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Original Research

Cancer Literacy in Women: A Kap Exploration of Breast and Gynecological Cancers Accompanied by Cross-Sectional Based Online Survey in Tirupathi District

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Background: Cancer is an illness caused by uncontrolled growth of cancer cells. Breast, cervical, ovarian, uterine cancers are among the most prevalent types of cancers in women. According to the 2020 report from the National Cancer Registry Programme (NCRP) under the Indian Council of Medical Research (ICMR), the risk of breast and other gynaecological cancers affects 1in 6 women. Acquiring knowledge about these cancers and adopting preventive measures or early detection methods can potentially save lives by treating them at an early stage when they are still localized and more manageable.

Objective: To investigate the knowledge, attitude and practices concerning Breast and Gynaecological Cancers among women in Tirupati.
Methods: A cross-sectional study is carried out among 600 women in Tirupati through an online survey. The study is aimed to gather information on their knowledge, attitude and practices regarding breast and gynaecological cancers. A pre-validated questionnaire was utilized to collect the necessary data.

Results: In this study, a group of 600 women was included, spanning from 15 to 45 years of age. The majority of these participants demonstrated proficient knowledge, held a strong positive attitude, and regrettably, exhibited deplorable practice. Notably, out of these women, 104 had receive the HPV vaccine for the prevention of cancer.

Conclusion: To improve women's awareness and understanding, it is essential to introduce health education initiatives that aim to enhance their knowledge levels. The survey results indicate that the women surveyed demonstrated sufficient understanding and involvement in relation to breast and gynaecological cancers.

Introduction

Cancer involves the uncontrolled growth of cells that can become metastatic and lead to the development of a malignant tumour [1, 2]. According to the World Health Organization, there are approximately 685,000 deaths of women reported annually [3]. The incidence rate of new cases of breast cancer among women stands at 126.9% in 1,00,000 women per year [3, 4]. The mortality rates for breast Cancer, Cervical, Uterine, and Ovarian cancer are 12.7%, 12.4%, 9.1%, and 3.34% respectively [5-9]. According to the 2020 report National Cancer Registry Program (NCRP) under the Indian Council of Medical Research (ICMR), the risk of breast and other gynecological cancers

affects 1 in 6 women [10]. The projected incidence of cancer among females in India for the year 2020 was 7,12,758 cases, with a rate of 103.6 per 1,00,000 individuals10. Breast and gynecological cancer encompass a variety of malignancies and are recognized as the most prevalent forms of cancer affecting the female reproductive system. These health conditions pose complex challenges [11, 12]. The purpose of this research is to surpass statistical data and explore the human perspective, investigating how individuals perceive, comprehend, and address these health threats [13, 14]. The stage at which cancer patients seek medical assistance is determined by various factors like education, finances, location, and healthcare facilities [14, 15]. However, what ties all of these factors together are the level of awareness and attitude patients have towards the disease [15, 16]. In Numerous scenarios, signs may not become apparent until the tumor has progressed to an advanced stage8. The prevalence of breast and gynecological cancers has become a major concern for global health, with millions of women and their communities being affected [17]. As healthcare systems strive to address the complexities associated with these cancers, it becomes imperative to gain insights into individuals' knowledge, attitudes, and practices related to prevention, early detection, and management [18, 19]. The implementation of efficient screening programs has the advantage of preventing the occurrence of cancers through early detection and treatment [20]. cancer prevention can be best achieved by gaining knowledge about the disease and ensuring early screening [21-23]. Based on the KAP studies, it is evident that women in Tirupati exhibit a positive level of knowledge, a moderate attitude, and inadequate practices [24-26]. The reason for conducting this survey was the absence of literature on KAP studies related to gynecological and breast cancer among women in Tirupati [27, 28].

Materials and Methods

Search strategy

A thorough investigation was conducted, encompassing literature published between 2020 and 2023, using electronic databases such as Google Scholar, Science Direct, and the National Institute of Health. The focus of the search was to retrieve English language studies that provided information on Knowledge, awareness, attitude, and practice regarding breast and gynecological cancers and their screening in India. Articles were included if they presented quantitative data on women's knowledge, awareness, attitude, or practice related to breast and gynecological cancer screening in India.

Inclusion criteria

Several cross-sectional studies have been conducted in various settings, such as hospitals or communities in India, and have been published between 2020 and 2023. These studies focus on examining the Knowledge, awareness, attitudes, and practices related to breast and gynecological cancer.

Exclusion criteria

In the realm of breast and gynecological cancer and its screening uptake, various research methods are employed, including case reports, case series, earlier reviews, and qualitative studies. These different approaches offer valuable insights into the topic at hand. Moreover, it is essential to consider articles published. Studies were conducted among health professionals to ensure a comprehensive analysis.

Data Collection

A structured questionnaire, designed to be self- administered, was developed to collect data. The questionnaire was prepared in English. A sample size of 600 was obtained, considering a 10% allowable error at a 90% confidence interval. The questionnaire encompassed sociodemographic information, Knowledge, attitude, practice, and potential barriers to breast and gynecological cancers.

The first section of the socio-demographic questionnaire consisted of 8 questions that delved into the socio- demographic characteristics of the respondents, including age, marital status, education, and area of residence. This segment provided the foundational data for the respondents' baseline information, as shown in Table 1.

The Second section comprised of 10 questions regarding breast and gynecological cancers, encompassing their risk factors, symptoms, preventive measures, and screening methods. These questions are presented in Table 2. Certain questions had multiple correct answers and for each correct response, a score of 1 was awarded, while an incorrect answer received a score of 0. The total score was 26. The assessment of knowledge score was categorized as adequate if the total score equalled or exceeded 13 (>50%), and as positive knowledge if the total score was less than 13 (<50%).

The segment on attitude contained 9 questions regarding participant's attitudes towards breast and gynecological cancer. It highlighted the high prevalence of these cancers in India, their status as the primary cause of death among women from all malignancies in rural and urban areas, and the necessarily for women to have knowledge about these cancers. The attitude score was marked as neutral. If the respondents score surpassed the neutral threshold, it denoted a favourable attitude. Coversely, if the score fell below the neutral threshold, it indicated an unfavourable attitude, as shown in Table 3.

The fourth part of the study included 7 questions on practices related to Breast and Gynecological cancers. A significant number of respondents reported poor practice levels, which were associated with various barriers. The survey included 7 multiple choice options, as detailed in Table 4.

Statistical Analysis

The statistical package was utilized for data analysis, employing descriptive statistics to depict the socio- demographic characteristics of women and their kap scores. Cross-tabulations were employed to examine the relationship between age, marital status, education, ethnicity, family history of cancer, and knowledge, attitude, and practice concerning breast and gynecological cancer.

Results

The response rate for the questionnaire reached 90%, with a total of 600 students completing it. The age group of 15-25 years comprised the majority of participants, with 522 students (87%). Among the respondents, students constituted 87%, while employees and housewives accounted for 7% respectively. In terms of geographical distribution, 58% of the respondents were from urban areas, while the remaining 42% were from rural areas. Married women were 102, 17% and unmarried women 499, 83% as shown in Table 1.

Socio-demographic characteristics of the participants (n=600)

The survey received feedback from 600 female participants, with the highest number falling within the 15-25 age range (522-87%). The majority of these women were (499-83%). The significant

portion (295-49%) of the respondents possessed B. pharmacy degree, over half of the participants(349-58%) hailed from urban areas, as indicated in Table 1.

Variables	Category	Frequency	Percentage(%)
Age	15-25 years	522	87
	25-35 years	47	7.8
	35-45 years	29	4.5
	Menopause	3	0.7
Course	Pharmacy	295	49
	PharmD	53	8.8
	Dental	11	1.8
	Degree	49	8.3
	B. Tech	67	11
	others	126	21
Area of Living	Rural	246	42
	Urban	349	58
Marital Status	Married	102	17
	Unmarried	499	83

Table 1. Socio-demographic Characteristics of the Participants (n=600).

Knowledge of respondents on breast and gynecological cancer

The survey encompassing 600 women revealed that 438,73% of them have awareness about common women's cancers. The respondents as a collective showcased a good level of knowledge. A majority of 453,75% of the participants were aware of the importance of regular screenings. Moreover, less than one-third (179,30%) and more than one-fifth (422, 70%) of the respondents believed that HPV vaccination reduces the risk of cervical cancer. An impressive level of knowledge was observed among the participants regarding symptoms-related information, with a rate of 323,53%. Painful urination was reported by 200,33% of the respondents, while 19, 3% experienced chronic cough. Persistent bloating was reported by 59,10% of the participants, as shown in Table 2.

Variables	Frequency	Percentage
1. Are you aware about common cancers in women?		
Yes	438	73
No	61	10
Maybe	102	17
2. Is cancer contagious?		
Yes	177	29.5
No	424	70
3. Do you know regular screening helps in early detection of tumour?		
Yes	453	75
No	148	25
4. In your close circle, have you seen anyone with breast cancer?		
Yes	203	34
No	398	66
5. Which of the following is a preventive measure for breast cancer?		
Regular mammograms	289	48
Increased caffeine intake	68	12

Smoking cessation	121	20
Vitamin C supplements	114	20
6. What is the primary cause of cervical cancer?		
Smoking	103	17
HPV (Human Papillomavirus)	362	60
Hormonal balance	111	18
Dietary factors	25	5
7. Do you know HPV vaccination reduces risk of cervical cancer		
Yes	422	70
No	179	30
8. Obesity is a significant risk factor for developing uterine cancer?		
Yes	359	50
No	242	48
9. What is a common symptom of uterine cancer that women may experience?		
Persistent bloating	59	10
Painful urination	200	33
Irregular menstrual bleeding	323	53
Chronic cough	19	3.8
10. Does ovarian cancer affects pregnancy?		
Yes	364	60
No	64	10
Maybe	173	30

Table 2. Knowledge of Respondents on Breast and Gynaecological Cancer.

Attitude of respondents on breast and gynecological cancer

The survey results indicate that 55% of the respondents agree, 5.8% disagree, 37% strongly agree, and 1% strongly disagree with the notion that awareness campaigns about female cancers are important for the community. The majority of individuals concur that breast cancer patients are prohibited from breastfeeding. A significant 245, 40% of the respondents hold the belief that the HPV vaccines are highly effective in preventing cervical cancer, as shown in Table 3.

Variables	Frequency	Percentage
1. How comfortable do you feel discussing about women cancers openly?		
Very uncomfortable	117	20
Somewhat uncomfortable	72	12
Neutral	135	22
Comfortable	275	45
2. Do you think awareness campaigns about female cancers are important for the community?		
Agree	334	55
Disagree	35	5.8
Strongly agree	224	37
Strongly disagree	8	2
3. What is your opinion on the importance of lifestyle choices in		

preventing women cancers?		
Not important	31	5.1
Somewhat important	69	11
Moderately important	84	14
Very important	417	69
4. In what ways can communities support women facing cancer?		
Ignoring the issue to respect privacy	87	14
Providing emotional support and resources	369	61
Isolating affected individuals	88	14
Discouraging open conversations about cancers	57	11
5. Breast cancer patients are not allowed to breast feed?		
Agree	313	52
Strongly agree	167	27
Disagree	92	15
Strongly disagree	29	6
6. Do you think discussing about breast cancer with family and friends is embarrassing?		
Agree	163	27
Strongly agree	71	11
Disagree	254	42
Strongly disagree	113	20
7. Having multiple sexual partners increase risk of cervical cancer?		
Agree	364	60
Disagree	82	13
Strongly agree	138	23
Strongly disagree	17	3.8
8. What are your beliefs about the effectiveness of HPV vaccines in preventing cervical cancer		
Highly effective	245	40
Somewhat effective	152	25
Not sure	185	30
Ineffective	19	4.1
9. Use of oral contraceptive pills increase the risk of ovarian cancer?		
Agree	383	63
Disagree	105	17.5
Strongly agree	94	15
Strongly disagree	19	4.5

Table 3. Attitude of Respondents on Breast and Gynaecological Cancer.

Practice of respondents on breast and gynecological cancer

Among the respondents, a significant percentage of 357.60% were actively engaged in the cancer prevention program. Within this group, 144.24% of the participants underwent cervical cancer screening. The primary reasons for this screening were the absence of signs and symptoms (337.56%), lack of knowledge (117.19%), absence of advice (114.19%), and the presence of stigma or embarrassment (33.55%), as shown in Table 4.

Variables	Frequency	Percentage
1. If you realize a patient has cancer will you try to treat by yourself?		
Yes	275	45
No	326	55
2. Have you participated in a cancer prevention programme?		
Yes	243	40
No	357	60
3. Do you think that frequent physical activity lowers the risk of cancer in women?		
Yes	221	36
No	89	16
Maybe	291	48
4. How often do you perform breast self-examination?		
Monthly	186	32
Every few months	96	16
Rarely	172	28
Never	147	24
5. Have you screened for cervical cancer?		
Yes	144	24
No	457	76
6. If not screened, the reasons?		
No signs and symptoms	337	56
No advised	114	19
Stigma/embarrassment	33	5.5
No knowledge	117	19
7. Have you received the HPV vaccine for cervical cancer prevention?		
Yes	105	17.5
No	388	64
Maybe	108	18

Table 4. Practice of Respondents on Breast and Gynaecological Cancer.

Discussion

This particular study was conducted in the rural and urban areas of Tirupati, a district known for its underdevelopment in both economic and medical sectors. With a total population of 7,75,000 Tirupati stands as one of the most backward areas when compared to other districts. During the study period, a comprehensive analysis was conducted on a total of 600 cases. This study aimed to assess the knowledge, attitude, and practice concerning breast and gynaecological cancers. It was found that approximately 438, 73% of the participants were well-informed about these types of cancers. Notably, women aged 15-25, who were single and residing in urban areas, exhibited a higher level of awareness regarding breast and gynaecological cancers compared to their counterparts. According to our research, individuals who have obtained a diploma or are currently pursuing undergraduate studies exhibit a substantial level of knowledge, a highly positive attitude, and a commendable level of practical expertise. In this study, about 362-60% respondents have stated HPV (Human Papillomavirus) and 111-18% stated Hormonal imbalances, 103-17% stated Smoking, 24-5% stated Dietary factors as the primary causes for cervical cancer. With regard to common signs and symptom s of Uterine cancer about 323-53.7% respondents have known

Irregular menstrual bleeding, 200-33.3% knew Painful urination, 59-9.8% persistent bloating, 19-3.2% knew chronic cough as common symptoms of uterine cancer. In relation to the preventive measures for Breast cancer, a significant 289-48.9% of respondents emphasized the importance of Regular mammograms. Additionally, 121-21.6% of participants highlighted Smoking cessation as a crucial preventive measure. Furthermore, 114-18.1% of respondents acknowledged the potential benefits of Vitamin C supplements, while 68-11.3% mentioned Increased caffeine intake as the preventive measures for breast cancer.

In our research study, it was observed that about 422-70% of participants had good knowledge regarding the HPV vaccination which reduces the risk of cervical cancer. Notably, a significant proportion of participants approximately one-third of the respondents acknowledged the importance of regular screenings in the early detection of tumours.

The most recent study has illuminated the fact that many women are not informed about the significance of campaigns addressing female cancers for the community, with 55% agreeing, 5.8% disagreeing, 37% strongly agreeing, and 1% strongly disagreeing. The survey results indicated that the majority of women recognize the importance of lifestyle choices in preventing women's cancers. The data reveals that there is a correlation between having multiple sexual partners and an increased risk of cervical cancer. The majority, accounting for 364,60% agreed with this statement. On the other hand, a smaller percentage, 82,13% disagreed. Furthermore, a significant portion, 138,23% strongly agreed with the statement, while only 17,2.8% strongly disagreed. Specifically,

417-69% considered it very important, while 31-5.1% thought it was not important, 69-11% found it somewhat important, and 84-14% deemed it moderately important. According to our survey, it was found that 60% of the participants agree with the notion that having multiple sexual partners increases the risk of cervical cancer. Conversely, 13% of the participants disagree, while 23% strongly agree and 2.8% strongly disagree. Furthermore, our study revealed that 61% of the participants believe that communities can support women facing cancers by offering emotional support and resources. The study results implied that most women, 357-60%, did not engage in a cancer prevention program, whereas 243-40% did. In our survey, 76% of participants have undergone cervical cancer screening, while 24% have not. Furthermore, it was highlighted that a significant portion of women in the reproductive age bracket (15-35 years) are not screened due to reasons such as absence of signs and symptoms (337-56%), lack of advice (114-19%), stigma/embarrassment (33-15%), and lack of knowledge (117-19%). The HPV vaccine for cervical cancer prevention has been taken by most respondents, with 17.5% saying yes, 64% saying no, and 18% saying maybe. Among Indian women, HPV infection is common between the ages of 25-35, while cancer is highly prevalent between 45-59 years of age due to lack of screening and participation in health programs.

As the study was conducted online, a significant limitation arises in terms of participants understanding of the questions and the authenticity of their responses. The study offers valuable insights into KAP's awareness of breast and gynaecological cancer, crucial for developing effective interventions to enhance disease awareness. This pioneering cross-sectional study utilized the Cancer Awareness Measure (CAM) to assess knowledge of breast and gynaecological cancer among residents of Tirupati.

In conclusion, the KAP study on breast and gynecological cancers shed light on the knowledge, attitude, and practices within the population regarding these specific types of cancer. The findings reveal varying levels of awareness and misconceptions surrounding risk factors, screening methods, and treatment options. It also emphasizes the importance of promoting positive attitudes towards seeking medical help and dispelling myths or stigmas surrounding cancer diagnosis and treatment.

This underscores the importance of targeted education and awareness campaigns to improve knowledge and promote early detection practices. Furthermore, the study highlights the need for

tailored interventions to address specific cultural, social, and economic factors that may influence attitudes and practices related to breast and gynecological cancers.

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