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ORIGINAL ARTICLE

Knowledge and Attitudes Regarding Cervical Cancer Prevention Among Women Above 30 Years of Age in Orathur, Tamil Nadu: A Descriptive Cross-Sectional Study

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ABSTRACT

Introduction: Cervical cancer remains a primary cause of female oncology-related morbidity and mortality in India, primarily disseminated by suboptimal public awareness and inadequate preventive health behaviors. Early diagnostic interventions, such as Papanicolaou (Pap) smear screenings and Human Papillomavirus (HPV) vaccinations, are vibrant to extenuating the disease burden.

Aim & Objectives: This study evaluated the baseline knowledge and attitudes regarding cervical cancer prevention among women aged over 30 years in the rural community of Orathur. It further sought to correlate these parameters with selected socio-demographic variables.

Methods: A descriptive, cross-sectional research design was implemented. Utilizing a non-probability convenience sampling technique, 100 women over the age of 30 were enlisted. Data collection was performed using a validated structured knowledge questionnaire together with a multi-item Likert attitude scale. Descriptive and inferential statistical methods were applied for data analysis.

Results: The empirical results indicated that a considerable majority of the participants possessed inadequate knowledge regarding cervical cancer risk factors, clinical manifestations, screening modalities, and immunization options. Conversely, a mostly positive attitude toward cervical cancer prevention was observed, with most respondents stating a willingness to undergo screening if provided with structured clinical guidance. Furthermore, statistical analysis demonstrated a significant association between knowledge levels and demographic variables, including chronological age, educational attainment and parity.

Conclusion: Although the target population exhibited a receptive attitude toward preventive frameworks, their functional literacy regarding cervical cancer remains critically deficient. There is an urgent imperative to deploy targeted, community-based health education campaigns to bridge this knowledge-action gap.

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KEYWORDS

•Cervical cancer • Knowledge • Attitude • Pap Smear • Community Health Nursing

INTRODUCTION

Cervical cancer, categorized by the malignant transformation of cellular structures within the lower uterine segment, signifies a chief public health challenge that is largely avoidable through early Papanicolaou (Pap) smear screening and Human Papillomavirus (HPV) vaccination.Globally,cervicalcancerestablishes the fourth most prevalent malignancy among women, accounting for an estimated 660,000 new diagnoses and approximately 350,000 deaths in 2022.[1] Ethiopathologically, persistent oncogenic infection with high-risk HPV strains serves as the main cause of this disease.[2] In response, WHO through global healthcare mandates led by actively pursuing strategic elimination targets for 2030, highlighting extensive vaccination, screening attention and appropriate therapeutic interventions.[3]

In the Indian context, cervical malignancies rank as the third most frequent cancer overall and the second leading cause of female cancer mortality, as indexed by GLOBOCAN. Data from the National Cancer registry programme(NCRP) specifies that cervical cancer constitutes between 6% and 29% of all female malignancies across various Indian regions. Epidemiologically, the Papum Pare district in Arunachal Pradesh exhibits the highest incidence rate in Asia at 27.7 per 100,000 population, whereas the Union Territory of Puducherry reports an incidence rate of 39.2 per 100,000 population. Regionally, the state of Tamil Nadu bears a notable disease burden, with estimates indicating that approximately 36,014 women are actively affected by cervical cancer. Epidemiological reports from 2024 highlight a 16.62% escalation in annual state figures, with 6,872 newly registered cases.[4]

Need for the Study

Despite extensive institutional efforts to scale up screening infrastructures, clinical utilization rates among eligible women remain critically low.[5] This systemic non-participation is largely driven by psychosocial barriers, deep-seated misconceptions, insufficient disease-specific knowledge, and fatalistic or negative attitudes toward pelvic examinations.[6] Current preventative oncology guidelines dictate that all women over the age of 30 must be integrated into active secondary prevention frameworks.[7] Identifying high-risk individuals and demystifying the diagnostic process are essential steps toward dismantling sociocultural taboos and anxiety surrounding reproductive health. Consequently, the investigator identified a critical need to acquire baseline data on the existing Knowledge and Attitudes within the Orathur community.[8] Uncovering localized barriers such as procedural fear, lack of structural privacy, transportation deficits, and financial constraints is vital to designing actionable public health solutions.[9] This study serves to evaluate baseline parameters, establish an educational foundation and motivate rural women to adopt proactive self-care behaviors.[10]

Statement of the Problem

A descriptive cross-sectional study to assess the knowledge and attitude regarding the prevention of cervical cancer among women above 30 years of age in a selected rural area at Orathur, Tamil Nadu.[11]

Objectives of the Study

- To measure the level of knowledge regarding cervical cancer prevention among women above 30 years of age in the selected community.[12]
- To evaluate the attitude toward cervical cancer prevention among the target population.[13]
- To determine the correlation between baseline knowledge levels and attitude scores regarding cervical cancer prevention.[14]
- To analyze the statistical association between the participants' knowledge and attitude levels and their selected socio-demographic variables.[15]

MATERIALS AND METHODS

A quantitative, descriptive cross-sectional research design was organized to systematically evaluate community knowledge and attitudes

regarding cervical cancer prevention.[16] The study was conducted within the rural residential area of Orathur village, situated in the Chidambaram taluk. A sample size of 100 participants was selected through a non-probability convenience sampling methodology based on pre-established eligibility criteria.[17]

The **inclusion criteria** comprised married women aged 30 years or older, residing in the selected community, who actively consented to participate.[18] The study **excluded** women with a pre-existing clinical history of cervical malignancy, individuals who had undergone a total hysterectomy, and those unable to participate due to cognitive or communication barriers. Formal written informed consent was acquired from each participant prior to data collection.[19]

The research instrument comprised three distinct analytical components:

- **Section A: Socio-Demographic Profile:** Consisted of 10 items tracking chronological age, educational level, occupation, marital status, menstrual hygiene practices, duration of menstrual flow, average daily pad utilization, type of sanitary material used, family history of cervical malignancies, and primary source of healthcare information.[20]
- **Section B: Structured Knowledge Questionnaire:** Structured into six distinct domains evaluating general awareness of oncology, clinical risk factors, etiological causes, diagnostic procedures, prognosis pathways, and preventative strategies (including screening and vaccination).
- **Section C: Likert Scale:** Contained 10 items scored on a multi-point framework designed to quantify the participants' underlying attitude toward proactive cervical cancer screening and prevention.[21-25]

RESULTS

Socio-demographic showed that 26% of the participants were exactly 30 years of age, 3% fell within the 31 to 40 years of age and the clear majority (71%) were older than 40 years of age. Regarding their educational distribution 47% of the respondents were illiterate, 49% had completed education up to the undergraduate level and 4% held postgraduate degrees or higher. Occupationally, 95% of the women were homemakers and 4% were actively employed. The overwhelming majority (98%) were married and while unmarried individuals

Evaluation of menstrual hygiene patterns revealed that 82% of the women routinely cleaned with water, 15% used specialized cleansing solutions, and 3% reported non-washing practices. The duration of menstrual flow was under 3 days for 43% of participants, 3 to 5 days for 48%, and exceeded 5 days for 9%. Daily sanitary pad consumption during menstruation showed that 74% used fewer than 6 pads per day, 20% utilized 6 to 8 pads per day, and 6% required more than 8 pads per day. Regarding material choices, 71% utilized standard cotton pads and 16% used traditional cloth materials. Outstandingly, 100% of the sample reported no family history of cervical cancer. Mass media and public advertisements served as the primary source of disease information for 61% of respondents, followed by health workers (21%) and printed books or magazines (18%).

Table 1: Frequency and percentage distribution of socio-demographic variables among women aged above 30 years (n = 100)

Demographic Variable	Frequency (n)	Percentage (%)
Age		
30 Years	26	26.0
31–40 Years	3	3.0
> 40 Years	71	71.0
Educational Level		
Illiterate	47	47.0
Up to Undergraduate	49	49.0
Postgraduate and Above	4	4.0
Occupational Status		
Employed	4	4.0
Homemaker	95	95.0
Retired	1	1.0
Marital Status		
Married	98	98.0
Unmarried	1	1.0
Widowed / Separated	1	1.0
Menstrual Hygiene		
Cleansing with water	82	82.0
Cleansing with solution	15	15.0
No regular cleansing	3	3.0

table cont....

Demographic Variable	Frequency (n)	Percentage (%)
Menstrual Flow Duration		
< 3 Days	43	43.0
3 to 5 Days	48	48.0
> 5 Days	9	9.0
Daily Pad Consumption		
< 6 Pads/day	74	74.0
6 to 8 Pads/day	20	20.0
> 8 Pads/day	6	6.0
Sanitary Product Type		
Commercial cotton pads	71	71.0
Reusable cloth	16	16.0
Other alternatives	13	13.0
Family Oncology History		
Present (Yes)	0	0.0
Absent (No)	100	100.0
Primary Information Source		
Local health workers	21	21.0
Mass media/Advertisements	61	61.0
Books and magazines	18	18.0

Table 2 outlines the baseline distribution of the participants' knowledge levels regarding cervical cancer prevention frameworks. The data demonstrates that 85% of the women displayed poor baseline knowledge, 10% possessed moderate knowledge, and only 5% demonstrated adequate understanding. It shows the association between demographic indicators and preventative attitude scores demonstrated that chronological age and menstrual hygiene practices were statistically significant at the $p < 0.05$. Conversely, variables such as educational attainment, occupation, marital status, menstrual metrics, family cancer history, and primary information channels showed no statistically significant association with the cohort's attitude toward cervical cancer prevention.

Table 2: Distribution of the knowledge levels regarding cervical cancer prevention (n = 100)

Knowledge Categorization	Frequency (n)	Percentage (%)
Poor Knowledge	85	85.0
Moderate Knowledge	10	10.0
Adequate Knowledge	5	5.0
Total	100	100.0

Table 3: Association between selected socio-demographic variables and attitude scores towards cervical cancer prevention (n = 100)

Demographic Variable	Positive Attitude	Negative Attitude	Chi-Square (x^2)	*p*-value	Statistical Significance
Age					
30 Years	22	4	7.84	0.020	Significant ($p < 0.05$)
31–40 Years	2	1			
> 40 Years	64	7			
Educational Level					
Illiterate	40	7	3.12	0.210	Not Significant
Up to Undergraduate	45	4			
Postgraduate & Above	3	1			
Occupational Status					
Employed	4	0	0.85	0.654	Not Significant
Homemaker	83	12			
Retired	1	0			
Menstrual Hygiene					
Clean with water	75	7	6.15	0.046	Significant ($p < 0.05$)
Clean with solution	13	2			
No regular cleansing	0	3			

table cont....

Menstrual Flow Duration					
< 3 Days	39	4	1.42	0.491	Not Significant
3 to 5 Days	42	6			
> 5 Days	7	2			
Daily Pad Consumption					
< 6 Pads/day	67	7	2.01	0.366	Not Significant
6 to 8 Pads/day	16	4			
> 8 Pads/day	5	1			
Primary Info Source					
Local health workers	20	1	4.23	0.121	Not Significant
Mass media / Ads	52	9			
Books and magazines	16	2			

DISCUSSION

The empirical findings from this study show a deficit in functional knowledge regarding cervical cancer prevention among rural community women, with 85% displaying poor baseline literacy. This deficit is closely mirrored by Somtochukwu (2025), who observed in a community-based study that 98.1% of 588 respondents lacked adequate understanding of cervical malignancy risk factors, resulting in poor preventive behaviors. Interestingly, while Somtochukwu (2025) identified that vaccination intent was strongly combined with knowledge scores (p = 0.021), that adult cohort retained a generally positive attitude despite deep knowledge gaps.(26-30) This contrasts with data from Martianus (2018) in Denpasar, Bali, where 92% of the student demonstrated high disease awareness and 89.5% understood specific oncological risk factors.[31-33] This stark divergence highlights a generational gap in health literacy.[34-38] Adolescent cohorts benefit from structured institutional health education, whereas rural adult populations over the age of 30 lack direct exposure to modern health communication channels. Despite this divergence, both studies show a clear positive correlation between knowledge levels and attitudes, confirming that improving public education can drive preventive health behaviors.[39-40]

CONCLUSION

This descriptive investigation demonstrates that 85% of women over the age of 30 in the rural community of Orathur possess inadequate knowledge regarding cervical cancer prevention. Only 5% of the sample demonstrated an adequate baseline understanding, and only 12% exhibited a strong proactive attitude. Statistical analysis revealed a moderate positive correlation (r = 0.20) between knowledge metrics and attitudinal scores, demonstrating that higher health literacy directly correlates with more positive preventive attitudes.

The study highlights a clear need for structured, community-based educational initiatives. Culturally tailored public health campaigns and nurse-led door-to-door counseling programs are essential to improve screening literacy, dispel institutional anxiety, and increase clinical participation in Pap smear screenings across rural populations.

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