WOLKITE UNIVERSITY

COLLEGE OF MEDICINE AND HEALTH SCIENCES

DEPARTMENT OF PUBLIC HEALTH

PROPORTION OF COMPLETE TETANUS TOXOID IMMUNIZATION STATUS AND ASSOCIATED FACTORS AMONG PREGNANT MOTHERS WHO ATTENDING ANC AT WOLKITE TOWN HEALTH CENTERS, GURAGE ZONE, SOUTHERN ETHIOPIA, 2023.

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A RESEARCH RESULT WILL BE SUBMITTED TO WOLKITE UNIVERSTY COLLEGE OF MEDICINE AND HEALTH SCIENCES DEPARTEMENT OF PUBLIC HEALTH IN PARTIAL FULLFILMENT OF THE REQIREMENT FOR THE BACHELOR OF DEGEREE IN PUBLIC HEALTH

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APPROVAL SHEET

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ABSTRACT

Background: Tetanus is a vaccine preventable, non- communicable infectious disease. And also, it is an acute, potentially fatal disease that is characterized by generalized increased rigidity and convulsive spasms of skeletal muscles. It is caused by the spore-forming bacterium Clostridium tetani. The main strategy to prevent the disease is immunization with protective dose of tetanus toxoid vaccine. But globally, maternal and neonatal tetanus is a public health problem due to low maternal tetanus toxoid vaccination. Ethiopia has highest neonatal mortality and morbidity related to tetanus in the world due to low tetanus toxoid immunization coverage.

Objective: To assess the proportion of complete tetanus toxoid immunization status and associated factors among pregnant mothers who attending ANC at wolkite town health centers, Gurage zone, Southern Ethiopia, 2023.

Methods: An institution based cross-sectional study was conducted on July 2023 on pregnant mothers who attending ANC at Wolkite town health centers. Systematic random sampling technique was used to select the sample of 237 women. Data was collected through face-to-face interview with semi-structured questionnaires. The data was entered and analysis was done by using SPSS version 25. Binary logistic regression analysis models were used to assess the association between dependent and independent variables.

Result: A total of 237 women were interviewed with a response rate of 92.8%. The results of the study showed 20% of respondents were received complete TT vaccine. Variables including: secondary school [(AOR 0.043, 95% CI (0.007-0.271)], >4 ANC visits [(AOR 3.589, 95% CI (1.288-10.005)], health workers respectful [(AOR 0.115, 95% CI (0.037-0.359)] and feeling about the distance [(AOR 17.551, 95% CI (5.137-59.964)] were found to be predictors of receive complete doses of TT.

Conclusion: The study revealed that relatively low. The results of the study showed 20% of respondents were received complete TT vaccine. In this study was found to be analogues as compared to studies conducted in other parts of Ethiopia like Shashemene. Factors like educational status of the mother, number of ANC, their feeling about the distance of nearest health center and health workers respectfulness were among those were significantly associated with proportion of complete tetanus toxoid immunization.

Key word; Tetanus toxoid immunization, ANC, Wolkite, Ethiopia

LIST OF ACRONYM AND ABBREVIATIONS

ANC	Antenatal Care
BSc	Bachelor of Science
CI	Confidence Interval
DtaP	Diphtheria Toxoid and a cellular Pertussis
EBHC	Ediget Ber Health Center
EDHS	Ethiopian Demographic Health Survey
EPI	Expanded Program of Immunization
FHC	Fikado Health Center
GHC	Gubreye Health Center
MNT	Maternal and Neonatal Tetanus
NGO	Nongovernmental Organization
AOR	Adjusted Odds Ratio
SIA	Supplemental Immunization Activity
SNNPR	Southern Nation Nationality And People Region
SPSS	Statistical Package for the Social Science
Td	Diphtheria Toxoid
TT	Tetanus Toxoid
TTcV	Tetanus Toxoid Compete Vaccine
WHC	Wolkite Health Center
WHO	World Health Organization
WKUSTH	Wolkite University Specialized and Teaching Hospital

1. INTRODUCTION

1.1. Background

Tetanus is a vaccine preventable, non- communicable infectious disease[2]. And also it is an acute, potentially fatal disease that is characterized by generalized increased rigidity and convulsive spasms of skeletal muscles. It is caused by the spore-forming bacterium Clostridium tetani. The spores which is produced by clostridium enter into the body through breaks in the skin, and germinate under low-oxygen conditions[3]. To prevent this life threating disease Tetanus Toxoid (TT) vaccination was adopted in 1927 and 1981 by World Health Organization (WHO) and Ethiopia respectively and became available in the United States in the 1940s. Its use resulted in a 95% decrease in the rate of tetanus [4]. It is on the World Health Organization's List of Essential Medicines, the most effective and safe medicines needed in a health system[5].

WHO recommend utilization of different type of TT vaccine to reduce the prevalence of both maternal and neonatal tetanus morbidity and mortality? Which is delivered at different age with different preparation for example Tetanus and diphtheria toxoid and a cellular pertussis (DTaP) are licensed for infant and children younger than seven year age; tetanus and diphtheria toxoid (Td) and tetanus toxoid (TT) are commonly used for the vaccination of children seven year age, older and adult[3].

A pregnant woman should receive five doses of TT vaccination and these can ensure protection throughout the reproductive years and even longer. Antenatal care (ANC) is the main programmatic entry point for routine TT immunization[6]. Protection against Tetanus increases with the number of doses received increase. Frist dose of Tetanus Toxoid (TT1) have no any protection. To get some protection from vaccination mother should receive at list second dose of tetanus toxoid for maximum protection; five doses are recommended i.e. TT1-TT5. The first dose (TT1) should be given at first contact with a pregnant woman or women of childbearing age (15-45 years), TT2 (4 weeks 2 after TT1), TT3 (Six months after TT2), TT4 (One year after TT3) and TT5 (One year after TT4)[7].

1.2. Statement of the Problem

Tetanus is the biggest killers among the vaccine preventable disease. That introduces through the Umbilical cord of tetanus spore at the time of delivery via the use of contaminated instrument to the cord or after delivery by dressing the umbilical stump with highly contaminated with tetanus spores[2].

Maternal and Neonatal Tetanus is a public concern in low income countries mainly due to low maternal TT vaccination, but almost all high income countries have achieved maternal and neonatal tetanus (MNT) elimination before 1999 by full coverage of TT vaccination. Worldwide, about 36% of mothers were not vaccinated with TT protective dose at birth against Tetanus. Particularly in low-income countries, still about 33 million reproductive age women did not vaccinated protective dose of TT vaccination until 2014. In Ethiopia, about 51% of pregnant women were not received protective dose of TT vaccination[7].

WHO TT immunization recommendation was a woman of reproductive age is required to receive five dose of tetanus toxoid in her lifetime. But the coverage of TT immunization in most study decrease from TT1 to TT5. Study result done in Nigeria shows that: TT1 (80.7%), TT2 (74.6%), TT3 (41.2%), TT4 (35.7%), TT5 (23%). The studies state that different factors for the decline of complete TT immunization. These factors are transportation shortage, lack of awareness, misconception about TT, underreporting and lack of documentation by health care providers, misguidance of the public health, poor socio economic status of the community, poor attitude, lack of commitment by health care workers, and side effects of TT immunization [8].

Evidences shows that range of influencing factors affect the level of TT vaccination. For instance, women's education and their wealth index can make variations in immunization coverage. Mothers' immunization status also differs from urban to rural as well as from one part of the country to the other. Furthermore, studies indicate that maternal age, marital status ,occupational status, distance from health facilities and number of ANC visits can also considerably determine TT immunization usage[9].

Studies conducted by Khyber medical college student from total respondent 55.6% were vaccinated. Urban population was 54.3% while rural population was 45.7%. When we compare rural with urban population rural populations are less likely to complete TT immunization. As a

result of the following Reason: No awareness (38.4%), being busy (18.1%), center too far (18.1%), misconceptions (10.86%), and fear of reactions (4.3%). Females those who take complete TT immunization were effective (89.5%). Even if it affected with Husband education, females' knowledge and views on immunization, income, distance, frequency of health visits were the main factors associated with immunization status[10].

The study result done in Ethiopia shows that from the total respondent 27% understand when vaccination is given whereas the rest 73% don't have any idea when the vaccination is given. From this study knowledge conceder as factor which affects TT immunization and immunization the whole. Mothers who were not fully immunized were asked reasons for not completing their vaccination. Out of the total respondent who were not fully immunized, 24.9% of the mothers said that being busy in other tasks and 22.3% of them stated vaccines can be given in the future regardless of the normal schedule[11].

According to the report of 2016 EDHS view 49% women's were received sufficient dose of tetanus toxoid to protect their last birth against neonatal tetanus. That is routinely monitored in Ethiopia and other developing countries by the "TT2+" method, in which the reported number of protective doses of TT (TT2, TT3, TT4 and TT5) given to pregnant women during a calendar year is divided by the estimated live births during the same year.TT2+ coverage among pregnant mothers had stagnated at between 30-40% in most African countries. But the number of women's receives sufficient dose of TT was higher than in urban than rural (72%, 46%). This discrepancy shows that there is gap b/n rural and urban area. From total mothers who receive TT immunization 41.3% have no education, 57.4% have primary education, 76.0% have secondary education and 82.5% have more than secondary education. When compare EDHS 2011 to EDHS 2016 no significant change in percentage of TT vaccination for mother's that have no education and have education more than secondary school. On the other hand percentage TT vaccinations decrease for mothers who have primary and secondary education[12].

The aim of our study is to assess proportion of TT immunization completion and completion factors that leading to incomplete TT immunization and the existence of those factor that we have mentioned in the statement of problem in our study area and which are reported as common problem in developing country such as lack of information and motivation, unaware of the need of immunization, did not know the importance of TT vaccination.

1.3. Significance of the Study

The primary beneficiary of the study was wolkite town health centers, health office and other NGO work on health and health related activities in the study area. These health centers, health office and NGO was used the finding as supportive evidence in planning for maternal and neonatal Tetanus elimination intervention program. The health workers may use to create awareness on community, give health education about the importance of TT vaccination and TT supplementary immunization activities to all pregnant and child bearing age women. Findings from this study can guide program managers on how to reduce incomplete vaccination of TT and consequently, reduce the incidence of vaccine preventable diseases in the study areas and probably other parts of the country with similar challenges. Therefore, the aim of this study was assess factors affecting complete vaccinations among reproductive age women's and to generate data that could be used for better planning and strengthening of routine immunization services. This was benefit to the mothers and newborns protecting from maternal and neonatal tetanus. In addition, a finding of this study was providing as the supportive for future studies in assessing and comparing the performance of the intervention.

2. LITERATURE REVIEW

2.1. Prevalence of complete TT vaccine immunization

Study conducted in Pakistan shows that 79% of pregnant women were vaccinated with two doses of TT vaccine, whereas 16% were unvaccinated, and 5% of women received more than the required number of vaccinations[13].

According to study conducted in Bangladish 8% of pregnant women were vaccinated with TT1, 15% were vaccinated with TT2, 14% were vaccinated with TT3, 14% of pregnant women were vaccinated with TT4, whereas 52% of them were fully vaccinated[14].

Study conducted in Alexander shows that 13.3% of pregnant women were vaccinated with TT1 vaccine, 18.3% of pregnant were vaccinated with TT2, 7% of pregnant women were vaccinated with TT3 vaccine, 2% of pregnant women were vaccinated with TT4 vaccine, whereas 0.42% of them were fully vaccinated[15].

According to study conducted in Shashemene Town Southern Ethiopia in 2017, revealed that valid TT immunization utilization status a significant proportion of the mothers, 41.96% mothers were never vaccinated with any doses of TT drug and had no documentation (card). Out of the interviewed mothers, 37.36% were vaccinated the valid TT2+ doses, 16.5% were vaccinated by the TT1 vaccination dose, 29.57% were vaccinated TT3+, 17.57%were vaccinated TT4+ and only 20.36% were fully vaccinated[16].

2.2. Factors associated with complete immunization of Tetanus Toxoid vaccine

2.2.1. Socio Demographic factors

According to study conducted in Sierra Leone in 2017GC 65.16% of reported receiving at least two doses of TT immunization during their most recent pregnancy. Among women reported receiving TT immunization, 68.7% were in rural areas and 31.3% were urban. About 59.7% had no attended formal education, 13.5% of them were attending primary education, 15.2% were attending secondary education and 11.5% were attending higher educational level[17].

Study conducted in Nigeria in Etche Local Government Area, Rivers State, shows that from a total women's who had received 2 or more doses of TT 31.2% of them were $\leq$ 30 years, while

42.7% of them were above 30 years. In addition to this level of education is statistically significant on TT vaccination, from a total women's who had received 2 or more doses of TT 2.2% had primary, 83.4% secondary and 14.4% tertiary level of education [18].

According to study conducted in northwest Ethiopia (University of Gonder) 2019 shows that maternal educational status, marital status, residency, media access and occupation is significantly associated with TT vaccine immunization, from total women's who had received 2 or more doses of TT. [19].

2.2.2. Obstetric Characteristics of Mother

According to study conducted in Afghanistan women attending ANC visits had greater odds of sufficient antenatal TTCV than women who did not receive ANC. Those attending four ANC visits had 4.6 times greater odds of sufficient antenatal TTCV coverage compared to women without any ANC[20].

A cross-sectional study conducted in Egypt (Dakahlia Governorate) shows that parity and ANC services provide an opportunity to vaccinate pregnant women with the protective doses of TT vaccination. The odds of receiving TT vaccine were significantly higher among women who had one or two parities. On the ANC follow up 1.5 times higher among women who had at least 4 antenatal follow up visits compared to women who had less than 4 antenatal follow up visits[21].

A community-based cross-sectional study conducted in Dukem Town, Eastern Ethiopia revealed that mothers utilizing ANC service follow ups were 2.56 times more likely to vaccinated protective dose of TT vaccine than those who did not follow ANC services. With their future intention of giving birth 59.4% of the mothers did not have future intention of giving birth, while 41.1% of the mothers have future intention of giving birth [22].

2.2.3. Health service related factors on Tetanus Toxoid vaccination status

A Cross-sectional data were obtained on women of childbearing age in Hanoi, Vietnam, the rate of sufficient tetanus vaccination was the highest among women who considered the commune health center the nearest facility offering tetanus vaccination service (47.0%) and had a travel time of fewer than 10 min to the nearest vaccination facility (46.8%). Meanwhile, the lowest proportion of sufficient tetanus vaccination was among women whose homes were more than 5

km far from the nearest vaccination facility 22.7%. The demand for tetanus vaccination significantly differed among groups regarding the nearest facility offering tetanus vaccination, travel time and distance to this facility[23].

A community based cross-sectional study conducted in Wolaita (Duguna Fungo district) showed that those mothers who gave birth at health facilities were 1.19 times more likely vaccinated protective dose of TT vaccine compared to those who gave birth at home. Those mothers who received advice from health professionals on tetanus toxoid vaccination during antenatal visit were about 7 times more likely got two and more doses of the vaccine than those mothers who did not get the advice[24].

Study conducted in Kembata Tembaro Zone (Damboya Woreda) revealed that Health extension worker home visit had positive impact on TT vaccination status of a mother. Mother who was visited in her home during last pregnancy by health extension worker was 9 -7 times more likely to receive protective dose of TT vaccine than those mothers who did not visit[25].

2.2.4. Knowledge about Tetanus Toxoid on vaccination

A cross sectional study conducted in Pakistan (Khairpur District, Sindh) shows that 81% respondents had heard about TT vaccination and 41.7% of respondents used as major source of information was health care provider. Most of the respondents 78.9% were considering Tetanus as a health problem. Furthermore 36.7% respondents knew that completion of five doses of Tetanus Toxoid vaccination can protect them from Tetanus disease[26].

According to study conducted in Pak Emirates Military Hospital Rawalpindi revealed that Only 8.88% of women reported to have the knowledge or have heard of the tetanus disease, while 91.2% was lacked knowledge of tetanus toxoid vaccination[27].

A study conducted in Mosul City indicated that 10.5% of pregnant woman had the knowledge of TT as protect mother from tetanus disease during pregnancy, 22.8% of mothers had a knowledge of TT that protect fetus from tetanus disease during pregnancy and 13.6% of them had no a knowledge on the purpose of TT vaccine. In addition to this 30.8% of mothers know Suitable time to take TT vaccine were during a pregnancy, 11.5% of the respondent’s know TT vaccine were taken before a pregnancy, while3.8% of mothers don’t know when to take TT vaccine[2].

2.3. Conceptual Frame Work

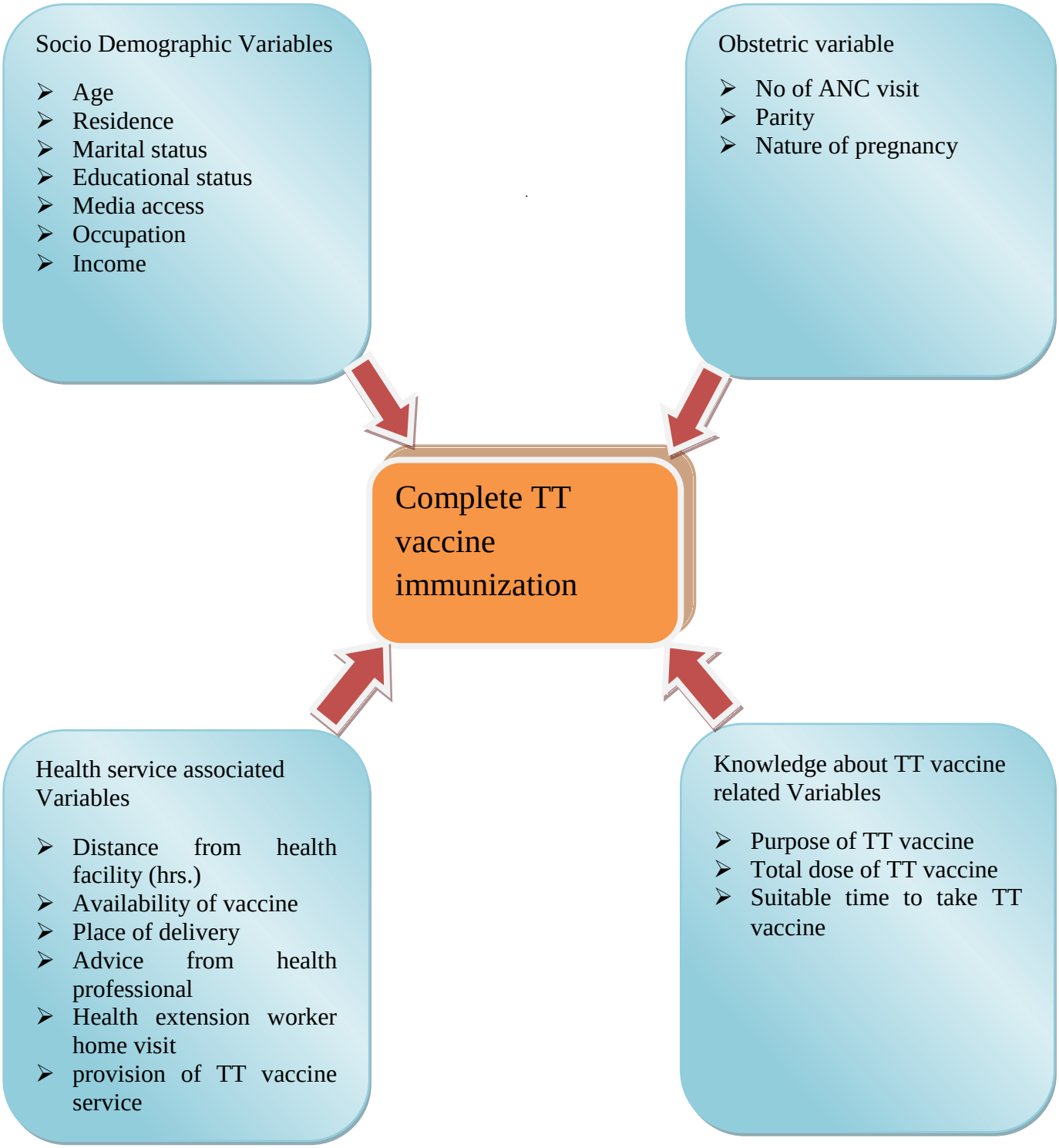

Figure 1: Conceptual frame work developed from different literature [1].

3. OBJECTIVES

3.1. General objective

- To assess the proportion of complete tetanus toxoid immunization status and associated factors among pregnant mothers who attending ANC at Wolkite town health centers, Gurage zone, southern Ethiopia, 2023.

3.2. Specific objective

- To determine the proportion of complete tetanus toxoid immunization status and associated factors among pregnant mothers who attending ANC at Wolkite town health centers, Gurage zone, Southern Ethiopia, 2023.
- To identify associated factors that affecting complete immunization of tetanus toxoid vaccine among pregnant mothers who attending ANC at Wolkite town health centers, Gurage zone, Southern Ethiopia, 2023.

4. METHOD AND MATERIALS

4.1. Study area

Wolkite is a town in south western Ethiopia which is the administrative center of Gurage zone, SNNPR, which is found around 167 km far from Addis Ababa. This town has an elevation between 1910 and 1935 meter above sea level. Based on 2007 census conducted by the central statistical agency, this town has a total population of 28,866, of whom 15,074 are men and 13,792 women. Wolkite is a town has 1 Hospital which is Wolkite University Specialized and Teaching Hospital (WKUSTH) and 4 local governmental health centers; those are Wolkite health center (WHC), Ediget ber health center (EBHC), Fikado Health center(FHC) and Gubreye health center (GHC).

4.2. Study period

The study was conducted on August, 2023

4.3. Study design

An institution based-cross-sectional study was employed

4.4. Population

4.4.1. Source population

All pregnant mothers attending ANC and who came for follow up at Wolkite town health centers.

4.4.2. Study population

Pregnant mothers attending ANC and who came for follow up and who was included in the sample during the data collection period at Wolkite town health centers.

4.4.3. Study unit

A pregnant woman attending her ANC follow-up at Wolkite town health centers.

4.5. Inclusion and Exclusion Criteria

4.5.1. Inclusion criteria

Pregnant women visiting ANC at Wolkite town health centers

4.5.2 Exclusion criteria

Women who were pregnant for the first time

Women who were seriously ill, unable to respond

4.6. Sample size determination and sampling technique

4.6.1. Sample size determination

Sample size was calculated by using single proportion formula at 95% confidence level of certainty which is equal to 1.96, 5% margin of error. The proportion of population 50% and non-response rate of 5% was considered in the estimation of sample size required for the study.

$((Z\alpha^2)\ P\ (1\text{-}P))/d^2$

Where n = sample size

$Z\alpha^2$ = critical value for normal distribution at 95% CI which is equal to 1.96

d = marginal error 5%=0.05

P = single population proportion 50%=0.5

$n = (1.96)^2\ 0.5\ (1\text{-}0.5) / (0.05)^2$

n =384.16~384, by adding 5% non-response rate final sample size will be 403.

Since our source population is less than 10,000 we used correction formula

$$no = \frac{n}{1 + \frac{n}{N}}$$

Where no= minimum required sample size if population is less than 10,000

n = minimum required sample size

N = total number of pregnant woman attending ANC follow-up at Wolkite town health centers

$$no = \frac{n}{1 + \frac{n}{N}}$$

$$no = \frac{403}{1 + \frac{403}{577}} = 237.28 \approx 237$$

Total sample size = *237*

4.6.2. Sampling technique

In Wolkite town there are 4 health centers. According to last 1 month data there are a total of 577 pregnant women who has ANC follow-up at four health centers. At Wolkite health center, Edgetber health center, Fikado health center and Gubreye health center there are 482, 45, 28 and 22 pregnant women who has ANC follow-up respectively. We employed the systematic random sampling method to select eligible participants. A participant mother was proportionally select from each of the 4 health centers.

The sampling interval k=2 for each health centers. K was calculated by dividing the study population to the total sample size of each health center and this interval was used to select study subjects. The first client was selected by lottery method.

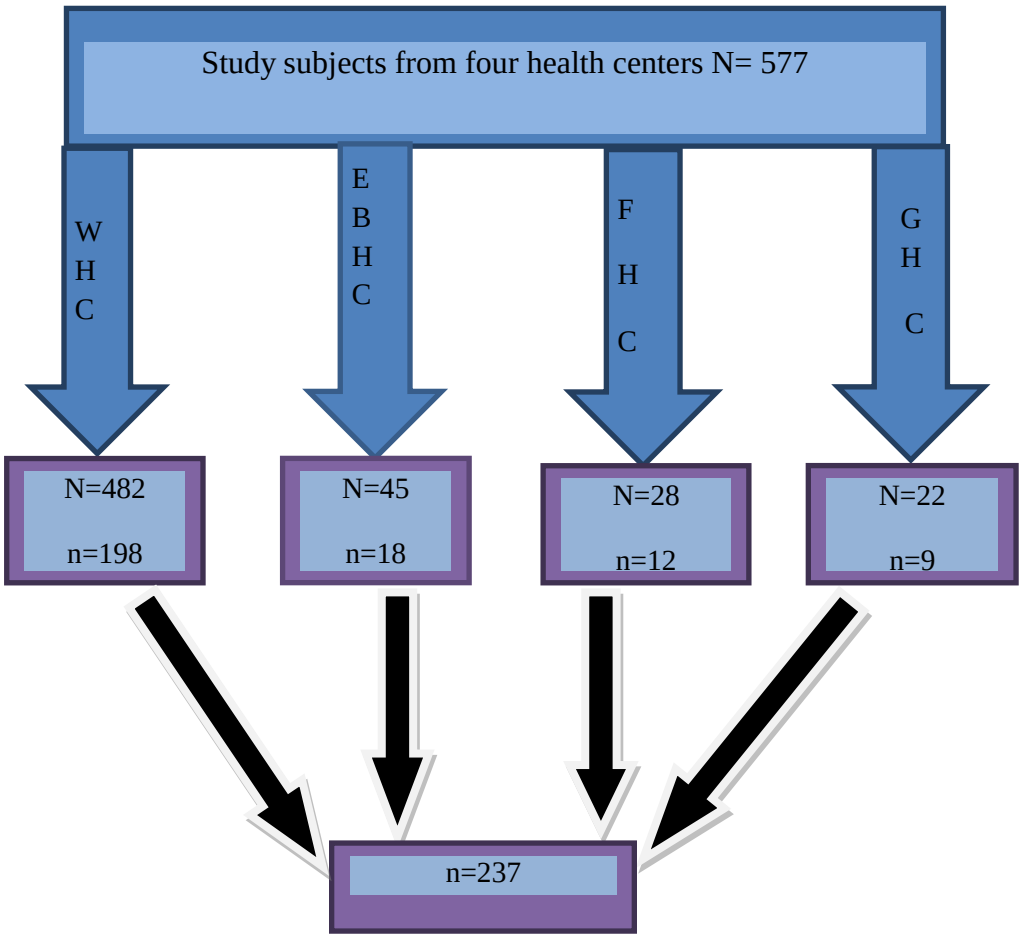

Figure 2: Schematic presentation of sampling procedure in three health centers of Wolkite town, southern Ethiopia from May-August, 2023

4.7. Study variable

4.7.1. Dependent variable

- Tetanus Toxoid immunization status

4.7.2. Independent variable

- **Socio-demographic variables**: - Age, marital status, mother's educational level, maternal occupation, Husband education, Husband Occupation, income, media access and residence.

- **Obstetric characteristics of the mother**: - number of ANC visits, nature of pregnancy, future intention of giving birth and parity.

- **Health facility related factors**:- time taken to travel from home to health facility, place of delivery, availability of vaccine, advice from health professional, health extension worker home visit provision of TT vaccine service and health care workers behavior.

- **Knowledge of the mother about TT vaccine**: - Purpose of TT vaccine, total dose of TT vaccine and Suitable time to take TT vaccine.

4.8. Operational definition

- **Complete TT immunization** – which means women who take five TT dose in appropriate schedule.
- **Incomplete TT immunization** - which means women who take less than five TT dose.
- **Valid TT doses-** Mothers who received at least 2 doses of TT (TT2) in the recommended intervals.
- **Immunization**-Protection of susceptible individuals from communicable diseases by administration of an inactivated toxin.
- **Tetanus Toxoid**- It is a vaccine that is given to the women of child bearing age to prevent neonatal tetanus.

4.9. Data collection instrument and Procedures

The study was continuously collected primary data through data collection tools which modified after review of literature. Data was collected through face to face interview by structured questionnaire which has four components (socio-demographic, obstetric, health service related and knowledge on TT immunization related questions).The questionnaire was first prepared in English and translated to Amharic for better understanding by both data collector and respondents, then back to English again to check for completeness and its consistency to insure the quality of data. Pretest was done before data collection at Agena primary hospital on 5% pregnant women's by principal investigators then the questionnaire was modified.

4.10. Data quality control

To ensure quality, questionnaire was initially prepared in English language and then translated in to Amharic, by experts and back translated to English to check the consistency of the questioner finally before data entry again it was re-translated back to English. Training was given for data collectors and supervisors for two day regarding the objective of the study, data collection tool, ways of data collection, checking the completeness of data collection tool and how to maintain confidentiality. Trained BSc health professionals were involved for coordination of data collection process and supervision.

Questionnaire was checked for completeness before data entry in to software. Proper coding and categorization of data was maintained for the quality of the data to be analyzed. Double data entry was done for its validity and compare to the original data. The data was collected by health professionals. Moreover, we conducted a pretest study prior to the actual process to test the validity and consistency of the data collection instrument by using 5% of the sample in Agena primary hospital. Based on the pretest analysis, we modify some misinterpretations, minimized the number of interview questions, and make corrections to some other objections. The data collectors were collect the information by face to face interview of mothers. Before interviewing the mothers, data collectors gave information about the aim of the study, purposes, risks and possible benefits, the right and refusal to participate in the study and after information was collected the confidentiality. Then that mother who are willing and who signed in the voluntary consent was interviewed. The interview was done for consecutive 15 days by data collectors.

4.11. Data Processing & Analysis

The collected data was checked manually for clarity and completeness. Each completed questionnaire was assigned with a unique code, labeled, verified, categorized, and entered into SPSS version 25 then analyze the data. Descriptive statistics, like frequencies, percentages, means and standard deviations was computed. Binary logistic regression was used to determine the association between the outcome variable and predictors. Then, variables with a p value less than 0.25 was selected to be a candidate for multivariable logistic regression analysis. In the multivariable logistic regression analysis, variables having a p value of <0.05 was used to declare statistical significance. Adjusted ORs together with its corresponding 95% CIs was taken to measure the level of significance of the association. Finally, the result of this study was summarized and presented in tables, figures, text and graphs.

4.12. Ethical consideration

Ethical clearance was obtained from Wolkite University College of medicine and health science department of public health. After permission is obtained support letters written by the university was submitted to all concerned bodies in the study site. A verbal informed consent is also obtained from each respondent before any activities of the study. The objective of the study was explained to the study subjects. Confidentiality was kept throughout data collection and the women's has a right to refuse or discontinue the interview.

4.13. Plane for dissemination of the result

The result of the study was submitted and presented open defense to Wolkite University collage of health science department of public health. The copy of the result was disseminated to different stakeholders at Wolkite Town health office and health centers and Wolkite university library and the finding of this study would be published in a scientific peer reviewed journal.

5. RESULT

5.1. Socio demographic

A total of 237 women were interviewed with a response rate of 92.8%. Mean age of our respondents is 30. 68 (30.9%) women have attended elementary school. Among the total women interviewed 202 (91.8%) women were married. 105(47.7%) of the respondent's monthly income was between 1500-3000 ETB and also 174(79.1%) of the respondents have TV or radio in their house. (Table 1)

Table 1:Socio demographic characteristics of proportion of complete tetanus toxoid immunization status and associated factors among pregnant mothers who attending ANC at wolkite town health centers, Southern Ethiopia, 2023(n=220).

Variable		Frequency	Percent
Age	17-25	44	20
	26-35	141	64.1
	36-45	35	15.9
Residency	Urban	131	59.5
	Rural	89	40.5
Religion	Orthodox	93	42.3
	Muslim	66	30
	Catholic	27	12.3
	Protestant	22	10
	Other*	12	5.5
Marital status	Single	4	1.8
	Divorced	8	3.6
	Married	202	91.8
	Widowed	6	2.7
Educational status of mother	Cannot read and write	25	11.4
	Only read and write	46	20.9
	Elementary school	68	30.9
	Secondary school	51	23.2
	Grade 12 and above	30	13.6
Mother occupation	House wife	112	50.9
	Government employed	21	9.5
	Private employed	19	8.6
	Farmer	11	5.0
	Merchant	52	23.6
	Other**	5	2.3

Monthly income	<=1500	89	40.5
	1501-3000	105	47.7
	>=3001	26	11.8
Husband education	Cannot read and write	22	10.0
	Only read and write	28	12.7
	Elementary school	19	8.6
	Secondary school	45	20.5
	Grade 12 and above	106	48.2
Husband's occupation	Government employed	52	23.6
	Private employed	33	15.0
	Farmer	21	9.5
	Merchant	110	50.0
	Other***	4	1.8
TV/Radio	Yes	174	79.1
	No	46	20.9

*includes; Waqefata, Jova, Adventist

**includes; Daily labor worker, Student

***includes; Daily labor worker, student

5.2. Obstetric determinants

About 213 (96.8%) of the women had antenatal care, but 173 (78.6%) mothers visited health institutions less than 4 times for ANC services in their previous pregnancy.(Table 2).

Table 2:Obstetric related characteristics of the respondent's complete tetanus toxoid immunization status and associated factors among pregnant mothers who attending ANC at wolkite town health centers, Southern Ethiopia, 2023(n=220).

Variable		Frequency	Percent
Nature of pregnancy	Planed	86	39.1
	Unplanned	46	20.9
	wanted	45	20.5
	Unwanted	43	19.5
Number of pregnancy	<4	51	23.2
	>=4	169	76.8
Number of children	0-1	56	25.5
	2-4	146	66.4
	>=5	18	8.2
have you ANC follow-up	Yes	213	96.8
	No	7	3.2
Number of ANC	<4	155	70.5
	>4	65	29.5
Future fertility intention	Want	136	61.8
	don't want	42	19.1
	Undecided	42	19.1

5.3. Knowledge of women on tetanus vaccination

Majority of mothers 189(85.9) know TT vaccine is a vaccine given for childbearing age women. Knowledge of mothers about the purposes of TT immunizations was to prevent mothers and children from getting tetanus disease and to prevent only mothers were 78 (35.5%). As mothers were asked for the reasons why they don't complete TT vaccination, 106(48.2%) of them said not aware. Regarding the dose of tetanus immunization taken, 7 (3.2%) mothers did not take any immunization and 34 (15.5%) mothers took only one dose of tetanus immunization. The rest 104(47.3%), 15(6.3%), 3 (1.4%) and 44(20%) mother's had immunized for TT2, TT3, TT4 and TT5 respectively (Table 3).

Table 3:Knowledge related characteristics of the respondents complete tetanus toxoid immunization status and associated factors among pregnant mothers who attending ANC at wolkite town health centers, Southern Ethiopia, 2023(n=220).

Variable		Frequency	Percent
Heard about TT vaccine	Yes	183	83.2
	No	37	16.8
What is TT vaccine	A vaccine	189	85.9
	Family planning	13	5.9
	I don't know	18	8.2
the purpose of TT vaccine	To prevent mother and baby	78	35.5
	To prevent only mother	78	35.5
	To prevent only baby	29	13.2
	I don't know	35	15.9
supposed to receive TT	All childbearing age women	31	14.1
	Only children	10	4.5
	Only pregnant women	143	65
	I don't know	36	16.4

Total dose of TT vaccine	One	11	5.0
	Two	113	51.4
	Three	30	13.6
	Four	15	6.8
	Five	25	11.4
	I don't know	26	11.8
Have you ever given vaccine	Yes	204	92.7
	No	6	2.7
	I don't know	10	4.5
How many doses did you take	No	7	3.2
	One times	34	15.5
	Two times	104	47.3
	Three times	15	6.3
	Four time	3	1.4
	Fives	44	20.0
	I don't know	13	5.9
age of get vaccination	1-15years	29	13.2
	15-49years	191	86.8
Reason not getting TT	Not aware	106	48.2
	Nobody advice	28	12.7
	Fear of side effects	35	15.9
	No problem experienced	26	11.8
	Other*	25	11.4

*Includes; forgetting appointment date, lack of time, Service area too far, Provider not available

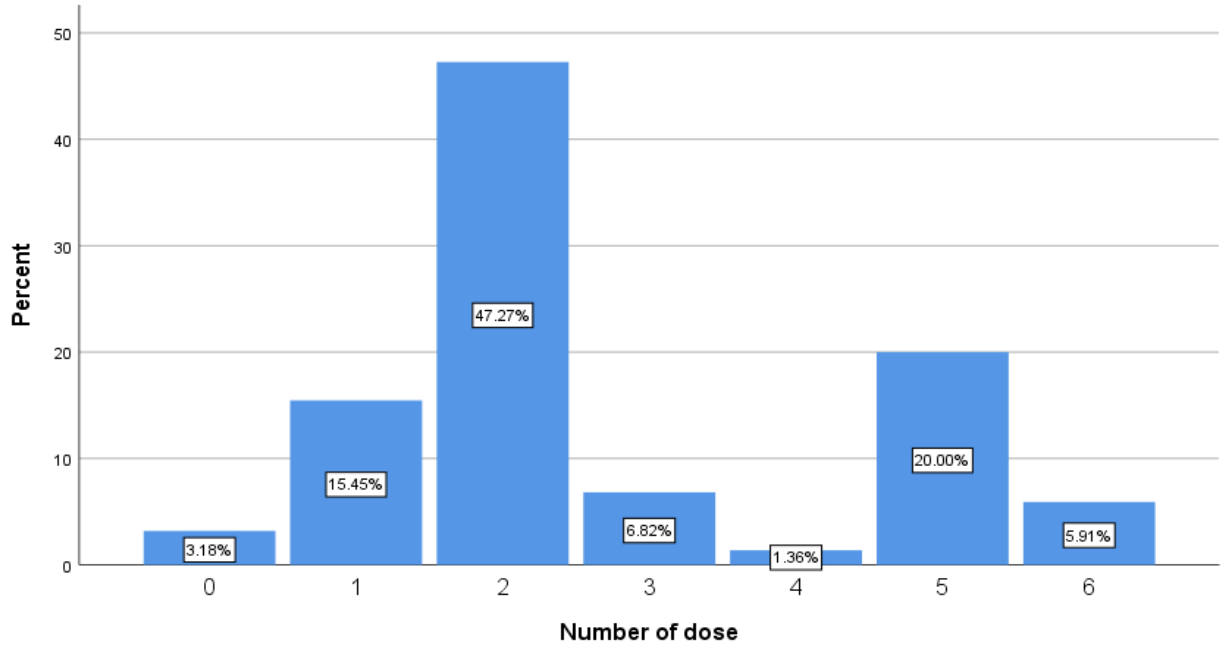

Figure 3: Level of tetanus toxoid vaccination coverage among pregnant mothers who attending ANC at wolkite town health centers, Southern Ethiopia, 2023(n=220).

5.4. Maternal health service utilization and TT vaccination status

Among those women who visited health center for ANC was 186(84.5%). Majority of the respondent's 162(73.6%) replied that quality of service given were satisfactory and 134(60.9) rank behavior of health workers as good. More than half, 182(82.7%) of the participant mothers had confidence on service provider. (Table 4)

Table 4:Frequency of health service-related factor on complete tetanus toxoid immunization status and associated factors among pregnant mothers who attending ANC at wolkite town health centers, Southern Ethiopia, 2023(n=220).

Variables		Frequency	Present
ANC follow up	Health center	186	84.5
	Hospital	34	15.5
Place of TT given	Health center	182	82.7
	Hospital	28	12.7
	Home/Outreach	10	4.5
feel about the distance	Very close	49	22.3
	Average	128	58.2
	Too far	43	19.5
How long does it take	< 1hrs	145	65.9
	1-2hrs	44	20.0
	> 2hrs.	31	14.1
Provision of TT vaccine	Good	188	85.5
	Bad	32	14.5
health workers respectful	Yes	149	67.7
	No	71	32.3

confidence on the service provider	Yes	182	82.7
	No	38	17.3
your feeling on Services	Good	35	15.9
	Satisfactory	162	73.6
	Poor	23	10.5
behavior of health Workers	V. Good	25	11.4
	Good	134	60.9
	Fair	48	21.8
	Bad	13	5.9

5. 5. Factors affecting incomplete TT immunization

In the binary logistic regression analysis eight variables; residency, education status of the of the mother, nature of previous pregnancy, number of ANC, place of ANC follow up, feeling about the distance, respectfulness of the health workers and the reason why they don't complete TT immunization have shown significant association with TT immunization status at P value <0.25.

In multi variable logistic regression only four variables; Pregnant women who are secondary school 0.043 times [(AOR 0.043, 95% CI (0.007-0.271)] less likely received TT vaccine than those who attend grade 12 and above, women who had >4 ANC visits were 4 times [(AOR 3.589, 95% CI (1.288-10.005)] more likely to receive complete doses of TT injection than mothers who attended <4 ANC visits, women who are said health workers are not respectful were 0.12 times [(AOR 0.115, 95% CI (0.037-0.359)] less likely received TT vaccine than who are said they are respectful and based on feeling about the distance who said very close 18 times [(AOR 17.551, 95% CI (5.137-59.964)] more likely to receive complete doses of TT injection than who said average were significantly associated with TT immunization at P value <0.05.

Table 5:Binary and multivariable logistic regression analyses of factors associated with complete tetanus toxoid immunization among pregnant mothers who attending ANC at wolkite town health centers, Southern Ethiopia, 2023(n=220).

Variable	Categories	Tetanus toxoid immunization status		Cor (95%CI)	Aor (95%CI)	P-value
		Complete No (%)	Incomplete No (%)			
Residency	Urban	20(15.3%)	111(84.7%)	1	1	
	Rural	24(27%)	65(73%)	0.488(0.25-0.95)*	0.455(0.165-1.252)	0.127
Education of mother	Can't read & write	5(20%)	20(80%)	0.444(0.95-2.081)	0.124(0.015-1.054)	0.56
	Only read & write	6(13%)	40(87%)	0.741(0.170-3.220)	0.615(0.091-4.158)	0.618
	Elementary school	14(20.6%)	54(79.4%)	0.429(0.113-1.620)	0.290(0.052-1.634)	0.161
	Secondary school	16(31.4%)	35(68.6%)	0.243(0.064-0.920)*	**0.043(0.007-0.271)****	**0.001**
	Grade 12 & above	3(10%)	27(90%)	1	1	

Nature pregnancy	Planed	14(16.3%)	72(83.7%)	1	1	
	Unplanned	12(26.1%)	34(73.9%)	0.551(0.230-1.318)	0.772(0.181-3.282)	0.726
	wanted	8(17.8%)	37(82.2%)	0.899(0.346-2.337)	1.938(0.512-7.326)	0.330
	Unwanted	10(23.3%)	33(76.7%)	0.642(0.258-1.594)	3.011(0.676-13.404)	0.148
No of ANC follow up	>4	20(30.8%)	45(69.2%)	1	1	
	<4	24(15.5%)	131(84.5%)	2.426(1.225-4.804)*	**3.589(1.288-10.005)****	**0.015**
Where does your ANC	Health Centre	42(22.6%)	144(77.4%)	1	1	
	Hospital	2(5.9%)	32(94.1%)	4.667(1.074-20.283)	44.982(5.071-398.981)	0.001
Feel about the distance	Very close	21(42.9%)	28(57.1%)	1	1	
	Average	15(11.7%)	113(88.3%)	5.650(2.587-12.340)*	**17.551(5.137-59.964)****	**0.0001**
	Too far	8(18.6%)	35(81.4%)	3.281(1.264-8.518)	2.521(0.540-11.771)	0.240
health workers respectful	Yes	20(13.4%)	129(86.6%)	1	1	
	No	24(33.8%)	47(66.2%)	0.304(0.154-0.600)*	**0.115(0.037-0.359)****	**0.0001**
Reason not getting TT	Not aware	17(16%)	89(84%)	1	1	
	Nobody advice	5(17.9%)	23(82.1%)	0.879(0.293-2.633)	1.874(0.378-9.285)	0.442
	Fear of side effects	13(37.1%)	22(62.9%)	0.323(0.137-0.764)*	0.714(0.214-2.385)	0.584
	No problem experienced	3(11.5%)	23(88.5%)	1.464(0.395-5.429)	4.026(0.723-22.402)	0.112
	Other	6(24%)	19(76%)	0.605(0.211-1.736)	1.494(0.279-8.005)	0.639

Aor = Adjusted odd ratio

Cor = Crude odd ratio

Where: 1 = Reference

*includes P-value less than 0.25 in Binary logistic regression.

**includes P value less than 0.05 in multivariable logistic regression

6. DISCUSSION

The aim of this study was to assess proportion of complete tetanus toxoid immunization and its associated factor among pregnant mothers who attending ANC at Wolkite town health centers. Educational status of the mother, Number of ANC, their feeling about the distance of nearest health center and health workers respectfulness were among those associated with proportion of complete tetanus toxoid immunization.

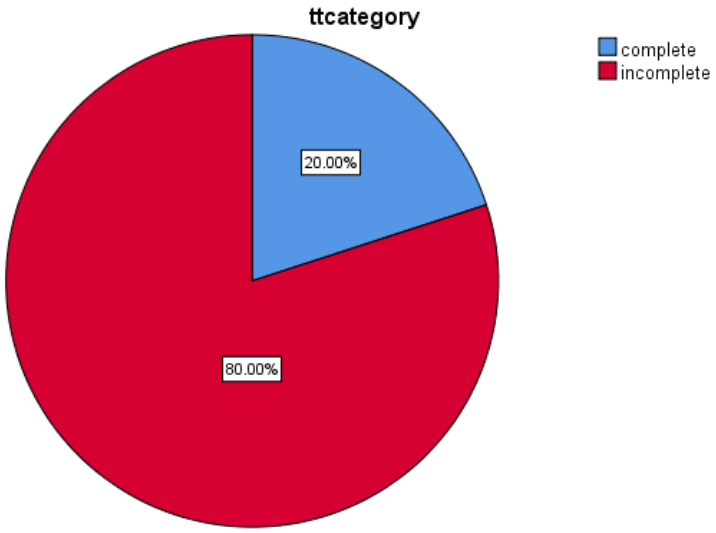

Figure 4: Proportion of TT vaccine among pregnant mothers who attending ANC at wolkite town health centers, Southern Ethiopia, 2023(n=220).

This study revealed that only 44(20%) of mother had achieved complete dose of TT immunization, which is similar result (20.36%) of study conducted in Shashemene town[16] But which is higher than result(8%) of study conducted in Damboya Woreda.[25] This increment may be due to regular provision of TT vaccination, integration of TT vaccination with ANC service, the time variation, the study setting in which it was community based and the sample size.[25]

This study revealed that maternal educational status was significantly associated with TT vaccine utilization. Pregnant women who are secondary school 0.043 times less likely to take adequate TT dose immunization as compared to those who are grade 12 and above. This might be due to the fact that education increases awareness of women on the benefits of immunization, a greater decision-making power at home and perhaps escalate capacity to travel outside the home to seek health care.[22]

Finding of this study revealed that mothers who attended >4 antenatal care visits were 3.6 times more likely to receive complete doses of TT injection than mothers who attended <4 antenatal care visits. The possible reason for this finding may be that women who have attended more ANC visits are more likely to be informed about the importance of TT immunization and would therefore receive it than those who attended less ANC visits.[28]

Distance of the household from the nearest immunization center who said very close was 18 times more likely to receive complete doses of TT injection than who said average distance. fell gradually with increasing distance from the immunization center decrease the completion of TT immunization.[29]

Women who are said health workers are not respectful were 0.12 times less likely received TT vaccine than who are said they are respectful. Our findings suggest that, most beneficiaries fail to get immunized due to the reasons that they are not treated well by health workers on their visit to the immunization Centers.[30]

7. LIMITATIONS AND STRENGTH OF THE STUDY

7.2. Strength of the study

The study identified the proportion of complete tetanus toxoid immunization and its associated factors at the study area.

It uses primary data as source of information.

Pretest was done before data collection.

7.2. Limitations of the study

Since cross-sectional study design was implemented, cause and effect relationship could not be established.

An institution based study was conducted; therefore it may not represent the population.

Since, small sample size was used it may lack generalization about all pregnant mother of the study area.

Most of the study participants did not have their immunization card, most information gotten were from recall, and therefore recall bias may be possible.

The presence of non-response rate.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1. Conclusion

The results of the study showed 20% of respondents were received complete TT vaccine. In this study was found to be analogues as compared to studies conducted in other parts of Ethiopia like Shashemene. Factors like educational status of the mother, number of ANC, their feeling about the distance of nearest health center and health workers respectfulness were among those were significantly associated with proportion of complete tetanus toxoid immunization.

8.2 Recommendations

This research revealed that complete tetanus toxoid immunization at the study area is low compared to study conducted in Ethiopian. Based on this study finding to increase complete tetanus toxoid immunization the following measure of interventions are worth recommending.

The health care provider should advice the women in detail about the vaccine (its importance, minimum dose required during each pregnancy and ANC follow up).

Health facilities provide appropriate vaccination cards accessible to remind about remaining TT doses.

Researchers should conduct further studies by using large sample size and other study design

The government should strength education of women to enhance vaccine utilization.

The concerned governmental body should promote accessibility of TT vaccine.

ANNEX I: Verbal consent

Dear respondent: Good morning/afternoon!

My name is _____ I am working as data collector in a study conducted by a BSc graduate student in the field of Public Health from Wolkite University. This questionnaire is prepared to conduct a study on **assessment of proportion of complete tetanus toxoid immunization status and associated factors among pregnant mothers who attending ANC at wolkite town health centers.** You are selected and included in the study as part of the sample population to complete the questionnaire designed by the researcher. The data you will provide is very helpful for the research. The information obtained in this study was used only for research purposes. Your name will not be put in the format. Any information obtained was kept strictly confidential and will not be exposed to any other body in connection to your name. Your participation is voluntary and you are not obliged to answer any questions you don't want. But your honest participation will contribute a lot to generate information to come up with important findings.

Consent form that certify the respondents agreement before the interview.

If your answer is yes please continue responding to the interview. And If No, thank and stop interviewing and skip to the next house.

Is it your first pregnancy?

Yes_____ No_____

If your answer is No, please continue responding to the interview. And If Yes, thank and stop interviewing and skip to the next house

Name of the interviewer _____Signature _____Date of interview_____

Name of health center_____ Name of the supervisor _____Sign_____

Questionnaire for institution based survey on proportion of Tetanus Toxoid immunization status and associated factors among pregnant mothers who attending ANC at Wolkite town health centers.

1, Questionnaire Code_____

ANNEX II: Questionnaire

Part I - socio-demographic characteristics of respondents

No	Questions	Answers
1	Maternal age	_____years
2	Residency	1, Urban 2, Rural
3	Religion	1, Orthodox 2, Muslim 3, Catholic 4, Protestant 5, Other_____
4	Marital status	1, Single 2, Divorced 3, Married 4, Widowed
5	Your educational status?	1, Cannot read and write 2, Only read and write 3, Elementary school 4, Secondary school 5, Grade 12 and above
6	What is your occupation?	1, House wife 2, Government employed 3, Private employed 4, Farmer 5, Merchant 6, Student 7, Other_____
7	Your monthly income	_____Birr
8	Your husband's educational status	1, Cannot read and write 2, Only read and write 3, Elementary school 4, Secondary school 5, Grade 12 and above
8	What is your husband's occupation?	1, Government employed 2, Private employed 3, Farmer 4, Merchant 5, Student 6, Other_____
9	Do you have TV/Radio	1, Yes 2, No

Part II: Questionnaire on Obstetric determinants

1	Nature of previous pregnancy	1, planed 2, unplanned 3, wanted 4, unwanted
2	Number of pregnancy	_____
3	Number of children	_____
4	Do you have ANC follow up for the previous pregnancy?	1, Yes 2, No
5	Number of ANC for the previous pregnancy	1, <4 2, >4
6	Future Fertility Intention	1, Want 2, don't want 3, undecided

Part III: Question on respondent's knowledge on TT vaccine

1	Did you heard about TT vaccine?	1, Yes 2, No
2	What is TT vaccine?	1, A vaccine given to women of childbearing age 2, Family planning given to women 3, I don't know
3	What is the purpose of taking TT vaccine	1, To prevent mother and baby from tetanus 2, To prevent only mother from tetanus 3, To prevent only baby from tetanus 4, I don't know
4	Who is supposed to receive TT vaccine?	1, All childbearing age women 2, Only children 3, Only pregnant women 4, I don't know
5	Total dose of TT vaccine	1, One 2, Two 3, Three 4, Four 5, Five 6, I don't know
6	Have you ever given "vaccine injections" to prevent from	1, Yes 2, No

	getting tetanus	3, Don't Know
7	How many doses did you take?	1, One 2, Two 3, Three 4, Four 5, Five 6, I don't know
8	At what age you have get vaccination?	1, 1-15 year 2, 15-49 year
9	Reason not getting TT injection (more than one answer is possible)	1, Not aware 2, Nobody advice 3, Service area too far 4, Fear of side effects 5, Provider not available 6, No problem experienced 7, Other

Part IV: Questionnaire on TT immunization service related

1	Where does your ANC follow up	_____
2	Place of TT dose given	A, Health Post B, Health Centre C, Hospital D, Home/Outreach
3	How do you feel about the distance from your home to the nearest health institution?	1, Very close 2, Average 3, Too far
4	How long does it take to travel from your home to the nearest health institution?	1, < 1hrs 2, 1-2hrs 3, > 2hrs.
5	Provision of TT vaccine	1, Good 2, Bad
6	Were the health workers respectful?	1, Yes 2, No
7	How do you rank the behavior of health Workers providing immunization services?	1, V. Good 2, Good 3, Fair 4, Bad
8	What is your feeling about the quality of Services given?	1, Good 2, Satisfactory 3, Poor
9	Do you have confidence on the service Provided at that health institution?	1, Yes 2, No

Thank you for your cooperation!

አባሪ 1፡ የቃል ስምምነት

ውድ ምላሽ ሰጪ፡ እንደምን አደሩ/ዋሉ!

ስሜ _____ ከወልቂጤ ዩኒቨርሲቲ በህዝብ ጤና ዘርፍ በቢኤስሲ ተመራቂ ተማሪዎች ባካሄዱት ጥናት መረጃ ሰብሳቢ ሆኜ እየሰራሁ ነዉ:: ይህ ጥያቄ በወልቂጤ ከተማ ጤና ጣቢያ ቅድመ ወሊድ ክትትል በተገኙ ነፍሰጡር እናቶች ላይ የመንጋጋ ቆልፍ ክትባት ሙሉ በሙሉ በሽታ የመከላከል አቅም እና ተዛማጅ ነገሮችን በመገምገም ላይ ጥናት ለመስራት ዝግጁ ናቸው። በተመራማሪዎቹ የተነደፈውን ጥያቄ ለማጠናቀቅ በጥናቱ ከተመርጡት ውስጥ የናሙናው ህዝብ አካል በመሆን ተካትተዋል። የሚቀርቡት መረጃዎች ለምርምሩ በጣም ጠቃሚ ናቸው። በዚህ ጥናት የተገኘው መረጃ ለምርምር ብቻ የሚውል ይሆናል። ስምዎት አይጠቀስም። የተገኘው ማንኛውም መረጃ በጥብቅ በሚስጥር ይቀመጥና ከስምዎ ጋር በተያያዘ ለማንኛውም አካል አይጋለጥም። ተሳትፎዎት በፈቃደኝነት ላይ የተመሰረተ ነው እናም የማይፈልጉትን ማንኛውንም ጥያቄ የመመለስ ግዴታ የለብዎትም። ይሁን እንጂ በሐቀኝነት ተሳትፎ ማድረግዎ ጠቃሚ የሆኑ ግኝቶችን መረጃ ለማግኘት የሚያስችል ከፍተኛ አስተዋጽኦ ያበረክታል።

ቃለ መጠይቅ ከመጀመራቸው በፊት ለጥያቄዎቹ ስምምነት ማረጋገጫ የሚውል ስምምነት

ለሚቀጥሉት ጥያቄዎች አቅምዎ የፈቀደውን ያህል መልስ ለመስጠት ተስማምተዋል?

አዎ_____ አልተስማማሁም _____

መልስዎ አዎ የሚል ከሆነ እባክዎ ለቃለ መጠይቁ ምላሽ መስጠትዎን ይቀጥሉ። አይደለም ከሆነ ደግሞ አመሰግናለሁ እና ቃለ መጠይቁን አቁመው ወደሚቀጥለው ክፍለ ይዘዋወሩ።

የመጀመሪያ እርግዝናዎ ነው?

አዎ_____ አይደለም_____

መልስዎ አይደለም የሚል ከሆነ እባክዎ ለቃለ መጠይቁ ምላሽ መስጠትዎን ይቀጥሉ። አዎ ከሆነ ደግሞ አመሰግናለሁ እና ቃለ መጠይቁን አቁመው ወደሚቀጥለው ክፍለ ይዘዋወሩ።

ቃለ-መጠይቅ አድራጊው ስም _____ ፊርማ _____ የቃለ መጠይቅ ቀን _____

የጤና ማእከል ስም _____ የአለቃ ስም _____ ፊርማ _____

የመንጋጋ ቆልፍ ክትባት ሙሉ የክትባት ስርጭትን በተመለከተ በወልቂጤ ከተማ ጤና ጣቢያዎች ቅድመ ወሊድ ክትትል በተገኙ ነፍሰጡር እናቶች ላይ ተቋማዊ መሰረት ያደረገ የዳሰሳ ጥናት መጠይቅ።።

1, የመጠይቁ ኮድ_____

አባሪ II፡ መጠይቅ

ክፍል I - የምላሾች ማህበራዊ-ስነ-ሕዝብ ባህሪያት

ተ.ቁ	ጥያቄዎች	መልሶች
1	ዕድሜዎ	_____ዓመት
2	የመኖሪያ ቦታዎ	1, ከተማ 2, ገጠር
3	ሐይማኖትዎ ምንድን ነው?	1, ኦርቶዶክስ 2, ሙስሊም 3, ካቶሊክ 4, ፕሮቴስታንት 5, ሌላ_____
4	የጋብቻ ሁኔታዎ	1, ያላገባሁ 2, ያገባሁ 3, የተፋታሁ 3, ባል የሞተብኝ
5	የትምህርት ደረጃዎ	1, ማንበብ እና መፃፍ አልችልም 2, ማንበብ እና መፃፍ ብቻ 3, አንደኛ ደረጃ 4, ሁለተኛ ደረጃ 5, 12ኛ ክፍል እና ከዚያ በላይ
6	ሥራዎ ምንድን ነው?	1, የቤት እመቤት 2, የመንግስት ተቀጣሪ 3, የግል ተቀጣሪ 4, ገበሬ 5, ነጋዴ 6, ተማሪ

		7, ሌላ
7	ወርሃዊ ገቢዎ ምን ያህል ነው?	_____ብር
8	የባለቤትዎ ትምህርት ደረጃ	1, ማንበብ እና መፃፍ አይችልም 2, ማንበብ እና መፃፍ ብቻ 3, አንደኛ ደረጃ 4, ሁለተኛ ደረጃ 5, 12ኛ ክፍል እና ከዚያ በላይ
8	የባለቤትዎ ስራ ምንድነው?	1, የመንግስት ተቀጣሪ 2, የግል ተቀጣሪ 3, ገበሬ 4,ነጋዴ 5, ተማሪ 6, ሌላ
9	ቲቪ/ሬዲዮ አለዎት?	1, አዎ 2, የለኝም

ክፍል II፡ የፅንስ መወሰኛ መጠይቅ

1	የቀድሞው እርግዝናዎ ሁኔታ	1, የታቀደ 2, ያልታቀደ 3, የሚፈለግ 4, የማይፈለግ
2	ስንተኛ እርግዝናዎ ነው?	_____
3	ስንት ልጆች አሎት?	_____
4	ለቀድሞው እርግዝና የቅድመ ወሊድ ክትትል ነበረዎት?	1, አዎ 2, አይ
5	ለቀድሞው እርግዝና የቅድመ ወሊድ ክትትል ብዛት	1, ከ4 በታች 2, ከ4 በላይ
6	ወደፊት መውለድ ይፈልጋሉ?	1, እፈልጋለሁ 2, አልፈልግም 3, አልወሰንኩም

ክፍል III፡ ስለ መንጋጋ ቆልፍ ክትባት ምላሽ ሰጪዎች ዕውቀት ላይ የተመሰረተ መጠይቅ

1	ስለ መንጋጋ ቆልፍ ክትባት ሰምተው ያውቃሉ?	1,አዎ 2, አላውቅም
2	የመንጋጋ ቆልፍ ክትባት ምንድን ነው?	1, በመውለድ ዕድሜ ላይ ላሉ ሴቶች የሚሰጥ ክትባት 2, ለሴቶች የሚሰጥ የቤተሰብ ምጣኔ 3, አላውቅም
3	የመንጋጋ ቆልፍ ክትባትን የመውሰድ ዓላማው ምንድን ነው?	1, እናቶችን እና ሕፃናትን ከመንጋጋ ቆልፍ መከላከል 2, እናቶችን ብቻ ከመንጋጋ ቆልፍ መከላከል 3, ሕፃናትን ብቻ ከመንጋጋ ቆልፍ መከላከል 4, አላውቅም
4	የመንጋጋ ቆልፍ ክትባትን መውሰድ ያለበት ማነው?	1, ሁሉም የመውለድ እድሜ ላይ ያሉ ሴቶች 2, ልጆች ብቻ 3, እርጉዝ ሴቶች ብቻ 4, አላውቅም
5	አጠቃላይ የመንጋጋ ቆልፍ ክትባት መጠን ስንት ነው?	1, አንድ 2, ሁለት 3, ሶስት 4, አራት 5, አምስት 6, አላውቅም
6	መንጋጋ ቆልፍ ለመከላከል “የክትባት	1, አዎ 2, አልተሰጠኝም 3, አላውቅም

	መርፌ” ተሰጥቶዎት ያውቃል?	
7	ምን ያህል የመንጋጋ ቆልፍ ክትባት መጠን ወስደዋል?	1, አንድ 2, ሁለት 3, ሶስት 4, አራት 5, አምስት 6, አላውቅም
8	በየትኛው እድሜዎ ነው ክትባት የወሰዱት?	1,1-15 ዓመት 2,15-49 ዓመት 3, > 49 ዓመት
9	የመንጋጋ ቆልፍ ክትባቱን ያልወሰዱበት ምክንያት ምንድነው? (ከአንድ በላይ መልስ መሥጠት ይቻላል)	1, እውቀቱ የለኝም 2, ምክር አላገኘሁም 3, የአገልግሎት መስጫው ጤና ተቋም ሩቅ መሆን 4, የጎንዮሽ ጉዳቶችን መፍራት 5, አቅርቦት ባለመኖሩ 6, ምንም ችግር አላጋጠመኝም

ክፍል IV ፡ ስለ መንጋጋ ቆልፍ ክትባት አገልግሎት ተዛማጅ መጠይቅ

1	የእርስዎ ቅድመ ወሊድ ክትትል የት ነው	_____
2	የመንጋጋ ቆልፍ ክትባቱን የወሰዱት የት ነው?	ሀ, ጤና ኬላ ለ, ጤና ጣቢያ ሐ, ሆስፒታል መ, ቤት
3	ከቤትዎ አቅራቢያ የሚገኘው የጤና ተቋም ድረስ ያለው ርቀት ምን ያህል ነው?	1, በጣም ቅርብ 2,አማካኝ 3, በጣም ሩቅ
4	ከቤትዎ አቅራቢያ ወደሚገኝ የጤና ተቋም ለመድረስ ምን ያህል ጊዜ ይወስዳል?	1, <1ሰዓት 2,1-2ሰዓት 3, > 2ሰዓት
5	ስለ መንጋጋ ቆልፍ ክትባት አሰጣጥ ያለዎት አስተያየት	1, ጥሩ 2, መጥፎ
6	የጤና ባለሙያዎቹ ተገቢ አክብሮትን ያሳያሉ?	1, አዎ 2, አይደለም
7	የክትባት አገልግሎት የሚሰጡ የጤና ሰራተኞች ባህሪ ምን ይመስላል?	1, በጣም ጥሩ 2,ጥሩ 2, ፍትሃዊ 4, መጥፎ
8	ስለተሰጠው አገልግሎት ጥራት ምን ይሰማዎታል?	1, ጥሩ 2, አጥጋቢ 3,አጥጋቢ ያልሆነ
9	በጤና ተቋሙ በሚሰጠው አገልግሎት ላይ እምነት አለዎት?	1,አዎ 2,የለኝም

ለትብብርዎ እናመሰግናለን!

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