Status of Human Papillomavirus (HPV) Vaccination Program of the Department of Health (DOH) In Polangui, Albay: Basis for Health Education Drive

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ABSTRACT

This study investigated the status of the Human Papillomavirus (HPV) vaccination program of the Department of Health (DOH) in Polangui, Albay, Philippines, and identified the enablers, barriers, and proposed interventions to enhance health education on HPV vaccination. A convergent parallel mixed-method design was employed, using documentary review, a self-made survey questionnaire, and focus group discussions. Findings revealed a significant decline in HPV vaccination coverage from 61.07% in 2024 to 42.91% in 2025. The primary enabler identified was the accessibility and approachability of healthcare workers (WM = 3.91), while the primary barrier was concerns about vaccine safety and side effects (WM = 3.93). Qualitative data yielded four emergent themes: Vaccine Advocacy, Fear and Misconceptions, Information Gap, and Pro-Vaccine Attitude. Participants proposed two key interventions: HPV vaccine literacy conducted by medical workers and provision of community-friendly IEC materials. The study underscores the need for structured, culturally sensitive health education campaigns and stronger coordination between healthcare providers and communities to improve HPV vaccination adherence in Polangui, Albay.

Keywords: HPV vaccination, health education

Global concerns rise as cervical cancer remains the fourth most common cancer, which caused 350,000 deaths in 2022 (WHO). An estimated 620,000 cancer cases in women and 70,000 in men were caused by HPV in 2019. Persistent HPV infection with high-risk HPV types causes cervical cancer in association with cancers of the vagina, mouth/throat, penis, and anus. The highest rates of cervical cancer cases are in low- and middle-income countries, reflecting major inequities due to lack of access to national HPV vaccination and other cervical-related treatment factors [1]. HPV can cause cervical cancer and other cancers of the genitals, head, neck, and throat. Men who contract HPV infection show no symptoms, while 80% of women have the potential of contracting at least one type of HPV in their lifetime. Specifically, there are at least 14 strains of HPV which can lead to cancer, signifying the importance of the HPV vaccination program [2].

Based on reports in The Manila Times, cervical cancer remains the second leading cause of death among Filipino women. One out of seven women in the country are most likely to test positive for HPV. In Tondo, 15.1% of women tested positive while over 23% of those infected were carrying multiple genotypes, known to increase cancer risk. In Naic, 12.8% of women were infected while one out of four had multiple strains. Most disturbingly, HPV 52 infections were rising among women without any signs of cervical abnormalities. In younger age groups, women aged 30 and below showed HPV prevalence reaching up to 30%, indicating already alarming infection rates [3].

Health education campaign is vital in preventing diseases and promoting good health through educating the community about healthy lifestyles. It is also essential in providing information regarding health programs and communicating the associated risk in unhealthy behaviors such as smoking, excessive alcohol consumption, and drug abuse [4]. Community-based health promotion provides education on health topics to improve health literacy within the community through workshops, community meetings, and information campaigns. Strategies include supporting healthy behaviors through modifying the physical and social environment,

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creating safe spaces for physical activity, addressing social determinants of health, and improving mental health and resilience [5].

The HPV vaccination program was implemented in accordance with the Cervical Cancer Awareness and Prevention Campaign Act [6], which was established to educate parents, healthcare providers, and women about prevention, root causes, and factors that contribute to cervical cancer. Likewise, in compliance with the Universal Healthcare Act [7], which ensures that no Filipino citizen is deprived of quality and affordable healthcare services, the HPV vaccination program was implemented from national to community-based health systems and schools.

In 2015, the HPV vaccination program was integrated into school-based immunization programs nationwide by the Department of Health in coordination with the Department of Education. In Albay, HPV vaccination was introduced in 2019, initially in Tabaco, Legazpi, and Ligao, and later by all government units in 2024 [8]. Therefore, the HPV vaccination program was first implemented in 2024 in the Municipality of Polangui. Given the immaturity of the community-based HPV vaccination program in Polangui, challenges are inevitable, particularly in not achieving the target population vaccination rates set by the World Health Organization due to the number of refusals.

As a Public Health Nurse, although existing health promotions on HPV vaccination are provided by the Department of Health and adapted by each municipality, the problem lies in the unstructured and non-uniform execution of promoting HPV vaccination, which has led to poor vaccination coverage. Through this study, the researcher seeks to leverage unique insights and data to offer practical recommendations for creating structured intervention plans that will benefit the implementation of the HPV vaccination program in the Municipality of Polangui and health education campaigns within Albay.

METHODOLOGY

A convergent parallel mixed-method research design was employed in this study. The quantitative strand utilized documentary review to determine the status of the HPV vaccination program, while Cochran's Formula sampling technique was used to determine the total number of parents needed for the survey. The qualitative strand also utilized documentary review to achieve the number of participants for focus group discussion. The statistical technique used for quantitative data was weighted mean (WM) with verbal interpretation (VI), while thematic analysis using an inductive approach through open coding was employed to generate themes for the qualitative strand.

RESULTS AND DISCUSSION

Status of the HPV Vaccination Program in Polangui, Albay

The statistical data of the target population of students recorded by the Department of Health and the Rural Health Unit of Polangui were 894 for 2024 and 770 for 2025. This includes those who adhered, refused, and defaulted in HPV vaccination: 546 vaccinated, 60 refusals, and 390 defaulters from 2024, while 195 vaccinated, 94 refusals, and 481 defaulters from 2025. Data is presented in Table 1.

Table 1. Status of HPV Vaccination Program in Polangui, Albay

YEAR	Target Population	No. of Vaccinated			Refusal	Defaulter	Coverage (%)
	(9 - 14 years old)	9-11 y.o.	12-14 y.o.	Total			
2024	894	501	45	546	60	390	61.07%
2025	770	171	24	195	94	481	42.91%

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While global concerns rise as cervical cancer remains the fourth most common cancer causing 350,000 deaths in 2022, the HPV vaccination program in Polangui, Albay only covered 42.91% of the target population for 2025. Although 61.07% were covered in 2024, the number of defaulters increased to 481 out of 770 target population for 2025, revealing a deteriorating vaccination program. Table 1 also shows the age distribution of vaccinated children: 501 girls aged 9 to 11 years old in 2024 versus only 171 in 2025, and 45 girls aged 12 to 14 years old in 2024 versus only 24 in 2025. A decline in vaccinated girls was evident in the statistical data obtained from the Department of Health and Rural Health Unit of Polangui.

A descriptive cross-sectional study conducted in Baguio City on reproductive-aged women regarding knowledge, attitudes, practices, and barriers towards HPV infection revealed that marital status and age were associated with HPV infection prevention practices, while other demographic variables were not connected to knowledge on screening and vaccination [9]. Despite this, the Cervical Cancer Awareness and Prevention Campaign Act [6] and the Department of Health [8] require national to community-based HPV vaccination, which is also consistent with a study in China showing that vaccination coverage remained below the 90% target despite global efforts, with the lowest coverage in the 9-14 age group [10].

II. Enablers and Barriers of HPV Vaccination Program in Polangui, Albay

Exploring the enablers and barriers of the HPV vaccination program in Polangui, Albay aids in understanding the factors that influence adherence, refusal, and default in HPV vaccination status.

Table 2. Enablers in HPV Vaccination in Polangui, Albay

Indicator	**VACCINATED**			**REFUSAL**			**DEFAULTER**			**OVERALL**		
	WM	**VI**	**R**	**WM**	**VI**	**R**	**WM**	**VI**	**R**	**WM**	**VI**	**R**
1. The community is well-informed about HPV and its vaccination.	4.03	A	2	2.42	D	9	4.49	SA	1	3.74	A	7
2. Health education campaigns are effective in raising awareness.	3.94	A	4	2.17	D	10	4.40	SA	2	3.62	A	9
3. Healthcare workers are accessible and approachable.	3.86	A	7	3.80	A	4	4.14	A	3	3.91	A	1
4. The availability of free or subsidized vaccines increases vaccination rates.	3.75	A	9	3.86	A	3	3.89	A	7	3.81	A	6
5. Local leaders or organizations actively promote HPV vaccination.	3.89	A	5.5	3.77	A	5	4.06	A	6	3.90	A	2
6. Trust in the healthcare system encourages vaccination.	3.89	A	5.5	3.95	A	1	3.74	A	9	3.87	A	4

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7. School-based vaccination programs are available and accessible.	3.95	A	3	3.93	A	2	3.69	A	10	3.88	A	3
8. Parents/guardians perceive HPV vaccination as important for their children.	4.14	A	1	2.63	A	8	3.85	A	8	3.69	A	8
9. Vaccines are sufficiently supplied and available at health centers.	3.48	A	10	3.18	N	7	4.08	A	4.5	3.55	A	10
10. Outreach or mobile clinics help reach remote communities.	3.80	A	8	3.63	A	6	4.08	A	4.5	3.83	A	5
AVERAGE WEIGHTED MEAN	3.87	A		3.33	N		4.04	A		3.78	A	

Table 2 reveals that the primary enabler for vaccine adherence was parents/guardians perceiving HPV vaccination as important for their children (WM = 4.14, Rank 1, Agree). The enabler that influenced the number of refusals was trust in the healthcare system encouraging vaccination (WM = 3.95, Rank 1, Agree). The enabler that greatly influenced defaulters was the community being well-informed about HPV and its vaccination (WM = 4.49, Rank 1, Strongly Agree). Among all enablers, healthcare workers being accessible and approachable ranked first overall (WM = 3.91, Agree), indicating that the major factor affecting HPV vaccination rates depends on the accessibility and approachability of healthcare workers in the community, particularly in barangay health centers and school-based immunization programs.

The parents/guardians perceiving HPV vaccination as important for their children corresponds to the researcher's theory that cognition and affect, constructed through past experience, serve as the driving force for motivation. The willingness of mothers to vaccinate their daughters was also driven by a desire to protect them against sexually transmitted diseases and cancer, making the vaccine important [11]. Among refusals, trust in the healthcare system ranked first, consistent with findings from Baguio City where despite good practices in HPV infection prevention, most women neither underwent screening nor received HPV vaccination [9].

Table 3. Barriers in HPV Vaccination in Polangui, Albay

Indicator	**VACCINATED**			**REFUSAL**			**DEFAULTER**			**OVERALL**		
	WM	**VI**	**R**	**WM**	**VI**	**R**	**WM**	**VI**	**R**	**WM**	**VI**	**R**
1. There are misinformation or misconceptions about the HPV vaccine.	3.60	A	3	3.89	A	3	3.63	A	4.5	3.68	A	4
2. Cultural or religious beliefs oppose vaccination.	2.50	D	9	3.71	A	6	3.63	A	4.5	3.08	N	8

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3. The cost of the vaccine is a barrier for families.	2.39	D	10	3.58	A	7	3.37	N	6	2.93	N	9
4. Logistical issues, such as vaccine storage or shortages, exist.	3.49	A	6	3.31	N	9	3.31	N	7	3.40	A	6
5. Concerns about vaccine safety or side effects deter vaccination.	3.52	A	5	4.40	SA	1	4.28	SA	1	3.93	A	1
6. Lack of awareness or knowledge about the vaccine's benefits.	3.83	A	1	3.77	A	5	3.97	A	2	3.85	A	2
7. Language or communication barriers affect health education.	3.54	A	4	4.06	A	2	3.92	A	3	3.76	A	3
8. Transportation or distance to health centers limits access.	2.65	N	8	2.97	N	10	2.37	D	10	2.66	N	10
9. Competing health priorities reduce focus on HPV vaccination.	3.06	N	7	3.32	N	8	3.25	N	8.5	3.17	N	7
10. Limited availability of vaccines in local health facilities.	3.63	A	2	3.78	A	4	3.25	N	8.5	3.57	A	5
AVERAGE WEIGHTED MEAN	3.22	N		3.68	A		3.50	A		3.40	A	

Table 3 reveals that the primary barrier for vaccine adherence was lack of awareness or knowledge about the vaccine's benefits (WM = 3.83, Rank 1, Agree). The primary barrier influencing refusals was concerns about vaccine safety or side effects (WM = 4.40, Rank 1, Strongly Agree). The barrier most associated with default vaccination was misinformation or misconceptions about the HPV vaccine (WM = 3.63, Rank 1). Among all barriers, concerns about vaccine safety or side effects ranked first overall (WM = 3.93, Agree), indicating that the major barrier in HPV vaccination is safety-related concerns.

Lack of awareness and knowledge about HPV vaccines are also common barriers worldwide [12]. Another study highlights that lack of knowledge among healthcare providers about the law and self-consent are also specific barriers in vaccine uptake [13, 14]. Concerns about vaccine safety or side effects are consistent with findings in Zamboanga Del Sur, Philippines, where majority of parents hesitated due to uncertainties regarding adverse outcomes [11]. The lack of proper face-to-face communication [15], social stigma [12], anxiety and fear [16], and lack of awareness [13] are possible factors of misinformation that resulted in vaccine defaults.

Thematic analysis through open coding using an inductive approach was conducted on focus group discussion data. Four themes emerged representing the enablers and barriers of the HPV vaccination program.

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Table 4. Summary of Themes on the Enablers and Barriers of HPV Vaccination

Themes	Codes	Collective Description
Fear and Misconceptions	Promoting Sexual Experience	This theme explores the barriers of the parents why they refused to have their daughter vaccinated in HPV. It comprises of the fears and misconceptions about HPV vaccination as the result of not having enough knowledge regarding the importance of HPV vaccines. Some regarded the vaccine as unnecessary which only promotes sexual experience to their daughters at young age.
	Fear and safety concerns	
	Unnecessary Vaccination	
Vaccine Advocacy	School-based Immunization Program	This theme reveals how the HPV vaccination program was advocated in the community. This have enabled the parents to learn about the existence of HPV vaccination for their daughters. Parents have received letters and was informed that HPV vaccinations are available but was not completely aware of its importance.
	Health Promotion	
	Social media presence	
	Doctor's referral	
	Word of Mouth	
Information Gap	Compensating efforts	This theme emphasizes the barriers that causes default in the HPV vaccination programs in the community. This refers to the shortcomings of both the service providers in providing vials and dilemma of parents in adherence to HPV vaccination which mostly concerns in information dissemination of both parties such as not knowing when is the next schedule for booster or the family have relocated to other barangay.
	Geographical and consent issues	
	Insufficient information and resources	
Pro-vaccine Attitude	Women's protection against diseases	This theme acknowledges the acceptance of the community in HPV vaccination. The willingness of the parents to subject their daughters for the sake of protection from illnesses and trust in the safety of the vaccination provided by the government.
	Additional protection for girls	

Theme 1: Fear and Misconceptions

This theme emphasizes the barriers causing default and refusal in the HPV vaccination program. Codes include Promoting Sexual Experience, Fear and Safety Concerns, and Unnecessary Vaccination. Participants expressed fears that HPV vaccination would encourage early sexual activity, concerns over adverse effects, and beliefs that the vaccine was unnecessary for young girls. These misconceptions primarily originated from social media, community hearsay, and the precedent set by concerns about the Dengvaxia controversy. Fear and misconceptions are further fueled when health leaders prioritize social media and search engines for information dissemination, creating serious communication problems [17] and negative attitudes on HPV vaccines [16]. Social stigma also contributes to these misconceptions [12], while cross-sectional studies in Philippines show that some mothers are willing to vaccinate when they understand the vaccine would not affect their daughters' religious beliefs or sexual activity [18].

Theme 2: Vaccine Advocacy

This theme highlights how the HPV vaccination program was advocated within the community through five codes: School-based Immunization Programs, Health Promotions, Social Media Presence, Doctor's Referral,

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and Word of Mouth. Parents learned about HPV vaccination primarily through schools and barangay health centers. However, many lacked comprehensive understanding of the vaccine's importance and benefits. Health promotion programs worldwide incorporate health communication, health education, policy, and environmental change to educate communities [19]. Asia-Pacific countries including the Philippines have included HPV vaccination in their national immunization programs for school-aged girls [20]. However, in Polangui, the program was only implemented in 2024, making early gaps in advocacy efforts understandable.

Theme 3: Information Gap

This theme encompasses widespread communication gaps regarding HPV vaccination details, comprising three codes: Compensating Efforts, Geographical and Consent Issues, and Insufficient Information and Resources. Parents demonstrated efforts to seek information independently, but the lack of structured educational campaigns and follow-up systems were evident. Incomplete information dissemination, inadequate follow-up, and family relocation contributed to missed vaccine doses and default. Not being well-educated on details such as self-consent of adolescents [13], vaccine benefits, and lack of awareness of the existence of vaccines [14] are contributing factors to the worsening information gap.

Theme 4: Pro-Vaccine Attitude

This theme acknowledges community acceptance of HPV vaccination, encompassing three codes: Women's Protection Against Diseases, Additional Protection for Girls, and Vaccine Confidence. Participants generally expressed willingness and trust in the safety of vaccines provided by the government. However, opposing views also emerged, creating a subtle division between pro-vaccine and vaccine-hesitant parents. Despite positive perceptions, lack of knowledge remained a significant barrier, corresponding to findings from a tertiary care center in Bihar, India, where 80% of parents vaccinated their daughters due to awareness of cervical cancer, yet 50% were unaware of the vaccine's existence [14].

III. Proposed Intervention to Enhance the Promotion of HPV Vaccination

Table 5. Proposed Intervention to Enhance the Promotion of HPV Vaccination

Themes	**No. of Participants**
HPV vaccine literacy for community conducted by medical workers	11
Provision of community-friendly IEC materials for HPV-related facts	5

The proposed interventions collected from participants were categorized as: (1) HPV vaccine literacy for the community conducted by medical workers (11 participants), and (2) Provision of community-friendly IEC materials for HPV-related facts (5 participants). Participants preferred comprehensive health literacy conducted by credible professionals such as doctors or nurses rather than barangay health workers and teachers alone.

While community-based health promotion already provides education through workshops and information campaigns [5], this study found that parents specifically preferred face-to-face health literacy by medical professionals. A literature review revealed that health promotion programs are effective in improving community health knowledge, but effectiveness does not necessarily apply universally [21]. The provision of community-friendly IEC materials was also preferred, as existing materials were perceived as complex. A qualitative study in British Columbia revealed that students were interested in learning about HPV vaccines but required proper health education to reduce hesitancy and improve vaccine uptake [22]. Overcoming challenges through clear national plans is expected to lead to successful HPV vaccination implementation [23].

CONCLUSION

The status of the HPV vaccination program recorded by the Department of Health showed a target population

of 894 students for 2024 and 770 for 2025. Actual vaccination comprised 546 vaccinated, 60 refusals, and 390 defaulters in 2024, declining to 195 vaccinated, 94 refusals, and 481 defaulters in 2025. The number of vaccinated girls aged 9 to 11 years old declined from 501 in 2024 to 171 in 2025, and those aged 12 to 14 years old from 45 to 24.

The overall enabling factor was the accessibility and approachability of healthcare workers (WM = 3.91), while the overall barrier was concerns about vaccine safety and side effects (WM = 3.93). Emergent qualitative themes were Vaccine Advocacy, Fear and Misconceptions, Information Gap, and Pro-Vaccine Attitude, which collectively supported and corresponded to the quantitative findings, centering on the accessibility of information, knowledge, and health promotion.

The proposed interventions by parents to enhance the promotion of HPV vaccination are: HPV vaccine literacy for the community conducted by medical workers, and provision of community-friendly IEC materials for HPV-related facts. These proposed interventions targeted the key issues of structured health literacy delivery and revision of existing IEC materials distributed at the barangay level.

Ethical Considerations

This study was conducted in accordance with ethical standards for research involving human subjects. Ethical approval was obtained from the appropriate institutional review board prior to data collection. Informed consent was secured from all participants before their involvement in the study. Confidentiality and anonymity of participants were maintained throughout the research process. No conflicts of interest are declared by the authors.

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