

Research Article

Effectiveness of the Self-Instructional Module (Sim) On Knowledge and Attitude Regarding Cervical Cancer and Human Papilloma Virus Vaccination among Adolescent Girls

Amruta Anand Mhalungekar^{1*}, Chandrala S Patole², Manisha A Bijapurkar³

^{1*}M. Sc (N), Department. of Obstetrics and Gynecological Nursing, D. Y. Patil College of Nursing, D.Y. Patil Education Society (Deemed to be university), Kolhapur, Maharashtra, India.

²M. Sc (N), Assistant Professor, Dept. of Obstetrics and Gynecological Nursing, D. Y. Patil College of Nursing, D.Y. Patil Education Society (Deemed to be university), Kolhapur, Maharashtra, India.

³Vice Principal and HOD, Dept. of Obstetrics and Gynecological Nursing, D. Y. Patil College of Nursing, D.Y. Patil Education Society (Deemed to be university), Kolhapur, Maharashtra, India.

Email: ^{1*}amruta0706@gmail.com, ^{2*}cspatole.nsg@dypgroup.edu.in ^{3*}manishabijapurkar@yahoo.com

Corresponding Author: Amruta Anand Mhalungekar

Received: 13.07.25, Revised: 16.08.25, Accepted: 12.09.25

ABSTRACT

BACKGROUND AND OBJECTIVES: Good Health and well-being are the most essential things in life. It is a very important and precious asset that one should treasure, and to enjoy life to the fullest, one must take steps to prevent disease and illness.

According to the National Cancer Registry Program (ICMR-NCRP), there were an expected 3.4 lakh cases of cervical cancer in the nation in 2023 3.4 lakh.

Over one million children lose their mother to cancer every year, and 1.4 million lose their father. In the year 2022, some 9.6 million people died of cancer, and it is anticipated that by 2030, this number will rise to 13.2 million. World Health Organization's focus is to prevent cervical cancer to accelerate its elimination globally, the prophylactic Human Papilloma Virus vaccination has been a foundational pillar of the WHO Global Strategy. It is estimated that the implementation of this strategy can help in the prevention of 60 million cervical cancer cases and 45 million deaths in the upcoming 100 years. So, the investigator has planned to evaluate the knowledge and attitude of adolescent girls on cervical cancer and Human Papilloma Virus vaccination. The aim of the present study is to identify the knowledge and attitude regarding cervical cancer and Human Papilloma Virus vaccination.

OBJECTIVES OF THE STUDY: THE present study aimed to evaluate the effectiveness of the Self-Instructional Module (SIM) on knowledge and attitude regarding cervical cancer and Human Papilloma Virus (HPV) vaccination among adolescent girls studying in Kamala college of Kolhapur.

The objectives are as follows:

- 1) To evaluate the effectiveness of the self-instructional module (SIM) on knowledge and attitude regarding cervical cancer and Human Papilloma Virus vaccination among adolescent girls.
- 2) To find out the correlation between pre-test knowledge and attitude scores regarding cervical cancer and Human Papilloma Virus vaccination.
- 3) To find out an association between pre-test knowledge and attitude scores regarding cervical cancer and Human Papillomavirus vaccination among adolescent girls with their selected socio-demographic variables. The sample size of the present study consisted of 78 adolescent girls.

METHODS: A pre-experimental one-group pre-test post-test design with a quantitative evaluative survey approach was adopted. Ethical clearance was obtained from the Institutional Ethics Committee of D. Y. Patil Education Society (Deemed to be University), Kolhapur, and prior permission was secured from the Principal of Kamala College, Kolhapur. The study was conducted among 78 adolescent girls aged 15-18 years, selected through purposive sampling. Data were collected using a structured knowledge questionnaire (28 multiple-choice items) and a structured attitude scale (20 Likert items) on cervical cancer and Human Papilloma Virus (HPV) vaccination. A pre-test was conducted on Day 1, after which the Self-Instructional Module (SIM), prepared by the researcher and containing information on cervical cancer and HPV vaccination, was administered. The post-test was carried out on Day 7. Data were analyzed and tabulated systematically.

RESULTS: In the pre-test, 56 (71.8%) subjects had average knowledge, and 22 (28.2%) had poor knowledge. Post-test results showed improvement, with 58 (76.9%) having average knowledge, 16 (20.5%) good, and 2 (2.6%) poor knowledge.

Regarding attitude, 48 (61.5%) had unfavorable and 30 (38.5%) moderately favorable attitudes in the pre-test. In the post-test, 55 (70.5%) had moderately favorable, 19 (24.4%) favorable, and only 4 (5.1%) had unfavorable attitudes.

In the present study, a significant correlation ($p < 0.01$) was found between pre-test knowledge and attitude scores on cervical cancer and HPV vaccination and the selected socio-demographic variables. There was a significant association between the pre-test knowledge scores of the subjects with their selected socio-demographic variables at a 0.05 level of significance.

There was a significant association between the pre-test attitude scores of the subjects with their selected socio-demographic variables at a 0.05 level of significance.

INTERPRETATION AND CONCLUSION: The study concluded that the self-instructional module (SIM) was effective in increasing the knowledge and enhancing a positive attitude towards cervical cancer and Human Papilloma Virus vaccination among the subjects of Kamala College, Kolhapur.

Keywords: Self-Instructional Module, Human Papilloma Virus (HPV).

INTRODUCTION

‘True Prevention is not waiting for Bad Things to Happen; it’s Preventing Things from Happening in the First Place’.

-DON MCPHERSON

Good Health and well-being are the most essential things in life. It is a very important and precious asset that one should treasure, and to enjoy life to the fullest, one must take steps to prevent disease and illness.

Women’s health and women’s reproductive health are high priorities as women are the cornerstone of every family. The reproductive system in the body is delicate and complex. It is important to take measures to protect it from infections and injury to prevent any health problems.

Cervical cancer incidence has ranked second to breast cancer across the globe.

Over one million children lose their mother to cancer every year, and 1.4 million lose their father. In the year 2022, some 9.6 million people died of cancer, and it is anticipated that by 2030, this number will rise to 13.2 million.

According to the National Cancer Registry Program (ICMR-NCRP), there were an expected 3.4 lakh cases of cervical cancer in the nation in 2023.4 lakh. Even though there are various preventive measures available, an increase in the number of cervical cancer cases is observed. A long-term infection of the uterine cervix with Human Papillomavirus (HPV) can be an important reason for cervical cancer. Among all the cancers, cervical cancer has the most effective prevention strategies available. Human Papillomavirus vaccination is for the primary prevention of cervical carcinoma. There are no side effects of the Human Papillomavirus infection from the vaccine; it does not contain a live virus. The most effective ways to prevent cervical cancer are regular screening and vaccination against the HPV virus. For the

initiation of vaccination, 9 to 12 years is the recommended age group.

Across the globe in 2022, Cervical cancer is the fourth most common cancer, with around 6,60,000 new cases and around 3,50,000 deaths. All countries have committed to eliminating cervical cancer. 99% cases of cervical cancer are caused by infection with high-risk Human Papilloma Virus, which is a common virus found to be transmitted through sexual contact. World Health Organization's focus is to prevent cervical cancer to accelerate its elimination globally, the prophylactic Human Papilloma Virus vaccination has been a foundational pillar of the WHO Global Strategy. It is estimated that the implementation of this strategy can help in the prevention of 60 million cervical cancer cases and 45 million deaths in the upcoming 100 years. So, the investigator has planned to evaluate the knowledge and attitude of adolescent girls on cervical cancer and Human Papillomavirus vaccination. The aim of the present study is to identify the knowledge and attitude regarding cervical cancer and Human Papilloma Virus vaccination.

METHODS

A pre-experimental one-group pre-test post-test design with a quantitative evaluative survey approach was adopted. The study was conducted at Kamala College, Kolhapur, from 16th October 2024 to 23rd October 2024. By administering the structured knowledge questionnaires and structured attitude scale, the data was collected to evaluate the effectiveness of the Self-Instructional Module (SIM) on knowledge and attitude regarding cervical cancer and Human Papilloma Virus vaccination. Analyses of the gathered data were done by using descriptive and inferential statistics.

RESULT

1. Findings Related to Frequency and Percentage Distribution According to

6 Family History of Cervical Cancer			
a. Yes		3	3.8%
b. No		75	96.2%
7 Have you received the HPV vaccine?			
Selected Socio-Demographic Variables.			
Sr	Socio-Demographic variables	Frequency f	Percentage %
1	Stream		
	a. Science	26	33.3%
	b. Commerce	26	33.3%
	c. Arts	26	33.34%
2	Standard of studying		
	a.11	39	50%
	b.12	39	50%
3 Religion			
	a. Hindu	65	83.3%
	b. Christian	08	10.3%
4 Age in years			
	a. 17 years	65	83.3%
	b. 18 years	13	16.7%
5 Area of residence			
	a. Rural	11	14.1%
	b. Urban	67	85.9%

In the present study, most participants were Hindu (83.3%), aged 17 years (83.3%), and from urban areas (83.9%). A majority (96.2%) had no family history of cervical cancer, and none had received the HPV vaccination.

2. Findings Related to Frequency and Percentage Distribution According to Knowledge Scores.

Knowledge Scores		f%
	Pre-test	Post-Test
GOOD (21-28)	-	16(20.5%)
AVERAGE (11-20)	22(28.2%)	60(76.9%)
POOR (0-10)	56(71.8%)	02(2.6%)

In the pre-test majority of the subjects, 56 (71.8%) average knowledge, 22 (28.2%) poor knowledge, whereas in post-test 60 (76.9%)

average knowledge, 16 (20.5%) good knowledge and 02(2.3%) poor knowledge.

3. Findings Related to Frequency and Percentage Distribution According to Attitude Scores.

Attitude Scores		f(%)
	Pre-Test	Post-Test
Favourable 48-60	-	19 (24.4%)
Moderately Favourable 34-47	30 (38.5%)	55 (70.5%)
Unfavourable 20-33	48 (61.5%)	4 (5.1%)

In the pre-test majority of the subjects, 48(61.5%) had unfavorable attitudes and 30 (38.5%) subjects had moderately favorable attitudes, whereas in the post-test 55(70.5%)

subjects had moderately favorable attitudes, 19(24.4%) subjects had favorable attitude and 4(5.1%) subjects had unfavorable attitude.

4. Findings Related to the Effectiveness of the Self-Instructional Module (SIM) on Knowledge Scores Regarding Cervical Cancer and Human Papillomavirus Vaccination

Mean Difference \pm Standard Error	Calculated value	P value
7.14 \pm 0.28	25.43	0.01*

Among Adolescent Girls

In the present study, the calculated paired "t" value is 25.43, and the P value is 0.01.

This indicated that the gain in knowledge score was statistically significant at $p < 0.05^*$ level.

5. Effectiveness of Self-Instructional Module (SIM) on Attitude Scores Regarding Cervical Cancer and Human Papilloma Virus Vaccination among Adolescent Girls.

Mean \pm Standard deviation	t-test	P Value
9.94 \pm 0.30	32.41	0.01*

In the present study, calculated paired 't' value is 32.41, and the P value is 0.01 on attitude regarding cervical cancer, and Human

Papilloma Virus vaccination was increasing the knowledge among subjects.

6. Findings Related to the Correlation Between Knowledge and Attitude Score Regarding Cervical Cancer and the Human Papilloma Virus Vaccine.

n=78

Structured Knowledge Questionnaires	Structured Attitude Scale	Covariance	Correlation
x 2.70	y 6.55	Cov (xy) 0.75	(r) 0.01

In the present study, the correlation is significant at 0.01^* level of significance, covariance is 0.75.

7. Findings Related To An Association Between Pre-Test Knowledge Scores Of Subjects With Their Selected Socio-Demographic Variables.

n=78

S. No	Variables	χ^2 value	P value
1	Stream a. Science b. Commerce c. Arts	61.28	0.001
2	Standard of studying a. 11th Standard b. 12 th Standard	30.64	0.001
3	Age in years a. 17 years b. 18 years	1.26	0.26
4	Religion a. Hindu b. Christian c. Muslim d. Other	0.39	0.82
5	Area of Residence a. Rural b. Urban	0.005	0.94
6	Family history of cervical cancer a. Yes b. No	1.22	0.26
7	Vaccinated for Human Papilloma Virus vaccine? a. Yes	-	-

In the present study, there was a significant association between pre-test knowledge scores

with selected socio-demographic variables like Stream and standard of studying.

The calculated chi-square values were greater than the tabulated value at the 0.05 level of significance.

8. Findings Related To An Association Between Pre-Test Attitude Scores Of Subjects With Their Selected Socio-Demographic Variables.

N=78			
S. No	Variables	χ^2 value	P value
1	Stream a. Science b. Commerce c. Arts	63.80	0.001*
2	Standard of studying a. 11th Standard b. 12 th Standard	51.31	0.001*
3	Age in years a. 17 years b. 18 years	0.06	0.80
4	Religion a. Hindu b. Christian c. Muslim d. Other	1.04	0.59
5	Area of Residence a. Rural b. Urban	0.26	0.60
6	Family history of cervical cancer a. Yes b. No	0.03	0.85
7	Vaccinated for Human Papilloma Virus vaccine? a. Yes b. No	-	-

In the present study, there was a significant association between pre-test attitude scores with selected socio-demographic variables like stream and standard of studying. The calculated chi-square values were greater than the tabulated value at a 0.05 level of significance.

DISCUSSION

1) Findings Related to Frequency and Percentage Distribution According to Selected Socio-Demographic Variables.

In the present study, the data regarding selected socio-demographic variables shows that the majority of the study, 65(83.3%), belonged to the Hindu religion, 8(10.3%) to the Christian religion, and 5(6.4%) Muslim religion. The majority of the subjects, 65(83.3%) belonged to age of 17, and 13(16.7%) age group of 18 years. The majority of subjects, 67(83.9%) belonged to the urban, and 11(14.1%) to the Rural. The majority of the subjects, 75(96.2%), had no history of cervical cancer, and 3(3.8%) subjects have a family

history of cervical cancer. Not a single subject has taken the Human Papilloma Virus vaccination.

Similar findings were noted in the study conducted to assess awareness of the Human Papilloma Virus vaccine and its socio-demographic determinants among the parents of eligible daughters in Bangladesh, among the 2151 participants, the respondents had an average age of approximately 38.18 (± 5.86) years, the majority were female (81.40 %) and primarily living with their spouse (93.86 %). The dominant religion among the respondents was Islam (82.94 %), and participants came from diverse residential backgrounds, with 51.60 % residing in urban areas. On average, participants had 11.37 (± 4.51) years of education.

2) Findings Related to Frequency and Percentage Distribution According to Knowledge Scores

In the present study, in the pre-test majority of the subjects, 56(71.8%) had average knowledge, and 22(28.2%) had poor

knowledge, whereas in post-test 60(76.9%) subjects had average knowledge, 16(20.5%) had good knowledge and 02(2.3%) had poor knowledge. Thus, it was concluded that a structured teaching program was efficient in improving knowledge.

Similar findings were noted in the study conducted to evaluate the effectiveness of the self-instructional module on the prevention of cervical cancer in R.R Nursing College Bengaluru Karnataka. The findings of the pre-test revealed that initially women that the knowledge scores below average were 55%, 37.5% were average, 7.5% were having knowledge above average. While the post-test scores revealed that scores of below averages was reduced to Nil, average were increased to 75%, and above average were 25% percentage. Thus, the results showed that the mean percentage of knowledge scores on the prevention of cervical is increased from the pre-test mean of 11.15 to the post-test mean of 16.50. Thus, it was concluded that the structured teaching program was efficient in improving the knowledge scores.

3) Findings Related to Frequency and Percentage Distribution According to Attitude Scores.

In the present study, in the pre-test majority of the subjects, 48(61.5%) had unfavorable attitudes and 30 (38.5%) subjects had moderately favorable attitudes, whereas in the post-test 55(70.59%) subjects had moderately favorable attitudes, 19(24.4%) subjects had favorable attitude and 4(5.1%) subjects had unfavorable attitudes. Thus, the study concluded that the structured teaching program was efficient in improving the attitude.

Similar findings were noted in the study conducted to assess the effectiveness of the structured teaching program on knowledge and attitude regarding the early detection and prevention of cervical cancer among women. In the pre-test, 74% had a positive attitude and only 23% had a negative attitude with a standard deviation of 3.15, whereas in the post-test test 94% had good knowledge, 6% had average, and none of them had a poor knowledge level. The standard deviation was 1.14, and all had a positive attitude with a standard deviation of 1.69. The result showed that there was a significant difference in the mean pre-test and attitude score at a 0.05 level of significance. Thus, the study was effective in improving the attitude.

4) Findings Related to the Effectiveness of the Self-Instructional Module (SIM) on Knowledge Scores Regarding Cervical Cancer and Human Papillomavirus Vaccination Among Adolescent Girls

In the present study, the calculated paired "t" value is 25.43, and the P value is 0.01. Hence, H1 is accepted. This indicated that the gain in knowledge score was statistically significant at $p < 0.05^*$ level. Therefore, the findings revealed that the self-instructional module on knowledge regarding cervical cancer and Human Papilloma Virus vaccination was effective in increasing the knowledge among subjects.

Similar findings were noted in a study conducted to assess the effectiveness of a self-instructional module regarding Human Papilloma Virus vaccination among adolescent girls at the Selected Arts and Commerce College of Mehasana. According to the pre-test, 70% had poor knowledge of Human Papilloma Virus vaccination, 30% had average knowledge, and 0% had good knowledge of Human Papilloma Virus vaccination. Whereas in the post-test, 62.5% had good knowledge and 37.5% had average knowledge of Human Papilloma Virus vaccination. Therefore, the findings revealed that the Self-instructional module was effective in increasing the knowledge among subjects.

5) Effectiveness of Self-Instructional Module (SIM) on Attitude Scores Regarding Cervical Cancer and Human Papilloma Virus Vaccination among Adolescent Girls.

In the present study, the calculated paired 't' value is 32.41, and the P value is 0.01 on attitude regarding cervical cancer, and Human Papilloma Virus vaccination was increasing the knowledge among subjects.

Similar findings were noted in a study conducted among female college students in Dimapur, Nagaland, to assess the effectiveness of interventional modules on knowledge and attitude regarding the prevention of cervical cancer. According to the study findings 86(46.48%) had moderately inadequate knowledge, 84(45.4%) had moderately adequate knowledge, and 15(8.1%) had adequate knowledge. Whereas in the post-test, 123(66.5%) knew about cervical cancer, 6(3.2%) had inadequate, 108(58.4%) had favorable attitude and 76(41.1%) had favorable attitude, 42(22.7%) had moderate favorable attitude. The mean pre-test and post-test knowledge score was 3.16 (SD 2.27), and

attitude was 1.45(SD 2.71). The p-value was less than 0.05, which reveals that the intervention was effective and a significant association was found between the selected socio-demographic variables like age, education, and area of residence.

6) Findings Related to the Correlation Between Knowledge and Attitude Score Regarding Cervical Cancer and the Human Papilloma Virus Vaccine.

In the present study, the correlation is significant at 0.01* level of significance, covariance is 0.75

Hence, H3 is accepted. This indicates a weak positive significant correlation between the subjects' pre-test knowledge and attitude scores.

Similar findings were noted in a study conducted to assess the knowledge, attitudes, and associated factors related to cervical cancer and its screening practices among women in Nepal. Spearman's (rho) correlation coefficient formula was used. Correlation is significant at the 0.108 level (2-tailed). The results revealed that $\rho = 0.078^*$. There was a very weak positive correlation between knowledge and attitude toward cervical cancer and its screening.

7) Findings related to an association between pre-test knowledge scores of subjects with their selected socio-demographic variables.

In the present study, there was a significant association between pre-test knowledge scored with selected socio-demographic variables like Stream and standard of studying. The calculated chi-square values were greater than the tabulated value at 0.05 level of significance. Age in years, Religion, Area of residence, Family history of cervical cancer, and vaccination against Human Papilloma Virus vaccine do not show any significant association. **Hence, H4 is accepted.** This indicated a significant association between the pre-test knowledge scores and their selected socio-demographic variables at a 0.05 level of significance.

Similar findings were noted in a study conducted among female teachers from selected schools in Bangalore to assess the effectiveness of a self-instructional module on knowledge regarding Pap smear screening. In the pre-test, 31.7% had moderate knowledge scores, and 68.3% had inadequate knowledge. The majority of the subjects showed (26.28)

adequate knowledge, which was statistically significant (t value 18.80, df 59) at the 0.05 level and significantly higher than the mean pre-test (13.38). According to the chi-square test, there was a significant association found between the pre-test knowledge scores and socio-demographic variables. The study concluded that the intervention was effective in improving awareness among female school instructors.

8) Findings related to an association between pre-test attitude scores of subjects with their selected socio-demographic variables.

In the present study, there was a significant association between pre-test attitude scores with selected socio-demographic variables like stream and standard of studying. The calculated chi-square values were greater than the tabulated value at a 0.05 level of significance. Age in years, Religion, Area of residence, Family history of cervical cancer, and having been vaccinated for the Human Papilloma Virus do not show any significant association.

Hence, H5 was accepted. This indicates that there was a significant association between the pre-test attitude scores of the subjects with the socio-demographic variables at a 0.05 level of significance.

Similar findings were noted in a study to assess the knowledge, attitude, and practices of adolescent girls regarding cervical cancer in Nsukka, Enugu state, Nigeria. 42.7% had good knowledge of cervical cancer, and 48.5% had favorable attitudes towards the disease. Therefore, the study revealed that a significant association was found between the age, educational qualification and area of residence at a p-value less than 0.05 and there is a need for adolescent girls to be educated about cervical cancer, to improve their knowledge and attitudes towards the disease, so that they can make informed decisions about their practices

CONCLUSION

The knowledge results reveal that the calculated pair 't' value was ($t_{cal}=63.80$). **Hence, H1 was accepted.** This indicated that the gain in knowledge score was statistically significant at $p<0.05$ level. Therefore, the findings revealed that the self-instructional module on knowledge regarding cervical cancer and Human Papilloma Virus vaccination was effective in increasing the knowledge among subjects.

The attitude results reveal that the calculated paired 't' value is 32.41, and the P value is 0.01. **Hence, H2 is accepted.** This indicated that the gain in attitude score was statistically significant at $p < 0.05$ level. Therefore, the findings revealed that the self-instructional module on attitude regarding cervical cancer and Human Papilloma Virus vaccination was effective in increasing the attitude among subjects

There was a significant correlation at a 0.01 level of significance, **Hence, H3 is accepted.** This indicated that there is a significant correlation between pre-test knowledge and attitude scores among the subjects.

There was a significant association between pre-test knowledge with selected socio-demographic variables like Stream and standard of studying. The calculated chi-square values were greater than the tabulated value at 0.05 level of significance. While age, years, Religion, Area of residence, and Family history of cervical cancer, have you been vaccinated for the Human Papilloma Virus vaccine do not show any significant association. **Hence, H4 was accepted.** This indicated that there was a significant association between the pre-test knowledge scores of subjects with their selected socio-demographic variables at a 0.05 level of significance.

There was a significant association between the pre-test attitude scores with selected socio-demographic variables like stream and standard of studying. The calculated chi-square values were greater than the value at 0.05 level of significance. While age, years, Religion, Area of residence, and Family history of cervical cancer, have you been vaccinated for the Human Papilloma Virus vaccine do not show any significant association. **Hence, H5 was accepted.** This indicated that there was a significant association between the pre-test attitude scores of subjects with their selected socio-demographic variables at a 0.05 level of significance.

Thus, the study concluded that the self-instructional module (SIM) was effective in increasing the knowledge and enhancing a positive attitude towards cervical cancer and Human Papilloma Virus vaccination among the subjects.

Implications

The findings of the study have several implications in different areas, which are discussed in the following.

1. Nursing Education

2. Nursing Practice
3. Nursing Administration
4. Nursing Research.

1. Nursing Education

The educational background of nursing professionals must be equipped with the essential knowledge to perform effectively as health educators. The findings of this study provide valuable insights that nurse educators can leverage to underscore the critical importance of educational intervention programs aimed at enhancing awareness about cervical cancer prevention.

2. Nursing Practice The findings of this study can assist nurses in developing personalized health plans to address the health issues faced by women. Additionally, nurses can offer counseling services related to women's reproductive health. Nurses need to remember that teaching and demonstrating healthy practices involve not only mechanical aspects but also psychological and economic factors. Nurses can organize health education programs in various settings, such as high schools, colleges, and women's organizations.

3. Nursing Administration

The nurse administrator should prioritize providing information on the prevention of cervical cancer through various teaching methods. They should plan and organize panel discussions and workshops focused on this topic, which will help staff nurses enhance their knowledge of daily practice. Additionally, a lesson plan, educational intervention program, and teaching tools can be utilized during in-service education programs.

4. Nursing Research

Research plays a crucial role in expanding nursing knowledge, which ultimately enhances the quality of care provided to patients. There is a clear need for evidence-based standards of practice. The tools, lesson plans, and educational intervention programs utilized in this study can be applied as is or modified for similar research efforts. The findings from this study should be published in journals, online platforms, and other relevant media to serve as a valuable resource for future researchers exploring similar topics.

Limitations

The study was limited to 78 adolescent girls from Kamala College, Kolhapur.

RECOMMENDATIONS

1. Conducting a similar study on a larger and more diverse sample size would be beneficial for making broader generalizations.
2. A comparative study could be undertaken to examine the differences in cervical cancer prevention efforts between private and government school teachers.
3. A descriptive study could assess the knowledge, attitudes, and practices related to cervical cancer prevention among school teachers.
4. An experimental study focused on cervical cancer prevention among females aged 9-26 years should be carried out.

This chapter can serve as a guide for new learners to conduct an in-depth study of this topic and compare their findings with those presented here.

BIBLIOGRAPHY

1. World Cancer Day. UICC. 2022.
2. PTI. More than 3.4 lakh women get diagnosed with cervical cancer in India: Report. The Economic Times. Economic Times; 2024.
3. Women's Reproductive Health. orwh.od.nih.gov.
4. Available from: <https://orwh.od.nih.gov/research/maternal-morbidity-and-mortality/information-for-women/womens-reproductive-health>.
5. Petry KU. HPV and cervical cancer. Scandinavian Journal of Clinical and Laboratory Investigation. 2014;74(sup244):59-62.
6. Castellsague X. Natural history and epidemiology of human papilloma virus infection and cervical cancer. Gynecologic-oncology.2008;110(3):54.
7. Kaarthigeyan K. Cervical cancer in India and Human Papilloma Virus vaccination. Indian Journal of Medical and Pediatric Oncology [Internet]. 2012;33(1):7.
8. Castellsague X. Natural history and epidemiology of Human Papilloma Virus infection and cervical cancer. Gynecologic-oncology.2008;110(3):54.
9. World Health Organization. Cancer. WHO. World Health Organization: WHO, 2019.
10. Cleveland Clinic. Human Papilloma Virus vaccine: Schedule, Side Effects & Who Can Get It. Cleveland Clinic. 2023
11. Birchwood M, Cochrane R. Families coping with schizophrenia: coping styles, their origins and correlates, psychological medicine, Acta Psychiatrica Scandinavica. 1998;20(2):857-65
12. Chandrasekaran R, Sivaprakash B, Jayestri SR. Coping strategies of the relatives of schizophrenic patients. Indian Journal of Psychiatry 2002; 44(1): 9-13.
13. Chandrasekaran R, Sivaprakash B, Jayestri SR. Coping strategies of the relatives of schizophrenic patients. Indian Journal of Psychiatry 2002; 44(1): 9-13.
14. Nancy Burns and Susan K Grove, Understanding Nursing Research Building an Evidence Based Practice, 4th ed, Noida: Elsevier, A deviation of Reed Elsevier India Private Limited; 2008
15. Shivasharan P, Lobo C. to evaluate the effectiveness of Self-Instructional Module on knowledge regarding prevention of cervical cancer among adolescent girls of P.V.P first grade college Bangalore. International journal of innovative research in technology.2025;11(8):551-558.
16. Effectiveness of Self-Instructional Module on Human Papilloma Virus Vaccine on Prevention of Cervical Cancer among 1st Year GNM Students. Ijaresm.com. 2024
17. Jacqueline J, R. Kundapur. Effectiveness of Self-Instructional Module (SIM) on Cervical Cancer on Learning Outcomes Among Married Women in Selected Anganwadies Under Mundur PHC. International Journal of Oncological Nursing [Internet]. 2018 [cited 2025 Jan 16];4(1):42-50.
18. R. K, Dhanalakshmi M, Elakkiya M. Effectiveness of Self-Instructional Module (SIM) on Knowledge Regarding Prevention of Cervical Cancer among Women at Selected Village, Tamil Nadu. International Journal of Science and Healthcare Research. 2021 Apr 6;6(2):22-7
19. Rajan D R, Munusamy G, Thampi A et al. Effectiveness of Self-Instructional Module (SIM) on Knowledge Regarding Cancer of Cervix and Its Prevention Among Married Women.2020;
20. Ramavath K, Olyai R. Knowledge and Awareness of Human Papilloma Virus Infection and Vaccination Among Urban Adolescents in India: A Cross-Sectional Study. The Journal of Obstetrics and Gynecology of India. 2013; 63(6):399-404
21. 20 Srikanth J, Upadhyia KG, Kumar P. Awareness of cervical and breast cancer among women attending OBG out-patient department of a medical college hospital, Bangalore.
22. International Journal of Community Medicine and Public Health (IJCMPh) 2018 Vol5(5):
23. Joshi SV, Chaudhari HR, Chaudhari NA. Effect of Education on Awareness, Knowledge, and Willingness to Be Vaccinated in Females of Western India. Journal of Cancer Education: the Official Journal of the American Association for Cancer Education. 2020 ;35(1):61-68.
24. Siddharthar J. Rajkumar B, Deivasigamani K. Knowledge and Awareness of cervical cancer and its prevention among women. Journal of Clinical and Diagnostic Research. 2014 Jun, Vol. 8(6):1-3
25. Rashid S, Labani S, Das BC (2016) Knowledge, Awareness and Attitude on Human Pappiloma Virus, Human Papilloma Virus vaccine, and Cervical

- Cancer among the College Students in India. PLoS ONE 11(11)
26. Saqer A, Ghazal S, Barqawi H, Babi JA, AlKhafaji R, Elmekresh MM. Knowledge and Awareness about Cervical Cancer Vaccine (Human Pappiloma Virus) Among Parents in Sharjah. Asian Pacific Journal of Cancer Prevention: APJCP[Internet].2017;18(5):1237-41.
 27. Bathija GV, Mallesh S, Gajula M. A study on awareness of cervical cancer among women of reproductive age group in urban slums of old Hubli, Karnataka, India. Int J Community Med Public Health 2016; 3:2579-83.
 28. Bardaji A, Mindu C, Augusto OJ, Casellas A, Cambaco O, Simbine E, et al. Awareness of cervical cancer and willingness to be vaccinated against Human Papilloma Virus Mozambican adolescent girls. Papilloma Virus Research [Internet]. 2018 Jun [cited 2020 Mar 15];5: 156-62.
 29. K Chandrika, Naik, N Bijaya et.all. Awareness on Cancer Cervix, Willingness, and Barriers for Screening of Cancer Cervix among Women: Indian Journal of Public Health. 2020; 64(4) :374-380
 30. Kumari S, Singh A, Sangal R, Sharma N. KAP study on cervical cancer and Human Papilloma Virus Vaccine acceptability among adolescent girls of Eastern UP. International Journal of Reproduction, Contraception, Obstetrics and Gynecology (IJRCOG).2021;10(5)
 31. Ghosh S, Mallya SD, Shetty RS, Pattanshetty SM, Pandey D, Kabekkodu SP, et al. Knowledge, Attitude, and Practices Towards Cervical Cancer and its Screening Among Women from Tribal Population: a Community-Based Study from Southern India. Journal of Racial and Ethnic Health Disparities. 2020 Apr 24;8(1):88-93.
 32. Abdelaliem SMF, Kuaia AM, Hadadi AA, Alhujayri AK, Al Anazi AA, Hajar AA, AlShareda RS, Amri SM. Knowledge and Attitudes toward Human Papilloma Virus and Vaccination: A Survey among Nursing Students in Saudi Arabia. Healthcare. 2023; 11(12):1766
 33. Ramathuba DU, Ngambi D, Khoza LB, Ramakuela NJ. Knowledge, attitude, and practices regarding cervical cancer prevention at Thulamela Municipality of Vhembe District in Limpopo Province. African Journal of Primary Health Care & Family Medicine. 2016;8(2): 1-7.
 34. Ozyer S, Uzunlar O, Ozler S, Kaymak O, Baser E, Gungor T, Mollamahmutoglu L. Awareness of Turkish Female Adolescents and Young Women about Human Papilloma Virus and their Attitudes Towards Human Papilloma Virus Vaccination. Asian Pac J Cancer Prevention. 14 (8), 4877-4881
 35. Thovarayi SB, Noronha JA, Nayak S. Knowledge of cervical cancer screening among rural Indian women. IOSR Journal of Nursing and Health Science. 2014 May-Jun;3(3):51-5. <https://www.iosrjournals.org>
 36. Pattupara AJ, Dhiman N, Singh A, Chaturvedi J. Knowledge, Attitude and Practice study on screening of cervical cancer among women. Symbiosis Journal of Obstetrics and Women's Health. 2016 2(1):1-3.
 37. Ramamurti R. Rajarajeswari S, Ranjani R. Comparison of Knowledge Attitude and Practices regarding Cervical Cancer Screening and Human Papilloma Virus Vaccination, between employed and unemployed. International Journal of Medical Sciences and Clinical Inventions. 2(1); 2015: 624-32.
 38. Thangappah R B. P, Priya M, Sureshbabu G et. all. Knowledge and awareness of cervical cancer prevention and HUMAN PAPILLOMA VIRUS Vaccination among medical and nursing students in a tertiary care hospital. International Journal of Reproduction, Contraception, Obstetrics and Gynecology (IJRCOG), 12(9):2023
 39. Begum R. Shuyab M. Knowledge about Carcinoma Cervix among Females. Advances in Cancer Prevention, 2016; Vol. 1(3):1-6
 40. Najafi-Sharjabad F, Rayani M. The Relationship between Knowledge, Attitude, and Acceptance of Human Papilloma Virus (Human Pappiloma Virus) Vaccination for Cervical Cancer Prevention among Students at Bushehr University of Medical Sciences, Iran. Journal of Research Development in Nursing and Midwifery. 2019 Nov 1;16(2):19-29.
 41. Mitiku 1, Tefera F. Knowledge about Cervical Cancer and Associated Factors among 15-49-year-old. PLoS ONE, 2016 Sep; 11(9):1-10
 42. Sharma S. A Study to Assess the Knowledge regarding Cervical Cancer among women in Civil Hospital Sec-6 Panchkula.International Journal of

- Nursing Education and Research. 2022; 10(2):137-0
43. View of Knowledge, attitude and practice on cervical cancer screening and Human Papilloma Virus Vaccination among adolescent girls residing in a slum of Kolkata | Bangabandhu Sheikh Mujib Medical University Journal. Banglajol.info. 2025.
 44. Nancy Burns and Susan K Grove, Understanding Nursing Research Building an Evidence-Based Practice, 4th ed, Noida: Elsevier, A deviation of Reed Elsevier India Private Limited; 2008
 45. Polit DF and Cheryl Tatano beck. Nursing Research: Generating and Assessing Evidence for Nursing Practice. 9th ed. New Delhi: Wolter Kluwer, India Pvt.Ltd.2012.
 46. Dr. Suresh. K. Sharma. Nursing research and statistics.2012, Elsevier India Pvt. Ltd, New Delhi. P. 176- 178
 47. Eva FN, Khan MAS, Islam T, Monisha UK, Meem NES, Hossain MA, et al. Awareness of Human Papilloma Virus vaccine and its socio-demographic determinants among the parents of eligible daughters in Bangladesh: A nationwide study. Heliyon [Internet]. 2024 May [cited 2024 Oct 10];10(10): e30897.
 48. K.M C, J. P, Karthikeyaprasath. A study to assess the effectiveness of self-instructional module on prevention of cervical R.R nursing college Bengaluru Karnataka. International Journal of Advanced Research [Internet]. 2024 Jul 31 [cited 2025 Jan 15];12(07):1344-50.
 49. Sonu M, Siby R. Effectiveness of Structured Teaching Programme on Knowledge and Attitude Regarding Early Detection and Prevention of Cervical Cancer among Women. International Journal of Health Sciences & Research (www.ijhsr.org) [Internet]. 2017 [cited 2024 Feb 17];7(8):222.
 50. Janki Patel. A Study to Evaluate the Effectiveness of Self-Instructional module on Knowledge regarding Human Papilloma Virus Vaccination among Adolescent Girls in Selected Arts and Commerce College of Mehasana. Asian J. Nursing Education and Research. 2018; 8(3):369-370
 51. Yephtho A, kuotsu A et.al. Effectiveness of interventional module on knowledge and attitude regarding prevention of cervical cancer. International Journal of Health Sciences and Research Volume 14; Issue: 9;2024
 52. Bishnu Maya Rijal, Pratima Dawadi. Knowledge, Attitudes and Associated Factors Regarding Cervical Cancer and its Screening Practice among women of central Nepal. Heliyon. 2024 Jul 1;10(14): e34886-6.
 53. Khatry RA, Joseph B. A study to evaluate the effectiveness of self-instructional module on knowledge regarding Pap smear screening among female teachers from selected schools of Bangalore. Int J Health Sci Res. 2017; 7(7):171-176
 54. Amorha KC, Ozota GO, Ndunwere MGO, Anyaji UL, Egbo OF, Ogugofor OA. Knowledge, attitudes, and practices of adolescent girls regarding cervical cancer: a cross-sectional study in Enugu State, Nigeria. The Pan African Medical Journal. 2024 Jan 15 [cited 2024 Mar 24];47(17).