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Research Article

ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAM ON KNOWLEDGE REGARDING PREVENTION OF CERVICAL CANCER AMONG PARAMEDICAL UNDERGRADUATE GIRLS IN SELECTED NURSING COLLEGE OF BUDGAM KASHMIR

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Abstract

Cervical cancer is a leading cause of death among women worldwide, with an estimated 500,000 new cases and 280,000 deaths each year. Around 80% of new cases occur in developing countries, including India, where approximately 100,000 new cases are diagnosed annually. One out of every five women worldwide affected by cervical cancer is from India. In fact, cervical cancer is the most common cancer among women in India, especially those aged 18 to 44. This study aimed to assess the knowledge of first-year paramedical students at Ibn Sina College of Nursing, Budgam, Kashmir, regarding the prevention of cervical cancer.

The study aimed to compare the pre-test and post-test knowledge scores of the students on cervical cancer prevention. A quantitative pre-experimental one-group pre-test post-test design was used, with a non-probability purposive sampling technique to select 60 first-year paramedical students. A self-structured knowledge questionnaire, which included demographic variables, was used for data collection. The findings showed a significant improvement in the students' knowledge after the teaching program, with post-test scores being much higher than the pre-test scores. The study also found a significant association between knowledge scores and the demographic variable of the mother's education, but no association with other demographic variables. The study highlights the importance of developing and implementing training and health education programs to improve cervical cancer prevention awareness, particularly for students.

Keywords: Knowledge, Structured teaching Program, Prevention, Cervical Cancer.

1. Introduction

The World Health Organization (WHO) explains that cancer is a group of diseases that can start anywhere in the body when cells grow in an abnormal and uncontrolled way. These cells can spread to nearby areas or even other parts of the body, a process called metastasis, which is a leading cause of cancer-related deaths. Cervical cancer happens in the cervix, the opening between the uterus and vagina. Almost all cases (29%) are linked to an infection with high-risk human papillomavirus (HPV), a common virus spread through sexual contact[1].

Cervical cancer is the second most common cancer in women worldwide and is a serious threat to women's health. Persistent infection with high-risk human papillomavirus (HPV) has been identified as a key cause of cervical cancer[2,3].

A clear understanding of the cause of cervical cancer has led to the development of a comprehensive prevention and control system. In May 2018, the World Health Organization (WHO) called for the global elimination of cervical cancer, and more than 70 countries and international academic organizations quickly and positively supported this call[4,5].

On November 17, 2020, the WHO launched a global strategy to accelerate the elimination of cervical cancer as a public health issue, setting the stage for future prevention and control efforts. This was the first time 194 countries came together to make a collective commitment to eliminate cervical cancer[6].

Cervical cancer is primarily a disease affecting low-income countries. Of the nearly 500,000 new cases each year, 83% occur in developing countries, and 85% of the 274,000 deaths from cervical cancer also happen there. The South Asian region represents about one-fourth of the global burden of this disease. In India alone, there are an estimated 132,000 new cases and 74,000 deaths annually. Many women in these countries are diagnosed with advanced stages of cervical cancer, often due to limited screening in the general population[7].

Cervical cancer is the fourth most common cancer in women globally, with about 660,000 new cases and 350,000 deaths in 2022. It is caused by a persistent infection with the human papillomavirus (HPV). Women with HIV are six times more likely to develop cervical cancer than those without HIV. Preventive measures like HPV vaccination, screening, and treating pre-cancerous lesions are effective and affordable ways to reduce the risk of cervical cancer. If caught early and treated promptly, cervical cancer can be cured. Many countries are working toward eliminating cervical cancer by 2030, with three key goals to achieve by that year[8].

Raising awareness and improving access to information and services are crucial for preventing and controlling cervical cancer. Vaccinating girls aged 9-14 is a very effective way to prevent HPV infection and related cancers, including cervical cancer. Starting screening at age 30 can help detect cervical issues early, and when treated, it can prevent cancer. If symptoms or concerns arise at any age, early detection and treatment can cure cervical cancer. The HPV vaccine should be given to girls aged 9-14, before they become sexually active, with one or two doses. Other important preventive measures include not smoking or quitting smoking, using condoms, and voluntary male circumcision[9].

The HPV vaccine is a safe and effective way to prevent cervical cancer. GARDASIL 9 is the approved vaccine for both females and males aged 9–45 in the U.S. It helps prevent cancers caused by seven types of HPV (16, 18, 31, 33, 45, 52, and 58) and also prevents genital warts from HPV types 6 and 11. However, the vaccine doesn't treat existing HPV infections. In the U.S., about 9,710 new cases of cervical cancer and 3,700 deaths occur each year. The use of Pap smear tests has helped reduce cervical cancer deaths, and more education and screening can help detect it earlier and improve cure rates[10,11].

2. Objectives

- To assess the pre-test knowledge score regarding prevention of cervical cancer among paramedical undergraduate girls in Ibn sina college of nursing and health sciences Budgam, Kashmir.
- To assess the post- test knowledge score regarding prevention of cervical cancer among paramedical undergraduate girls of ibn sina college of nursing and health sciences, Budgam, Kashmir.
- To compare the pre - test and post-test knowledge score regarding prevention of cervical cancer among paramedical undergraduate girls in selected nursing college Budgam, Kashmir.
- To find out the association of pre-test knowledge score regarding prevention of cervical cancer among paramedical undergraduate girls with

their selected demographic variables (age, type of family, education of father, education of mother, family income per month)

3. Methodlogy

A pre-experimental one-group pretest-post-test design with a quantitative research approach was used for this study. The research was conducted at the Ibn Sina College of Nursing and Health Sciences in Budgam, Jammu and Kashmir. Permission was obtained from the college authorities, and ethical clearance was granted. The study was ethically exempted by the institution. A sample of 60 paramedical undergraduate female students was selected using purposive sampling. Informed consent was obtained from each participant before their inclusion, ensuring privacy, confidentiality, and anonymity.

Data was collected using a self-structured knowledge questionnaire. The knowledge score was categorized into various levels based on the criteria established in the study.

3.1 Tool Selection and Development

The self-structured knowledge questionnaire was created to assess the knowledge of cervical cancer prevention among paramedical undergraduate female students. The tool consisted of three parts:

A. Part I: Demographic variables of the students, such as age, area of residence, family type, father's education, mother's education, family income, any family history of cervical cancer, previous knowledge about cervical cancer (and the source of information), and the student's department in paramedical studies.

B. Part II: A self-structured knowledge questionnaire with 30 multiple-choice questions designed to assess knowledge about the prevention of cervical cancer. Each item had one correct answer. A score of 1 point was awarded for each correct answer, while incorrect or attempted answers received 0 points. The maximum score for the tool was 30, and the minimum score was 0.

3.2 Criterion Measurement

S. No.	Category	Score	Percentage (%)
1.	Good	23-30	75-100%
2.	Average	15-22	50-74%
3.	Below Average	0-14	0-49%

3.3 Data Collection Procedure

The principal of Ibn Sina College of Nursing and Health Sciences, Budgam, Kashmir, granted permission for data collection. Data was gathered using a self-structured knowledge questionnaire. Prior consent was obtained from the female undergraduates who participated in the study. The participants were informed about the study's aim before their involvement.

A pre-test was conducted where the self-structured knowledge questionnaire was completed by the undergraduate females to assess their understanding of cervical cancer prevention. On the same day, an intervention on the prevention of cervical cancer was provided. A post-test, using the same self-structured knowledge questionnaire, was administered on the 7th day after the pre-test to assess any changes in knowledge.

4. SECTION A

4.1 Analysis and Interpretation of Data

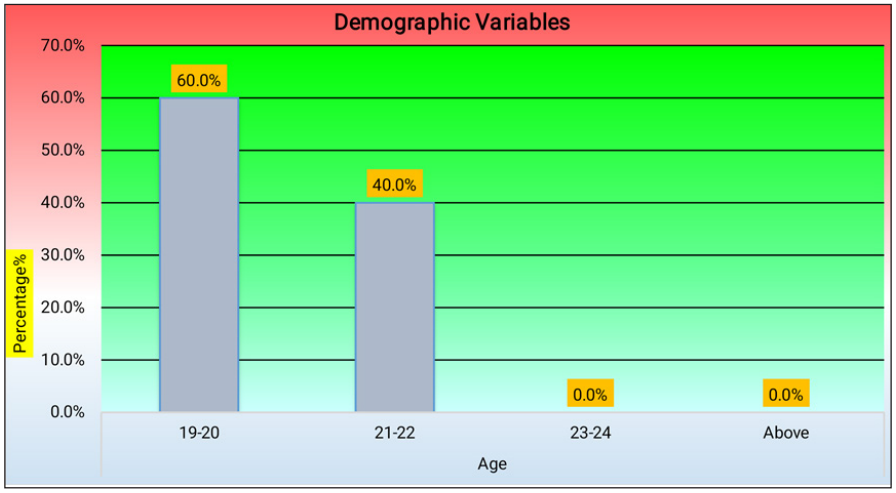

Figure 1: Conical diagram shows that 60% population is between 19-20 years age and 40% is between 21-22 yrs (n=60)

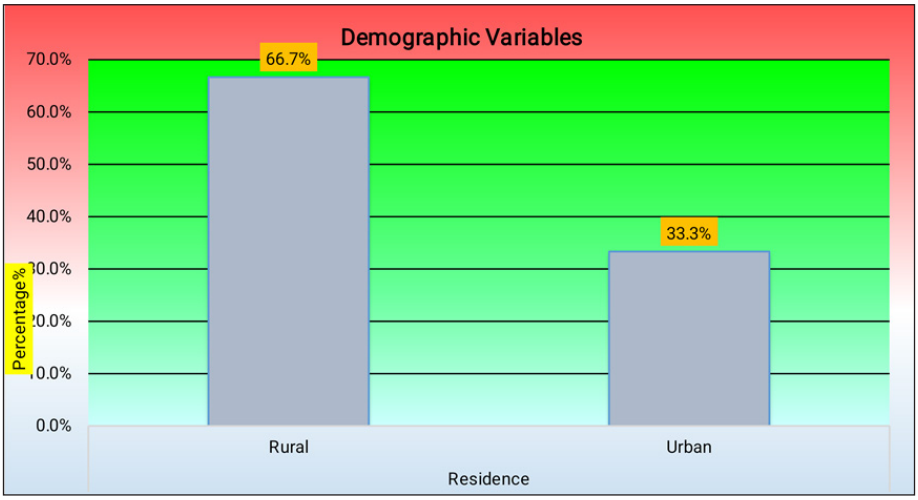

Figure 2: Conical diagram shows that 66.7% population belongs to rural areas and 33.3%from urban areas (n=60)

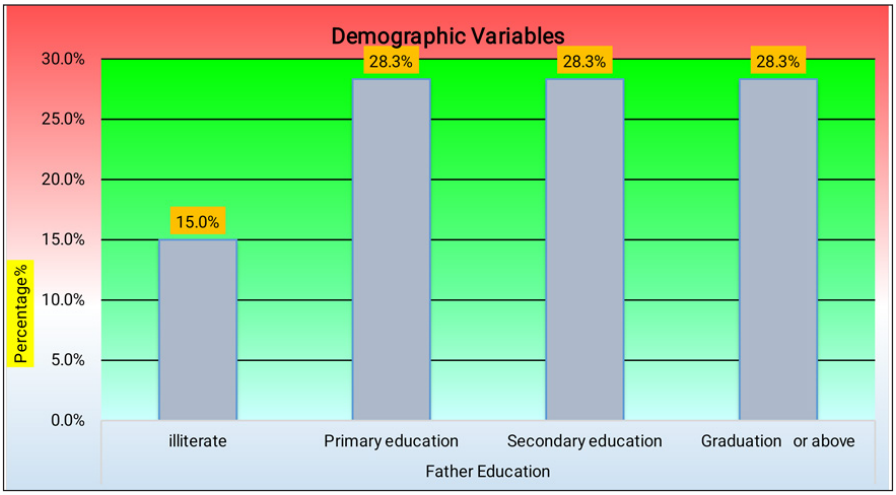

Figure 3: Conical diagram shows that 15.0% population is illiterate, 28.3% are having primary education ,28.3% are having secondary education and 28.3% are graduate above (n=60)

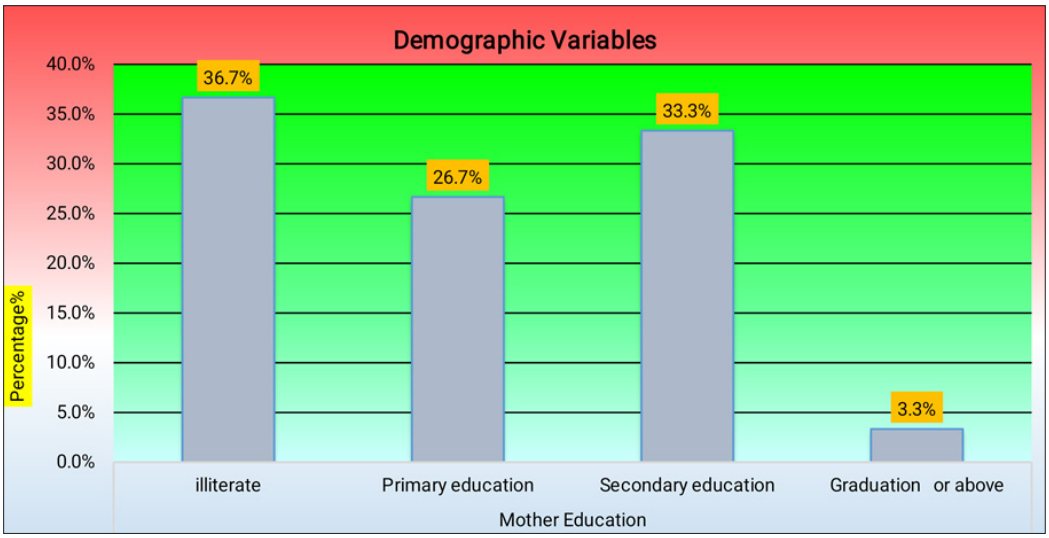

Figure 4: Conical diagram shows that 36.7% are illiterate, 26.7% are having primary education, 33.3% are having secondary education and 3.3% are graduate or above (n=60)

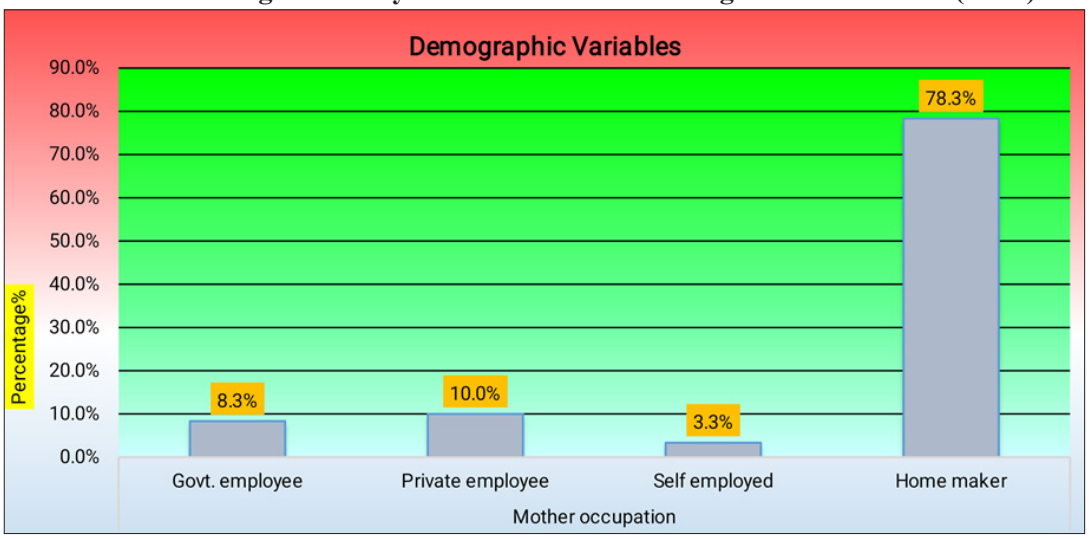

Figure 5: Conical diagram shows 8.3% are govt. employees ,10.0% are private employees, 3.3% are self-employed and 78.3% are home makers. (n=60)

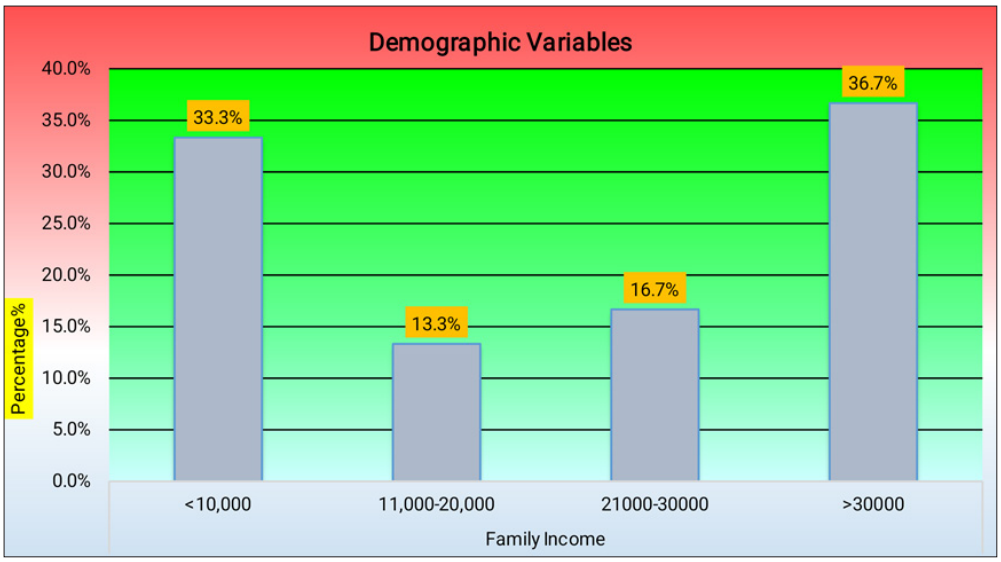

Figure 6: Conical diagram shows that the family income of 33.3% is <10000, 13.3% is 140000-20000 ,16.7% have income of 21000-30000 and 36.7% have income>30000 (n=60)

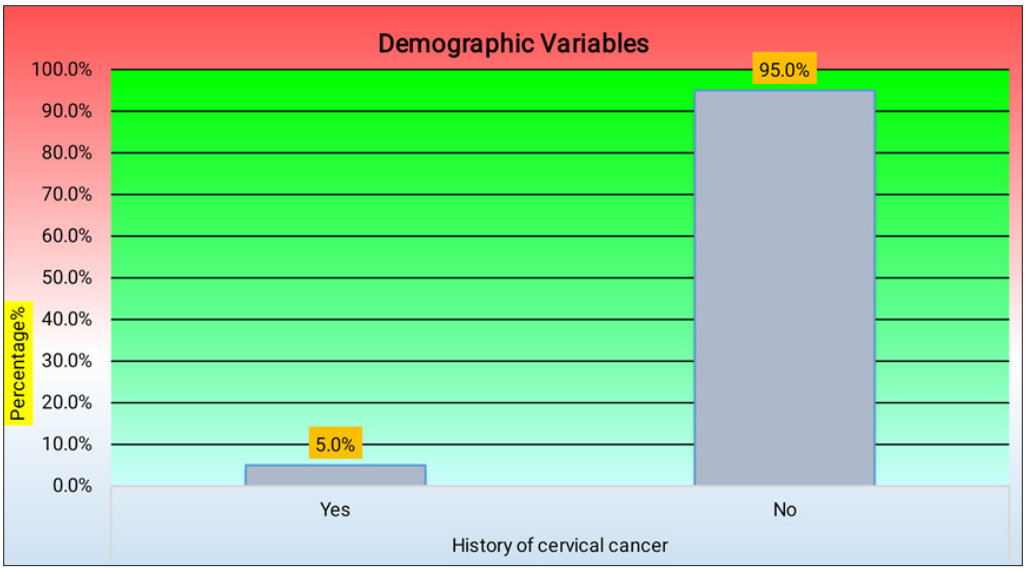

Figure 7: Conical diagram shows that 95.0% population has no history of cervical cancer and 5% population has history of cervical cancer (n=60)

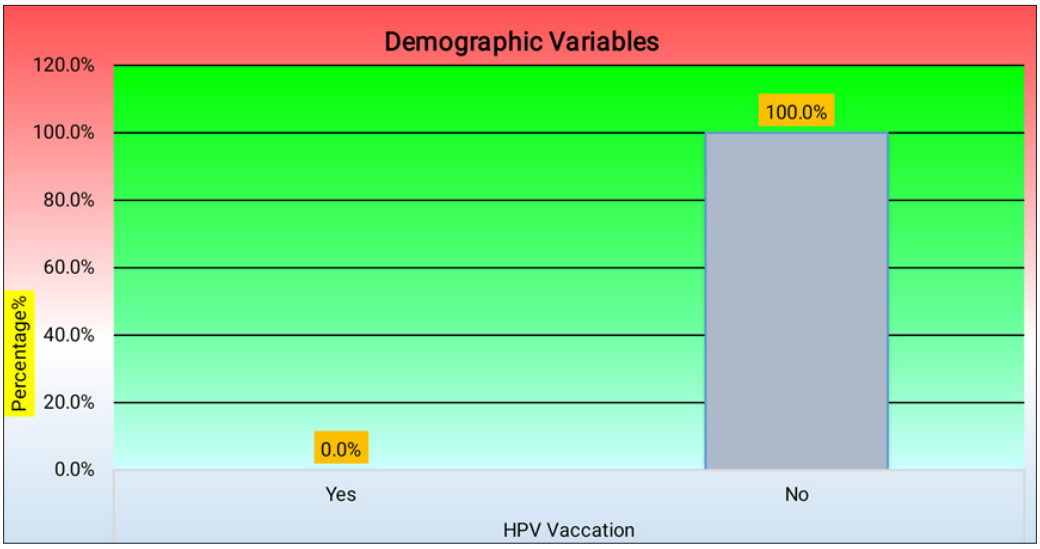

Figure 8: Conical diagram shows that 100% population have not taken hpv vaccination (n=60)

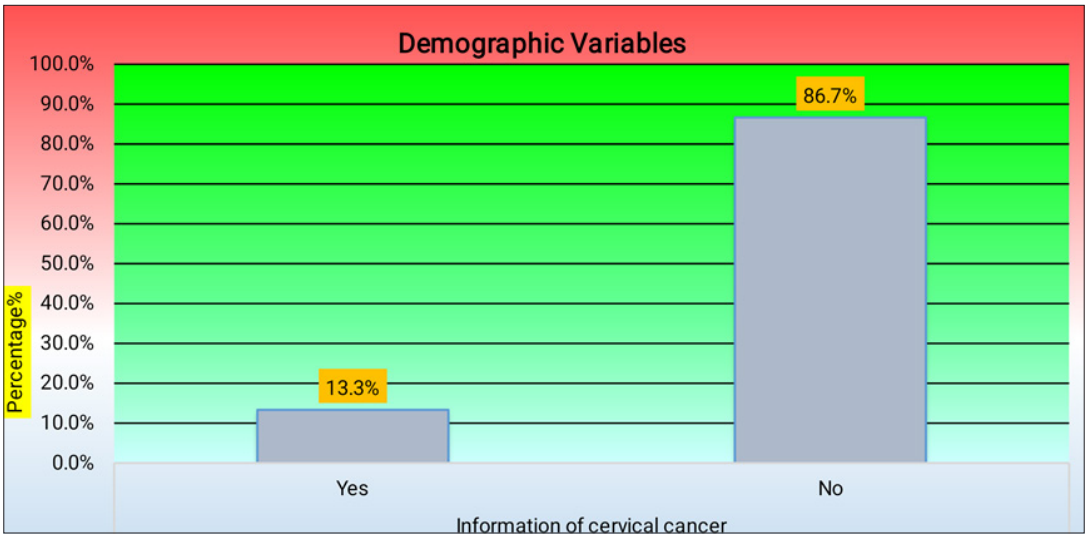

Figure 9: Conical diagram shows that 13.3% population is having information about cervical cancer and 86.7% population does not have any information about cervical cancer (n=60)

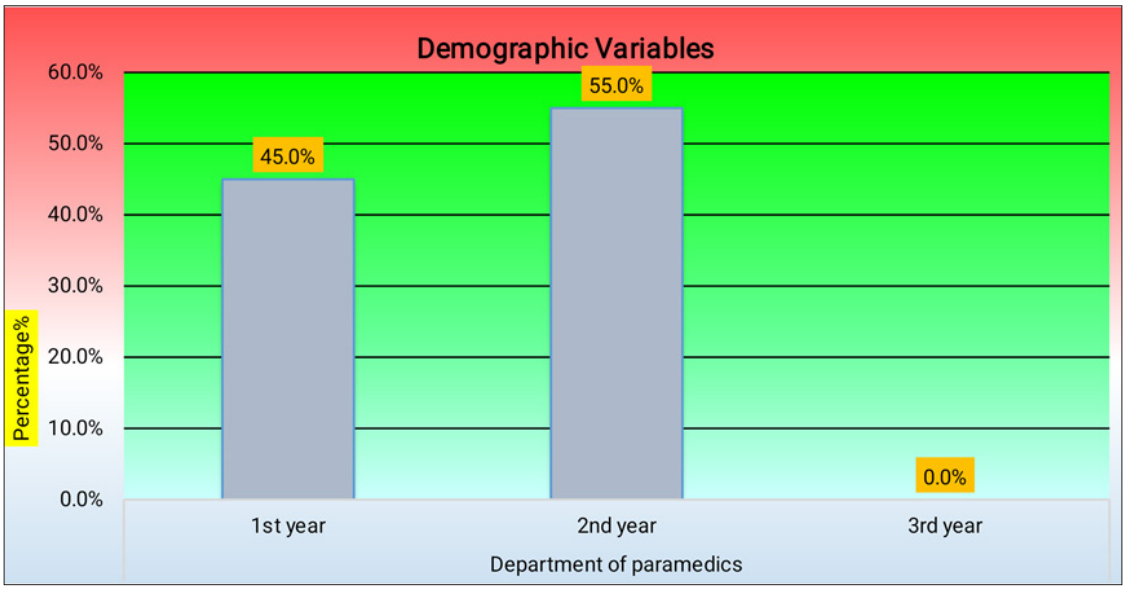

Figure 10: Conical diagram shows that 45% population were 1st yr and 55.0% were 2nd year students (n=60)

5. SECTION B

5.1 Main analysis and interpretation of data

Table 1: Frequency & Percentage distribution of pre-test level of knowledge (n=60)

Criteria measure of pre-test knowledge score	
Score Level (N=60)	**Pre-test f (%)**
Inadequate Knowledge (0-10)	7 (11.7%)
Moderate Knowledge (11-20)	53 (88.3%)
Asequate Knowledge (21-30)	0 (0%)
Maximum Score=30 Minimum Score=0	

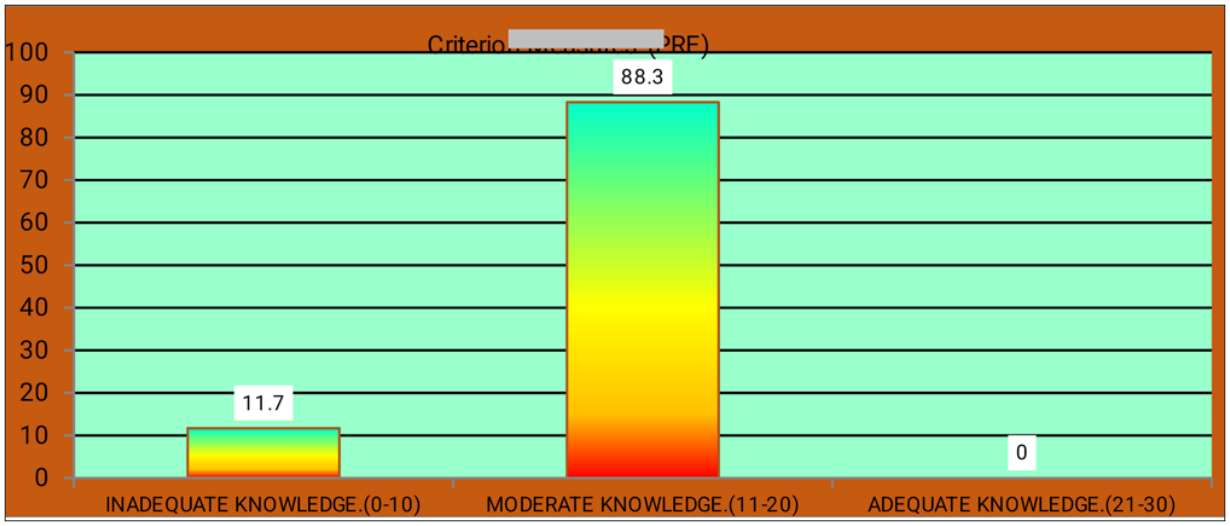

Figure 11: Diagram showing the percentage distribution of pre-test knowledge (n=60)

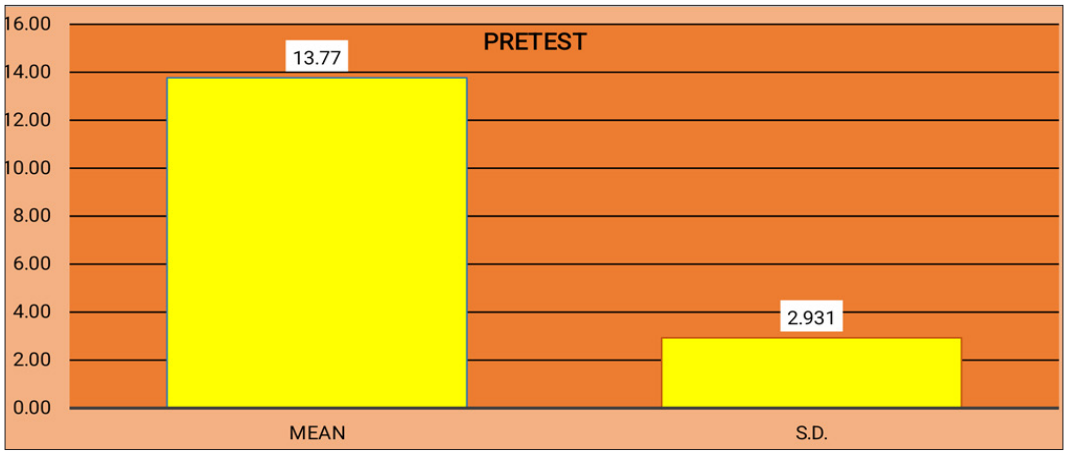

Figure 12: Above bar diagram shows that the mean score of pre-tests is 13.77and standard deviation is 2.931 (n=60)

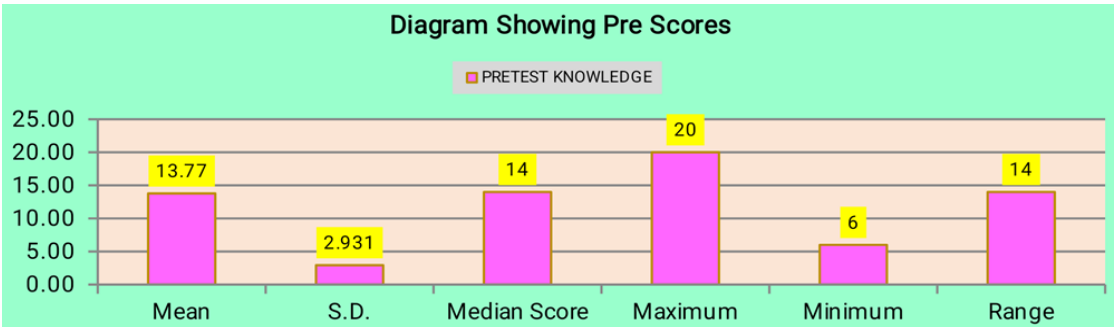

Figure 13: Bar diagram representing descriptive statistics of pre-test level of knowledge (n=60)

Table 2: Frequency & Percentage distribution of post-test level of knowledge (N=60)

Criteria measure of post-test knowledge score	
Score Level (N=60)	**Post-test f (%)**
Inadequate Knowledge (0-10)	0 (0%)
Moderate Knowledge (11-20)	9 (15%)
Asequate Knowledge (21-30)	51 (85%)
Maximum Score=30 Minimum Score=0	

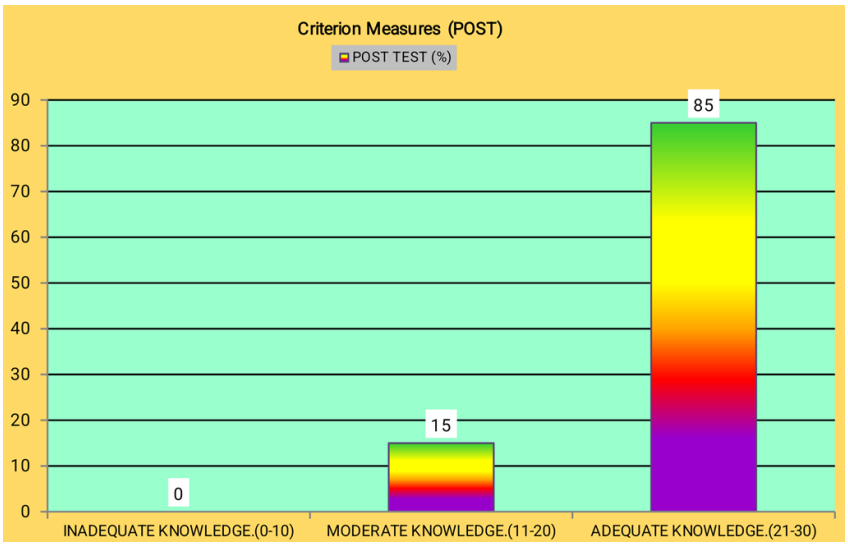

Figure 14: Diagram representing percentage distribution of post-test level of knowledge (n=60)

Table 3: Descriptive statistics of post-test level of knowledge

Descriptive statistics	Mean	S.D.	Median Score	Maximum	Mininmum	Range	Mean%
Post-test knowledge	24.00	4.708	26	29	11	18	80.00
Maximum Score=30 Minimum Score=0							

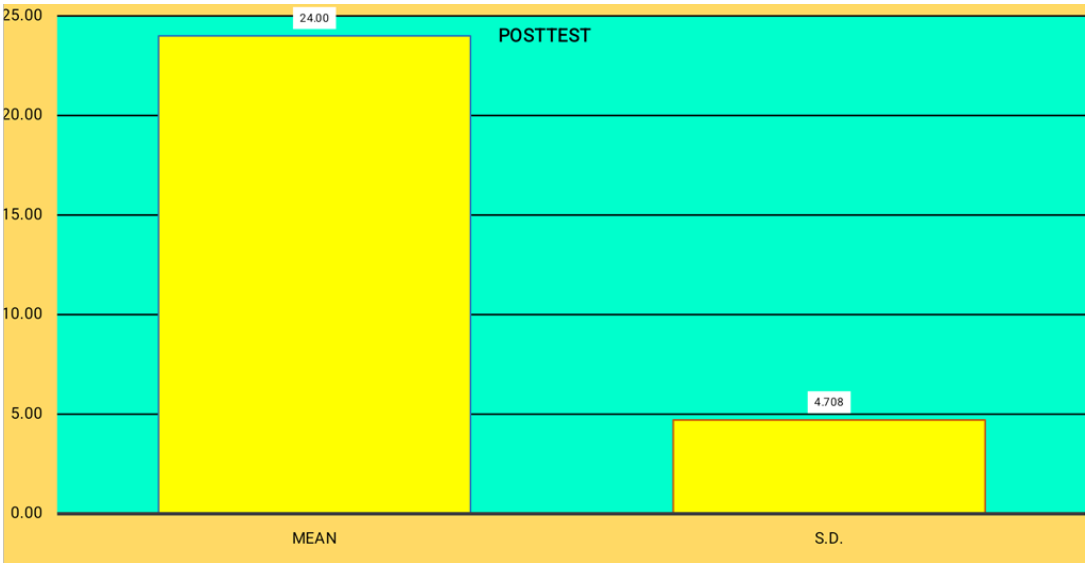

Figure 15: bove bar diagram shows that the mean score of post-test is 24.00 and standard deviation is 4.70 (n=60)

6. SECTION C

Table 4: Comparison of frequency & percentage distribution of pre-test and post-test level of knowledge (N=60)

Criteria measure of knowledge score		
Score Level (N=60)	**Pre-test f (%)**	**Post-test f (%)**
Inadequate Knowledge (0-10)	7 (11.7%)	0 (%)
Moderate Knowledge (11-20)	53 (88.3%)	9 (15%)
Asequate Knowledge (21-30)	0 (0%)	51 (85%)
Maximum Score=30 Minimum Score=0		

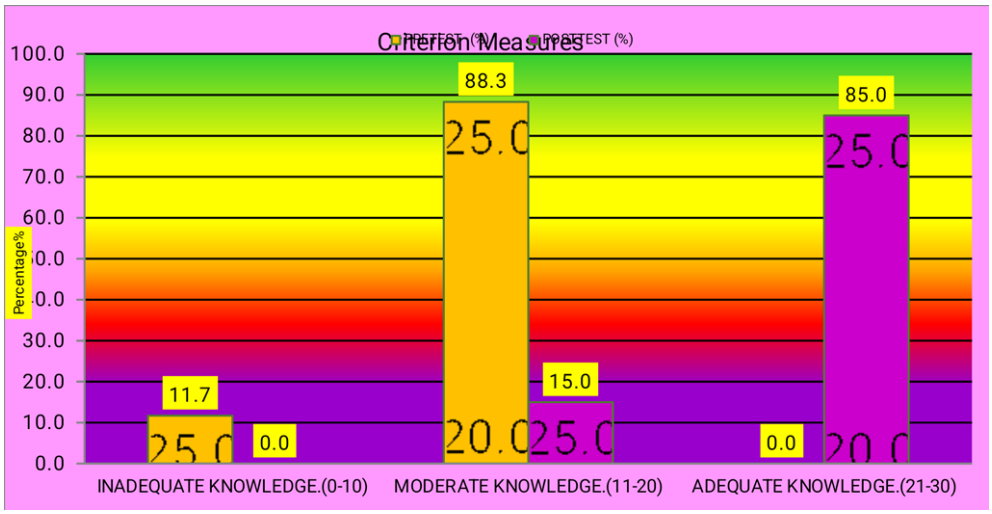

Figure 16: Diagram representing comparison of percentage distribution of pre-test and post-test level of knowledge (n=60)

Table 5: Comparison of descriptive statistics of pre-test and post-test scores of knowledge (N=60)

Paired t-test	Mean+S.D.	Mean%	Range	Mean Diff.	Paired t-test	P value	Table value at 0.05
Pre-test knowledge	13.77+2.931	80.00	6-20	10.230	16.119*sig	<0.001	2.00
Post-test knowledge	24+4.708	45.90	11-29				
** Significance Level 0.05 Maximum=30 Minimum=0							

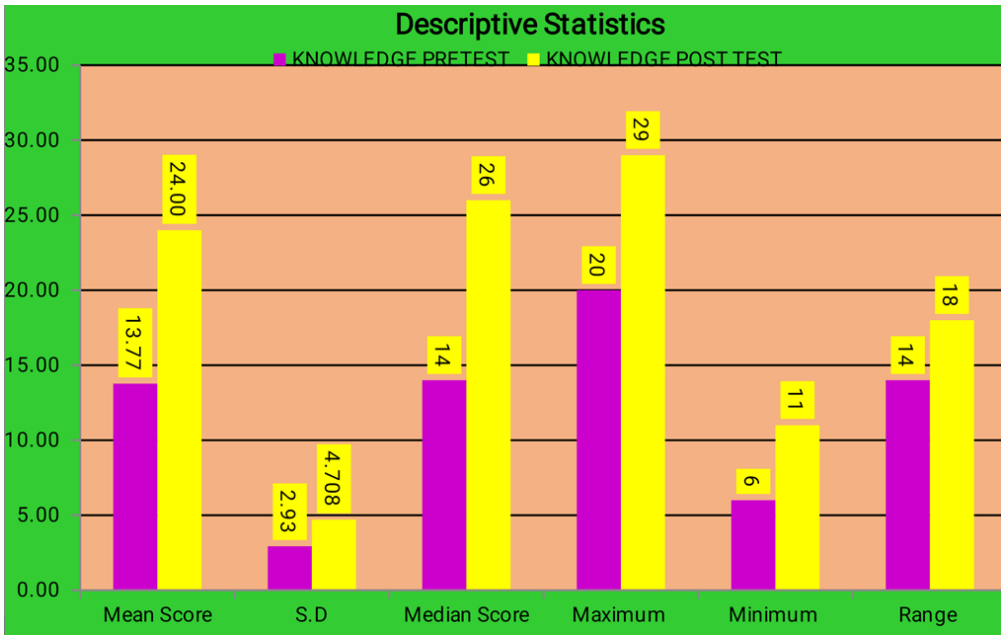

Figure 17: Bar diagram representing comparison of descriptive statistics of pre-test and post-test knowledge scores is 10.230 (n=60)

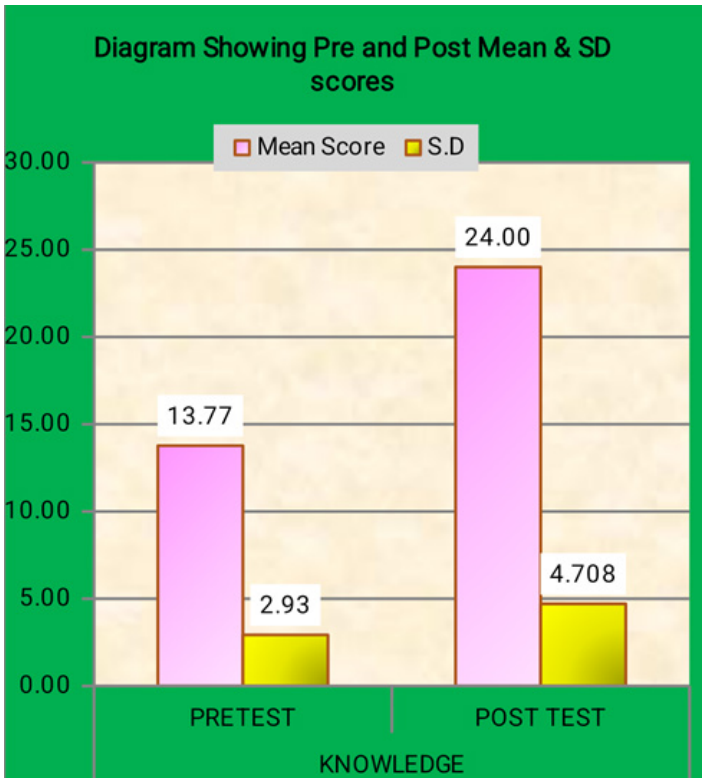

Figure 18: Bar diagram representing Mean & SD of pre-test and post-test knowledge scores (n=60)

Table 6:Comparison of descriptive statistics of pre-test and post-test scores of knowledge (N=60)

Diagram showing individual score gain (Effectiveness)						
Mean%	**Pre-test knowledge**	**Post-test knowledge**	**Differnce**	**Pre-test knowledge %**	**Post-test knowledge %**	**Difference%**
Average	13.77	24.00	10.23	45.89	80.00	34.11

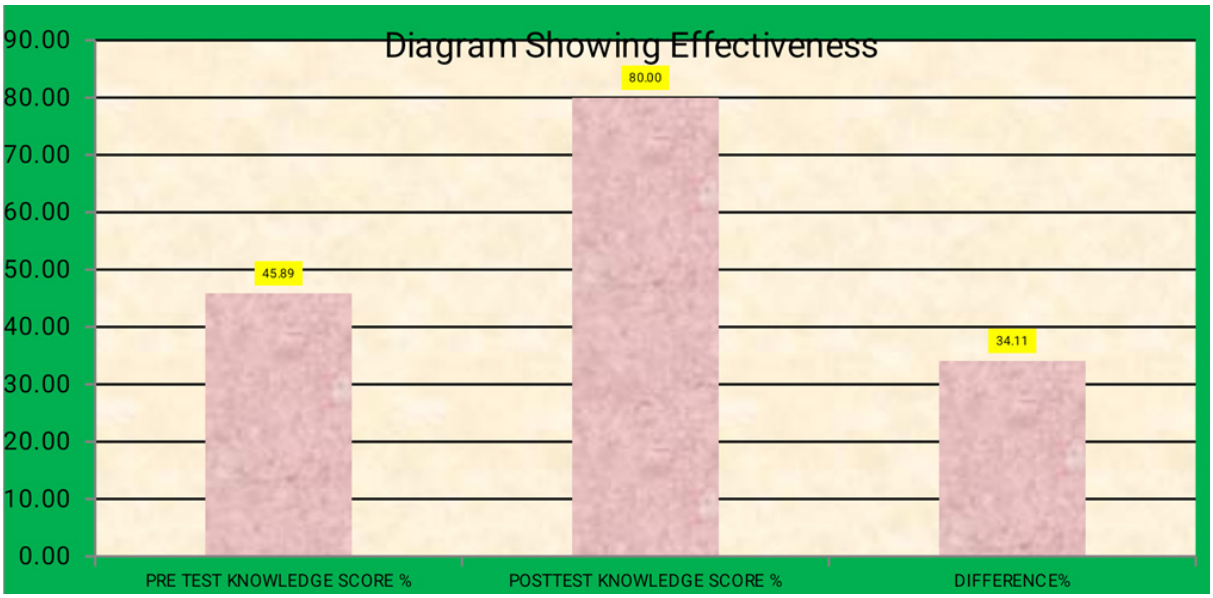

Figure 19: Bar diagram representing comparison of pre-test and post-test level of knowledge representing effectiveness (n=60)

Association of pretest knowledge scores with selected socio-demographic variables									
Variables	**Opts**	**Adequate knowledge**	**Moderate knowledge**	**Inadequate knowledge**	**Chi Test**	**P Value**	**df**	**Table Value**	**Result**
Age	19-20	0	31	5	0.431	0.511	1	3.841	NS
	21-22	0	22	2					
	23-24	0	0	0					
	Above	0	0	0					
Residence	Rural	0	37	3	2.022	0.155	1	3.841	NS
	Urban	0	16	4					
Father Education	illiterate	0	7	2	2.667	0.446	3	7.815	NS
	Primary education	0	16	1					
	Secondary education	0	14	3					
	Graduation or above	0	16	1					

Mother Education	illiterate	0	20	2	8.395	0.039	3	7.815	Significant
	Primary education	0	12	4					
	Secondary education	0	20	0					
	Graduation or above	0	1	1					
Family type	Joint family	0	19	5	3.292	0.193	2	5.991	NS
	Nuclear family	0	33	2					
	Extanded	0	1	0					
Father occupation	Govt. employee	0	20	1	4.089	0.252	3	7.815	NS
	Private employee	0	10	2					
	Retired	0	4	2					
	Other	0	19	2					
Mother occupation	Govt. employee	0	5	0	4.360	0.225	3	7.815	NS
	Private employee	0	6	0					
	Self employed	0	1	1					
	Home maker	0	41	6					
Family Income	<10,000	0	16	4	3.808	0.283	3	7.815	NS
	11,000-20,000	0	8	0					
	21000-30000	0	10	0					
	>30000	0	19	3					
History of cervical cancer	Yes	0	3	0	0.417	0.518	1	3.841	NS
	No	0	50	7					
HPV Vaccation	Yes	0	0	0		N.A		N.A	
	No	0	53	7					
Information of cervical cancer	Yes	0	8	0	1.219	0.270	1	3.841	Not Significant
	No	0	45	7					
Department of paramedics	1st year	0	25	2	0.864	0.353	1	3.841	Not Significant
	2nd year	0	28	5					
	3rd year	0	0	0					

7. Results and Discussion

7.1 Findings on the knowledge level of participants

Before the study, most participants (88.3%) had moderate knowledge, and only a small percentage (11.7%) had inadequate knowledge. After the study, a large majority (85%) had adequate knowledge. The average knowledge score on cervical cancer and its prevention before the study was 13.77 out of 30 (45.9%). After the study, the average score increased to 24.00 out of 30, showing a significant improvement, with a mean difference of 10.23.

7.2 Findings on the relationship between knowledge and demographic factors

The results showed no significant link between participants' pretest knowledge scores and demographic factors (such as age, residence, father's education, family type, family income, mother's occupation, and family history of cervical cancer). The only exception was the education level of the mother, which showed a slight effect on knowledge

regarding cervical cancer prevention.

8. Conclusion

The study showed that most participants had inadequate knowledge before the educational program, likely due to a lack of awareness about cervical cancer prevention. After the structured teaching program, the participants' knowledge significantly improved. No strong association was found between the pretest knowledge scores and most demographic variables, except for the mother's education level. This indicates that the teaching program was effective in increasing knowledge about cervical cancer prevention.

9. Source of Funding: None

10. Conflict of Interest: None

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