

Research Article

A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge and Attitude Regarding Cervical Cancer Among Women at Civil Hospital, Amritsar

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A B S T R A C T

Introduction: Cervical cancer ranks as the fourth most prevalent cancer among women worldwide and stands as a prominent cause of cancer-related fatalities in India's female population. The extended latent precancerous phase, spanning from initial human papillomavirus (HPV) infection to potential cancer onset, underscores the significance of screening as a highly effective prevention strategy.

Material and methods: A quasi-experimental study was conducted to assess the effectiveness of structured teaching programme on knowledge and attitude regarding cervical cancer among women. The study was carried out in selected hospitals, Amritsar. A total of 50 samples were involved using purposive sampling technique whom met inclusion criteria. Data were collected using by self-structured knowledge questionnaire and attitude scale through interview methods. Data was analyzed using by IBM SPSS software version-27.

Results: The study revealed that a significant increase in knowledge and attitude scores, both significant at the 0.01 level. These findings confirm the effectiveness of the STP in enhancing both knowledge and attitudes about cervical cancer among women. Consequently, the null hypothesis was rejected, and the alternate hypothesis, asserting the effectiveness of the STP, was accepted. The pre-test results demonstrated a positive relationship ($r=0.716$, $p=0.001$), indicating a significant correlation between knowledge and attitudes towards cervical cancer. The post-test results showed an even stronger positive relationship ($r=0.911^{**}$, $p=0.001$), further emphasizing the robust association between increased knowledge and more favorable attitudes towards cervical cancer after the intervention.

Conclusion: This study substantiates that structured educational initiatives can effectively bridge the information gap and positively alter attitudes regarding health issues such as cervical cancer. This underscores the potential of such programs in promoting better health outcomes through informed decision-making and proactive health behaviors, thereby advocating for their broader application with in public health strategies.

Keywords: Attitude, cervical cancer, knowledge, women

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Introduction

Cervical cancer ranks as the fourth most prevalent cancer among women worldwide and stands as a prominent cause of cancer-related fatalities in India's female population. The extended latent precancerous phase, spanning from initial human papillomavirus (HPV) infection to potential cancer onset, underscores the significance of screening as a highly effective prevention strategy.¹

The second most common cancer in Ethiopian women of childbearing age is cervical cancer, which affects the organs that connect the reproductive system. Timely screening and treatment effectively reduce the incidence of related mortality, making it a preventable cancer. The purpose of this research was to identify the characteristics that affect rural reproductive-age women's knowledge about cervical cancer screening. The results showed that just 51.3% of women were aware that cervical cancer screening is an option. Modern methods of contraception use, STI history, "family history of cervical cancer," and acquaintanceship with people afflicted by the disease were also found to be significant predictors of cervical cancer screening knowledge among these women, according to the study.²

Multiple studies have shown that women from different parts of the world have different levels of knowledge about cervical cancer and how to prevent it. Importantly, women in developing countries know less about cervical cancer and how to avoid it than those in industrialized nations. Research also shows that women are more likely to use Pap screening tests if they are knowledgeable about cervical cancer prevention and have a favorable attitude toward the exam. This highlights the significance of raising consciousness and encouraging constructive mindsets to encourage the adoption of cervical cancer prevention strategies.

Need of the study

Over the past two decades, cervical cancer has maintained its status as the foremost cancer affecting women. In India, the "peak age for cervical cancer incidence" typically falls within the 55–59-year age bracket. Cervical cancer stands as the leading cause of mortality among women in developing nations. This grim statistic not only underscores the gravity of the disease but also serves as a poignant indicator of health disparities. Indeed, a staggering 86% of all cervical cancer-related deaths occur within the confines of developing, low- and middle-income countries.^{3,4}

As the second most common disease in women worldwide, cervical cancer is a major concern for public health around the world, especially in countries with low- or medium-income levels. It has a disproportionately large effect on these areas because they are home to more than 84% of all new occurrences of cervical cancer globally. After

breast cancer, cervical cancer is the second most common cancer in Moroccan women. An estimated 10.4 new cases of cervical cancer per 100,000 women are diagnosed each year, with 5.8 deaths per 100,000 women being attributed to the disease.^{5,6}

In 2019, it was estimated that approximately 13,170 women would be diagnosed with cervical cancer and out of these, about 4,250 would succumb to the disease. Research has elucidated that persistent infection with specific strains of "Human Papillomavirus (HPV)" correlates with an elevated risk of developing cervical cancer, a topic we will delve into further later.⁷

A metagenomic study conducted in late 2017 revealed the presence of HPV in a striking 98.4 percent of the surveyed cervical tumors. While approximately 80 percent of HPV cases spontaneously resolve within 24 months, the remaining twenty percent of women may progress to cervical abnormality, potentially leading to cervical cancer. It's noteworthy that over 99 percent of cervical cancer cases occur in individuals with an HPV infection, indicating the virus's crucial role in cancer development. However, it's important to acknowledge that HPV may not be the sole causative agent, suggesting a multifactorial etiology in cervical cancer pathogenesis.^{8,9}

Objective of the study

1. To assess the pretest level of knowledge and attitude regarding cervical cancer among women.
2. To assess the posttest level of knowledge and attitude regarding cervical cancer among women.
3. To compare the pretest and posttest score of knowledge and attitude regarding cervical
4. To find out the relationship between knowledge and attitude regarding cervical cancer among women.
5. To find out the association between pretest knowledge level and attitude with their demographic variables regarding cervical cancer among women.

Hypothesis

H0: "There is no significant difference of pretest and posttest mean score of knowledge and attitude regarding cervical cancer among women.

H1: There is a significant difference of pretest and posttest mean score of knowledge and attitude regarding cervical cancer among women."

Methodology

Research design

For this study, a quasi-experimental one-group pretest-posttest design was utilized.

A quantitative approach was adopted with quasi-experimental group pretest and posttest design. The

independent variable was structured teaching programme on cervical cancer and dependent variable were knowledge and attitude regarding cervical cancer. The study was conducted in selected hospital at Amritsar, Punjab. The study population included women aged between 25 to 50 years. The sample size consisted of 50 women and were selected by non-probability purposive sampling technique. The study included the women who were willing to participate in criteria, who were present at the time of data collection and who were capable of understanding English or Punjabi and the study excluded women who were not willing to participate.

Reliability of tool

Reliability denotes the degree of consistency of the tool. After validation, the tools were subjected for its reliability. The structured interview schedule was used for data collection of knowledge and attitude regarding cervical cancer. The reliability score obtained from Cronbach's alpha, $r=0.79$, which showed that the tool was reliable for conducting the study.

Data Collection Procedure

after obtaining written permission from medical superintendent of civil hospital, the study started was started in September 2023. On the first day of data collection, investigator introduced her and explained the nature of purposes of the study to the structured teaching programme on knowledge and attitude regarding cervical cancer. Consent was obtained to participate in the study and confidentiality of their responses were assured. Pretest and posttest were conducted by using self-structured questionnaires. Before posttest, structured teaching programme was conducted to enhance their knowledge regarding cervical cancer.

Ethical Considerations

Ethical approval was obtained from the institutional ethics review board. Formal permission was obtained from the principal. The researcher had fully described the nature of study, its purposes and steps involved, based on this oral and written informed consent was obtained from the samples.

Results and Discussion

Distribution of Demographic Variables

The study involved 50 women at civil hospital in Amritsar, Punjab. The age distribution indicates a younger demographic with 68% of participants being below 35 years old, 24% are under 25 years, 30% fall within the 25-30 age bracket, 34% are between 31-35 years and only 12% are aged 36-40 years. Religion-wise, 44% of the participants identify as Hindu and 56% as Sikh. In terms of habitat, 58% come from urban areas, whereas 42% are from rural

settings. Educational levels vary among participants 12% have had no formal education, 24% have education up to 10th grade, 38% have completed up to the 12th grade and 26% hold a graduation degree or higher. (Table 1, 2 & 3)

Table 1. Socio-demographic Profile of women at selected hospitals of Amritsar, Punjab

Variables	f	%
Age (years)		
<25	12	24.0
25-30	15	30.0
31-35	17	34.0
36-40	6	12.0
Religion		
Hindu	22	44.0
Sikh	28	56.0
Habitat		
Rural	21	42.0
Urban	29	58.0
Educational status		
Informal'	6	12.0
Upto 10th	12	24.0
Upto 12th'	19	38.0
Graduation or above	13	26.0
Occupation		
Housewife	16	32.0
Pvt. job	18	36.0
Govt. job	10	20.0
Others	6	12.0
Type of family		
Nuclear	32	64.0
Joint	18	36.0
Family income (Rs/month)		
<15000	12	24.0
15000-30000	23	46.0
30001-45000	8	16.0
>45000	7	14.0
Source of information		
Health professional	8	16.0
Internet	14	28.0
Print media	12	24.0
No Information	16	32.0

Table 2. Association between pretest knowledge score with their selected demographic variables

Variables	Level of Knowledge		C ² values	df	p value
	Average	Below average			
Age (years)					
<25	4	8	1.117	3	833 ^{NS}
25-30	7	8			
31-35	5	12			
36-40	2	4			
Religion					
Hindu	10	12	1.524	1	.217 ^{NS}
Sikh	8	20			
Habitat					
Rural	9	12	.739	1	.390 ^{NS}
Urban	9	20			
Educational status					
Informal'	3	3	4.187	3	.239 ^{NS}
Upto 10th	4	8			
Upto 12th'	4	15			
Graduation or above	7	6			
Occupation					
Housewife	6	10	1.413	3	.730 ^{NS}
Pvt. job	5	13			
Govt. job	5	5			
Others	2	4			
Type of family					
Nuclear	15	17	4.563	1	.033 ^S
Joint	3	15			
Family income (Rs/month)					
<15000	5	7	4.347	3	.255 ^{NS}
15000-30000	7	16			
30001-45000	5	3			
>45000	1	6			
Source of information					
Health professional	3	5	4.828	3	.183 ^{NS}
Internet	8	6			
Print media	4	8			
No information	3	13			

Table 3. Association between posttest knowledge score with their selected demographic variable

Variables	Level of attitude		C ² values	df	p value
	Neutral	Negative			
Age (years)					
<25	4	8	5.299	3	.187 ^{NS}
25-30	3	12			
31-35	1	16			
36-40	0	6			
Religion					
Hindu	6	16	3.714	1	.116 ^{NS}
Sikh	2	26			
Habitat					
Rural	4	17	.250	1	.706 ^{NS}
Urban	4	25			
Educational status					
Informal'	1	5	.010	3	1.00 ^{NS}
Upto 10th	2	10			
Upto 12th'	3	16			
Graduation or above	2	11			
Occupation					
Housewife	2	14	1.926	3	.714 ^{NS}
Pvt. job	4	14			
Govt. job	2	8			
Others	0	6			
Type of family					
Nuclear	6	26	.500	1	.694 ^{NS}
Joint	2	16			
Family income (Rs/month)					
<15000	4	8	5.902	3	.070 ^{NS}
15000-30000	1	22			
30001-45000	1	7			
>45000	2	5			
Source of information					
Health professional	1	7	1.593	3	.765 ^{NS}
Internet	2	12			
Print media	1	11			
No Information	4	12			

Comparison between pre-test and post-test knowledge

The pretest score was 9.42 ± 3.06 , which increased to a mean post-test score of 15.34 ± 4.80 . The mean difference in scores is 5.92, indicating a substantial increase in knowledge levels. Paired 't' test was applied which indicate ($t_{49}=8.41$, $p=0.001$) significant at the 0.01 level. (Table 4)

Comparison between pre-test and post-test attitude

The pre-test score was 38.84 ± 7.93 , which increased to a mean post-test score of 59.76 ± 17.97 . The mean difference in scores is 20.92, indicating a substantial increase in attitude levels. Paired 't' test was applied which indicate ($t_{49}=8.53$, $p=0.001$) significant at the 0.01 level. (Table 5)

Relationship between pre-test and post-test knowledge and attitude

Positive relationship was statistically significant in pretest ($r=0.716$, $p=0.001$).

Strong positive relationship was statistically significant ($r=0.911$, $p=0.001$).Table 6

Association between pre-test and post-test knowledge and attitude level with their selected demographic variables.

The analysis revealed that type of family ($p=0.033$) found statistically significant at 0.05 level. Whereas others demographic variable such as age, religion, habitat, education, occupation, monthly income, source of information has no statistically significant as $p \text{ value} > 0.05$. these variables have no impacts on knowledge regarding cervical cancer among women. The analysis revealed that age, religion, habitat, education, occupation, type of family, monthly income, source of information has no statistically significant as $p \text{ value} > 0.05$. Thus, these variables have no impacts on attitude regarding cervical cancer among women. Table 7

Table 4.Comparison of pre-test and post-test knowledge score regarding cervical cancer among women

S. No.	Knowledge score	Mean	SD	MD	t value	df	p value
1.	Pretest	9.42	3.06	5.92	8.41	49	.001 ^s
2.	Posttest	15.34	4.80				

Table 5.Comparison of pre-test and post-test attitude score regarding cervical cancer among women

S. No.	Attitud score	Mean	SD	MD	t value	df	p value
1.	Pretest	38.84	7.93	20.92	8.53	49	.001 ^s
2.	Posttest	59.76	17.97				

Table 6.Relationship between Pretest knowledge & attitude score regarding cervical cancer among women

S. No.	Pretest Score	r value	p value
1.	Knowledge	.716**	0.001 ^s
2.	Attitude		

Table 7.Relationship between Posttest knowledge & attitude score regarding cervical cancer among women

S. No.	Posttest Score	r value	p value
1.	Knowledge	.911**	0.001
2.	Attitude		

Discussion

The present study was to assess the effectiveness of structured teaching programme on knowledge regarding cervical cancer among women at selected hospitals, Amritsar.

A quasi experimental (one group pretest-posttest design) study was adopted for this study. Purposive sampling technique was used to enrolled the study subjects. A total of 50 women were selected for the study based on inclusion criteria. Data was collected through socio-demographic profile of women, knowledge questionnaire and attitude scale on cervical cancer. The data collected was analyzed using descriptive and inferential statistics and is arranged based on the objectives of the study.

The current results show a concerning trend: 64% of the participants exhibited below- average knowledge of cervical cancer, with only 36% achieving an average level of knowledge. Moreover, the majority, 84% of the women, demonstrated a negative attitude towards cervical cancer, while only 16% maintained a neutral stance. The study reveals significant improvements. Knowledge levels notably increased: 22% of the participants reached a 'Good' knowledge level, 54% achieved an 'Average' level, and 24% remained at a 'Below average' level. Additionally, there was a positive shift in attitudes towards cervical cancer, with 56% of the women now exhibiting a positive attitude, a substantial improvement from the predominantly negative attitudes seen in the pretest. Furthermore, 16% maintained a neutral stance, while 28% continued to hold negative views, indicating a considerable positive change from the initial 84% negative attitude.

The findings from this study are corroborated by research conducted by Kumari S et al. (2022)¹⁰, which found that 44.1% of participants displayed substantial knowledge levels. In contrast, Sonawane MR et al. (2020)¹¹ reported higher knowledge proficiency, with 68% of subjects demonstrating good knowledge (average score: 13.59 ± 1.189), 24% showing excellent knowledge (average score: 16.50 ± 0.6742), and only 8% with average knowledge.

Moreover, Amorha KC et al. (2024)⁹ observed that 42.7% of participants had good knowledge, with 48.5% expressing positive attitudes towards cervical cancer. Similarly, Gebisa T et al. (2022)² identified that 50.7% of their study participants possessed excellent knowledge, and 46.1% had favorable attitudes towards the diseases.

However, contrasting findings were reported by Ghosh S et al. (2021)⁵, where despite high awareness levels (82.9%), only a limited number understood the preventability (51%) and even fewer recognized the importance of early detection (2.3%). The study also highlighted a significant gap, with over 75% lacking comprehensive information on cervical cancer. Tekle T et al. (2020)⁷ also presented mixed

results, noting that while 43.1% of women had adequate knowledge and 45.5% held positive attitudes, only 22.9% had undergone cervical cancer screenings.

The current investigation demonstrated considerable enhancements in knowledge and attitude towards cervical cancer post-intervention, as substantiated by the significant increases observed in both scores via paired 't' tests (both significant at the 0.01 level). These outcomes affirm the efficacy of the Structured Teaching Program (STP) in not only boosting knowledge but also in positively shifting attitudes concerning cervical cancer among women. As a result, the null hypothesis was rejected in favor of the alternate hypothesis, which posits the effectiveness of the STP, thereby validating the profound influence of educational interventions in ameliorating understanding and altering perceptions about cervical cancer.

This conclusion is paralleled by a similar investigation by Hosseini Z et al. (2022), which noted a statistically significant differentiation between the intervention group (IG) and control group (CG) across all evaluated constructs ($p < 0.001$). Specifically, the personal health scores in the IG improved from 4.35 ± 2.52 to 5.25 ± 0.753 following the educational intervention ($p < 0.001$), a testament to the program's effectiveness. By contrast, in the CG, changes were not statistically significant ($p < 0.030$). Remarkably, a significantly higher percentage of women in the IG (63.4%) compared to the CG (32.7%) pursued cervical cancer screening (CCS) post-intervention ($p < 0.001$), highlighting the impactful role of targeted educational initiatives in fostering proactive health behaviors such as screening uptake.

The findings of the current study elucidate that within the demographic factors examined, only the "type of family significantly correlates with knowledge levels about cervical cancer, as evidenced by a p-value of 0.033, achieving statistical significance at the 0.05 level. In contrast, other demographic characteristics such as age, religion, habitat, education, occupation, monthly income, and source of information did not exhibit a statistically significant association with knowledge levels", all possessing p-values greater than 0.05. Similarly, when examining attitudes towards cervical cancer, none of these demographic factors, including family type, showed statistically significant associations, further underscoring the unique impact of family structure on knowledge levels alone.

Contrastingly, research by Ghosh S et al. (2021)⁶ identified significant associations ($p < 0.05$) between cervical cancer knowledge and variables including "age, marital status, education level, socioeconomic status, and tribal community affiliation. These findings suggest broader demographic influences in different contexts. Additionally, the study by Kumari S et al. (2022)⁴ supported the notion that factors such as education, age, and living arrangements significantly

impact knowledge levels". Notably, it was also observed that married women generally displayed higher knowledge about cervical cancer.

Conclusion

This quasi-experimental study in selected hospitals of Amritsar, Punjab, confirms the effectiveness of a structured teaching program (STP) in improving women's knowledge and attitudes toward cervical cancer. Pre-intervention assessments revealed low awareness and negative perceptions, highlighting a critical information gap. Post-intervention results showed a significant increase in knowledge levels and a positive shift in attitudes. Statistical analysis validated these improvements, emphasizing the STP's impact. Notably, only the type of family influenced pre-test knowledge levels, suggesting the need for targeted interventions. This study reinforces the role of structured education in promoting informed health decisions and advocates for its integration into public health strategies.

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