

AWARENESS AND ATTITUDE OF WOMEN TOWARDS BREAST AND CERVICAL CANCER IN TAMIL NADU

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ABSTRACT

Background: Breast and cervical cancers are major community health concerns for womenfolk worldwide, and prevention by early detection display a vital part in reducing the burden of these ailments. Understanding the awareness and attitudes of women to breast and cervical cancer is crucial in formulating targeted public health initiatives to progress prevention, early finding, and treatment outcomes. *Objectives:* This study aims to assess the awareness and attitude of womenfolk towards breast and cervical cancer in Tamil Nadu. *Methods:* This study conducted in ten districts of Tamil Nadu which is part of Southern India. A random sampling method was used to select a representative sample of women aged 18 to 60 years from urban and rural areas. Data was collected using structured questionnaires that include demographic details, awareness about breast and cervical cancer, attitudes towards breast and cervical cancer, awareness on prevention and treatment. Descriptive method recapitulates the demographic characteristics and awareness of the participants. The factors associated with awareness and attitude was identified to carry out the study. *Conclusions:* The study showed that most young participants were conscious of breast cancer as a disease, but their awareness and understanding of the disease were moderate. The awareness and attitudes toward cervical cancer among women in Tamil Nadu was less. The study urges the need to intensify awareness programmes about cervical cancer and vaccination through the public and private hospitals to the community women.

Keywords: Awareness, Attitude, Breast Cancer, Cervical Cancer, Womenfolk.

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INTRODUCTION

Developing countries are engulfed with more and more deaths of womenfolk caused by cervical and breast cancer. These two cancers are the most common cancers in womenfolk across the

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world that is increasing day by day. India contributed to 39.4% of the over-all cancer for the year 2020 (Mathur et al. 2020). National Centre for Disease information and Research (NCDIR) of Indian Council for Medical Research (ICMR) is the significant programme under the Registry of National Cancer Institute, established in 1981 that involves in systematic collection of cancer data in India (Mathur et al. 2020). Statistics shows that new cases of cervical (527,624) and breast cancers (1,671,149) are supplemented each year (Monica et al. 2020). To this, India backs about 122,844 cases of cervical cancer and 144,937 cases of breast cancer every year (Ferlay et al. 2015).

Deeper understanding of women's awareness about breast and cervical cancer, signs, symptoms and the screening practices of the disease is essential to develop effective strategies for early detection of breast and cervical cancer (UICC 2016; Ajayi 2019). This is significant because modest prevention strategies such as breast self-examination and HPV screening can be implemented successful only with active involvement of women (Bhatla et al. 2021). The primary breast tumors are self-discovered by the Breast Self-Examination performers (Smith et al. 1980). Large variations in socio-economic conditions, cultural practices and access to healthcare services across the country require studies from limited geographical areas (OECD 2020; Cianconi 2020) to understand the context. This research focuses on awareness and attitude of womenfolk in the Southern part of India about breast and cervical cancer. The current context of the study is understanding the awareness and attitude about the cervical and breast cancer of womenfolk and the reasons for the delays in early detection and treatment of the disease. Understanding the factors influencing awareness and attitude about the cervical and breast cancer of womenfolk is necessary to develop programmes that enhance the access to health care system for the treatment among womenfolk in rural and urban areas (Monica & Mishra 2020; Srinath et al. 2023; Akoto 2023). The current research study also aims to understand the factors influencing breast and cervical cancer screening practices.

Population-based screening tests for breast and cervical was initiated by the Indian Ministry of Health and Family Welfare in the year 2017 (MHFW 2017). As a result, awareness about breast and cervical cancer may have grown to some extent. However, the breast and cervical cancer screening programmes and the HPV vaccine programmes in Southern India shows low levels of awareness and attitude related to mammogram and speculum screening. Discomfort in getting treatment with male health workers and limited spouse consent, have been identified as additional factors that inhibits the screening practices. Not much is known

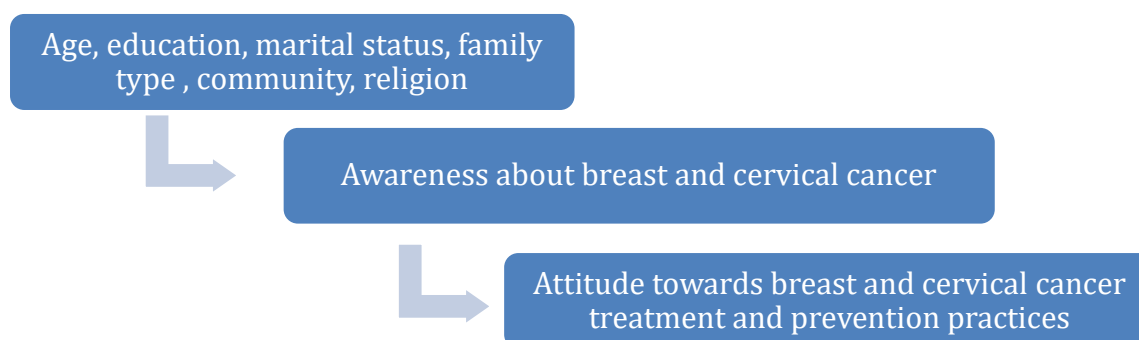
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about women's awareness and attitude towards HPV vaccination. The aim of the study is to recognize the awareness and attitude of women towards breast, cervical cancer and Human Papilloma Virus vaccination.

Method

A survey of women's awareness and attitudes towards breast and cervical cancer screening was conducted between June and December 2022 in Tamil Nadu among women between the ages of 18 to 60. It was funded by the Rashtriya Uchcharat Shiksha Abhiyan (RUSA) under Indian Ministry of Human Resource Development to conduct a representative survey of breast and cervical cancer. Data was collected using structured questionnaires that include demographic data, awareness about breast and cervical cancer, attitudes towards breast and cervical cancer, awareness on prevention and treatment. The survey was designed by the researcher and tested for reliability and validity. To increase the reliability of the data, the interviewer was trained to administer the questionnaires in a uniform way. The survey was carried out among the rural women and urban women in the age group of 18 to 60 through snowball technique. The study objectives were explained to the participants and the informed consents forms were signed by the interviewer. The verbal consent was also obtained from the womenfolk who took part in the research study. It was made clear that participation in the study is intended and the questionnaire was handed over to the participants in the language of their preference. After 25 minutes the filled in questionnaire was collected from the respondents. The study is limited to awareness and attitude of cervical and breast cancer, HPV vaccination among the women in the age group of 18-60 years.

Conceptual Framework



Selection of Participants and Study Sample

Womenfolk in the age group of 18 -65years were selected using the snowball method to collect the information. A sample of 663 respondents was taken by random selection from 38 districts of Tamil Nadu covering all districts.

Questionnaire Validation and Data Analysis

The questionnaire was validated using the Kuder-Richardson and Cronbach's alpha coefficients methods. Survey analysis procedures were used to calculate the complex survey design. To analyze data simple percentage analysis was used. The research study has included the qualitative analysis required for the development of a scale.

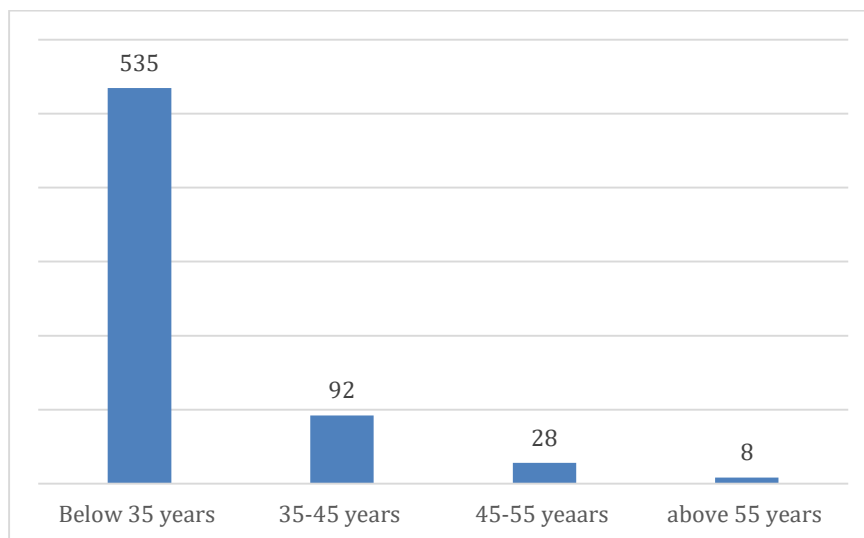
Socio-Demographic Characteristics

Socio-demographic characteristics are important in research to understand the respondent's awareness and attitude towards breast and cervical cancer. The factors like age, education, religion, community, marital status and family status are studied in the current research.

Age

Age is one of the important variables among the demographic features of the participants, because awareness and attitude evolves with the age due to their exposure and understanding.

Age

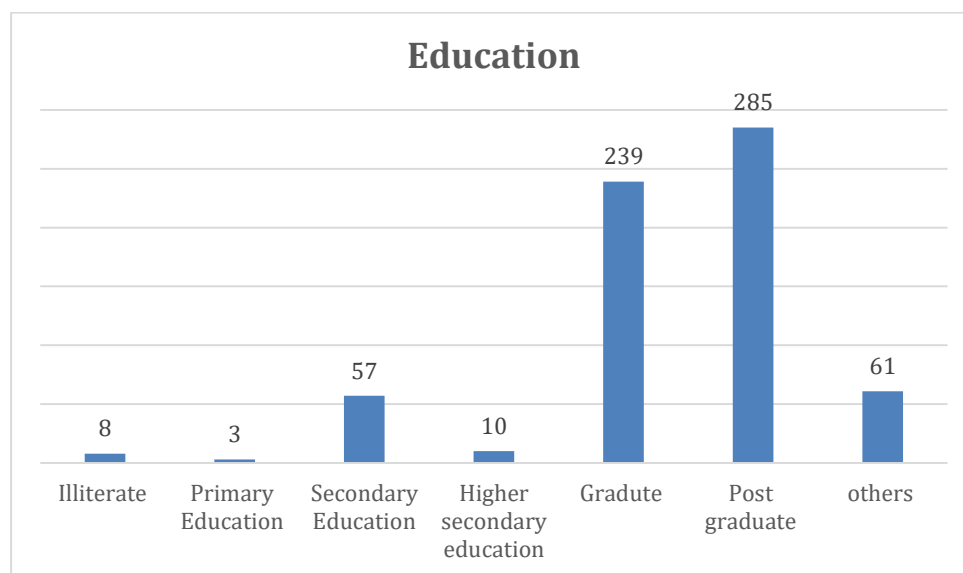


Out of 663 womenfolk registered in the survey, nearly 80.7 per cent (535) of the womenfolk were in the reproductive age of below 35 years and remaining 19.3 per cent (128) of the womenfolk were in the reproductive age of above thirty-five years.

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Education

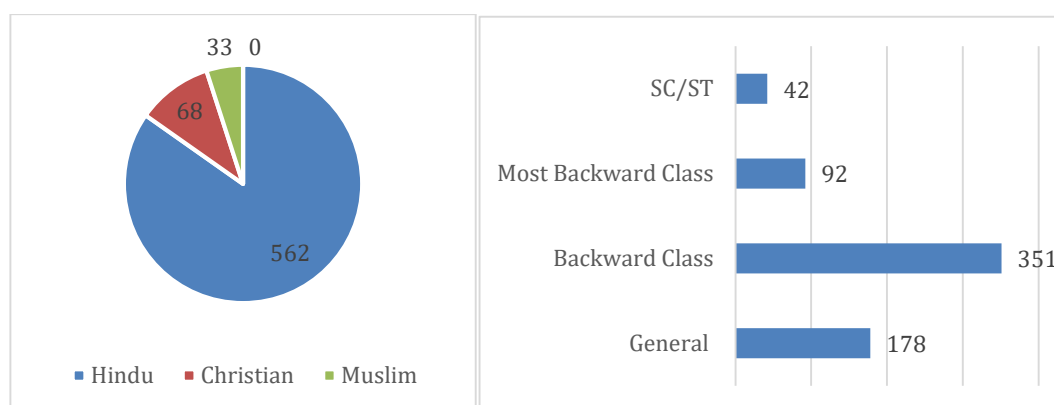
Formal education helps one to understand the information around them in a better. As the current research is on awareness and attitude of the respondents to breast and cervical cancer, educational status becomes a significant factor.



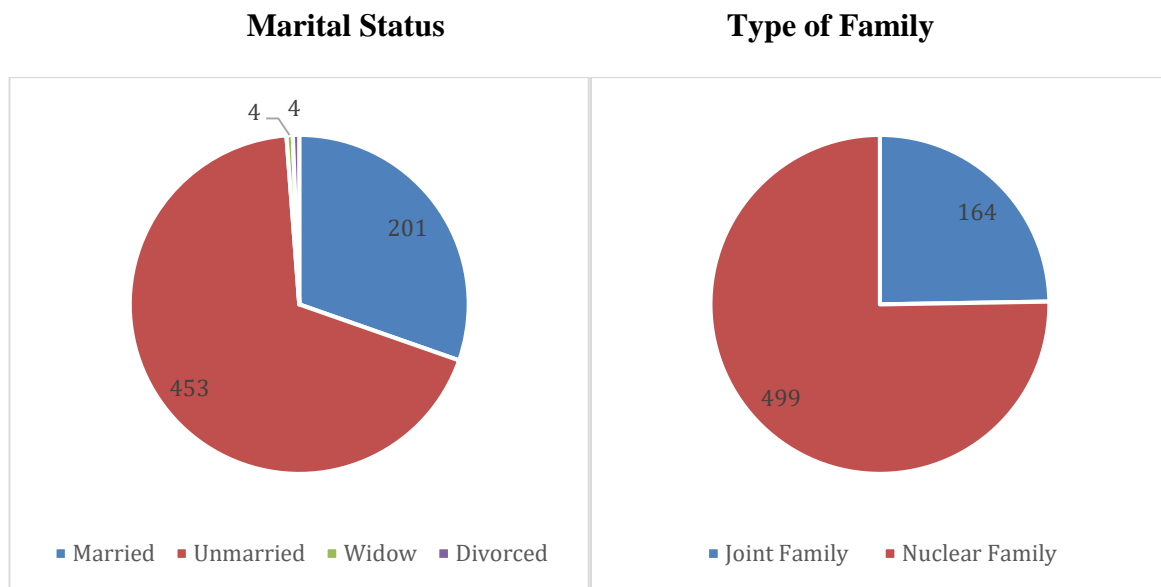
79 per cent of the participants had a graduate of education while 21 per cent were in school education.

Religion and Community

India is a country with diversity and so any study without the religion and community practices will miss the information. In specific the current research is related to health and the religious practices has influence on health practices in India.



Three-quarters 562 (84.8 per cent) of the participants were identified as Hindus. Over half, 351 (52.9 per cent) of the women participants were known as backward class.



The majority of the women participants were unmarried (68.3 per cent) and 31.7 per cent identified as married. Three-quarters 499 (75.3 per cent) of the participants were living in a nuclear family.

Awareness Towards Breast Cancer

Breast Cancer is associated with lifestyle and higher socioeconomic status (Engmann 2017). Early diagnoses of breast cancer enhance the chances of survival rate with a extended life expectancy (Aydin Avci et al. 2014). Nevertheless, the Indian Government obligated in taking action in 664 districts during twelfth five-year plan for instigating the accessibility of screening services for cancer at the Sub-Center, primary and district level centers, it was found that there was low level of service usage due to fear and humiliation. Understanding awareness of the participants to breast cancer will help the policy makers to design the programmes and policies according to the need of the society.

Table 1: Awareness of Breast Cancer

Awareness of Breast Cancer	True	False	DK
Women in India are vulnerable to breast cancer and it is one of the wide spread cancers among Indian womenfolk	464	56	143
The most important breast cancer sign is pain in the breast.	324	146	193

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Family history for breast cancer increases its probability to occur	344	116	203
In the case of early detection, the chance for certain treatment is high	410	100	153
All breast cancer patients will die due to the disease	147	355	161
If women examine their breasts, they can detect unnatural points in it	350	91	222

The participants knew that “Women in India are vulnerable to breast cancer and it is one of the wide spread cancers among Indian womenfolk”, which increases the probability of occurrence with family history. They also understand that early detection increases the chances for the best treatment and women can detect the unnatural occurrence in the breasts if they examine. In spite of the information about the breast cancer, the practice of self-breast examinations is low. The participant’s awareness towards breast cancer associated with death was satisfactory. The information received from the respondent’s clearly shows the adequate knowledge towards breast cancer and reluctant in putting the regular checking habits into practices. Though majority of the respondent’s come from literate background, their reluctant habit shows the need for motivation to practice.

Attitude Towards Breast Cancer Practices

Both developed and developing country are challenged by the incidence of mortality and morbidity caused by breast cancer. The cultural practices and stigma are important factor that plays a key role in ignoring the health issues. In addition, screening facilities are too costly facilitating hinderance of the normal public women to ignore the screening practices. The findings of the study done by Kamalaveni 2016 described a wide gap in the level of awareness about breast cancer and its risk factors among tribal women of the Nilgiris district (Kamalaveni 2016). It is important to have positive attitude towards breast cancer practices in order to follow it as a deterrence strategy. Awareness on breast cancer, understanding breast self-examination techniques, knowing the family history of breast cancer and their profession was related to women’s awareness, attitude and breast self-examination practices (Abeje et al. 2019).

Table 2: Attitude Towards Breast Cancer

Attitude Towards Breast Cancer	SD	N	SA
Womenfolk at any age is prone to breast cancer	34	95	534
Prevention of breast cancer is possible	40	106	517
One cannot find the abnormalities in the breast by doing self-breast examination	141	160	362
Examination of breast without any reason is of no use	198	204	261
Awareness about self-breast examination would have motivated me to do it	93	103	467
Female doctors are the preferred choice by any women	61	84	518
Periodic breast examination by a physician is not required when there is no problem in the breasts	133	165	365
Treatment of breast cancer is not impacted by early detection	179	177	307
The risk of breast cancer decreases with personal hygiene maintenance	97	154	412
The prolonged life of a women is associated with early detection of breast cancer	60	111	492

The observed variables “Examination of breast without any reason is of no use” “Periodic breast examination by a physician is not required when there is no problem in the breasts” (Roman Shyyan et al. 2006) and “The prolonged life of a women is associated with early detection of breast cancer” shows the negative attitude of the respondents. The respondent’s low sensitivity towards the breast cancer is revealed through their responses. The respondents were aware that it can be prevented if its properly detected. The observed variables like “Prevention of breast cancer is possible”, “Women at any age is prone to breast cancer”, “Awareness about self-breast examination would have motivated me to do it”, “Female doctors

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are the preferred choice by any women”, “The risk of breast cancer decreases with personal hygiene maintenance”, and “The prolonged life of a women is associated with early detection of breast cancer”, (Humariya Heena et al. 2019) displays participants high awareness level associated with diagnosis of breast cancer stage. In the study done by Asmare et al. 2022, it was found that majority of the respondents (46.0% (95%)) had positive attitude to breast self-examination. The study with 541 participants also found out that 60.3% of the participants recorded the importance of breast self-examination as necessary factor. The variables like “One cannot find the abnormalities in the breast by doing self-breast examination”, (Humariya Heena et al. 2019) shows the insensitive attitude of the respondents. It is clear that even if they are aware about the breast cancer prevention strategies, they have reluctant attitude to put it into practice.

Awareness About HPV and Cervical Cancer

Human papilloma virus needs some time to cause change in the cervix after the initial infection and so it’s usually detected when a woman is around 40 years and above with a mean age of 49 years (Cervical Cancer Facts 2018). Out of 1,23,907 new cases found with cervical cancer, 77,348 cases are missing their lives in India alone (Globocan 2020). With the India’s growing population of 511.4 million women in the age of 15years and older are at danger of evolving cervical cancer. The second utmost common cancer among women between 15 and 44 years of age was the cervical cancer. Around 5.0% of womenfolk in the overall population are estimated to harbor cervical HPV-16/18 infection, and 83.2% of invasive cervical cancers are attributed to HPVs 16 or 18 in the report of hpv centre (HPV Centre 2023). In this context the current study was done to understand the awareness of the womenfolk in the age of 18 to 60 years and this study had majority of respondents in the age group of under 35 years.

Table 3: Awareness About Human Papilloma Virus and Cervical Cancer

Awareness About Human Papilloma Virus and Cervical Cancer	True	False	DK
If a woman tests positive for the HPV virus through PAP test, she will not definitely get cervical cancer	246	107	310

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The HPV test checks cervical cells for infection with high-risk HPV types	216	95	352
A Pap test is done to see changes in the cervical cells caused by the HPV virus	234	92	337
The term of HPV infection can be identified with HPV and PAP test	215	87	361
HPV/Pap co testing is done on the same sample to see if they are infected with the types of HPV that cause cancer	222	69	372
Pap test should be done once in every three years to all women in the age group of 21 to 29 years	222	98	343
Pap test and high-risk HPV co-testing should be done once in every 5 years to screen cervical cancer among the women in the age group of 30 -65	245	74	344
Pap test and high-risk HPV co-testing should be done once in every 3 years to screen cervical cancer among the women in the age group of 30 -65	251	88	324
Women aged 30 to 65 should be screened every 3 years with a Pap test alone	237	84	342
Women with certain risk factors like being infected with HIV may need to have regular screening for cervical cancer	249	68	346
The risk of cervical cancer is low when the HPV and PAP test are negative	221	97	345
Women with immunosuppression are at high risk and necessitates frequent screening for cervical cancer	242	70	351

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Women being exposed to diethylstilbestrol before birth are at high risk and necessitates regular screening for cervical cancer	191	90	382
Women being treated for cervical cancer lesion are at risk and necessitates regular screening for cervical cancer	254	50	359
Women under the age group of 21 years are not recommended for cervical cancer screening.	211	110	342
Women above the age group of 65 years are not recommended for cervical cancer screening because they not at high risk for cervical cancer.	184	123	356
Women who had a total hysterectomy with no signs of cervical cancer in not recommended for cervical cancer screening	188	97	378
	3689 (32.7)	1499	5944
Total scoring 11271		7582 (67.02)	

The above table shows the low awareness of the participants to the cervical cancer and screening practices. Majority of the respondents (67.02%) of them were not having awareness to cervical cancer and screening practices. Womenfolk undergoing regular screening reduces the chance of having cervical cancer signs (35%) and women with no screening practices is at the risk of cervical cancer up to 4% (Bosch FX et al. 2003). When womenfolk start involving in the sexual activity, the possibility of getting infected with Human Papilloma Virus is high. So, it is mandated to take a screening test which can detect the abnormalities at early stage in cervical tissue (Munoz N et al. 2006).

The participants (67.4%) believed that the amplified awareness among the overall community and widespread acceptability of cervical screening practices was found to be the most important strategy in reducing the cervical cancer occurrence (Satinder Kaur 2023). The study also revealed that this was specifically seen by the urban population and 13% of the participants believed that increase in number of hysterectomies contributed to reduction in cervical cancer (Satinder Kaur 2023). The Human Papilloma Virus (50-80%) and genital warts (5%) causes the life time risk (Myers ER et al. 2000). The findings of the current research show

the lower awareness of the participants to cervical cancer and screening practices that necessitate the need for conducting more training and awareness programmes among the women. In particular the policy and programmes on creating awareness on cervical cancer screening and cervical vaccination should be emphasized.

Attitudes About HPV and Cervical Cancer

Approximately 428 thousand new cases were expected in the year 2012 (Globocan 2012) as cervical cancer was the fourth most common cancer in women during that time. Women being fifty percentage of human resource, cervical cancer is a key wellbeing problem in the world targeting the fifty percent of the human resource (Karadage et al. 2014). The attitude of the respondents is significant variable to enhance their behaviour of screening practices. The negative attitude to HPV and cervical cancer will influence the routine checking behaviour by ignoring it.

Human Papillomavirus infection mainly cause cervical cancer which is in forefront of all the cancer in Indian women. The second furthestmost leading public cancer among womenfolk across the world is also found to the cervical cancer. Vaccination is the most effective methods to prevent cervical cancer. This vaccine reminds the quotes prevention is better than cure. In India, taking up screening test for the cervical cancer is low due to fear and stigma (Kaarthigeeyan 2012).

Table 4: Attitudes About Human Papillomavirus and Cervical Cancer

Attitudes About Human Papillomavirus and Cervical Cancer	True	False	DK
Different strains of the human papillomavirus (HPV), which causes sexually transmitted infection, play a key role in causing most cervical cancer.	342	43	278
Human Papilloma Virus remain silent for many years in a person without their knowledge	252	124	287
Bleeding between periods or after menopause, bleeding and pain during sexual intercourse are the symptoms of cervical cancer	250	87	326

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Having many sexual partners increases the risk of getting HPV	348	97	218
Sexual intercourse transmits Human Papilloma Virus and has no visible signs or symptoms	249	130	284
No symptoms or signs are shown in the primary stage of cervical cancer	271	122	270
The risk of getting Human Papilloma Virus and men can get Human Papilloma Virus is reduced by using condoms	297	70	296
HPV will not cause HIV/AIDs	190	136	337
Skin-to-skin contact in genital areas transmit Human Papilloma Virus	216	154	293
The quality of life, survival rate and highly treatable possibilities are associated with early detection of cervical cancer.	311	106	246
Engaging in sexual activities at early age increases the risk of acquiring Human Papilloma Virus	217	135	311
Human Papilloma Virus cannot be cured with antibiotics	198	138	327
A person engaged in sexual activities is prone to Human Papilloma Virus at any time in their lives	215	142	306
Bleeding or discharge from the vagina after sex which is not normal for a person is the sign of advanced cervical cancer	240	108	315
Surgery, chemotherapy, and radiation therapy are types of cervical cancer treatment and these treatments are used depending on the type and stage of the cervical cancer.	298	77	288
	3894 (39.1%)	1669	4382
Total	9945	6051 (60.1%)	

The results of the current study show that majority of the participants (60.1) had negative attitude to cervical cancer and screening practices. Amidst the participants, only 39.1% of the participants had encouraging attitude towards cervical cancer which is hopeful. However, the awareness and attitude towards cervical cancer and screening practices need attention in alarming Indian context of rising cervical cancer. The individual with lower level of education is associated with advanced cancer and have shorter survival shows the South Indian study (Mathew & George 2020). The people with early-stage cancer detected through screening had a higher chance of survival revealed in another Indian study (Sankaranarayanan 2012). The early detection of cervical cancer by increasing screening practices improves survival rate. Ensuring complete Human Papilloma Virus vaccination for 90 % of girls, screening women by the age of 35 years and by the age of 45years subsequently using a high-performance test and treating 90 % of womenfolk identified with cervical cancer will eliminate the cervical cancer by 2030 (WHO 2020). The reflection of improvement in cervical cancer patients will be revealed through the effectiveness of the screening and organization of cases. The cancer survival trends can be assessed through the expansion and continuation of the survey that included the impact of cancer control activities such as screening practices. Emphasizing the significance of encouraging awareness, early detection, and improving the health-care system will enhance the survival rate (Krishnan Sathishkumar et al. 2023).

Discussion

The present study was done with questionnaire to examine the awareness and attitudes relating to cervical and breast cancers in Tamil Nadu. Breast cancer is the furthestmost prevalent cancer among womenfolk in Southern India, and its occurrence has been steadily rising over the years (Gupta et al. 2015; Mathur et al. 2020). Several dangerous factors back to the expansion of breast cancer, including age, family past of breast cancer, early age at menarche, late age at menopause, hormonal factors, and lifestyle features like overweightness, and lack of physical activity. Breast cancer awareness and screening practice programs have been actively promoted to encourage early detection, which is crucial for better treatment outcomes. Non-governmental organizations (NGOs) and healthcare institutions have played a vital part in levitating awareness about breast cancer and the significance of self-breast examinations and regular mammograms. Treatment options for breast cancer in Southern India are generally in line with international guidelines and include surgery, chemotherapy, radiation therapy, targeted therapy,

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and hormone therapy. Access to advanced treatments, however, may vary depending on the region and healthcare facilities available.

Cervical cancer has become the significant health issue in Southern India and has foremost ranks among the important causes of cancer-related deaths in womenfolk. Cervical cancer is mostly caused by resolute infection with different types of human papillomavirus (HPV). Additional risk factors include early age sexual intercourse, having numerous sexual partners, smoking, and immunosuppression. Like breast cancer, early detection is crucial for cervical cancer. Screening methods, such as Pap smears and HPV testing, have been promoted to detect pre-cancerous lesions and early-stage cancer. Additionally, HPV vaccination campaigns have been initiated to reduce the occurrence of high-risk HPV types and lower the occurrence of cervical cancer. The treatment options for cervical cancer include radiation therapy, chemotherapy, targeted therapy and surgery. The stage of cancer, the patient's health, and the availability of medical facilities decides the type of treatment.

Awareness of Breast Cancer

Examining the outcomes of this research, it was revealed that the awareness of the respondents about the overall aspects of breast cancer like risk factors, cautioning signs and symptoms, and screening behavior in Tamil Nadu was adequate. Breast cancer awareness scores were measured moderately, the most predictive factor for better awareness level was education and information, and breast self-examination most popular method of breast cancer screening among young adults. However, most participants never adhere to it.

The study showed that most young participants were conscious of breast cancer as a disease, but their awareness and understanding of the disease were moderate. The amplified problem of breast cancer must be accompanied by influential means of spreading consciousness. Therefore, it is important to encourage the execution of programs and community-based campaigns to compensate the lack of knowledge among the general population and to stress the role of breast cancer prevention through diverse screening methods. Advertisements on television and radio and the distribution of breast cancer flyers in public places can also be powerful means of information dissemination. Finally, we recommend establishing policy guidelines to disseminate acceptable information about breast cancer to all womenfolk as soon as possible, as information needs to be disseminated to attract public attention.

Attitudes Toward Breast Cancer

This study was conducted in Tamil Nadu that includes breast cancer knowledge begins with self-awareness of breast cancer and its risk factors, signs, and symptoms influencing breast cancer screening behaviors. It has been found that there is knowledge among women about breast cancer as a disease. The knowledge levels of the women about breast cancer screening methods were reported to increase reflected by the increased Likert scaling scores, and it was found that their knowledge of screening methods was adequate among the respondents. Though the respondents had knowledge about breast cancer, the practices relating to self-breast was not encouraging. The attitude towards practicing the preventive measure needed attention.

Awareness About HPV and Cervical Cancer

The current research findings showed insufficient awareness about cervical cancer and poor uptake of HPV and Pap smear tests among general participants and college students. As a recommendation, culturally appropriate educational health programs and interventions focused on improving knowledge levels are needed to increase the uptake of screening with HPV and Pap smear testing. The present research finds the lack of awareness about cervical cancer among Tamil Nadu women. Disseminating information and increasing awareness about cervical cancer screening among the womenfolk of Tamil Nadu is necessitated according to study finding. Educational campaigns involving local media may be a good approach to reaching women in Tamil Nadu. However, no community health issues can be solved in remoteness. Therefore, government and non-government establishments and other relevant organizations should work collaboratively to increase public awareness among women about cervical cancer and its screening practices. The government should work to bridge the health organizations with other sectors in raising consciousness.

Attitudes About Human Papillomavirus and Cervical Cancer

The young age group of women showed very less knowledge and a negative attitude toward HPV infection, prevention, and vaccination. Taking the results of this study into account, some strategies or programmes can be executed. Initially it is important to ensure that all health centers have cervical cancer screening facilities. Due to low awareness, provision of such services in all health centers will lead to an effective interaction among women visiting the health center for some health purpose and the healthcare providers. Most of the respondents had poor awareness about cervical cancer risk factors, signs and symptoms, Human Papilloma Virus

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and its vaccine. Therefore, this necessitates the government to raise the consciousness about the cervical cancer vaccination through the social media, print media and healthcare authorities.

CONCLUSION

Breast and cervical cancer remain significant health challenges in Southern India. Addressing these issues requires a comprehensive approach involving awareness, prevention, screening, and access to quality healthcare. The current research showed that most young participants were conscious of breast cancer as a disease, but their awareness and understanding of the disease were moderate. The awareness and attitudes to cervical cancer among women in Tamil Nadu was less. The study urges the need to intensify awareness programmes about cervical cancer and vaccination through the community and private hospitals to the women in public. Community and private organizations, along with governmental support, must continue to collaborate in the fight against these cancers to improve early detection rates, enhance treatment outcomes, and eventually decrease the problem of breast and cervical cancer on the women of Southern India. Additionally, continuous research and advancement in healthcare can bring hope for improved prevention strategies and treatment options in the future.

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