



Addis Ababa University College of Health
Sciences, Center for Innovative Drug Development and Therapeutic Trials for
Africa (CDT-Africa)

Human Papiloma Virus Vaccine Uptake and Associated Factors among Schoolgirls
in Sululta and Chancho Towns, Central Ethiopia

By: Habtamu Mekonnen

A thesis report submitted to Center for Innovative Drug Development and
Therapeutic Trials for Africa (CDT-Africa) in partial fulfilment for the requirements
for the degree of Master of Science in Clinical Trials

Addis Ababa, Ethiopia

June, 2024

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This is to certify that the thesis prepared by Habtamu Mekonnen, titled “Human Papillomavirus Vaccine Uptake and Associated Factors among Schoolgirls in Sululta and Chancho Towns, Central Ethiopia” and submitted to the Center for Innovative Drug Development and Therapeutic Trials for Africa (CDT-Africa), College of Health Sciences, Addis Ababa University; in partial fulfilment for the requirements of master of science degree in clinical trials, conforms with University regulations, standard and quality.

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Declaration

I, Habtamu Mekonnen, declare that this thesis is my work and has not been submitted to any other school, anywhere, for the purpose of receiving any academic degree, diploma or certificate.

15th July, 2024

Habtamu Mekonnen

Date

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Abbreviations and Acronyms

GAVI: Global Alliance for Vaccines and Immunizations

HICs: High-Income Countries

HIV: Human Immunodeficiency Virus

HPV: Human Papillomavirus

LMICs: Low- and Middle-Income Countries

MSM: Men Who Have Sex with Men

SPSS: Statistical Package for Social Sciences

SSA: Sub-Saharan Africa

UNICEF: United Nations International Children's Emergency Fund

WHO: World Health Organization

WLWH: Women Living with HIV

Abstract

Background: Cervical cancer ranks as the second leading cause of cancer and cancer-related deaths among Ethiopian women. Implementation of the human papillomavirus (HPV) vaccine is anticipated to greatly reduce the burden of cervical cancer. However, there is limited information on the extent of uptake of HPV vaccination in Ethiopia, specifically within the areas of Sululta and Chancho towns. This study has assessed the uptake of HPV vaccine and its associated factors among adolescent schoolgirls in Sululta and Chancho towns, Oromia, Central Ethiopia.

Methods: An institution-based cross-sectional study was carried out in high schools to determine the HPV vaccination proportion and factors influencing it among 416 teenage girls, 225 in Sululta and 191 in Chancho towns, located in Oromia, Central Ethiopia. The data were collected by simple random sampling technique, entered, coded, and cleaned by using Epi Info 7.2.5 before being analyzed in SPSS version 25. Descriptive statistics were utilized to calculate summary figures and percentages. Both bivariate and multivariable logistic regression analyses were used to determine the factors linked to the acceptance of the HPV vaccines.

Results: The proportion of uptake of HPV vaccine among adolescent schoolgirls in this study was 63.3% (CI, 0.59 – 0.68). Information/knowledge about HPV and HPV vaccines (AOR 12.953, 95% CI (3.696 to 45.392), mothers' educational level (primary, middle level school and more than graduate, {AOR 1.888, 95% CI (1.036, 3.442), AOR 2.911, 95% CI (1.215, 6.971), AOR 5.182, 95% CI (1.153, 23.291)}, respectively, and girls' age at 16 years (AOR = 6.76, 95% CI (1.241, 36.878) were factors associated with girls' status of HPV vaccination.

Conclusion: The findings of this study revealed a significant proportions (63.3%, CI, (0.59, 0.68)) of the participants have been vaccinated for HPV, which is relatively a good proportion compared to the previous studies done in other parts of the country. Factors significantly linked to girls' HPV vaccination practices include, the girl's age, the mother's level of education, and their knowledge of HPV infection or vaccination. The primary obstacles to the HPV vaccination identified were fears of potential side effects, lack of awareness regarding the vaccination program or schedule, and negative perceptions towards vaccination.

Keywords: cervical cancer, human papillomavirus, vaccine, schoolgirls, uptake, knowledge, perception.

1 Introduction

1.1 Background

Human papillomavirus (HPV) is a double stranded, non-enveloped DNA virus, which is among the most common sexually transmitted diseases of humans (Graham, 2021). HPV causes benign and malignant lesions of the skin and mucosae of upper respiratory tract, upper digestive tract, anus and genitalia (Baj *et al*, 2022). There are over 100 types of HPVs grouped into low-risk (which cause warts) and high-risk categories (which can cause cancers) (Schiffman *et al*, 2016, Bernard *et al*, 2010). Some of the high-risk types include HPV 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, and 59 (known to be carcinogenic) as well as HPV 68 (potentially carcinogenic) (IARC, 2012). The two vaccine-preventable types of HPV, HPV 16 and 18, contribute to over 70% of all cervical cancer cases, while the other six most common HPV types, namely HPV 31, 33, 35, 45, 52 and 58; accounts for an additional 20% of cervical cancers worldwide (Clifford *et al*, 2006). HPV is commonly transmitted through unprotected sexual contact, those women, who engage in unprotected sex, have early sexual experiences, multiple sexual partners, and individuals in same-sex relationships are at higher risk of contracting the infection (Winer *et al*, 2006, Reiter, 2021).

Of the cancers caused by HPV infection, cervical cancer is by far the most common cancer compared to the anogenital cancers and certain head and neck cancers (De Vuyst *et al*, 2013, Okunade, 2020). It accounts for about 82% of all HPV-related cancers which is preventable through immunization (de Martel *et al*, 2020).

Cervical cancer remains the primary cause of cancer-related deaths among women in sub-Saharan Africa, which results in over 300,000 fatalities annually (Arbyn *et al*, 2020). It is the leading cause of cancer and cancer related deaths in women, which ranks fourth, globally (Sung *et al*, 2020, Bruni *et al*, 2023) and third in low- and middle-income countries (LAMIC) (Sung *et al*, 2020). The highest regional incidence and mortality is in sub-Saharan Africa (SSA), with rates elevated in Eastern Africa, world's highest incidence and mortality rate (Sung *et al*, 2020). In Eastern Africa, about 4.7% of women in the general population are expected to have cervical infection with HPV 16/18, (Bruni *et al*, 2023). In Ethiopia cervical cancer ranks second next to

breast cancer and about 3.8% of women in the general population of Ethiopia are expected to have cervical infection with HPV 16/18 (Bruni *et al*, 2023).

Eventhough, a comprehensive approach that includes HPV vaccination and screening has proven to be cost-effective in nearly all nations (Jit *et al*, 2014), advancements in prevention efforts can be challenging, as there is limited access to vaccines and underutilization of cervical cancer screening, especially in less developed countries (Bruni *et al*, 2017, Santesso *et al*, 2016). The implementation of a primary preventive vaccination is expected to have a significant impact on reducing the burden of cervical cancer, particularly in regions with inadequate or low-quality screening programs (Adams *et al*, 2007).

The WHO recommended that, two doses of HPV vaccine by 6 months interval for girls 9-14 years of age and three doses at (0, 1-2, and 4-7 months) interval for those greater than 15 years of age are recommended depending on the type vaccine, to complete the vaccination schedule (WHO, 2014, WHO 2023). All currently licensed bivalent, quadrivalent, and nonavalent HPV vaccines have comparable and excellent immunogenicity, efficacy and effectiveness for the prevention of cervical precancer and cancer, which is mainly caused by HPV types 16 and 18 (WHO, 2016, 2023).

Ethiopia plans to eliminate cervical cancer as public health problem by 2030, following the WHO's call for action, by Primary prevention approaches, achieved through behavioral change and the use of biological mechanisms, including HPV vaccination and Secondary prevention by detecting and treating precancerous lesions of the cervix before they progress to cancer. Ethiopia initiated a pilot HPV vaccination program in December 2015 by aiming to vaccinate adolescent girls aged 9 to 13 years, and a countrywide HPV vaccination program was introduced in December 2018, using a school-based strategy(WHO, 2018).

Having such threats of cervical cancer in Ethiopia, it is a necessity to assess the status of the HPV vaccine uptake among targeted and eligible girls in Ethiopia. Thus far, this study aims to assess the current HPV vaccine uptake and factors associated among adolescent schoolgirls in Sululta and Chancho towns, Central Ethiopia.

1.2 Statement of the Problem

Globally, in 2020, an estimated 604,127 women were diagnosed with cervical cancer and about 341,831 women died from the disease (particularly middle-aged women), 90% of whom were in low-income countries of the world, where access to prevention, screening, and treatment services are inadequate. The highest in incidence and mortality rate in SSA, the world's highest incidence and mortality rate is in Eastern Africa followed by, Southern Africa and Central Africa (Sung *et al*, 2021).

In Ethiopia, cervical cancer is a major reproductive health problem and accounts for a large proportion of cancer-related morbidity and mortality in women. According to HPV information center, every year 7445 women are diagnosed with cervical cancer and 5338 die from the disease (Bruni *et al*, 2023). About 33.7 million women population who are 15 years and older in Ethiopia are at the risk of developing cervical cancer (Bruni *et al*, 2023). Most women (77.5%) with cervical cancer in Ethiopia, harbor the high-risk HPV types (Derbie *et al*, 2022).

Although, HPV infection is preventable and avoidable, its incidence among women is becoming high, especially in low and middle-income countries. This can be attributed mainly due to the lack knowledge on the risks of HPV, low socioeconomic status, absence of implementation of the HPV vaccination, low participation of the target group in effective prevention techniques (Chan *et al*, 2019). On the other hand, few developing countries fail to include HPV vaccines in their immunization programs considering the cost involved in vaccine delivery and competing public health priorities (Siu *et al*, 2019).

Even though, Ethiopia introduced a countrywide HPV vaccination program, in December 2018, using a school-based strategy and at health facility for those girls who are not in school (WHO, 2018), the vaccine uptake in Ethiopia remains low, ranging from 15% to 66.5% (Kassa *et al*, 2021, Eshetu *et al*, 2022, Beyen *et al*, 2020, Hailu *et al*, 2023, Woldehawaryat *et al*, 2023). The vaccination of at-risk girls and women in Ethiopia encounters various obstacles such as limited vaccine supplies, inadequate distribution systems, misconceptions about the causes and prevention methods of cervical cancer, and limitation of community involvement in promoting awareness about cervical cancer and primary screening methods (Tesfaye *et al*, 2017,

Pichainarongk *et al*, 2018). Hence, it is crucial to have data specific to the country to track progress and pinpoint challenges in the launched initiatives.

- To ascertain the unknown factors regarding HPV vaccination among girls in Ethiopia, particularly in this study area, and to explore the determinants influencing HPV vaccination among girls, no prior research has been conducted in our study location. This study examined the uptake of the HPV vaccine and its influencing aspects among schoolgirls in Sululta and Chanco towns, Oromia, Central Ethiopia. The findings of this study are vital for health program organizers, especially those focusing on reducing cervical cancer rates, as well as for future researchers.

1.3 Rational of the study

The investigation into HPV vaccine uptake in Sululta and Chanco towns is critical due to the high prevalence of cervical cancer in Ethiopia. Understanding the current vaccination rates in these specific locations can provide valuable insights into the effectiveness of existing vaccination programs in rural areas of Ethiopia. By analyzing the uptake status, we can identify potential gaps or barriers that may be hindering the success of HPV vaccination campaigns in these communities.

Additionally, we can evaluate the impact of previous interventions and identify areas for improvement. This data can guide future public health initiatives aimed at increasing HPV vaccination rates and ultimately reducing the burden of HPV-related diseases in Ethiopia. Studying HPV vaccine uptake in Sululta and Chanco towns can help policymakers and healthcare providers tailor their outreach efforts to better meet the needs of the local population. This research can inform strategies to increase awareness about the importance of HPV vaccination, address misconceptions, and improve access to vaccination services.

Furthermore, we can determine factors that may impact the uptake of HPV vaccine in this area such as awareness and knowledge about HPV and its link to cervical cancer, accessibility and availability of vaccination services, cultural beliefs and practices surrounding healthcare, as well as educational level of parents and guardians.

Finally, investigating HPV vaccine uptake and addressing these influencing factors and working collaboratively with the community, local authorities, and healthcare providers, in Sululta and Chanco towns is essential for enhancing public health efforts, improving vaccination programs, and ultimately reducing the prevalence of HPV infections and associated diseases in Ethiopia.

2 Literature Review

2.1 Magnitude of Human Papilloma Virus Infection

The global prevalence of HPV infections (all types) among adult women with normal cytological findings, earlier report estimated to be 12% (Bruni *et al*, 2010) with the highest prevalence was in SSA (24%), followed by Latin America and the Caribbean (16%) (De Vuyst *et al*, 2013, Bruni *et al*, 2010, de Sanjosé *et al*, 2007). The recent estimates showed that, the global prevalence of HPV 16 and 18 among women with normal cervical cytology was 3.9% with the highest report in Oceania (8.3%), Americas (4.5%) and Africa (3.8%), respectively (Bruni *et al*, 2023). The maximum finding in the World was reported in Caribbean (15.8%) and the maximum report in Africa was East Africa (4.5%) (Bruni *et al*, 2023).

Age-specific HPV prevalence was highest in young age groups (<25 years) at 22%. Pre-vaccination, HPV types 16 and 18 were the most frequent types worldwide, with (HPV16 being the most common type in all regions. HPV18 and other high-risk types, such as types 31, 33, 39, 45, 51, 52, 56, 58 and 59, had similar prevalence and were the most common high-risk HPV types after HPV16 (Bruni *et al*, 2010). Even though, the burden of HPV in the general population of Ethiopia is not yet available, in east Africa, , about 4.7% of women in the general population are estimated to have cervical HPV- 16/18 infection, and 67.9% of invasive cervical cancers are attributed to HPVs 16 or 18 (Bruni *et al*, 2023). 77.5% of women with cervical cancer in Ethiopia, harbor the high risk HPV types and HPV 16 (37.3%), in particular, but also HPV 52 (6.8%), HPV 35 (4.8%), and HPV 18 (4.4%) (Derbie *et al*, 2022). Studies also indicated that the high-risk HPV genotypes: HPV-16, -18, -52, -35, -56, -31 and -58 were the most common genotypes reported in a substantial proportion of women with cervical cancer in Ethiopia (Derbie *et al*, 2022, Gebremariam, 2016).

The prevalence of HPV is high in high-risk populations like immunocompromised individuals, including those living with HIV, and children and adolescents who have faced sexual abuse (Okoye *et al*, 2021). It is highest in women living with HIV (WLWH), WLWH in LMICs found an overall HPV prevalence of (63%) and a prevalence of high-risk HPV types of 51%. The most common high-risk types identified were HPV16, 18 and 52 (Bogale *et al*, 2020). Compared to

HIV- negative women, SSA had a higher prevalence of HPV (54%) than HIV-negative women (27%) (Okoye *et al*, 2021). In a study conducted at Shashamane, Southwestern Ethiopia, more than one third of women living with HIV had high-risk HPV (35.2%), particularly HPV type 16 (15.3%), HPV type 18 (5.7%) and other high-risk HPV types (14.3%) (Megersa *et al*, 2023).

2.2 Uptake of Human Papilloma Virus Vaccine

Globally only 15% of girls and 4% of boys in the target age group (9-14) for HPV vaccination were fully protected in 2019. While girls in low and Middle-income Countries (LMIC) lack HPV vaccines, most girls in High-income Country (HICs), where burden is lower, get vaccinated. Australia and New Zealand, and Latin America achieved the highest HPV vaccine coverage's (77% and 61% respectively), followed by Europe and North America (35%). In contrast, Northern Africa, Oceania and Asia all had very low coverage rates. Despite that only a third of Sub-Saharan African countries have included HPV vaccination in their national schedule and achieved nearly 20% coverage due to overall good program performance (Bruni *et al*, 2021)

There is a progressive improvements in the coverage of HPV vaccines through out the World since 2018, with the first dose of HPV vaccine among girls in 2022 is estimated 21%, which is proportionally large increase from 16% and 13% in 2021 and 2018, respectively (WHO, 2022). The African region also showed a better improvement in HPV Vaccination coverage with first dose 2% in 2018 to 25% in 2022. This was driven in particular by the effect of new introductions and programs that resumed after interruptions (WHO, 2022, WHO, 2023). About 130 WHO Member States had the HPV vaccine in their national immunization services by the end of 2022, including 14 new introductions. Since many large countries have not yet introduced the vaccine and vaccine coverage continued to be suboptimal in 2022 in many countries (WHO, 2023).

Even though the HPV vaccine has stayed accessible for approximately 17 years, the rate of completing the doses remains as low as 20% in SSA countries that are carrying out the vaccination program, in contrast to 77% in Australia and New Zealand (Bruni *et al*, 2020). As of June 2020, LMICs performed on average better coverage than HICs for the first dose, but worse for the last dose due to higher dropout (Bruni *et al*, 2020). For example, in Zimbabwe a study conducted in 2018/19 on 10 to 14 years of girls showed relatively a high HPV vaccine uptake,

ranging from 88 to 94% for one dose and 75 to 86% for two-doses (LaMontagne *et al*, 2022). Additionally, research in South Africa revealed that 75% of adolescent girls aged 15 years had received at least one dose of the HPV vaccine at some point between the ages of 9-14 years, with 61% having completed the entire two-dose regimen as recommended (Amponsah *et al*, 2022).

The uptake of HPV vaccines is highest in countries like Taiwan and Scotland in which the acceptance level was much higher (91%) and (94.4%) respectively (Loke *et al*, 2017, Ndikom & Oboh, 2017). Where as in Australia, a completed HPV vaccination across the 88 SA4 regions ranged from 57.6% to 90.6% among girls, and from 53.6% to 85.5% among boys (Soares *et al*, 2022).

Different literatures revealed lower magnitude of HPV vaccine uptake in Middle East, Asian and SSA countries. For instance only 30 (12.2%) of the total 246 respondents had received the HPV vaccine in Indonesia, where as 16.7% out of 215 participants had been vaccinated with HPV vaccine in a study in Lebanon on female college students (Khatiwada *et al*, 2021) and 28.53% estimated pooled prevalence of HPV vaccine in a systematic review and meta-analysis on HPV vaccination uptake and determinant factors among adolescent schoolgirls in SSA (Asgedom *et al*, 2024).

More than a decade after launch of HPV vaccine as a preventive measure against cervical cancer, uptake of vaccination by the target population of young people is still terribly low in sub-Saharan African countries. For-instance in studies conducted in Nigeria in 2020 and 2022, only 1 out of 215 students (0.5%) and 18 out of 410 (4.4%) of the respondents respectively had received at least one dose of the vaccine (Ezeanochie & Olasimbo, 2020, Iliyasu *et al*, 2022). In another study conducted in Kampala, Uganda on Knowledge, perceptions, and uptake of human papillomavirus vaccine among adolescent girls, only 8.6% (45/524) of the girls had completed the HPV vaccine schedule of two dozes (Bitariho *et al*, 2023).

In Ethiopia, the uptake of HPV vaccine ranges from 15%, on a study conducted on awareness and knowledge of human papillomavirus and cervical cancer among female medical and health science students at university of Gondar (Tesfaye *et al*, 2017) to 66.5%, on a study conducted among primary school female students in Minjar-Shenkora, Amhara region (Kassa *et al*, 2020) and the pooled proportion of HPV vaccine uptake in Ethiopia was low, which is, 42.05% (Addisu *et al*, 2023).

2.3 Factors Associated with Human Papilloma Virus vaccination uptake

Various factors hindering the uptake of the HPV vaccine in SSA include individual, structural, economic, community/social, and cultural challenges (Bruni *et al*, 2010). Systematic health system limitations exist in numerous SSA countries, encompassing issues like service provision, limited healthcare worker awareness, financial concerns, vaccine information dissemination, and community involvement (Lubeya *et al*, 2022).

Study conducted on Knowledge, attitudes, and perceptions associated with HPV vaccination among female Korean and Chinese university students revealed that perceptions of the seriousness of HPV infection and negative emotions like feeling ashamed, anxiety and depression were found to have a significant effect on vaccination intention (Kim *et al*, 2022). The same study also revealed that Knowledge of HPV, positive attitude towards HPV vaccine, sexual experience and awareness of genital warts were factors that influence acceptance of HPV vaccination. Another study conducted on Female College Freshmen in Mainland China indicated that students who perceived risk of HPV and perceived severity of developing cervical cancer were more likely to receive the HPV vaccine. The same study revealed as perceived barriers played a key negative role in young female students' willingness for HPV vaccination (Si *et al* 2021).

Another study conducted in Malaysia on Knowledge, Perception and Attitude towards Human Papillomavirus among Pre-university Students revealed that Perceived benefits and knowledge of HPV vaccine and cervical cancer were significantly associated with their awareness increases the acceptance HPV vaccination (Kwang *et al*, 2014). The study indicated that students who have higher knowledge about HPV and HPV vaccine were willing to obtain the vaccine.

Similarly, the study conducted in Bahir Dar City, Ethiopia on knowledge, attitude and uptake of human papillomavirus vaccine and associated factors among female preparatory school students showed that good knowledge and a positive attitude toward HPV vaccine were strongly associated with HPV vaccine utilization (Lakneh *et al*, 2022). Another study conducted in Ethiopia on Human papillomavirus vaccine uptake and associated factors among adolescent girls in high schools of Nekemte city, Western Ethiopia revealed, the place where adolescents grow up, heard about HPV, heard about HPV vaccine, and had sexual intercourse has shown

significant association with Uptake of the HPV vaccine. (Hailu *et al*, 2023). Lack of awareness or inadequate knowledge about the HPV vaccine, negative perceptions towards the vaccine, and concerns about potential side effects are also among the factors impacting the reception of the HPV vaccine in Ethiopia (Kassa *et al*, 2020, Beyen *et al*, 2020, Eshetu *et al*, 2022).

A systematic review and meta-analysis on Knowledge, attitude, and uptake of human papillomavirus vaccine among adolescent schoolgirls in Ethiopia revealed that, being an urban resident, having good knowledge and a positive attitude towards the HPV vaccine were significantly associated with the uptake of the HPV vaccine (Addisu *et al*, 2023).

Raising the rate of HPV vaccine adoption, especially in LMICs, is essential to achieve the accelerated global plan for eliminating cervical cancer. The goal is to vaccinate 90% of girls aged 15 years by 2030 (WHO, 2020). Therefore, great effort is expected from Ethiopia and other SSA African countries in order to determine the HPV vaccine coverage at national and regional level and identify specific limiting factors to the HPV vaccine uptake, to attain the WHO 2030 target of elimination. Thus, assessing the vaccine uptake and factors associated with HPV vaccine uptake are crucial for the researcher, donors and policy makers to revise their approaches.

2.4 Conceptual framework

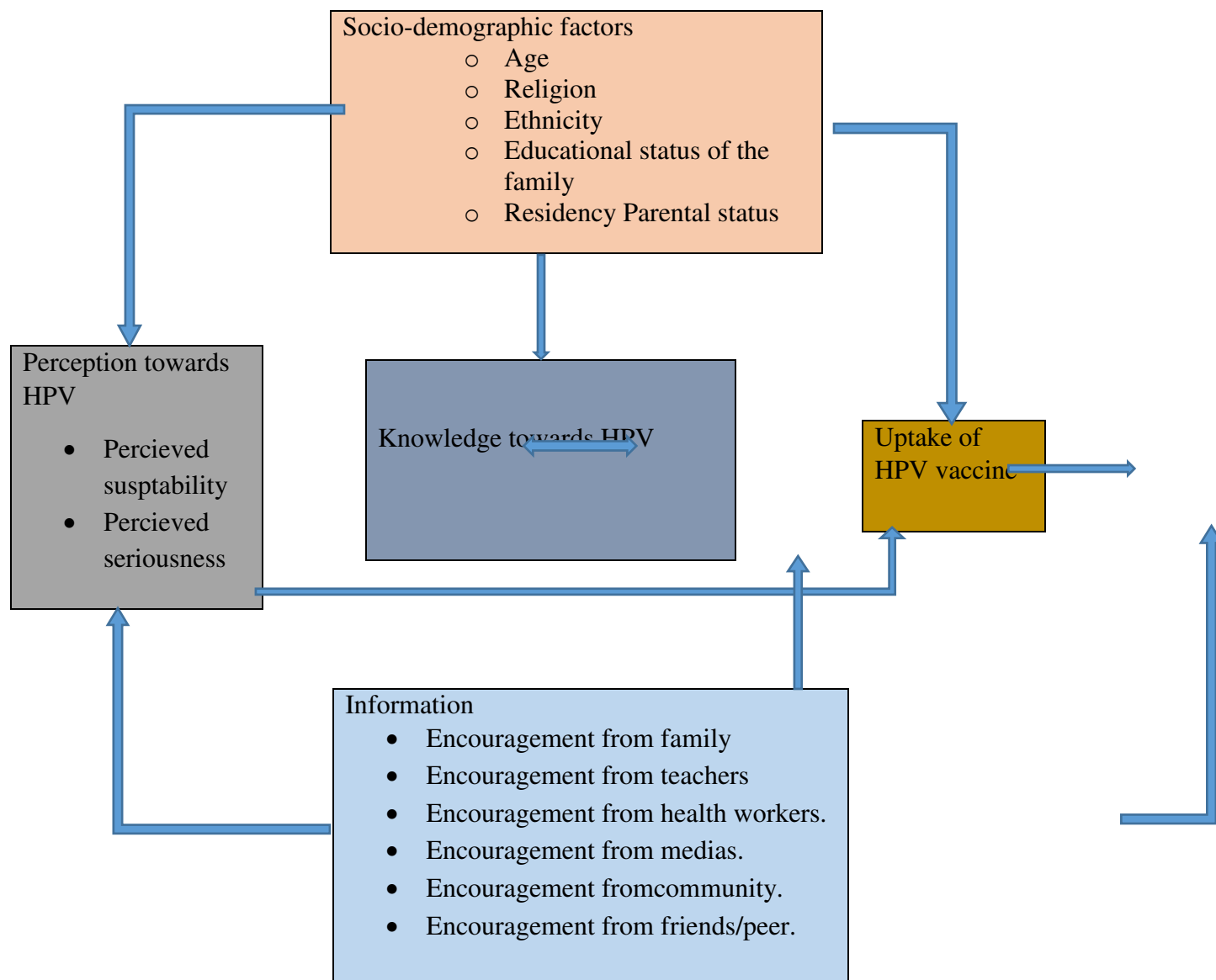


Figure 1: Conceptual framework for human papilloma virus vaccination status, knowledge and factors affecting the vaccination uptake (Source: self-constructed).

3 Objectives

3.1 General Objective

To assess the current status of HPV vaccine uptake and factors associated among adolescent schoolgirls in Sululta and Chanco towns, Central Ethiopia

3.2 Specific Objectives

- To assess the six-year status of HPV vaccine uptake among adolescent schoolgirls in Sululta and Chanco towns, Central Ethiopia
- To determine factors associated with uptake of the HPV vaccine among the target population

Research Hypothesis

Based on the current HPV vaccine uptake among adolescent schoolgirls in Sululta and Chanco towns in Central Ethiopia, our research hypothesis was that there was a significant association between factors such as knowledge about HPV vaccination, parental education level, residence of the participants, age of the participants and parental status of the participants with the proportion of HPV vaccine uptake among adolescent schoolgirls in these areas.

4 Methods and Materials

4.1 Study Setting

The study was conducted in Sululta and Chancho towns, which are located 25 kms and 40 kms from the capital city Addis Ababa, respectively. Both towns were in the former Oromia Special Zone Surrounding Finfinnee of the Oromia regional state. Now a days, Sululta town is in Sheger city Administration and Chancho town is in the Northern Shewa Zonal administration of the Oromia regional state.. Sululta and Chancho towns have one governmental high school (Sululta Senior Secondary School and Aba Geda Senior Secondary School, respectively). There is no private high schools in both towns. There were 1394/2432 (57%) and 1174/2270 (51.7%) female students in Sululta and Chancho high schools, respectively.

4.2 Study Design and Period

The study used an institution-based cross-sectional design to assess the status of HPV vaccine uptake and its associated factors among adolescent schoolgirls in Sululta and Chancho towns, central Ethiopia, from December 1-30, 2023.

We concentrated on schoolgirls because of the majority of those eligible for HPV vaccination are in high schools, which aligns with our goal of conducting an institution-based cross-sectional study.

4.3 Study Participants

Adolescent female students 14–19 years of age attending high schools in Sululta and Chancho towns during the study period were the source population of the study. Female students 14 – 19 years old and who were voluntary to participate in the study and attended high schools at Sululta and Chancho towns during data collection times were the study population.

Inclusion criteria: All high school female students 14 – 19 years of age, who were in the schools at the time of data collection, volunteer to give information, and were able to give consent, for

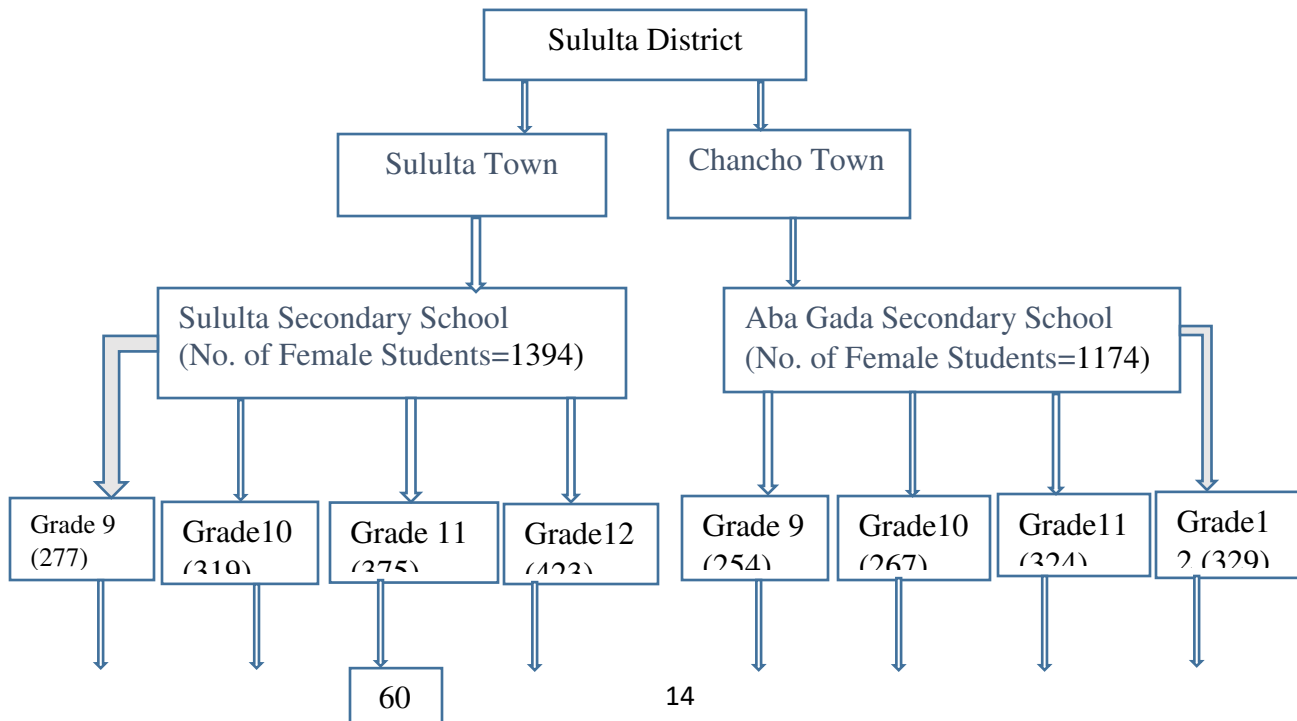
those 18 years and above and assent by them selves and consent from their caregivers, for those from 14 up to 17 years of age were included.

Exclusion criteria: Individuals who were severely ill, did not volunteer, those with special needs or those absent for other reasons during the data collection period were not included.

4.4 Sample Size and Sampling Technique

The sample size proportion was determined using the formula for a single population proportion. The following assumptions were made: Based on the proportion of 44.4% ($P=0.44$) taken from the study conducted on schoolgirls at Ambo town (Beyen *et al*, 2020) , a margin of error 5% and 95% confidence interval at $Z \alpha/2(1.96)$. The estimated sample size was 378. Finally, by adding a 10% non-response rate the final sample size was 416. Two governmental high schools were used in both towns.

Finally calculated sample size was allocated based on probability proportional to the size of female students in each town and grade of the students respectively. The stratification by grade of the students was made due to variable of interest might vary across the grade. The study participants from each selected grades and sections of the grades were picked up using simple random sampling technique.



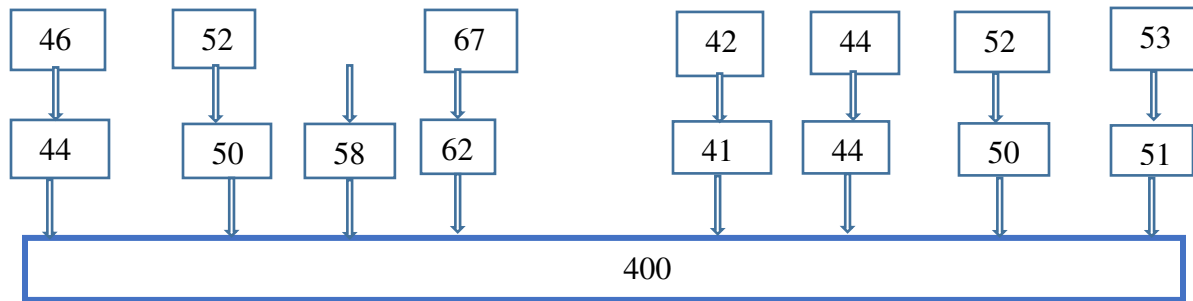


Figure 2. Sampling procedures of Adolescent Schoolgirls in Sululta and Chanco towns, Cintral Ethiopia, 2023

4.5 Study Variables

Dependent variable: Vaccination status of the students for HPV vaccines.

Independent variable: Socio-demographic factors (age, religion, ethnicity, educational status of the family, and place of residence), information about HPV vaccine, motivations or reasons for being vaccinated against HPV and obstacles/barriers for being unvaccinated against HPV.

4.6 Operational Definitions

HPV vaccine uptake: defined as the proportion of the study participants who ever received atleast one dose of HPV vaccine.

4.7 Data Collection Tools and Procedures

We used a well structured self administered questionnaire, which had been pretested. Data collection was performed for about one month, with two data collectors and one supervisor assigned to each selected school to prevent data contamination. Training was delivered to the data collectors and the supervisors before the initiation of data collection.

4.8 Data Quality Assurance

Two data collectors and one supervisor were enlisted for data collection and supervision, respectively. The data collectors received a one-day training session on the data collection procedures. A pretest study was carried out in Addis Ababa with a small sample (5%) before the actual data collection period to confirm participants' understanding of the questions for consistency. The principal investigator checked the data for completeness and consistency at the end of each day. We ensured data quality by regularly monitoring data collection and input, as well as by recruiting and training data collectors appropriately. Each questionnaire was carefully reviewed for accuracy and consistency throughout the data collection process.

4.9 Data Processing and Analysis

The data were reviewed for completeness and consistency of respondent information before being entered into Epi info version 7.2.5.0. Subsequently, the data were transferred to SPSS version 25 for cleaning, editing, and analysis. The dataset was checked for missing values and outliers. Descriptive analysis, involving frequencies, tables, percentages, means, and standard deviation, was performed to describe the variables. Bivariate and multivariable logistic regressions were conducted to identify the significant factors associated with HPV vaccination.

Variables with a p-value of less than 0.25 in the bivariate analysis were selected for inclusion in the multivariable logistic regression analysis. The multivariable logistic regression was conducted at a 95% confidence level to determine the predictors. A significance level of 0.05 was set as the threshold for all statistical significance tests.

4.10 Ethical Consideration

The ethical clearance was obtained from the Scientific and Ethical Review Committee of the CDT-Africa, College of Health Sciences, Addis Ababa University with the reference number CDT/2303/23. A permission letter was received from both high schools. The potential study

participants, the school principals, and the school teachers were provided information about the aim and significance of the study. After guarantee has been given on confidentiality of the information provided, a written permission was received from the schools principals. Then a written consent was received directly from those adolescent schoolgirls whose age were 18 years and above and for those girls whose age were from 14 years up to 18 years, an assent was directly obtained from the girls and then consent was obtained from their respective parents/guardian for their permission in the involvement of their teenagers in the study. Taking part in the study was optional, and there was a full right to withdraw from participation at any time during the data collection process. By excluding the names and other forms of personal identification of the participants, confidentiality was preserved.

5 Results

5.1 Socio-demographic Characteristics of Respondents

The study was involved a total of 416 participants, 225 from Sululta and 191 from Chancho, achieving a response rate of 96% (400/416), 214 from Sululta town and 186 from Chancho town. Respondents' ages varied from 14 to 19 years, with an average age of 17.22 and a standard deviation of 1.350 years. Regarding the parental educational status, more than half 234 (58.5%) respondent's mothers and more than a third 174 (43.6%) of the respondent's fathers had less than primary education. Most of the study participants (79.3%) were Orthodox Christians and 82.5% were Oromo in ethnicity. About 92.8% of respondents were living with both of their parents (mother and father) and 66.5% of them were living in town (**Table 1**).

Table 1: Socio-demographic profile of adolescent female high school students in Sululta and Chancho towns, Central Ethiopia, 2023(n = 400).

Socio-demographic characteristics		Frequency	Percent (%)
Age	14	7	1.8
	15	29	7.2
	16	108	27.0
	17	76	19.0
	18	87	21.8
	19	93	23.3
Religion	Orthodox	317	79.3
	Protestant	60	15.0
	Muslim	18	4.5
	*Others	5	1.3
Father's level of education	Illiterate	71	17.8
	Primary(grade1-6)	103	25.8
	Middle(grade7-8)	74	18.5
	High school(grade 9-12)	90	22.5
	Intermediate(level 2- diploma)	22	5.5
	Graduate and above	40	10.0
Mother's level of education	Illiterate	136	34.0
	Primary(grade1-6)	98	24.5
	Middle(grade7-8)	52	13.0
	High school(grade 9-12)	74	18.5
	Intermediate(level 2- diploma)	9	2.3
	Graduate and above	31	7.8
Ethnicity	Oromo	330	82.5

	Amhara	49	12.3
	Gurage	4	1.0
	Tigray	3	.8
	**Others	14	3.5
Parental Status of the Students	Leaving with both mother and father	371	92.8
	Leaving with mother	18	4.5
	Leaving with father	6	1.5
	Leaving with neither mother nor father	5	1.3
Place where the Student Lives	Town	266	66.5
	Rural	134	33.5

*: Waqeffata, Catholic **: Wolayita, Siltee

5.2 HPV Vaccination Uptake

The rate of HPV vaccine uptake was 253 (63.2%), with 131 (32.8%) having received only one dose and 122 (30.5%) having received two doses. More than a third, 147 (36.8%) of the participants had not received any dose of the HPV vaccine (**Figure 3**). Out of the 253 vaccinated students, 248 (98%) of them received their injection at school, while 3 (1.2%) study participants and 2 (0.8%) participants received the vaccination at home and health facility, respectively. The majority of the study participants were vaccinated in 2021 and in 2022, 57 (14.2%), and 74 (18.5%), respectively, while only 26 (6.5%) of them were vaccinated both in 2019 and 2020 (**Figure 4**).

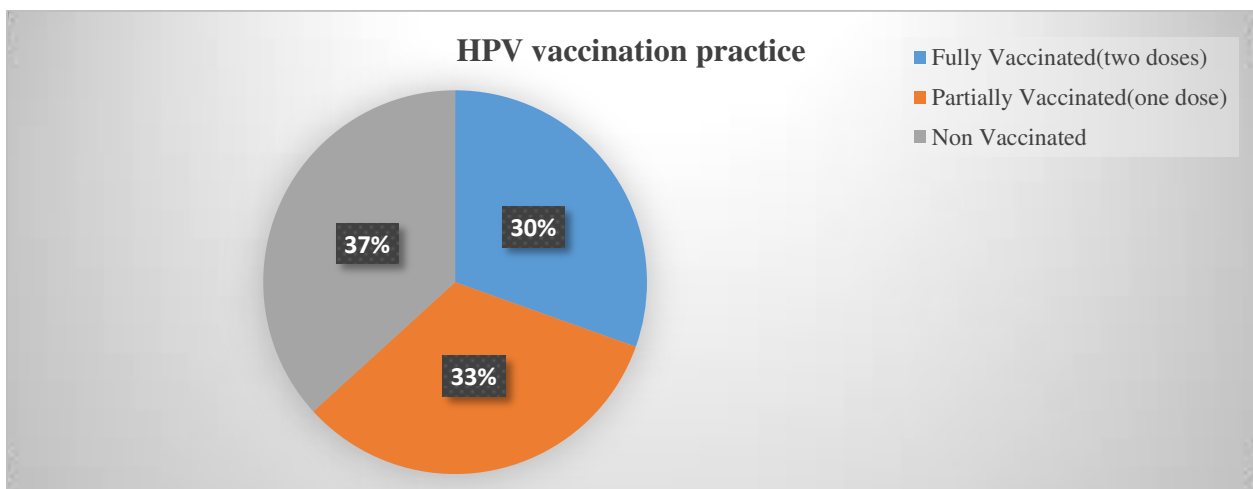


Figure: 3 The practice of HPV vaccination among high schoolgirls in Sululta and Chanco towns, Central Ethiopia, 2023.

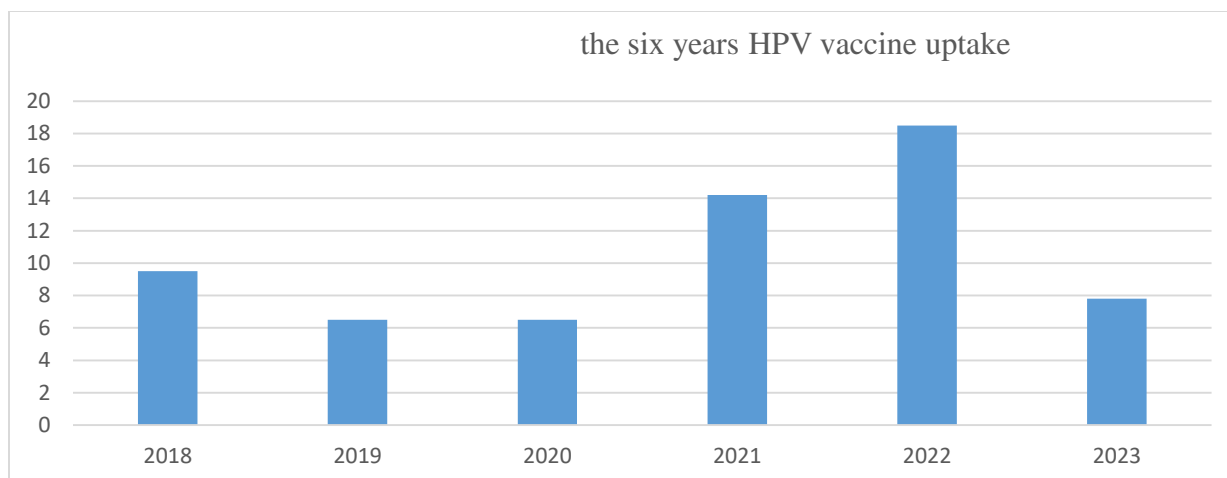


Figure 4: The annual percentage of HPV vaccination of schoolgirls in Sululta and Chanco towns, central Ethiopia, 2023

The main reasons mentioned by 151/486 (31.1%) respondents for being vaccinated were need of being protected against cancer, believing that it has benefits, 143/486 (29.4%), and that disease prevention is important 62/486 (12.8%) (**Figure 5**). On the other hand, among unvaccinated schoolgirls, 54/229 (23.6%) had fear of side effects, 40/229 (17.5%) unavailability of pre-information and 27/229 (11.8%) being not at risk for cervical cancer were some of the reasons for not getting vaccinated (**Figure 6**). Lack of awareness of the necessity to come back for a second dose in 52/144 (36.1%), in 25/144 (17.4%) being absent from school at the time of vaccination and fear of side effects mainly injection site pain in 19/144 (13.2%) were among the reasons for the inability to complete the second dose of HPV vaccination.

5.3 Reasons for Complete Vaccination, Partial Vaccination, and Unvaccination

5.3.1 Completely/Fully Vaccinated Girls

Among those of fully vaccinated adolescent schoolgirls, 151 (31.1%) of them mentioned the reason for being vaccinated was to be protected from cervical cancer, while 143 (29.4%) of them mentioned, vaccines are good for health. Additionally, believing that disease prevention is important, fear of cancer, and recommendation by health workers and teachers were important reasons mentioned by the students (**Figure 5**).

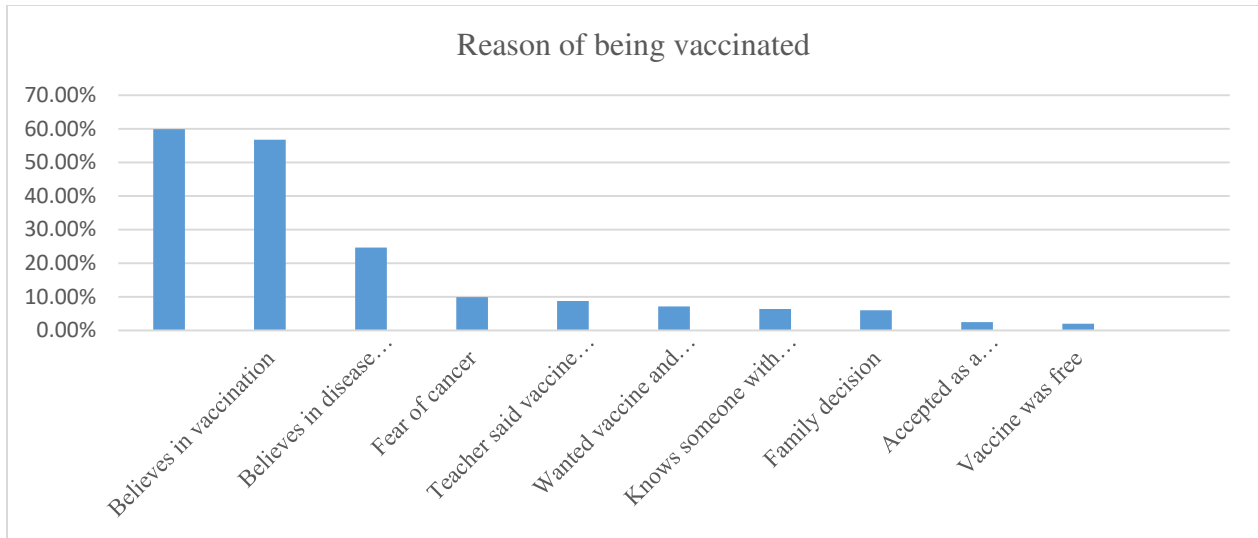


Figure 5: Common reasons in percent for being vaccinated against HPV among the adolescent schoolgirls in Sululta and Chancho town, central Ethiopia, 2023

5.3.2 Partially Vaccinated Girls

Lack of awareness of the need for a second dose 54 (36.1%) and being absent from school 25 (17.4%) were the most common responses to why the participants had received only the first dose of HPV vaccine. The fear of side effects and inconvenient times of immunization were also mentioned more frequently than other reasons (**Figure 6**).

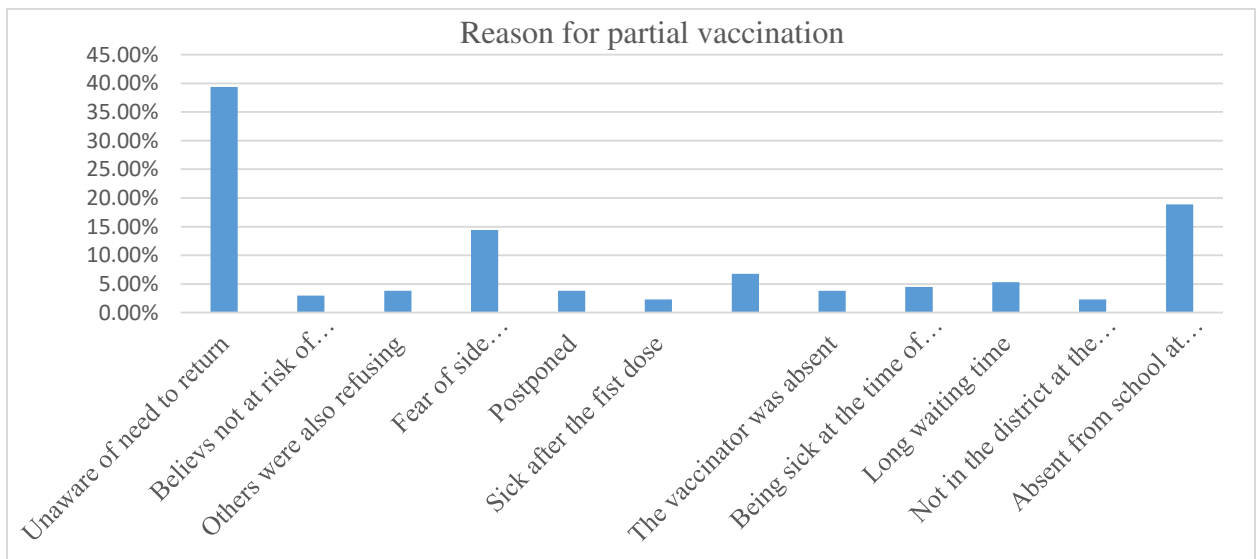


Figure 6: Common reasons in percent for partially vaccinated against HPV among adolescent schoolgirls in Sululta and Chancho town, central Ethiopia, 2023

5.3.3 Unvaccinated Girls

The main reasons mentioned by the schoolgirls for unvaccination were fear of side effects/adverse events 54 (23.6%), mainly fear of injection site pain was mentioned by most respondents. Other commonly mentioned reasons were: Not knowing the dates of vaccination or being unaware of the program, believing that they were not at risk of cervical cancer, and that the vaccine would affect fertility (**Figure 7**).

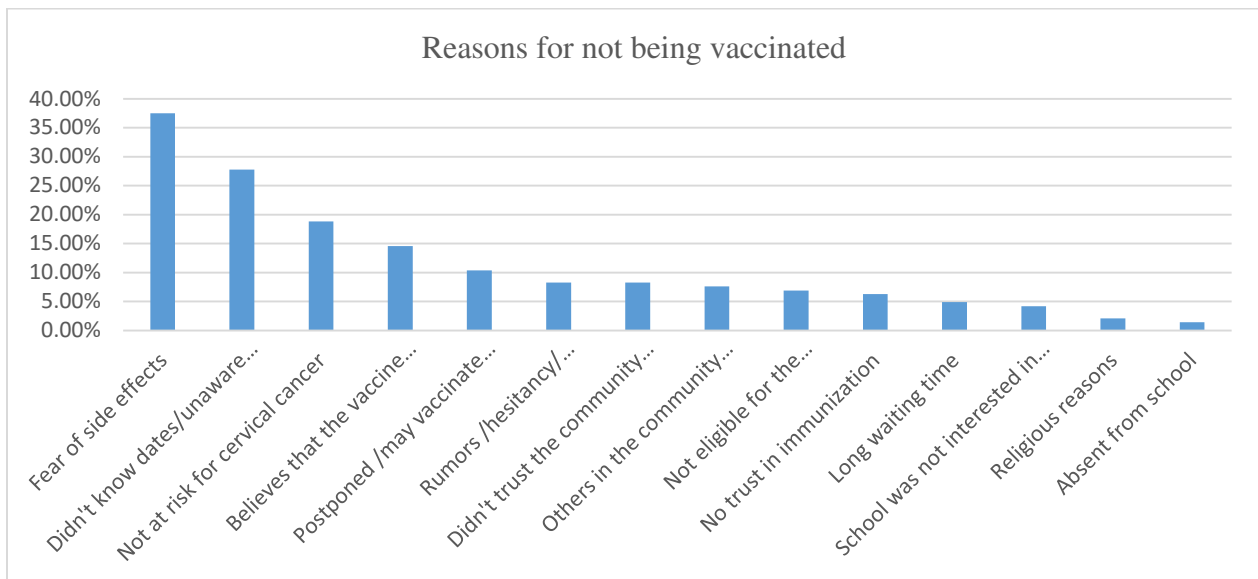


Figure 7: The response rate in percent of common barriers against HPV vaccination among adolescent schoolgirls in Sululta and Chanco towns, central Ethiopia, 2023.

5.4 The Association Between Parental Status, Residence, and the Acceptance of HPV vaccination.

Out of all the vaccinated schoolgirls, 175 (65.8%) were living in the town, while 78 (58.2%) were from rural areas. Those Participating students who were living with both of their parents had a higher proportion of vaccination 237 (63.9%). (**Table 2**).

Table 2: The cross-tab result to show the relation-ship between parental status, residence and the HPV avaccination status among schoolgirls in Sululta and Chancho towns, Central Ethiopia, 2024.

	HPV Vaccination Status		Total
	Vaccinated	Unvaccinated	
Parental Status of the Students			
Leaving with both parents	237 (63.9%)	134 (36.1%)	371
Leaving with single-parent	13 (54.2%)	11 (45.8%)	24
Leaving with non-parents	3 (60.0%)	2 (40.0%)	5
Residence of the Student			
Town	175 (65.8%)	91 (34.2%)	266
Rural	78 (58.2%)	56 (41.8%)	134

5.5 Knowledge of HPV Vaccine and Sources of Information

374 (93.5%) of the the adolescent schoolgirls have heard about cervical cancer/ HPV vaccine. The main sources of information about the HPV vaccines were mass media (TV program) for 195 (27.0%) of the respondents and school head masters/teachers for 192 (26.6%). Promotion and health education regarding the HPV vaccine by health workers at school was reported only by 31 (4.3%) of the students (**Figure 8**).

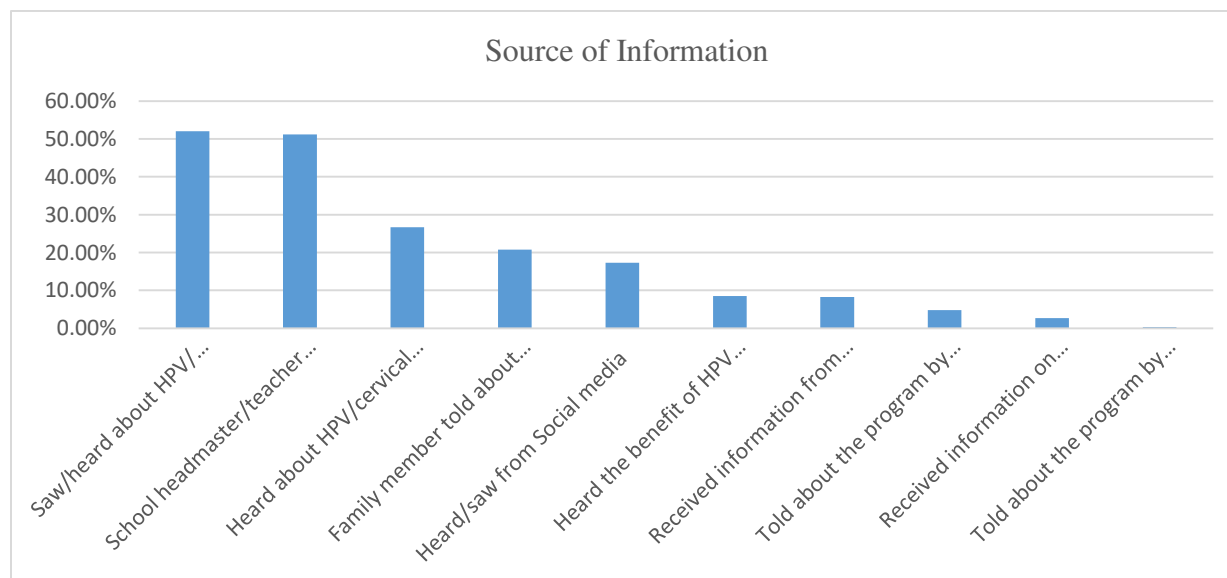


Figure 8: Information Sources on HPV Vaccination for Adolescent Schoolgirls in Sululta and Chancho Town, Central Ethiopia, 2023.

5.6 Factors Related to HPV Vaccination Uptake

We examined the relationship between the acceptance of HPV vaccination and various factors among the respondents. In bivariate logistic analysis, the age of the respondents, fathers' educational level, mothers' educational level, information/knowledge about cervical cancer/HPV vaccine, and the students' residence were identified as being associated with HPV vaccine practice. The results of multivariable logistic regression analysis indicated that knowledge of HPV infection/HPV vaccine, the mother's level of education, and the student's age were significantly related to the uptake of HPV vaccination at a p-value of less than 0.05 with a 95% confidence interval.

Therefore, the odds of taking HPV vaccine among the adolescent schoolgirls who heard about the HPV vaccine were 12.9 times more likely to have received the HPV vaccination compared with adolescents who didn't hear about the HPV vaccine (AOR= 12.953, 95% CI (3.696 to 45.392)). The odds of HPV vaccination among adolescent schoolgirls whose mothers' level of education was at primary level were 1.8 times; at middle-level school were 2.9 times and above graduate level were 5.18 times more likely to have received the HPV vaccination as compared with adolescent girls who had illiterate mothers. {AOR=1.888, 95% CI (1.036, 3.442), AOR= 2.911, 95% CI (1.215, 6.971), AOR= 5.182, 95% CI (1.153, 23.291)}. Those who were 16 years old were 6.7 times more likely to be vaccinated as compared to those of 14 years old (AOR= 6.76, 95% CI (1.241, 36.878) (**Table 3**).

Table 3: The association between socio-demographic characteristics and other factors with HPV vaccination among high schoolgirls in Sululta and Chancho towns, Central Ethiopia.

Variables	HPV Vaccination status		COR (CI 95%)	AOR (CI 95%)	P-value	
	Vaccinated (YES)	Not vaccinated (NO)				
Age of the students (in years)	14	3 (42.9%)	4 (57.1%)	1.0	1.0	
	15	19 (65.5%)	10 (34.5)	2.533 (.471, 13.612)	4.020 (.657, 24.602)	.132
	16	82 (75.9%)	26 (24.1%)	4.205 (.883, 20.023)	6.764 (1.241, 36.878)*	.027
	17	51 (67.1%)	25 (32.9%)	2.720 (.565, 13.095)	4.161 (.754, 22.950)	.102

	18	45 (51.7%)	42 (48.3%)	1.429 (.302, 6.764)	2.390 (.442, 12.928)	.312
	19	53 (57.0%)	40(43.0%)	1.767 (.374, 8.342)	2.783 (.514, 15.078)	.235
<i>Educational level of mother</i>	Illiterate	66 (48.5%)	70 (51.5%)	1.0	1.0	1.0
	Primary (grade1-6)	64 (65.3%)	34 (34.7%)	1.996 (1.169, 3.408)	1.888 (1.036, 3.442)*	.038
	Middle (grade7-8)	40 (76.9%)	12 (23.1%)	3.535 (1.708, 7.318)	2.911 (1.215, 6.971)*	.017
	High school (grade 9-12)	49 (66.2%)	25 (33.8%)	2.079 (1.155, 3.741)	1.727 (.789, 3.782)	.172
	Intermediate (level 2- diploma)	7 (77.8%)	2 (22.2%)	3.712 (.744, 18.516)	3.894 (.573, 26.478)	.165
	Graduate and above	27 (87.1%)	4 (12.9%)	7.159 (2.377, 21.563)	5.182 (1.153, 23.291)*	.032
	<i>Educational level of father</i>	Illiterate	37 (52.1%)	34 (47.9%)	1.0	1.0
Primary(grade1-6)		60 (58.3%)	43 (41.7%)	1.282 (.698, 2.356)	.963 (.487, 1.902)	.913
Middle(grade7-8)		48 (64.9%)	26 (35.1%)	1.696 (.871, 3.305)	1.016 (.459, 2.249)	.969
High school(grade 9-12)		62 (68.9%)	28 (31.1%)	2.035 (1.068, 3.878)	1.000 (.435, 2.296)	.999
Intermediate(level 2- diploma)		14 (63.9%)	8 (36.4%)	1.608 (.600, 4.309)	.925 (.292, 2.930)	.895
Graduate and above		32 (80.0%)	8 (20.0%)	3.676 (1.489, 9.076)	.979 (260, 3.681)	.975
<i>Knowledge/Information about cervical cancer/HPV vaccine</i>	Informed (YES)	124 (33.2%)	250 (66.8%)	1.0	1.0	1.0
	Not informed (NO)	23 (88.5%)	3 (11.5%)	15.457 (52.473)	(4.553, 12.953 (3.696, 45.392)**	.000
<i>Residence</i>	Rural	56 (41.8%)	78 (58.2%)	1.0	1.0	1.0
	Town	91 (34.2%)	175 (65.8%)	.724 (.473, 1.110)	.941 (.579, 1.528)	.806

CI: confidence interval; COR: crude odd ratio; AOR: adjusted odd ratio; P value: probability value; 1: reference category; *: statistically significant; **: strongly statistically significant.

6 Discussion

In this study the HPV vaccine uptake was 63.3% (CI, 0.59 – 0.68), out of which 30.5% (CI, 0.260–0.353) received two doses of the HPV vaccine and 32.8% (CI, 0.282–0.376) took one dose and 36.8% (CI, 0.320 – 0.417) of students did not take any dose of the vaccine. This finding was in line with the reports from a similar study in Nekemte city, Western Ethiopia in which the uptake was 61.2% (Hailu *et al*, 2023), Minjar-Shenkora District, North Shoa Zone, Ethiopia, 66.5% (Kassa *et al*, 2021), and in South Africa 67.1% (Khosa *et al*, 2022). It is higher than similar studies conducted in different areas of Ethiopia: Bahir Dar City, Amhara Region, Ethiopia, 45.3% (Lakneh *et al*, 2022), Ambo town, Oromia region, Ethiopia, 44.4% (Beyen *et al*, 2020), Gambella town, Southwest, Ethiopia, 48% (Woldehawaryat *et al*, 2023), and Arba Minch Town, Southern Ethiopia, 50.4% (Eshetu *et al*, 2022). It was much higher than the general collective estimated HPV vaccine uptake of 28.53% among adolescent schoolgirls in sub-Saharan Africa (Asgedom *et al*, 2024). The findings of the this study was much lower than the finding of a study done in developed countries such as Taiwan, in which the uptake level was much higher (91%) and Scotland (94.4%) (Loke *et al*, 2017, Ndikom & Oboh, 2017). This disparity in the findings might be because of inadequate knowledge or information about (cervical cancer, HPV infection and HPV vaccines); inadequate accessibility of the HPV vaccine in SSA countries; and limitation of community involvement in promoting awareness about cervical cancer and primary screening methods as compared to those of the advanced countries where all eligible girls have access to HPV vaccination as a routine service. The other possible reasons for the low HPV vaccine uptake in this study area could be the fear of injection pain (side effects), inadequate awareness, and misunderstandings about the HPV vaccine.

The study also tried to investigate factors associated with the uptake of HPV vaccine. Accordingly, getting information regarding the HPV and HPV vaccine, was significantly associated with the practice of HPV vaccination. Most of the female students 374 (93.5%) have had exposure to information regarding the HPV and HPV vaccines, out of which, 250 (66.8%) of them were vaccinated; this could be attributed to the information that promotes understanding of the benefits of the HPV vaccines. Furthermore, this information plays a role in fostering a positive attitude towards the vaccines. However, 124 (33.2%) of them were not vaccinated for

the reason of fear of side effects, mainly fear of injection and lack of information of the date/program of vaccination. This is much higher than the study conducted in Ambo, central Ethiopia; Arba Minch, southern Ethiopia; and Minjar- Shenkora, northern Ethiopia, where 57.5%, 75.2%, and 85% of the respondents reported having heard information about HPV vaccines respectively (Kassa *et al*, 2020, Beyen *et al*, 2020, Eshetu *et al*, 2022). This variation could be a result of differences in the evaluation techniques and methods utilized. In this study, mass media (TV programs) 195 (27.0%) and School head masters/teachers 192 (26.6%) were the main sources of information about HPV vaccines. Promotion and health education regarding the HPV vaccine by health-care providers at school was reported by only 31 (4.3%) of the students, which shows promotion and health education regarding the HPV vaccines through community outreach is lacking. In this study, students who had information about HPV vaccines took HPV vaccination 12.9 times more than those who had no information. This is in line with a study conducted in Melaka, Malaysia (Al-Naggar *et al*, 2012) but against from a study conducted in in Uganda, Ibanda District, where there was no positive association between knowledge of the HPV vaccination and its uptake (Turiho *et al*, 2014). This might be because of methodological and Socio-demographic differences. The strong association between good knowledge and acceptance of HPV vaccination among the study participants can be attributed to their heightened awareness about the importance of HPV vaccination, the risks associated with cervical cancer, and their positive attitudes towards the HPV vaccination.

The educational level of the mothers of the participant schoolgirls was associated with the HPV vaccination practice significantly. The HPV vaccination status of those adolescent schoolgirls whose mothers had primary level education was higher nearly by double compared with those students whose mothers were illiterate. Those girls whose mothers were at middle-level school, recieved the HPV vaccine nearly by three times higher as compared to those girls with illiterate mother and those students whose mothers were graduated from university were about five times more likely to accept HPV vaccination than those whose mothers who had no formal education. This outcome is similar with the findings of a study conducted in Melaka, Malaysia (Al-Naggar *et al*, 2012). On the other hand, the research done in Senegal showed the opposite result, that is that parental education status has a negative association with their daughters' acceptance of HPV vaccination (Massey *et al*, 2017). This could be attributed to differences in attitudes and cultural norms. The association between the maternal educational level and their daughters' acceptance of

the HPV vaccination in this study could be explained by educated mothers serving as a source of information through open discussions about their daughters' health matters, such as HPV vaccination, the seriousness of cervical cancer, and the importance of vaccination. Moreover, individuals under 18 years old constitute the primary focus for HPV vaccination; hence, these groups are unable to make this decision for themselves and are largely guided by their parents. The parents' educational background could play a role in determining whether they opt for their daughters to receive the vaccine, thus potentially affecting their daughters' acceptance rate.

This study again indicated that, the association between the age of study participants and their acceptance of the HPV vaccination was significant. Those adolescent girls who were 16 years in age were seven-times more likely to accept the HPV vaccination as compared to those who were 14 years old. This is inline with the studies conducted in Arba Minch, Southern Ethiopia (Eshetu *et al*, 2022), and Melaka, Malaysia (Al- Nagggar *et al*, 2012) but contrasting to a study conducted in Uganda, in which there was no association between age and uptake of HPV vaccination (Katagwa *et al*, 2014). The association between the age and the HPV vaccine acceptance in this study could be due to increasing age, which may be associated with mental maturity and increased education level, which in turn can be related with better access to health information and envelopment in diverse extracurricular school activities. In addition to this, in various Ethiopian communities, advancing age grants individuals the privilege to engage in and participate in adulthood activities.

7 Strengths and limitation of this study

7.1 Strengeths of the study

This study used a self-administered questionnaire, which improves internal validity by increasing the likelihood that respondents will answer honestly. A pretest was completed to assess the tool's applicability, reliability, and validity. It was able to poll a random sample of female students to boost the generalizability of the findings to other students.

7.2 Limitations of the study

This study was conducted in specific area and limited to school facillity, so it difficult to generalize. Additionally, the age cohort of this study was limited to 14 to 19 because this age group was found in high school and taking HPV vaccination in the study area since 2018. As a result, generalization to other age groups may be difficult, so future studies should consider other age groups and communities out of the institution. The sample size of current study was 416 which maybe too small to represent all high school female students in the country so that the findings cannot be generalized for entire female high school students.

8 Conclusion and Recommendations

8.1 Conclusion

The findings of this study revealed a significant proportions (63.3%, CI, (0.59, 0.68)) of the participants have been vaccinated for HPV, which is relatively a good proportion compared to the previous studies done in other parts of the country. Factors significantly linked to girls' HPV vaccination practices include, the girl's age, the mother's level of education, and their knowledge of HPV infection or vaccination. The primary obstacles to the HPV vaccination identified were fears of potential side effects, lack of awareness regarding the vaccination program or schedule, and negative perceptions towards vaccination.

8.2 Recommendations

Based on the findings of the study, the following recommendations are forwarded for different concered bodies:

To Health Facilities: Health facilities should include mop-up and routine strategies for vaccine delivery in addition to the campaign- based delivery to increase the practice (uptake) of HPV vaccination, especially in rural areas.

To Schools: School teachers and health professionals were the primary sources of information; however, they should strengthen the messages delivery strategy and increase the knowledge level of the students. And to build a positive attitude among the students, we use behavioral change communication strategies and activities for HPV vaccination.

To families: Families should allow and support female students for the uptake of the recommended dose of HPV vaccination as per the schedule.

To medias: Cooperate with media organizations to arrange airtime on television and radio to provide health education for the community about HPV and its vaccine.

To ministry of Health: Facilitate ways of health professionals deliver health education messages to the community. And regular public health campaigns that alleviate the misconceptions and enhance the community awareness regarding to HPV and its vaccine.

To policy makers : Necessary consideration should be followed to include HPV vaccine in national immunization program which is in line with the WHO recommendation (provision of HPV vaccine for those whose age is between 9-26 years).

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10 Annexes

10.1 Consent Form

Consent form for girls ≥ 18 years of age

- Date of interview _____ Interviewer identification _____
- Time to complete interview: start time _____
Finish time _____
Total (minutes) _____

Instruction to the interviewer: it is critical that you read this greeting to the participant and continue only if she gives her consent. For each item in the rest of the interview circle the response(s) or describe as appropriate.

Good morning/afternoon. My name is ----- (Interviewer)

I temporarily represent the Masters student at Addis Ababa University, College of Health Sciences CDT-Africa, who is the principal investigator of the study. This is a study to be conducted with the objective of assessing the uptake of human papillomavirus vaccine and associated factors among schoolgirls in Sululta and Chancho towns, Central Ethiopia.

As the study is directly related to the schoolgirls who are currently learning in the high school, you are one of the students who have been selected randomly to participate in this study. Therefore, you are kindly requested to participate in this study and provide the information required from you. If you give your consent to be part of this study, we will ask you questions related to HPV vaccination. The questionnaire will last approximately 15 minutes.

You are free to refuse to answer any question asked. You can also refuse to participate in the study entirely. If you decide to not participate in this study, it will not affect the care, services, or benefits to which you would normally be entitled.

Your responses will be kept confidential and there will be no way of linking your individual responses to the results of the study findings.

We would like to inform you that the responses that you provide to the questions are very essential, not only, for the successful accomplishment of the study, but also for producing

relevant information which will be helpful in the planning and implementation of intervention activities to prevent spreading of HPV in the community.

Are you willing to respond to the questions?

If yes, signature-----

Is the participant with the consent/assent form signed?

Yes; proceed with the interview.

No; thank her and End.

To be completed by the interviewer

I certify that I have read the above statement to the interviewee and proper consent process has been conducted.

Name_____ Date----- Signature-----

Name of supervisor-----

Date----- Signature-----

Consent form for the families' of girls <18 years of age

- Date of interview _____ Interviewer identification _____
- Time to complete interview: start time _____
Finish time _____
Total (minutes) _____

Instruction to the interviewer: it is critical that you read this greeting to the family of the participant and continue only if he/she gives his/her consent. For each item in the rest of the interview circle the response(s) or describe as appropriate.

Good morning/afternoon. My name is ----- (Interviewer)

I temporarily represent the Masters student at Addis Ababa University, College of Health Sciences CDT-Africa, who is the principal investigator of the study. This is a study to be

conducted with the objective of assessing the uptake of human papillomavirus vaccine and associated factors among schoolgirls in Sululta and Chancho towns, Central Ethiopia.

As the study is directly related to the schoolgirls who are currently learning in the high school, your child is one of the students who have been selected randomly to participate in this study. Therefore, you are kindly requested to allow your child to participate in this study and provide the information required from her. If you give your consent for your child to be part of this study, we will ask her questions related to HPV vaccination. The questionnaire will last approximately 15 minutes.

She is free to refuse to answer any question asked and /or she can also refuse to participate in the study entirely. If you decide for your child not to participate in this study, it will not affect the care, services, or benefits to which she would normally be entitled.

Her responses will be kept confidential and there will be no way of linking her individual responses to the results of the study findings.

We would like to inform you that the responses that she provide to the questions are very essential, not only, for the successful accomplishment of the study, but also for producing relevant information which will be helpful in the planning and implementation of intervention activities to prevent spreading of HPV in the community.

Are you willing for your child's participation in this study?

If Yes, signature-----

Is the participant with the consent and assent form signed?

Yes; proceed with the interview.

No; thank her and End.

To be completed by the interviewer

I certify that I have read the above statement to the interviewee and proper consent process has been conducted.

Name_____ Date----- Signature-----

Name of supervisor-----

Date----- Signature-----

Assent form for girls 14 to 17 years of age

- Date of interview _____ Interviewer identification _____
- Time to complete interview: start time _____
Finish time _____
Total (minutes) _____

Instruction to the interviewer: it is critical that you read this greeting to the participant and continue only if she gives her consent. For each item in the rest of the interview circle the response(s) or describe as appropriate.

Good morning/afternoon. My name is ----- . (Interviewer)

I temporarily represent the Masters student at Addis Ababa University, College of Health Sciences CDT-Africa, who is the principal investigator of the study. This is a study to be conducted with the objective of assessing the uptake of human papillomavirus vaccine and associated factors among schoolgirls in Sululta and Chancho towns, Central Ethiopia.

As the study is directly related to the schoolgirls who are currently learning in the high school, you are one of the students who have been selected randomly to participate in this study. Therefore, you are kindly requested to participate in this study and provide the information required from you. If you give your assent and provide consent from your family to be part of this study, we will ask you questions related to HPV vaccination. The questionnaire will last approximately 15 minutes.

You are free to refuse to answer any question asked. You can also refuse to participate in the study entirely. If you decide to not participate in this study/ if your family didn't allowed you to participate, it will not affect the care, services, or benefits to which you would normally be entitled.

Your responses will be kept confidential and there will be no way of linking your individual responses to the results of the study findings.

We would like to inform you that the responses that you provide to the questions are very essential, not only, for the successful accomplishment of the study, but also for producing

relevant information which will be helpful in the planning and implementation of intervention activities to prevent spreading of HPV in the community.

Are you willing to respond to the questions? If yes, __ (make the participant to read and sign in the assent form in box below).

<p>I have been told that my parents (mom or dad) have said it's okay (or, have given permission) for me to participate, if I want to, in a project about "HPV vaccine uptake and its associated factors among schoolgirls at Sululta and Chanco towns."</p> <p>I know that I can stop at any time I want to and it will be okay if I want to stop.</p> <p>Name _____ Date _____</p>

Is the participant with assent form signed?

Yes; proceed with the interview.

No; thank her and End.

To be completed by the interviewer

<p>I certify that I have read the above statement to the interviewee and proper consent process has been conducted.</p> <p>Name _____ Date----- Signature-----</p> <p>Name of supervisor-----</p> <p>Date----- Signature-----</p>

Afaan Oromo Version consent form

Unka hayyamaa

•Guyyaa af-gaaffii _____Adda baastuu nama gaaffii fi deebii kennuu_____

•Yeroo af-gaaffiin itti xumuramu: yeroo jalqabaa _____

Yeroo xumuraa _____

Waliigala (daqiiqaa) _____

Qajeelfama nama gaaffii fi deebii godhuuf: nagaan kana nama af-gaaffii gootuuf dubbistee fi yoo isheen hayyama kennite qofa itti fufuun murteessaadha. Tokkoon tokkoon qabxii af-gaaffii keessaa, deebii geengoo godhuudhaan ykn akka barbaachisummaa isaatti ibsi.

Akkam bultaan/akkam oltaanni: Maqaan koo -----jedhaama (nama af-gaaffii taasisuu).

Barataa Mastersii Yunivarsiitii Addis Ababa, Kolleejjii Saayinsii Fayyaa, CDT-Afrikaa, kan qorataa ijoo qorannichaa ta'e yeroodhaaf bakka bu'een jira. Kunis Giddu-galeessa Itoophiyaa magaalota Sulultaa fi Chaanchoo keessatti shamarran mana barumsaa keessatti uwwisa talaallii "Human Papilloma Virus" (HPV) fi sababoota isaa waliin walqabatan madaaluuf kaayyeffatee qorannoo gaggeeffamuuf ta'udha.

Qorannoon kun shamarran mana barumsaa yeroo ammaa mana barumsaa sadarkaa lammaffaa keessatti barachaa jiran waliin kallattiin kan walqabatu waan ta'eef, barattoota qorannoo kana irratti hirmaachuuf akka tasaa filataman keessaa tokko. Kanaaf qorannoo kana irratti hirmaachuun odeeffannoo isin irraa barbaadamu akka nuuf kennitan kabajaan isin gaafanna. Yoo qaama qorannoo kanaa ta'uuf hayyama kee kennite, gaaffilee talaallii HPV wajjin walqabatan si gaafanna. Af-gaaffiin kun tilmaamaan daqiiqaa 15 kan turu ta'a.

Gaaffii kamiyyuu deebisuu diduu ni danda'ama. Yeroo barbaaddetti gaaffii kana addan kutuu/xumuruu dandeessa. Akkasumas guutummaatti qorannicha irratti hirmaachuu diduu dandeessa. Qorannoo kana irratti akka hin hirmaanne yoo murteessite, kunuunsa, tajaajila ykn faayidaa yeroo idilee argachuuf mirga qabdu irratti dhiibbaa hin geessisu.

Deebiin keessan iccitii ta'ee kan eegamu yoo ta'u, deebii dhuunfaa keessan bu'aa argannoo qorannichaa wajjin karaan itti walqabsiisan hin jiraatu.

Deebiin isin gaaffileedhaaf kennitan, milkaa'ina qorannichaa qofaaf osoo hin taane, odeeffannoo barbaachisaa ta'e kan karoora fi hojiirra oolmaa hojiiwwan gidduu-galummaa ittisuuf gargaaran oomishuuf baay'ee barbaachisaa ta'uu isaa isin beeksisuu barbaanna.

Gaaffiiwwan dhiyaataniif deebii kennuudhaaf fedhii qabdaa?

Eeyyee, malatoo-----

Hirmaataan unka hayyamaa/eyyama qabu mallatteeffamee jiraa?

Eeyyee; af-gaaffii itti fufaa.

Lakki; galateeffadhuuti af-gaaffii aaddan kuti.

Gaaffii fi deebii nama tassiisuun kan guutamuu

Ibsa armaan olii kana nama gaaffii fi deebii taasisseef dubbisee adeemsi hayyama sirrii ta'e akka gaggeeffame mirkaneessa.

Maqaa _____ Guyyaa----- Mallattoo-----

Maqaa supparvaayizaraa----- Guyyaa----- Mallattoo-----

Unka hayyamaa maatii (ijoollee durbaa waggaa 18 dadiif)

•Guyyaa af-gaaffii _____Adda baastuu nama gaaffii fi deebii kennuu_____

•Yeroo af-gaaffiin itti xumuramu: yeroo jalqabaa _____

Yeroo xumuraa _____

Waliigala (daqiiqaa) _____

Qajeelfama nama gaaffii fi deebii godhuuf: nagaan kana maatii da'ima ati aaf-gaaffii gootuuf dubbistee yoo hayyama arggate qofa itti fufuun murteessaadha. Tokkoon tokkoon qabxii af-gaaffii keessatti deebii geengoo godhuun ykn akka barbaachisummaa isaatti ibsi.

Akkam bultaan/akkam oltaan? : Maqaan koo -----jedhaama (nama af-gaaffii taasiisuu).

Barataa Mastersii Yunivarsiitii Addis Ababa, Kolleejjii Saayinsii Fayyaa, CDT-Afrikaa, kan qorataa ijoo qorannichaa ta'e yeroodhaaf bakka bu'een jira. Kunis Giddu-galeessa Itoophiyaa magaalota Sulultaa fi Chaanchoo keessatti shamarran mana barumsaa keessatti uwwisa talaallii "Human Papilloma Virus" (HPV) fi sababoota isaa waliin walqabatan madaaluuf kaayyeffatee qorannoo gaggeeffamuuf ta'udha.

Qorannoon kun shamarran mana barumsaa yeroo ammaa mana barumsaa sadarkaa lammaffaa keessatti barachaa jiran waliin kallattiin kan walqabatu waan ta'eef, barattoota qorannoo kana irratti hirmaachuuf akka tasaa filataman keessaa da'imni keesan ishee tokko. Kanaaf qorannoo kana irratti da'imn keesan hirmaachuuf hayyamn keesan barbaachisaadha. Kanaaf, odeeffannoo ishee irraa barbaadamu akka nuuf kennituuf hayyama keesan kabajaan isin gaafanna. Yoo qaama qorannoo kanaa akka taatuuf nu hayyamtaan, gaaffilee talaallii HPV wajjin walqabatan ishee gaafanna. Af-gaaffiin kun tilmaamaan daqiiqaa 15 kan turu ta'a.

Gaaffii kamiyyuu deebisuu diduu ni dandeesi. Yeroo barbaaddetti gaaffii kana addan kutuu/xumuruu ni dandeesi. Akkasumas guutummaatti qorannicha irratti hirmaachuu diduu/dhiisuu ni dandeesi. Qorannoo kana irratti akka hin hirmaanne yoo murteessite, kunuunsa, tajaajila ykn faayidaa yeroo idilee argachuuf mirga qabdu irratti dhiibbaa hin geessisu.

Deebiin ishee iccitii ta'ee kan eegamu yoo ta'u, deebii dhuunfaa ishee bu'aa argannoo qorannichaa wajjin karaan itti walqabsiisan hin jiraatu.

Deebiin isheen gaaffileedhaaf kennitu, milkaa'ina qorannichaa qofaaf osoo hin taane, odeeffannoo barbaachisaa ta'e kan karoora fi hojiirra oolmaa hojiiwwan gidduu-galummaa ittisuuf gargaaran qopheesuuf baay'ee barbaachisaa ta'uu isaa isin beeksisuu barbaanna.

Kanaafu, hayyama keesan argachuu ni dandenyaa?

Eeyyee; -----malattoo-----

Maatiin hirmaatuu unka hayyamaa qabu mallatteeffamee jiraa?

Eeyyee; af-gaaffii itti fufaa.

Lakki; galateeffadhuuti af-gaaffii aaddan kuti.

Gaaffii fi deebii nama tassiisuun kan guutamuu

Ibsa armaan olii kana nama gaaffii fi deebii taasiseef dubbisee adeemsi hayyama sirrii ta'e akka gaggeeffame mirkaneessa.

Maqaa _____ Guyyaa----- Mallattoo-----

Maqaa supparvaayizaraa----- Guyyaa----- Mallattoo-----

Unka hayyamaa (Assent Form) shamarran waggaa 14-17tiif

•Guyyaa af-gaaffii _____Adda baastuu nama gaaffii fi deebii kennuu_____

•Yeroo af-gaaffiin itti xumuramu: yeroo jalqabaa _____

Yeroo xumuraa _____

Waliigala (daqiiqaa) _____

Qajeelfama nama gaaffii fi deebii godhuuf: nagaa kana nama af-gaaffii gootuuf dubbisteefi yoo isheen hayyama kennite qofa itti fufuun murteessaadha. Tokkoon tokkoon qabxii af-gaaffii keessaa, deebii geengoo godhuudhaan ykn akka barbaachisummaa isaatti ibsi.

Akkam bulte/akkam olte: Maqaan koo -----jedhaama (nama af-gaaffii taasiisuu).

Barataa Mastersii Yunivarsiitii Addis Ababa, Kolleejjii Saayinsii Fayyaa, CDT-Afrikaa, kan qorataa jiruufi ijoo qorannichaa ta'e yeroodhaaf bakka bu'een jira. Kunis, magaalota Sulultaa fi Chaanchoo keessatti shamarran mana barumsaa sad. 2faa keessaa irrat uwwisa talaallii "Human Papilloma Virus" (HPV) fi sababoota isaa waliin walqabatan madaaluuf kaayyeffatee qorannoo gaggeeffamuudha

Qorannoon kun shamarran mana barumsaa yeroo ammaa kana barumsaa sadarkaa lammaffaa keessatti barachaa jiran waliin kallattiin kan walqabatu waan ta'eef, barattoota qorannoo kana irratti hirmaachuuf akka tasaa filataman keessaa tokko. Kanaaf qorannoo kana irratti hirmaachuun odeeffannoo si irraa barbaadamu akka nuuf kennitu kabajaan si gaafanna? Yoo qaama qorannoo kanaa ta'uuf hayyama kee kennite fi yoo maatiin kee siif hayyamee qofa gaaffilee talaallii HPV wajjin walqabatan si gaafanna.

Gaaffii kamiyyuu deebisuu diduu ni danda'ama. Yeroo barbaaddetti gaaffii kana addan kutuu/xumuruu dandeessa. Akkasumas guutummaatti qorannicha irratti hirmaachuu diduu dandeessa. Qorannoo kana irratti akka hin hirmaanne yoo murteessite, kunuunsa, tajaajila ykn faayidaa yeroo idilee argachuuf mirga qabdu irratti dhiibbaa hin geessisu.

Gaaffiiwwan dhiyaataniif deebii kennuudhaaf fedhii qabdaa?

Eeyyee, ----- (unka hayyamaa armaan gadii irrat mallateesisuu)

Warra koo (haadha ykn abbaan) koo beeksiisee akka rakkoo hin qabnee hubadhee, pirojektii waa'ee "uwwisa talaallii HPV fi wantoota isaa wajjin walqabatan shamarran mana barumsaa Sululta fi Magaalota Chaanchoo." irrati taasifamu irrati hirmaachudhaaf, naaf hayyamamee jira. Kanaafu, yeroon barbaadetti dhaabuu akkan danda'uu fi yoo dhaabuu barbaade homaa rakkoo akka hin humnee hubadheen jira.

Maqaa _____ Guyyaa _____

Hirmaatuun unka hayyamaa mallatteestee jirtii?

Eeyyee; af-gaaffii itti fufaa.

Lakki; galateeffadhuuti af-gaaffii aaddan kuti.

Nama gaaffii fi deebii tassiisuun kan guutamuu

Ibsa armaan olii kana nama gaaffii fi deebii taasiseef dubbisee adeemsi hayyama sirrii ta'e akka gaggeeffame mirkaneessa.

Maqaa _____ Guyyaa----- Mallattoo-----

Maqaa supparvaayizaraa----- Guyyaa----- Mallattoo-----

10.2 Questionnaires

English version

Q1. Age in years _____

Q2. Religion

Orthodox Christian

Protestant

Muslim

Others

Q3. Ethnicity

Oromo

Amhara

Gurage

Tigray

Others

Q4. Parental status

Are both of your parents alive? Yes No

4.1 If yes, are you living with both of your parents? Yes No

4.2 If No, with whom you are living?

(a) With mother,

(b) With father,

(c) Neither of them

Q5. Literacy-Mother

Illiterate

Primary (grade 1-6)

Middle (grade 7-8)

High School (grade 9-12)

Intermediate (level 2 – diploma)

Graduate & Above

Q6. Literacy-Father

Illiterate

Primary (grade 1-6)

- Middle (grade 7-8)
- High School (grade 9-12)
- Intermediate (level 2 – diploma)
- Graduate & Above

Q7. In which province do you live?

- Town
- Rural

Q8. Did you hear about cervical cancer/HPV vaccine? Yes No

If yes,

8.2 Where did you hear?

- a. Family member told me about HPV vaccine benefits
- b. Heard radio talk show about HPV vaccine
- c. I saw a program on TV
- d. Heard/saw from Social media
- e. School headmaster/teacher told about the program
- f. Heard the benefit of HPV vaccine from friends.
- g. Received information on HPV vaccine from community/religious leaders
- h. Received information from health facility
- i. Told about the program by a community-based organization
- j. Told about the program by a community health worker
- k. Any other way-----

Q9. Did you receive HPV vaccine(s) so far? Yes No

If yes,

9.1 At what age? _____ (years)

9.2 Why did you preferred to be vaccinated?

- a. Believes in vaccination for good health
- b. Family decision
- c. Wants to be protected against cancer or infection
- d. Believes disease prevention is important
- e. Fear of cancer
- f. Was a government program, so accepted it

- g. Health worker said vaccine was good idea
- h. Teacher said vaccine was good idea
- i. Vaccine was free
- j. Knows someone who has/had cervical cancer
- k. Wanted vaccine and persuaded parent
- l. Others in community or school were doing it
- m. Other, specify.....

9.3 How often did you take the vaccine?

- a. fully vaccinated (received both doses on-time, according to schedule)
- b. partially vaccinated (received only dose 1 at the time/ missed the second dose)
- c. Non-vaccinated (did not receive any dose of HPV vaccine).

9.4 Where did you take the vaccination?

The first dose

- At home
- At health facility
- At school

The second dose

- At home
- At health facility
- At school

9.5 When did you take the vaccination?

The first dose

- a. 2018
- b. 2019
- c. 2020
- d. 2021
- e. 2022
- f. 2023

The second dose

- a. 2018
- b. 2019
- c. 2020
- d. 2021
- e. 2022
- f. 2023

9.6 If partially vaccinated, what was your reason to not complete?

- a. Unaware of need to return for second dose
- b. Not at risk for cervical cancer
- c. Others in the community were also refusing
- d. Health worker said this vaccine is not good idea
- e. Fear of side effects/adverse events/injection site pain
- f. Postponed; may be vaccinated later
- g. After dose 1, became sick
- h. Time of immunization inconvenient
- i. The vaccinator was absent
- j. Was sick at the time of vaccination
- k. There was a long waiting time at the time of vaccination
- l. Was outside of the district at the time of vaccination
- m. Was absent from school
- n. Other, specify-----

9.7 If unvaccinated, reason for not receiving?

- a. Believes that the vaccine will affect fertility
- b. Not at risk for cervical cancer
- c. Others in the community were also refusing
- d. Didn't know dates / unaware of program
- e. Fear of side effects/adverse events/injection site pain
- f. Postponed; may vaccinate later
- g. School was not interested in promoting HPV vaccine
- h. Rumors/hesitancy/indecision
- i. No trust in immunization
- j. Didn't trust or like the community group who gave information
- k. Place of health center too far
- l. Vaccinator was absent
- m. Vaccine was not available
- n. Absent from school
- o. Family problem

- p. Long waiting time
- q. Religious reasons
- r. Relocated outside of the district
- s. Not eligible for the vaccination (under age/over age)
- t. Other.....

Amharic version

መጠይቅ

1. ዕድሜ በዓመታት-----

2. ሃይማኖት

- 1. ኦርቶዶክስ ክርስቲያን
- 2. ፕሮቴስታንት
- 3. ሙስሊም
- 4. ሌሎች

3. ብሄር

- 1. ኦሮሞ
- 2. አማራ
- 3. ጉራጌ
- 4. ትግራይ
- 5. ሌሎች

4. ማንበብና መጻፍ-እናት

- 1. መሃይም
- 2. የመጀመሪያ ደረጃ ትምህርት
- 3. መለስተኛ ደረጃ ትምህርት
- 4. ሁለተኛ ደረጃ ትምህርት
- 5. መካከለኛ ደረጃ ትምህርት
- 6. ተመራቂ እና በላይ

5. ማንበብና መጻፍ - አባት

- 1. መሃይም
- 2. የመጀመሪያ ደረጃ ትምህርት
- 3. መለስተኛ ደረጃ ትምህርት
- 4. ሁለተኛ ደረጃ ትምህርት
- 5. መካከለኛ ደረጃ ትምህርት
- 6. ተመራቂ እና በላይ

6. በየት ነው የሚኖሩት?

- 1. ከተማ
- 2. ገጠር

7. ስለ የማህፀን በር ካንሰር/HPV ክትባት ሰምተሃል? አዎ /አይ

7.1 አዎ ከሆነ፣ የት ሰማህ?

- ሀ. የቤተሰብ አባል ስለ HPV ክትባት ጥቅሞች ነገረኝ
- ለ. ስለ HPV የሬዲዮ ንግግር

- ሐ. በቲቪ ላይ ፕሮግራም
- መ. ከሶሻል ሚዲያ
- ሠ. የት/ቤት ርእሰመምህር/መምህር ስለ ፕሮግራሙ አሳውቆዎታል
- ረ. የ HPV ክትባት ጥቅም ከጓደኞች
- ሰ. ስለ HPV ክትባት ከማህበረሰብ/የሃይማኖት መሪዎች ተነግሯችኋል
- ሸ. በራሪ ወረቀት በጤና ተቋም፣ ክሊኒክ ወይም ከሆስፒታል ተነግሯችኋል
- ቀ. ስለ ፕሮግራሙ በማህበረሰብ አቀፍ ድርጅት ተነግሯችኋል
- በ. ስለ ፕሮግራሙ በአንድ የማህበረሰብ ጤና ሰራተኛ ተነግሯችኋል
- ተ. ስለ HPV ፕሮግራም በሌላ መንገድ ሰምተችኋል?

8. እስካሁን የ HPV ክትባት ወስደዋል? አዎ/ አይ

8.1 አዎ ከሆነ፣ ለምን መከተብ መረጡ?

- ሀ. ለጥሩ ጤንነት በክትባት ያምናል
- ለ. የቤተሰብ ውሳኔ
- ሐ. ከካንሰር ወይም ከኢንፌክሽን መጠበቅ ይፈልጋል
- መ. በሽታን መከላከል አስፈላጊ እንደሆነ ያምናል
- ሠ. የካንሰር ፍርሃት
- ረ. የመንግስት ፕሮግራም ነበርና ተቀበሉት
- ሰ. የጤና ባለሙያው ክትባት ጥሩ ሀሳብ ነው ብለዋል
- ሸ. መምህሩ ክትባቱ ጥሩ ሀሳብ ነው
- ቀ. ክትባቱ ነፃ ነበር
- በ. የማጎጸን ነቀርሳ ያለበት/ያለበት ሰው ያውቃል
- ተ. ልጅ ክትባት ፈለገች እና ወላጅዋን አሳመነች
- ች. ሌሎች በማህበረሰብ ወይም በትምህርት ቤት ውስጥ ያደርጉት ነበር
- ነ. ሌላ፣ ይግለጹ.....

8.2 አዎ ከሆነ፣ ክትባቱን ስንት ጊዜ ወስደዋል?

ሀ. ሙሉ በሙሉ መከተብ (በጊዜ ሰሌዳው መሰረት ሁለቱንም መጠን በሰዓቱ ተቀብሏል)

ለ. በከፊል የተከተቡ (በፕሮግራሙ መጀመር ጊዜ 1 መጠን ብቻ የተቀበለው)

ሐ. ያልተከተቡ (ምንም ዓይነት የ HPV ክትባት መጠን አልወሰዱም).

8.3 ክትባቱን የት ወሰዱት?

1. ቤት
2. በጤና ተቋም
3. በትምህርት ቤት

8.4 ክትባቱን የወሰዱት መቼ ነው?

ሀ. 2010

መ. 2013

ለ. 2011

ሠ. 2014

ሐ. 2012

ረ. 2015

8.5 በከፊል ከተከተቡ፣ ያላጠናቀቁበት ምክንያት ምን ነበር?

ሀ. ለሁለተኛ መጠን የመመለስ አስፈላጊነት ሳያውቅ

ለ. ሴት ልጅ ለማህፀን በር ካንሰር ተጋላጭ አይደለችም

ሐ. ሌሎች የማህበረሰቡ አባላትም እምቢ አሉ

መ. የጤና ባለሙያው ይህ ክትባት ጥሩ ሀሳብ አይደለም ብለዋል

ሠ. የጎንዮሽ ጉዳዮች / አሉታዊ ክስተቶችን መፍራት

ረ. ለሌላ ጊዜ ተላለፈ; በኋላ መከተብ ይችላል

ሰ. ከ 1 መጠን በኋላ ታመመች

ሸ. የክትባት ጊዜ የማይመች

ቀ. ክትባቱ የለም

በ. ታምሞ ነበር

ተ. ረጅም የጥበቃ ጊዜ

ች. ከአውራጃው ውጭ ተዛወረች

የ. ከትምህርት ቤት መቅረት

ነ. ሌላ፣ ይግለጹ -----

8.6 ያልተከተቡ ከሆነ ያልተቀበሉበት ምክንያት?

- ሀ. ክትባቱ የሴት ልጅን የመራባት ሁኔታ ይጎዳል
- ለ. ሴት ልጅ ለማህፀን በር ካንሰር ተጋላጭ አይደለችም
- ሐ. ሌሎች የማህበረሰቡ አባላትም እምቢ አሉ
- መ. ቀኑን አላወቀም / ፕሮግራሙን አያውቅም
- ሠ. የጎንዮሽ ጉዳዮች / አሉታዊ ክስተቶችን መፍራት
- ረ. ለሌላ ጊዜ ተላለፈ; በኋላ መከተብ ይችላል
- ሰ. ትምህርት ቤቱ የ HPV ክትባትን የማስተዋወቅ ፍላጎት አልነበረውም
- ሸ. አሉባልታ / ማመንታት / አለመወሰን
- ቀ. በክትባት ላይ እምነት የለም
- በ. መረጃ የሰጠውን ማህበረሰብ ወይም ቡድን አላመነም
- ተ. የጤና ጣቢያ በጣም ፍቅ ቦታ
- ች. ልጅቷ እምቢ አለች ወይም ሸሽታለች
- የ. ክትባቱ የለም
- ነ. ክትባት አይገኝም
- ፕ. ከትምህርት ቤት መቅረት
- አ. የቤተሰብ ችግር
- ከ. ታምሞ ነበር
- ወ. ረጅም የጥበቃ ጊዜ
- ዘ. ሃይማኖታዊ ምክንያቶች
- ደ. ከአውራጃው ውጭ ተዛወረች
- ጀ. ብቁ አልነበሩም (ከክትባት እድሜ በታች/ከእድሜ በላይ)
- ገ. ሌላ.....

Affan Oromo version

Gaaffii

G1. Umurii (waggaan)-----

G2. Amantii

- A. Ortodoksii Kiristaana
- B. Pirootestaantii
- C. Muslima
- D. Kannen Biroo

G3. Sabummaa

- A. Oromoo
- B. Amaaraa
- C. Guragee
- D. Tigray
- E. Kanneen biroo

G4. Sadarkaa barnootaa-Haadha

- 1. Dubbisuu fi barreessuu kan hin dandeenye
- 2. Sadarkaa tokkoffaa
- 3. Sadarkaa Giddugaleessa
- 4. Sadarkaa Lammaffaa
- 5. Giddugaleessa(TVET/diploma)
- 6. Digirii fi isaa ol

G5. Sadarkaa barnootaa-Abbaa

- 1. Dubbisuu fi barreessuu kan hin dandeenye
- 2. Sadarkaa tokkoffaa
- 3. Sadarkaa Giddugaleessa
- 4. Sadarkaa Lammaffaa
- 5. Giddugaleessa(TVET/diplooma)
- 6. Digirii fi isaa ol

G6. Bulchiinsa kam keessa jiraattu?

- 1. Magaalaa
- 2. Baadiyyaa

G7. Waa'ee talaallii kaansarii fiixee gadameessaa/HPV dhageessanii? Eeyyee/ Lakki

7.1 Yoo eeyyee ta'e, eessa dhageesse?

- A. Miseensi maatii waa'ee faayidaa talaallii HPV natti hime
- B. sagantaa haasawa raadiyoo waa'ee HPV dhageesse
- C. sagantaa TV irratti argite
- D. Miidiyaa Hawaasaa irraa dhageesse/argite.

- E. itti gaafatamaa/barsiisaa mana barumsaa
- F. Faayidaa talaallii HPV hiriyoota irraa dhageesse.
- G. odeeffannoo talaallii HPV hawaasa/hoggantoota amantaa irraa argatte.
- H. barruu dhaabbata fayyaa, kilinika ykn hospitaala irraa argatte.
- I. waa'ee sagantichaa hawaasni tokko sitti himame
- J. waa'ee sagantichaa hojjetaa fayyaa hawaasaatiin isinitti himame.
- K. waa'ee sagantaa HPV karaa biraatiin dhageessanii

G8. Hanga ammaatti talaallii HPV fudhateeta? Eeyyee/ Lakki

8.1 Yoo eeyyee ta'e maaliif talaallii fudhachuu filatte?

- A. Fayyaa gaariif talaallii fudhachuutti amana
- B. Murtii maatii
- C. Kaansarii ykn infectiond irraa eegamu barbaada.
- D. Ittisa dhukkuba importante ta'uu ni amana.
- E. Sodaa kaansariif.
- F. Sagantaa mootummaa ture, kanaaf fudhatama
- G. Hojjetaan fayyaa talaalliin yaada gaarii ture jedhee Barsiisaa
- H. Barsiisaan talaalliin yaada gaarii ture
- I. Talaalliin bilisa ture
- J. Nama kaansarii gadameessaa qabu/qabate ni beeka
- K. Intalti talaallii barbaaddee warra amansiistee.
- L. Warri kaan hawaasa ykn mana barumsaa keessa jiran hojjechaa turan
- M. Kanneen biroo, ibsi.....

8.2 Yoo eeyyee ta'e, talaallii yeroo meeqa fudhatte?

- A. guutumaan guututti fudhadheera (doosiiwwan lamaan yeroo isaatti/ akka sagantaatti)
- B. gartokkoon qofaan fudhadhe (doosiin 1 qofaan fudhadhe)
- C. Talaalliicha guutuma guututi hin fudhanne

8.3 Talaalliicha eessa fudhatte?

Doozii jalqaba

1. Manatti

2. Dhaabbata fayyaatti
 3. Mana barumsaatti
- Doozii lamaafa

1. Manatti
2. Dhaabbata fayyaatti
3. Mana barumsaatti

8.4 Talaallii yoom fudhatte? Bara:

Doozii jalqaba

- a. 2010
- b. 2011
- c. 2012
- d. 2013
- e. 2014
- f. 2015

Doozii lamaafa

- a. 2010
- b. 2011
- c. 2012
- d. 2013
- e. 2014
- f. 2015

8.5 Yoo gartokkoon qofa talaalamte, sababni kee maal akka hin xumurreef?

- A. Doozii lammataaf deebi'uun barbaachisaa ta'uu hin beekne.
- B. kaansarii gadameessaaf balaa hin qabdu
- C. hawaasa keessa kaanis didaa turan
- D. hojjetaan fayyaa talaalliin kun yaada gaarii miti jedhe.
- E. sodaa miidhaa cinaa/taateewwan gadheef.
- F. yeroo biraatti darbe;
- G. doosii 1 booda, waan dhukkubsadheef
- H .yeroo talaallii hin mijanne
- I. talaalliin hin jirre
- J. dhukkubsadheen turte
- K. yeroo dheeraa eegaa turte
- L. aanaan alatti waan jijjiiramteef
- M. mana barumsaa irraa hin jirre
- N. Kanneen biroo, ibsi-----

8.6 Yoo talaallii hin fudhanne, sababa hin fudhanneef?

- A. talaalliin kun dhala shamarranii ni miidha
- B. Dubarteen kaansarii gadameessaaf hin saaxilamne
- C. hawaasa keessa kaanis diduu turan
- D. guyyaa hin beekne / sagantaa hin beekn
- E. sodaa miidhaa cinaa/taateewwan gadhee
- F. yeroo biraatti dabarfaman
- G. manni barumsaa talaalii HPV beeksisuuf fedhii hin qabu ture
- H. oduu/dubbii/murtoo dhabuu
- I. talaalii irratti amantaa hin qabu
- J. hawaasa ykn garee odeeffannoo kenne hin amanne
- K. bakki buufata fayyaa tallalliin hit kenaamu fagoo ture
- L. didduudhan ykn baqachuudhan
- M. talaalliin hin argamne
- N. talaalliin hin dhihaanee
- O. mana barumsaa keesa hin ture
- P. rakkina maatii
- Q. dhukkubsachuudhan
- R. dabareen dheeraa wan tureef
- S. sababa amantii
- T. naannoo talalliin hit kennaamuun wan hin turreef
- U. ulaagaa hin guunne (umrii talaalii gadi/ol)
- V. Kanneen biro(.....)