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Mothers Intention towards Human Papilloma Virus Vaccination Among Their 9-14 Years of Daughters in Debretabor Town Administration, North West Ethiopia 2022, Using Theory of Planned Behavior

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BAHIR DAR UNIVERSITY

COLLEGE OF MEDICINE AND HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF Health Promotion and Behavioral Sciences

**Mother's Intention towards Human Pappiloma Virus Vaccination Among Their 9-14
Years of Daughters in Debretabor Town Administration, North West Ethiopia 2022,
Using Theory of Planned Behavior**

By Samrawit Tilahun (BSC IN PUBLIC HEALTH)

**A THESIS REPORT SUMMITTED TO BAHIR DAR UNIVERSITY, COLLEGE OF
MEDICINE AND HEALTH SCIENCES, SCHOOL OF PUBLIC HEALTH,
DEPATMENT OF HEALTH PROMOTION AND BEHAVIORAL SCIENCES IN
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MASTER OF PUBLIC HEALTH IN HEALTH PROMOTION**

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DEPARTEMENTE OF HEALTH PROMOTION AND BEHAVIORAL SCIENCES

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Full title of research project	Mothers' intention towards human papilloma virus vaccination among their 9-14 years of daughters in Debretabor town administration northwest Ethiopia, 2022 by using theory of planned behavior
Duration of the project	From November 1 to November 30 2022
Study area	Debretabor town, northwest, Ethiopia
Total cost of the project	45228 Ethiopian birr

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Abbreviations and Acronyms

AOR	Adjusted odds ratio
BDU	Bahir Dar university
CA	Cervical Cancer
CI	Confidence interval
HPV	Human Papilloma Viruses
SPSS	Social Package Science
TPB	Theory of planed behavior
YRS	Years
ACIP	Advisory committee of immunization practice
COD	Crude odds ratio

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Abstract

Background: Human papilloma virus (HPV) is the second most common form of cancer worldwide among females aged 15 to 44 years. The prevalence of cervical cancer in Amhara region is 15% to 17% increasing seen the report in 2019. HPV vaccination is highly protective against HPV infection that can reduce 56% of HPV infection. There is limited study done in our country towards intention to HPV, meanwhile there is a gap of HPV vaccination.

Objective: To assess mothers' intention towards human papilloma virus vaccination among their 9-14 years of daughters in Debretabor town , northwest, Ethiopia in 2022, using theory of planned behavior .

Methods: A community-based cross-sectional study design was employed. A total sample of 449 study participants was conducted in Debretabor town from November 1 to November 30, 2022. The study participants were selected using a multi stage random sampling technique. Data was collected using an interview questionnaire. The data was entered into EPI data version 4.6 then, exported to SPSS version 23 for analysis.. Those variables which had p value <0.25 in the binary logistic regression model were fitted in to the multivariable model and those variables which had value at p-value <0.05 with its 95% CI were considered as statistically significant predictors of Intention to HPV vaccine. The goodness of fit model was checked by Hosmer Lemeshow test and it was fitted and considered as a fit model when the p value was greater than 0.05.

Results. Intention of mothers towards HPV vaccine for their 9-14 yrs daughters was 67.5%. Attitude, perceive behavioral control, and subjective norms were statically significant prdictors AOR=10.088,95% CI=6.23-16.319,P=0.000, AOR=4.119,95% CI=2.708-6.264, p=0.000,) respectively.

Conclusion: Intention of mothers towards HPV vaccine among their daughters was not satisfactory. Attitude, knowledge, Perceived behavioral control, and subjective norms were significantly associated predictors with intentions of mothers who have 9-14yrs daughters about HPV vaccine. We would like to recommend to do community mobilization towards HPV vaccine.

Key Word:- HPV, Intention, TPB, Daughters, Debre Tabor

1. Introduction

1.1 Background

Human papilloma virus (HPV) is a double-stranded deoxyribonucleic acid virus that belongs to the family of Papilloma virus. Human papilloma virus highly infects the epithelial cells of the skin and mucous membranes. Persistent infection with HPV causes cervical, vaginal, penile, anal, vulvar, and oro-pharyngeal cancers. It is the underlying cause of almost all cervical cancers. Genotypically, there are more than 100 different variants of HPV globally. Based on their risk for causing cervical cancer, HPV strains are divided into low-risk strains and high-risk strains. Among the low-risk strains, HPV-6 and -11 strains are the majority for causing of benign lesions that affect the ano-genital areas, such as genital warts, while strains HPV-16 and -18 are high-risk strain for causing cervical cancer. Infection by these high-risk strains is responsible for up to 99.7% of cervical cancer cases.[1, 2]. Major risk factors include: history of STDs, multiple sex partners, and sex at a young age. It is prevented through vaccination, early detection and treatment, proper condom use, and limited sexual partners [3]. The prevalence of cervical cancer in Amhara region is 15% to 17% increasing seen the report in 2019 [4].

In 2006, the U.S. Food-and-Drug Administration (FDA) permitted the first commercially available prophylactic HPV vaccine, Gardasil, for the primary prevention of infections by HPV16 and HPV18 as well as HPV6 and HPV11, the two HPV genotypes that cause ~90% of genital warts [quadrivalent HPV vaccination (4vHPV)] [5]. In 2007, the Centers for Disease Control and Prevention's Advisory Committee for Immunization Practices (ACIP) recommended routine HPV vaccination of women aged 9–26 years and the American Cancer Society recommended routine vaccination of women aged 9–18 years with 4vHPV [6]. In 2010, a second HPV vaccine for the primary prevention of infections by HPV16 and HPV18, Cervarix [bivalent HPV vaccination (2vHPV)], was approved by the FDA and recommended by the ACIP . In addition, 4vHPV vaccination of males aged 9–26 years was U.S. FDA-approved in October of 2009 and subsequently recommended by the ACIP in 2010 [7]. There is evidence that 2vHPV and perhaps 4vHPV induce cross-protection against non-target HPV genotypes. Clinical trials of 2vHPV have shown a consistent and significant effect against other HPV genotypes, especially

HPV31 and HPV4 [8]. These two non-targeted HPV genotypes are the two HPV genotypes most closely genetically related to HPV16 and HPV18, respectively, adding biological plausibility to the observed effect. Protection against these untargeted HPV types appears to last for 4–5 years [9].

Australia is the first country to appliance a government-funded, population-based HPV vaccination program and has served as an ideal for how HPV vaccination can rapidly reduce the burden of HPV-related disease in the general population [10]. From July 2007 until December 2009, there was also a catch-up HPV vaccination program using 4vHPV for all females aged 14–26 years. Since 2013, males have similarly been eligible for routine vaccination at age 12–13 years, with a 2-year catch-up program for males aged 14–15 years [11].

HPV vaccines have been formally recommended, although not uniformly adopted, for large-scale use in the public health-care systems and the national immunization programs of the western countries of Europe, North America and Australia. In developing countries, however, HPV vaccines are not available through national immunization programs. In Ethiopia, the vaccine is launched in 2018, recently the vaccine is given for 9–14 years females in two doses at 6-month intervals [12].

Vaccinating females from 9-14 yrs are the most cost-effective public health intervention against HPV because the vaccine targets girls who have not started sexual debut [13]. Major risk factors for cervical cancer are sex at a young age and multiple sex partners, so they are highly vulnerable to HPV infection.

HPV vaccination is appropriate for controlling and preventing the incidence, prevalence, morbidity, and mortality of cervical cancer in all health systems[14]. The theory of planned behavior (TPB) started as the theory of reasoned Action in 1980 to predict an individual's intention to engage in a behavior at a specific time and place. The theory is intended to explain all behaviors over which people have the ability to exert self-control. It posits that behaviors are immediately determined by behavioral intentions, which in turn are determined by a combination of three factors: attitude towards the behavior, subjective norms and perceived behavioral control [15].

1.2 Statement of the problem

Human papilloma virus is the major causes to increase maternal and child mortality and morbidity. It accounts 22% from other cancer cases [16]. In Ethiopia, it is the leading cause of cancer mortality among women next to breast cancer. In 2018, cervical cancer is the fourth cause of cancer in females following breast cancer, colorectal cancer, and lung cancer and it is also the fourth cause of death after breast, lung, and colorectal cancers. The highest burden of cervical cancer was observed in southern Africa and eastern Africa [3]. In 2018, approximately 570,000 new cases, and 311 000 deaths were happened[3]. Countries with lower-resource are the most susceptible to cervical cancer. Approximately 84% of all cervical cancers and 88% of all deaths caused by cervical cancer occurred in this lower resource country. Around 4648 women are found to have HPV infection each year while 3235 women die from this disease [4]. Lack of proper education and knowledge on the risks of HPV, the benefits of HPV vaccination, and the effects of not becoming vaccinated could lead to lifelong exposure for cervical cancer [13]. It presents an economic burden at the societal, national, and international levels. Over 80% of deaths were reported at a late stage, primarily due to lack of awareness and poor knowledge on cervical cancer and inadequate preventive services leading to a poor prognosis. In Sub-Saharan Africa, HPV infection accounts for 22.5% of all cancer cases in women [17]. Various factors affect the utilization of vaccinations; including awareness and knowledge, acceptability of a vaccine or the willingness of an individual to be vaccinated, is another factor that contributes to its uptake. Other related factors for the uptake of vaccines are child age, perceived access to the vaccine, societal norms, religious background and perceptions about disease severity and susceptibility. HPV vaccine is not given routinely as for as other vaccination programs while there is no enough amount of target groups to get the vaccine and the HPV vaccine amounts were not enough distributed in Ethiopia [18].

1.3 Significant of the study

It is important for Debretabor town health office to do action plan and taking intervention on the gaps on human papilloma virus vaccination implementation. It provides vaccination guidelines review and widened the knowledge of HPV vaccination through the governmental and nongovernmental organizations. It gives an especial concern on the HPV infection and HPV vaccination. It is important for federal ministry of health and regional health office to revise the human papilloma virus vaccination strategies implementation.

2. Literature review

2.1 Intention about HPV vaccine

The research done in United States, Irish and China revealed that 59.2%, 68.1%, 55% were had good intention about HPV vaccine respectively [19] , (16), (26) . The study conducted in Kenya the intention of HPV vaccination were 48% [14].

2.2 Factors affecting the intention of mothers towards HPV vaccine

1. Knowledge

The study conducted in Korean Americans indicated that the knowledge of mothers about HPV vaccination was 70%, the names of HPV vaccine called human papilloma virus vaccination and cervical cancer vaccination. But in America the most people known by the name of cervical cancer vaccination. The Korean Americans participants knew by the name of HPV vaccination accounts 66.3% and cervical cancer vaccine accounts 84.1%. The awareness of Korean Americans about HPV vaccination accounts 86.6%[20]. The study conducted in Ethiopia especially in Addis Ababa and Debreworkos town stated that there is poor knowledge through HPV and HPV vaccination intention. In Debreworkos, town the study indicated that 52.4% of mothers have poor knowledge about HPV vaccination intention. Even that 75% of mothers heard about the disease of cervical cancer and 62.1% of mothers did not knew the application of the vaccine before sexually active daughters [21]. A study conducted in Gondar town revealed that the acceptance of HPV vaccination was significantly associated with the level of knowledge about CC, HPV vaccine. Adequate understanding of the level of knowledge of mothers who have eligible daughters for the HPV vaccine and associated factors could be considered as a prerequisite for the effective vaccination program and the implementation of a sound and accepted primary prevention program of CC [22] .

2 Attitudes

The study in Duch indicated that attitudes are the most important determinants for HPV vaccination intentions [23]. The study conducted in Kenya stated that 95% of mothers has positive attitude towards HPV and HPV vaccine [24].

The study conducted in Ethiopia especially in Addis Ababa and Debreworkos town stated that the attitude of the mothers were 77.4% accounts positive attitude and 54.9% of mothers did not think their daughters were not susceptible to HPV and HPV vaccination [21]. A study conducted in Gondar town revealed that the acceptance of HPV vaccination was significantly associated with the attitude towards HPV vaccination. Adequate understanding of the attitude of mothers who have eligible daughters for the HPV vaccine and associated factors could be considered as a prerequisite for the effective vaccination program and the implementation of a sound and accepted primary prevention program of CC. If the attitude to the HPV vaccine is negative they do not allow taking HPV vaccine for their daughters[20].

3 Perceive behavioral control

The study in Duch indicated that perceive behavioral controls are the most important determinants for HPV vaccination intentions [23].By using theory of planned behavior perceive benefits and perceive seriousness was very important factors for the intention of HPV vaccination [20]. The study conducted in china, Perceived Behavioral Control (Self-Efficacy) is the amount of control a person believes to have over performing a behavior. Despite many mothers' belief that they should play a central role in educating their daughters about human sexuality, many shy away from such discussions due to their belief that they are ill-equipped to provide adequate information. Self-efficacy is a critical mediator for successful mother-daughter communication about the HPV vaccination [25]. The study conducted in United States revealed that perceived behavioral control was the most significant factors for HPV vaccination intention[26].

4 Subjective norms

The study conducted in china, subjective norms are derived from the individual's perception of their peer group's (e.g., friends, family members, and church members) approval or disapproval towards a certain behavior and their motivation to comply with different opinions. This social pressure greatly influences a mother's self-efficacy (comfort and confidence) and intentions to HPV vaccination [19]. The study conducted in United states indicated that the subjective norm of the university students were the significant factors for HPV vaccination intention [26].

3. Conceptual frame work

The theoretical frame work of theory of planned behavior (TPB) is developed by Lee Ajzen as an attempt to predict human behavior (1991). The TPB posits that attitude towards the behavior, subjective norm, and perceived behavioral control influence intention [15].

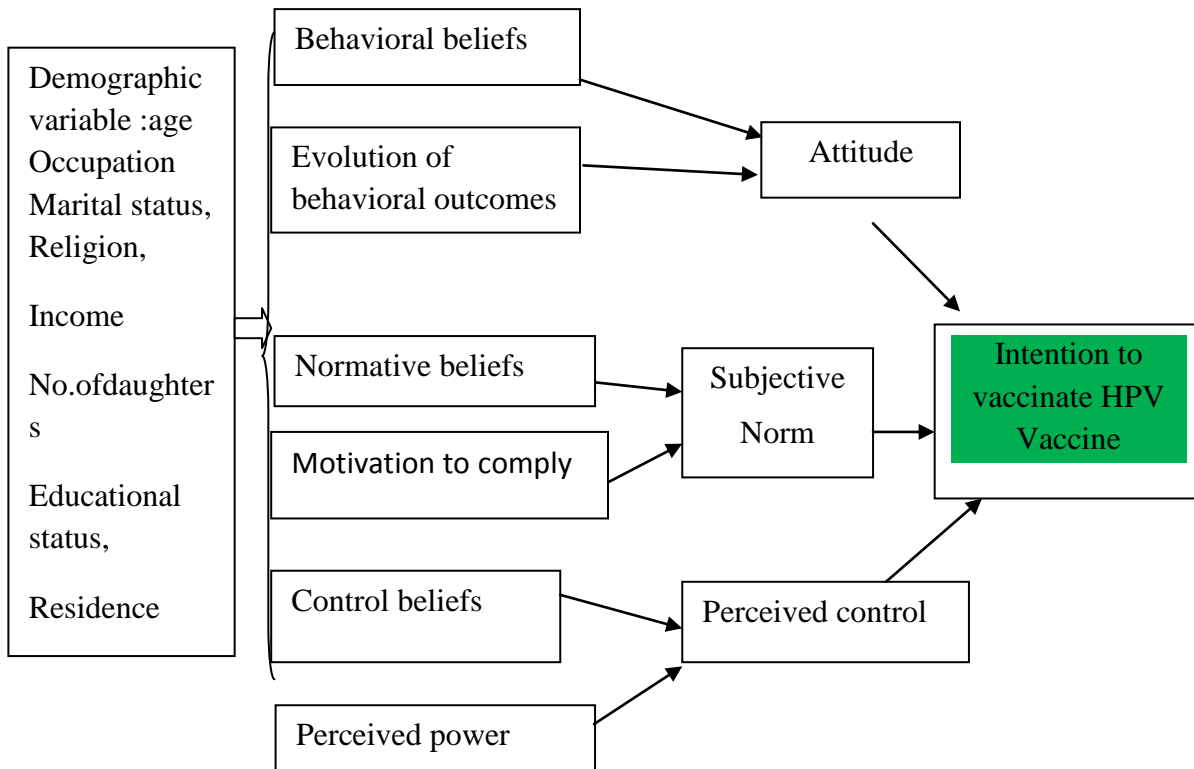


Figure 1. Conceptual frame work of factors affecting HPV vaccination intention

4. Objectives of the study

4.1 General objective

- ✓ To assess the intention and associated factors of mothers' for their 9-14yrs of daughters towards HPV vaccination in Debretabor town administration northwest, Ethiopia in 2022.

4.2 Specific objective

- ✓ To assess the intention of mothers on HPV vaccination
- ✓ To identify factors that affecting the intention of mothers for HPV vaccination

5. Method and materials

5.1 Study design and period

Community based cross sectional study design with Theory of planned behavior was conducted on mothers' intention towards HPV vaccination among their 9-14yrs daughters in Debretabor town administration from November 1 to 30 /2022.

5.2 Study area

The study was conducted in Debretabor town administration. Debretabor town is the capital city of South Gondar Zone in Amara region, Ethiopia, which is 105km away from Bahir Dar, the capital city of Amahara region and 667km away from Addis Abeba, the capital city of Ethiopia, in north west Ethiopia .Based on 2016 national census stated by the central statistical agency of Ethiopia population projection and Debretabor town plan office, the total estimated population of the town was 55596 with male: 27644 and female: 27952 and 36285 households. It is also structured into 6 Kebles, 3 public health centers, 6 health posts and 1 specialized hospital (Debretabor town plan office and health office report).

5.3 Populations

5.3.1 Source of population

All mothers who have the age of 9-14 years daughters in Debretabor town administration.

5.3.2 Study population

Mothers who have the age of 9-14 years daughters in the selected Kebeles in the study period.

5.4 Eligibility criteria

5.4.1 Inclusion criteria

All mothers who have 9-14yrs daughters in Debretabor town were included in the study.

5.4.2 Exclusion criteria

Mothers who are severely ill and unable to communicate with different reasons were excluded during the data collection time.

5.5 Variables

5.5.1 Dependent variable

- ✓ Intention of mothers towards HPV vaccination

5.5.2 Independent variable

- ✓ Socio-demographic characteristics (age in years, marital status, religion, residence, occupation, number of 9-14yrs daughters in a house, income, and educational status).
- ✓ Knowledge
- ✓ Attitudes
- ✓ Subjective norms
- ✓ Perceived behavioral control

5.6 Operational definitions

Behavioral intention: Behavioral intention is universally defined as a person's readiness to engage a certain behavior. It is measured by using 5 point scales. Persons 'behavioral beliefs about the likelihood that performance of the behavior were result in certain outcomes are measured on bipolar "disagree"- "agree". It is measured by 6 item intention questions and categorized as ("good intention" (greater than the median) and "poor intention"(less than the median), Ajzen, 1991)

Knowledge: Knowledge means knows about HPV and HPV vaccination. It is described as good knowledge and poor knowledge Knowledge score were computed by giving 1 for participants who correctly answered the questions and 0 for those who did not. It was measured using 11 item knowledge questions and categorized as "Poor knowledge" (less than the median), and "good Knowledge" (greater than the median).

Attitude: Attitude is generally described as a persons' overall belief that a behavior is 'positive' or 'negative' (Ajzen, 1991). It is measured by using 5 point scales. Person's attitude about the likelihood that performances of the behavior were result in certain outcomes is measured on bipolar "disagree"- "agree" scales. It is measured by 11 item attitude questions and categorized as "Positive attitude" (greater than the median) and "negative attitude"(less than the median).

Perceived behavioral control: It is the motivational factors that able to perform a specific activity. Ratings are made on bipolar agree-disagree scales .

Subjective norms: Subjective norm is defined as the amount of social pressure that an individual perceives Measured uses a single item asking the person to rate the behavior. Ratings are made on bipolar "agree" - "disagree" scales.

5.7 Sample size determination

The sample size were calculated by using single population proportion formula, assuming 77 % of positive attitude towards HPV vaccination intention done in Debreworkos town with 95% confidence interval (CI), 5% marginal error (d) and 1.5 design effect. This gives the sample size of 408. Adding 10% non-response rate the final sample size was 449.

$$n = \frac{(Z_{\alpha/2})^2}{d^2} P(1 - P)(\text{design effect})$$

- ✓ $n = ((1.96)^2 (0.77) (0.23) (1.5) / (0.05)^2 = 408, n=449$
- ✓ n = sample size
- ✓ p = population
- ✓ $z_{\alpha/2} = 1.96$
- ✓ d = marginal error = 0.05
- ✓ Design effect = 1.5

5.8 Sampling technique and procedure

A multistage sampling technique were used to select the study participants from Debreworkos town. In the study area, there are six (6) Kebeles. Taking 2 Kebeles (02 and 04) and then proportional allocation were done to each Kebeles to determine the sample size. The proportional allocations of the two Kebeles are 33 %. Those two Kebeles were selected from other Kebeles based on their total population size. Total 9-14 yrs daughters were 1150 and their mothers also were 1150 in the two selected Kebeles were counted and registered by health extension workers and health development armies. Total sample size taken from the total Kebeles are 449. Lastly, the households were selected with mothers who have 9-14 yrs daughters by simple random sampling method. Then home to home visit were used to get mothers who fulfilled the inclusion criteria. The data collectors were visited three times each home if the mother is absent from her home to minimize the non-response rate.

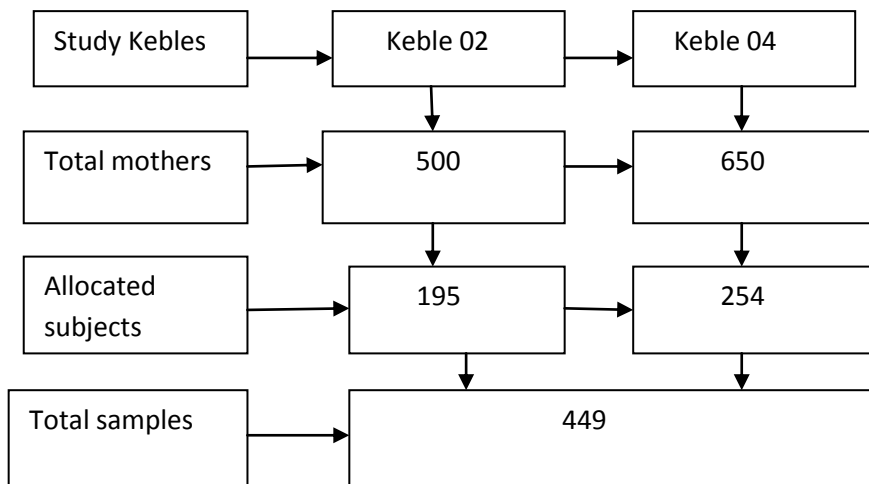


Figure 2 schematic sampling procedure in diagram

5.9 data collection tools

Structured interview-administered questionnaires were used to collect the data. Three (3) clinical nurses were the data collectors and one supervisor with BSc degree who lives in Debretabor town. The questionnaire consists of socio-demographic characteristics, knowledge, intention, attitude, subjective norm, and perceived behavioral control, regarding to the questionnaire were initially prepared in English and translated into Amharic and again back to English by professional translators to check for any inconsistencies

5.10 Data quality assurance and management

Two days training were given for supervisors and data collectors by principal investigator. The questionnaire were pre-test and checked on 5% of sample size from none actual studied area (Woreta town) . The supervisor and principal investigator were performed immediate supervision on a daily base. Each questionnaire was checked for completeness and principal investigator controlled the overall data collection processes.

5.11 Data processing and analysis

After data collection, each questionnaire was given code. The data was assembled from questionnaires and the responses entered into EPI data version 4.6 then, the entered data was

cleaned for errors prior to data analysis. Cleaned for inconsistencies and missing was had by frequencies and visually. The collected data was entered into EPI data version 4.6 and analyses were done using the SPSS version 23 statistical package. Descriptive statistics was used to describe the percentage and number distribution of the respondents by socio-demographic characteristics and other relevant variable in the study. Logistic regression was used to fit data in order to know factors associated with intention of HPV vaccination. Binary logistic regression model was fitted to identify candidate variables for multi-variable binary logistic regression model. Those variables which had p value <0.25 in the bivariable model were fitted in to the multivariable model and those variables which had value at p-value <0.05 with its 95% CI were considered as statistically significant predictors of Intention to HPV vaccine. The crude and adjusted odds ratio together with their corresponding 95% confidence intervals was computed. A p-value of < 0.05 and adjusted odds ratio with corresponding 95% confidence intervals were considered as statistically significant in this study. The goodness of fit model was checked by Hosmer Lemeshow statistic and p-value greater than 0.05 was considered as a fit model.

5.12 Ethical consideration

The study was conducted after approval by the institutional review board of Bahir Dar University College of medicine and health sciences. Then the letter given to APHI (Amhara public health institute) and Debretabor town administration office on October 22/ 2022 by Reference number 5175/1.4.4 to get permission. After permission gets from concerned body the questionnaire given to data collectors to collect data. Prior to interview data collectors were inform the participants and request for written informed consent .The consent form was read to the participants and written informed consent was gain from each study subjects before the interview after the purpose of study explains to participants response was kept confidential and the right to refusal to answer for questions is respected. The confidentiality of information was also assured by not recording the identification information.

6. Results

Socio-demographic characteristics of the respondents

A total of 449 study participants with a response rate of 100% were included in this study. The mean age of the respondents was 38.4 years and 419 (93.3%) were married, 361 (80.4%) were orthodox Christian, 278(61.9 %) were housewife, mean monthly income of the participants were 4432 Ethiopian birr. The majority of the mothers 367(81.7%) had one daughter aged 9–14 years in the household(Table 1).

Tables 1 Socio demographic characteristics of Mothers intention towards HPV vaccination for their 9-14 years of daughters in Debretabor Town, Northwest Ethiopia, 2022 (n=449)

Variables	Category	Frequency	Percent
Age in years	21-30	215	47.9
	31-40	130	30.8
	41-50	96	21.3
	>50	8	1.9
Marital status	Married	415	92.4
	Divorce	26	5.8
	Widowed	8	1.8
Residence	Urban	445	99.1
	Rural	4	0.9
Religion	Orthodox	361	80.4
	Muslim	72	16
	Protestant	16	3.6
Educational status	No formal education	312	69.5
	Primary school completed	61	13.6
	Secondary school completed	11	2.4
	Diploma and above	65	14.5
Occupation	Government employee	67	14.9
	Private employee	11	2.4
	House wife	278	61.9

	Daily labor	23	5
	Farmer	70	15.6
Number of 9-14 years daughters in a house	One	367	81.7
	More than one	82	18.3
Average family income In Ethiopian birr	1000-2000	26	5.8
	2001-3000	84	19
	3001-4000	114	25.4
	>4001	223	49.8

Knowledge about the HPV Vaccine

Source of Information

The respondents 133 (29.6%) heard about the HPV vaccine and HPV infection, from this 92 (68.7%) respondents' main source of information about the HPV vaccine was media. About 271 (60.4%) of the respondents have poor knowledge about the HPV vaccine. 105(23.4%) of respondents know CC is a disease of the genital tract, about 89 (19.8%) of mothers know that HPV can cause CC. More than two-third of the participants 323(71.9%) did not know HPV is transmitted by sexual contact, 336 (74.8%) did not know the recommendation of HPV vaccine before the onset of sexual activity, and 340 (75.7%) of the respondents did not know HPV vaccine was recommended for 9-14 years of daughters, about 82(18.3%) respondents know the vaccine was given in school (Table 2).

Tables 2 Knowledge about HPV vaccine among Mothers Who Have 9-14 years Daughters in Debretabor Town, Northwest Ethiopia, 2022 (n=449)

Items of knowledge questions	Response	
	Yes	No
Ever heard about HPV infection and HPV vaccination	133(29.6%)	316(70.4%)
Know HPV infection is preventable	128(28.5%)	321(71.5%)
Know HPV is transmitted by sexual contact	126(28.1%)	323(71.9%)
Know HPV vaccine against HPV infection	111(24.7%)	338(75.3%)
Know HPV vaccine is recommended before starting sexuality	113(25.2%)	336(74.8%)
Know HPV vaccine is recommended to prevent HPV for the future	91(20.3%)	358(79.7%)
Know HPV is a disease of genital tract	105(23.4%)	344(76.6%)
Know HPV vaccine recommended for 9-14 years daughters	109(24.3%)	340(75.7%)
Know HPV can cause cervical cancer	89(19.8%)	360(80.2%)
Know HPV vaccine required two round during vaccination	111(24.7%)	338(75.3)
Know HPV vaccine cannot cause infertility	86(24.7%)	363(80.8%)
Know HPV vaccine is given in school	82(10.8%)	367(81.7%)

Attitude towards HPV Vaccine

The majority of the participants 331 (73.7%) had negative attitudes towards the HPV vaccine. From total study participants, 342 (76.2 %) were feel that HPV vaccination were prevent HPV infection, 340 (75.7%) of respondents were agreed with the presentation of the vaccine side effect, 325 (72.4%) of participants said HPV vaccine had not complication, and 338 (75.3 %) of respondents think that HPV vaccine was important for their daughters to prevent HPV infection for the future life (Table 3).

Tables 3 Attitude towards HPV vaccine among mothers who have 9-14 years of daughters in Debretabor Town, Northwest Ethiopia, 2022 (n=449)

Indirect attitude measurement

Items of behavioral beliefs question	Response	Frequency	Percent
If my daughters receives HPV vaccine, she will prevent HPV infection	Strongly agree	28	6.2
	Agree	342	76.2
	Neutral	5	1.1
	Disagree	68	15.1
	Strongly disagree	6	1.3
If my daughter receives HPV vaccine, she will has well healthy	Strongly agree	28	6.2
	Agree	331	73.7
	Neutral	6	1.3
	Disagree	78	17.4
	Strongly disagree	6	1.3
If my daughter receives HPV vaccine, she will not has to get HPV vaccine complication	Strongly agree	37	8.2
	Agree	325	72.4
	Neutral	7	1.6
	Disagree	74	16.5
	Strongly disagree	6	1.3
If my daughter receives HPV vaccine, she will has HPV vaccine side effect	Strongly agree	26	5.8
	Agree	340	75.7
	Neutral	8	1.8
	Disagree	70	15.6
	Strongly disagree	5	1.1%
If my daughter receives HPV vaccine, she will has treat HPV infection	Strongly agree	31	6.9
	Agree	312	69.5
	Neutral	3	0.7
	Disagree	96	21.4
	Strongly disagree	7	1.5

Intention towards HPV vaccination

More than two- third of the participants, 303 (67.5%) had good intention about HPV vaccine. From the total study participants, 282 (62.8%) were intended to receive HPV vaccine for their daughters and 393 (87.5) were agreed to receive the vaccine even their daughters were presents the symptoms of the HPV vaccine (Table 4).

Tables 4 Intention towards HPV vaccine among Mothers Who Have 9-14 years of daughters in Debretabor Town, Northwest Ethiopia, 2022 (n=449).

Items of intention assessment questions	Response	Frequency	Percent
I am intending to receive HPV vaccine to my daughter	Strongly agree	63	14
	Agree	282	62.8
	Neutral	11	2.5
	Disagree	66	14.7
	Strongly disagree	27	6
My daughter will take HPV vaccine to prevent HPV infection	Strongly agree	39	8.7
	Agree	238	53
	Neutral	9	2
	Disagree	155	34.5
	Strongly disagree	8	1.8
My daughter wants to receive HPV vaccine for her health issues	Strongly agree	31	6.9
	Agree	344	76.6
	Neutral	7	1.6
	Disagree	63	14
	Strongly disagree	4	0.9
I have decided , my daughter to receive HPV vaccine	Strongly agree	46	10.3
	Agree	382	85
	Neutral	4	0.9
	Disagree	15	3.3
	Strongly disagree	2	0.5

Subjective norms of participants for HPV vaccination

More than two-third of the participants, 337 (75.1%) had subjective norm towards HPV vaccine. From the total participants; 345 (76.8 %) of mothers were agreed for their daughters to take HPV vaccine, 341 (75.9%) of fathers were agreed for their daughters to receive the vaccine and 327 (72.5%) of friends were agreed for their daughters to receive the vaccine.

Tables 5 Subjective norms of participants towards HPV vaccine among their 9-14 years of daughters in Debreabor Town, Northwest Ethiopia, 2022 (n=449).

Indirect measurements

A. Normative beliefs

Items of Normative beliefs assessment questions	Response	Frequency	Percent
My mother thinks ,my daughter should receive HPV vaccine	Strongly agree	36	8
	Agree	345	76.8
	Neutral	5	1.1
	Disagree	56	22.5
	Strongly disagree	7	1.6
My father thinks, my daughter should receive HPV vaccine	Strongly agree	26	5.8
	Agree	341	75.9
	Neutral	7	1.6
	Disagree	69	15.4
	Strongly disagree	6	1.3
My friends think, my daughter should receive HPV vaccine	Strongly agree	31	6.9
	Agree	327	72.8
	Neutral	11	2.4
	Disagree	72	16
	Strongly disagree	8	1.8
Other members of my family thinks, my daughter should receive HPV vaccine	Strongly agree	17	7.4
	Agree	345	63
	Neutral	6	1.8
	Disagree	75	24.9
	Strongly disagree	1.3	2.9

B. Motivation to comply

Items of motivation to comply assessment questions	Response	Frequency	Percent
My mother approves to receive HPV vaccine is important to my daughter	Not very much	12	2.7
	Not much	89	19.8
	Neutral	6	1.3
	Much	332	73.9
	Very much	10	1.3
My father approves to receive HPV vaccine is important to my daughter	Not very much	15	6.9
	Not much	62	16.6
	Neutral	4	0.9
	Much	355	79.1
	Very much	13	2.9
My friends approve to receive HPV vaccine is important to my daughter	Not very much	16	3.6
	Not much	56	12.5
	Neutral	5	1.1
	Much	349	77.7
	Very much	23	5.1
Other members of my family approve to receive HPV vaccine is important to my daughter	Not very much	14	3.1
	Not much	45	10
	Neutral	6	1.3
	Much	360	80.2
	Very much	24	5.3

Perceived behavioral control of participants for HPV vaccination

More than two-third of the participants, 290 (64.6%) had perceive behavioral control towards HPV vaccine. From the total participants; 227 (58.6%) of mothers were agreed if their daughters cached by the HPV infection that would receive the vaccine and 321(71.5%) of mothers agreed to receive the vaccine even if their daughters in sick by other infections.

Tables 6 Perceive behavioral control of participants towards HPV vaccine among their 9-14 years of daughters in Debretabor Town, Northwest Ethiopia, 2022 (n=449).

Indirect measurements

A. Control beliefs

Items of questions	Response	Frequency	Percent
If I am doubtfulness, my daughter will not receive HPV vaccine	Strongly agree	31	6.9
	Agree	316	70.4
	Neutral	7	1.6
	Disagree	89	19.8
	Strongly disagree	6	0.3
If my daughter had cached HPV infection would receive HPV vaccine	Strongly agree	26	5.8
	Agree	227	58.6
	Neutral	7	1.6
	Disagree	182	40.5
	Strongly disagree	7	1.6
If my daughter is in sick , she will not receive HPV vaccine	Strongly agree	21	4.7
	Agree	321	71.5
	Neutral	9	2
	Disagree	90	20
	Strongly disagree	8	1.8
The long distance from home to health center make Difficult to my daughter to take HPV vaccine	Strongly agree	20	4.5
	Agree	327	72.8
	Neutral	6	1.3
	Disagree	85	18.9
	Strongly disagree	11	2.4

B. Perceive power

Items of perceived power assessment questions	Response	Frequency	Percent
Lack of support from my family, makes me difficult for my daughter receives HPV vaccine	Strongly agree	22	4.9
	Agree	304	67.7
	Neutral	6	1.3
	Disagree	110	24.5
	Strongly disagree	7	1.6
Lacks of reminder make my daughter difficult to receives HPV vaccine	Strongly agree	22	4.9
	Agree	290	64.6
	Neutral	8	1.8
	Disagree	123	27.4
	Strongly disagree	6	1.3
Lakes of knowledge about HPV vaccine makes my daughter difficult to receive HPV vaccine	Strongly agree	20	4.5
	Agree	280	62.4
	Neutral	7	1.6
	Disagree	136	30.3
	Strongly disagree	6	1.3
Health care workers skill make it difficult to receive HPV vaccine	Strongly agree	27	6
	Agree	82	18.3
	Neutral	5	1.1
	Disagree	326	72.6
	Strongly disagree	9	2

This study revealed that mothers who had subjective norms were about sixteen times more likely had good intention about HPV vaccine (AOR=16.397, 95% CI= 9.69-27.748 ,p =0.000). Mothers who had perceived behavioral control were about four times more likely had good intention about HPV vaccine (AOR=4.119,95% CI=2.708-6.264, p=0.000) Mothers who had positive attitude towards HPV vaccine were about ten times more likely had good intention than

mothers who had negative attitude (AOR=10.088, 95% CI=6.236-16.319, p=0.000). Knowledge was not significant variable (Table 7).

Tables 7 Results of bivariate and multivariate analysis on factors of mothers intention towards HPV vaccine among their 9-14yrs daughters in Debretabor town (n=449)

Variables	Category	Intention	COR(95% CI)	AOR(95% CI)	P-value
Age	21-29	56	0.099	1.104	
	30-39	230	0.606	1.833	
	40-49	152	0.589	1.802	
	>=50	11	0.262	1.300	
Marital status	Married	449	1.022	2.799	
	Divorced	21	0.73	1.136	
	Widowed	9	0.739	0.800	
Religion	Orthodox	361	0.340	1.406	
	Muslim	72	0.288	0.751	
	protestant	16	0.511	1.667	
Occupation	Government employee	67	0.434	0.648	
	Private employee				
	House wife	11	0.267	0.766	
	Farmer	278	0.115	1.112	
	Daily labored	70	0.539	0.853	
		23	0.321	0.733	
Educational status	No formal education	312	0.702	2.018	

	Primary school	61	0.286	1.331	
	Secondary school	11	0.036	0.967	
	Diploma and above	65	0.250	1.241	
Number of daughters	One	367	0.728	2.071	
	More than one	82	0.350	1.342	
Average monthly income	1000-2000	26	0.269	1.309	
	2001-3000	84	0.374	1.454	
	3001-4000	114	0.399	1.490	
	>=4001	223	0.542	1.720	
Residence	Urban	4	1.846	6.336	
	Rural	445	1.099	0.333	
Source of information	Media	302	4.452	12.451	
	Parents	119	2.283	9.805	
	Friends	28	2.463	11.744	
Attitude	Positive attitude	118	2.311	10.088*	0.000
	Negative attitude	331	0.863	0.422	
Subjective norms	Normative belief	112	2.797	16.397*	0.000
	Motivation to comply	337	1.550	4.712	
Perceive behavioral control	Control belief	155	1.462	4.119*	0.000
	Perceived power		0.113	0.893	

Notes: AOR=Adjusted odds ratio, COR =Crude odds ratio, CI= Confidence interval, *= statistically significant at p-value < 0.05

7. Discussion

The finding of this study indicated that more than two-third of the respondents 67.5% had good intention about the HPV vaccine. This finding compared to the study done in China (78.3%) [19] and the study done in United States(79.8%) (26) were poor intention about HPV vaccine. The possible reasons might be the globalization of the China and United States community were good and gain awareness easily about the HPV vaccine.

The participants (73.7%) had negative attitudes towards the HPV vaccine. This finding is more than a systemic review done in China (36%)[19] and the study in United States (41%) (26) had negative attitude. The reason for this difference might be a difference in the modes of application of the vaccine. In China and United states, the HPV vaccine is given in routinely in the health institutions as far as other vaccines. When we see in Ethiopia, the vaccine is given in school by the outreach program. This finding indicated that two-third of (76.2%) of respondents think that the HPV vaccine is prevented the HPV infection and which is higher than the study conducted in Kenya (75%) [14]. On the other hand, it is lower than a study done in United States (87%) [26]. The reason for this difference might be a difference of socio-demographic ,socio-economic and shortage of vaccine distribution in the countries .The finding of this study showed that (75.7%) of participants were agreed with the mild side effects of HPV vaccination for their daughters which is lower than a study conducted in United states (85.3%) (26) The possible reasons for this difference might be the study conducted in United States was institutionally based and the participants were mothers who have regular annual pediatric follow up. The finding of the current study showed that mothers attitude towards HPV vaccination intention was significantly associated. Mothers who had positive attitude about the HPV vaccine were ten times more likely to had HPV vaccination intention compared to who were mothers had negative attitude (AOR=10.088; 95% CI=6.236-16.319, p value = 0.000), which is lowered to a study done in United states. This justified that knowing of the HPV vaccine intention might be create behavioral change.

The participants (75.1%) had subjective norms about the HPV vaccine. This finding was done in China (56%) [19] and the study in United States (61%) (26) had subjective norm. The reason for this difference might be a difference in the cost of the vaccine. In Korean Americans and United States, the HPV vaccine was given by paying the money. However, in Ethiopia the

vaccine was given freely. The participants might be think that free vaccines are less potent and less effective. This finding of the mothers (76.8%), fathers (75.9%), friends (72.8%), and other members of the family (76.8%) respondents think that the HPV vaccine was important to their daughters to prevent the HPV infection. The study conducted in United States (45%) [26] and China (55%) [19] had a difference. The reason for this difference might be a difference of socio-demographic and socio-economic factors of the countries. The finding of the current study showed that mothers' subjective norms towards HPV vaccination intention were significantly associated. Mothers who had subjective norms about the HPV vaccine were about sixteen times more likely to had HPV vaccination intention (AOR=16.397; 95% CI=9.69-27.748 p=0.000), which is lowered to a study done in United states (48.7%) [26]. This findings might be justified that knowing of the HPV vaccine intention would create behavioral change.

The participants (64.6%) had perceived behavioral control about the HPV vaccine. The study done in China (76%) [19] and the study done in United States (78%) (26) had perceive behavioral control. The reason for this difference might be there was a long distance of health institutions from the home. The current study showed on lake of support to receive the vaccine (67.7%). The study conducted on lake of support to receive the vaccine for their daughters in United States (38.7%) (26), China (29.3%) [19]and Kenya (55.8%) (14) .The current study on lake of knowledge to receive the vaccine was (62.4%). Lake of knowledge to receive the HPV vaccine in Irish (40.5%) [16], in United States (35.6%) [26] and in China (39.1%) [19]. The reason for this difference might be a difference of socio-demographic and socio-economic factors of the countries. The finding of the current study showed that mothers' perceived behavioral control towards HPV vaccination intention was significantly associated. Mothers who had perceived behavioral control about the HPV vaccine were about four times more likely to had HPV vaccination intention (AOR=4.119; 95% CI=2.708-6.264 p=0.000), study done in United states (49.5%) [26]. This might be justified that knowing of the HPV vaccine intention would create behavioral change.

8. Strength and limitations of the Study

Using TPB was the strength of the study. The limitation of this study lies relatively on a large sample size with a high response rate, due to the cross-sectional nature of the study establishment of a causal relationship could not be possible. Also the information collected quantitatively was not triangulated with the qualitative method.

9. Conclusion

Intention of mothers towards HPV vaccine among their daughters was not satisfactory. Attitude, Perceived behavioral control, and subjective norms were significantly associated predictors with intentions of mothers who have 9-14yrs daughters about HPV vaccine. This finding supports the utility of theory of planned behavior-based framework in predicting HPV vaccine intentions in the population.

10. Recommendations

This study indicated that mothers had poor intention towards human papilloma virus vaccination. Then the Debretabor health office will be create awarness about human papilloma virus vaccination.

The federal ministry of health and Amhara regional office will be take the finding and arranged hthe budget to implement the vaccination strategies. Will makes human papilloma virus vaccination guidelines review.

The researchers will done the researches on human papilloma virus vaccination intention.

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12. Appendixes

Annex 1 English version informed consent form

How are you? My name is-----I am here on behalf of Samrawit Tilahun, student in Bahir Dar University, college of medicine and health science, school of public health, department of health promotion and behavioral science. She is conducting a research on mother's intention towards human papilloma virus vaccination among their 9-14 years of daughters by using theory of planned behavior in Debretabor town for the partial fulfillments of master's degree. She has received permission from school of public health at Bhir Dar University, Amahra region public health institute, and Debretabor town administration to conduct the study starting from November 1, 2022 .Your contribution has a great input for the study and I would greatly appreciate your participation. There is no possible risk associated with participating in this study. Your name was not write in the questionnaire and please assures that all the information you were kept strictly confidential. Your participation was voluntary. If you choose not to answer a particular question, that is your right. You were also permitted to withdraw any time from the study when you feel uncomfortable with it. If you had any idea and question in this stuy, you can contact principal investigator or advisor by below address.

Principal investigator

Name: Samrawit Tilahun

Advisors

1.Mr Habtamu Wondiye (Assistant professor)

Phon: +251921452844

2. Mr Zeamanuel Anteneh (MPH)

-phon: +250918166551

Therefore to participate in this studies you:

A, agree

B, disagree

Interviewer Name _____ Signature _____

Date of interview _____

Supervisor Name _____ Date _____ Signature _____

Annex 2 English version questionnaire

Instruction: - circle the responses for questions with alternatives and write for open ended questions on the space provided.

Part 1: socio demographic characteristics

1. Age in years-----

2. Marital status: 1.Married 2.Divorced 3.Widowed

3. Residence: 1.Urban 2.Rural

4. Religion: 1.Orthodox 2.Muslim 3.protestant

5. Educational status: 1.No formal education 2. Primary school 3.Secondary school 4.Diploma and above

6. Occupation: 1.Government employee 2.Private employee 3.House wife 4.Farmer 5. Daily labor

7. Number of 9-14 yrs of daughters in a house-----

8. Average family income in Ethiopian birr-----

Part 2: Knowledge assessment questionnaires

1. Have you ever heard about HPV vaccination? 1. Yes 2.No

2. If yes from whom you heard about it? 1. Media 2. Parents 3. Friends

3. Do you know HPV is preventable? 1. Yes 2. No

4. Do you know HPV is transmitted by sexual contact? 1. Yes 2.No

5. Do you know HPV vaccine against HPV infection dose exist? 1. Yes 2.No
6. Do you know HPV vaccination against HPV is recommended before the onset of sexuality? 1. Yes 2.No
7. Do you know HPV vaccine recommended preventing HPV in the future? 1. Yes 2.No
8. Do you know HPV is a disease of genital tract? 1. Yes 2.No
9. Do you know HPV can cause cervical cancer? 1. Yes 2. No
10. Do you know the HPV vaccine can be offered to a female child aged 9-14 years old? 1. Yes 2.No
11. Do you know HPV vaccine required two rounds during vaccination? 1. Yes 2 No
12. Do you know the HPV vaccine cannot cause infertility?
13. Do you know HPV vaccine is given in schools? 1. Yes 2. No

Part 3: Attitude assessment questionnaires

A. Direct attitude measurement

1. My daughter receiving HPV vaccine makes me feel... 1. Very bad 2.Bad 3.Neutral 4.Good 5.Very good
2. My daughter receiving HPV vaccine makes me feel...1.Very useless 2.useless 3.neutral 4.useful 5. Very useful
3. My daughter receiving HPV vaccine makes me feel...1.very unpleasant 2.unpleasant 3.neutral 4.pleasant 5.very pleasant
4. My daughter receiving HPV vaccine makes me feel...1.very unsafe 2.unsafe 3.neutral 4.safe 5.very safe
5. My daughter receiving HPV vaccine makes me feel...1.very non-essential 2. Non-essential 3.neutral 4.essential 5.very essential

6. My daughter receiving HPV vaccine makes me feel... 1. Very unimportant 2.unimportant
3.neutral 4.important 5.very important

B .Indirect attitude measurement

1. Behavioral beliefs measuring

1. If my daughter receives HPV vaccine, she will prevent HPV infection 1.Strongly agree
2.Agree 3.neutral 4.Disagree 5.Strongly disagree

2 .If my daughter receives HPV vaccine, she will has well healthy
1.Strongly agree 2.Agree 3.neutral 4.Disagree 5.Strongly disagree

3 .If my daughter receives HPV vaccine, she won't has to get HPV infection complication
1.Strongly agree 2.Agree 3.neutral 4.Disagree 5.Strongly disagree

4. If my daughter receives HPV vaccine, she will has HPV vaccine side effect 1.Strongly agree
2.Agree 3.neutral 4.Disagree 5.Strongly disagree

5. If my daughter receives HPV vaccine, she will has treat HPV infection 1.Strongly agree
2.Agree 3.neutral 4.Degree 5.Strongly disagree

6. If my daughter receives HPV vaccine, she will improve future life 1.Strongly agree 2.Agree
3.neutral 4.Degree 5.Strongly disagree

Part 4: intention assessment questionnaires

1. I am intending to receive HPV vaccine to my daughter 1.Strongly agree 2.Agree 3.neutral
4.Agree 5.Strongly disagree

2. My daughter will take HPV vaccine to prevent HPV infection 1.Strongly agree 2.Agree
3.Neutral 4.Disagree 5.Strongly disagree

3. I expect my daughter to receive HPV vaccine 1. Strongly agree 2.Agree 3. Neutral 4.Disagree
5.Strongly disagree

4 My daughter wants to receive HPV vaccine for her health issue 1.Strongly agrees 2. Agree 3.Neutral 4.Disagre 5.strongly disagree

5. Suppose you have observed the symptoms for the problems of HPV infection do your daughter receive HPV vaccine 1.strongly agree 2.Agree 3.Neutral 4.Disagree 5.Strongly disagree

6. I have decided, my daughter to receive HPV vaccine 1.strongly agree 2.Agree 3.Neutral 4.Disagree 5.Strongly disagree

Part 5: Subjective norm assessment questionnaires

1. Direct measurement

1. People who care about me would like my daughter to receive HPV vaccine 1.strongly agree 2.Agree 3.Neutral 4.Disagree 5.Strongly disagree

2. People who care about me would like my daughter want to receive HPV vaccine 1.strongly agree 2.Agree 3.Neutral 4.Disagree 5.Strongly disagree

3. The people in my life whose opinion I value would approve my daughter to receive HPV vaccine 1.strongly agree 2.Agree 3.Newtral 4.Disagree 5.Strongly disagree

4. People who care about me think my daughter should receive HPV vaccine 1.strongly agree 2.Agree 3.Neutral 4.Disagree 5.Strongly disagree

2. Indirect measurement

A. Normative believe

1. My mother thinks my daughter should receive HPV vaccine 1.strongly agree 2.Agree 3.Neutral 4.Disagree 5.Strongly disagree

2. My father thinks my daughter receive HPV vaccine 1.strongly agree 2.Agree 3.Neutral 4.Disagree 5.Strongly disagree

3. My friends think my daughter should receive HPV vaccine 1.strongly agree 2.Agree 3.Newtral 4.Disagree 5.Strongly disagree

4. Other members of my family think my daughter should receive HPV vaccine strongly agree
2. Agree 3. Neutral 4. Disagree 5. Strongly disagree

B. Motivation to comply

1. My mother approves to receive HPV vaccine is important to my daughter 1. Not very much
2. Not much 3. Neutral 4. Much 5. Very much

2. My father approves to receive HPV vaccine is important to my daughter 1. Not very much
2. Not much 3. Neutral 4. Much 5. Very much

3. My friends approve to receive HPV vaccine is important to my daughter 1. Not very much
2. Not much 3. Neutral 4. Much 5. Very much

4. Other members of my family approve to receive HPV vaccine is important to my daughter
1. Not very much 2. Not much 3. Neutral 4. Much 5. Very much

Part 6: Perceive behavioral control

1. Direct measurement

1. How much do you think the problem will happen if my daughter receive HPV vaccine 1. Not
very much 2. Not much 3. Neutral 4. Much 5. Very much

2. Whether or not my daughter gets the HPV vaccine is completely up to me 1. Very not under
my control 2. Not under my control 3. Neutral 4. Under my control 5. Very under my control

3. It would be difficult for my daughter to get HPV vaccine 1. Very difficult 2. Difficult 3. Neutral
4. Easy 5. Very easy

4. I am confident my daughter can find a place to receive the HPV vaccine 1. Very difficult
2. Difficult 3. Neutral 4. Easy 5. Very easy

5. For my daughter receiving HPV vaccine is? 1. Very difficult 2. Difficult 3. Neutral 4. Easy 5.
Very easy

2. Indirect measurement

A. control belief

1. If I am doubtful, my daughter will not receive HPV vaccine 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree
2. If my daughter had HPV infection would receive HPV vaccine 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree
3. If my daughter is sick, she will not receive HPV vaccine 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree
4. It will be a long distance from my home to the health facility 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree

B. Perceived power

1. Lack of support from my family, make me difficult for my daughter receives HPV vaccine 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree
2. Lacks of reminder make my daughter difficult to receive HPV vaccine 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree
3. Lacks of knowledge on HPV vaccine makes my daughter difficult to receive HPV vaccine 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree
4. Health care worker skill makes it difficult to receive HPV vaccine 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree

Annex 3 Amharic version informed consent form

የህብረተሰብ ጤና ት/ቤት የህክምና ሳይንስ ኮሌጅ ባህር ዳር ዩኒቨርሲቲ የመረጃና የስምምነት ፎርም

ጤና ይስጥልን ውድ የዚህ ጥናት ተሳታፊዎች የኔ ስም-----ሲሆን እዚህ የተገኘሁት በደብረታቦር ከተማ ውስጥ ያሉ እናቶች ከ9-14 ዕድሜ ያላቸው ሴት ልጆቻቸውን የማህፀን በር ካንሰር ከትባትን ለማስከተብ ያላቸው ሃሳብ ምንድን ነው በሚለው ጥናት የመረጃ ስብሰባ አባል በመሆንና ጥናት ለማድረግ ነው።ይህ ጥናት የሚካሄደው በባህር ዳር ዩኒቨርሲቲ የህ/ሰብ ጤና አጠባበቅ ት/ቤት ጤናን ማበልፀግ ተመራቂ ተማሪ ነው።እርሰው የዚህ ጥናት ተሳታፊ እንደመሆኑን ስለጥናቱ ያለውን ሁኔታ እንደሚከተለው እገልጻለሁ፡፡

የዚህ ጥናት ዋና አላማ፡-በ2015 ዓ.ም በደብረታቦር ከተማ ውስጥ ያሉ እናቶች 9-14 ዓመት እዲሜ ያላቸው ሴት ልጆቻቸውን የማህፀን በር ካነሰር ከትባት የማስከተብ ሀሳብ የሚሳይ ይሆናል፡፡እስም የዚህ ጥናት ተሳታፊ ለመሆን በድል የተመረጡ ስለሆነ ጥያቄውን በትክክልና በአግባቡ እንዲመልሱ በአክብሮት እጠይቃለሁ፡፡ጥያቄውን ለመመለስ የሚፈጅው ጊዜ 10 ደቂቃ ብቻ ሲሆን በእርስዎ ላይ ምንም አይነት አደጋ የለውም፡፡ የእርስዎን ስም ወይም መለያ ቁጥር በዚህ መጠየቅ ላይ አይጠቀስም፡፡እንዲሁም ማንኛውም የሚሰጡት መረጃ ሙሉ በሙሉ ሚስጥሩ የተጠበቀ ይሆናል፡፡የእርስዎ ተሳትፎ በፍቃድኝነት ላይ የተመሰረተ እስከሆነ ዲረስ ማንኛውም ያልተመቸው ነገር ከገጠመዎት ቃለ መጠየቁን ማቁረጥ ይችላሉ፡፡ስለጥናቱ እና ተያያዥ ጉዳዮች ማንኛውም ጥያቄ ካለዎት አስተባባሪውን ከዚህ በታች በተጠቀሰው አድራሻ መጠየቅ ይችላሉ፡፡

ጥናቱን የሚያካሂደው አዲራሻ

ስም፡-ሳምራዊት ጥላሁን

ስልክ ቁጥር-0923529505

email :-samritilahun17@gmail.com

የጥናቱ አማካሪዎች

አቶ ሀብታሙ ወንድየ

አቶ ዛማኑኤል አንተነህ

በጥናቱ ለመሳተፍ ፍቃደኛ ነዎት? መልስዎ አዎ ከሆነ መጠይቁን ይቀጥሉ ፊርማ-----

የመረጃ ሰብሳቢው ስም-----ፊርማ-----

Annex 4 Amharic version questinnaire

ክፍል 1፡ ማህበራዊ የህዝብ አሰፋፍር

1. • እድሜ በአመት-----

2. የጋብቻ ሁኔታ፡ 1. ያገባች 2. የተፋታች 3. የሞተባት

3. የመኖሪያ ቦታ፡ 1. ከተማ 2. ገጠር

4. ሃይማኖት፡ 1. ኦርቶዶክስ 2. ሙስሊም 3. ፕሮቴስታንት

5. የትምህርት ደረጃ፡ 1. መደበኛ ትምህርት ያልተማረች 2 የመጀመሪያ ደረጃ ያጠናቀቀች

3. ሁለተኛ ደረጃ ያጠናቀቀች 4. ድፕሎማ እና በላይ ያጠናቀቀች

6. የስራ አይነት 1 የመንግስት ሰራተኛ 2 የግል ተቀጣሪ 3 የቤት እመቤት 4 ግብርና 5. የጉልበት ሰራተኛ

7. አማካኝ ወርሃዊ የቤተሰብ ገቢ መጠን

8. ዕድሜቸው 9-14 አመት የሆናቸው ሴት ልጆች ብዛት -----

ክፍል 2፡ እውቀትን የሚለኩ መጠይቆች

1 ስለ ማህፀን በር ካንሰር ክትባት ሰምተው ያውቃሉ 1. አዎ 2. አላውቅም

2 መልሰዎ አዎ ከሆነ ምንጩን ይጥቀሱ 1. በመገናኛ ብዙሃን 2. ወላጆች

3. ጉደኛ

3 ሂውማን ፓፒሎማ ቫይረስ የሚያመታቸው የብልት አካባቢ በሽታዎች ካንሰር የመሆን እድል አንዳላቸው ያውቃሉ 1. አዎ 2. አላውቅም

4 የማህፀን በር ካንሰርን ማዳን እና መቆጣጠር እንደሚቻል ያውቃሉ 1 አዎ 2 አላውቅም

5 የማህፀን በር ካንሰር በግብረ-ሰጋ ግንኙነት እንደሚተላለፍ ያውቃሉ 1. አዎ 2. አላውቅም

6 የማህፀን በር ካንሰር ክትባት የማህፀን በር ካንሰርን እንደሚከላከል ያውቃሉ 1. አዎ 2. አላውቅም

7 የማህፀን በር ካንሰር ክትባት የግብረ-ሰጋ ግንኙነት ከመጀመሩ በፊት እንደሚሰጥ ያውቃሉ 1. አዎ 2. አላውቅም

8 የማህፀን በር ካንሰር ክትባት መከተብ ለወደፊት የማህፀን በር ካንሰርን ለመከላከል እንደሆነ ያውቃሉ 1. አዎ 2. አላውቅም

9 የማህፀን በር ካንሰር ክትባት እድሜቸው 9-14 አመት ላሉ ሴት ልጆች እንደሆነ ያውቃሉ 1. አዎ 2. አላውቅም

10 የማህፀን በር ካንሰር ክትባት በተለይም ከአንድ በላይ ጉደኛ ላላቸው ሴቶች መሰጠት እንዳለበት እንደሚመከር ያውቃሉ 1. አዎ 2. አላውቅም

11 የማህፀን በር ካንሰር ክትባት ሁለት ጊዜ እንደሚሰጥ ያውቃሉ 1. አዎ 2. አላውቅም

12 የማህፀን በር ካንሰር ክትባት መካኒክ እንደሚመጣ ያውቃሉ 1. አዎ 2. አላውቅም

13 የማህፀን በር ካንሰር ክትባት ት/ቤት እንደሚሰጥ ያውቃሉ 1. አዎ 2. አላውቅም

ክፍል 3 የፍላጎት መለኪያዎች

1. ልጄ የኤች ፒቪ ክትባት እንድትወስድ አስባለሁ

1. በጣም አልሰማም 2. አልሰማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣም እስማማለሁ

2. ልጄ በጤንነቷ ጉዳይ የኤችፒቪ ክትባት እንድትወስድ አፈልጋለሁ

1. በጣም አልስማም 2. አልስማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣም እስማማለሁ

3. በሚቀጥለው አንድ ወር ውስጥ ልጄ የኤችፒቪ ክትባት እንድትወስድ ወስኛለሁ፡፡

1. በጣም አልስማም 2. አልስማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣም እስማማለሁ

4. ልጄ የኤች ፒቪ ክትባት ትወስዳለች ብዬ እጠብቃለሁ

1. በጣም አልስማም 2. አልስማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣም እስማማለሁ

5. ልጄ የኤች ፒቪ ክትባት ትወስዳለች

1. በጣም አልስማም 2. አልስማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣም እስማማለሁ

6. ልጄ የኤች ፒቪ ምልክቶች ቢታይባት የኤችፒቪ ክትባት ትወስዳለች?

1. በጣም አልስማም 2. አልስማም 3. ገለልተኛ 4. እስማማለሁ 5. በጣም እስማማለሁ

ክፍል 4 : የአመለካከት መለኪያ

ቀጥተኛ የአመለካከት መለኪያ

1. ልጄ የኤችፒቪ ክትባት መከተቧ ለእኔ ...

1. በጣም መጥፎ 2. መጥፎ 3. ገለልተኛ 4. ጥሩ 5. በጣም ጥሩ

2. ልጄ የኤችፒቪ ክትባት መከተቧ ለእኔ...

1. በጣም የማይጠቅም 2. የማይጠቅም 3. ገለልተኛ 4. ጠቃሚ 5. በጣም ጠቃሚ

3. ልጄ የኤችፒቪ ክትባት መከተቧ ለእኔ...

1. በጣም ደስ የማይል 2. ደስ የማይል 3. ገለልተኛ 4. ደስ የሚል 5. በጣም ደስ የሚል

4. ልጄ የኤችፒቪ ክትባት መከተቧ ለእኔ ... አድርጎኛል

1. በጣም አስተማማኝ 2. ደህንነቱ ያልተጠበቀ 3. ገለልተኛ 4. አስተማማኝ 5. በጣም አስተማማኝ

5. ልጄ የኤችፒቪ ክትባት መከተቧ ለእኔ ...

1. በጣም አስፈላጊ ያልሆነ 2. አስፈላጊ ያልሆነ 3. ገለልተኛ 4. አስፈላጊ 5. በጣም አስፈላጊ

6. ልጄ የኤችፒቪ ክትባት መከተቧ ለእኔ...

1. በጣም ዋና ነገር ያልሆነ 2. ዋና ነገር ያልሆነ 3. ገለልተኛ 4. ዋና ነገር

5. በጣም ዋና ነገር

ቀጥተኛ ያልሆነ የአመለካከት መለኪያ

ሀ/ የባህሪ ለውጦችን መለካት

1. ልጄ የኤች ፒቪ ከትባት ከተከተበች .የኤችፒቪ በሽታን ትከላከላለች በሚለው ሀሳብ ይስማማሉ?

1. በጣም አልስማማም 2. አልስማም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

2. ልጄ የኤች ፒቪ ከትባት ከተከተበች ጤናማ ትሆናለች በሚለው ሀሳብ ይስማማሉ?

1. በጣም አልስማማም 2. አልስማም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

3. ልጄ የኤችፒቪ ከትባት ከተከተበች ከኤችፒቪ ጋር የተያያዙ ችግሮች አያገኟትም በሚለው ሀሳብ ይስማማሉ?

1. በጣም አልስማማም 2. አልስማም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

4. ልጄ የኤችፒቪ ከትባት ከተከተበች የኤችፒቪ ከትባት የጎንዮሽ ጉዳት ያጋጥማታል በሚለው ሀሳብ ይስማማሉ?

1. በጣም አልስማማም 2. አልስማም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

5. ልጄ የኤች ፒቪ ከትባት ከተከተበች ኤችፒቪን እከላከላለሁ በሚለው ሀሳብ ይስማማሉ?

1. በጣም አልስማማም 2. አልስማም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

6. ልጄ የኤች ፒቪ ከትባት ከተከተበች የወደፊት ህይወቷን ታሻሽላለች በሚለው ሀሳብ ይስማማሉ?

1. በጣም አልስማማም 2. አልስማም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

ለ/ ውጤታቸውን መገምገም

1. ለእኔ ልጄ የኤችፒቪ መያዝ ----- ነው

1. በጣም መጥፎ 2 መጥፎ 3. ገለልተኛ 4. ጥሩ 5. በጣም ጥሩ

2. ለእኔ ልጄ ጤናማ መሆን ----- ነው

1. በጣም መጥፎ 2 መጥፎ 3. ገለልተኛ 4. ጥሩ 5. በጣም ጥሩ

3. ለእኔ ልጄ የኤችፒቪ ክትባት መከተብ ----- ነው

1. በጣም መጥፎ 2 መጥፎ 3. ገለልተኛ 4. ጥሩ 5. በጣም ጥሩ

4. ለልጄ የኤችፒቪ ችግር መድረስ ----- ነው

1. በጣም መጥፎ 2 መጥፎ 3. ገለልተኛ 4. ጥሩ 5. በጣም ጥሩ

5. ለልጄ የኤችፒቪ ክትባት የጎንዮሽ ጉዳት ----- ነው

1. በጣም መጥፎ 2 መጥፎ 3. ገለልተኛ 4. ጥሩ 5. በጣም ጥሩ

6. ለልጄ የኤችፒቪ ክትባት በመከተብ ማከም ----- ነው

1. በጣም መጥፎ 2 መጥፎ 3. ገለልተኛ 4. ጥሩ 5. በጣም ጥሩ

7. ለልጄ የወደፊት ሒወትን ማሻሻል ----- ነው

1. በጣም መጥፎ 2 መጥፎ 3. ገለልተኛ 4. ጥሩ 5. በጣም ጥሩ

ክፍል 5: ቀጥተኛ ያልሆነ ማህበራዊ ተጽኖ መለኪያ

ሀ/ የተለመዱ እምነቶችን መለካት

1. እናቴ ልጄ የኤችፒቪ ክትባትን መውሰድ እንዳለባት ታስባለች?

1. በጣም አልስማማም 2. አልስማም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

2. አባቴ ልጄ የኤችፒቪ ክትባትን መውሰድ እንዳለባት ያስባል

1. በጣም አልስማማም 2. አልስማም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

3. ሌሎች የቤተሰቤ አባላት የኤችፒቪ ክትባትን መውሰድ ለልጄ ጥቅም አለው በሚለው ሀሳብ ምን ያህል ይስማማሉ

1. በጣም አልስማማም 2. አልስማም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

4. ጓደኞቼ የኤችፒቪ ክትባትን መውሰድ ለልጄ ጥቅም አለው በሚለው ሀሳብ ምን ያህል ይስማማሉ

1. በጣም አልስማማም 2. አልስማም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

ለ/ተፈፃሚ የማድረግ ተነሳሽነቶች

1. እናቴ የኤችፒቪ ክትባትን መከተብ ለልጄ አስፈላጊ ነው ብለው ያስባሉ

1. በጣም ብዙ አይደለም 2. ብዙ አይደለም 3. ገለልተኛ 4. ብዙ

5. በጣም ብዙ

2. ቤተሰቦቼ የኤችፒቪ ክትባትን መከተብ ለልጄ አስፈላጊ ነው ብለው ያስባሉ

1. በጣም አልስማማም 2. አልስማም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

3 ጓደኞቼ የኤችፒቪ ክትባትን መከተብ ለልጄ አስፈላጊ ነው ብለው ያባሉ

1. በጣም አልስማማም 2. አልስማም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

4. ሌሎች የቤተሰብ አባላት የኤችፒቪ ክትባትን መከተብ ለልጄ አስፈላጊ ነው ብለው ያስባሉ

ክፍል 6: አበረታች ሁኔታዎችን መለኪያዎች

1. ልጄ የኤችፒቪ ክትባትን መውሰድ ምን ያህል ችግር ያስከትልባታል ብለው ያስባሉ

1. በጣም አስቸጋሪ 2. አስቸጋሪ 3. ገለልተኛ 4. ቀላል 5. በጣም ቀላል

2. ልጄ የኤችፒቪ ክትባትን አለመውሰዱ ሙሉ በሙሉ የምን ድክመት ነው ብለው ያስባሉ

1. በጣም በእኔ ቁጥጥር ስር አይደለም 2. በእኔ ቁጥጥር ስር አይደለም

3. ገለልተኛ 4. በእኔ ቁጥጥር ስር 5. በጣም በእኔ ቁጥጥር ስር

3. ልጄ የኤችፒቪ ክትባትን ማግኘት ምን ያህል ሊከብዳት ይችላል

1. በጣም አስቸጋሪ 2. አስቸጋሪ 3. ገለልተኛ 4. ቀላል 5. በጣም ቀላል

4. ለልጄ የኤችፒቪ ክትባትን የምታገኝበት ቦታ እንደማገኝ እርግጠኝ ነኝ

1. በጣም አስቸጋሪ 2. አስቸጋሪ 3. ገለልተኛ 4. ቀላል 5. በጣም ቀላል

5. ልጄ ኤችፒቪ ክትባት መውሰዱ ----- ነው

1. በጣም አስቸጋሪ 2. አስቸጋሪ 3. ገለልተኛ 4. ቀላል 5. በጣም ቀላል

ክፍል 7: አበረታች ሁኔታዎችን መለኪያዎች

ሀ/ ተጽዕኖ የማሳደር ኃይል መለኪያዎች

1. ከተጠረጠርኩ ልጄ የኤችፒቪ ክትባትን አትወስድም በሚለው ሀሳብ ይስማማሉ

1. በጣም አልስማም 2. አልስማምም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

2. ጥሩ የኤችፒቪ ክትባት ቢኖር ልጄ ክትባቱን ትወስድ ነበር በሚለው ሀሳብ ይስማማሉ

1. በጣም አልስማም 2. አልስማምም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

3. ልጄ ከታመመች የኤችፒቪ ክትባትን አትወስድም በሚለው ሀሳብ ይስማማሉ

1. በጣም አልስማም 2. አልስማምም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

4. ከቤቴ እስከ ጠኛ ተቋሙ ድረስ እረጅም እርቀት ይኖረዋል?

1. በጣም አልስማም 2. አልስማምም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

ለ/ ያላቸውን ተቀባይነት መለኪያዎች

1. የቤተሰብ ድጋፍ አለመኖር የኤችፒቪ ክትባትመን ልጄን ለማስከተብ አስቸጋሪ አድርጎብኛል በሚለው ሀሳብ ይስማማሉ

1. በጣም አልስማም 2. አልስማምም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

2. የኤችፒቪ ክትባትን ልጄ መከተቧን ማስታወስ አለመቻሌ የኤችፒቪ ክትባትን እንዳትወስድ ከባድ ያደርግብኛል

1. በጣም አልስማም 2. አልስማምም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

3. በኤችፒቪ ክትባት ላይ የእውቀት ማነስ ልጄ ክትባቱን እንዳይታገኝ አድርጎባታል በሚለው ሀሳብ ይስማማሉ

1. በጣም አልስማም 2. አልስማምም 3. ገለልተኛ 4. እስማማለሁ

5. በጣም እስማማለሁ

4. የጤና አጠባበቅ ሰራተኞች ክህሎት የኤችፒቪ ክትባትን ለመቀበል አስቸጋሪ ያደርገዋል?

1. በጣም አልስማም 2. አልስማምም 3. ገለልተኛ 4. እስማማለሁ 5. በጣም እስማማለሁ

13 Declaration

The under ,declared that this is my original work,has never been presented in other university ,and that all the resources and materials used for the research,have been fully acknowledged.

Pricipal investigator

Samrawit Tilahun signature_____date_____

Approval of the advisors

Advisor Name	signature	Date
1. Mr Habtamu Wondiye	_____	_____
2. Mr Zamanual Anteneh	_____	_____

Internal evaluator

Mr Eyob Ketema _____ _____

13 Declaration

The under, declared that this is my original work, has never been presented in other university, and that all the resources and materials used for the research, have been fully acknowledged.

Samrawit Tilahun signature S.T date _____

Advisor Name	signature	Date
1. Mr Habtamu Wondieye		Feb 10 / 2023
2. Mr Zarnamual Anteneh		Feb 10 / 2023
Internal evaluator		Feb 10 / 2023
Mr Eyob Ketema		Feb 10 / 2023

