Assessing the Impact of a Structured Teaching Programme on Women's Knowledge of Cervical Cancer Prevention in Selected Villages of Kuppam, Andhra Pradesh

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***Abstract*—Back Ground:Cervical cancer is one of the leading cancers among women worldwide, with a particularly high prevalence in low- and middle-income countries such as India. The primary cause is a persistent infection with high-risk strains of the Human Papillomavirus (HPV). Despite being largely preventable through HPV vaccination and regular screening methods like the Pap smear test, awareness and utilization of these preventive measures remain low—especially in rural areas. In regions like Kuppam, Andhra Pradesh, many women lack adequate knowledge about cervical cancer prevention, underscoring the need for effective health education interventions. The main aim of the study was to assess the impact of a structured teaching programme on women's knowledge regarding the prevention of cervical cancer in selected villages of Kuppam, Andhra Pradesh. A quantitative research design was adopted, involving 30 women who met the inclusion criteria. The participants underwent a structured teaching intervention focused on cervical cancer awareness, including its causes, risk factors, and preventive measures such as HPV vaccination and Pap smear screening. Data was collected using a pre-test and post-test method. The analysis revealed a significant improvement in knowledge scores, with a pre-test mean of 7.1 (SD = 4.1) and a post-test mean of 16.9 (SD = 4.1). The paired *t*-test value was 4.594 with a *p*-value of 0.0001, indicating a statistically significant difference. The results demonstrate that the structured teaching programme was effective in enhancing the knowledge of cervical cancer prevention among rural women.**

***Index Terms*—knowledge, structured teaching programme, cervical cancer, and women**

I. INTRODUCTION

Cervical cancer is a serious public health challenge, particularly in low- and middle-income countries, where it ranks among the top causes of cancer-related deaths in women. In India, women living in rural areas are especially vulnerable due to limited healthcare access, low awareness, and cultural barriers that prevent them from seeking preventive care. The main cause of cervical cancer is a long-lasting infection with high-risk types of Human Papillomavirus (HPV). Thankfully, the disease is largely preventable through HPV vaccination and regular screening methods like Pap smears. However, in many rural communities, knowledge about these preventive options remains very low, and participation in screening programs is minimal. This highlights the importance of focused educational efforts to improve awareness and encourage preventive actions. Structured teaching programs have shown to be effective in filling this knowledge gap by empowering women with the information they need to make informed health choices and lower their risk of developing cervical cancer.

Need for the study:

Cervical cancer is one of the most preventable forms of cancer, yet it continues to be a leading cause of death among women worldwide. As reported by the World Health Organization (WHO), over 600,000 new cases and more than 340,000 deaths occurred globally in 2020, with nearly 90% of these deaths

concentrated in low- and middle-income countries. In India, cervical cancer ranks as the second most common cancer among women, responsible for around 18% of all female cancer-related deaths—amounting to an estimated 123,000 new cases and over 77,000 deaths each year. The impact is especially pronounced in rural areas, including regions like Andhra Pradesh, where awareness about cervical cancer, access to screening services, and HPV vaccination coverage remain critically low. Women in these communities often face multiple challenges such as limited health literacy, cultural stigma, and inadequate preventive healthcare services. These barriers highlight the pressing need for focused educational initiatives to raise awareness, encourage early detection, and empower women to take preventive actions. In light of this, the present study was undertaken to investigate the issue in depth and identify the contributing factors within the rural context.

Objectives of the study:

1. To assess the pre-intervention knowledge levels regarding cervical cancer prevention among women in selected villages of Kuppam, Andhra Pradesh.
2. To evaluate the post-intervention knowledge levels regarding cervical cancer prevention among women in selected villages of Kuppam, Andhra Pradesh.
3. To compare the pre-test and post-test knowledge scores to determine the effectiveness of the structured teaching programme on cervical cancer prevention.
4. To examine the association between pre-test knowledge scores and selected socio-demographic and menstrual variables among women in the selected villages of Kuppam, Andhra Pradesh.

Hypothesis:

RH1: There will be a significant difference between the pre-test and post-test knowledge scores regarding cervical cancer prevention among women in selected villages of Kuppam, Andhra Pradesh, following the implementation of the structured teaching programme.

RH2: There will be a significant association between the pre-test knowledge scores on cervical cancer prevention and selected socio-demographic and menstrual variables among women in the selected villages of Kuppam, Andhra Pradesh.

II. METHODS AND MATERIALS

Research Approach**:**

This study utilized a quantitative research approach to evaluate the impact of a structured teaching programme on the knowledge of cervical cancer prevention among women in selected villages of Kuppam, Andhra Pradesh.

Research Design**:**

A pre-experimental design with a single group was employed, involving both pre-test and post-test assessments to measure changes in knowledge regarding cervical cancer prevention after the implementation of the structured teaching programme.

Research Setting**:**

The study was conducted in Nalagampalli and Beggilipalle, rural villages located near the Tertiary Teaching Hospital in Kuppam, Andhra Pradesh. These areas were selected due to their limited healthcare access and low awareness about cervical cancer prevention.

Population**:**

The population for this study consisted of women residing in the selected villages of Kuppam, Andhra Pradesh.

Sampling Technique**:**

A non-probability convenience sampling technique was used to select participants who met the inclusion criteria.

Sample Size**:**

A total of 160 women participated in the study, with the sample size determined through power analysis to ensure adequate statistical power.

Sampling Criteria**:**

Inclusion Criteria**:**

- Women aged between 20 to 60 years.
- Women available during the data collection period.
- Women who can read and understand Telugu or English.

Exclusion Criteria**:**

- Women diagnosed with cervical cancer or undergoing treatment.
- Women with a history of other types of cancer.

- Women who have undergone a complete hysterectomy.
- Women who were seriously ill or unable to communicate during data collection.

III. RESEARCH VARIABLES:

Dependent Variable:

- Women's knowledge regarding the prevention of cervical cancer in the selected villages of Kuppam.

Independent Variable:

- Structured teaching programme on the prevention of cervical cancer

Description of the Tool:

The data collection tool consisted of a structured knowledge questionnaire, divided into three parts:

- Part A - Demographic Variables: Includes questions on age, religion, marital status, education, occupation, family income, and number of pregnancies.
- Part B - Menstrual Variables: Includes questions about age at menarche, cycle duration, number of pads changed during menstruation, type of sanitary pads used, contraceptive use history, gynecological problems, and prior knowledge of cervical cancer prevention.
- Part C - Knowledge on Cervical Cancer Prevention: Consists of 30 multiple-choice **questions** assessing participants' knowledge about cervical cancer prevention. Each correct answer was scored **1**, and incorrect answers were scored **0**.

Key and Interpretation:

- Adequate Knowledge: > 75%
- Moderately Adequate Knowledge: 50-74%
- Inadequate Knowledge: < 49%

Validity:

The tool's content validity was confirmed by experts from the fields of OBG and community health nursing. After expert review, the tool was modified based on their feedback, achieving 100% agreement, ensuring the content validity of the instrument.

Reliability:

Reliability was assessed using the Test-Retest method. The correlation coefficient, computed using Karl Pearson's formula, was 0.807, indicating high reliability of the tool.

Ethical Clearance:

Ethical approval for the study was obtained from the Institutional Ethics Committee at PESIMSR, Kuppam.

Informed Consent:

Informed consent was obtained from all participants, both orally and in writing, after explaining the purpose and procedures of the study. Participant confidentiality was strictly maintained throughout the research process

Data Collection Procedure:

Data collection occurred over a period of four weeks. The researcher conducted face-to-face interviews with participants, lasting 40-45 minutes each, during which demographic and knowledge questionnaires were administered. Following the structured teaching programme, the **post-test** was conducted after a one-week interval to measure changes in participants' knowledge.

IV. RESULTS

The data is organized and presented under the fallowing sections

Section-I: Frequency and percentage distribution of the socio- demographic variables among women

Section-: II Frequency and percentage distribution of the menstrual variables among antenatal women.

Section -III: Frequency and percentage distribution of pre-test and post- test Knowledge scores on prevention of cervical cancer among women.

Section –IV: Comparison of pretest and post- test mean, SD "t" and p-values of Knowledge scores prevention of cervical cancer among women.

Section -V: Association of pre test knowledge scores on prevention of cervical cancer among women with their selected socio -demographic variables and menstrual variables

Table -1. Frequency and percentage distribution of socio demographic variables among women

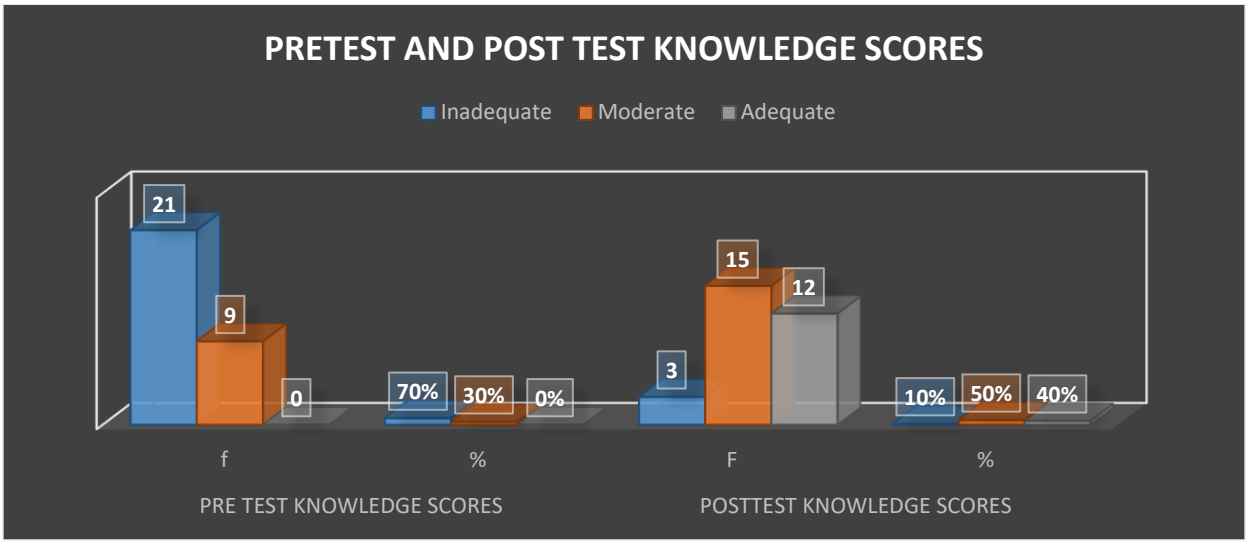
SOCIO DEMOGRAPHIC DATA	F	%
Age of the mother (in years)		
a. 20–25	2	6.7
b. 26–30	6	20
c. 31–35	9	30
d. 36 and above	13	43.3
2. Religion		
a. Hindu	30	100
b. Muslim	0	0
c. Christian	0	0
3. Marital Status		
a. Married	30	100
b. Unmarried	0	0
c. Divorced	0	0
4. Educational status of the women		
a. No formal education	6	20
b. Primary education	15	50
c. Secondary education	3	10
d. Degree	6	20
e. PG and above	0	0
5. Occupation of the women		
a. Housewife	0	0
b. Daily wages	18	60
c. Private job	6	20
d. Business	6	20
6. Type of family		
a. Nuclear family	21	70
b. Joint family	9	30
7. Family income per month (rupees)		
a. Below 10,000	18	60
b. 10,001–15,000	12	40
c. 15,001–20,000	0	0
d. Above 20,000	0	0
8. Previous knowledge regarding prevention of cervical cancer		
a. Yes	0	0
b. No	30	100

Table -2 frequency and percentage distribution of menstrual variables among women

MENSTRUAL VARIABLES	F	%
1. Age of menarche		
a. <12 years	9	30
b. 13–15 years	21	70
c. >16 years	0	0
2. Duration of cycle		
a. <3 days	0	0
b. 4–6 days	24	80
c. 7–9 days	6	20
d. >10 days	0	0
e. Not applicable	0	0
3. Total number of pads changed during menstruation		
a. <3 pads/day	9	30
b. 4–6 pads/day	12	40
c. 7–9 pads/day	3	10
d. >10 pads/day	6	20
e. Not applicable	0	0
4. Type of sanitary pads used		
a. Reusable cloth	6	20
b. Disposable pads	12	40
c. Menstrual cup	0	0
d. Others	6	20
e. Not applicable	6	20
5. Number of pregnancies		
a. No children	6	20
b. 1 child	21	70
c. 2 children	3	10
d. >3 children	0	0
6. History of contraceptive method followed		
a. Yes	12	40
b. No	18	60
7. Type of family planning method followed		
a. Temporary	12	40
b. Permanent	18	60
c. Not applicable	0	0
8. History of any gynecological problems		
a. Yes	3	10
b. No	27	90

Section -III: Frequency and percentage distribution of pre-test and post- test Knowledge scores on prevention of cervical cancer among women.

S. No	Knowledge Level	PRE TEST KNOWLEDGE SCORES		POSTTEST KNOWLEDGE SCORES	
		f	%	F	%
1	Inadequate	21	70%	3	10%
2	Moderate	9	30%	15	50%
3	Adequate	0	0%	12	40%



Section-IV comparision of pretest and post test , mean, SD , T and p values of women

Measurement	Mean	SD	*t*-Value	*p*-Value
Pretest	7.1	4.1	-4.594	0.001
Posttest	16.9	5.1		

revealed the comparison of pretest and post-test, mean standard deviation on knowledge scores of women, in pretest the mean was 7.1 and standard deviation of pre-test was 4.1 and the post-test mean was 16.9 and standard deviation is 5.1 the value of **t** -4.594 the value of **p** is <0.0001result is significant.

Section-v Association of pretest knowledge level of women on prevention of cervical cancer with their selected socio –demographic and menstrual variables

Describes association of pretest knowledge level of women on prevention of cervical cancer with their selected socio –demographic and menstrual variables, there were a significant association with educational qualification of women at p value 0.03gestational age of mother with p-value 0.05 and type of pregnancy at P value 0.04 hence the research hypothesis RH2 was partially accepted

V. CONCLUSION

The following conclusions were drawn on the basis of findings of the study:

The overall percentage and mean knowledge scores on prevention of cervical cancer among women showed higher in the posttest than pretest with the P value showing 0.001 hence fore it is concluded that the prevention of cervical cancer education programmed has a greater influence in enhancing the knowledge scores among women

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