhoomika N. Jadhav, E.P. Abdul Azeez, Manoj Mathew (2024) A study was conducted among 412 women in rural Tamil Nadu, India. The study found that 58% had inadequate knowledge, 73.8% had unfavorable attitudes, and 89.6% had poor practices regarding breast self-examination (BSE). Moderate self-care significantly predicted knowledge ($b = 0.07$, , $p < .05$) and attitude ($b = 0.092$, $p < .05$) while shyness negatively impacted KAP. The findings emphasized the need to educate and promote BSE and self-care behaviors among women.[6]

A.K Kurbonov, G.O Olimjonova, et al. (2023) A study conducted in Uzbekistan assessed the prevalence of breast cancer across different age groups and its prevention. Researchers used official data, reports from the Institute of Health and medical statistics of the Republic of Uzbekistan, and patient histories. Epidemiological surveys and statistical methods were employed. The study found that 10-15% of registered oncological cases in Uzbekistan were breast cancer. Children aged 14 comprised 0.02% of cases, those aged 15-17 made up 0.0641%, those aged 18-44 accounted for 25.68%, those aged 45-64 constituted the highest proportion at 56.97%, and those aged 65 and older made up 17.26%.[7]

Yin, Wang Fang, et al. (2023) A study conducted on Chinese women assessed breast cancer incidence and mortality trends from 1990 to 2019. Researchers used a Joinpoint regression model to describe these trends and employed an age–period–cohort analysis to estimate the impact of age and period. Data on breast cancer incidence and mortality among women aged 20–89 were collected from the Global Health Data Exchange database. The age–period–cohort analysis revealed that the risk of incidence initially increased, peaking at 55–59 years, then decreased. In contrast, mortality risk increased approximately 60.34 times from ages 20 to 89. Over time, the risk of incidence and mortality rose by 2.64 and 1.49 times, respectively.[8]

Kumar Sathish, Krishnan, et al. (2023) The study was conducted at ICMR National Centre for Disease Informatics & Research, Bengaluru, using secondary data, and received exemption from ethics review by the Institutional Ethics Committee. The analysis was based on the National Cancer Registry Programme Report 2020, which provided cancer incidence data from 28 Population-Based Cancer Registries for 2012-2016. Population at risk was estimated using data from the Census of India (2001 and 2011). The estimated number of cancer cases in India for 2022 was 14,61,427 (crude rate: 100.4 per 100,000). It was found that one in nine people in India was likely to develop cancer in their lifetime, with a projected 12.8% increase in cases by 2025 compared to 2020.[9]

S L Sruthi, V L Vaishnavi et al. (2023) A cross-sectional study evaluated the knowledge, attitude, and practice of 233 women aged 20-60 years in Thiruvananthapuram, South Kerala, regarding breast cancer and breast self-examination. The study found that all participants were highly aware of breast cancer risk factors. The majority (84.6%) had good knowledge about breast cancer, while 15.4% had poor knowledge. 73.1% believed breast cancer is preventable, 92.3% agreed that women over 20 should practice regular self-examinations, and 84.6% supported making it mandatory. Additionally, 96.2% agreed on the need to educate women about breast cancer and self-examination. The study revealed that most participants had heard about breast cancer and self-examination, resulting in a good attitude

and practice, despite some gaps in knowledge of correct procedures.[10]

Bansal Priya, Chaudhary Anurag et al. (2023) A cross-sectional study was conducted to assess knowledge about breast cancer and breast self- examination among 370 women at an Urban Health Centre under the Department of Community Medicine, Dayanand Medical College and Hospital, Ludhiana. Data were collected using a pretested questionnaire from women aged 20 to 60 years. A Chi-square test analyzed the association between literacy status and breast cancer awareness. The mean age of participants was 40.3 ± 12.1 years, and 87% were married. Results showed that awareness of breast cancer increased with literacy status, which was statistically significant (P = 0.001). Women with higher education levels had better knowledge about breast cancer compared to those with lower educational levels. The study concluded that there is a need to increase awareness about breast cancer risk factors and preventive practices such as breast self-examination.[11]

Patil Priti, Sarang bhakti et al. (2023) The ecological study was conducted on women's empowerment and socioeconomic conditions affected the uptake of breast cancer screening measures. Conducted periodically by the Ministry of Health and Family Welfare, Government of India, with the International Institute of Population Sciences (IIPS), Mumbai, as the nodal agency, the NFHS was a nationally representative, multi-staged survey that sampled households from all 36 states and union territories in India. In the fifth wave of the NFHS, 610,000 households were surveyed. Determinants of breast cancer screening were analyzed using a simple linear regression model. The study found moderate correlations between socioeconomic status (0.34) and women's empowerment status (0.38) with breast cancer screening uptake. States with higher literacy rates among women and a greater proportion of women with their bank accounts reported higher uptake of breast cancer screening (p= 0.01 and 0.03, respectively). However, the correlation varied across states.[12]

Kaur Kuljinder, Jajoo Rachana, Naman Shubh et al. (2023) A survey was conducted to identify barriers to breast cancer screening among women aged 40-60 in the Malwa region of India, involving 363 breast cancer patients interviewed using a structured questionnaire at three government hospitals. Univariate analysis was employed to assess the socio- demographic profiles of the participants, with data collected using a 5-point Likert scale. Most participants were aged 50–60 years (38.6%, 140/363) or≥60 years (31.1%, 112/363). A significant portion (47.4%, 171/363) were illiterate, and many were housewives. Education ($\beta' = -0.309$, $t = -5.357$, $p < 0.001$) and socio-economic class ($\beta' = 0.354$, $t = 3.399$, $p = 0.001$) were significant determinants of screening barriers. Key factors hindering early breast cancer check-ups included unawareness of screening services, a fatalistic attitude, fear of diagnosis, and low per capita income.[13]

Mainaz, **Mohammed Guthigar**, **Poonam R. Naik (2023)** The study was conducted to assess the knowledge, attitudes, and practices regarding breast cancer among women in rural Karnataka, South India. Three hundred sixty women were selected through cluster sampling. Data were collected using a pre-designed, pre-tested, and validated questionnaire with structured and semi-structured questions through one-on-one interviews. Most participants were aged 36-55 years (64.4%), and 64.7% were employed, with 39.7% working as beedi rollers. Regarding breast cancer symptoms, 60.6% were unaware of them, and 68.3% did not know the detection

methods. Additionally, 85.3% were unaware of Breast Self-Examination. The study revealed a low level of breast cancer knowledge and suggested that awareness programs could enhance understanding, encourage early symptom identification, and promote timely medical consultation.[14]

Ganguly R, Patnaik L, Sahu T. (2022) A cross-sectional study was conducted to assess breast cancer risk factors among women in 13 urban slums of Bhubaneswar, within the field practice area of the Department of Community Medicine at IMS and SUM Hospital, Bhubaneswar, Odisha, from September 2018 to October 2020. Data were entered into an Excel sheet and analyzed using SPSS software version 20. Results showed that among the 300 participants, the mean age was 42 ± 12 years, ranging from 20 to 69 years. Married women comprised 95.3% of the study population. Including both modifiable and non- modifiable risk factors, 57% of the participants had risk factors for breast cancer. The study concluded that women need to be aware of both modifiable and non-modifiable risk factors to adopt appropriate practices for breast cancer prevention.[15]

RESEARCH METHODOLOGY

Research methodology is a way to systematically solve the research problem and a science that deals with various steps which had been generally adopted by the researcher to find the solution of research problem and find the logic behind it. Methodology is a significant part of any research which enables the researcher to organize the procedure of collecting reliable data for the problem under study or investigation.

According to Polit and Beck (2004) research methods are the techniques used by the researcher to structure a study to gather and analyze information relevant to the research question. This includes a description of the research approach, research design, research setting, study population, variables, sample and sampling technique, criteria for sample selection, development of the tool, description of the tool, validity, reliability, pilot study, data collection procedure, ethical consideration and plan for analysis.

RESEARCH APPROACH

Quantitative

RESEARCH DESIGN

Pre Experimental (one group pre-test post- test design)

RESEARCH SETTING

Village Bhangrotu, Nerchowk, Mandi (H.P)

TARGET POPULATION

Women (40-65 years)

SAMPLING TECHNIQUE

Non-probability Convenient sampling

SAMPLE SIZE

60 Women

DEVELOPMENT OF THE TOOL

A) Socio-demographic data profile. **(12 items)**
B) Self-structured questionnaire on knowledge regarding breast cancer. **(30 items)**
C) Likert scale to assess Attitude related to breast cancer. **(20 items)**

(A) VALIDITY

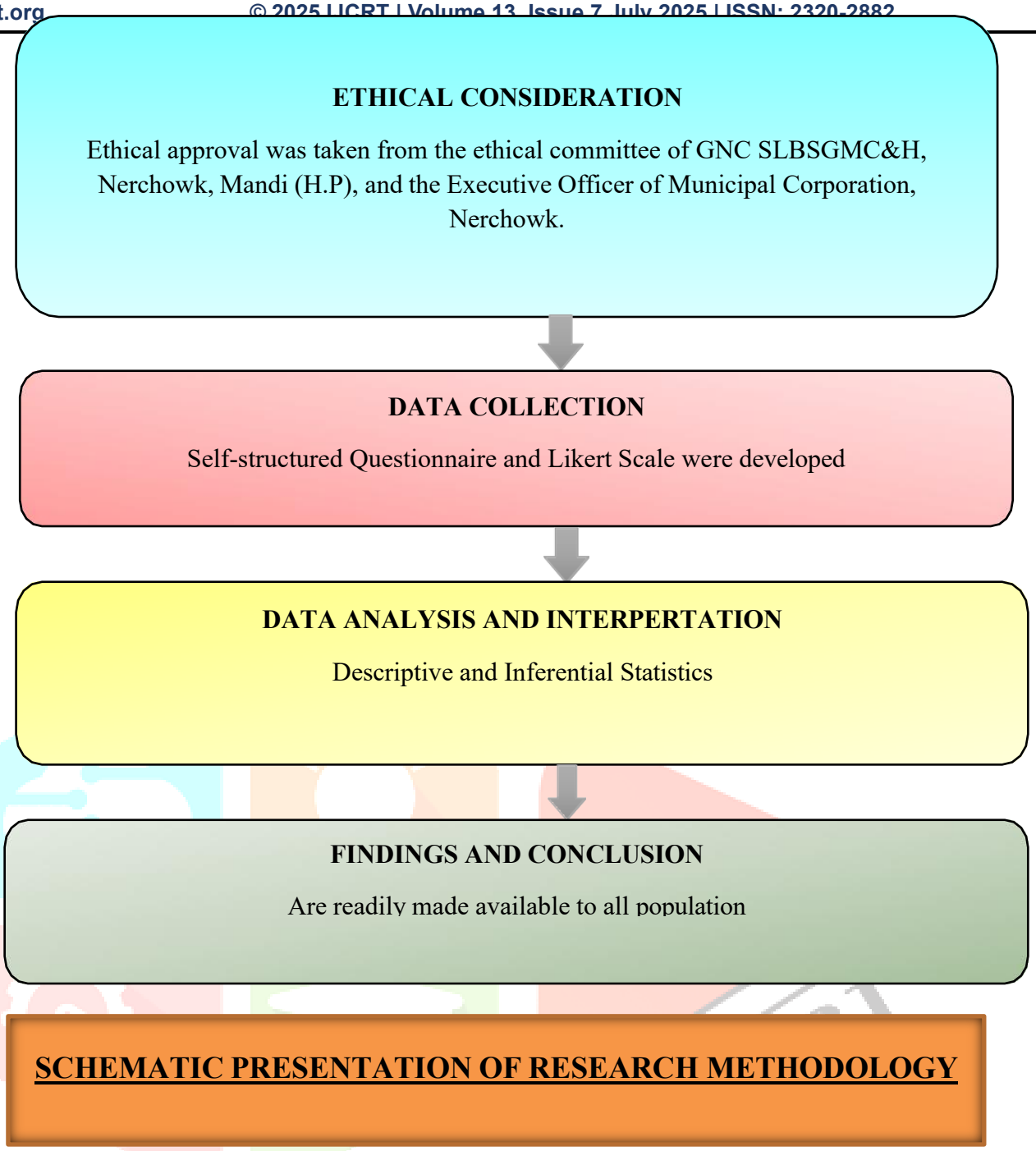
Validated by using the Delphi technique

(B) FEASIBILITY

Pilot study was done on 10% of the total population i.e. **6**

(C) RELIABILITY

Checked by using Karl Pearson's correlation method r = **0.76** for Knowledge and **0.73** for Attitude



SCHEMATIC PRESENTATION OF RESEARCH METHODOLOGY

DESCRIPTION OF TOOL

Tool are the procedure or instruments used by the researcher to collect data.

To assess the Knowledge and Attitude regarding Breast Cancer among women (40-65 years) tool consists of **Sections A, B and C.**

Section A: Selected Socio-demographic variables.

Section B: Self-structured knowledge questionnaire.

Section C: Attitude rating scale.

SECTION A: SOCIO-DEMOGRAPHIC VARIABLES:

There were 12 items to collect socio demographic information such as Age in Years, Marital status, Education, Occupation, Age of menarche, dietary pattern, income, methods of contraceptives used, menopausal status, history of breast cancer, awareness about breast cancer, and source of knowledge.

SECTION B: SELF-STRUCTURED KNOWLEDGE QUESTIONNAIRE:

It consists of a self-structured knowledge questionnaire which seeks information regarding Knowledge and Attitude related to Breast Cancer among women (40-65 years) residing in village Bhangrotu, Nerchowk, Mandi (H.P).

It contains a total of 30 questions regarding breast cancer. Each question had 4 options and the respondents were instructed to tick the one right answer from the given options for each question. Each correct answer was scored 1 and each wrong answer was scored 0. The maximum mark of the questionnaire is 30 and the minimum mark is 0.

KNOWLEDGE SCORE:

The total score will be cumulated by adding scores for each statement. The level of knowledge will be decided as per the following criteria:

Table 3.1: Range of Knowledge Scores

Level	Score
Poor knowledge	0-10
Average knowledge	11-20
Good knowledge	21-30

SECTION C: ATTITUDE RATING SCALE REGARDING BREAST CANCER:

Attitude rating scale to assess the attitude of women (40-65 years) residing in village Bhangrotu, Nerchowk, Mandi (H.P).

The scale consists of 20 statements to assess the tendency of the participants towards breast cancer. Each statement has three options Agree, Neutral, Disagree. The maximum score is 60 and the minimum score is 20. Scoring is as follows:

ATTITUDE SCORE:

Table 3.2: Scoring for Positive Statement:

Attitude	Score
Agree	3
Neutral	2
Disagree	1

Table 3.3: Scoring for Negative Statement:

Attitude	Score
Disagree	3
Neutral	2
Agree	1

Attitude Score:

Table 3.4: Range of Attitude Scores:

Attitude	Score
Negative	20-33
Average	34-47
Positive	48-60

ETHICAL CONSIDERATIONS-

1. Written permission was obtained from the Principal, Govt. Nursing College Shri Lal Bahadur Shastri, GMCH Nerchowk, Mandi, (H.P).
2. Ethical clearance was taken from the ethical clearance committee of Govt. Nursing College Shri Lal Bahadur Shastri, GMCH Nerchowk, Mandi, (H.P).
3. Written permission was taken from Nagar Parishad Nerchowk for study conduction in village Bhangrotu.
4. Written informed consent was taken from each study sample and was assured and maintained throughout the study.
5. Confidentiality was promised and ensured. The participants were given freedom to quit from study in between if they are not willing to participate. No routine duties were altered or withheld. No physical or psychological pain was caused.

DATA COLLECTION PROCEDURE

The data was collected from the women (40-65 years) residing in the village Bhangrotu, Nerchowk, Mandi (H.P).

Phase I Screening Phase: The main study was conducted in, the village Bhangrotu, Nerchowk, Mandi (H.P). Data was collected in May 2024 after obtaining official permission from the Executive Officer of the Municipal Corporation, Nerchowk. Preprocedural preparation was done with the help of the Anganwadi workers working in the village of Bhangrotu to obtain details of the study subject.

Phase II Data Collection & Implementation Phase: Before data collection, the investigator introduced herself to the subjects, and a rapport was developed with the subjects and explained the purpose and procedure of gathering the information. Informed consent was obtained from the participants by considering the ethical aspect of the research. The samples were assured anonymity and confidentiality of information provided by them. A self-structured questionnaire was used to collect the data. Socio-demographic data sheet and questionnaires about knowledge and attitude were filled by the participants. 20-25 minutes was taken by each woman to fill out the questionnaire. The interview technique was used to collect data from illiterate participants. After the pre-test health teaching was given to the group of women verbally through STP and in between researcher gave informative material (pamphlets, handouts) and removed their doubts and queries regarding breast cancer. Post-test was taken after 7 days of pre-test conduction through home visits of the participants accordingly.

ANALYSIS AND INTERPRETATION OF DATA

SECTION A

Table 1

Frequency and percentage distribution of socio-demographic profile of the subjects

Variables	Options	Frequency	Percentage
Age (In Years)	40-45 years	29	48.3%
	46-50 years	8	13.3%
	51-55 years	6	10.0%
	56-60 years	12	20.0%
	61-65 years	5	8.3%
Marital status	Unmarried	1	1.7%
	Married	47	78.3%
	Divorced	1	1.7%
	Widowed	11	18.3%
Level of Education	Illiterate	13	21.7%
	Primary/Middle	1	1.7%

	High School	16	26.7%
	Secondary	16	26.7%
	Graduate or more	14	23.3%
	Housewife	46	76.7%
Occupation	Self-employed	0	0.0%
	Govt. service	3	5.0%
	Private service	11	18.3%
	<13 years	3	5.0%
Age of menarche	13-15 years	40	66.7%
	>15 years	17	28.3%
	Vegetarian	44	73.3%
Dietary pattern	Non- vegetarian	16	26.7%
	Eggetarian	0	0.0%
	<50,000	4	6.7%
	51,000- 100,000	0	0.0%
Income (yearly)	100,001-200,000	3	5.0%
	200,001-300,000	31	51.7%
	>300,000	22	36.7%
	Condoms	22	36.7%
	Oral pills	0	0.0%
Methods of contraceptives used	Copper-T	0	0.0%
	Others	17	28.3%
	Permanent method (tubectomy)	21	35.0%
Have you attained your menopause	Yes	25	41.7%
	No	35	58.3%
Any history of breast cancer in your family	Yes	4	6.7%
	No	56	93.3%
Aware about breast cancer	Yes	49	81.7%
	No	11	18.3%
	Mass media	32	53.3%
	Peer group	1	1.7%
Source of knowledge	Family members	6	10.0%
	Health care professionals	18	30.0%
	Books, magazines, newspapers	3	5.0%

Data presented on Table 1, depicts that the largest age group was 40–45 years (48.3%), followed by 56–60 (20%), 46–50 (13.3%), 51–55 (10%), and 61–65 (8.3%). Most were married (78.3%), with others widowed (18.3%), divorced or unmarried (1.7% each). Education varied: 23.3% had higher education, 26.7% completed high school or secondary school, 21.7% were illiterate, and 1.7% had primary/middle education. Housewives formed the majority (76.7%), followed by private (18.3%) and government employees (5%). Menarche occurred mostly at 13–15 years (66.7%). Most were vegetarians (73.3%), with 26.7% non-vegetarians. Income

ranged mainly between ₹200,001–300,000 (51.7%), and above ₹300,000 (36.7%). Condoms (36.7%) and tubectomy (35%) were the main contraceptives used. A majority (58.3%) had not reached menopause. Only 6.7% had a family history of breast cancer. Awareness was high (81.7%), mainly sourced from mass media (53.3%) and healthcare professionals (30%).

SECTION B

Table 2

COMPARISON OF FREQUENCY & PERCENTAGE DISTRIBUTION OF PRE-TEST AND POST-TEST LEVEL OF KNOWLEDGE

LEVEL OF KNOWLEDGE		
SCORE LEVEL	**PRE-TEST F (%)**	**POST-TEST F (%)**
Inadequate Knowledge (0-10)	42(70%)	00
Moderate Knowledge (11-20)	18(30%)	10(16.7%)
Adequate Knowledge (21-30)	00	50(83.3%)
Maximum Score=30		Minimum Score=0

Table 2 depicts that before the intervention, 70% of participants had inadequate knowledge, which dropped to 0% afterward, showing a significant improvement. Moderate knowledge was observed in 30% of participants initially, decreasing to 16.7% post-intervention, indicating some progress. None of the participants had adequate knowledge before the intervention, but afterward, 83.3% had reached this level, reflecting a substantial overall enhancement in knowledge.

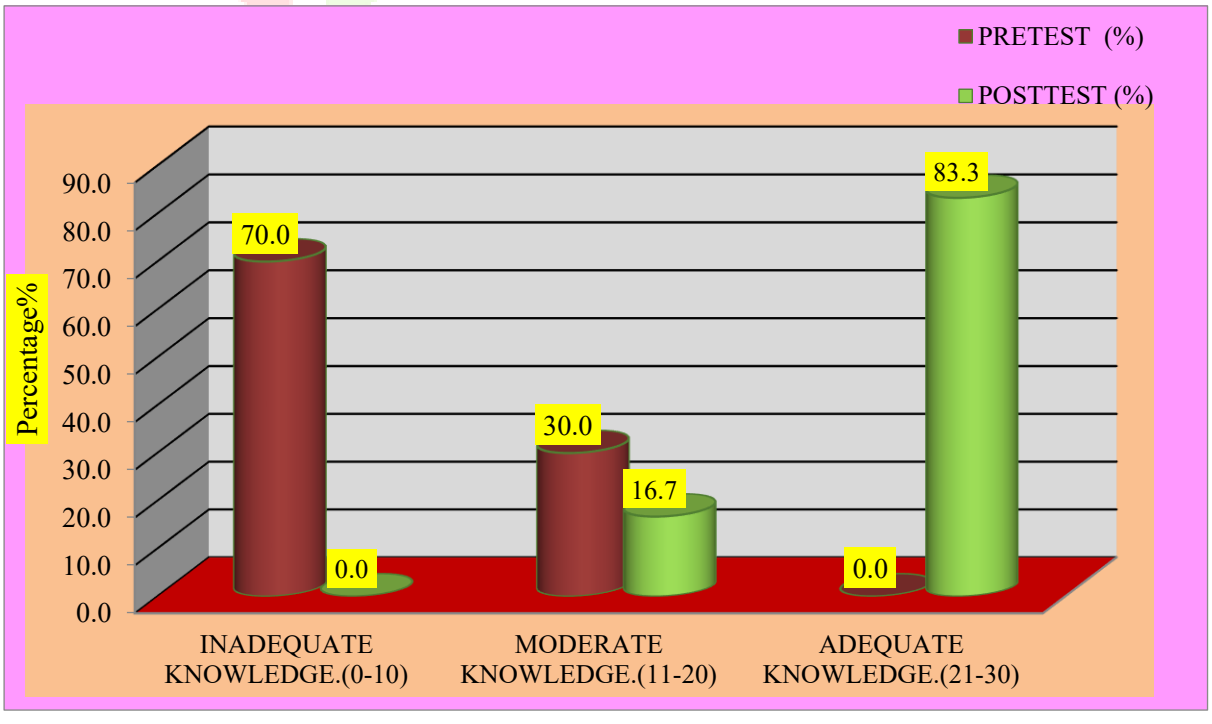


Table 3

COMPARISON OF FREQUENCY & PERCENTAGE DISTRIBUTION OF PRE-TEST AND POST-TEST LEVEL OF ATTITUDE

	LEVEL OF ATTITUDE	
SCORE LEVEL	**PRE-TEST F (%)**	**POST-TEST F (%)**
Negative Attitude (20-33)	32(53.3%)	00
Neutral Attitude (34-47)	28(46.7%)	7(11.7%)
Positive Attitude (48-60)	00	53(88.3%)
Maximum Score=60		Minimum Score=20

Table 3 depicts that before the intervention, 53.3% of participants had a negative attitude, but this dropped to 0% afterward, indicating a significant shift. Those with neutral attitudes decreased from 46.7% to 11.7%, suggesting that more participants moved towards a positive attitude. Initially, no participants exhibited a positive attitude, but after the intervention, 88.3% demonstrated a positive shift, reflecting a substantial improvement in attitude.

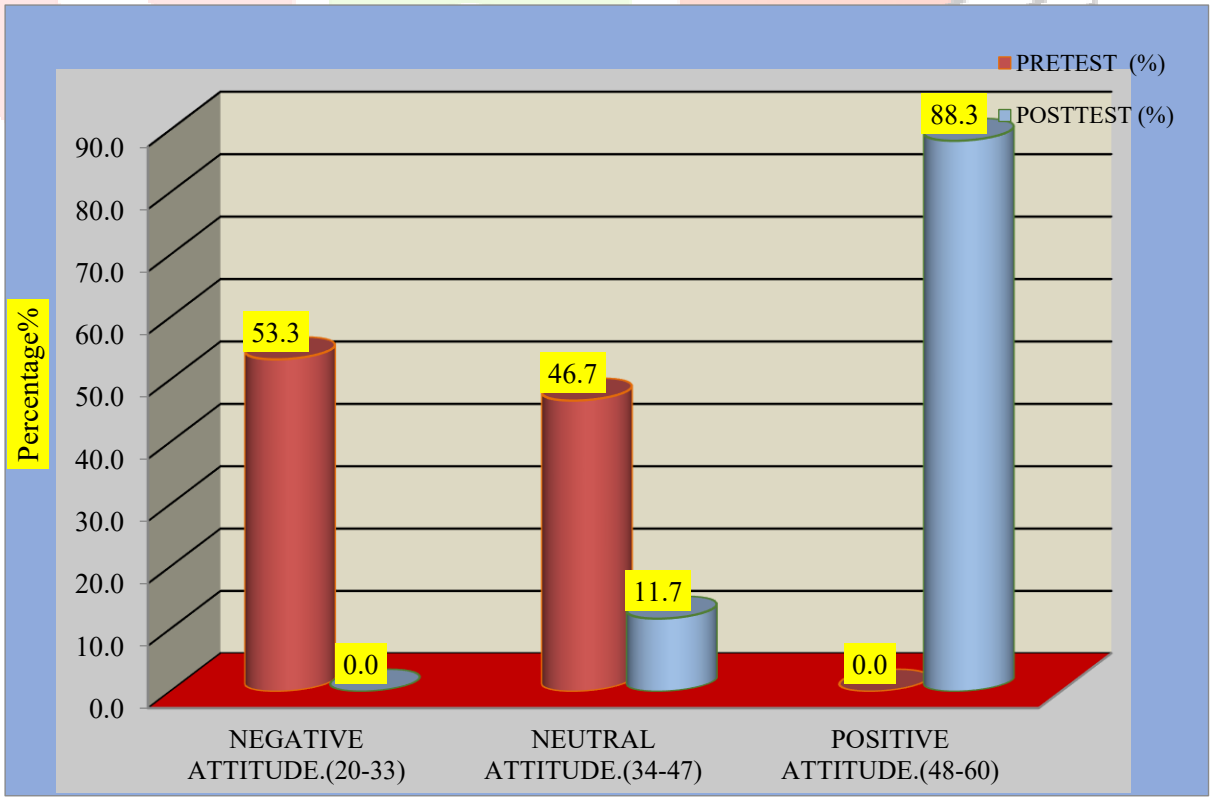


Table 4

COMPARISON OF DESCRIPTIVE AND INFERENTIAL STATISTICS OF PRE-TEST AND POST-TEST SCORES OF KNOWLEDGE

N=30

Paired T Test	Mean±S.D.	Mean%	Range	Mean Diff.	Paired T Test	P value	Table Value at 0.05
Pre-test Knowledge	9.37±2.033	31.22	5-14	13.180	65.143	<0.001**	2.00
Post-test Knowledge	22.55±2.235	75.17	17-27				

Maximum=30 Minimum=0

Significant**

Table 4 depicts that the paired T-test results reveal a significant difference in knowledge between the pretest and post-test phases. Before the intervention, the average knowledge score was 9.37±2.033 (31.20%), while after the intervention, it markedly increased to 22.55±2.235 (75.20%). The mean difference in knowledge scores between the pretest and post-test was 13.180, which was found to be statistically significant (paired T-test, $p < 0.001$). In summary, the intervention led to a substantial and statistically significant improvement in knowledge about the subject matter, as demonstrated by the significant increase in knowledge scores from the pretest to the post-test phase.

Table 5

COMPARISON OF DESCRIPTIVE AND INFERENTIAL STATISTICS OF PRE-TEST AND POST-TEST SCORES OF ATTITUDE

N=60

Paired T Test	Mean±S.D.	Mean%	Range	Mean Diff.	Paired T Test	P value	Table Value at 0.05
Pre-test Attitude	33.57±6.326	55.90	22-45	18.060	29.816	<0.001**	2.00
Post- test Attitude	51.63±3.444	86.10	45-58				

Maximum=60 Minimum=20

Significant**

Table 5 showed that the paired T-test results indicate a significant difference in attitudes between the pretest and post-test phases. Before the intervention, the average attitude score was 33.57±6.326 (55.90%), while after the intervention, it significantly increased to 51.63±3.444 (86.10%). The mean difference in attitude scores between the pretest and post-test was 18.060, which was statistically significant (paired T-test, $p < 0.001$). In summary, the intervention led to a substantial and statistically significant improvement in attitudes towards the subject matter, as demonstrated by the significant increase in attitude scores from the pretest to the post-test phase.

SECTION C

Table 6

CO-RELATION BETWEEN KNOWLEDGE AND ATTITUDE REGARDING BREAST CANCER

N=60

VARIABLE 1	VS	VARIABLE 2	R-VALUE	P VALUE
PRETEST ATTITUDE	vs	POSTTEST ATTITUDE	.685**	<0.001
PRETEST ATTITUDE	vs	PRETEST KNOWLEDGE	0.039	0.768
PRETEST ATTITUDE	vs	POSTTEST KNOWLEDGE	0.004	0.976
POSTTEST ATTITUDE	vs	PRETEST KNOWLEDGE	-0.060	0.647

POSTTEST ATTITUDE	**vs**	**POSTTEST KNOWLEDGE**	**-0.090**	**0.494**
PRETEST KNOWLEDGE	vs	POSTTEST KNOWLEDGE	.734**	<0.001

Table 6 depicts a strong and significant relationship between pretest and post-test attitudes ($r = .685$, $p < 0.001$) as well as between pretest and post-test knowledge ($r = .734$, $p < 0.001$). However, there is no significant relationship between attitude and knowledge (both pretest and post-test), as the correlation coefficients are weak and not statistically significant.

Hence, the **H02** Hypothesis was accepted. There was no significant correlation between knowledge and attitude regarding breast cancer among women (40-65 years).

SECTION-D

TABLE 7 (A): ASSOCIATION OF KNOWLEDGE SCORES WITH THEIR SOCIO-DEMOGRAPHIC VARIABLES

N=60

SOCIO-DEMOGRAPHIC VARIABLES		**PRE-TEST**				**POST-TEST**			
Variables	**Options**	**Chi Test**	**df**	**Table Value**	**P Value**	**Chi Test**	**df**	**Table Value**	**P Value**
Age (In Years)	40-45 yrs	3.803	4	9.488	0.433	3.132	4	9.488	0.536
	46-50 yrs								
	51-55 yrs								
	56-60 yrs								
	61-65 yrs								
	Unmarried								

Marital status	Married Divorced Widowed	3.097	3	7.815	0.377	1.397	3	7.815	0.706
Level of Education	Illiterate Primary/Middle High School Secondary Graduate or more	3.469	4	9.488	0.483	2.692	4	9.488	0.611
Occupation	Housewife Self-employed Govt. service Private service	0.059	2	5.991	0.971	1.560	2	5.991	0.458
Age of menarche	<13 years 13-15 years >15 years	0.019	2	5.991	0.991	1.256	2	5.991	0.534
Dietary pattern	Vegetarian Non-vegetarian Eggetarian	1.315	1	3.841	0.252	0.068	1	3.841	0.794

TABLE 7 (B): ASSOCIATION OF KNOWLEDGE SCORES WITH THEIR SOCIO-DEMOGRAPHIC VARIABLES

N=60

SOCIO-DEMOGRAPHIC VARIABLES		**PRE-TEST**				**POST-TEST**			
Variables	**Options**	**Chi Test**	**df**	**Table Value**	**P Value**	**Chi Test**	**df**	**Table Value**	**P Value**
Income (yearly)	<50,000 51,000-100,000 100,001-200,000 200,001-300,000 >300,000	0.217	3	7.815	0.975	3.090	3	7.815	0.378

Methods of contraceptives used	Condoms Oral pills Copper-T Others Permanent method (tubectomy)	0.192	2	5.991	0.909	2.905	2	5.991	0.234
Attained menopause	Yes No	0.082	1	3.841	0.775	0.343	1	3.841	0.558
History of breast cancer in family	Yes No	4.133	1	3.841	**0.042****	0.214	1	3.841	0.643
Aware about breast cancer	Yes No	0.048	1	3.841	0.827	0.022	1	3.841	0.881
Source of knowledge	Mass media Peer group Family members Health care professionals Books, magazines, newspapers	4.064	4	9.488	0.397	2.025	4	9.488	0.731

TABLE 8 (A): ASSOCIATION OF ATTITUDE SCORES WITH SOCIO- DEMOGRAPHIC VARIABLES

N=60

SOCIO-DEMOGRAPHIC VARIABLES		**PRE-TEST**				**POST-TEST**			
Variables	**Options**	**Chi Test**	**df**	**Table Value**	**P Value**	**Chi Test**	**df**	**Table Value**	**P Value**
Age (In Years)	40-45 years 46-50 years 51-55 years 56-60 years 61-65 years	6.597	4	9.488	0.159	3.441	4	9.488	0.487

Marital status	Unmarried	6.750	3	7.815	0.080	0.765	3	7.815	0.858
	Married								
	Divorced								
	Widowed								
Level of Education	Illiterate	2.668	4	9.488	0.615	3.992	4	9.488	0.407
	Primary/Middle								
	High School								
	Secondary								
	Graduate or more								
Occupation	Housewife	0.889	2	5.991	0.641	2.412	2	5.991	0.299
	Self-employed								
	Govt. service								
	Private service								
Age of menarche	<13 years	1.645	2	5.991	0.439	1.475	2	5.991	0.478
	13-15 years								
	>15 years								

TABLE 8 (B): ASSOCIATION OF ATTITUDE SCORES WITH SOCIO- DEMOGRAPHIC VARIABLES

N=60

SOCIO-DEMOGRAPHIC VARIABLES		PRE-TEST				POST-TEST			
Variables	**Options**	**Chi Test**	**df**	**Table Value**	**P Value**	**Chi Test**	**df**	**Table Value**	**P Value**
Dietary pattern	Vegetarian Non-vegetarian Eggetarian	2.198	1	3.841	0.138	2.882	1	3.841	0.090
Income (yearly)	<50,000 51,000-100,000 100,001-200,000 200,001-300,000 >300,000	9.082	3	7.815	**0.028****	6.360	3	7.815	0.095
Methods of contraceptive s used	Condoms Oral pills Copper-T Others Permanent method (tubectomy)	0.570	2	5.991	0.752	3.438	2	5.991	0.179
Attained menopause	Yes No	6.000	1	3.841	**0.014****	0.781	1	3.841	0.377
History of breast cancer in family	Yes No	0.808	1	3.841	0.369	0.566	1	3.841	0.452
Aware about breast cancer	Yes No	1.558	1	3.841	0.212	0.555	1	3.841	0.456
Source of Knowledge	Mass media Peer group Family members Health care professionals Books, magazines, newspapers	9.609	4	9.488	**0.048****	3.430	4	9.488	0.489

DISCUSSION

Objective-1: To assess the effectiveness of a Structured Teaching Programme on Knowledge and Attitude regarding Breast Cancer among women (40-65 years) residing in village Bhangrotu Nerchowk, Mandi (H.P).

KNOWLEDGE

The findings of the present study showed that in the pretest assessment, 42 participants (70%) demonstrated inadequate knowledge, while 18 participants (30%) exhibited moderate knowledge. None of the participants showed an adequate level of knowledge. The average pretest score was 9.37 with a standard deviation of 2.033, indicating the central value and variation within the dataset. Additionally, the mean percentage score was 31.2%, providing a benchmark for average performance in relative terms. In the post-test assessment of the breast cancer educational program, none of the participants scored within the inadequate knowledge range (0-10). Instead, 10 participants, constituting 16.7% of the total, demonstrated a moderate level of knowledge, while the majority, 50 participants or 83.3%, exhibited an adequate level of knowledge. The average post-test knowledge score stands at 22.55, with a standard deviation of 2.235, reflecting the spread of scores around this mean. Furthermore, the mean percentage score for the post-test knowledge is 75.20%. The paired T-test results reveal a significant difference in knowledge between the pretest and post-test phases. Before the intervention, the average knowledge score was 9.37±2.033 (31.22%), while after the intervention, it markedly increased to 22.55±2.235 (75.17%). The mean difference in knowledge scores between the pretest and post-test was 13.180, which was statistically significant ($p < 0.001$). The intervention enhanced knowledge about breast cancer, as evidenced by the considerable rise in knowledge scores from the pretest to the post- test.

These findings were supported in the study conducted by Lamin F Barrow et. al (2024) examining the Impact of Health Education Interventions on Breast Cancer Knowledge. Which was reported that the participant's knowledge improved from 16.5% before the intervention to 61.3% after the intervention on the 20 points of knowledge and awareness item including signs and symptoms, and risk factors of breast cancer. The paired sample t-test reveals that participants knowledge has improved in all the various dimensions of the assessment with a general increase from pre ($M = 6.08$; $SD = \pm 3.35$) to Post ($M = 13.34$; $SD = \pm 5.33$) at the 0.05 level of significance, $t(-24.2) = 5.23$, $n = 305$, $p < 0.05$, [95% CI: -6.67,-7.85].[16]

Another study conducted by Nadia Zafar et. al effectiveness of Community Education for Breast Cancer Screening. Which was reported that the participants, 59.5% (200/336) completed the pre-event and 44.3% (149/336) completed the post-event surveys, Respondents reported decreased anxiety and fear regarding breast cancer screening following educational sessions, with 36.1% (64/178) reporting anxiety pre-event compared to 23.3% (31/133) post-event, although the difference was not statistically significant ($P = .96$). Additionally, 64.7% (55/85) of participants stated they were more likely to schedule breast cancer screening based on individual risk factors, and 98.0% (145/148) of participants reported increased knowledge on post-event surveys.[17]

ATTITUDE

The findings of the present study showed that in the pre-test assessment, the attitudes of the participants toward breast cancer were notably less positive. Out of the total participants, 32 individuals, representing 53.3%, exhibited a negative attitude towards the subject matter. Additionally, 28 participants, or 46.7%, demonstrated a neutral attitude. None of the participants had a positive attitude toward breast cancer in the pretest assessment. The average pre-test attitude score was 33.57, with a standard deviation of 6.326, indicating a moderate level of variability in the attitude scores among the participants. The post-test assessment results of the breast cancer educational program show a marked improvement in attitudes, with no participants displaying negative attitudes. A total of 7 participants (11.7%) had a neutral attitude, while the majority, 53 participants (88.3%), showed a positive attitude towards the subject matter. The average post-test attitude score was 51.63, with a standard deviation of 3.444, reflecting the variation around the mean score. The paired T-test results indicate a significant difference in attitudes between the pretest and post-test phases. Before the intervention, the average attitude score was 33.57±6.326 (55.90%), while after the intervention, it significantly increased to 51.63±3.444 (86.10%). The mean difference in attitude scores between the pretest and post-test was 18.060, which was found to be statistically significant (paired T-test, $p < 0.001$). The intervention led to a substantial improvement in attitudes towards breast cancer, as demonstrated by the significant increase in attitude scores from the pretest to the post-test.

These findings were supported in the study conducted by Kalra A et. al (2024), regarding knowledge, attitudes, and practices related to breast cancer and self- examination among women. Among respondents, 95% (n = 87) believed hospitals were the optimal places for breast cancer treatment, rejecting alternative sources. When asked about seeking medical attention for a breast lump, the majority (80%, n = 74) expressed an inclination to consult a doctor immediately. Overall, 75% (n = 69) demonstrated a positive attitude towards breast cancer. ($p > 0.05$).[18] Another study conducted by Parle J. et. al (2020) on breast cancer knowledge, attitude, and self- examination practices. Attitude to BSE is excellent in the respondents of this study (94.2%). About 105 (27.6%) respondents agreed that they were not well-informed about how to carry out the BSE examination.[19]

Another study conducted by Maureen KJ. et. al (2024) examined knowledge, attitudes, and practices regarding breast cancer. The study found that participants who felt embarrassed during a doctor's examination for breast cancer feared visiting the doctor for checkups, or considered breast cancer screening a waste of the doctor's time had a significantly lower likelihood of seeking screening services ($\chi2 = 23.60$, $df = 2$, $p < 0.001$; $\chi2 = 49.29$, $df = 2$, $p < 0.001$; $\chi2 = 28.21$, $df = 2$, $p < 0.001$, respectively). The study found that attitude was significantly associated with the uptake of breast cancer screening services (OR = 84.15, $p < 0.001$, 95% CI: 4.30–1647.98). Participants with a positive attitude towards breast cancer screening were 84.15 times more likely to seek screening services compared to those with a negative attitude.[20]

Objective-2: To determine the Co-relation between Knowledge and Attitude regarding Breast Cancer among women (40-65 years) residing in village Bhangrotu Nerchowk, Mandi (H.P).

The findings of the present study showed that the correlation between post-test knowledge and post-test attitude was not statistically significant ($r = -0.090$, $p = 0.494$). These findings were supported by the study conducted by Parle J. et. al (2020) which was reported a smaller positive correlation between total knowledge score and attitude towards BSE ($r=0.176$ and $p=0.000$). Another study conducted by Johnson AK. Et. Al (2020) on Breast cancer education and its impact on women's attitudes. Results of the study showed that there was no significant correlation between the knowledge gained from the education programme and change in attitudes, with a correlation coefficient of $r = 0.07$ and a p-value of 0.41.[21]

Objective-3: To find out the Association between the level of Knowledge and Attitude regarding Breast Cancer among women (40-65 years) residing in village Bhangrotu Nerchowk, Mandi (H.P) with their selected Socio-demographic variables.

The findings of the present study showed that none of the following factors showed a significant association with pretest knowledge scores age groups (Chi = 3.803, p = 0.433), marital status (Chi = 3.097, p = 0.377), education levels (Chi = 3.469, p = 0.483), occupation types (Chi = 0.059, p = 0.971), age of menarche (Chi = 0.019, p = 0.991), dietary patterns (Chi = 1.315, p = 0.252), income brackets (Chi = 0.217, p = 0.975), contraceptive methods (Chi = 0.192, p = 0.909), attainment of menopause (Chi = 0.082, p = 0.775), awareness about breast cancer (Chi = 0.048, p = 0.827), and source of knowledge (Chi = 4.064, p = 0.397). However, a significant association was found between pretest knowledge scores and having a family history of breast cancer (Chi = 4.133, p = 0.042). In the post-test, there was no significant association found between knowledge and any sociodemographic factors.

In the pretest attitude, the age, marital status, education, occupation, age of menarche, and dietary patterns were not significantly associated with pre-test attitude scores. Significant associations were found for income (Chi = 9.082, p = 0.028) and menopause status (Chi = 6.000, p = 0.014). Contraceptive methods, family history, and awareness of breast cancer did not show significant associations (Chi = 0.570, p = 0.752; Chi = 0.808, p = 0.369; Chi = 1.558, p = 0.212). The source of knowledge was significantly associated (Chi = 9.609, p = 0.048). In the post-test, there was no significant association found between attitude and any sociodemographic factors.

These findings were supported by the study conducted by Khan A et.al (2021) on Knowledge, Attitudes, and Breast Cancer Screening Practices. Results showed that women with higher socioeconomic status and those with a family history of breast cancer were more likely to have higher knowledge scores and more proactive attitudes toward screening ($p < 0.01$). Education level had a significant positive impact on both knowledge and attitudes ($\beta = 0.45$, $p < 0.001$).[22] Another study conducted by Taha M. et. al (2020) on breast Cancer awareness and knowledge. Results reveal that younger women and those with higher educational attainment had significantly better knowledge and more favourable attitudes toward breast cancer prevention ($p < 0.01$).

Employment status was also positively associated with knowledge ($\beta = 0.32$, $p < 0.05$).[23]

Hence the results of the present study were similar to the studies conducted by researchers documented in the literature review. Overall, the study underscores the necessity for continued efforts in breast cancer education, particularly in underserved communities, to improve awareness, promote early detection, and ultimately reduce breast cancer mortality rates.

CONCLUSION

The results showed significant improvements in both knowledge and attitudes towards breast cancer after participation in the STP. Descriptive statistics indicated increased awareness and understanding of preventive measures, while inferential statistics identified links between socio-demographic factors and attitudes. These findings are vital for designing future educational programs tailored to rural populations. The study maintained rigorous ethical standards, including informed consent and participant anonymity, ensuring data integrity and respect for participants' rights. Enhancing knowledge and fostering positive attitudes through such initiatives can reduce health disparities and promote community well-being. Ongoing investment in community- based health education is crucial, with future research needed to assess the long-term impact of these interventions and strategies to sustain positive health behaviors.

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