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INSIGHTS INTO WOMEN'S AWARENESS, ATTITUDES, AND ADHERENCE TO BREAST CANCER AND BREAST SELF-EXAMINATION: A SNAPSHOT FROM TERTIARY CARE CENTRE IN NORTHERN RAJASTHAN

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Abstract

Introduction: Breast cancer is a pervasive global health challenge, particularly in underdeveloped regions like Northern Rajasthan, India. This study investigates knowledge, attitudes, and practices related to breast cancer and self-examination among women in a tertiary care setting.

Objectives: In the above context, the study finds its objectives to access the awareness and attitude of females presenting to the facility's field practice areas regarding carcinoma breast and their adherence to the practise of breast self-examination.

Methods: Conducted at Dr SS Tantia Medical College, Hospital, and Research Centre, the study involved 350 randomly selected participants. A structured questionnaire covered sociodemographic details, knowledge assessment, attitudes, and breast self-examination practices. Data collection spanned 32 days, and statistical analyses were performed using SPSS 24.0.

Results: The majority demonstrated poor knowledge (56.2%), significantly associated with low educational status. Positive attitudes were prevalent (75%), but alarming poor practices in breast self-examination were noted (95.5%). Television emerged as a primary information source. The findings highlighted a nuanced interplay between demographic factors, knowledge, attitudes, and practices concerning breast cancer and self-examination.

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1. Introduction

Breast cancer, constituting nearly a quarter of diagnosed cases among females globally, remains a pervasive health challenge, with an alarming 1.15 million annual diagnoses worldwide [1-3]. This malignancy transcends geographical boundaries, affecting both developed and developing nations, although the incidence rates in the latter are notably threefold higher [4]. Notably, breast cancer stands as a leading cause of female mortality in Africa, underscoring the pressing need for heightened awareness and intervention [5].

Research indicates that a substantial proportion of women worldwide-approximately 1 in 6-undergo breast biopsy, with benign alterations constituting the majority. However, the prevalence of malignancies necessitates a comprehensive understanding of the spectrum of breast diseases, ranging from inflammatory changes to benign fibroblastic and fibrocystic changes, as well as malignant diseases [6].

Diverse risk factors contribute to the intricate landscape of breast cancer, encompassing elements such as age, early menstruation, late menopause, familial predisposition, hormonal replacement therapy, breastfeeding practices, and lifestyle habits [6-9]. Disturbingly, early-onset cases and unfavourable prognoses disproportionately afflict African populations compared to Caucasians, with 70-90% of cases presenting at late stages in African countries, notably impacting survival rates [8, 10]. The scarcity of resources, particularly the lack of early detection mechanisms, has been implicated in this phenomenon, contributing to the persistent challenge in Africa [11].

Within the African context, the Sub-Saharan region, particularly Sudan, grapples with a rising tide of new breast cancer cases. In Sudan, breast cancer stands as the third most common cancer overall and the most prevalent among females [12, 13]. The imperative for effective screening programs is underscored by studies highlighting the pivotal role of methods such as mammography, breast self-examination (BSE), and breast clinical examination (BCE) in early detection, increased survival rates, reduced fatality, and prevention of recurrence among breast cancer patients [14-16].

While the American Cancer Society recommends BSE, the implementation of such programs in Africa encounters formidable challenges due to inadequate infrastructure, a shortage of educated personnel, and financial barriers [18]. Evidence suggests that the practice of BSE is intricately linked to factors such as women's knowledge, attitudes, and socio-demographic and sociocultural considerations [19]. Additionally, impediments such as time constraints, forgetfulness, and low educational attainment contribute to the observed low rates of BSE practice [20].

In a disconcerting revelation, a prior study highlighted insufficient knowledge and practice of BSE even among medical students, emphasizing the urgency for targeted educational initiatives and interventions to enhance breast health awareness [21].

2. Methods

A meticulous approach was adopted to ensure the representation of diverse perspectives by a cross-sectional short survey. From a total facility population of 820 individuals presenting to Obstetrics and Gynaecology OPD of Dr SS Tantia Medical College, Hospital and Research

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Centre in Sri Ganganagar district of Rajasthan, a total of 350 participants were chosen through a simple random selection process. Since the study is new to the region, employing a formula with a prevalence of 0.5 and a confidence level of 95, 354 numbers were randomly drawn from the list of 820 individuals, forming a stratified sample that captured the heterogeneity within the population.

To garner comprehensive insights, data was collected using a self-administered structured questionnaire, meticulously crafted based on insights from a precedent study making few necessary region-specific changes [24]. This instrument comprised four distinct sections: sociodemographic details, knowledge assessment, attitude evaluation, and exploration of breast self-examination (BSE) practices.

The knowledge section encompassed nine intricately designed items probing symptoms, signs, protective factors, diagnosis, risk factors, and curability of breast cancer. The attitude section featured three items exploring participants' perspectives, while the BSE section consisted of seven items categorically assessing knowledge, attitude, and practice related to breast self-examination.

Participants were handed physical copies of the questionnaire in person, assuring them of the utmost confidentiality by utilizing codes instead of names. This measure was implemented to safeguard the privacy of participants and encourage open and honest responses.

To uphold the rigor of the study, scoring for knowledge, attitude, and practice related to breast cancer and self-examination was conducted by a seasoned consultant gynaecologist and obstetrician, a community physician, and a general physician from two distinct institutes. This approach ensured a nuanced evaluation of participants' responses, contributing to the reliability and credibility of the study.

The data collection phase spanned a period of thirty two days from 13th December, 2023 to 15th January, 2024. This temporal scope was chosen to capture a dynamic representation of participants' perspectives and practices related to breast cancer and self-examination within the specified timeframe.

This methodological framework was meticulously designed to unravel the intricacies of women's awareness, attitudes, and adherence to breast cancer and self-examination within the unique context of a tertiary care centre in the Northern Rajasthan.

This first section of the iterative study which is also a formative assessment for designing various recommendations, health camps and programmes for women welfare in early diagnosis and treatment of Carcinoma Breast.

Data entry and analysis were conducted using the Statistical Package for Social Science 24.0 (SPSS) software. Categorical variables were elucidated through frequency distributions, while continuous variables were characterized using means and standard deviations. Furthermore, the association between categorical variables was assessed employing the Chi-square test. A p-value less than 0.05 was deemed statistically significant, guiding the determination of meaningful associations within the dataset.

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3. Results

Demographic Characteristics:

Out of the 350 detainees selected for the study, an impressive 93% (n = 330) responded to the questionnaire. The mean age of participants was 31 years (Standard Deviation, SD: 11.2), with over half (56.7%, n = 185) falling in the 18-30 years age bracket. Educational demographics revealed that 38.2% (n = 126) were illiterate, while 37.6% (n = 124) had received primary education. Marital status indicated that the majority, 59.4% (n = 196), were married, and a significant portion, 76.3% (n = 177), identified as housewives.

Knowledge about Breast Cancer:

When assessing participants' knowledge about breast cancer, it was found that 60.9% (n = 201) recognized breast cancer as the most prevalent cancer among females, and 61.2% (n = 202) believed it to be curable. Notably, nipple discharge was identified as the most recognized symptom (41.5%, n = 137), and smoking emerged as the most frequently selected risk factor (53%, n = 175). A concerning 53% (n = 175) of participants lacked awareness regarding methods of breast cancer diagnosis. Overall, 56.2% (n = 185) demonstrated poor knowledge, with a significant association between poor knowledge and low educational status ($p < 0.001$). No significant associations were found with occupation, marital status, or age ($p > 0.05$).

Attitude towards Breast Cancer:

Among respondents, 95% (n = 87) believed hospitals were the optimal places for breast cancer treatment, rejecting alternative sources. When asked about seeking medical attention for a breast lump, the majority (80%, n = 74) expressed an inclination to consult a doctor immediately. Overall, 75% (n = 69) demonstrated a positive attitude towards breast cancer, with no significant associations identified based on educational status, occupation, marital status ($p > 0.05$).

Breast Self-Examination (BSE):

Concerning breast self-examination, 54.8% (n = 181) indicated no prior awareness, and among those informed, 51.3% (n = 77) relied on health education campaigns. A significant 66.3% (n = 218) exhibited poor knowledge about breast self-examination, with associations found with low educational status ($p < 0.001$), housewives as an occupation ($p = 0.04$), and the 18-30 years age group ($p < 0.004$). However, no significant associations were identified with marital status ($p = 0.27$). While 95.3% (n = 143) acknowledged the importance of breast self-examination, their attitude showed no associations with demographic variables. Alarming was the revelation that 95.5% (n = 315) exhibited poor practice in performing breast self-examinations, with no significant associations based on educational status, occupation, or marital status ($p > 0.05$).

These findings shed light on the nuanced interplay between demographic factors, knowledge, attitude, and practices concerning breast cancer and self-examination among the study participants.

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5. Discussion

The escalating prevalence of breast cancer, accompanied by an annual rise in associated mortality and morbidity [10, 13, 20], underscores the growing significance of early detection in improving prognosis [22, 23]. These data underscore the critical role of women's knowledge and attitude within the community, particularly in underdeveloped countries with limited healthcare resources. Early detection and active participation in screening programs become paramount in combating this pressing health challenge.

The mean age in our study, 31 (SD: 11.2), provides a nuanced insight into the risk group for breast cancer. Comparable age groups were noted in previous studies, such as Delta State, Nigeria (2013), with a mean age of 30 [10], and North Iran (2015) with 31.3 [23]. Divergences were observed in other studies, with mean ages of 40.48 (Malaysia, 2010) [20] and 41 (Iran, 2018), while notably lower ages were reported in the UAE with a mean age of 23 [11]. While all these age groups are susceptible to breast cancer [10], the age variance may influence knowledge, attitude, and practice patterns among women facing this health challenge.

A significant majority of our participants (60.9%) correctly identified breast cancer as the most common cancer among females, with 61.2% acknowledging its curability. Comparing these findings with a similar study in Nigeria [10], where a higher percentage (84.6%) confirmed these facts, suggests a potential impact of increased awareness campaigns in the preceding years.

Regarding participants' knowledge of disease symptoms, 41.5% highlighted nipple discharge as the most common symptom. In contrast, women in Northern Iran emphasized the presence of a breast mass as the predominant symptom (75.4%) [23]. Smoking emerged as the most selected risk factor for breast cancer (53%), deviating from studies where it ranked second after alcohol consumption [23]. Overall, participants in our study demonstrated poor knowledge about breast cancer, consistently associated with low educational status, aligning with findings in other studies [10, 22, 23].

Over half of our participants had never heard about breast self-exam (BSE), aligning with observations in a previous Nigerian study [10]. The main source of information about BSE for participants was breast cancer campaigns, with limited knowledge derived from the media. Television emerged as the primary source of information, particularly among younger participants with tertiary education, as seen among students at the University of Buea in Cameroon [24]. Overall, knowledge about BSE was poor (66.3% of participants), mirroring results from other studies in Nigeria and Malaysia with rates of (82.3%) and (86.2%) respectively [10, 20]. The positive association between education level and knowledge regarding BSE observed in our study aligns with similar findings in other studies [10, 20, 24].

Poor practice was the predominant outcome among the majority of participants in our study (95.3%). Remarkably, participants' scores in questions concerning general breast cancer information, such as signs, symptoms, and risk factors, were as low as their scores in BSE-related questions. This pattern was similarly noted in another study conducted in Nigeria [9]. A study in Iran reported that (74.8%) of women never practiced BSE, and (9.8%) initiated their first breast examination after experiencing pain [20]. Additionally, a considerable percentage (60.4%) reflected community ignorance, particularly in the at-risk group, as found

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in a Malaysian study [19]. Furthermore, a study by Nde et al. revealed that only (30%) of university female students practiced BSE at least once, with less than (3%) practicing BSE regularly with a monthly pattern [24]. These collective studies collectively highlight a universal trend of poor practice, albeit with some variation between communities attributable to distinct levels of education and breast cancer-associated knowledge.

One of the limitations of this study is that it took place in only one facility, which makes it difficult to generalize its results over the larger population.

Despite this limitation, our results revealed that more than half of the participants had poor knowledge about breast cancer and self-examination. Most of the respondents think about breast self-examination as an important issue but they have poor practice.

6. Conclusion

The findings of this study shed light on the pressing challenges posed by the escalating prevalence of breast cancer, underscoring the urgent need for proactive measures in underdeveloped regions with limited healthcare resources. The mean age of 31 (SD: 11.2) positions this demographic as a crucial risk group, emphasizing the necessity for tailored interventions to address knowledge, attitude, and practices concerning breast cancer.

Our results revealed a significant gap in knowledge, with a majority recognizing breast cancer as the most common among females (60.9%) and acknowledging its curability (61.2%). However, comparative analyses with other studies indicate a need for sustained efforts to enhance awareness, especially in the context of varying age groups and cultural perspectives.

Notably, poor knowledge about breast cancer was associated with low educational status, emphasizing the pivotal role of education in fostering awareness. The lack of familiarity with breast self-examination (BSE) among more than half of the participants (66.3%) underscores a critical area for targeted health education campaigns. Television emerged as a primary information source, highlighting its potential as a powerful medium for disseminating knowledge.

However, despite the awareness gaps, poor practice in BSE was predominant (95.3%). This echoes a broader trend observed in global studies, emphasizing the need for comprehensive strategies to bridge the divide between knowledge and practical implementation.

In conclusion, our study highlights the multifaceted challenges faced by women in understanding and navigating the complexities of breast cancer in the field practise areas of our institute. The observed variations in knowledge, attitudes, and practices necessitate tailored interventions considering factors such as education levels and cultural nuances. Addressing these challenges requires a concerted effort from healthcare authorities, educational institutions, and media platforms to enhance awareness, education, and ultimately improve the overall breast health landscape. This study serves as a critical step in understanding the dynamics of breast cancer awareness in the studied population, providing a foundation for future targeted interventions and educational campaigns.

Recommendations

Based on the study following recommendations were formulated and their implementation is further evaluated in iterative studies.

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Enhanced Educational Campaigns: Implement targeted and culturally sensitive educational campaigns to improve awareness of breast cancer symptoms, risk factors, and the importance of early detection. Also, Collaboration with local media channels, especially television, to disseminate information and reach a wider audience.

Tailored Interventions for Different Age Groups: Recognize and address variations in knowledge, attitudes, and practices related to breast cancer across different age groups. Design age-specific interventions to effectively target and engage diverse demographic segments.

Empowerment Through Education: Emphasize the role of education in improving breast cancer awareness and promoting positive health practices. Development of educational programs that cater to the needs of individuals with lower educational status, ensuring inclusivity.

Comprehensive Breast Self-Examination (BSE) Education: Integrate comprehensive BSE education into existing health education programs, emphasizing its importance for early detection and improved outcomes. Explore innovative ways to enhance BSE awareness, such as utilizing community health workers or digital platforms.

Community-Driven Health Initiatives: Engage local communities in the development and implementation of health initiatives to ensure relevance and effectiveness. Leverage community leaders, influencers, and grassroots organizations to facilitate health-related discussions and activities.

Regular Screening Programs: Establish and promote regular breast cancer screening programs, especially targeting high-risk age groups. Collaborate with healthcare providers to offer accessible and affordable screening services in underdeveloped regions.

Collaboration with Educational Institutions: Foster collaborations with educational institutions to integrate breast cancer awareness programs into school curricula. Encourage universities to play a role in disseminating health information to students, promoting a culture of proactive health awareness.

Continuous Monitoring and Evaluation: Implement a system for continuous monitoring and evaluation of awareness programs to gauge their effectiveness. Collect feedback from the community to assess the impact of interventions and identify areas for improvement.

Multidisciplinary Approach: Adopt a multidisciplinary approach involving healthcare professionals, educators, community leaders, and media representatives to create a holistic impact.

Research and Adaptation: Encourage ongoing research to understand evolving trends in breast cancer awareness. Adapt strategies based on emerging evidence and changing community dynamics to ensure the sustained relevance of awareness campaigns.

Implementing these recommendations can contribute to bridging the awareness gap, fostering positive attitudes, and promoting proactive practices for breast cancer prevention and early detection within the studied community.

Conflicts of interest: The authors hereby declare no conflicts of interest related to authorship or publication.

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