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BAHIR DAR UNIVERSITY COLLEGE OF MEDICINE AND HEALTH SCIENCES, SCHOOL OF PUBLIC HEALTH DEPARTMENT OF HEALTH SYSTEM MANAGMENT AND HEALTH ECONOMICS.

HUMAN PAPILOMA VIRUS VACCINE HESITANCY AND ASSOCIATED FACTORS AMONG PARENTS OF ADOLESCENT GIRLS IN NORTH MECHA DISTRICT NORTH GOJJAM ZONE, NORTH WEST ETHIOPIA.

BY: Asmare Yayeh (BSc Nurse)

THESIS REPORT SUMBITED TO DEPARTMENT OF HEALTH SYSTEM MANAGMENT AND HEALTH ECONOMICS SCHOOL OF PUBLIC HEALTH COLLEGE OF MEDICINE AND HEALTH SCIENECE BAIRDAR UNIVERSITY IN PARTIAL FULFILMENT OF REQUIRMENT FOR THE DEGREE OF MASTER OF PUBLIC HEALTH IN MASTERS OF GENERAL PUBLIC HEALTH.

August, 2024

BAHIR DAR, ETHIOPIA

Thesis Submission form

Name of investigator	Asmare Yayeh Abate (BSc Nurse) Tele phone-0922267279 Email-asmareyaye@gmail.com
Title of research	Human Papilloma virus vaccine hesitancy and associated factors among parents of adolescent girls in North Mecha district North Gojjam zone, North West Ethiopia in 2024.
Name of advisors	1,Dr Mohammed Hussein (PhD) 2,Dr G/Mariam Getaneh (MD, MPH, Assistant prof)
Study Area	North Mecha District
Study Period	The study was conducted from May 27/ 2024– June 26/2024.
Total cost of the project	The total budget for this study had cost 38434 Birr.

DECLARATION

I undersigned, declared that this is my original work, had never been presented in this university, and that all the resources and materials used for the research, had been fully acknowledged.

Principal Investigator	Advisors
Name: Asmare Yayeh	Name: 1, Dr Mohammed Hussein (PhD)
	Name: 2, Dr G/Mariam Getaneh (MD, MPH, Assistant prof)

APPROVAL OF THE ADVISORS

I hereby certify that I have supervised, read, and evaluated this thesis titled Human papilloma virus vaccine hesitancy and associated factors among parents of adolescent girls in North Mecha wereda, North Gojjam Zone, Northwest Ethiopia, 2024" by **Asmare Yayeh** prepared under my guidance. I recommend the thesis be submitted for oral defense.

1. Dr Muhammed Hussein (PhD) _____ October 14, 2024 G.C

Advisor's name Signature Date

2. Dr. G/Mariam Getaneh (MD, MPH, Assistant prof) _____ 14/10/2024

Advisor's name Signature Date

III

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ABBREVIATIONS AND ACRONYMS

AIDS: Acquired Immune Deficiency Syndrome

AOR: Adjusted Odds Ratio

COR: Crude Odds Ratio

DALYs: Disability Adjusted Life Years

DNA: Deoxyribonucleic acid

FPL: Federal Poverty Level

HIV: Human Immune deficiency Virus

HPV: Human Papilloma Virus

NIS: National Immunization Survey

PBC: Perceived Behavioral Control

SD: Standard Deviation

OR: Odds Ratio

USA: United States of America

WHO: World Health Organization

YLD: Years Lived with Disability

YLL: Years Life Lose

TABLE OF CONTENTS

Declaration II
ABSTRACT X
1. Introduction 1
1.1. Background 1
2 Objectives 2
2.1 General objective 2
2.2 Specific objectives 2
3 METHODS and MATERIALS 3
3.1 Study area 3
3.2 Study design and period 3
3.3 Source population 3
3.3.1 Study population 3
3.4 Sample size Determination and sampling procedure 4
3.4.1 Sample size determination 4
3.4.2 Sampling procedure 5
3.5 Study Variables 7
3.5.1 Dependent variables 7
3.5.2 Independent variables 7
3.6 Operational and Terms definition 7
3.7 Data collection tool and procedure 9
3.7.1 Data collection tool 9
3.7.2 Data collection procedure 9
3.8 Data quality control 10
3.9 Data Processing and Analysis 10
3.10 Ethical consideration 10
4. Result 11
4.1 Socio-Demographic Characteristics of Study Participants 11
4.2 Perception, Attitude, trust, knowledge, beleife, perception of sexual behaviour, and safty concern. 13
4.3 Level of HPV Vaccine Hesitancy 13
4.4 Factors Associated with HPV Vaccine Hesitancy 15
5. Discussion 17

6. Limitation of the Study 19
7. Conclusion 20
8. Recommendations 20
References 22
Annexes II. Statement of consent 26
Table 4 showing the questionnaires are adapted from guidelines English version 26
Table 5 showing questionnaire guide Amharic version 31

LIST OF TABLES

Table 1: Calculated sample size for objective two by using associated factors. 5
Table 2:Socio-Demographic Characteristics of Study Participants in North Mecha District, 2024 (n=592)..... 11
Table 3: Hesitancy level of study participants in North Mecha district 2024. (n=592) 14
Table 4: Multivariate regression of associated variables in North Mecha district 2024. (n=592) 16
Table 4 showing the questionnaires are adapted from guidelines English version 26
Table 5 showing questionnaire guide Amharic version..... 31

LIST OF FIGURES

Figure 1: Schematic representation sampling method showing the selection study kebeles for the assessment of human papilloma virus vaccine hesitancy and associated factors among parents of adolescent girls in North Mecha district. 6

ABSTRACT

Background: HPV is a major cause of cervical cancer, yet vaccine uptake is low due to hesitancy. This study identified the factors associated with HPV vaccine hesitancy among parents of adolescent girls in North Mecha District, Ethiopia.

Objective: The purpose of this study was to assess human papilloma virus vaccine hesitancy and associated factors among parents of adolescent girls North Mecha district North Gojjam Zone, North West Ethiopia, 2024.

Methods: From May 27 to June 26, 2024, a community-based cross-sectional survey was carried out in North Mecha district, North Gojjam Zone, Ethiopia. Using Epi-info, the final sample size was 605. The approach of multistage stratified sampling was employed. Data was collected by interviewing face to face on their home. Multivariate and binary logistic regression were used. Hosmer-Lemeshow Goodness of Fit test was applied.

Results: A 97.9% response rate was achieved. Thirty point one percent (CI, 26.9-34.0) of parents hesitated to vaccinate their daughters against HPV. In multivariable logistic regression analysis parents with positive attitude [(AOR = 0.02, 95% CI: 0.01, 0.04)], no trust in HPV vaccine [3.26 (AOR = 3.26, 95% CI, 1.29–8.22)], parents with no education [6.2 (AOR = 6.2, 95% CI, 3.42–11.24)], and parents who had Concerns about believing HPV vaccine [2.49 (AOR = 2.49, 95% CI, 1.25–4.95)] were significantly associated with parental HPV vaccine hesitancy.

Conclusions: This study reveals that 30.1% (CI, 26.9-34.0) of parents in North Mecha District are hesitant to vaccinate their daughters. Factors contributing to this hesitancy include low educational levels, negative attitudes, and concerns regarding risky sexual behavior, negative beliefs about vaccination and also distrust in the vaccine.

Keywords: Adolescent, cervical cancer, hesitancy, HPV, parents and vaccine.

1. Introduction

1.1. Background

Human papillomaviruses (HPV) are highly prevalent, mostly asymptomatic, and sexually transmitted infections. Persistent HPV infection can lead to cervical cancer and other diseases (1). Cervical cancer is a significant global health issue, being the fourth most common cancer among women worldwide, with a substantial burden in low- and middle-income countries. In 2020, approximately 604,127 new cases and 341,831 deaths were attributed to cervical cancer (2).

HPV vaccines target high-risk HPV types, particularly types 16 and 18, which are responsible for a significant proportion of cervical cancers (3). Globally, initiatives like the World Health Organization's (WHO) Global Strategy to Accelerate the Elimination of Cervical Cancer, launched in 2020, aim to reduce cervical cancer incidence through widespread vaccination, screening, and treatment. The strategy sets ambitious targets, including vaccinating 90% of girls by age 15, screening 70% of women by age 35, and treating 90% of those diagnosed with cervical cancer by 2030(4).

In Ethiopia, cervical cancer ranks as the second most frequent cancer among women, with substantial mortality rates. Annually, an estimated 7,445 women are diagnosed with cervical cancer, resulting in 5,338 deaths. Despite the burden, there is currently limited data on HPV prevalence in the general population of Ethiopia. However, Eastern Africa, including Ethiopia, faces challenges related to HPV, with a notable percentage of invasive cervical cancers linked to HPV types 16 or 18 (5). Nationally, Ethiopia has integrated HPV vaccination into its routine immunization program, targeting girls aged 9-14 years, in line with global recommendations. Additionally, efforts are being made to increase public awareness and improve access to cervical cancer screening and treatment services(6).

Vaccine hesitancy poses a significant barrier to HPV vaccination efforts globally. It refers to delays or refusals in accepting vaccines despite their availability. Various factors contribute to vaccine hesitancy, including perceptions of HPV and the vaccine, cost, cultural beliefs, and concerns about vaccine safety. Addressing vaccine hesitancy requires tailored strategies that consider local contexts and specific vaccine-related concerns Vaccine hesitancy is complex and

context specific varying across time, place and vaccines. It includes factors such as complacency, convenience and confidence (7).

Understanding the factors influencing HPV vaccine hesitancy in Ethiopia is crucial for enhancing public health interventions aimed at reducing cervical cancer incidence and mortality. By addressing vaccine hesitancy through evidence-based strategies, policymakers and healthcare providers can improve vaccination coverage rates and ultimately contribute to the global goal of eliminating cervical cancer as a public health problem by 2030.

In conclusion, addressing vaccine hesitancy towards HPV vaccination in Ethiopia requires a multifaceted approach that encompasses research, policy development, and community engagement. By understanding and addressing the factors contributing to hesitancy, Ethiopia can improve vaccination coverage rates and contribute to reducing the burden of cervical cancer among its population (19).

This study investigates factors contributing to HPV vaccine hesitancy among parents of adolescent girls in North Mecha District, offering essential insights for stakeholders such as policymakers, healthcare providers, educators, and community leaders. The findings inform policy development, guide educational campaigns, enhance healthcare communication, and support public health initiatives to increase vaccine uptake and reduce HPV-related health issues in Ethiopia. Additionally, the research serves as a foundation for future studies, contributing to a deeper understanding of vaccine acceptance dynamics and fostering informed public health strategies.

2 Objectives

2.1 General objective

The purpose of this study was to assess human pappiloma virus vaccine hesitancy and associated factors among parents of adolescent girls in North Mecha district, North Gojjam Zone North West Ethiopia,2024.

2.2 Specific objectives

To determine the level of human papillomavirus (HPV) vaccine hesitancy in North Mecha District, North Gojjam Zone, Northwest Ethiopia, in 2024.

To identify the factors associated with parental vaccine hesitancy among adolescent girls in North Mecha district North Gojjam Zone North West Ethiopia,2024.

3 METHODS and MATERIALS

3.1 Study area

This study was conducted in North Mecha district, North Gojjam zone, Amhara region, Northwest Ethiopia. Located 36 km from Bahir Dar, capital city of Amhara Regional State, on the main road from Bahir Dar to Addis Ababa. Its altitude varies from 1800 to 2500 meter above sea level and latitude 11.420061, longitude 37.164548. In 2024 G .C district population was male=162282, female =165559 with total population of 327841. Based on the regional conversion factor, there were about 76242 (4.3%) households and there were about 77304 (23.58%) women in the reproductive age group (15-49 years) and also in the district in 2024 G.C. It has 6 urban and 33 rural totals of 39 kebeles; there were ten health centers and 39 health posts, sixteen private primary clinics, four private medium clinics, and four diagnostic facilities and one primary hospital in the district. There were 28 Midwifery and 216 different health professionals and 107 health extension workers. The study was conducted from May 27 to June 26 /2024GC. According to the annual year report of North Mecha district health office there about 147 cervical cancer cases detected in 2023 in selected health centers only from two out of ten health centers, the number of cases may be higher if the screening and case detection was done the whole district.

3.2 Study design and period

Community-based cross-sectional study was employed from May 27 to July 26 /2024GC.

3.3 Source population

The source population was all parents with adolescent girls in North Mecha district.

3.3.1 Study population

Parents with adolescent girls in a selected kebeles in North Mecha district.

Inclusion criteria: parents with adolescent girls (9 to 14 years) in North Mecha district**.**

Exclusion criteria: mentally ill parents unable to respond consistently.

3.4 Sample size Determination and sampling procedure

3.4.1 Sample size determination

The sample size was calculated using a single-population proportion formula with 95% confidence intervals (CIs), a 5% margin of error, and a 39.02% proportion of hesitancy in human papillomavirus (HPV) vaccine uptake among school girls in Jimma Town, Ethiopia (20) With the incorporation of a 10% non-responserate, the total sample size was 403.

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

where

- The usual normal value $Z_{\alpha/2}$ = corresponds to the acceptable level of confdence.
- d denotes the precision error.
- P denotes an attribute's estimated proportion.

$$n = 1.96^2 \frac{0.3902(0.6098)}{0.05^2}$$

n=366 and adding 10% non-response rate 37. Final sample was 403, since we were using multi stage sampling technique we add deseign effect 1.5, and the total sample was 605.

The sample size for the second objective was determined by using Epi info version 7.2.5.0 by considering the following assumptions: confidence interval (CI) 95%, power 80%, ratio 1:1, P1(prevalence of exposed group), P2(prevalence of unexposed group) with non-response rate of 10% and the factor taken from previous study done in Debre tabor town(21)

Table 1: Calculated sample size for objective two by using associated factors.

Tittle	Factor	Prevalence	Power	OR	Sample size with 10% non-response rate
Human papiloma virus hesitncy and associated factors among parents of adolescent girls in North Mecha District	Knowledge	P1 =94.9% P2=66.1%	80%	9.5	79
	Attitude	P1=94.1% P2=55%	80%	13	52
	Perceived behavioral control	P1=39.1% P2=81.8%	80%	2.08	83
	Mass media exposure	P1=92.6% P2=56.8%	80%	9.5	62

3.4.2 Sampling procedure

Multistage stratified sampling technique was applied. First,the kebeles stratified in to urban and rural. Then from 39 kebeles that are found in the district, 9 rural and 1 urban kebeles was selected by simple random sampling (lottery method) out of 33 rural and 6 urban. Then list of all households who lives in each selected kebele and fulfills the inclusion criteria was obtained from health post registers Communty Health Information System family folder and then the calculated sample was proportionally distributed for each randomly selected kebeles. Systematic sampling method was used to select eligible households. As shown on the diagram below the list of households prior to data collection was taken from each of the selected kebeles CHIS. The registration process and completeness of the records was checked serial number in the registration book was identified and sampling frame was prepared for each of the selected kebele. Finally, the required number of the sample was selected from each kebele using systematic random sampling technique. According to North Mecha District plan commition office the total population of the randomly selected kebeles is 92867. Therefore, households(N) in the selected kebele dividing it by the sample size (n). the selected study participants (K) was interveiwed by using systematic random sampling method. (K=N/n, 21597/605=36),nh=n×Nh/N, where N= is the total households, Nh= is the total households in each kebele, n= is the total

sample size, nh= is the number of households from each kebele household. Therefore, the eligible study participant was interveiwed by going to every 36 households. For households with more than one eligible study participants, interveiw was done by selecting participants using lottory method. Also in the event of a households with no eligible participant the immediate next household was interveiwed.

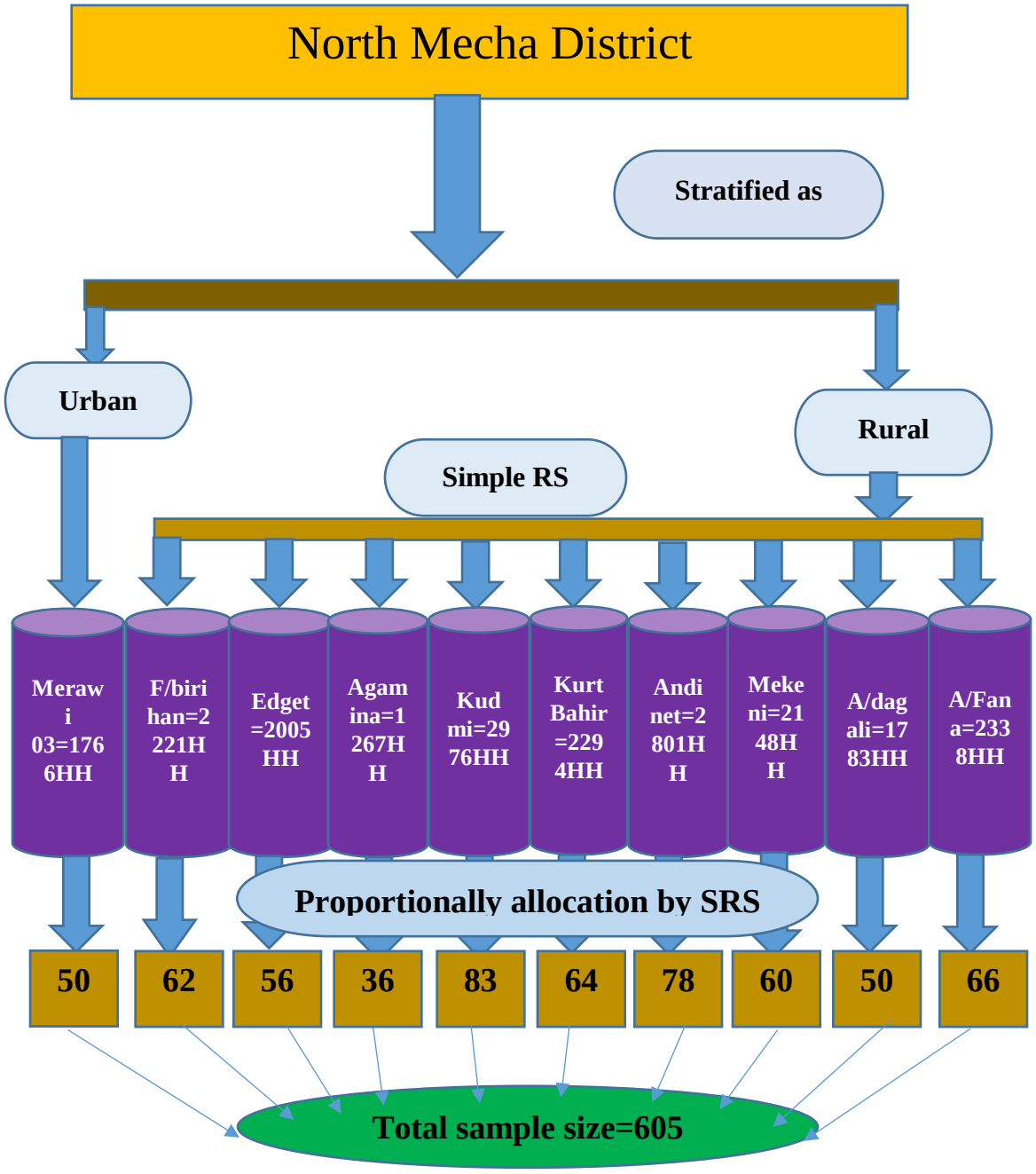

Figure 1: Schematic representation sampling method showing the selection study kebeles for the assessment of human papilloma virus vaccine hesitancy and associated factors among parents of adolescent girls in North Mecha district.

3.5 Study Variables

3.5.1 Dependent variables

HPV vaccine hesitancy yes/no.

3.5.2 Independent variables

Includes age, sex, educational status, marital status, occupation, monthly income, religion, residence , knowledge, perception, belief, trust.

3.6 Operational and Terms definition

Vaccine hesitation: HPV vaccine hesitancy is defined as the reluctance, delay, or refusal to vaccinate oneself or one's child against HPV despite the availability of vaccination services. Were you hesitant about receiving the HPV vaccine to your child? participants were classified as "hesitant" if they answer "yes" and "non-hesitant." if they answer "no''(22).

Delay in Acceptance: When an individual postpones getting vaccinated beyond the recommended schedule, even if they eventually accept the vaccine. This is measured by asking participants if they received the HPV vaccine or any other vaccine after the recommended time frame (e.g., months or years after the suggested age or period for vaccination). For example, a delay could be defined as receiving the vaccine six months or more after it was first offered or recommended(23)

Refusal: When an individual completely declines the vaccine. Participants are asked if they have ever outright refused a recommended vaccine. A response of "yes" indicates vaccine refusal(23). **Educational Level:** refers to the highest level of formal education an individual has completed. This measure is important for understanding the relationship between educational attainment and factors such as knowledge and attitudes toward health behaviors, including vaccine acceptance. No Education: Individuals who have not received any formal education. Primary and Secondary Education: Individuals who have completed any level of primary education or secondary education. More than Secondary Education: Individuals who have attained education beyond the secondary level, which includes post-secondary non-tertiary education and tertiary education(24).

Knowledge: The knowledge score was derived from 11 questions. Respondents who answered 50% or more of these questions correctly were categorized as having "good knowledge," while those with less than 50% correct answers were categorized as having "low knowledge"(25).

Attitude: A positive attitude is defined as a score greater than or equal to 50% of the maximum possible score. Given the total score could range from 7 to 28, a score of ≥ 14 would indicate a positive attitude. A negative attitude is defined as a score less than 50% of the maximum score < 14 (26).

Perception: To assess the perception of the individuals, from questions on a four-point Likert scale (1: strongly agree to 4: strongly disagree) were used. Those who scored higher than the mean value were classified as having postive perception for vaccine. Those who scored lower than the mean value deemed to have negative perception about HPV vaccine benefit to individuals(19).

Trust: Trust in the HPV vaccine refers to the confidence individuals have in the vaccine's safety, effectiveness, and the reliability of the information provided by healthcare professionals or public health authorities regarding the vaccine. High levels of trust are associated with a greater likelihood of vaccine acceptance. Trust is assessed using four items on a 4-point Likert scale, where participants rate their level of agreement with statements related to the safety, efficacy, and reliability of the HPV vaccine. The scale ranges from "strongly agree" (4) to "strongly disagree" (1). The responses to these four items are summed to create a total trust score. The possible score ranges from 4 to 16, where a higher score indicates greater trust in the HPV vaccine. For analysis, this trust score can be used as a continuous variable or categorized into levels of trust (e.g., low, moderate, high) based on predetermined thresholds(27).

Safety concern: Safety concern is assessed through a series of questionnaire items that ask participants about their worries or fears related to the HPV vaccine. These questions might address topics such as perceived side effects, long-term health impacts, or trust in the vaccine's safety. Responses to these questions can be collected using a yes/no format or a Likert scale (e.g., strongly agree to strongly disagree)(27).

High Safety Concern: If a participant expresses concern (agrees) on 50% or more of the safety-related items, they are categorized as having high safety concern(27).

Low Safety Concern: If a participant expresses concern on less than 50% of the safety-related items, they are categorized as having low safety concern(27).

Belief: Positive Belief: If a participant agrees with or answers "yes" to 50% or more of the belief-related statements, they are categorized as having a positive belief about the HPV vaccine.

Negative Belief: If a participant agrees with or answers "yes" to less than 50% of the belief-related statements, they are categorized as having a negative belief about the HPV vaccine(28).

Promote risky sexual behavior: Do you believe that receiving the HPV vaccine will encourage your daughter to engage in risky sexual behavior?" Response options: Yes/No Scoring: Responses will be coded as follows: Yes = 1: Indicates that the respondent believes the HPV vaccine will promote risky sexual behavior. No = 0: Indicates that the respondent does not believe the HPV vaccine will promote risky sexual behavior(29).

3.7 Data collection tool and procedure

3.7.1 Data collection tool

The questionnaire was initially developed in English, drawing from validated instruments and relevant literature to ensure it accurately captured the study's objectives. To accommodate the study population, the questionnaire was translated into Amharic, the local language, by professional language experts fluent in both English and Amharic. To ensure the accuracy and consistency of the translation, a back-translation process was conducted, where the Amharic version was translated back into English by a different set of language experts. This back-translation was compared with the original English version to identify and correct any discrepancies or inconsistencies. The pretest was conducted on 5% of the total sample size 31 who were selected from a population similar to the study population but not included in the actual study. The pretest aimed to assess the clarity, relevance, and comprehensibility of the questions. Feedback from the pretest led to specific amendments, such as rephrasing ambiguous questions, adjusting the response options for better clarity, and ensuring the cultural appropriateness of the content. These adjustments helped refine the final version of the questionnaire to enhance its reliability and validity (8).

3.7.2 Data collection procedure

Data was collected by interviewing face to face on their home using pretested, structured questionnaires containing Socio demographic variables, income level related factors, Perception, trust, safety, attitude and vaccine effectiveness related factors, Knowledge, information source, influencer and sexual behavior related factors and Socio-cultural and other related factors. The parents was interviewed house to house by 11 health exteinsion worker data collectors' , speaking Amharic language and 1 supervisor BSC nurse .

3.8 Data quality control

The questionnaire was pre-tested with 5% of the sample size in Tekle Dib kebele, which was not part of the study, to ensure clarity, understandability, coherence, completeness, and organization. After corrections were made, data collectors received training on data collection and sampling techniques. Investigators and supervisors reviewed the completed questionnaires daily to ensure accuracy and consistency.

3.9 Data Processing and Analysis

Data were entered into Epi Info version 7.2.5.0 and subsequently exported to SPSS version 27 for analysis. Descriptive statistics, including frequency tables and line graphs, were used to summarize the data.

To identify variables associated with HPV hesitancy, binary logistic regression analyses were performed. Both bivariate and multivariable analyses were conducted. Variables with a p-value < 0.25 in the bivariate analysis were included in the multivariable regression analysis. For the multivariable analysis, statistical significance was determined at a p-value < 0.05, with adjusted odds ratios (AOR) calculated to measure the strength of associations.

Backward stepwise logistic regression was applied to refine the model, and the model's fit was assessed using the Hosmer-Lemeshow Goodness of Fit test.

3.10 Ethical consideration

The study was ethically approved by the Bahir Dar University College of Medicine and Health Sciences Institutional Ethical Review Board (IRB). Legal permission was obtained from the Amhara Public Health Institute (APHI) for the North Mecha Health office. Participants' rights to anonymity and confidentiality were upheld, with no personal information disclosed and no data collected without consent. The study posed no harm to participants, who were also informed of their right to join or withdraw from the study at any time.

4. Result

4.1 Socio-Demographic Characteristics of Study Participants

In this study, 592 out of 605 participants were successfully interviewed, achieving a high response rate of 97.9%. The median age of the participants was 43 years, with a standard deviation of ±9.7 years. A significant majority, 98%, identified as Amhara in ethincity, and 92.7% were of the Orthodox Christian. A large portion of the participants, 64%, had no formal education. Only 14% had education beyond the secondary level. The majority of participants, 92.8%, were married. Most participants, 80%, lived in rural areas. A substantial 87.8% of the participants were either farmers or self-employed. About 37% of households had more than five family members. A significant 92.2% of participants reported a monthly income of more than 4,000 birr.

Table 2: Socio-Demographic Characteristics of Study Participants in North Mecha District, 2024 (n=592)

Variable	response	Frequency	Percent
Sex	Female	345	58.3
	Male	247	41.7
Age	26-35 years	151	25.5
	36-45 years	242	40.9
	46-55 years	125	21.1
	56-65 years	61	10.3
	66-75 years	12	2
	76-85 years	1	0.2
marital status	Married	548	92.6
	Single (divorced/never)	27	4.6
	Married/widow/widower)	17	2.9

House Ownership	Wife	336	56.8
	Husband	232	39.2
	Other	24	4.1
Religion	Orthodox	547	92.4
	Muslim	34	5.7
	Protestant	11	1.9
Ethnicity	Amhara	580	98.0
	Oromo	1	0.2
	Other	11	1.8
Occupation	Formal employment	64	10.8
	Self-employment	520	87.8
	Other	8	1.4
Residence	Rural	475	80.2
	Urban	117	19.8
Educational status	No education	379	64
	Primary & Secondary education	130	22
	More than secondary	83	14
Family size	1-4 family members	421	71.1
	5-8 family members	171	28.9
9-14years girls	9-11 years girls	322	54.4
	12-14 years of girls	270	45.6
Family income	<2000ETB	22	3.7
	2000 to 4000 ETB	24	4.1
	>4000ETB	546	92.2
Source of income	Monthly salary	61	10.3
	Farming	421	71.1
	Trading	100	16.9
	other	10	1.7

4.2 Perception, Attitude, trust, knowledge, beleife, perception of sexual behaviour, and safty concern.

The study assessed various factors influencing participants' views on the HPV vaccine, categorizing responses based on mean scores. Here's a breakdown of the findings:

Participants were classified based on a mean score of 1.4. Those scoring above the mean were considered to have a positive perception, while those below had a negative perception. The study found that 60% of participants held a negative perception of the HPV vaccine.

Attitudes toward HPV infection and vaccines were categorized as negative (less than 50% of the total attitude score) and positive (more than 50%). The study revealed that 39.9% of participants had a negative attitude toward the HPV vaccine.

Trust in the HPV vaccine was measured using a mean score of 1.889 (SD = 1.09352). The results showed that 89.9% of participants had trust in the vaccine, while 10.1% did not trust it. Knowledge levels were categorized based on a mean score of 0.6520, with scores below indicating poor knowledge and those equal or above indicating good knowledge. The study found that 44.6% of participants had low knowledge about the HPV vaccine.

Belief was assessed by whether participants answered 50% or more of the relevant questions correctly. Those who did were considered to have a positive belief. According to the study, 50.2% of participants held a negative belief toward the HPV vaccine.

A significant 73.5% of participants expressed concerns about the safety of the HPV vaccine.

4.3 Level of HPV Vaccine Hesitancy

The primary objective of this research was to assess the level of HPV vaccine hesitancy among parents in the study area. The findings revealed that a total of 178 parents, representing 30.1%(CI,26.9-34.0) of the sample, expressed hesitancy regarding the vaccination of their adolescent daughters against HPV. A gender breakdown indicated that 29.3% of female parents were hesitant, compared to 31.2% of male parents. Analyzing the data by occupation, it was found that 23.4% of formally employed parents exhibited hesitancy, while a higher percentage, 30.8%, of self-employed parents showed similar concerns. Marital status also appeared to influence vaccine hesitancy, with 29.7% of married parents expressing hesitancy, compared to

35% of single parents. In terms of religious affiliation, 31.3% of Orthodox Christian parents reported hesitancy, while only 17.7% of Muslim parents shared this sentiment. Residence played a significant role as well, with 32.6% of rural residents hesitant about the vaccine, in contrast to 19.7% of urban residents. Educational attainment was another critical factor; 36.7% of parents without formal education expressed hesitancy, compared to 18.3% of those with secondary or higher education. Income levels also influenced hesitancy, with 13.6% of parents earning less than 2000 ETB per month being hesitant, while 30.6% of parents earning more than 4000 ETB per month reported hesitancy. Furthermore, parents with farming-based incomes exhibited a higher hesitancy rate of 33.7%, compared to 22.9% of those with salary-based incomes. These findings underscore the multifaceted nature of HPV vaccine hesitancy and suggest the need for targeted interventions addressing specific demographic groups.

Table 3: Hesitancy level of study participants in North Mecha district 2024. (n=592)

Variables		Do you hesitate to vaccinate your children?		
		No (%)	Yes (%)	Total (%)
Sex	Female	244 (70.7)	101(29.3)	345 (58.3)
	Male	170 (68.8)	77 (31.8)	247 (41.7)
Age	26-35 years	109 (72.2)	42 (27.8)	151(25.5)
	36-45 years	180 (74.4)	62 (25.4)	242 (40.9)
	46-55 years	76 (60.8)	49 (39.2)	125 (21.1)
	56-65 years	38 (62.3)	23 (37.7)	61 (10.3)
	66-75 years	10 (83.3)	2 (16.7)	12 (2.03)
	76-85 years	1 (100)	0 (0)	1 (0.2)
marital status	Married	385 (70.3)	163 (29.7)	548 (92.6)
	Single (divorced/never)	20 (74.1)	7 (25.9)	27 (4.5)
	Married/widow/widower)	9 (52.9)	8 (47.1)	17 (2.9)
Religion	Orthodox	376 (68.7)	171 (31.3)	547 (92.4)
	Muslim	28 (82.4)	6 (17.6)	34 (5.7)
	Protestant	10 (90.9)	1 (9.1)	11 (1.9)
Ethnicity	Amhara	403 (69.5)	177 (30.5)	580 (97.97)
	Oromo	1 (100)	0 (0)	1 (0.17)
	Other	10 (90.9)	1 (9.1)	11 (1.8)
Occupation	Formal employment	49 (76.6)	15 (23.4)	64 (10.8)
	Self-employment	360 (69.2)	160 (30.8)	520 (87.8)
	Other	5 (62.5)	3 (37.5)	8 (1.4)
Residence	Rural	320 (67.4)	155 (32.6)	475 (80.2)
	Urban	94 (80.3)	23 (19.7)	117 (19.8)

Educational status	No education	240 (63.3)	139 (36.7)	379 (64)
	Secondary education	110 (84.6)	20 (15.4)	130 (22)
	More than secondary	64 (77.1)	19 (22.9)	83 (14)
Family income per month	<2000ETB	19 (86.4)	3 (13.6)	22 (3.7)
	2000 to 4000 ETB	16 (66.7)	8 (33.3)	24 (4.1)
	>4000ETB	379 (69.4)	176 (30.4)	546 (92.2)
Source of income	Monthly salary	47 (77)	14 (23)	61 (10.3)
	Farming	279 (66.3)	142 (33.7)	421 (70.4)
	Trading	78 (78)	22 (22)	100 (16.9)
	Other	10 (100)	0 (0)	10 (1.7)
Perception	Positive	170 (71.7)	67 (28.3)	237 (40)
	Negative	244 (68.7)	111 (31.3)	355 (60)
Attitude	Positive	155 (65.7)	81 (34.3)	236 (39.9)
	Negative	333 (93.5)	23 (6.5)	356 (60.1)
Trust in HPV vaccine	Yes	368 (69.2)	164 (30.8)	532 (88.2)
	No	46 (65.7)	24 (34.5)	70 (11.8)
Belief	positive	151 (51.2)	144 (48.8)	295 (49.8)
	negative	263 (88.6)	34 (11.4)	297 (50.2)
Promote risky sexual behavior	Yes	89 (38.9)	140 (61.1)	229 (38.1)
	No	325 (89.5)	38 (10.5)	363 (61.3)
Safety	low safety concern	110 (70.1)	47 (29.9)	157 (26.5)
	high safety concern	304 (69.9)	131 (30.1)	435 (73.5)

On occupation, self-employment refers that those respondents whose occupation is farming, trading, hove their own busyness etc. and other refers like labor worker, no employment etc.

4.4 Factors Associated with HPV Vaccine Hesitancy

A bivariate analysis identified several candidate variables for multivariable analysis, including education level, knowledge of the vaccine, perceptions, safety concerns, beliefs about risky sexual behavior, attitude, and trust toward the HPV vaccine at p value <0.25.

Parents without formal education were 6.2 times more likely to be hesitant (AOR = 6.2, 95% CI, 3.42–11.24) compared to educated parents. This means lack of formal education significantly increases the likelihood of vaccine hesitancy, with an AOR of 6.2 .

Parents with a positive attitude toward the HPV vaccine were 98% less likely to be hesitant (AOR =0. 02, 95% CI, 0.01, 0.04) compared to those with a negative attitude.

Parents with no trust in the HPV vaccine were 3.26 times more likely to be hesitant (AOR = 3.26, 95% CI, 1.29–8.22) compared to those with trust.

Parents with a negative belief about the HPV vaccine were 2.49 times more likely to be hesitant (AOR = 2.49, 95% CI, 1.25–4.95) compared to those with a positive belief. This implies negative beliefs about the vaccine nearly double the odds of hesitancy (AOR = 2.49).

Parents who believed the HPV vaccine would promote risky sexual behavior were 2.21 times more likely to be hesitant (AOR = 2.21, 95% CI, 1.03–4.73) compared to those who did not share this concern.

Table 4: Multivariate regression of associated variables in North Mecha district 2024. (n=592)

Variables		HPV vaccine hesitancy		Odds Ratio		P-value
		Yes	No	COR	AOR	
Educational status	No education	139	240	1.95(1.12, 3.39)	6.2(3.42, 11.24)	0.000
	Primary and secondary education	20	110	0.6 (0.30, 1.23)	0.52 (0.23, 1.21)	0.132
	More than secondary	19	64	1	1	1
Knwoledge	Low	146	118	11.45 (7.39, 17.74)	1.22 (0.59, 2.49)	0.591
	Good	32	296	1	1	1
Attitude	Negative	23	333	1	1	1
	Positive	155	81	0.04 (0.02, 0.06)	0.02 (0.01, 0.04)	0.000
Perception	positive	67	170	0.87 (0.60, 1.24)	0.10 (0.04, .27)	0.000
	negative	111	244	1	1	1
Safety	low safety concern	47	110	0.99(0.67, 1.48)	0.22 (0.12, 0.42)	0.000
	high safety concern	131	304	1	1	1
Trust in	No	14	46	0.68 (0.37, 1.28)	3.26(1.29, 8.22)	0.012

HPV vaccine	Yes	164	368	1	1	1
Belief	negative	34	263	0.14 (0.09, 0.21)	2.49 (1.25, 4.95)	0.009
	positive	144	151	1	1	1
Promote risky sexual behavior	No	38	325	1	1	1
	Yes	140	89	0.07(0.05, 0.11)	2.21(1.03, 4.73)	0.041

5. Discussion

Vaccine hesitancy represents a significant barrier to the effective prevention of cervical cancer through HPV vaccination programs. The primary objective of this study was to assess the level of human papillomavirus (HPV) vaccine hesitancy among parents of adolescent girls in the North Mecha District, North Gojjam Zone, Northwest Ethiopia, and to identify the factors associated with this hesitancy. The outcome variable, HPV vaccine hesitancy, was measured by determining the proportion of parents who expressed reluctance to vaccinate their daughters against HPV. Our findings revealed that 30.1% of parents in the North Mecha District were hesitant to vaccinate their daughters against HPV. Our study's findings also indicated that vaccine hesitancy among parents was significantly associated with factors, including educational level, attitude, trust, beliefs, and concerns about risky sexual behavior.

Globally, studies have reported varying degrees of HPV vaccine hesitancy, influenced by socioeconomic factors and healthcare accessibility. For instance, in Italy, one-third of respondents (33.3%) were hesitant about HPV vaccination, a figure that aligns closely with findings from similar studies, potentially due to similarities in study design (30). In the USA, a study found that the hesitancy rate for adolescent vaccines, including the HPV vaccine, was 17.6%, significantly lower than the rates observed in Ethiopia (12). These discrepancies may be attributed to differences in socioeconomic conditions, healthcare accessibility, and the availability of reliable health information.

In Ethiopia, studies have identified regional variations in vaccine hesitancy rates. For example, the prevalence of HPV vaccine hesitancy among female students in Jimma Town was 39.02% (11). Another study revealed that out of 966 unvaccinated individuals, 729 (75.5%) hesitated to

receive the vaccine, with the highest frequency of hesitancy (78.5%) observed in the Afar region (19). The Afar region also exhibited higher rates of vaccine hesitancy at 39%, compared to lower rates in regions like Sidama (31). These regional discrepancies may result from variations in study context, including timing, data type, sample size, and potentially differing levels of healthcare accessibility, cultural beliefs, and information dissemination across regions.

Our study found that educational level of parents without formal education were significantly more likely to exhibit vaccine hesitancy, with an adjusted odds ratio (AOR) of 6.2 (95% CI, 3.42–11.24).This result is consistent with a study conducted in Gondar, which also found that parents without formal education were more likely to be hesitant. The magnitude of this association in our study is particularly striking, indicating that lack of formal education plays a critical role in vaccine hesitancy. The higher hesitancy in North Mecha District compared to Gondar could be due to differences in access to health information and educational resources, highlighting the need for targeted educational interventions in this area (32). This finding underscores the critical role that education plays in shaping parental attitudes toward vaccination in Ethiopia, where lower education levels often correlate with limited understanding of the benefits and safety of vaccines, thereby increasing hesitancy (33).

Attitude toward HPV vaccine on parents with positive attitudes toward the HPV vaccine were 98% less likely to be hesitant (AOR = 0.02, 95% CI, 0.01–0.04).This finding shows a much stronger association between positive attitudes and reduced hesitancy compared to studies in the USA. The smaller effect size in the USA might be due to the already high baseline acceptance of vaccines, whereas in North Mecha District, the relatively recent introduction of HPV vaccination means attitudes play a more pivotal role in influencing decisions (29). Similar studies in Ethiopia, such as those conducted in Gambella and Gondar, have shown that positive attitudes are strongly associated with vaccine acceptance, reinforcing the importance of shaping parental attitudes to improve vaccination rates(34, 35). This study also has similarities in identifying that there is association between attitude and hesitancy and willingness to accept the HPV vaccine.

A study conducted in Gondar found that trust in the HPV vaccine played a significant role in parental willingness to vaccinate their daughters. In this study, parents with high trust in the vaccine were more likely to accept HPV vaccination compared to those with low trust. This similarity may stem from similar socio-cultural contexts, where trust in healthcare providers is a

pivotal factor for health-related decisions. In contrast, a study conducted in Italy reported regarding the influence of trust in the HPV vaccine. This study found that while trust was an important factor, it did not have as strong an effect on vaccine hesitancy as in Ethiopia. Specifically, the study reported a low effect for parents with high trust in the vaccine compared to those with low trust. This difference could be due to the higher baseline trust in medical institutions in Italy, reducing the relative impact of trust on vaccine decisions(36).

This study's findings showed that 78% of parents had low safety concern making them less hesitant HPV vaccination of their daughters. Parents who perceived the HPV vaccine as safe were more likely to vaccinate their children, indicating the crucial role of safety perceptions in vaccine uptake(37). Accordingly, among the study participants, 22.2% of them had high safety concern towards the HPV vaccine. In other study also conducted in USA, Safety concern/side effects was the primary concern for very hesitant parents 30% (38). Based on this our finding showed that less safety concern than the study conducted in USA, this could be due to the gap in knowledge level about the HPV vaccine, the accessibility of technologies, and the difference in study area. In a study which showed that one of reasons for HPV vaccine hesitancy was "safety/side effects" (15.3%)(39). In a study done in Debre Markos, 154 (25.6%) of mothers/guardians said HPV vaccine is not safe and effective(40).

In this study 23.7% of parents with perception/ belief of that the HPV vaccine would promote risky sexual behavior were hesitant. Some parents expressed concern that vaccinating their child against HPV might be perceived as giving permission for sexual activity, which contributed to their hesitancy in agreeing to the vaccine(41). Studies conducted in Ethiopia indicates that parents' concerns about the HPV vaccine potentially promoting risky sexual behavior were a significant factor associated with vaccine hesitancy(42).

6. Limitation of the Study

This study's limitations include its cross-sectional design, which restricts the ability to establish causal relationships between the identified factors and HPV vaccine hesitancy. Additionally, the reliance on self-reported data may introduce response bias, as parents might have provided socially desirable answers rather than their true beliefs or behaviors. The study was also conducted in a single district, limiting the generalizability of the findings to other regions with different socio-cultural contexts.

Moreover, the research focused solely on parents, excluding other potential influencers of vaccination decisions, such as healthcare providers or community leaders. The lack of qualitative data to explore deeper motivations and beliefs behind vaccine hesitancy further limits the understanding of the issue. Future studies should consider a longitudinal approach, broader geographic scope, and inclusion of diverse perspectives to provide a more comprehensive understanding of the factors influencing HPV vaccine hesitancy.

7. Conclusion

In conclusion, this study underscores the significant challenge of HPV vaccine hesitancy among parents in the study area. This study highlights significant levels of HPV vaccine hesitancy among parents in the North Mecha District, with 30.1% expressing reluctance to vaccinate their daughters. Key factors contributing to this hesitancy include low educational levels, negative attitudes, distrust in the HPV vaccine, negative beliefs about vaccination, and concerns regarding risky sexual behavior. The findings suggest that addressing educational gaps and fostering positive perceptions of the HPV vaccine are crucial for improving vaccine uptake.

8. Recommendations

Based on the findings, the following recommendations are suggested to mitigate HPV vaccine hesitancy among parents:

For Regional, Zonal and District Health office

- ✓ Educational Campaigns: Implement targeted educational programs to increase awareness and understanding of the HPV vaccine's safety and efficacy, particularly among parents with lower educational backgrounds.
- ✓ Identify and collaborate with local influencers, such as educators and community leaders, to advocate for HPV vaccination and encourage families to prioritize immunization for their daughters.

Health care providers and community leaders

- ✓ Should Promote Positive Attitudes: Develop strategies that encourage positive attitudes towards the HPV vaccine through testimonials from healthcare providers and community leaders, emphasizing personal and community health benefits.

Health care providers, local government representatives and community based organizations

- ✓ Better to Build Trust in Healthcare: To foster trust in healthcare systems and vaccination programs by engaging with community members, addressing their concerns, and providing transparent information about vaccine safety.

Medical professionals, public health educators, research institutions, and patient advocacy groups

- ✓ Work to Address Safety Concerns: Conduct workshops and informational sessions that specifically tackle safety concerns associated with the HPV vaccine, using evidence-based information to counteract misconceptions.

By implementing these recommendations, stakeholders can work towards improving HPV vaccine uptake rates and ultimately reducing the burden of cervical cancer in Ethiopia.

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ANNEXES I ENGLISH VERSION

ANNEXES I INFORMATION SHEET

Introduction

Hello, my name is ----------. I am working as data collector for study being conducted in this area by Mr. Asmare Yayeh (BSc), who is studying his master's degree at Bahir Dar University College of Medicine and Health Sciences, School of Public Health Department of Health System Management and Health Economics. I kindly request you to offer me your attention to explain you about the study and being selected as the study participant. Study Title human papilloma virus vaccine hesitancy and associated factors among parents of adolescent girls in Mecha district north Gojjam zone, North West Ethiopia in 2024.

Purpose: This study is intended to assess human papilloma virus vaccine hesitancy and associated factors among parents of adolescent girls in Mecha district. Therefore, information obtained from this study may be used by MOH, organizations supporting services, researchers and local health planners.

Procedure and duration: First of all, you were selected by lottery method. I will administer a questionnaire to assess human papilloma virus vaccine hesitancy and associated factors among parents of adolescent girls. There are systematic simple random Samples used. You have to answer and take about 20-30 minutes, so I kindly request you to spare me this time for filling this questionnaire.

Risks: The risks of being participating in this study are very minimal, but only taking few minutes from your time. Other than this the study will not cause any physical or psychological harm.

Benefit: There would not be any direct payment for participating in this study. But findings from this research may reveal important for knowing your level of vaccine hesitancy & planners and community at large.

Confidentiality: The information that you provide was confidential. No information that will identify you. The findings of the study will be general for the study population and will not reflect anything particular of individual persons. The questionnaire will be coded to exclude

showing names; no references will be made in oral or written reports that could link participants to research.

Rights: Participation in this study is fully voluntary. You have right to declare to participate in this study or right not to participate from the beginning, or stop at any time after starting. However, we hope you will answer the questions, which will benefit services you provide nation.

Contact address: If there are any questions or enquires any time about the study, please contact and speak to principal investigator.

Name –Asmare Yayeh phone number-0922267279

E-mail - asmareyaye@gmail.com

ANNEXES II. STATEMENT OF CONSENT

I have read the participant information sheet. I have clearly understood the purpose of the research, the procedure, risks and benefits, issues of confidentiality, rights of participating and contact address for any queries. I have given the opportunity to ask questions for things that may have been unclear. I was informed that I have the right to withdraw from the study at any time or not to answer any question that I do not want. Therefore, I declare my voluntary consent to participate in this study with verbal.

Name of data collector and signature _____date _____/_____/2016 E.C

Code----------kebele----------got----------

Annex III: Interview questionnaires (English version)

Table 4 showing the questionnaires are adapted from guidelines English version

Part:1,Socio demographic variables			
S. No	Questions	Response	Skip
101	Sex	1,male 2,female	
102	Age	--------	
103	Age of daughters	--------	
104	Marital status	1, Married 2, Single (divorced/never 3, married/widow/widower)	
105	House Ownership	1,wife	

		2,husband 3,other-------	
106	Religion	1, Orthodox 2, Muslim 3, Protestant 4, Catholic 5, Other----------	
107	Ethnicity	1, Amhara 2, Oromo, 3, Tigre 4, Other------	
108	Occupation	1, Formal employment 2, Self-employment 3, Other----------	
109	Family size	-------	
110	No of 9 to 15 year girl	---------	
111	Residence	1, Urban 2, Rural	
112	Educational status	1, No education 2, Secondary education 3, More than secondary	
Part:2, Income level related factors			
201	Family income per month	1, <2000ETB 2, 2000 to 4000 ETB 3, >4000ETB	
201	Source of income	1, Monthly salary 2, Farming 3, Trading 4, Other------	
Part:3, Perception, trust, safety, attitude vaccine effectiveness and personal related factors			
301	Do you think Cervical cancer is severe disease	1, strongly agree 2, somewhat agree 3, somewhat disagree 4, strongly disagree	
302	Do you think HPV vaccines can effectively prevent cervical cancer	1, strongly agree 2, somewhat agree 3, somewhat disagree 4, strongly disagree	
303	Do you think not easy to find HPV vaccine	1, strongly agree 2, somewhat agree 3, somewhat disagree 4, strongly disagree	
304	Health professional counseling affects my decision as to whether or not to receive for my daughter vaccination	1, strongly agree 2, somewhat agree 3, somewhat disagree 4, strongly disagree	

305	I am afraid of my adolescent being perceived as having STI if she receive HPV vaccination	1, strongly agree 2, somewhat agree 3, somewhat disagree 4, strongly disagree	
306	The information I receive about HPV vaccine from my adolescent's health care provider is reliable and trust worthy.	1, strongly agree 2, somewhat agree 3, somewhat disagree 4, strongly disagree	
307	HPV vaccine is effective?	1, strongly agree 2, somewhat agree 3, somewhat disagree 4, strongly disagree	
308	Getting the HPV vaccine is good way to protect my adolescent from HPV related cancers?	1, strongly agree 2, somewhat agree 3, somewhat disagree 4, strongly disagree	
309	The HPV vaccine is beneficiary to my adolescent?	5, strongly agree 2, somewhat agree 3, somewhat disagree 4, strongly disagree	
310	The HPV vaccine is important for my adolescent's health	3, strongly agree 2, somewhat agree 3, somewhat disagree 4, strongly disagree	
311	Having my adolescent get the HPV vaccine is important for the health of others in my community	1, strongly agree 2, somewhat agree 3, somewhat disagree 4, strongly disagree	
312	The HPV vaccine has not been around long enough to be sure it's safe Having my adolescent get the HPV vaccine is important for the health of others in my community	1, strongly agree 2, somewhat agree 3, somewhat disagree 4, strongly disagree	
313	I am concerned about serious side effects of the HPV vaccine.	1, strongly agree 2, somewhat agree 3, somewhat disagree 4, strongly disagree	
314	It was/would be convenient to get the HPV vaccine for my adolescent.	1, strongly agree 2, somewhat agree 3, somewhat disagree 4, strongly disagree	
315	Think your daughter is susceptible to HPV infection	1, Yes 2, No	
316	Think HPV vaccine is safe and effective	1, Yes 2, No	
317	Think being vaccinated for HPV reduce the risk of having HPV	1, Yes 2, No	

	infection		
318	think HPV vaccine will not lead to complicated sexual activities	1, Yes 2, No	
319	Think HPV vaccine promote risky sexual behaviors among teenagers	1, Yes 2, No	
Part:4, Knowledge, information source, influencer and sexual behavior related factors			
401	Think HPV vaccine promote risky sexual behaviors among teenagers	1, Yes 2, No	
402	What is HPV vaccination?	1, given for prevention of cervical cancer 2, given for prevention of malaria 3, given for prevention of HIV AIDS 4, I do not know	
403	Cervical cancer is a disease of the genital tract	1, Yes 2, No	
404	HPV can cause cervical cancer	1, Yes 2, No	
405	HPV infections are preventable	1, Yes 2, No	
406	HPV is transmitted by sexual contact	1, Yes 2, No	
407	The HPV vaccine can cause infertility	1, Yes 2, No	
408	Know HPV vaccine is given in schools	1, Yes 2, No	
409	HPV vaccine requires 2 rounds of vaccination for daughters under 14 years	1, Yes 2, No	
410	An interval that someone take second HPV vaccination	1, 6 month 2, 6 year 3,1 month 4, month	
411	HPV vaccination should be taken before sex initiation	1, Yes 2, No	
412	Number of HPV vaccination	1, Once 2, Twice	
413	Age at which someone undergo HPV vaccination	1, 9–14 years 2, 18–21 years 3, All ages	
414	Obtained information about HPV vaccination from any source	1,Yes 2, No	
415	Information source	1, Social media, 2, Health care worker, 3, Families and friends	

416	Believe no need for vaccine	1,Yes 2, No	
417	Do not know where to get the vaccine	1,Yes 2, No	
418	Worried about the vaccine	1,Yes 2, No	
419	May expose adolescents to risky sexual behavior	1,Yes 2, No	
Part:5, Socio-cultural and other related factors			
501	My religion allow vaccination	1, Yes 2, No	
502	I may face discrimination in my community	1, Yes 2, No	

Annex IV. Respondent's information sheet Amharic version

የ ጥናቱ የ ተሳታፊዎች የ ሚጃ ቅፅ

በባህር ዳር ዩኒቨርሲቲ በድህረ ምረቃ ትምህርት ፕሮግራም በጤቅላላ የ ሜህበረሠብ ጤፍ ትምህርት ክፍል በአሁኑ ወቅት ወይም አሳዳጊዎ በወላጆች የ ክትባትን የ ሜከራጠር ወይም የ መወላወል እና ከወጣት ልጆቻቸውየ ሜህፀን በር ካንሰር መከላከያ ክትባት ያለውቁርኝት ጥናት በሰሜን ሜጪወረዳ እያካሄድኩ ነው። የ ዚህ ጥናት ተሳታፊ ለመሆን እርስዎ ተጋብዘዋል። በጥናቱ ላይ ለመሳተፍ ፍቃደኝነትዎን ከመጠየቄ በፊት ጥናቱን በተመለከተ አስፈላጊ የሆኑ መረጃዎችን ሜገኘት ያስፈልግዎታል። ስለሆነ ም በጥናቱ ላይ መሳተፍም ሆነ አለመሳተፍ መጀመሪያ ሜወቅ ይገባዎታል፤ መረጃውን እንደሜከተለውእናቀርብልዎታለን።

የ ጥናቱ አላሜወላጆች የ ክትባትን የ ሜከራጠር ወይም የ መወላወል እና ከወጣት ልጆቻቸውየ ሜህፀን ጫፍ ካንሰር መከላከያ ክትባት ያለውቁርኝት እና ምክንያታቸውን መለየት።

ከጥናቱ ጋር የ ተያያዘ ጉዳት: ጥናቱ የ ሜከሄደውለዚህ ጥናት የ ተዘጋጀውን ጥያቄ በመጠየ ቅ ነውሆኖም በጥናቱ በአካልምሆነ አእምሮ ላይ ፈፅሞጉዳት የ ለውም።ያልገ ባውትን ጥያቄ ለመሜለስ አይገ ደዱም።

ጥቅም: በጥናቱ በመሳተፍዎ የ ሜከፈልዎት ክፍያ ወይምየ ተለየ ጥቅምየ ለውም። በሌላ በኩል በጥናትዎ መሳተፍዎና ለተጠየ ቁት ጥያቄዎች ተገ ቢውን መረጃ መስጠትዎ በወላጆች የ ክትባት ጥርጣሬ እና ከወጣት ልጆቻቸውየ ሜህፀን በር ካንሰር መከላከያ ክትባት ያለውን ቁርኝት ለመዳሰስ ይረዳል።

የ ሜስጠራዊነት ሁኔታ: እርስዎ የ ሜሰጡት መረጃ በሜስጠር ይጠበቃል። ለሶስተኛ ሰውተላልፎ አይሰጥም ወይም አይጋለጥም፤ ማንነትዎ እንዳይታወቅ ስምዎ በዋናውኮፒ አይመዘገብም።

የ ስምምነት መግለጫፎርም_ ፈቃድ መጠየ ቂያ

ጤፍ ይስጥልኝ ስሜይባላል አቶ አስሚረ ያየህ በባህር ዳር ዩኒቨርሲቲ የአጠቃላይ የህብረተሠብ ጤፍ የድህረ ምረቃ ተማሪ በሚሰራው ጥናት ላይ አባል ነኝ። ጥናቱ የሚያተኩረው በወላጆች የክትባትን የማከራጠር ወይም የመላወል እና ከወጣት ልጆቻቸውየማህፀን ጫፍ ካንሰር መከላከያ ክትባት ያለውቁርኝት እና ምክንያታቸዉን መለየትነው።በጥናቱ በመሳተፍዎ ከልብአመሠግናለሁ።ከላይ ከተጠቀሰውበወላጆች የክትባትን የማከራጠር ወይም የመላወል እና ከወጣት ልጆቻቸውየማህፀን ጫፍ ካንሰር መከላከያ ክትባት ያለውቁርኝት እና ምክንያታቸው ጋር ያለወትን ሀሳብ እጠይቅዎታለሁ። እርስዎ የሚሰጡት መረጃ ለወረዳ፣ለዞንእና ለሀገር አቀፍ ወላጆች የክትባትን የማከራጠር ወይም የመላወል አመለካከት እና ከወጣት ልጆቻቸውየማህፀን ጫፍ ካንሰር መከላከያ ክትባት ያለውቁርኝት እና ምክንያታቸዉን ለመለየት የሚያገለግል ይሆናል። መጠይቁ ከ20 እስከ 30 ደቂቃ ሊወስድ ይችላል። የሚሰጡት ማንኛውም መረጃ ሚስጥራዊነቱ የተጠበቀ ነው። በጥናቱ መሳተፍ መጠይቁ ከሚወስደው ጊዜ ባለፈ የጎንዮሽ ጉዳት የለውም፤ ነገር ግን የርስዎ በጥናቱ መሳተፍ ወላጆች የክትባትን የማከራጠር ወይም የመላወል እና ከወጣት ልጆቻቸውየማህፀን ጫፍ ካንሰር መከላከያ ክትባት ያለውቁርኝት እና ምክንያታቸዉን በመለየት ችግሩን ለማሻሻል የራሱ አስተዋፅኦ አለው።

በጥናቱ በመሳተፍዎ የሚገኙት ቀጥተኛ ጥቅምም ሆነ ጉዳት የለውም በጥናቱ መሳተፍ በፈቃደኝነት ላይ የተመሠረተ ነው። ከጥያቄዎቹ የተወሰነውን ወይም ሙሉ በሙሉ ያለመሳተፍ መብት አለዎት፤ ነገር ግን የርስዎ መሳተፍ እጅግ አስፈላጊ ስለሆነ እንደሚሳተፉ ተስፋ አለኝ።

የበለጠ መረጃ ካስፈለገዎት በሚከተሉትን አድራሻ ማጠቀም ይችላሉ ጥናቱን የሚሂደዉን ሰውአድራሻ፡

አስሚረ ያየህ ስቁ 0922267279

ከላይ በተዘረዘሩት የቃል ስምምነት የቃል ስምምነት መሰረት

ለቃለ መጠይቁ ተስማምተዋል ከተስማሙመጠይቁን ይጀምሩ ፈቃደኛ ካልሆኑ ወደሌላ ተሳታፊ ይሂዱ

ቃለመጠይቁን ያካሄደውስም---------- ፊርማ---------- ቀን ----------

ኮድ----------ቀበሌ----------ጎጥ----------

Table 5 showing questionnaire guide Amharic version

ተ.ቁ	ጥያቄ	መልስ	እለፍ

101	ፆታ	1,ወንድ 2,ሴት	
102	እድሜ	-------	
103	የ ልጅ እድሜ	----------	
104	የ ጋብቻ ሁኔታ	ያገባ/ች ያላገባ/ች አግብታ/ቶ የፈታች/ታ በሞት የ ተለያዩ	
105	የ ቤት ሀላ ነ ት ሁኔታ	አባወራ እማወራ ሌሎች	
106	ሀይማኖት	ኦርቶዶክስ ሙስሊም ፕሮቴስታንት ካቶሊክ ሌላ --------	
106	ብሄር	አማራ ትግሬ ኦሮሞ ሌላ -------	
107	ስራ	የ መንግስት ተቀጣሪ የ ግል ስራ ሌላ --------	
108	የ ቤተሠብ ብዛት	----------	
109	ከ9 እስከ14 አመት ሴት ልጅ	----------	
110	የ ሞሪያ ቦታ	ከተማ	

		ገጠር	
111	የትምህርት ሁኔታ	ያልተማረ/ች የመጀመሪያ ደረጃ የሁለተኛ ደረጃ ትምህርት ከሁለተኛ ደረጃ ትምህርት በላይ የወሠዱ	
የገቢ ሁኔታ እና ሌሎች ጉዳዮችን ሚዳስሱ ጥያቄዎች			
201	የቤተሠቡ የወርሃዌ አማካኝ ገቢ	<2000 ብረ ከ2000 እስከ 4000 >4000 ብር	
202	የገቢ ምንጭ	ከወርሃዌ ደመወዝ ከግብርና ከንግድ ሌላ ----------	
የግንዛቤ፣ የማመን፣ የደህንነት የአመለካከት እና የክትባት ወጠታማነት የሚመለከቱ መጠይቆች			
301	የማህፀን በር ካንሰር ከባድ በሽታ ነው ብለው ያስባሉ?	በጣም እስማማለሁ በተወሰነ እስማማለሁ በተወሰነ አልስማማም በጣም አልስማማም	
302	የማህፀን በር ካንሰር ክትባት የማህፀን በር ካንሰርን ከመያዝ ይከላከላል ብለውያስባሉ?	በጣም እስማማለሁ በተወሰነ እስማማለሁ በተወሰነ አልስማማም በጣም አልስማማም	
303	ክትባቱን ለማግኘት ቀላል አደለም ብለው ያስባሉ?	በጣም እስማማለሁ	

		በተወሰነ እስማማለሁ በተወሰነ አልስማማም በጣምአልስማማም	
304	የጠፍ ባለማያዎች ምክርምሆነ ትምህርት ልጇን በማስከተብ እና ባለማስከተብ መሳኔ ላይ ተፅዕኖ ይኖረዋል ብለውያስባሉ?	በጣምእስማማለሁ በተወሰነ እስማማለሁ በተወሰነ አልስማማም በጣምአልስማማም	
305	ልጇ ክትባቱን ከተከተበች የአባላዘር በሽታ እንተያች ተደርጋ ትታሰባለች ብየ እፈራለሁ?	በጣምእስማማለሁ በተወሰነ እስማማለሁ በተወሰነ አልስማማም በጣምአልስማማም	
306	ልጇን ከማከታተሉ የጠፍ መያተኛ የማኘው መረጃ ታማኒና ዋጋያለውነ ውብለውያስባሉ?	በጣምእስማማለሁ በተወሰነ እስማማለሁ በተወሰነ አልስማማም በጣምአልስማማም	
307	የማህፀን በር ካንሰር መከላከያ ክትባት ወጤታማነ ውብለውያስባሉ?	በጣምእስማማለሁ በተወሰነ እስማማለሁ በተወሰነ አልስማማም በጣምአልስማማም	
308	የማህፀን በር ካንሰር መከላከያ ክትባት ማግኘት በጣም ጥሩ መነገድ ነውልጇ በማህን በር ካንሰር እንዳትጠቃ?	በጣምእስማማለሁ በተወሰነ እስማማለሁ በተወሰነ አልስማማም በጣምአልስማማም	
309	የማህፀን በር ካንሰር መከላከያ ክትባት ለልጇ ጠቃሚነ ወ?	በጣምእስማማለሁ በተወሰነ እስማማለሁ በተወሰነ አልስማማም	

		በጣም አልስማማም	
310	የማህፀን በር ካንሰር መከላከያ ክትባት ለልጄ እስፈላጊ ነው?	በጣም እስማማለሁ በተወሰነ እስማማለሁ በተወሰነ አልስማማም በጣም አልስማማም	
311	ልጆቻችንን የማህፀን በር ካንሰር መከላከያ ክትባት ማክተቡ ለማህበረሠቡ አስፈላጊ ነው?	በጣም እስማማለሁ በተወሰነ እስማማለሁ በተወሰነ አልስማማም በጣም አልስማማም	
312	የማህፀን በር ካንሰር መከላከያ ክትባቱ ደህንነቱ በበቂ የሚታመን አደለም?	በጣም እስማማለሁ በተወሰነ እስማማለሁ በተወሰነ አልስማማም በጣም አልስማማም	
313	ከፍተኛ የጎንዮሽ ጉዳት እንዳይኖረው እሰጋለሁ	በጣም እስማማለሁ በተወሰነ እስማማለሁ በተወሰነ አልስማማም በጣም አልስማማም	
314	ክትባቱ ለልጄ ይበጃል	በጣም እስማማለሁ በተወሰነ እስማማለሁ በተወሰነ አልስማማም በጣም አልስማማም	
315	ልጄ ለማህፀን በር ካንሰር ተጋላጭ ሊሆኑ ይችላሉ ብለው ያስባሉ?	አዎ አይደለም	
316	ክትባት ደህንነቱ የተጠበቀ እና ውጤታማ ነው ብለው ያስባሉ?	አዎ አይደለም	
317	መከተብ ለማህፀን በር ካንሠር ያለውን	አዎ	

	ተጋላጭነት ይቀንሳል ብለውያስባሉ?	አይደለም	
318	መከተብ ለተወሳሰበ የወሲብ ችግር አያከትልም ብለውያስባሉ?	አወ አይደለም	
319	መከተብ ልጄን ለአደገኛ የወሲብ ባህሪ እንደኖራት ይገፋፋል ብለውያስባሉ?	አወ አይደለም	
320	ቢያከትቡ ቀላል የሆኑ የጎንዮሽ ጉዳቶችን ማለትም(መርፌው ያማታል፣ ይቀላል) ብለው ይፈራሉ?	አወ አይደለም	
321	የመካንነት ችግር ያመጣል ብለው ይፈራሉ ክትባቱን?	አወ አይደለም	
የእውቀት፣ የመረጃ ምንጭ የተፅኖ አሳዳሪ እና የሰወሲብ ባህሪን የተመለከቱ ጣቢይቆች			
401	የማህፀን በር ካንሠር መከላከያ ክትባትን ያውቃሉ?	አወ አይደለም	
402	የማህፀን በር መከላከያ ክትባት ምንድን ነው?	ማህፀን በር ካንሰርን ለመከላከል ይሰጣል ወባን ለመከላከል ይሰጣል ኤች አይ ቪ ኤድስን ለመከላከል ይሰጣል አላውቀውም	
403	የማህፀን በር ካንሠር የመራቢያ አካላት በሽታ ነው	አወ አይደለም	
404	HPV የማህፀን በር ካንሰርን ያመጣል	አወ አይደለም	
	HPV ኢንፌክሽንን መከላከል ይቻላል?	አወ አይደለም	
405	የማህፀን በር ካንሰር የሚያመጣው ቫይረስ	አወ	

	በግብረ ስጋ ግንኙነ ት ይተላለፋል	አይደለም	
406	የ ሚህፀን በር ካንሰር መከላከያ ክትባት መካንነ ትን ያመጣል	አ ወ አይደለ ም	
407	የ ሚህፀን በር ካንሰር መካላከያ ክትባት በትምህር ት ቤት እንደሚሠጥ ያወቀ ሉ	አ ወ አይደለ ም	
408	የ ሚህፀን በር ካንሠር መከላከያ ክትባቱ በሁለት ዙር ከ14 አመት በታች እንደሚሠጥ ያወቃሉ?	አ ወ አይደለ ም	
409	ሁለቱን ዙር የ ሚህፀን በር ካንሰር መከላከያ ክትባት ለመከተ በካከል ያለውየ ቆይታ ጊዜ	6 ወር 6 አመት 1ወር 12 ወር	
410	የ ሚህፀን በር መከላከያ ክትባት መሠጠት ያለበት የ ግብረ ስጋ ግንኙነ ት ላልጀመ ሩ ሴቶች ነ ው	አ ወ አይደለ ም	
411	ስንት ጊዜ ይወሰዳል ክትባቱ?	አ ንድ ሁለ ት	
412	የ ክትባቱ መወሰ ጃ እድሜክልል?	9-14 አመት 18-21 አመት በ ሁሉም እድሜይወሰ ዳል አ ላ ወቅ ም	
413	ስለ ሚህፀን በር ካንሰር መከላከያ ክትባት ከ ማ ኛ ውም አ ካል ሰ ምተ ውያ ወቃሉ?	አ ወ አይደለ ም	
414	መ ረ ጃ ከየ ት ያ ገ ኛ ሉ	ከ ሚህበ ራ ዊ ሚዲያ ከ ጠ ፍ ባ ለ ሙ ያ ዎች ከ ቤተ ሠ ብ እ ና ሌ ሎች	
415	ክትባቱ አ ያ ስ ግ ም ብ ለ ውያ ም ና ሉ	አ ወ	

		አይደለም	
416	ከትባቱ የት እንደሚኝ አያወቁም	አወ አይደለም	
417	ስለክትባት ይጨቱ ቃሉ/ሰጋሉ	አወ አይደለም	
418	ክትባቱ ልጇን ለአደኛ የግብረ ስጋ ግኙነት ባህሪ ያጋልጣል ብለውያምናሉ	አወ አይደለም	
የሚበራዌ-የባህለዌ እና ሌሎች ጉዳዮችን የተመለከቱ ጣቢይቆች			
501	ሀይሞቴ ክትባትን አይፈቅድም	አወ አይደለም	
502	በሚበረሰቤ ዘንድ እገለላለሁ ብየ እፈራለሁ	አወ አይደለም	