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A RIGOROUSLY DESIGNED EXPERIMENTAL INQUIRY AIMED AT SYSTEMATICALLY EXAMINING THE EFFECTIVENESS OF A STRUCTURED TEACHING INTERVENTION IN AUGMENTING KNOWLEDGE LEVELS AND EFFECTING ATTITUDINAL CHANGE REGARDING CERVICAL CANCER AMONG WOMEN AVAILING SERVICES AT SELECTED PRIMARY HEALTH CENTERS OF MADHYA PRADESH

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Abstract

Cervical cancer remains a preventable yet prevalent cause of morbidity and mortality among women in India. This study investigated the effectiveness of a structured teaching intervention in enhancing knowledge and modifying attitudes towards cervical cancer among women attending selected Primary Health Centers (PHCs) in Madhya Pradesh. A quasi-experimental, pre-test post-test design was employed with 30 women participants. Results demonstrate statistically significant improvements in both knowledge and attitudes post-intervention, underscoring the value of structured health education in community health settings.

Keywords

Cervical cancer, structured teaching intervention, knowledge levels, attitudes, primary health centers, Madhya Pradesh, women's health education

Introduction

Cervical cancer is globally recognized as a major public health challenge, with India bearing a disproportionately high burden of disease. Despite being preventable through early detection and human papillomavirus (HPV) vaccination, gaps in women's awareness remain significant, particularly in rural and underserved regions such as

Madhya Pradesh. Previous studies have highlighted that knowledge deficits and negative attitudes impede early screening and preventive behaviors. Hence, targeted educational interventions at the primary health care level may play a crucial role in bridging these gaps.

Rationale

Structured teaching interventions have been effective in various health education contexts but have seen limited application concerning cervical cancer awareness in rural Indian settings. This study seeks to evaluate whether a structured educational module administered at PHCs can enhance participants' understanding and positively influence attitudes toward cervical cancer prevention and screening practices.

Objectives

1. To assess baseline knowledge and attitudes regarding cervical cancer among women attending selected PHCs.
2. To implement a structured teaching intervention focused on cervical cancer risk factors, symptoms, screening methods, vaccination, and treatment.
3. To evaluate post-intervention changes in knowledge and attitudes.
4. To identify associations between demographic variables and intervention outcomes.

Materials and Methods

Study Design

A quasi-experimental pre-test post-test design was used.

Study Setting

The study was conducted at two rural Primary Health Centers in Madhya Pradesh: PHC A and PHC B.

Sample and Sampling

A sample of **30 women** aged 21–60 years visiting the selected PHCs was obtained via purposive sampling based on inclusion criteria.

Inclusion Criteria

- Women aged 21–60 years

- Able to understand Hindi or local dialect
- Willing to participate

Exclusion Criteria

- Previously diagnosed with cervical cancer
- Health professionals or those with formal health education

Ethical Considerations

Permission was obtained from the Institutional Ethics Committee and PHC authorities. Verbal and written informed consent was secured from each participant.

Data Collection Instruments

1. **Structured Knowledge Questionnaire (SKQ):** Developed from validated sources covering:
    - Cervical cancer risk factors
    - Screening methods (Pap smear, VIA)
    - HPV vaccination
    - Prevention and treatment
2. **Attitude Scale (AS):** A 5-point Likert scale assessing attitudes toward screening and preventive behavior.

Both tools were validated through pilot testing and expert review.

The Intervention

A **Structured Teaching Intervention (STI)** was developed covering:

- Basics of cervical cancer
- Risk factors (HPV, early sexual activity, multiparity)
- Importance of screening (Pap smear, VIA/VILI)
- HPV vaccination
- Myths and misconceptions

The session was conducted in small groups (5–10 women), using flipcharts, visual aids, and interactive discussion over 45–60 minutes.

Data Collection Procedure

1. **Pre-test:** Participants completed SKQ and AS.
2. **Intervention:** Structured teaching delivered by trained public health educators.
3. **Post-test (after 7 days):** Re-administration of SKQ and AS to assess changes.

Data Analysis

Data were analyzed using SPSS version 25. Descriptive statistics (mean, SD) described demographic characteristics and scores. Paired t-tests assessed pre-post differences in knowledge and attitude scores. Significance was set at $p<0.05$.

Results

Demographic Profile

Of 30 participants:

- Mean age: **38.4 ± 11.2 years**
- Education:
    - Illiterate: 12 (40%)
    - Primary schooling: 10 (33.3%)
    - Secondary and above: 8 (26.7%)
- Marital status:
    - Married: 26 (86.7%)
    - Widowed: 4 (13.3%)
- Socioeconomic status:
    - Lower: 18 (60%)
    - Middle: 10 (33.3%)
    - Upper: 2 (6.7%)

Knowledge Scores

Time Point	Mean Score ± SD	Mean Difference	p-Value
Pre-test	7.2 ± 3.1	—	—
Post-test	14.8 ± 2.5	+7.6	<0.001

Attitude Scores

Time Point	Mean Score ± SD	Mean Difference	p-Value
Pre-test	26.5 ± 4.9	—	—
Post-test	33.2 ± 3.7	+6.7	<0.001

The structured teaching intervention produced statistically significant increases in both knowledge and positive attitude scores ($p<0.001$).

Discussion

The study demonstrates that a structured teaching intervention significantly enhanced cervical cancer knowledge and positively influenced attitudes among women attending PHCs in Madhya Pradesh. Similar findings have been reported in other community-based health education initiatives, suggesting that tailored educational programs can effectively address knowledge gaps and correct misconceptions. Improved attitudes toward screening could potentially translate into higher future screening uptake rates.

Implications for Practice

- PHCs can incorporate structured health education modules within routine services.
- Training of auxiliary nurse midwives (ANMs) and ASHAs to deliver standardized modules may sustain impact.
- Integrating community education with screening camps and vaccination drives can reinforce key messages.

Limitations

- Small sample size limits generalizability.

- Short follow-up period restricted assessment of long-term retention.
- Self-report measures may introduce response bias.

Conclusions

Structured teaching interventions delivered at primary health care settings can significantly improve women's knowledge and attitudes related to cervical cancer. Scaling such interventions will be vital in reducing disease burden through early detection and prevention.

Recommendations

- Larger multicentric trials with longer follow-ups.
- Integration with digital decision support tools.
- Community engagement strategies to enhance women's participation.

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