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Impact of a Structured Educational Program on Awareness of the Human Papilloma Virus Vaccine for Cervical Cancer Prevention Among Women in a Chosen Rural Region of Rajkot

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Abstract

The World Health Organization (WHO) advocates for the inclusion of the human papilloma virus (HPV) vaccine in standard immunization schedules worldwide, in addition to other preventive strategies. The launch of the prophylactic HPV vaccine has markedly improved primary prevention measures against cervical cancer and other diseases caused by HPV. Following their approval in 2006, both the quadrivalent and bivalent HPV vaccines have received authorization in over 100 countries. As of the start of 2012, the HPV vaccine was incorporated into the national vaccination schedules of a minimum of 40 countries worldwide. The vaccine regimen consists of two or three doses, depending on the recipient's age and immune function. Despite vaccination, cervical cancer screening remains essential. Widespread vaccination not only protects vaccinated individuals but also confers indirect benefits to those not vaccinated. The HPV vaccines are considered highly safe, though common side effects, affecting about 80% of recipients, include pain, redness at the injection site, and fever. The main purpose of the HPV vaccine is to provide protection against cervical cancer. It has also been shown to block almost 100% of the precancerous changes in cervical cells linked to HPV types 16 and 18. According to available information, the duration of protection for Cervarix extends up to 6.4 years, while for Gardasil, it lasts up to 5 years in women who tested negative for HPV at the moment of vaccination. The present pre-experimental one group pretest and posttest research design was conducted among women to evaluate the effectiveness of HPV vaccine for prevention of cervical cancer. The researcher selected 60 samples based on nonprobability sampling technique. The findings indicated that knowledge levels improved following the implementation of a structured teaching program, demonstrating its effectiveness. The researcher concluded that, the teaching aids will be helpful in improving knowledge among women as well as public. The researcher recommended that, the community education program and personal behavior change education is required for bring awareness regarding HPV vaccine for prevention of cervical cancer.

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INTRODUCTION

The human papilloma virus vaccine was first developed at the University of Queensland, Australia, by Lan Frazer and Jian Zhou.

Frazer and Zhou initiated the synthesis of particles resembling human papilloma virus in 1990, which eventually led to the development of

the vaccine. It has been definitively established that human papilloma virus is the causative factor of cervical cancer [1–4].

Approximately 130 different strains of human papilloma virus have been recognized, and among these, 15 are considered high-risk for leading to cervical cancer. Among these, human papilloma virus types 16 and 18 alone contribute to more than 70% of all cervical cancer cases.

Global vaccination efforts have the capacity to decrease cervical cancer fatalities by up to two-thirds if all females are vaccinated. Moreover, the vaccine can reduce the need for medical procedures, including interventions, biopsies, and invasive treatments. Optimal effectiveness of the vaccine among females aged 9 to 26 years is achieved when they have not been previously exposed to human papilloma virus and when they receive the three doses within the specified timeframe. According to reports, approximately 604,127 women worldwide received a cervical cancer diagnosis, resulting in 341,831 fatalities. In India alone, 123,907 cases of cervical cancer were diagnosed, leading to 77,348 deaths. India represents 20% of new cervical cancer diagnoses and 22% of cervical cancer-related deaths globally each year [5, 6].

In 2016, Delhi became the first state in India to introduce an opportunistic vaccination program against the human papilloma virus for schoolgirls aged 11 to 13 years. There were no serious adverse effects noted; however, the program's coverage was quite restricted. Following this, the Punjab government formulated operational guidelines for the implementation of human papilloma virus vaccination in health facilities, incorporating technical advice from Indian Council of Medical Research (ICMR), World Health Organization (WHO), and UNICEF. A targeted campaign approach was implemented in the two districts with the highest incidence rates: Bathinda (17.5 per 100,000) and Mansa (17.3 per 100,000).

Phase 1, initiated in November 2016, achieved excellent vaccination coverage, with 98% (9672 out of 9922) of the targeted group completing two doses in government and government-aided schools. By the end of Phase 2 in November 2017, 94% (15,140 out of 16,106) of eligible girls had received the first dose, and 99% (14,988 out of 15,140) had received the second dose. This initiative set the stage for policymakers to contemplate introducing human papilloma virus vaccination in additional states.

In 2018, Sikkim became the first state to fully vaccinate girls aged 9 to 14 years across the region, targeting 25,284 girls in 1,166 schools. A remarkable 97% of these girls received their first dose either at school or at a health center for those not in school, followed by a second dose 6 months later. There were minor temporary adverse events reported, including headaches, dizziness, nausea, and pain at the injection site, which resolved quickly. Subsequently, the vaccination of 9-year-old girls was integrated into the regular immunization schedule, with technical assistance from WHO, UNICEF, Jhpiego, and the state-coordinated advisory committee [7, 8].

In May 2018, the WHO called for the eradication of cervical cancer as a public health concern by advocating widespread human papilloma virus vaccination, screening, early detection, and treatment of cervical pre-cancer and cancer. On November 17, 2020, the World Health Assembly (WHA) officially introduced a global strategy to execute this endeavor. Despite the challenges posed by the COVID-19 pandemic, 194 countries across the globe reaffirmed their commitment to this significant initiative. The elimination program aims to achieve the following targets by 2030:

- 90% girls fully vaccinated by 15 years of age with two doses of human papilloma virus vaccine;
- 70% women screened with high-performance test at 35 and 45 years of age; and
- 90% of women with cervical pre-cancer and cancer receive treatment to achieve a goal of less than four cases per 100,000 women.

A cross-sectional study was done in randomly selected block of Aravali district. Most health facilities possess fundamental infrastructure to conduct cervical cancer screening programs, yet only 2% of health institutions offer pap smear services. Limited community awareness among healthcare professionals regarding the urgency of screening necessitates a concerted effort to stimulate demand from the community. This entails enhancing community involvement, delivering skill-oriented training, and fostering motivation among healthcare providers to boost participation in cervical cancer screening programs, thereby reducing mortality rates among women.

The findings of the clinical epidemiology and global health study indicate that the participants' understanding of human papilloma virus is limited, and their awareness regarding human papilloma virus vaccination is comparatively lacking. This study suggests that there is a need of offering more aggressive education and promotion activities on human papilloma virus and human papilloma virus vaccination for the university students irrespective of their background. The healthcare workers too need to be educated about the most common sexually transmitted infection as they are the bridge between people and the wellness of a society. In summary, these findings underscore the critical need for education on human papilloma viruses to rectify notable knowledge deficiencies.

Cervical cancer ranks as the second most prevalent cancer among women in India, according to the Indian Institute of Public Health, Gandhinagar. As per the fifth National Family Health Survey (NFHS 5), due to lack of knowledge and awareness only 0.2% of women go for cervical cancer screening in Gujarat state. Screening of cervical cancer and vaccination against human papilloma virus has led to significant reduction in cervical cancer in developed countries. Spreading awareness and early detection of cancer is very important in halting growing incidence of cancer in Gujarat [9, 10].

OBJECTIVES

1. To gauge women's understanding of the human papilloma virus vaccine as a preventive measure against cervical cancer.
2. To measure the efficacy of a structured educational program by analyzing the average pre-test and post-test knowledge scores among women.
3. To explore the correlation between women's demographic characteristics and their average post-test knowledge scores regarding human papilloma virus vaccination for cervical cancer prevention.

Research Design

For this study, a pre-experimental research design known as the one-group pretest-posttest design was employed.

Research Study Setting

The research took place in specific rural regions located in Rajkot, Gujarat.

Population

Women.

Sample

The sample consists of the women who are between the ages of 35 to 44 years in selected rural area of Rajkot.

Sample Size

The study included a total of 60 female participants in its sample size.

Sampling Technique

A non-probabilistic sampling method was employed to select the participants for the study.

RESULTS

The distribution of demographic variables of women, majority 20 (33.3%) of the subjects are below the age of 31 to 40 years; regarding religion, 51 (85%) were Hindus, regarding marital status 49 (81.7%) of them were married, regarding education, 34 (56.7%) had no formal education, in terms of income, 27 (45%) are earning rupees 21,000 to 30,000 monthly. Regarding occupation of the subjects, majority 48 (80%) of them were housewives. As regards types of family, 38 (63.3%) are living in nuclear family. Regarding number of children, 34 (56.7%) of them had two children. A total of 24 (40%) women got information from family members regarding human papilloma virus vaccine. Overall, 50 (83.3%) women had no family history of cancer.

Before educational intervention, a majority of the women, specifically 32 (53.3%), had insufficient knowledge about the human papilloma virus vaccine and its role in preventing and managing cervical cancer. Following the intervention, 47 (78.3%) of the participants showed sufficient understanding of the topic (Figure 1).

The average score and its deviation from the mean indicated the level of knowledge regarding the human papilloma virus vaccine for cervical cancer prevention among women. Before the educational program, the mean pre-test score was 10.53 with a standard deviation of 3.26, while after the program, the mean post-test score rose to 22.03 with a standard deviation of 2.38. The paired '*t*' value of 20.849 was statistically significant at the *p* level (0.000), demonstrating that the structured teaching program effectively increased women's knowledge about the human papilloma virus vaccine for cervical cancer prevention (Table 1).

The demographic variables age (χ^2 = 18.082, p = 0.005) source of information (χ^2 = 13.090, p = 0.005) had shown statistically significant association with level of knowledge regarding human papilloma virus vaccine for prevention of cervical cancer among women at rural areas in Rajkot, at $p <$ 0.005 level.

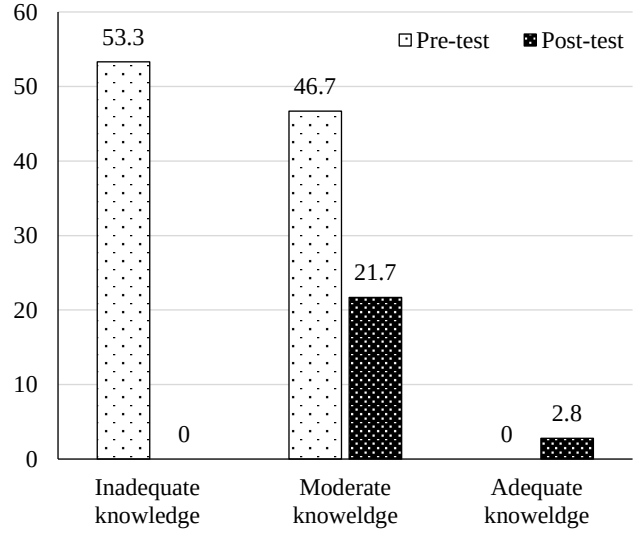

Figure 1. Pre- and post-test level of knowledge.

Table 1. Paired '*t*' test comparison of pre and post test scores regarding human papilloma virus vaccine for prevention of cervical cancer among women.

Variable	Pre-test	Post-test	Mean difference	SD difference	'*t*' value	*p* value
	Mean ± SD	***Mean ± SD***				
Knowledge	10.53 ± 3.26	22.03 ± 2.38	–11.05	0.88	20.849	**0.000S***

CONCLUSION

This study sought to assess the impact of a structured educational program on awareness about the human papilloma virus vaccine for cervical cancer. The research employed a pre-experimental design known as the single-group pre-test post-test design to conduct the study. Rajkot district was selected for conducting the study. The sample size was 60 women by using non-probability convenient sampling method.

REFERENCES

1. Wikipedia. HPV Vaccine. [Online]. Available at https://en.m.wikipedia.org/wiki/HPV_vaccine
2. NOMAN. The history of the HPV vaccine. [Online]. June 18, 2020. Available at https://www.nomancampaign.org/post/the-history-of-the-hpv-vaccine
3. National Cancer Institute. Human papillomavirus (HPV) vaccines. [Online]. May 25, 2021. Available at https://www.cancer.gov/cancertopics/factsheet/risk/hpvvaccine
4. Abushaikha L, Edwards JE, Cesario S. "Moms and babies first" – a historical overview of the Association of Women's Health Obstetric and Neonatal Nurses. Nurs Outlook. 2021; 69 (6): 1049–1057. doi: 10.1016/j.outlook.2021.05.012.
5. World Health Organization. Human papillomavirus vaccines: WHO position paper, May 2017. Wkly Epidemiol Rec. 2017; 92 (19): 241–268. English, French.
6. D'Oria O, Corrado G, Laganà AS, Chiantera V, Vizza E, Giannini A. New advances in cervical cancer: from bench to bedside. Int J Environ Res Public Health. 2022; 19 (12): 7094. doi: 10.3390/ijerph19127094.
7. Park K. Park's Textbook of Preventive & Social Medicine. Jabalpur, India: Banarsidas Bhanot Publishers; 2021.
8. Saqer A, Ghazal Sh, Barqawi H, Babi JA, AlKhafaji R, Elmekresh MM. Knowledge and awareness about cervical cancer vaccine (HPV) among parents in Sharjah. Asian Pac J Cancer Prev. 2017; 18 (5): 1237–1241. doi: 10.22034/APJCP.2017.18.5.1237.
9. Mehta S, Rajaram S, Goel G, Goel N. Awareness about human papilloma virus and its vaccine among medical students. Indian J Community Med. 2013; 38 (2): 92-94. doi: 10.4103/0970-0218.112438.
10. Loukissas J. Differences in knowledge of HPV and the HPV vaccine by education, race, and ethnicity. [Online]. Division of Cancer Epidemiology & Genetics at the National Cancer Institute. November 22, 2023. Available at: https://dceg.cancer.gov/news-events/news/2023/education-race-hpv-awareness

