

KAP STUDY ON BREAST CANCER AMONG WOMEN IN NIRMALA EDUCATIONAL INSTITUTIONS- A PROSPECTIVE OBSERVATIONAL STUDY

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INTRODUCTION:

Breast cancer growth is disease that creates in breast cells. Ordinarily, the disease frames in either the lobules or the conduits of the breast. Lobules are

the organs that produce milk, and pipes are the pathways that carry the milk from the organs to the areola. Malignant growth can likewise happen in the greasy tissue or the stringy connective tissue inside your breast. The uncontrolled disease cells frequently attack other sound breast tissue and can venture out to the lymph hubs under the arms. The lymph hubs are an essential pathway that help the cancer cells move to different pieces of the body [1]

1.1 EPIDEMIOLOGY:

Breast cancer is quite possibly the most widely recognized tumors in ladies around the world, representing roughly 570,000 passing in 2015. More than 1.5 million ladies (25% of all ladies with cancer) are determined to have breast disease consistently all through the world [1,2]. In America, it is assessed that 30% of all new malignant growth cases (252,710) among ladies are breast disease in 2017 [3]. Breast disease is a metastatic cancer and can regularly move to far off organs like the bone, liver, lung and mind, which primarily represents its seriousness. Early analysis of the illness can prompt a decent anticipation and a high endurance rate. In North American, the 5-year relative endurance pace of breast malignant growth patients is above 80% because of the ideal discovery of this disease.

Today, India is seeing a taking off expansion in the quantity of patients being determined to have breast cancer at a youthful age. Breast cancer as of late outperformed cervical disease and has become the most widely recognized cancer among Indian ladies. The age-adjusted frequency pace of carcinoma of the breast was found as high as 41 for each 100,000 ladies for Delhi, trailed by Chennai (37.9), Bangalore (34.4), and Thiruvananthapuram District (33.7). There

has been a critical expansion in the rate of breast cancer throughout the long term and it keeps on rising steadily[3]. Breast cancer-associated mortality is famous, being the fifth most elevated because of cancer and the most widely recognized reason for death because of disease among women[4].

1.2 SIGNS AND SYMPTOMS:

Symptom of breast tumors shift from one individual to another. Some normal, early admonition indications of breast malignant growth include:

- ✓ Skin changes, like expanding, redness, or other apparent contrasts in one or the two breasts
- ✓ An expansion in size or change fit as a fiddle of the breast(s)
- ✓ Changes in the presence of one or the two areolas
- ✓ Nipple release other than breast milk
- ✓ General torment in/on any piece of the breast
- ✓ Lumps or hubs felt on or within the breast
- ✓ Symptoms more explicit to obtrusive breast cancer are:
- ✓ Irritated or irritated breasts
- ✓ Change in breast tone
- ✓ Increase in breast size or shape (throughout a brief timeframe)
- ✓ Changes in contact (may feel hard, delicate or warm)
- ✓ Peeling or chipping of the areola skin
- ✓ A breast knot or thickening
- ✓ Redness or pitting of the breast skin (like the skin of an orange)

1.4 SCREENING TECHNIQUES:

Prescribed preparatory procedures to lessen breast disease dismalmess and mortality incorporate breast self-examination (BSE), breast assessment (CBE), and mammography. However, the last two require a visit to the specialist and utilization of specific hardware. BSE is a simple, fast, helpful, private, cost free, and safe practice that requires no paraphernalia. Despite being an old procedure, BSE isn't often polished or has been drilled erroneously for some reasons. Past investigations show that the essential obstructions for the poor rehearsing of BSE were distraction, absence of time, obliviousness, dread/tension, and low degree of education. It is accordingly critical to decide the degree of information in regards to BSE, just as the mentality[5].

1.4.1 BREAST SELF EXAMINATION (BSE):

Breast self-test, or consistently looking at your breasts all alone, can be a significant method to discover a breast malignant growth early, when it's bound to be dealt with effectively. While no single test can identify all breast malignancies early, Breastcancer.org accepts that performing breast self-test in mix with other screening strategies can build the chances of early discovery.

Instructions to do a breast self-test: The five stages

Stage 1: Begin by taking a gander at your breasts in the mirror with your shoulders straight and your arms on your hips.

This is what you should search for:

- ✓ Breasts that are their typical size, shape, and shading
- ✓ Breasts that are equitably formed without apparent twisting or growing
- ✓ **Stage 2:** Now, raise your arms and search for similar changes.
- ✓ **Stage 3:** While you're at the mirror, search for any indications of liquid emerging from one or the two areolas (this could be a watery, smooth, or yellow liquid or blood).

- ✓ **Stage 4:** Next, feel your breasts while resting, utilizing your right hand to feel your passed on breast and afterward your passed available to feel your right breast. Utilize a firm, smooth touch with the initial not many finger stack of your hand, keeping the fingers level and together. Utilize a roundabout movement, about the size of a quarter.
- ✓ Cover the whole breast through and through, side to side — from your collarbone to the highest point of your midsection, and from your armpit to your cleavage.
- ✓ **Stage 5:** Finally, feel your breasts while you are standing or sitting. Numerous ladies track down that the most effortless approach to feel their breasts is the point at which their skin is wet and dangerous, so they like to do this progression in the shower. Cover your whole breast, utilizing a similar hand developments portrayed in sync.
- ✓ **1.4.1 KAP STUDY[6,7]:**
- ✓ Rule for Conducting a Knowledge, Attitude and Practice (KAP) Study
- ✓ "KAP" study estimates the Knowledge, Attitude and Practices of a local area. It fills in as an instructive finding of the local area. The principle reason for this KAP study is to investigate changes in Knowledge, Attitude and Practices of the local area, paramedical staff and clinical professionals.
- ✓ Prior to starting the way toward making mindfulness in some random local area, it is first important to survey the climate where mindfulness creation will occur. Directing a KAP study can best do this? KAP Study mentions to us what individuals think about specific things, how they feel and furthermore how they act. The three themes that a KAP study measures are Knowledge, Attitude and Practice. The Knowledge moved by a local area alludes to their comprehension of some random point breast malignant growth for this situation. Mentality alludes to their sentiments towards this subject, just as any assumptions that they might have towards it. Practice alludes to the manners by which they show their insight and mentality through their activities. Understanding the degrees of Knowledge, Attitude and Practice will empower a more effective cycle of mindfulness creation as it will permit the program to be custom-made all the more properly to the necessities of the local area. While evaluating the KAP of a local area, it is helpful to partition that local area into more modest sub-classifications. For this situation, these classifications can be characterized as the Medical Community and the General Community.

Steps in Preparation of a KAP Questionnaire:

1. Domain Identification The area, or subject, which the investigation will be directed on, should be recognized. For the motivations behind a breast cancer project, the overall space region is breast disease. All the more explicitly, the space will be the Knowledge, Attitude and Practices of the populace concerning these sickness
2. Question Preparation Question readiness should be directed in stages. The primary stage in getting ready inquiries for a KAP study is to meet with oncologists, Medical professionals, and specialists on breast disease. This gathering of experts should then recognize the Endpoints or Goals of the mindfulness creation exercises of the breast disease project for Medical specialists, Community individuals. Questions ought to be ready to test every one of the three spaces of the investigation, Knowledge, Attitude, and Practices. Questions remembered for the Knowledge area ought to be intended to test the information on respondents on breast malignant growth. These ought to be open-finished inquiries, without numerous decision answers gave as this can bring about speculating and accordingly give a bogus impression of the information on the populace.
- 3.
- 4.

Directing a KAP Study:

The initial phase in directing a KAP study is the determination of the example to which the overview will be given. The example ought to be adequately enormous to address the populace without being huge to such an extent that the information assortment and examination is restrictively troublesome. In picking an example size be mindful so as to consider that a portion of those chose might be troublesome or difficult to contact, or reluctant to take part in the investigation. An example size of roughly 200 people from each gathering will do the trick insofar as care is taken to guarantee that the reaction rate is sensibly high. As referenced beforehand, division of the populace into more modest classes is ordinarily alluring as varying gatherings locally have distinctive instructive, social, and financial foundations and hence will probably have contrasting degrees of KAP. Practically speaking, this qualification can be made dependent on topographical attributes of the gathering in either Rural or Urban settings. The qualities of the general populace ought to be viewed as while choosing the extent of people from these classifications in order to guarantee that the populace inspected will mirror the populace on the loose. The study should then be led and the information gathered

1.4.3 MAMMOGRAPHY:

A mammogram is a x-beam that permits a certified expert to look at the breast tissue for any dubious regions. The breast is presented to a little portion of ionizing radiation that creates a picture of the breast tissue. Mammograms can regularly show a breast irregularity before it very well may be felt. They additionally can show small groups of calcium called miniature calcifications. Knots or bits can be brought about by disease, greasy cells, or different conditions like sores. Further tests are expected to see whether unusual cells are available.

Suggestions for all ladies:

Women 40 and more established ought to have mammograms each 1 or 2 years.

- Women who are more youthful than 40 and have hazard factors for breast malignant growth ought to find out if mammograms are fitting and how frequently to have them.
- Indeed, even ladies who have no indications and no known dangers for breast disease ought to have consistently booked mammograms to assist with identifying potential breast malignant growth at the soonest conceivable time.

1.5 BREAST CANCER STATISTICS:

Among ladies, the complete number of occurrence cases is assessed to be 7,12,758 of every 2020 and liable to reach 8,06,218 out of 2025. Breast disease (2,38,908) is relied upon to be the most widely recognized site of cancer in 2025, trailed by malignant growth in lung (1,11,328) and mouth (90,060).

1.5.1 INCIDENCE:

1 out of 29 females (breast disease), and 1 out of 9 Indians will foster malignant growth during their lifetime (0-74 years old; Table 2)

1.5.2 MORTALITY:

Long term by and large endurance pace of breast disease in India went from 40-62% [30].

2. Material and methods:

The reason for the examination is to do a study to evaluate attention to breast cancer disease hazard factors, and signs and indications. This is an expressive cross-sectional investigation. In light of this review to decide the ladies' information, disposition, and work on in regards to counteraction and screening of Breast Cancer.

2.1 Study design:

A descriptive cross sectional study included 300 women of age ≥ 15 years from the period of November 2020 to April 2021.

Data was collected using a pre-designed, tested, self-administered questionnaire. The questionnaire included specific sections to test the participants' knowledge, attitude, and practices related to breast cancer and its screening. Data analysis was done using descriptive statistics.

Questionnaire was provided and data gathered. Later we organized a session for improving the awareness. After the session again questionnaire was given. Again the data was collected through google forms. The analysis was then performed to assess the percentage of increase in the level of knowledge about breast cancer screening in women was calculated pre and post awareness sessions.

2.2 Study location:

This investigation of KAP was done in the Nirmala Educational Institutions which is situated in the country region, Atmakur (town) in Guntur local of Andhra Pradesh state in India.

Inclusion criteria:

- ❖ All ladies between the age of 16 and pre-menopausal in the organization.
- ❖ Drug store and Non – Pharmacy experts.
- ❖ Pregnant ladies and breastfeeding ladies.
- ❖ Who agreed to partake were remembered for the investigation.

Exclusion criteria:

- ❖ Each one of those ladies who were in critical condition. .
- ❖ Who were not interested to take part in the investigation.

- ❖ Females who had torment in the breast and were at that point determined to have breast disease were prohibited from the examination.

This investigation is fundamentally founded on screenings of breast malignant growth to the ladies in the chose region dependent on consideration and avoidance rules.

Screening programs can possibly expand wellbeing imbalances, inferable from contrasts in the degree of take-up between financial gatherings, including those covered under widespread wellbeing frameworks [20,21, 22].

Numerous ladies overestimate their danger of creating breast disease and subsequently see screening as 'quite often a smart thought'.

2.3 Materials and equipments used in the study:

The information was gathered with a pre-tested, close-ended poll was utilized to survey the information, demeanor, and practice of Breast disease in these ladies.

The examiners are taken from the BCAM (Breast Cancer Awareness Measure), tool compartment (Version 2). This review instrument (Breast CAM) was created by Cancer Research UK, Kings College London, and University College London in 2009 and approved with the help of Breast Cancer Care and Breakthrough Breast Cancer.

The Breast CAM involves for the most part 8 inquiries with a sum of 31 things. The Breast CAM was intended to be controlled as a meeting either vis-à-vis or via phone or through the web and this conveyance technique will yield the best quality information. Utilizing the Breast CAM on the web is frequently a less expensive and more viable choice. It is essential to advance the utilization of the Breast CAM and make it as available, to build affectability in breast disease mindfulness, and simple to use as could be expected. It takes between 15-20 minutes to finish.

The outcomes will be utilized to foster better and more compelling administrations to help increment the early determination of disease. The BCAM file will assist us with building a comprehension of public information about breast disease so we can foster approaches to improve interchanges and administrations that intend to improve malignancy results. Morals endorsement for this investigation was gotten from the Institutional Ethics Committee of the NIRMALA COLLEGE OF PHARMACY.

The substance legitimacy was set up by counseling different bits of writing, peer audit, and subject specialists. A few inquiries were altered or erased and phrased distinctively in the last form according to the suggestions of the master board of trustees since they were either off-subject or not appropriate for drug store and non-drug store experts. Study members were furnished a self-directed survey with due help with filling the poll.

Educated assent was acquired from every member before enrolment and no pay or motivating force was paid to the members for this examination. Complete namelessness was kept up to secure members' characters and to guarantee the privacy of information.

Interest was willful.

The poll included various segments. It comprises of shut and open-finished inquiries that were utilized to gather information that would meet the targets of the examination through multi-picked questions. The survey was undermined with an aggregate of 56 inquiries. It's circulated into segments. Area A incorporates the socio-demographic characters (4Q). Area B incorporates the Knowledge of breast disease and breast malignancy prevention (4Q). Area C incorporates the Knowledge and Practice of Breast Self-Examination (BSE) (17Q). Segment D incorporates the Knowledge and Practice of Clinical Breast Examination (CBE) (5Q). Segment E incorporates the Knowledge and Use of Mammography (6Q). Segment F incorporates the Knowledge of Warning indications of breast malignancy (11Q). Area G incorporates the Knowledge of Risk components of breast cancer (9Q).

Different focuses include:

Members' practices were evaluated through the last segment posing explicit inquiries about BSE, CBE, and mammography. Members were found out if they had known about BSE, CBE, and mammography and whether they accepted these tests were helpful for the early identification of breast disease. Different inquiries under BSE enquired whether they had been shown BSE, regardless of whether they practice BSE, what age should BSE be done, how habitually should BSE be done, what is the best an ideal opportunity to do BSE, what move should be made when any anomaly is found in BSE, and what, as indicated by them, are the advantages of BSE? Additionally, inquiries under CBE looked for data on whether they had gone through CBE, how CBE is finished (by whom, utilizing what), and how frequently should CBE be finished. Inquiries on mammography tried the members' information on what age

mammography ought to be begun, how frequently should it be done, and whether they had gone through mammography.

2.4 Study methodology:

The survey was directed to them in the study hall setting. Before the poll was given to members, the analysts truly mentioned to pick answers absolutely dependent on their insight into breast disease and furthermore demand did not utilize any electronic devices during the study survey. The time taken to react to the poll was 10-15 minutes.

The information obtained in this step, was indicated as the information about the breast disease before the mindfulness program was conducted.

So the third step of this exploration is to investigate the information and arranged a rundown of the information on breast malignancy before the mindfulness program.

The fourth step of the exploration is to lead the mindfulness program as per the KAP of breast malignant growth.

This Planned training program was directed through the PowerPoint show. During the talk, members were educated about the weight of the illness, basic breast disease side effects and hazard factors, advantages of early location, and afterward prepared on the most proficient method to perform breast self-assessment (BSE), clinical breast assessment (CBE), and mammography. The co-operation meeting was to clear legends about breast malignancy.

Eventually, these activities are expected to guarantee the plausibility and reasonableness of giving an excellent danger separated screening program that is open to all and is lined up with public qualities and inclinations. This kind of Health schooling program like KAP of breast malignant growth giving the Communicating data on breast disease hazard alone is probably not going to bring about changes in wellbeing related practices, like smoking or low degrees of actual work, Hormone substitution treatment, diet, and so forth.[25,26,27]

The accessible proof proposes that hazard separated screening is comprehensively worthy to ladies on the off chance that it includes the potential for more regular evaluating for those considered to be at high danger.[28,29].

Sampling:

Samples were collected from the women of Nirmala institutions, by administering the questionnaire through the online mode which is by using the google form and through offline mode by using the printed formats of the questionnaire prepared. Sampling of nearly 250-350 was estimated and nearly 300 samples for each of the two segments of the study i.e. pre-awareness and post-awareness.

Sampling was done twice, one for each segment and all the women who were willing to participate were included in the study and were given with the questionnaire.

Data Collection:

Administrative permission was obtained from the Principal of the selected institution prior to the collection of the data and the purpose, procedure of the study were explained to the study participants and a reasonable amount of time was given to them before administering the Questionnaire to them in the classroom setting. After searching the literature extensively, the questionnaires were formulated and the questionnaire was divided into several sections. Some of the question were modified or deleted as per the local requirements. The questionnaire used consisted of seven parts: sociodemographic Characteristics, prevention of breast cancer, knowledge and practice of Breast self-examination (bse), knowledge and practice of clinical breast examination (cbe), knowledge and use of Mammography, knowledge of warning signs, knowledge of risk factors.

Written consent forms were obtained from the study participants. The time taken to respond to the questionnaire was 20-30 minutes. Data was collected by administering knowledge

questionnaire on different aspects of breast cancer including BSE, CBE, mammography, risk factors of Breast cancer etc. A planned teaching program was introduced for them after a period of nearly 2-3 weeks after collecting the sample, 5th day post-test was done by administering the same tool which was used for the pre-test.

3. RESULTS:

TABLE 1: Socio-demographic characteristics of women who participated in the study:

Variables	options	PRE-AWARENESS	POST-AWARENESS
		Percentage	Percentage

S.no	Variables	Category	Frequency
01.	Age in years	17-37 years	273
		38-57 years	27
02.	Marital status	Single	238
		Married	57
		Widowed	3
		Divorced	01
03.	Occupation	Student	235
		Pharmacy faculty	21
		Non pharmacy faculty	22
		Others	22
		Doctorate	21
04.	Highest level of Education	Graduate	50
		Pharmacy pursuing	163
		No formal education	13
		Others	12

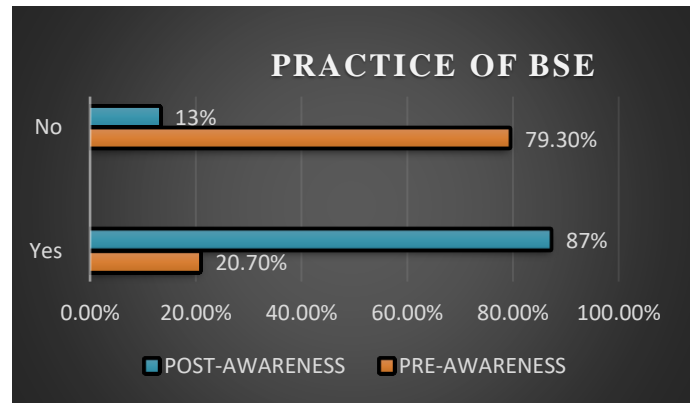


FIGURE 1: Practice of BSE in pre and post-awareness stages.

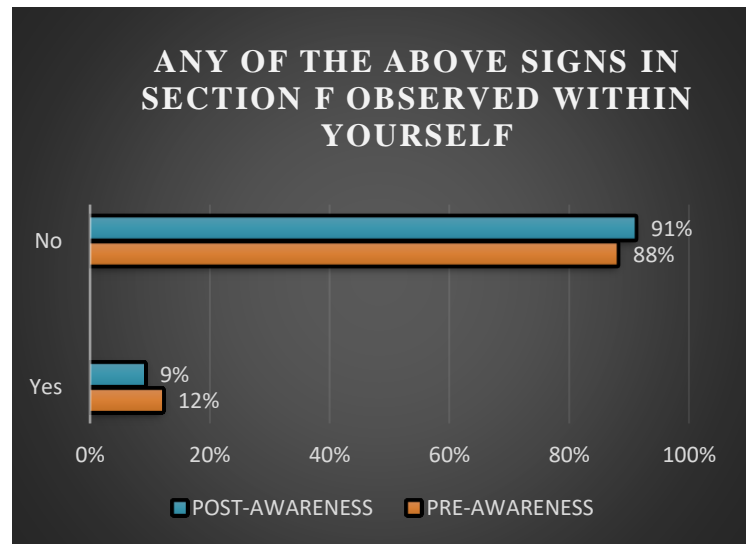


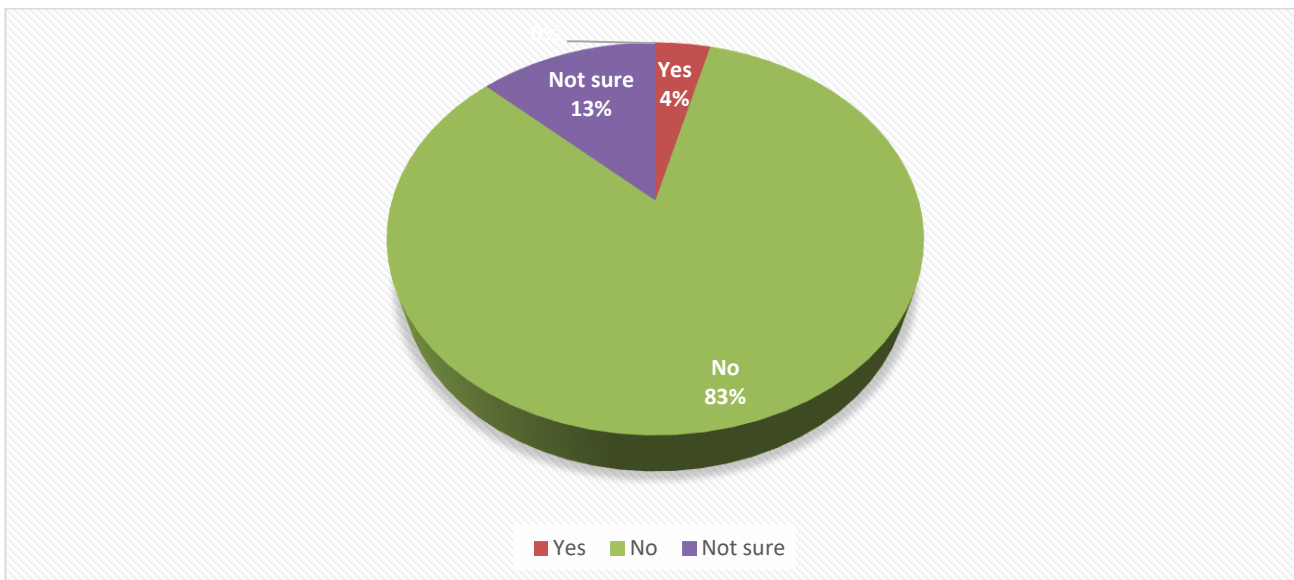
FIGURE 2: Any of the above signs (mentioned) in section F observed within yourself

TABLE 2: Knowledge about Risk factors in pre and post-awareness stages

Having a past history of breast cancer	Strongly agree	16%	67%
	Disagree	29.7%	9%
	Not sure	40%	3%
	Agree	13%	19%
	Strongly disagree	1%	0%
Using HRT (hormone replacement therapy)	Strongly agree	5.3%	72%
	Disagree	28.6%	4%
	Not sure	52.4%	3%
	Agree	13%	21%
	Strongly disagree	0.7%	0%
Drinking more than 1unit of alcohol everyday	Strongly agree	4.7%	85%
	Disagree	40.4%	0%
	Not sure	39.6%	1%
	Agree	14.7%	14%
	Strongly disagree	0.7%	0%
Being overweight	Strongly agree	8%	33%
	Disagree	30.6%	18%
	Not sure	43.7%	14%
	Agree	17%	35%
	Strongly disagree	0.7%	0%
Having a close relative with breast cancer	Strongly agree	5%	83%
	Disagree	42%	2%
	Not sure	35%	2%
	Agree	17.3%	13%
	Strongly disagree	0.7%	0%
Having children later on in life or not at all	Strongly agree	4.3%	27%
	Disagree	36.3%	18%
	Not sure	45.3%	26%
	Agree	13.3%	29%
	Strongly disagree	0.7%	0%
Starting your periods at an early age	Strongly agree	4.3%	35%
	Disagree	36.3%	20%
	Not sure	45.3%	12%
	Agree	13.3%	33%
	Strongly disagree	0.7%	0%
Having a late menopause	Strongly agree	5.6%	70%
	Disagree	33%	0%
	Not sure	48.3%	0%
	Agree	12.4%	30%
	Strongly disagree	0.7%	0%
Doing less than 30mins of moderate physical activity 5 times a week	Strongly agree	8%	50%
	Disagree	26%	18%
	Not sure	46.3%	2%
	Agree	19.3%	30%
	Strongly disagree	0.3%	0%

Variables	Options	Percentage	Percentage
Do you think a lump or thickening in your breast could be a sign of breast cancer	Yes	36.3%	93%
	No	14%	6%
	Don't know	49.7%	1%
Do you think a lump or thickening under your armpit could be a sign of breast cancer	Yes	25.7%	95%
	No	17.3%	3%
	Don't know	57%	2%
Do you think bleeding or discharge from your nipple could be a sign of breast cancer	Yes	39.3%	95%
	No	14.3%	4%
	Don't know	46.3%	1%
Do you think a change in the position of your nipple could be a sign of breast cancer	Yes	28.3%	97%
	No	17.7%	2%
	Don't know	54%	1%
Do you think a rash on or around your nipple could be a sign of breast cancer	Yes	25.7%	88%
	No	24.7%	7%
	Don't know	49.7%	5%
Do you think redness of your breast skin could be a sign of breast cancer	Yes	27.3%	93%
	No	24%	7%
	Don't know	48.3%	0%
Do you think a change in the size of your breast or nipple could be a sign of breast cancer	Yes	22.3%	98%
	No	23%	2%
	Don't know	54.7%	0%
Do you think a change in the shape of your breast or nipple could be a sign of breast cancer	Yes	27%	94%
	No	22.3%	4%
	Don't know	50.7%	2%
Do you think pain in one of your breasts or armpit could be a sign of breast cancer	Yes	33.7%	87%
	No	19.7%	10%
	Don't know	46.7%	3%
Do you think dimpling of the breast skin could be a sign of breast cancer	Yes	19.7%	85%
	No	17%	10%
	Don't know	63.3%	5%

TABLE 3: Knowledge of Warning Signs



**FIGURE 3: Do you fall into any of the above categories of factors mentioned
(In Sec-G)(Post-Awareness)**

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4. DISCUSSION:

PRE-AWARENESS:

SECTION-A: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF WOMEN

1. Your age in years:

Of all the 300 responses received, 91% of them were from 17-37 years of age and 9% of them were from 38-57 years of age.

2. Marital status:

Of all the 300 responses obtained from pre-awareness questionnaire forms, 79.6% of them are single, 19.1% of them are married, 1% of them are widowed and 0.3% are divorced

3. Occupation:

Of the 300 responses, 78.3% were students, 7% were faculty in the field of pharmacy, 7.3% were Non-pharmacy faculty and 7.3% were into other occupations.

4. Highest level of education:

7% of the 300 responses received are Doctorates, 16.7% are Graduates, 54.3% are the students who are pursuing pharmacy, 4.3% have no formal education and 4% of them responded with the option as others for the above question.

SECTION-B: PREVENTION OF BREAST CANCER

5. Have heard of Breast Cancer:

Of all the 300 responses recorded, 83% of them have heard of Breast Cancer, 12.3% of them have not heard of Breast Cancer and 4.7% may have heard of Breast Cancer.

6. Sources of Information:

The source of information for knowing Breast Cancer for 71.7% of the 300 responses are Media (TV, Internet etc.), book, Hospital, Lecture, Conference, Friends, others (specify), for 7% of the responses received, the source of information is Hospital, for 5.3% of responses it is from the Lectures, for 5.7% of responses it is from the Books, for 5% of them, the source of information are Friends, 2% of them knew about the Breast Cancer from the Conferences and 3.3% knew about Breast Cancer from other sources of information.

7. Has any member of your family been diagnosed of breast cancer?

Of the 300 responses received, 8.3% of them had a family member who was diagnosed for Breast Cancer and 91.7% of them had none from their family, who were diagnosed for Breast Cancer

8. If your answer to the above question is YES, what is her relationship to you?

Of the 25 (8.3%) responses of women who were having a family member with the Breast Cancer, for 8% of them it is their Mother who was diagnosed with Breast Cancer, for 44% them it is their Aunt, for 12% of them it is their Sister and for 36% of them, the relation with the family member is other than the above three relations.

SECTION C: KNOWLEDGE AND PRACTICE OF BREST SELF EXAMINATION (BSE)

9. Have you heard of Breast Self – Examination (BSE)?

Of all the 300 responses recorded, 49.7% of them have heard of Breast Self-examination and 50.3% of them have not heard of Breast Cancer.

10. Do you know that BSE is a useful tool for early detection of Breast Cancer?

Among 300 responses received, 69% of the participants responded that they knew that BSE is useful for early detection of Breast Cancer and on the other hand 31% participant responded that they did not know it.

11. Have you been taught how to do BSE?

Out of 300 participants 24% participants reacted that they have been taught how to do BSE, whereas 75.6% people responded that they were not taught about the process of BSE.

12. If answer to the question above is yes, who taught you?

Most of them learnt it from the doctors, some of them learnt it from the YouTube videos they have watched, some learnt it from their friends and few of them learnt it from their other family members.

13. At what age should BSE be started?

When the participants were questioned about the age when BSE should be started, 0.7% of the participants responded that it should be done from the time of birth, 25.7% of the participants responded that it should be started from 20 years of age, whereas 14% of the participants responded that it should be from the age of puberty, 12.3% of the participants responded that it should be done from the age of 30 years, 6% of the participants considered that BSE should be started after the menopause, 41.3% of the participants had no idea about it.

14. How often should BSE be done?

2% of the participants considered that BSE should be done daily, 7.7% of them considered that BSE should be done weekly, 29.3% of them considered that BSE should be done Monthly, 6.3% of them considered that BSE should be done Yearly and 54.77% of the total 300 participants had no idea about how often BSE should be done.

15. What is the best time to do BSE?

According to 8.7% of the total 300 participants, the best time to BSE is during the menstrual flow, according to 27.3% of the participants, a week after the period is the best time to do the BSE, for 1.3% of the participants, the best time is during the pregnancy, Breast feeding is the best time to do BSE according to 10.7% of the participants and 52% of the participants had no idea about the best time to do BSE.

16. BSE should be done by:

Of all the 300 responses obtained, 18.3% of the participants responded that BSE should be done by the Doctor, 5.7% responded that BSE should be done by the trained nurse, 45.7% responded that BSE should be done by the individual themselves, 3% responded with option others and 27.3% of the participants responded that they had no idea about it.

17. BSE is done by:

When participants were questioned about the BSE procedure 59.6% of the participants considered inspecting the breast in the mirror, 59.6% considered feeling the breast with the hand, 59.6% considered feeling the armpit with the hand, 3.7% considered doing ultrasound of the breast, 7.3% considered Mammography, 0.4% considered the option other and 29% had no idea about the procedure of BSE.

18. If you discover any abnormality during BSE, what will you do?

64% participants responded that they will consult a doctor when they observe any abnormalities during BSE, 4% participants responded that they would pray over it when they find any abnormalities in BSE, 51% participants preferred to go for appropriate laboratory test for further evaluation, 30% participants responded that they will go for other alternatives, 15% participants responded that they will do nothing and ignore it.

19. What are the benefits of BSE?

When participants were questioned about the benefits of BSE, 48% responded that the benefit of BSE is early detection of breast cancer, 20.3% responded that the benefit of BSE is detection of any abnormalities in the breast, 4% responded that the benefit of BSE is as a good breast exercise, 0.7% responded that the benefit of BSE is to be familiar with the breast texture and 27% had no idea about the benefits of BSE.

20. Do you practice BSE?

Of all the 300 responses obtained, 20.7% were practicing BSE and 79.3% were not.

21. If answer to the question above is yes, how often?

Of all the 62 members who responded that they practice BSE, 9.7% of them practice it on a weekly basis, 27.4% of them practice it monthly, 35.5% of them practice it occasionally and 27.4% of them practice it rarely.

22. If answer is no, why not?

Of all the 238 members who responded that they do not practice BSE, 42% of them do not do it because they do not know how to do the BSE and 58% of them do not know the procedure of BSE so they do not practice it.

23. If you have been practicing BSE, have you ever discovered any abnormality in your breast?

Of all the 62 members who responded that they practice BSE, 87.1% of them found no abnormality in the breast and 12.9% of them found abnormality in the breast.

24. If answer to question above is yes, what did you do?

Of all the 8 members who responded that they found an abnormality in the breast after BSE, 62.5% of them saw a doctor, 12.5% of them did go for some lab tests and 25% of them did nothing.

25. Do you think BSE is a good practice?

Of all the 300 responses recorded, 50.7% participants agreed that BSE is a good practice, 7.3% did not agree that BSE is a good practice and 42% of them agreed that BSE may be a good practice.

SECTION-D: KNOWLEDGE AND PRACTICE OF CLINICAL BREAST EXAMINATION (CBE)

26. Have you heard of Clinical Breast Examination (CBE)?

Of all the 300 responses reported, 47.3% of the participants have heard of CBE and 52.7% have not heard of CBE.

27. Do you know that CBE is a useful tool for detection of breast cancer?

44% participants considered that CBE is a useful tool, 16.7% considered that it is not a useful one and 39.3% had no idea about it.

28. CBE should be done by

47.7% participants responded that CBE should be done by doctor, 11.3% by nurse, 7% by the individual herself, 32% had no idea about who should perform a CBE and 2% of them chose the other option.

29. CBE is done using:

41% participants considered that mammography is used for doing CBE, 8% considered that CBE is done by using hand, 6.3% considered that ultrasound is used for doing CBE, 41% had no idea how CBE is done and 3.7% chose the other option.

30. How often should CBE be done?

When subjects were asked about how often CBE should be done, 24.3% responded that it should be done when any abnormality is found in BSE, 9% responded that it should be done yearly, 10% responded that it should be done monthly 53.7% had no idea about when it should be done, 2% responded that it should be done weekly and 1% responded that it should be done daily.

SECTION-E: KNOWLEDGE AND USE OF MAMMOGRAPHY

31. Have you heard of mammography?

49% of all the 300 responses recorded opted that they heard about mammography and 51% of them opted that they have not heard of Mammography.

32. Is mammography a useful tool for the early detection of breast cancer?

56.7% considered mammography as a useful tool for early detection of breast cancer, 3% did not consider Mammography as a useful tool for the early detection of breast cancer and 40.3% had no idea whether mammography is a useful tool or not.

33. At what age should mammography be started?

The participants considered that the age started for mammography taken is 16% participants from 20 years, 19.7% participants from 40 years, only 9% participants after menopause, 46.3% has no idea, 7.7% participants from puberty and 1.3% after the birth.

34. How often should mammography be done?

When subjects were asked that how often mammography should be done, 9% responded that it should be done when any abnormality is found in BSE or CBE, 83% responded that it should be done yearly, 1% responded that it should be done monthly, 5% responded that it should be done every 3 years, 0% had no idea when it should be done and 0% responded that it should be done weekly.

35. Have you ever done a mammography?

Of all the 300 responses, 94.7% participants said that they have never been done mammography and only 5.3% said that they have been done mammography.

36. If no to question above, why not?

Of all the 284 members who responded that they have never been done mammography, 22.5% of them responded that they had never undergone mammography because they were not old enough, 6.7% responded that mammography was not available, 7.4% responded that it was due to financial constraints, 1.8% responded that they have never been done mammography because no abnormality was found when they examined themselves and 60.6% of them have never undergone mammography because it was not necessary for them.

58.9% participants considered mammography was its not necessary, 34.4% considered that not old enough to go for mammography , 4% participants have never been to lack of availability, 2 % due to financial status.

SECTION-F: KNOWLEDGE OF WARNING SIGNS

37. Do you think a lump or thickening in your breast could be a sign of breast cancer?

36.3% participants responded that a lump or thickening in the breast could be a sign of breast cancer, 14% responded that it could not be a sign of breast cancer and 49.7% did not know whether it is a sign of breast cancer.

38. Do you think a lump or thickening under your armpit could be a sign of breast cancer?

25.7% participants responded that a lump or thickening under the armpit could be a sign of breast cancer, whereas 17.3% participants responded that it could not be a sign of breast cancer and 57% of them did not know whether it could be a sign of breast cancer or not.

39. Do you think bleeding or discharge from your nipple could be a sign of breast cancer?

39.3% participants responded that bleeding or discharge from the nipple could be a sign of breast cancer, whereas, 14.3% responded that it could not be a sign of breast cancer and 46.3% did not know whether it could be a sign of breast cancer.

40. Do you think a change in the position of your nipple could be a sign of breast cancer?

28.3% participants responded that a change in the position of the nipple could be a sign of breast cancer, whereas 17.7% responded that it could not be a sign of breast cancer and 54% did not know whether it could be a sign of breast cancer or not.

41. Do you think a rash on or around your nipple could be a sign of breast cancer?

25.7% participants responded that a rash on or around the nipple could be a sign of breast cancer, whereas 24.7% responded that it could not be a sign of breast cancer and 49.7% did not know whether it could be a sign of breast cancer or not.

42. Do you think redness of your breast skin could be a sign of breast cancer?

27.3% participants responded that a redness of the breast skin could be a sign of breast cancer, whereas 24% responded that it could not be a sign of breast cancer, 48.3% did not know whether it could be a sign of breast cancer or not.

43. Do you think a change in the size of your breast or nipple could be a sign of breast cancer?

22.3% participants responded that a change in the size of the breast or nipple could be a sign of breast cancer, whereas 23% responded that it could not be a sign of breast cancer and 54.7% did not know whether it could be a sign of breast cancer or not.

44. Do you think a change in the shape of your breast or nipple could be a sign of breast cancer?

27% participants responded that a change in the shape of the breast or nipple could be a sign of breast cancer, whereas 22.3% responded that it could not be a sign of breast cancer and 50.7% did not know whether it could be a sign of breast cancer or not.

45. Do you think pain in one of your breasts or armpit could be a sign of breast cancer?

33.7% participants responded that a pain in one of the breasts or armpit could be a sign of breast cancer, whereas 19.7% responded that it could not be a sign of breast cancer and 46.7% did not know whether it could be a sign of breast cancer or not.

46. Do you think dimpling of the breast skin could be a sign of breast cancer?

19.7% participants responded that a dimpling of the breast skin could be a sign of breast cancer, whereas 17% responded that it could not be a sign of breast cancer and 63.3% did not know whether it could be a sign of breast cancer or not.

(47) HAVE YOU EVER OBSERVED ABOVE SIGNS IN YOURSELF?

88% participants said no and only 12% said yes.

SECTION G: KNOWLEDGE OF RISK FACTORS:

When participants were questioned about their knowledge of risk factors causing breast cancer participants responded differently to different risk factors. Their responses recorded as STRONGLY AGREE, AGREE, DISAGREE, NOT SURE.

Participants STRONGLY AGREED to HRT(5.3%), Family history (5%), Past history (16%), Obesity (8%), Early starting of menstrual cycle (4.3%), Late onset of menopause(5.6%), alcohol consumption (4.7%), moderate physical activity (8%), lack of children or late delivery(4.3%)

Participants AGREED TO Obesity (17%), Early starting of menstrual cycle (13.3%), Late onset of menopause (12.4%), Moderate physical activities (19.3%), Lack of children or late child delivery (13.3%), Family history (17.3%), Alcohol consumption (14.7%), HRT (13%), Past history 13%.

Participants DISAGREED to Risk factor of breast cancer to past history (29.7%), Alcohol consumption (40.4%), Family history(42%), HRT (28.6%), Early start of menses (36.3%), Moderate physical activity (26%), Lack of children or late child delivery (36.3%), Late onset of menopause (33%).

Participants were NOT SURE about the risk factors of breast cancer including Lack of children or late child delivery (45.3%), Moderate physical activities (46.3%), Late onset of menopause (48.3%), Past history (40%), HRT (52.4%), Alcohol consumption (39.60%), Obesity (43.7%), Family history (35%), Early onset of menses (45.3%).

Participants STRONGLY DISAGREED about the risk factors of breast cancer including lack of children or late child delivery (0.7%), Moderate physical activities (0.3%), Late onset of menopause (0.7%), Past history (1%), HRT (0.7%), Alcohol consumption (0.7%), Obesity (0.7%), Family history (0.7%), Early onset of menses (0.7%).

Among 300responses recorded from participants, 73.3% reacted that they had never fallen into any one of the risk factors mentioned above, 4.7% consider that they have these risk factors, where as 21.7% were not sure whether or not they are prone to risk of breast cancer.

POST-AWARENESS:

Section C: KNOWLEDGE AND PRACTICE OF BREST SELF EXAMINATION (BSE)

9. Have you heard of Breast Self – Examination (BSE)?

In our study post awareness participants were surveyed, among them 87.9% participants responded that they have heard about breast self-examination where as 12.1% responded that they have never heard about BSE.

10. Do you know that BSE is a useful tool for early detection of breast cancer?

Among 300 responses 95% participant responded that they know that BSE is useful for early detection of Breast Cancer, on the other hand 5% participant responded that they did not knew it.

11. Have you been taught how to do BSE?

Out of 300 participants 81 % participants reacted that they have been taught how to do BSE whereas 19% people responded that they were not taught about the process of BSE.

12. If answer to the question above is yes, who taught you?

Most of them learnt it through awareness programme, self-interest and through family.

13. At what age should BSE be started?

When participants were questioned about the age when BSE should be started, 79% participants responded that it should be started from 20 years, whereas 8% participants choose from the age of puberty, 3% participants choose from 30 years, 4% participants considered that it should be started after menopause, 0% no idea about it

14. How often should BSE be done?

79% participants considered that BSE should be done monthly, 18% as weekly, 3% as daily, 10% as no idea about it.

15. What is the best time to do BSE?

95% participants reacted that a week after a period is the best time to do BSE, whereas 1% have no idea about it and 3% participants consider during menstrual flow is the best time to do BSE and 1% during pregnancy.

16. BSE should be done by

93% participants responded that BSE can be done by oneself, whereas 4% said that it should be done by doctor, 1% by trained nurse and 2% has no idea.

17. BSE is done by:

When participants were questioned about the BSE procedure 91% participants considered that the inspecting the breast in the mirror, 91% considered feeling the breast with the hand, 91% considered feeling the armpit with the hand, 21% considered doing ultrasound of the breast. 45% considered Mammography and others 4%.

18. If you discover any abnormality during BSE, what will you do?

82% participants responded that they will consult a doctor when they observe any abnormalities during BSE, 15% participants preferred to go for appropriate laboratory test for further evaluation, 2% participants responded that they will go for other alternatives, 1% participants responded that they will do nothing and ignore it.

19. What are the benefits of BSE?

When participants were questioned about the benefits of BSE 65% responded that is helpful in early detection of breast cancer, 26% responded that it is useful for detection of any abnormalities in the breast, 1% responded that it is a good breast exercise and 7% had no idea about the benefits.

20. Do you practice BSE?

87% were practicing BSE and 13% were not

21. If answer to the question above is yes, how often?

55.4% participants practice BSE monthly, 17.9% occasionally, 17.9% weekly, and 8.9% rarely.

22. If answer is no, why not?

There was no one who was not practicing BSE at all.

23. If you have been practicing BSE, have you ever discovered any abnormality in your breast?

Among 100 responses 42 % participants responded that they have never done BSE before, 55% participants responded that they did not find any abnormalities while practicing BSE, 3% participants responded that they discovered abnormalities.

24. If answer to question above is yes, what did you do?

69.2% will consult the doctor, 26.9% will go for other alternatives and 3.9% participants will do nothing.

25. Do you think BSE is a good practice?

96% participants responded that BSE is a good practice, 4% responded that it is not a good practice.

SECTION-D: KNOWLEDGE AND PRACTICE OF CLINICAL BREAST EXAMINATION (CBE)

26. Have you heard of Clinical Breast Examination (CBE)?

82% participants responded that they have heard about CBE and 18% responded that they have not heard of CBE.

27. Do you know that CBE is a useful tool for detection of breast cancer?

93% participants considered that CBE is a useful tool, 5% considered it as not useful

2% had no idea about it.

28. CBE should be done by

85% participants responded that CBE should be done by doctor, 7% by nurse, 5% responded that CBE should be done by the individual themselves and 3% had no idea about it.

29. CBE is done using:

92% participants considered mammography, 5% responded that it should be done by hand, 2% responded that it is done by using ultrasound, 1% had no idea about how CBE is done.

30. How often should CBE be done?

When subjects were asked about how often CBE should be done then, 52% responded that it should be done when any abnormality is found in BSE, 25% responded that it should be done yearly, 20% responded that it should be done monthly, 9% had no idea, 2% said that it is weekly and 1% said that it is daily.

SECTION-E: KNOWLEDGE AND USE OF MAMMOGRAPHY

31. Have you heard of mammography?

80% recorded that they have heard about mammography and 20% as haven't heard of it.

32. Is mammography a useful tool for the early detection of breast cancer?

88% considered mammography as a useful tool for early detection of breast cancer, 12% did not consider it to be a useful tool.

33. At what age should mammography be started?

The participants considered that the age at which mammography be started is from 20years for 5% participants, 87% participants chose from 40 years, only 5% participants chose after menopause option, 0% had no idea,3% participants from puberty and 0% after the birth.

34. How often should mammography be done?

When subjects are asked how often mammography should be done then , 9% responded when any abnormality is found in BSE or CBE , 83% as yearly, 1% as monthly, 0% no idea, 0% weekly and 5% every 3 years.

35. Have you ever done a mammography?

The 65% participants said no and only 5% said yes.

36. If no to question above, why not?

58.9% participants considered mammography was not necessary, 34.4% considered that they were not old enough to go for mammography, 4% participants have never been to mammography due to lack of availability, 2 % due to financial status.

37. Do you think a lump or thickening in your breast could be a sign of breast cancer?

93% participants responded that a lump or thickening in the breast as a sign of breast cancer, where as 6% said no, 1% don't know about it.

38. Do you think a lump or thickening under your armpit could be a sign of breast cancer?

95% participants responded that a lump or thickening under the armpit could be a sign of breast cancer, where as 3% said no, 2% don't know about it.

39. Do you think bleeding or discharge from your nipple could be a sign of breast cancer?

95% participants responded that bleeding or discharge from the nipple could be a sign of breast cancer, where as 4% said no, 1% don't know about it.

40. Do you think a change in the position of your nipple could be a sign of breast cancer?

97% participants responded that a change in the position of the nipple could be a sign of breast cancer, where as 2% said no, 1% don't know about it.

41. Do you think a rash on or around your nipple could be a sign of breast cancer?

88% participants responded that a rash on or around the nipple could be a sign of breast cancer, where as 7% said no, 5% don't know about it.

42. Do you think redness of your breast skin could be a sign of breast cancer?

93% participants responded that a redness of the breast skin could be a sign of breast cancer, where as 7% said no, 0% don't know about it.

43. Do you think a change in the size of your breast or nipple could be a sign of breast cancer?

98% participants responded that a change in the size of the breast or nipple could be a sign of breast cancer, where as 2% said no, 0% don't know about it

44. Do you think a change in the shape of your breast or nipple could be a sign of breast cancer?

94% participants responded that a change in the shape of the breast or nipple could be a sign of breast cancer, where as 4% said no, 2% don't know about it

45. Do you think pain in one your breasts or armpit could be a sign of breast cancer?

87% participants responded that a pain in one of the breasts or armpit could be a sign of breast cancer, where as 10% said no, 3% don't know about it.

46. Do you think dimpling of the breast skin could be a sign of breast cancer?

85% participants responded that a dimpling of the breast skin could be a sign of breast cancer, whereas 10% said no, 5% don't know about it.

(47)HAVE YOU EVER OBSERVED ABOVE SIGNS IN YOURSELF?

91% participants said no and only 9% said yes.

SECTION G: KNOWLEDGE OF RISK FACTORS:

When participants were questioned about their knowledge of risk factors causing breast cancer participants responded differently to different risk factors. Their responses were recorded as STRONGLY AGREE, AGREE, DISAGREE, NOT SURE

Participants STRONGLY AGREED to HRT(72%),Family history (83%), Past history (67%), Obesity (33%),Early starting of menstrual cycle (35%), Late onset of menopause(70%), Alcohol consumption (85%), Moderate physical activity (50%), Lack of children or late delivery(27%).

Participants AGREED to Obesity (35%), Early starting of menstrual cycle (33%), Late onset of menopause (30%), Moderate physical activities (30%), Lack of children or late child delivery (29%), Family history (13%), Alcohol consumption (14%), HRT (21%), Past history (19%).

Participants DISAGREED to risks factor of breast cancer including Past history (9%), Alcohol consumption (0%), family history (2%), HRT (4%), Early start of menses (20%), Moderate physical activity (18%), Lack of children or late child delivery (18%), Late onset of menopause 0%.

Participants were NOT SURE about the risk factors of breast cancer including Lack of children or late child delivery (26%), Moderate physical activities (2%), Late onset of menopause (0%), Past history (3%), HRT (3%), Alcohol consumption (1%), Obesity (14%), Family history (2%), Early onset of menses (12%).

Among 300 responses recorded from participants, 83% reacted that they had never fallen into any one of the risk factors mentioned above, 4 % considered themselves to be in risk, where as 13% were not sure whether they were prone to risk of breast cancer or not.

Statistical analysis:

We transferred the paper based data into Microsoft excel. We described continuous variables by mean and standard deviation if they are normally distributed and by medians and interquartile range if they are skewed. We used the student t-test to compare means, chi-square test to compare proportions and a log rank test to compare medians. We described the precision of estimates by 95% confidence intervals. $P < 0.05$ was considered statistically significant.

Conclusions:

Breast cancer screening knowledge, attitudes, and practices were found to be lower than expected. Active steps must be taken to develop educational programs for students, faculty, and non-teaching professionals in institutions, which will enable them to spread knowledge and positively influence female attitudes.

Women do have KAP deficiencies when it comes to breast cancer. As a result, community-based awareness-raising programs to educate women about breast cancer promote early detection of breast cancer and effective, desired behavioural changes in women are required.

In conclusion, women in the community had a low level of knowledge about breast cancer danger signs and risk factors. This may result in the late detection of breast cancer among community women. As a result, the study recommends advocacy and larger interventions to improve breast cancer knowledge among women in the specific region, with a focus on women with low education.

According to the study findings, planned BSE teaching was found to be effective in improving female students' knowledge and practical skills. Lecture/discussion, video demonstrations, and hands-on practicum were found to be effective methods of delivering BSE knowledge and skill to students.

Recommendations

Based on the findings of the study, the following recommendations are forwarded:-

Our study participants reported that the main reason female undergraduate students did not perform BSE was that they did not know when and how BSE should be performed. In this context, we recommend that Pharmacy and other girl-oriented institutions include this issue in their curricula and teach students how to perform regular BSE. The students should read and communicate with in friends for increasing of their knowledge about BSE. In India, media center information translation about BSE was poor. Therefore we recommend the media center must have setting specific program for health information to increase the knowledge of students in particular and the population in general.

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Ethical Consideration: Written informed consent was obtained from the participants, clearly stating importance of the study and sought their voluntary participation. The study respected each participant's freedom to participate and adhered to all research principles pertaining to privacy and confidentiality.

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