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Awareness and Practices Concerning Breast Cancer: A Study on Women's Knowledge and Attitudes

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ABSTRACT

Purpose: This study aims to evaluate the awareness, attitudes, knowledge, and practices (KAP) related to breast cancer and Breast Self-Examination (BSE) among women. It explores their understanding of risk factors, early detection methods, and perceived barriers to breast health awareness and screening.

Method: A cross-sectional survey was conducted using a structured questionnaire via Google Forms. The study included 346 first-degree female relatives of patients visiting the Radiology Department, as well as female patients attending OPD, IPD, and Emergency units at Santosh Hospital, Uttar Pradesh. The questionnaire comprised 30 items covering subjective domains such as susceptibility, severity, benefits, barriers, cues to action, self-efficacy, and overall knowledge, attitude, and practice (KAP) concerning breast cancer. Demographic data including age, marital status, occupation, education level, and alcohol use were also collected.

Results: The findings revealed that a significant proportion of female participants lacked adequate awareness and understanding of breast cancer and BSE. While a majority had heard of BSE, actual knowledge and consistent practice were limited. Key barriers identified were lack of information, fear, embarrassment, and insufficient access to awareness programs. A strong correlation was observed between awareness levels and factors such as occupation, marital status, and personal medical history.

Conclusion: The study highlights a critical gap in breast cancer awareness and BSE practice among women. Although BSE is known by many, its understanding and application remain inconsistent. These findings underscore the urgent need for targeted educational interventions and community-based awareness campaigns to promote early detection and reduce breast cancer morbidity and mortality.

Keywords: *Breast Self-Examination (BSE), Knowledge, Attitude, Practice, Women's Health, Early Detection, Screening Barriers, Health Education*

1. INTRODUCTION

Breast cancer (BC) remains one of the leading causes of cancer-related deaths among women globally. Early detection and timely intervention significantly increase the chances of survival. However, despite advancements in medical technologies and awareness campaigns, a significant number of women, particularly in low- and middle-income countries like India, remain unaware of the risk factors, early symptoms, and preventive measures such as Breast Self-Examination (BSE) [1].

In India, social stigma, cultural taboos, low literacy rates, limited access to healthcare, and financial constraints hinder timely screening and diagnosis. Breast cancer awareness, especially among women in rural and semi-urban regions, is alarmingly low, contributing to late-stage detection and poor prognosis [2-3]. Educating women about BSE and promoting its regular practice can be an effective tool for early detection, thus improving survival rates and overall outcomes [4].

The low level of awareness about breast cancer among women worldwide can be attributed to multiple barriers—financial, infrastructural, socio-cultural, and educational. In India, particularly in regions like Uttar Pradesh, the availability and quality of healthcare services further influence women's knowledge and practices related to breast cancer. This research aims to assess the level of awareness among women about breast cancer, including knowledge of risk factors, early symptoms, and the practice of BSE, specifically in a 750-bedded hospital setting in Uttar Pradesh. Identifying these gaps will provide valuable insights for designing targeted awareness and intervention programs [5-9].

While numerous studies have explored breast cancer awareness in urban areas and among educated populations, there is limited research focused on assessing awareness levels among women in hospital settings in semi-urban and rural areas of Uttar Pradesh. Moreover, existing literature seldom addresses the psychosocial aspects of breast cancer awareness or the implementation of BSE as a regular practice in culturally diverse and underprivileged communities [10-11]. This study addresses this gap by evaluating real-time understanding and practices among women across various demographic groups in a hospital environment.

This study aims to assess women's awareness, knowledge, attitude, and practices related to breast cancer and Breast Self-Examination (BSE) at a 750-bedded hospital in Uttar Pradesh, India. It focuses on understanding awareness of risk factors, symptoms, and early detection measures, identifying the most informed age groups, and evaluating the psychosocial impact on quality of life and survival. Given the rising incidence of breast cancer in India, the research emphasizes the urgent need for effective health education programs. By identifying awareness gaps, the study seeks to guide targeted strategies for promoting regular BSE and early clinical examinations to reduce breast cancer mortality

2. MATERIALS AND METHODS

This is an analytical study of breast cancer and mammography patients based on attitude, knowledge, and practice. The data will be collected from the Department of Radiology. This study was conducted after obtaining permission from the Institutional Ethical Committee. The study population consisted of 346 participants. Online consent was obtained from them. Self-regulated BSE and BC 30 questions are contained in the program.

Varied methodology used

In the predetermined areas of U.P., India, conduct a program for the approach for awareness of BC and the screening methodology.

Secondary: To assess and estimate the understanding of BC and the educational impact.

Instrument-

Data was collected using a self-regulated questionnaire with adaptation and modification based on the Google form in Demographic and Subjective data.

Content -

1. Understanding of risk with age group and mammogram screening method.
2. BSE performance, the bond, and profit.
3. From the ACS guideline for understanding BC with the risk.

Inclusion criteria for this study comprised women aged 18 years and above, ensuring that participants were mature enough to understand the study's purpose and procedures. Only female participants with a family history of breast cancer were included, as they may have a higher perceived risk and potentially more interest or awareness regarding the disease. Additionally, participants were required to have the ability to read and write in either Hindi or English to ensure they could comprehend and accurately respond to the questionnaire used in the study.

Exclusion criteria- Exclude individuals under 18 years and those over 60 years who cannot communicate adequately

Hypothesis: The relation between the understanding of BSE and risk is correlated to each other with the strategy of improving education. The demographic and subjective data interpret how age is identified with low commands. The preliner test with post follow-up shows that significantly linked with age and education.

3. RESULTS

The collected data were tabulated and statistically manipulated. Data was using the same questionnaire as mentioned. The responders consist of 346 females. The majority (66.8%) are young adults aged 18-30, with decreasing representation in older age groups. Regarding marital status, singles form the largest group (53.8%), followed closely by married individuals (42.2%). Education levels are high, with 70.8% having completed graduation or higher studies. In terms of occupation, employed individuals constitute the largest group (41.3%), followed by students (30.9%). A significant majority (90.5%) report no smoking or alcohol intake. The data were analyzed using frequency (%) and the comparison made using Chi-

square.

Table 1: Shows the age of the participants.

Parameter	Category	N	%
AGE	18-30 year	231	66.8
	31-40 year	74	21.4
	41-50 year	28	8.1
	51-60 year	13	3.8

Table 2: Shows the responses of Socio-Demographic and occupational data of among women.

Parameter	Category	N	%
Marital Status	Divorce	9	2.6
	Married	146	42.2
	Single	186	53.8
	Widow	5	1.4
Education	Graduation or higher studies	245	70.8
	Higher secondary education	43	12.4
	No formal education	11	3.2
	Primary education	20	5.8
	Secondary education	27	7.8
Occupation	Employed	143	41.3
	Household	86	24.9
	Other	10	2.9
	Student	107	30.9
smoke or alcohol intake	No	313	90.5
	Often do	6	1.7
	Rarely	16	4.6
	Yes	11	3.2

According to Table 1 shows that there were 231 (66.8%) of respondents were between 18-30 years old forming the majority, 74 (21.4%) were between 31-40 years old, only 28 (8.1%) were in the 41-50 age group, and 13 (3.8%) were women 51-60 years respondent. The largest group, 254(70.8%), held a bachelor's or higher degree, followed by 43(12.4%) who had done Higher secondary education, 11(3.2%) who had not done any formal education, and 20 (5.8%) who held primary education. Secondary qualifications are completed by only 27 (7.8%).

Table 3: Shows the responses of Subjective data among women on awareness of breast cancer of attitude-based response:

Question	Response	N	%
1. How likely do you believe you are to develop breast cancer compared to other health condition?	No idea	195	56.4
	Somewhat likely	21	6.1
	Somewhat unlikely	39	11.3
	Very likely	33	9.5
	Very unlikely	58	16.8
2. Do you think your age, gender, or family history influences your risk of developing breast cancer?	Maybe not	27	7.8
	Maybe	63	18.2
	No idea	22	6.4
	No	160	46.2
	Yes	74	21.4
3. Do you believe that early detection of breast cancer leads to better treatment outcomes?	- A. Strongly disagree	41	11.8
	- B. Disagree	24	6.9
	- C. Neutral	25	7.2
	- D. Agree	152	43.9
	- E. Strongly agree	104	30.1
4. What advantages do you see in being proactive about your breast health, such as practicing regular breast self-exams?	- A. No advantages	24	6.9
	- B. Some advantages	56	16.2
	- C. Moderate advantages	53	15.3
	- D. Significant advantages	103	29.8
	- E. Many advantages	110	31.8
5. How concerned are you about the possibility of being diagnosed with breast cancer in the future?	- A. Not concerned at all	60	17.3
	- B. Slightly concerned	88	25.4
	- C. Moderately concerne	71	20.5
	- D. Very concerned	93	26.9
	- E. Extremely concerned	34	9.8
6. What are your feelings toward breast cancer screening methods, such as mammograms and clinical breast exams?	- A. Negative	24	6.9
	- B. Neutral	43	12.4
	- C. Positive	200	57.8
	-D. No idea	57	16.5
	-E. Slightly know	22	6.4
7. Do you believe that discussing breast cancer openly can help reduce stigma and encourage early detection?	- A. Strongly disagree	39	11.3
	- B. Disagree	28	8.1
	- C. Neutral	32	9.2

	- D. Agree	138	39.9
	- E. Strongly agree	109	31.5
8. Are you willing to seek support from healthcare professionals or support groups if faced with a breast cancer diagnosis or related concerns?	- A. Yes	189	54.6
	- B. Lack of time	36	10.4
	-C.Yes, prompted action	64	18.5
	-D. Unwilling to do	14	4.0
	-E. No need	43	12.4

Table 4: The survey on awareness of breast cancer of knowledge-based response:

1. Have you ever felt personally vulnerable to the possibility of being diagnosed with breast cancer?	Always	11	3.2
	Never	195	56.4
	Often	18	5.2
	Rarely	42	12.1
	Sometimes	80	23.1
2. How serious do you perceive breast cancer to be compared to other types of cancer?	- A. Not serious at all	22	6.4
	- B. Slightly seriou	43	12.4
	- C. Moderately serious	82	23.7
	- D. Very serious	139	40.2
	- E. Extremely serious	60	17.3
3. What are your thoughts on the potential physical and emotional impact of a breast cancer diagnosis?	- A. Minimal impact	20	5.8
	- B. Some impac	40	11.6
	- C. Moderate impact	73	21.1
	- D. Significant impact	126	36.4
	- E. Severe impact	87	25.1
4. Have you ever considered the potential consequences of delayed detection and treatment of breast cancer?	- A. Never	106	30.6
	- B. Rarely	51	14.7
	- C. Sometimes	99	28.6
	- D. Often	53	15.3
	- E. Always	37	10.7
5. What advantages do you see in being proactive about your breast health, such as practicing regular breast self- exams?	- A. No advantages	24	6.9
	- B. Some advantages	56	16.2
	- C. Moderate advantages	53	15.3
	- D. Significant advantages	103	29.8
	- E. Many advantages	110	31.8
6. What obstacles or concerns do you have regarding undergoing breast cancer screenings,	- A. Cost	64	18.5
	- B. Fear of pain/discomfort	66	19.1

such as mammograms?	- C. Lack of time	41	11.8
	- D. Lack of awareness about screenings	133	38.4
	- E. Other (please specify)	42	12.1
7. Are there any financial, logistical or psychological barriers preventing you from seeking breast cancer screening or treatment?	- A. Yes, financial barriers	62	17.9
	- B. Yes, logistical barriers	36	10.4
	- C. Yes, psychological barriers	60	17.3
	- D. No, there are no barriers	157	45.4
	-E. Neutral	31	9.0
8. Have you ever faced challenges accessing information or resources related to breast cancer prevention or care?	- A. Yes	65	18.8
	- B. No	152	43.9
	-C.No idea	67	19.4
	-D.Neutral	41	11.8
	-E. Few knowledge	21	6.1

Table 5: The survey on awareness of breast cancer of practice-based response:

1. Have you noticed any changes in breast cancer awareness initiatives in your community or through media campaigns?	- A. Yes, positive changes	179	51.7
	- B. Yes, negative changes	31	9.0
	- C. No changes	62	17.9
	-D. lack of time	15	4.3
	-E. No idea	59	17.1
2. Have you witnessed anyone close to you being affected by breast cancer, and did it prompt you to take action?	-A. Yes, prompted action	137	39.6
	-B. No, did not prompt action	65	18.8
	-C. NO knowledge	124	35.8
	-D. Unwilling to do	14	4.0
	-E. Lack of time	6	1.7
3. How confident are you in your ability to perform breast self- examinations correctly?	- A. Not confident at all	71	20.5
	- B. Slightly confident	72	20.8
	- C. Moderately confident	77	22.3
	- D. Very confident	99	28.6
	- E. Extremely confident	27	7.8
4.Do you feel capable of scheduling and attending regular mammogram appointments?	- A. Not at all	68	19.7
	- B. Slightly capable	81	23.4
	- C. Moderately capable	86	24.9
	- D. Very capable	88	25.4
	- E. Extremely capable	23	6.6
5. Can you name at least three risk factors	- A. Yes	128	37.0

associated with breast cancer?	-B. No idea	120	34.7
	-C. Very confident	39	11.3
	-D. Sightly confident	37	10.7
	-E. Moderately confident	22	6.4
6. What are the recommended age and frequency for women to start mammogram screenings?	- A. Every year starting at age 40	127	36.7
	- B. Every two years starting at age 50	30	8.7
	- C. Every five years starting at age 30	64	18.5
	- D. Every ten years starting at age 20	53	15.3
	-E. Every year after at age of 30	72	20.8
7. How familiar are you with the various treatment options available for breast cancer, such as surgery, chemotherapy, and radiation therapy?	- A. Very familiar	116	33.5
	- B. Somewhat familiar	111	32.1
	- C. Not very familiar	60	17.3
	- D. Not familiar at all	38	11.0
	-E. No knowledge	21	6.1
8. Have you ever performed a breast self-exam? If so, how frequently?	- A. Monthly	49	14.2
	- B. Every few months	66	19.1
	- C. Rarely	71	20.5
	- D. Never	138	39.9
	-E. No idea	22	6.4
9. Have you undergone a mammogram or clinical breast exam in the past year?	- A. Yes	22	6.4
	- B. No	259	74.9
	-C. Lack of time	32	9.2
	-D. Financial barriers	29	8.4
	-E. Every year	4	1.2
	-E. No need	43	12.4

Question	**Response**	**AGE in years**				**p-value**
		18-30	**31-40**	**41-50**	**51-60**	
6. How likely do you believe you are to develop breast cancer compared to other health condition?	No idea	140	38	10	7	0.318
	Somewhat likely	12	7	2	0	
	Somewhat unlikely	21	11	5	2	
	Very likely	20	6	6	1	
	Very unlikely	38	12	5	3	
7.Do you think your age, gender, or family history influences your	Maybe not	13	9	4	1	0.629
	Maybe	39	17	5	2	

risk of developing breast cancer?	No idea	17	2	2	1	
	No	110	32	13	5	
	Yes	52	14	4	4	
8.Have you ever felt personally vulnerable to the possibility of being diagnosed with breast cancer?	Always	7	2	1	1	**0.005**
	Never	146	33	12	4	
	Often	9	2	4	3	
	Rarely	23	14	3	2	
	Sometimes	46	23	8	3	
9. How serious do you perceive breast cancer to be compared to other types of cancer?	- A. Not serious at all	12	6	2	2	**0.001**
	- B. Slightly seriou	19	14	10	0	
	- C. Moderately serious	51	20	6	5	
	- D. Very serious	109	20	6	4	
	- E. Extremely serious	40	14	4	2	
10. What are your thoughts on the potential physical and emotional impact of a breast cancer diagnosis?	- A. Minimal impact	12	7	1	0	0.192
	- B. Some impac	23	10	4	3	
	- C. Moderate impact	44	18	9	2	
	- D. Significant impact	82	27	11	6	
	- E. Severe impact	70	12	3	2	
11. Have you ever considered the potential consequences of delayed detection and treatment of breast cancer?	- A. Never	81	18	4	3	0.118
	- B. Rarely	30	10	7	4	
	- C. Sometimes	65	22	11	1	
	- D. Often	33	12	5	3	
	- E. Always	22	12	1	2	
12. Do you believe that early detection of breast cancer leads to better treatment outcomes?	- A. Strongly disagree	31	7	2	1	**0.000**
	- B. Disagree	8	6	9	1	
	- C. Neutral	12	8	4	1	
	- D. Agree	103	34	8	7	
	- E. Strongly agree	77	19	5	3	
13. What advantages do you see in being proactive about your breast health, such as practicing regular breast self-exams?	- A. No advantages	11	9	4	0	**0.044**
	- B. Some advantages	33	10	8	5	
	- C. Moderate advantages	35	11	5	2	
	- D. Significant advantages	68	24	7	4	
	- E. Many advantages	84	20	4	2	
14. How effective do you think breast cancer treatments are in improving survival rates	- A.Non affected	6	3	1	2	0.396
	- B. little affected	34	10	6	3	

and quality of life?	- C. More than little affected	42	18	8	3	
	- D. largly affected	110	32	11	4	
	- E. very much affected	39	11	2	1	
15. What obstacles or concerns do you have regarding undergoing breast cancer screenings, such as mammograms?	- A. Cost	38	16	4	6	0.070
	- B. Fear of pain/discomfort	46	13	6	1	
	- C. Lack of time	22	10	8	1	
	- D. Lack of awareness about screenings	93	28	7	5	
	- E. Other (please specify)	32	7	3	0	
16. Are there any financial, logistical or psychological barriers preventing you from seeking breast cancer screening or treatment?	- A. Yes, financial barriers	39	16	5	2	**0.023**
	- B. Yes, logistical barriers	16	13	6	1	
	- C. Yes, psychological barriers	38	11	5	6	
	- D. No, there are no barriers	115	27	12	3	
	-E. Neutral	23	7	0	1	
17. Have you ever faced challenges accessing information or resources related to breast cancer prevention or care?	- A. Yes	44	12	6	3	0.918
	- B. No	103	35	8	6	
	-C.No idea	47	11	7	2	
	-D.Neutral	24	11	5	1	
	-E. Few knowledge	13	5	2	1	
18. Have you noticed any changes in breast cancer awareness initiatives in your community or through media campaigns?	- A. Yes, positive changes	123	43	7	6	**0.049**
	- B. Yes, negative changes	17	5	7	2	
	- C. No changes	40	11	8	3	
	-D. lack of time	9	5	0	1	
	-E. No idea	42	10	6	1	
19. Have you witnessed anyone close to you being affected by breast cancer, and did it Prompt you to take action?	-A. Yes, prompted action	45	11	8	1	0.190
	-B. No, did not prompt action	82	29	8	5	
	-C. NO knowledge	8	3	3	0	
	-D. Unwilling to do	2	2	2	0	
	-E. Lack of time	94	29	7	7	
20. How confident are you in your ability to perform breast self-examinations correctly?	- A. No self steem	50	12	6	3	0.380
	- B. low self steem	40	20	7	5	
	- C. Few self steem	50	18	7	2	
	- D. Much self steem	74	15	7	3	
	- E. So much self steem	17	9	1	0	
21.Do you feel capable of	- A. none	51	7	9	1	**0.026**

scheduling and attending regular mammogram appointments?	- B. little able	48	26	2	5	
	- C. Few much able	54	19	8	5	
	- D. So much able	61	16	9	2	
	- E. Very much able	17	6	0	0	
22. Can you name at least three risk factors associated with breast cancer?	- A. Yes	97	23	5	3	0.147
	-B. No idea	78	26	12	4	
	-C. Very confident	23	10	3	3	
	-D. Sightly confident	18	10	7	2	
	-E. Moderately confident	15	5	1	1	
23. What are the recommended age and frequencies for women to	- A. Every year	86	28	9	4	0.246
	- B. 2 cycle after stage 50	15	7	7	1	
	- C. 5 cycle after stage 30	44	15	2	3	
tart mammogram screenings?	- D. 10 cycle after stage 20	37	8	6	2	
	E. stage 30	49	16	4	3	
24. How familiar are you with the various treatment options available for breast cancer, such as surgery, chemotherapy, and radiation therapy?	- A. Very familiar	81	27	5	3	**0.056**
	- B. Somewhat familiar	76	26	8	1	
	- C. Not very familiar	35	10	8	7	
	- D. Not familiar at all	26	7	4	1	
	-E. No knowledge	13	4	3	1	
25. How concerned are you about the possibility of being diagnosed with breast cancer in the future?	- A. None engage	43	8	6	3	**0.029**
	- B. little engage	45	30	10	3	
	- C. More	49	18	3	1	
	- D. mostly engages	71	11	6	5	
	E. much more engage	23	7	3	1	
26. What are your feelings toward breast cancer screening methods, such as mammograms and clinical breast exams?	- A. Negative	12	7	3	2	0.768
	- B. Neutral	26	11	5	1	
	- C. Positive	141	38	13	8	
	-D. No idea	36	14	5	2	
	-E. Slightly know	16	4	2	0	
27. Do you believe that discussing breast cancer openly can help reduce stigma and encourage early detection?	- A. Strongly disagree	24	9	4	2	0.897
	- B. Disagree	15	7	4	2	
	- C. Neutral	21	6	3	2	
	- D. Agree	94	30	9	5	
	- E. Strongly agree	77	22	8	2	
28. Have you ever performed a	- A. Monthly	31	12	2	4	0.078

breast self-exam? If so, how frequently?	- B. Every few months	36	21	7	2	
	- C. Rarely	43	16	9	3	
	- D. Never	103	24	8	3	
	-E. No idea	18	1	2	1	
29. Have you undergone a mammogram or clinical breast exam in the past year?	- A. Yes	13	4	3	2	**0.004**
	- B. No	187	52	14	6	
	-C. Lack of time	17	7	6	2	
	-D. Financial barriers	13	9	5	2	
	-E. Every year	1	2	0	1	
30. Are you willing to seek support from healthcare professionals or support groups if faced with a breast cancer diagnosis or related concerns?	- A. Yes	138	37	8	6	**0.049**
	- B. Lack of time	22	6	7	1	
	-C. Yes, prompted action	33	18	9	4	
	-D. Unwilling to do	9	4	0	1	
	-E. No need	29	9	4	1	

Table 6: Shows the Frequency distribution of Responses of the education of breast cancer awareness among women.

Question	**Response**	**Education**				
		Graduation/higher studies	Higher sec.ed.	No formal ed.	Primary ed.	Secondary ed.
6. How likely do you believe you are to develop breast cancer compared to other health condition?	No idea	158	13	7	8	9
	Somewhat likely	15	2	0	1	3
	Somewhat unlikely	22	7	2	2	6
	Very likely	12	10	0	6	5
	Very unlikely	38	11	2	3	4
7. Do you think your age, gender, or family history influences your risk of developing breast cancer?	Maybe not	14	2	1	3	7
	Maybe	40	11	5	5	2
	No idea	17	1	1	0	3
	No	118	20	2	9	11
	Yes	56	9	2	3	4
8. Have you ever felt personally vulnerable to the possibility of being diagnosed with breast cancer?	Always	6	3	1	0	1
	Never	155	16	3	6	15
	Often	6	2	3	4	3
	Rarely	30	7	0	3	2
	Sometimes	48	15	4	7	6
9. How serious do you perceive	- A. Not serious at all	11	6	0	2	3

breast cancer to be compared to other types of cancer?	- B. Slightly seriou	19	9	6	3	6
	- C. Moderately serious	53	13	2	7	7
	- D. Very serious	110	13	1	6	9
	- E. Extremely serious	52	2	2	2	2
10. What are your thoughts on the potential physical and emotional impact of a breast cancer diagnosis?	- A. Minimal impact	15	1	1	2	1
	- B. Some impact	18	15	1	3	3
	- C. Moderate impact	40	13	5	6	9
	- D. Significant impact	101	7	3	8	7
	- E. Severe impact	71	7	1	1	7
11. Have you ever considered the potential consequences of delayed detection and treatment of breast cancer?	- A. Never	87	7	3	6	3
	- B. Rarely	32	8	2	4	5
	- C. Sometimes	61	20	2	3	13
	- D. Often	34	6	3	6	4
	- E. Always	31	2	1	1	2
12. Do you believe that early detection of breast cancer leads to better treatment outcomes?	- A. Strongly disagree	23	5	4	4	5
	- B. Disagree	5	7	2	7	3
	- C. Neutral	11	7	1	0	6
	- D. Agree	116	16	4	7	9
	- E. Strongly agree	90	8	0	2	4
13. What advantages do you see in being proactive about your breast health, such as practicing regular breast Self-exams?	- A. No advantages	10	5	1	5	3
	- B. Some advantages	28	10	3	8	7
	- C. Moderate advantages	35	9	3	1	5
	- D. Significant advantages	79	9	4	5	6
	- E. Many advantages	93	10	0	1	6
14. How effective do you think breast cancer treatments are in improving survival rates and quality of life?	- A. Not effective at all	4	4	0	2	2
	- B. Slightly effective	27	13	3	4	6
	- C. Moderately effective	42	10	4	7	8
	- D. Very effective	130	9	3	6	9
	- E. Extremely effective	42	7	1	1	2
15. What obstacles or concerns do you have regarding undergoing breast cancer screenings, such as mammograms?	- A. Cost	40	10	3	5	6
	- B. Fear of pain/discomfort	47	12	2	2	3
	- C. Lack of time	18	8	1	7	7
	- D. Lack of awareness about screenings	109	10	3	4	7

	- E. Other (please specify)	31	3	2	2	4
16. Are there any financial, logistical or psychological barriers preventing you from seeking breast cancer screening or treatment?	- A. Yes, financial barriers	40	8	1	5	8
	- B. Yes, logistical barriers	10	11	4	2	9
	- C. Yes, psychological barriers	38	10	2	7	3
	- D. No, there are no barriers	131	11	3	6	6
	-E. Neutral	26	3	1	0	1
17. Have you ever faced challenges accessing information or resources related to breast cancer prevention or care?	- A. Yes	47	7	1	4	6
	- B. No	117	14	6	9	6
	-C.No idea	44	14	0	5	4
	-D.Neutral	21	7	3	2	8
	-E. Few knowledge	16	1	1	0	3
18. Have you noticed any changes in breast cancer awareness initiatives in your community or through media campaigns?	- A. Yes, positive changes	144	19	3	6	7
	- B. Yes, negative changes	10	6	2	6	7
	- C. No changes	40	9	1	2	10
	-D. lack of time	8	3	1	2	1
	-E. No idea	43	6	4	4	2
19. Have you witnessed anyone close to you being affected by breast cancer, and did it prompt you to take action?	-A. Yes, prompted action	43	7	4	6	5
	-B. No, did not prompt action	87	18	4	8	7
	-C. No knowledge	5	3	1	2	3
	-D. Unwilling to do	5	0	0	0	1
	-E. Lack of time	105	15	2	4	11
20. How confident are you in your ability to perform breast self-examinations correctly?	- A. Not confident at all	50	11	1	5	4
	- B. Slightly confident	44	9	4	7	8
	- C. Moderately confident	49	14	3	4	7
	- D. Very confident	77	9	3	4	6
	- E. Extremely confident	25	0	0	0	2
21. Do you feel capable of scheduling and attending regular mammogram appointments?	- A. Not at all	47	8	1	6	6
	- B. Slightly capable	54	11	3	6	7
	- C. Moderately capable	60	9	4	6	7

	- D. Very capable	67	11	3	2	5
	- E. Extremely capable	17	4	0	0	2
22. Can you name at least three risk factors associated with breast cancer?	- A. Yes	110	8	2	1	7
	-B. No idea	82	18	5	7	8
	-C. Very confident	21	6	1	6	5
	-D. Sightly confident	20	6	2	5	4
	-E. Moderately confident	12	5	1	1	3
23. What is the recommended age and frequency for women to Start Mammogram screenings?	- A. Every year starting at age 40	101	12	1	5	8
	- B. Every two years starting at age 50	6	9	6	3	6
	- C. Every five years starting at age 30	39	12	1	7	5
	- D. Every ten years starting at age 20	40	5	2	3	3
	-E. Every year after at age of 30	59	5	1	2	5
24. How familiar are you with the various treatment options available for breast cancer, such as surgery, Chemotherapy, and radiation therapy?	- A. Very familiar	99	10	1	1	5
	- B. Somewhat familiar	76	11	4	8	12
	- C. Not very familiar	32	12	4	8	4
	- D. Not familiar at all	24	7	1	1	5
	-E. No knowledge	14	3	1	2	1
25. How concerned are you about the possibility of being diagnosed with breast cancer in the future?	- A. Not concerned at all	42	8	3	2	5
	- B. Slightly concerned	58	11	3	8	8
	- C. Moderately concerne	50	8	3	4	6
	- D. Very concerned	72	11	2	4	4
	- E. Extremely concerned	23	5	0	2	4
26.What are your feelings toward breast cancer screening methods, such as mammograms and clinical breast exams?	- A. Negative	12	6	1	1	4
	- B. Neutral	21	6	3	5	8
	- C. Positive	167	17	3	8	5
	-D. No idea	34	9	3	5	6
	-E. Slightly know	11	5	1	1	4
27. Do you believe that discussing breast cancer openly can help reduce stigma and encourage early detection?	- A. Strongly disagree	22	6	1	3	7
	- B. Disagree	11	9	1	4	3
	- C. Neutral	16	6	3	4	3

	- D. Agree	106	14	4	6	8
	- E. Strongly agree	90	8	2	3	6
28. Have you ever performed a breast self- exam? If so, how frequently?	- A. Monthly	38	3	2	2	4
	- B. Every few months	40	14	3	5	4
	- C. Rarely	44	13	1	7	6
	- D. Never	105	11	4	5	13
	-E. No idea	18	2	1	1	0
29. Have you undergone a mammogram or clinical breast exam in the past year?	- A. Yes	18	3	1	0	0
	- B. No	208	20	5	9	17
	-C. Lack of time	8	11	2	6	5
	-D. Financial barriers	9	8	2	5	5
	-E. Every year	2	1	1	0	0
30. Are you willing to seek support from healthcare professionals or support groups if faced with a breast cancer diagnosis or related concerns?	- A. Yes	162	10	4	5	8
	- B. Lack of time	16	9	2	4	5
	-C.Yes, prompted action	26	16	4	8	10
	-D. Unwilling to do	6	5	0	2	1
	-E. No need	35	3	1	1	3

The findings indicate a significant gap in awareness among respondents regarding breast cancer. A majority (56.4%) reported having no understanding of their personal risk of developing breast cancer compared to other health conditions. When asked about risk factors, 46.2% did not believe that age, gender, or family history influenced their risk, while only 21.4% acknowledged these as contributing factors. Similarly, 56.4% had never perceived themselves as personally vulnerable to breast cancer.

Perceptions of disease severity were notable, with 40.2% viewing breast cancer as very serious and 17.3% considering it extremely serious relative to other cancers. The anticipated impact of a breast cancer diagnosis was high, with 36.4% expecting it to have a significant impact on their lives and 25.1% anticipating a severe impact.

There was a strong belief in the importance of early detection, with 74% of respondents agreeing or strongly agreeing that it improves treatment outcomes. Moreover, 61.6% recognized clear benefits to proactive practices such as Breast Self-Examination (BSE). A majority (60.7%) believed that breast cancer treatments are highly effective in enhancing survival and quality of life.

Despite this, screening practices remain limited. The primary barrier to screening was a lack of awareness (38.4%), followed by fear of pain or discomfort (19.1%) and concerns about cost (18.5%). While 51.7% had observed positive shifts in breast cancer awareness efforts through community or media campaigns, only 36.4% felt extremely confident performing BSE. Furthermore, just 37% could correctly identify at least three risk factors associated with breast cancer.

Attitudes toward screening were generally positive, with 57.8% expressing a favorable view and 54.6% indicating a willingness to seek support if diagnosed. However, 74.9% had not undergone a mammogram or clinical breast examination in the past year. Notably, 39.6% of participants reported that witnessing someone close affected by breast cancer motivated them to take action.

4. DISCUSSION

This study highlights the critical role of knowledge and awareness in the early detection and effective management of breast cancer. It specifically aimed to assess the awareness levels and attitudes of first-degree female relatives accompanying patients from various departments in a 750-bedded hospital, focusing on their understanding of breast cancer screening methods such as Breast Self-Examination (BSE). These individuals, though not patients themselves, are often in a position

to influence health behaviors within their families and communities.

The findings revealed notable variations in awareness and understanding of breast cancer based on demographic factors such as age, marital status, occupation, and educational background. These disparities underscore the need for targeted awareness campaigns that are sensitive to such demographic influences.

The perceived impact of a potential breast cancer diagnosis was significant, with 36.4% of participants expecting a major life impact and 25.1% anticipating severe consequences. Despite these concerns, the majority of respondents demonstrated a strong belief in the value of early detection—74% agreed or strongly agreed that early diagnosis improves treatment outcomes.

Moreover, 61.6% of participants recognized clear benefits in being proactive about breast health, particularly in practices like BSE. There was also a positive perception of treatment effectiveness, with 60.7% believing that current treatments for breast cancer are highly effective in enhancing both survival rates and quality of life. These findings suggest a foundation of trust in medical interventions and the importance of building on existing awareness to encourage regular screening practices among women.

Despite generally positive attitudes towards breast cancer screening, the study identified several key barriers that hinder actual screening behaviors. The most commonly cited obstacle was a lack of awareness (38.4%), followed by fear of pain or discomfort during the screening process (19.1%) and financial concerns (18.5%). These findings highlight the importance of not only increasing knowledge but also addressing emotional and economic barriers to encourage proactive health behavior.

Encouragingly, over half of the participants (51.7%) reported noticing improvements in breast cancer awareness efforts, whether through community initiatives or media campaigns. Personal experience emerged as a powerful motivator—39.6% of respondents indicated that knowing someone affected by breast cancer influenced their decision to seek information or take preventive action.

However, gaps in confidence and knowledge remain. Only 36.4% of women reported feeling very or extremely confident in performing Breast Self-Examinations (BSE), and just 37% were able to correctly identify at least three breast cancer risk factors. Additionally, there was noticeable confusion regarding recommended screening guidelines, suggesting a need for clearer, more accessible education.

While 57.8% of participants expressed a positive attitude toward breast cancer screening and 54.6% were open to seeking support from healthcare professionals or support groups if faced with a diagnosis, actual screening practices remain low. Alarmingly, 74.9% had not undergone a mammogram or clinical breast examination in the past year. This disconnect between awareness and action indicates that while attitudes are shifting in the right direction, further efforts are needed to translate awareness into consistent preventive behavior.

Overall, the findings underscore the need for comprehensive education campaigns that not only raise awareness but also improve self-efficacy, reduce fear, and enhance access to affordable screening services. Tailoring interventions to address specific barriers could significantly improve early detection and outcomes for breast cancer among women in this population.

The study included a total of 346 participants. Findings align with previous research by Biswas S., Syiemlieh J., Nongrum R., and colleagues, which highlighted a general lack of understanding about breast cancer (BC), particularly regarding Clinical Breast Examination (CBE) and Breast Self-Examination (BSE) among women. A self-administered questionnaire was used to gather relevant data, which were analyzed using frequency distributions (%) and comparisons made through Chi-square or Fisher's exact tests. The results, supported by graphical representation, indicated a significant relationship between educational level and proper interpretation of BSE practices, ultimately contributing to an improved quality of life.

Despite some awareness, the results revealed a severe deficiency in overall breast cancer knowledge among the participants. This highlights an urgent need for structured and widespread awareness programs within communities. To effectively bridge this knowledge gap, it is essential to implement targeted health policies and educational interventions that can foster awareness, encourage regular screening behaviors, and support early detection initiatives [20].

The primary objective of the current study was to evaluate women's understanding of Breast Self-Examination (BSE) and their awareness of various breast cancer (BC) screening methods. A self-regulated questionnaire was utilized to collect relevant data from participants, and the results were analyzed using frequency distributions (%) and Chi-square tests to assess associations between variables. The findings emphasize that Clinical Breast Examination (CBE) is an affordable and accessible method for detecting breast cancer, while BSE plays a crucial role in raising awareness and promoting early detection among women.

In this study, participants demonstrated relatively high educational attainment, with 70.8% having completed graduation or higher studies. Regarding occupation, the largest group consisted of employed individuals (41.3%), followed by students (30.9%). Furthermore, a significant majority (90.5%) reported no history of smoking or alcohol consumption, indicating a relatively health-conscious sample.

The findings suggest that higher levels of education and age are associated with improved awareness, attitudes, and practices related to BSE and BC. These results align with previous research by Liu L., Wang F., Yu L., et al. (2014), which indicated a generally low level of breast cancer knowledge in society and emphasized the need to enhance awareness through better education on BSE and screening methods. Collectively, these findings underscore the importance of educational interventions tailored to improve knowledge and empower women to adopt preventive health behaviours [29].

In the current study, a significant proportion of respondents (56.4%) reported having no awareness of their likelihood of developing breast cancer in comparison to other health conditions. This finding reflects a broader global need to enhance breast cancer knowledge and promote health education to move toward a cancer-free society, especially as this disease continues to rise. In today's era, raising awareness among women about breast cancer is not just important—it is essential.

A previous study by Suleiman A.K. et al. (2014) reported a high overall response rate (93.3%) regarding Breast Self-Examination (BSE) and breast cancer screening, indicating a positive correlation between awareness and improved quality of life. However, despite increasing breast cancer incidence, awareness levels remain inadequate in many populations. In the current study, a large portion of the participants (66.8%) were young adults aged 18–30, and this group showed low levels of BSE awareness. This trend is concerning, as it reflects a disconnect between the growing number of breast cancer cases and the preventive knowledge among women, particularly younger ones [10].

These findings highlight the urgent need for targeted awareness programs, particularly focused on self-monitoring and early detection practices. Communities must be encouraged to educate and empower women to perform regular BSE and seek clinical screenings when needed. Early identification of breast abnormalities can significantly improve prognosis, reduce mortality rates, and enhance the overall quality of life for women at risk.

A previous study by Weedon-Fekjræ H., Romundstad P., and Vatten L. (2014) emphasized the importance of regular Breast Self-Examination (BSE) and screening for all women, regardless of perceived risk levels. Their findings highlighted that mammography and diagnostic screenings are essential tools for the global prevention of breast cancer and the promotion of women's health and well-being [35].

In the current study, 60.7% of participants believed that while breast cancer treatments are very expensive, they are also highly effective in improving survival rates and quality of life. Despite this optimistic view of treatment outcomes, significant barriers to screening remain. The most commonly reported obstacle was a lack of awareness (38.4%), followed by fear of pain or discomfort (19.1%) and concerns about cost (18.5%).

Encouragingly, 51.7% of participants observed positive changes in breast cancer awareness efforts through community outreach and media campaigns. However, to translate this growing awareness into action, a more coordinated and widespread effort is needed. The study suggests that implementing comprehensive awareness strategies—focusing on improving attitudes, knowledge, and practices—through large-scale campaigns can help bridge the gap between awareness and early detection behavior. These campaigns should be inclusive, culturally sensitive, and accessible to all socioeconomic groups to ensure broader impact and success in reducing breast cancer mortality.

In a previous study by Brewer H., Jones M., Schoemaker M., et al. (2017), the authors reported a significant association between age and breast cancer risk, with findings showing a highly significant p-value (< 0.0001) [4]. Their research also emphasized the role of family history as a major contributing factor to breast cancer incidence across various age groups, reinforcing the idea that age is a critical determinant in breast cancer risk and overall community health.

In the current study, only 21.4% of participants acknowledged that certain risk factors—such as age or genetic predisposition—may influence their likelihood of developing breast cancer. This low level of awareness points to a crucial gap in public understanding of risk factors and highlights the need for targeted education. Given the global rise in breast cancer cases, there is an urgent need to promote routine mammography screening and Breast Self-Examination (BSE) practices. Implementing these preventive strategies more effectively at the community level is essential not only for early detection but also for improving survival rates and enhancing the quality of life among women worldwide.

5. CONCLUSION

The findings of this study reveal that a significant proportion of female respondents were generally uninformed about breast cancer and Breast Self-Examination (BSE). Many participants demonstrated limited awareness, understanding, and engagement in preventive practices, with key barriers including lack of information, fear, shyness, and insufficient exposure to awareness programs. Factors such as educational level, marital status, and personal or family history were found to be closely associated with perceptions of breast cancer risk.

The study underscores the importance of culturally appropriate and socially accepted awareness programs to improve knowledge and reduce misconceptions surrounding breast cancer. Enhancing women's understanding of BSE and encouraging proactive health behaviors can play a vital role in early detection and improved health outcomes. While the current study provides valuable insights, its findings are limited by the use of a non-probability sampling technique. Future research should consider employing probability sampling to enhance the representativeness of the study population and

improve the generalizability and reliability of the results.

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