

**ADDIS ABABA UNIVERSITY
MEDICAL FACULTY
SCHOOL OF PUBLIC HEALTH**

**FACTORS INFLUENCING TETANUS TOXOID IMMUNIZATION
AND PROTECTION AT BIRTH COVERAGE AMONG CHILD
BREANG AGE WOMEN OF AMBO TOWN AND ITS
SURROUNDING AREA, OROMIA REGIONAL STATE, ETHIOPIA**

BY

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of Addis Ababa University in Partial Fulfilment of the
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FACTORS INFLUENCING TETANUS TOXOID IMMUNIZATION AND PROTECTION AT BIRTH COVERAGE AMONG CHILD BEARING AGE WOMEN OF AMBO TOWN AND ITS SURROUNDING AREA, OROMIA REGIONAL STATE, ETHIOPIA

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Acronym

ANC-Ante Natal Care

CBAW-Child Bearing Age Women

EPI-Expanded program on Immunization

FGD-Focus Group Discussion

MCH-Maternal and Child Health

MNT-Maternal and Neonatal Tetanus

MOH-Ministry Of Health

NNT- Neo-Natal Tetanus

ORHB- Oromia Regional Health Bureau

PAB- Protected at Birth

SNNPR-South Nation's Nationalities and Peoples Regions

TT- Tetanus Toxoid

TTI-Tetanus Toxoid Immunization

UNICEF- United Nation Children's Fund

WHO-World Health Organization

WSZEFD –West Shoa Zonal Economic and Finance Department

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Abstract

Introduction: globally maternal and neonatal tetanus persist as public health problems in 46 countries, mainly in Africa and Asia. Neonatal tetanus is responsible for 14% of neonatal death and maternal tetanus is responsible at least for 5% of maternal Deaths. TT2+ coverage among pregnant mothers had stand still at between 30-40% in most African countries. In Ethiopia only 32% of the pregnant mothers have received TT2+ in 2006. West Shoa Zone is one of the nine high risk zones of the country with low TT coverage.

Objective: To assess factors influence the utilization of Tetanus toxoid immunization and Protection at birth in study area.

Methods: A community based cross-sectional study was conducted from Dec. to May 2011 on mothers aged 15-49 years who have at least one Under five years old Child. A multi stage sampling technique was used to select the sample of 680 women. Data was collected through structured pre tested and semi structured questionnaire and check lists. Data were entered and analyzed in SPSS version 15 soft ware. A univariate, bivariate and multivariate analysis were done using frequency, percentages, and binary logistic regressions respectively.

Results- A study showed that from a total of child bearing age women in the study area only 32% of mother immunized for valid Tetanus toxoid dose and only 28 % of children were protected at birth against neonatal tetanus as evidenced by card alone.

Bivariate and multivariate analysis showed significant association between Valid TT dose immunization and maternal education, income, marital status, planned pregnancies, husband literacy status.

Conclusion, there is low Tetanus toxoid immunization and protected at birth in the area. Demographic and socio cultural factors were found to be barriers to utilization of tetanus toxoid immunization services.

Integrating maternal health services and promotion of information, education and communication in the community are recommended.

1. INTRODUCTION

1.1 Back Ground

As of December 2008, globally maternal and neonatal tetanus persist as public health problems in 46 countries, mainly in Africa and Asia (1). Worldwide in 2004, 16609 reported cases, and 163,000 estimated deaths were reported (2). It is also estimated that Neonatal tetanus is a leading cause of neonatal mortality in poorest part of the world and responsible for 14% of neonatal death and accounts for up to 25% in some African countries, while maternal tetanus is responsible at least for 5% of maternal deaths.(1,2)

The vaccine to prevent MNT was introduced as part of routine immunization programmes in over 100 countries, immunization coverage with at least two doses of tetanus toxoid vaccine or tetanus-diphtheria toxoid vaccine was estimated at 74% in 2008 and an estimated 81% of newborns were protected against neonatal tetanus through immunization (1, 2).

Tetanus toxoid injections are given during pregnancy for the prevention of neonatal tetanus, a major cause of death among infants. For full protection, a pregnant woman should receive at least two doses during each pregnancy. If a woman has been vaccinated during a previous pregnancy, however, she may only require one dose for the current pregnancy. Five doses are considered to provide lifetime protection irrespective of the recommended intervals (3).

Access to clean birth practices is ultimately the long-term goal for prevention; however, most infants in developing countries continue to be born at home under unsanitary conditions (3). TT2+ coverage among pregnant mothers had stagnated at between 30-40% in most African countries. Clean delivery coverage was less than 50% in most countries despite high first visit antenatal care (ANC) coverage (17).

In Ethiopia Only 10% of deliveries are assisted by trained health workers, NT is highly prevalent in Ethiopia as most deliveries are unprotected and take

place at home. Only 30% of the pregnant mothers have received TT2+ in 2000, as the result of this about 17,900 NT cases with 13,400 Neonatal deaths occur every year. It is estimated that some 2000 mothers die every year due to maternal tetanus infection (1).

The elimination of maternal neonatal tetanus is a priority of the MOH of Ethiopia which in collaboration with partner organizations, TT Supplemental immunization campaigns in selected high risk zones has been conducted since 1999. In 2004 TT supplemental immunization campaign were conducted in nine high risk zone targeting 2.7 million child bearing age women. These zones are North Shoa zone of Amhara region, West Shoa, South West Shoa and West Hararge zones of Oromia Region and Gomogeffa, Wollita, Kefa, Sheka, and Kenbata –tembaro zones of SNNPR (18).

1.2. Statement of the Problem

Forty nine countries had not yet eliminated MNT and 40 million pregnant women remained in need of immunization against maternal tetanus. From 1999-2006, number of women living in high-risk areas protected with at least two doses of tetanus toxoid vaccine given during Supplementary Immunization Activities were only 73 million (1,7) and globally, from 1999-2008 number of women living in high-risk areas protected with at least two doses of tetanus toxoid vaccine given during supplementary immunization activities were only 90 million (1).

In many developing countries no reliable information exists on the magnitude of the Neonatal tetanus problem. Tetanus in general and neonatal tetanus in particular, remains a substantially underreported disease. Routine surveillance systems, based mostly on hospital data, are often insensitive to neonatal tetanus incidence because the disease tends to occur in populations with limited access, or making limited use of, clinical facilities(4). Neonatal tetanus is still an important public health problem in both urban and rural areas of developing countries such as Bangladesh, with an estimated 41,000 cases occurring annually. (5)

In Ethiopia the Last births protected against neonatal tetanus was for only 32 percent of women. Most of these women (28%) had received two or more tetanus toxoid injections while pregnant with the last birth. This indicates that births to women in Ethiopia are not routinely protected against neonatal tetanus./3/

With the current global push for MNT elimination, a reliable estimate of TT coverage is required to assess the level of attainment of immunization, as one of the proven strategies for the eliminating MNT, towards reaching the elimination goal. (15)

1.3. Rationale of the study

Studies conducted so far on TT immunization and PAB coverage and factors related to it in Ethiopia were few in number and most of the studies employed quantitative study design only. And the zone was identified as one of the nine high risk zones in the country for maternal and neonatal tetanus. More over; similar study was not conducted among the target group of the Zone so far. So this assessment is intended to use quantitative study design supported by qualitative study design to identify factors that determine TT immunization and PAB coverage in West Shoa Zone. The study also helps to track MNT elimination progress at the area.

II. Literature Review

2.1. Magnitude of Maternal and neonatal tetanus

According to WHO/UNICEF Global immunization data, report of 2008, the unprotected children under one year of age who did not receive DTP3 were 26.3 million in 2006 compared to 28.1 million in 2005. Seventy-five percent of these children live in ten countries--India, Nigeria, Indonesia, China, Ethiopia, Pakistan, Democratic Republic of Congo, Bangladesh, Angola and Niger /6/.

Among Deaths due to diseases preventable by vaccines currently recommended by WHO, tetanus accounts for 10% (213,000) and 13% (180,000) of mortality in all age group and neonates respectively /6/

2.2. Over view of Tetanus Toxoid Immunization

Tetanus is acquired through exposure to the spores of the bacterium *Clostridium tetani* which are universally present in the soil. The disease is caused by the action of a potent neurotoxin produced during the growth of the bacteria in dead tissues, People of all age can catch tetanus, and Neonatal tetanus can kill between 500,000 and 1 million babies every year. Neonatal tetanus is a disease as old as history itself and referred to in Old Testament as the "Seventh day Death" (1,). In countries where tetanus toxoid immunization is recommended for girls and women coverage is usually reported as "TT2+", i.e. the proportion of (pregnant) women who have received their second or superior TT dose in a given year./7)

Box 1: Recommended Valid doses of Tetanus Toxoid Immunization

Between Doses	Minimum interval
TT1 and TT2	4weeks
TT2 and TT3	6months
TT3 and TT4	1 year
TT4 and TT5	1year

Sources:- (8,16)WHO: Global program for vaccine and immunization EPI, Geneva 1998

Box-2: Tetanus toxoid immunization Period and level of protection

Number of valid doses	Period of protection	Level of protection (%)
one	Nil	None
Two	3 years starting 15 days after the second dose	80%
Three	Five years starting 15 days after the third dose	95%
Four	10 years starting 15 days after the fourth dose	99%
Five	Life long	99%

Sources:- /8,16/ WHO: Global program for vaccine and immunization EPI, Geneva 1998)

2.3. Factors influencing Tetanus Toxoid coverage

Characteristics associated with TT immunization status includes: educational level of the woman, distance from the nearest immunization centre, and level of contact with Health workers. Additional characteristics that influences women's Tetanus toxoid immunization status include age, marital and working status, and number of children (6). A study conducted in Bangladesh revealed that only 11% of women of reproductive age had obtained the complete series of five TT immunizations and only 52% of women of reproductive age had received one or more TT immunizations (6). Access to TT immunization, as defined by having had at least one such immunization, was lower among women aged over 30 years and also among those aged under 20 years, especially those who were not yet married or who had not yet become pregnant. (6)

According to Ethiopian Demographic and health survey 2005 Births to relatively younger mothers age 20-34 years and lower order births (3 and below) are slightly more likely to be protected against tetanus than births to older mothers and higher order births. Twice as many births in urban areas (61 percent) as in rural areas (30 percent) are protected against tetanus.. There are marked differences by education and wealth index in the proportion of births protected against tetanus (4).

In Indonesia the coverage result showed that with card/history criterion 55.6% received first dose of TT 40.8% received second dose of TT and 11.2% received third dose of TT while 44.4% were not immunized(8). With card criterion analysis, 7.2% mothers were protected against tetanus and only 4(2%) babies born of these mothers were protected against tetanus (8). The same study reveals that knowledge on tetanus and TT immunization: mothers who heard of TT were 1.54 more likely to have been immunized than those who did not, while mothers who knew the use of tetanus toxoid were 2.15 times more likely to have been immunized than those who did not, and those who knew at least one of the tetanus symptoms were 1.86 times more likely to have been immunized than those who did not, Furthermore, women who had antenatal care were 30 times more likely to have been immunized than those who did not.(8)

In Ethiopia, a study conducted in Tigray shows TT3+ coverage was 75.5% by card plus history, 82.1% for rural and 63.8% for urban areas. Percent of children PAB from tetanus was 61.8% by card plus history, 71.4% for rural and 45.0% for urban areas, 58.6% for illiterate and 79.4% for literate mothers. Multi-variate logistic regression analysis demonstrated maternal immunization awareness score (MIAS), and residence to be predictors of TT3+ immunization status, and MIAS, residence and maternal education to be the predictors of PAB (10).

Another Study conducted in SNNPR showed that the level of TT immunization missed opportunity was three times higher in rural areas as compared to urban area, which is 12.9% in rural as compared to only 4.3% in the urban part of the study area. Those women who received antenatal care through outreach programs are less likely to miss tetanus immunization

as opposed to women who received ante natal care in health facilities (7.5% versus 13.3%). The number of ante natal visit is significantly associated with missed opportunity for tetanus toxoid immunization. Over 37% of those women who had only one visit during the whole course their pregnancy did not take TT immunization (11).

Similarly EPI coverage survey conducted in 2006, in Ethiopia revealed that, the weighted national TT2+ coverage and PAB for mothers of 0-11 months of infants was 41.5% and 28.7% by card only 75.6% and 63.0% by card plus history. Mothers able to read and write had higher TT2+ coverage by card plus history than those who could not read or write (81.0% versus 73.3%). Similarly urban mothers of 0-11 months of infants had higher TT2+ coverage than their rural counterparts (83.3% versus 73.6%) (12). In this study also showed in Oromia Region TT2+ coverage and PAB for mothers of 0-11 months of infants was 41.0% and 28.8% by card only 72.6% and 58.2.0% by card plus history (12).

Mothers were also asked about the purpose for getting TT injection. It was observed that most of the women (76 percent) were unaware about purpose of getting TT injection. The major reason for not receiving TT injection were that mothers were not aware of TT injections, nobody advised for such injections or did not perceive the need as no person was experienced with the pregnancy. In this study among mothers who did not receive any TT injection, 45 percent reported not being aware of TT injection (54 percent in urban areas and 42 percent in rural areas (13).

CHAPTER III

3. OBJECTIVES OF THE STUDY

3.1. GENERAL OBJECTIVE

To assess factors influence the Tetanus Toxoid immunization and Protection at Birth in Ambo Town and its surrounding kebeles

3.2. SPECIFIC OBJECTIVES

1. To determine TT2+ and Protected at Birth (PAB) immunization coverage in the study area.
2. To assess the socio economic, demographic, and obstetric factors that affect Tetanus Toxoid immunization services in the study area.
3. To assess mothers perception to ward TT immunization
4. To explore pregnant women, Husbands, religious and opinion leaders attitude toward TT immunization

IV. METHODS AND MATERIALS

4.1. Study Design: A community based cross-sectional study design that employed both quantitative and qualitative data collection methods.

Study period: the study was conducted from Dec. 2010 to may. 2011

4.2. Study area

West Shewa Zone is one of the 17 Zones of Oromia regional states, its capital town Ambo is found 114km from Addis Ababa on the way to Nekemte. The zone has 18 woredas and one town administration.

The study was conducted in Ambo town and its surrounding kebeles, Ambo town has 6 urban kebeles and projected total population for 2009/10 from 2007 population and housing censuses of CSA estimated to be 59,037 and with expected number of CBAW 13,106(22.2%).

The surrounding Ambo rural area has 4 kebeles with a total population of 12,934 and out of this the expected number of CBAW is 2871. Child bearing age women (CBAW) make up about 22.2% of the population and approximately 3.73% becomes pregnant annually.

In the town there is one Zonal hospital, one Health center, one Maternal and child health (MCH) clinic and 2 health posts (14).

4.3 Population

4.3.1. Source population: Child bearing age women and those who reside in the study area.

4.3.2 Study population

Women of child bearing age (15-49years) in the study area

4.4.3. Study participants-Sample of CBAW who had given birth at least once in the last five years prior to the survey irrespective of their immunization status.

Inclusion and Exclusion criteria for the study population

Inclusion Criteria Women in the reproductive age group residing in the study area for at least 1 year, CBAW who had given birth at least once in the last five years preceding the survey and women who are mentally and physically capable of being interviewed

Exclusion criteria- Women who are not in reproductive age, critically ill, could not talk, listen or mentally ill are excluded from the study.

4.4. Sample size determination

Sampling technique- Probability, multistage sampling technique will be used

Sample size determination- The sample size was calculated using EPI-Info version 6.04 statistical software programs for two population proportions formula:

$$n_1 = \frac{[Z_{\alpha/2} \sqrt{(1+1/r) P (1-P)} + Z_{\beta} \sqrt{P_1 (1-P_1) + P_2 (1-P_2)}]^2}{(P_1 - P_2)^2}$$

To determine the sample size the following assumptions were made:

Education or maternal literacy is a major factor determining utilization of Tetanus Toxoid immunization (4)

Where, n_1 = Sample size of women who are educated and protected with TT2+ Immunization

n_2 = Sample size of women who are non educated (illiterate) and protected with TT2+ Immunization

$r = n_1/n_2 = 1$ for the population allocation ratio

$Z_{\alpha/2} = 1.96$ for the standard scale of significance level of 95% Confidence

Z_{β} = standard scale of 0.84 corresponding to a 80% for power to detect a difference of $(P_1 - P_2)$

P_1 = Proportion for educated women or attended at least secondary education who are educated and protected with TT2+ Immunization 69%. (4)

P_2 = Proportion for non educated women who are protected with TT2+ Immunization 31% (4).

$$P \text{ (pooled population proportion)} = \frac{P_1 + rP_2}{(1+r)} = 0.345$$

The sample size is 224 women who were educated and protected with TT2+ immunization and 100 women who are illiterate and protected with TT2+ immunized are required. Considering a design effect of two the total calculated sample size of 680 women (471 women educated and 209 non educated and protected with TT immunization) will be required.

In this study literacy status of the mother for Tetanus Toxoid immunization coverage is taken as the variable to calculate the sample size with an estimated coverage of 69% and 31% (EDHS 2005).

4.5. Sampling procedure

Ambo town and its surrounding area are purposefully selected for logistical reasons; administratively the town is divided into six kebeles. From the total of six kebeles of the town a random sample of three kebeles (clusters) and also from the total of four kebeles the surrounding two Kebeles are selected using *simple random samplings*. Households from each kebele were selected using population allocation ratio (from the respective strata proportional to their size) then *systematic random sampling* technique was used to address required sample size, Expecting every households (HHs) to have at least one woman who had given birth in the last five years, HHs were taken as a final sampling units. Estimate of the number of HHs per kebele was taken from West Shewa zone Economic and Finance Department (WSZEFD). All eligible in the HH were interviewed. In case of refusal and no eligible, the interviewer approaches the next closest household. (Fig.1)

For FGD key informants are purposefully selected from different level of health Organization and Community. From ZHD (1Family health experts), wereda health office (family health expert), from HCs (MCH Experts), from 2 health posts HEWs, Child bearing age women (those who are not included in the Survey), husbands, opinion and religious leaders from community were selected.(Fig. 2)

Fig 1 Schematic presentation of sampling procedure for Quantitative method

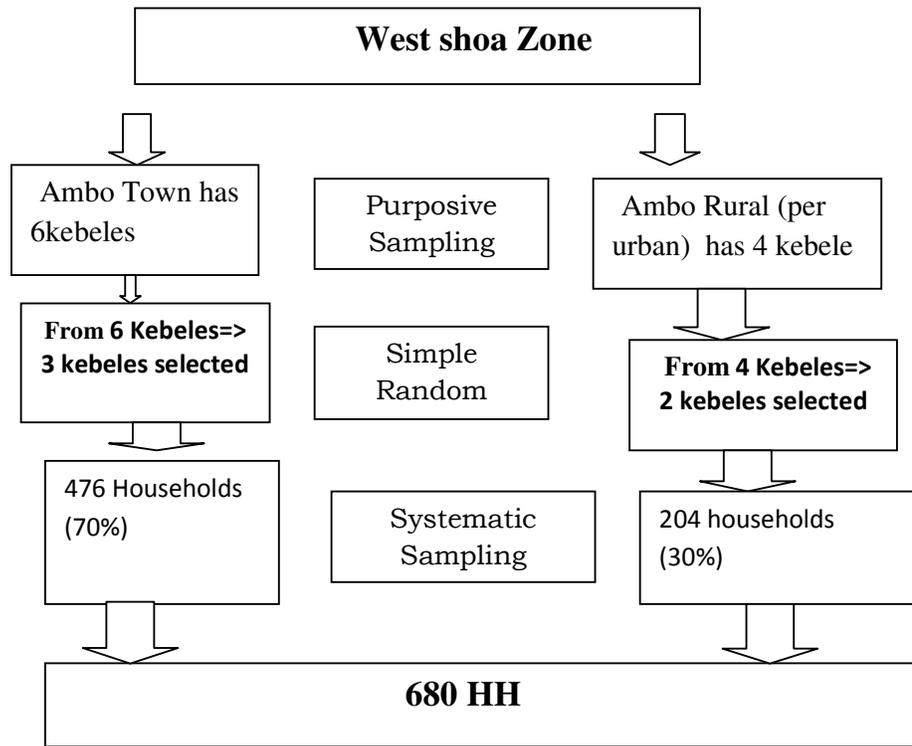
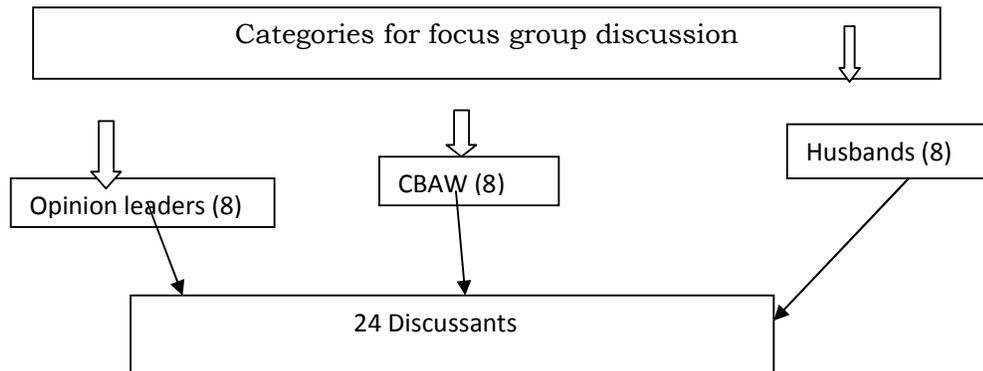


Figure 2.B: presentation of sampling procedure for qualitative method.



4.6. Measurement /Variables/ Questionnaire

4. 6. 1. Dependent variable:-

- Number of TTI dose taken (Less than or equal to TT1 and TT2+) taken
- Protected at birth with valid TT dose

4. 6. 2. Independent variables

-Socio demographic variables

- Marital status, Age,
- Religion, Ethnicity,
- Educational status Distance from HF in hours.
- Family income maternal Occupation,
- Number of children,
- Husband occupation

4.7. Data collection technique

4.7.1 Data collection Method:

- Face to face interview
- In-depth interview of key informant and FGD

4.7.2. Data collection Tools:

A. Structured Questionnaire: adopted from DHS and related thesis works (3, 10, and 13). The English version of the questionnaires was translated into 'Afaan Oromo' for better understanding by both data collectors and respondents. Consistency was checked by translating the Amharic and Oromo language back to English by another individual.

B. Semi-structured interview guide- open ended interview questions are prepared for FGD participants

4.7.3 Data Collection procedures:

Selection and training of data collectors and supervisors:

HEWs and nurses who are fluent speakers of local languages and Health Extension package supervisors from the respected Health centers of rural and urban were recruited. The selection criteria of data collectors include ability to speak the local languages, interest to participate on the survey, being well mannered and disciplined, reliability and punctuality at work. They were trained for 3 days before the actual survey by principal investigator.

The method of training includes lectures, explanation supplemented with practical role play exercises that focus on purposes of the survey, meaning of each question, technique of interview, confidentiality of information, informed consent, and role & responsibility of data collectors and supervisors. During data collection the principal investigator supervised the data collectors and supervisors. And samples of respondents were re-interviewed by investigator at random bases among data collectors and the results were cross-checked. Data was collected by utilizing the prepared format consisting of different variables. The format was filled by trained data collectors or possibly by health workers.

4.8. Data processing and analysis

Data were first checked and arranged manually by the PI, to increase the quality of the data; adequate time was given to the respondents and completeness of data was checked. The collected data were compiled and analyzed using statistical methods. Data were coded and entered into SPSS version 15.0 computer software by PI for further processing.

Finally univariate analysis was done using frequencies & percent. bivariate analysis between dependent and independent or independent and independent variables were performed using frequency, and percentages respectively. Multivariate analysis also done to control (adjust) for possible confounding variable. Those variables which showed significant association in bivariate analysis were adjusted to each other to identify independent determinants.

4.9. Ethical consideration

The study was approved by IRB (Institutional Review board) of the SPH, MF of AAU. Official letters was written by School of Public Health, Addis Ababa University to the respective officials of the study area. Informed Verbal Consent of the respondents and the leader of the area were obtained after giving information and thoroughly explaining the aim of the study to each respondent.

The subjects were interviewed in their homes individually to maintain privacy. They were not required to give their name. Information concerning the individual was not passed to a third party.

As the study is based on interview it carries no or minimal risk. The finding of the study will be provide to Ambo town and its area, Zonal and Regional health Bureau to update the information and make use of it/for intervention.

4.10. Pre-test

A pretest study was employed prior to full scale research to test the instrument and strategies using 20 eligible women in neighboring Kebeles.

4.11. OPERATIONAL DEFINITIONS

- **Child Bearing Age Women (CBAW)**- Any women age 15 to 49 years old irrespective of fertility status
- **Immunization**-Protection of susceptible individuals from communicable diseases by administration of a live modified agent (as in yellow fever), a suspension of killed organisms (as in whooping cough) or an inactivated toxin (as in tetanus).
- **Neonatal Tetanus (NNT)**- The disease usually occurs 3 – 21 days through introduction via the umbilical cord of tetanus spores during delivery by cutting the cord with an unclean material.
- **Protected at Birth (PAB)**- if the mother had documented two or more TT doses and if the child was born within a time that the up to- date TT status of the mother would confer immunity.
- **PAB by card:** a child was considered protected at birth against tetanus by card if the mother had documented TT doses either on the mother card or kebele TT registration book.
- **PAB by history:** a child was considered protected at birth against tetanus by maternal recall if the mother had received two doses of TT in her last pregnancy or if she had received at least three doses of TT any time in her life.
- **PAB Numerator** -Number of mothers of live births in the previous year with at least two doses of TT within appropriate interval prior to infant's birth
- **PAB Denominator**- Total number of women surveyed aged 15-49 years with a birth in the year preceding the survey
- **TT2+ coverage:** the proportion of women who had received 2 or more doses of TT vaccine.

- **Vaccinated by card only:** Only doses documented on immunization card or facility EPI registration book will be considered.
- **Vaccinated by card plus history:** Both documented doses and doses reported by mother to be received will be considered.

Chapter V

5. RESULTS

A. QUANTITATIVE

5.1 SOCIO DEMOGRAPHIC PROFILES

A total of 680 women that delivered within five years before the survey were interviewed to make the overall response rate of 100%. The socio-demographic characteristic of the study population is shown in table 1.

Five hundred fifty nine (81.0%) of the respondents were in age group 20-34 years with the mean \pm SD (26.9 \pm 5.4) and the median age of 26 years. Two hundred nine (30.7%) women have never attended any formal education, Six hundred six (89.1%) and Forty two (6.2%) of the respondents belong to Oromo and Amhara ethnic groups respectively. The majority 432 (63.5%) women were house wife by occupation. 491(72.2%) and 151(22.2%) were orthodox and protestant religion followers respectively. Among the total women surveyed 566(83.2%) women were married.

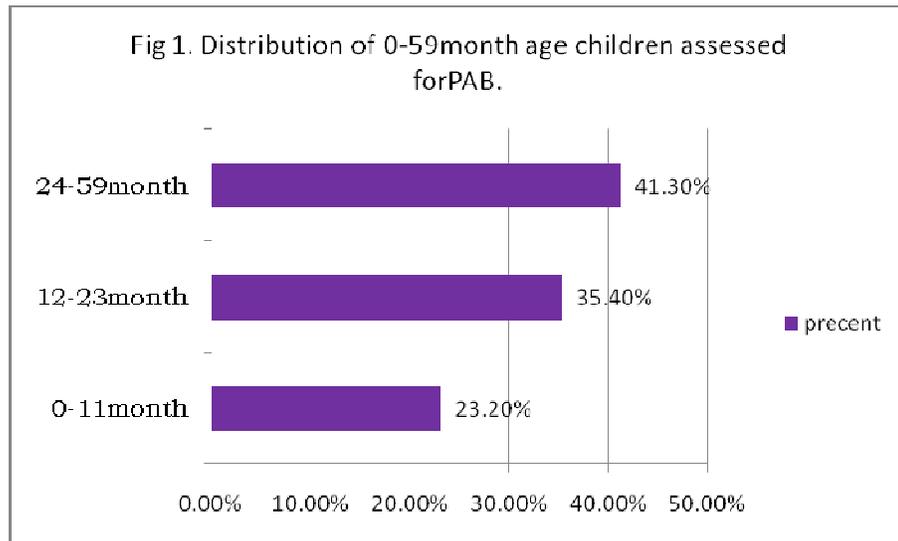
Sixty five percent of the respondents earned below the median 350ETB per month. The total monthly household's income was ranging from zero to 5000 ETB. About 76.2% of the houses were constructed with corrugated iron mud and forty two percent of the women reside in their own private houses. Majority (82.2%) and 37.5% of the respondents had Radio and TV in their houses respectively. In the case of Occupation and educational status of the husband of the respondents, 221(32.5%) and 286(42%) were civil servant and elementary school respectively. One hundred fourteen (16.8%) mothers had no freedom to go out without the permission of their husband. Five hundred seventy to(84.1%) and 106(15.6%) of the respondents lived within one hour walking distance followed by 1-2 hours from health facilities. Regarding the age distribution of the reference children 23.2% are below one year.(Fig 1)The details of Socio demographic and economic characteristics of the respondents are summarized in the following (table.1.)

Table.1. Selected Socio-demographic characteristics of respondents on Tetanus toxoid immunization in Ambo town and its surrounding Area, West Shewa Zone Oromia Region, Ethiopia, 2011.

<i>Variables(n=680)</i>	<i>Frequency</i>	
	<i>Number</i>	<i>Percent</i>
<i>Residence</i>		
<i>Urban</i>	476	70
<i>Rural</i>	204	30
<i>Age</i>		
15-19	31	58
20-34	559	36
35-49	90	6
<i>Education</i>		
<i>Never attend</i>	209	30.7
<i>Only Read & write</i>	23	3.4
<i>Elementary</i>	288	42.4
<i>Secondary and above</i>	160	23.5
<i>Ethnicity</i>		
<i>Oromo</i>	606	89.1
<i>Amhara</i>	42	6.2
<i>Gurage</i>	25	3.2
<i>Tigre</i>	4	0.6
<i>Other</i>	3	0.4
<i>Occupation</i>		
<i>House Wife</i>	432	63.5
<i>Merchant</i>	135	19.9
<i>civil Servant</i>	36	5.3
<i>Student</i>	21	3.1
<i>Maid Servant</i>	21	3.1
<i>Other</i>	35	5.1

<i>Religion</i>		
<i>Orthodox</i>	491	72.2
<i>protestant</i>	151	22.2
<i>Muslims</i>	24	3.5
<i>Catholic</i>	2	0.3
<i>Other</i>	12	1.8
<i>Marital Status</i>		
<i>Married</i>	566	83.2
<i>Divorced</i>	56	8.2
<i>widowed</i>	12	1.8
<i>never married</i>	24	3.5
<i>separated</i>	22	3.2
<i>Monthly family Income</i>		
≤500ETB	450	66.2
501-1000ETB	207	30.4
>1000ETB	23	3.4
<i>Family Size</i>		
<i>one to two</i>	7	1
<i>three to four</i>	460	67.6
<i>five and more</i>	213	31.1
<i>Occupancy (owner) of the HH</i>		
<i>Private</i>	290	42.6
<i>Rental</i>	384	56.6
<i>others</i>	6	0.9
<i>Material used for construction</i>		
<i>Corrugated iron & cement</i>	155	22.8
<i>Corrugated iron & mud</i>	518	76.2
<i>Thatched & mud</i>	7	1
Radio Owners		
Yes	559	82.2
No	121	17.8
TV Owners		
Yes	255	37.5
No	425	62.5
<i>Husband occupation</i>		
<i>daily labourer</i>	221	34.9
<i>Gov'tl. Employee</i>	156	24.6
<i>Farmer</i>	120	18.9

<i>Merchant</i>	94	14.8
<i>Student</i>	15	2.4
<i>Others</i>	27	4.2
Husband education		
<i>Never attend</i>	47	7.4
<i>Only Read &write</i>	14	2.2
<i>Elementary</i>	286	45.2
<i>Secondary</i>	144	22.7
<i>12+</i>	122	19.3
<i>Other/technical/</i>	20	3.2
Permission to go out		
<i>Unrestricted</i>	299	47.2
<i>Partially Restricted</i>	220	34.8
<i>No mobility</i>	114	18.0
Distance from home to nearest health institution		
<1hr	572	84.1
1-2hrs	106	15.6
>2hrs	2	0.3



5.2. Obstetric determinants

Three hundred fifty three (51.9%) of women gave birth to 2-4children in their life. The majority 573(84.3%) of mothers had planned to have child for the last pregnancy or for child being assessed. Two hundred seventy one (40%) of mothers have visited health institution four or more times and for Antenatal services in their last pregnancy. The source of information for TT immunization were 218(32.1%) by card alone, 43.7% by history and 6.5% card plus history respectively. The details of obstetric determinants of TT immunization of the respondents are summered in table. 2.as follows.

Table .2. Selected obstetric and immunization characteristics of mothers in Ambo town and Its Surrounding Area, West Shewa Zone Oromia Region, Ethiopia, 2011.

Variables (n=680)	Frequency	
	Number	Percent
Number of parity		
1-2	224	32.9
3-4	353	51.9
>=5	103	15.1
Future pregnancy intention		
Wants	201	29.6
Don't want	269	39.6
undecided	210	30.9
Planned pregnancy for child being assessed		
Yes	573	84.3
No	107	15.7
ANC visit for the last pregnancy		
Once	21	3.6
Twice	68	11.8
Three times	217	37.6
Four and more	271	47.0
Any vaccination for the mother to prevent diseases		
Yes	572	84.1
No	108	15.9
TT immunization during the last (index child)		
Yes	556	81.8
No	124	18.2
Source of information for TTI		
Card alone	218	32.1
History	297	43.7
Both	44	6.5

Non immunized	121	17.8
Source of information for PAB		
Card alone	277	40.7
History	182	26.8
Both	39	5.7
Non immunized	182	26.7

5.3. Vaccination status and Information related to maternal Tetanus Toxoid Immunization

Majority of the mothers 556 (84%) were vaccinated for the child being assessed during this survey. The main source of information for Tetanus toxoid immunization was history and card 47.3% and 32% respectively. Two hundred seventy three (48.3%) and 242(43%) mothers were immunized in the first trimester and during 5-7 month of their pregnancy.

Concerning the place of vaccination, 284(51%), 232(41%), and 41(7%) of mothers were vaccinated at, health post, Health Centre and Hospital respectively.

Regarding the dose of Tetanus immunization taken, one hundred twelve (16.5%) mothers did not take any immunization in their life time and 69(10.1%) mothers took only one dose of Tetanus immunization. The rest 42.1%, 24.4%, 4.9% and 2.1% mothers had immunized for TT2, TT3, TT4, and TT5 respectively. (Fig.2)

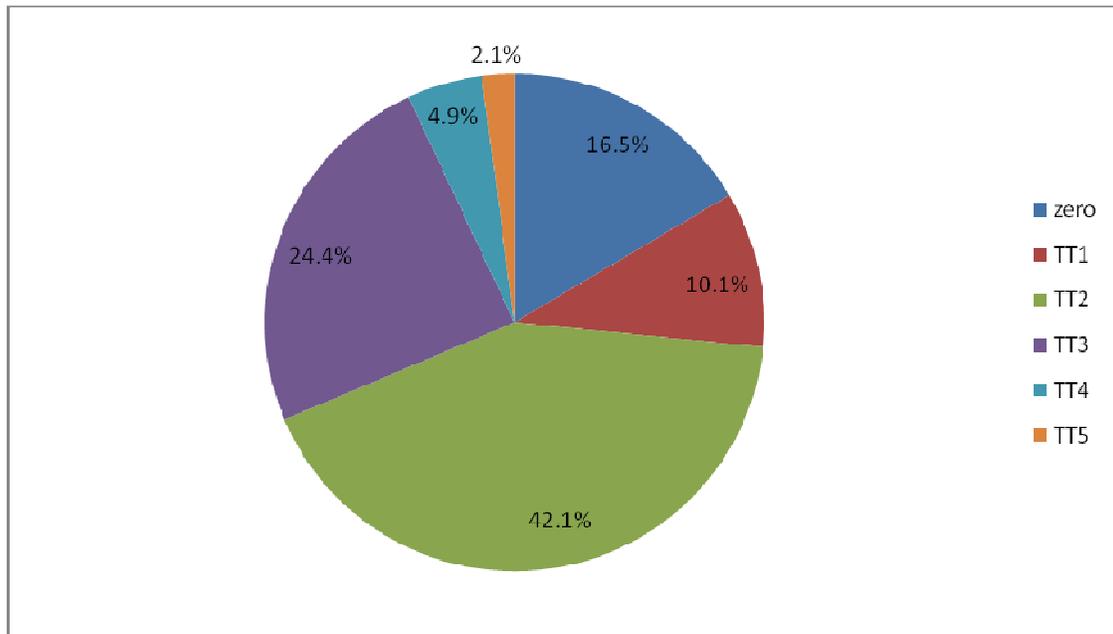


Fig.2. Distribution of Tetanus toxoid per dose, Ambo town and its surrounding kebeles, 2011

5.4. Factors affecting TT immunization

Crude analysis of socio-demographic variables showed that Literate mothers were more immunized than illiterate mothers [OR 1.83 (95% CI 1.28, 2.62)] and women's with literate husband were 3.95 times more immunized than mothers with illiterate husbands. Those who have better income /more than 500 ETB per month/ were 1.71 times protected than those who earned less monthly income [OR 1.71, (95% CI 1.16, 2.50)] (table 2). Mothers not in marriage were less likely to be protected at birth than mothers currently in marriage [OR 0.56 (95% CI 0.37, 0.86) respectively.

Distance from home to health facility was significantly associated with tetanus toxoid immunization; those who come from more than one hour distance were more immunized than those who were less than one hour distance from services delivery area. [OR=2.45 (95% CI 1.38, 4.35)].

Planned pregnancy was also significantly associated with tetanus toxoid immunization, those mothers with no planned to have a child for the last pregnancy were less likely immunized than their counter parts. [OR= 0.021 ,95% CI 0.011,0.04)].

Also mother with no Ante natal care services were less likely immunized than ANC attendants [OR (95% CI= 0.18 (0.05, 0.60)]

Concerning the protection at birth information only 26.8% were protected at birth and similar proportion of children 182(26.8%) were not protected at birth. The details of socio demographic and economic characteristics affecting TT immunization are summarized in the following table 5.

New born from literate mothers were about 1.82 times more immunized than those new born from illiterate mothers [OR 1.82 (95% CI 1.25, 2.64)]. Similarly, new born from literate father were three times more immunized than new born from illiterate father [OR 3.66 (95% CI 1.93, 6.96)].

Similarly children from mothers not in marriage were less likely to be protected at birth than mothers currently in marriage [OR 0.58 (95% CI 0.31, 0.91) respectively.

In general, multivariate analysis involving all associated variables was performed to identify independent predictors of valid tetanus toxoid immunization service utilization. Accordingly, maternal education, income, husband educational status, distance from home to health facility, and planned pregnancy for the last child, independently showed statistically significant association.

In multivariate analysis Literate mothers were about two times more immunized than illiterate mothers [AOR 1.89 (95% CI 1.32,2.71)] and women's with literate husband were more than times immunized than mothers with illiterate husbands [AOR 2.62 (95% CI 1.09,6.29)]. Those who have better income /more than 500 ETB per month/ were two times protected than those who earned less monthly income [AOR 1.87, (95% CI1.09, 3.20)]

Distance from home to health facility is statistically significantly associated with tetanus toxoid immunization; [AOR=2.4(95% CI 1.38, 4.35)].

Planned pregnancy was also significantly associated with tetanus toxoid immunization, those mothers with no planned to have a child for the last

pregnancy were less likely immunized than their counter parts. [AOR= 0.10 ,95% CI 0.03,0.03)].

Also mother with no Ante natal care services were less likely to be immunized than ANC attendants [AOR (95% CI= 0.18 (0.05, 0.60)]

Pertaining to the protection at birth information only 26.8% were protected at birth and similar proportion of children 182(26.8%) were not protected at birth. The details of socio demographic and economic characteristics affecting TT immunization are summarized in the following table 3 and 4.

New born from literate mothers were about 1.58 times more immunized than those new born from illiterate mothers [AOR 1.58 (95% CI 1.06, 2.35)]. Similarly, new born from literate father were three times more immunized than new born from illiterate father [AOR 3.05 (95% CI 1.61, 5.77)].

Children from mothers not in marriage were less likely protected at birth than children from mothers currently in marriage [AOR0.57 (95% CI 0.35, 0.92) respectively.

Table.3. Selected Socio-demographic determinants immunization status services in Ambo town and Its Surrounding Area, West Shoa Zone Oromia Region, Ethiopia 2011

Variables	Immunization status		Crude OR 95% CI	Adjusted* OR 95% CI
	TT2+ (n=503)	≤TT1 (n=177)		
Residence				
Urban	343	133	1	1
rural	160	44	1.41(0.95,2.08)	1.93(0.90,4.13)
Age at the interview in years				
14-29 years	165	59	1	1
>=30 years	338	118	1.024(0.71,1.47)	0.86(0.46,1.60)
Educational status				
Illiterate	137	72	1	1
Literate	366	105	1.83(1.28,2.62)	1.89(1.32,2.71)
Ethnicity				
Oromo	443	163	1	1
Amhara and others	60	14	1.57(0.85,2.89)	1.33(0.52,3.36)
Occupation				
Housewife	325	107	1	1
Other Occupation	178	70	0.84(0.58,1.19)	0.84(0.58,1.19)
Religion				
Christian	474	170	1	1
Muslims and other	29	7	1.48(0.64-3.45)	1.22(0.42,3.52)
Marital Status				
Married	430	136	1	1
Not under marriage	73	41	0.56(0.37-0.86)	0.94(0.50,1.76)
Income\ month				
≤500 Birr	318	132	1	1
>500 Birr	185	45	1.71(1.16,2.50)	1.87(1.09, 3.20)
Family Size				
<=5	495	175	1	1
>5	5	2	0.88(0.17-4.56)	0.60(0.07,5.19)

Husbands Occupation				
Gov'tal Employee	121	35	1	1
Self employee	382	142	0.78(0.51,1.18)	1.53(0.89,2.63)
Literacy status of the Husband				
Illiterate	21	26	1	1
Literate	482	151	3.95(2.16,7.22)	2.62(1.09, 6.29)
Average travel time from home to facility				
<1 hours	410	162	1	1
1-2 hours	86	15	2.45(1.38-4.35)	2.20(1.05,4.64)

Table..4. House Hold characteristics associated with Tetanus Toxoid immunization coverage in Ambo town and its area, Oromia Region, Central Ethiopia 2011

House Hold Characteristics	Immunization status		Crude OR 95%	Adjusted* OR 95% CI
	TT2+	≤TT1		
Does HH has Radio				
Yes	425	134	1	1
No	78	43	0.57(0.37, 0.87)	0.86(0.48,1.55)
Does HH has TV				
Yes	199	56	1	1
No	304	121	0.71(0.49,1.02)	0.18(0.06,0.71)
Planned pregnancy for child being assessed				
Yes	491	82	1	1
no	12	95	0.021(0.011-0.040)	0.10(0.03,0.31)
ANC Visits				
attendants	492	85	1	1
Non attendants	11	92	0.02(0.01,0.04)	0.18(0.05,0.60)

Tabl.5.Logestic regression maternal factor influencing protection at birth coverage of 0- 59 months children in Ambo town and its areas, Oromia Region, Ethiopia 2011

House Characteristics	Hold	PAB status		Crude OR 95% CI	Adjusted* OR 95% CI
		PAB N=505	Not PAB N=175		
Residence					
Urban		348	128		1
rural		157	47	1.23(0.82,1.84)	1.35 (0.88,2.06)
Age at the interview in years					
14-29 years		165	59		1
>=30 years		340	116	1.05(0.72,1.53)	0.98(0.67,1.44)
Educational status					
Illiterate		138	71		1
Literate		367	104	1.82(1.25,2.64)	1.58(1.06, 2.35)
Occupation					
Housewife		323	109		1
Other occupation		182	66	0.93(0.64,1.35)	1.05(0.71,1.57)
Marital Status					
Married		431	135		1
Not under marriage		74	40	0.58(0.31, 0.91)	0.57(0.35,0.92)
ncome\month					
<500 Birr		325	125		1
>=500 Birr		180	50	1.38(0.94,2.05)	1.07(0.71,1.61)
Literacy status of father					
Illiterate		22	25		1
Literate		483	150	3.66(1.93.6.96)	3.05(1.61,5.77)
Occupation of the father					
Gov't Employee		124	32		1
Self employee		381	143	0.69(0.44,1.08)	0.86(0.54,1.38)

5.5. Maternal perception on the purpose of TT immunization

Among the mother vaccinated for valid TT. 348(61%) responded that the purpose of TT immunization is to prevent mother and child from getting tetanus disease, and 117(20.5%) to prevent child alone. About 12% of the mothers don't know why they are taking TT injection.

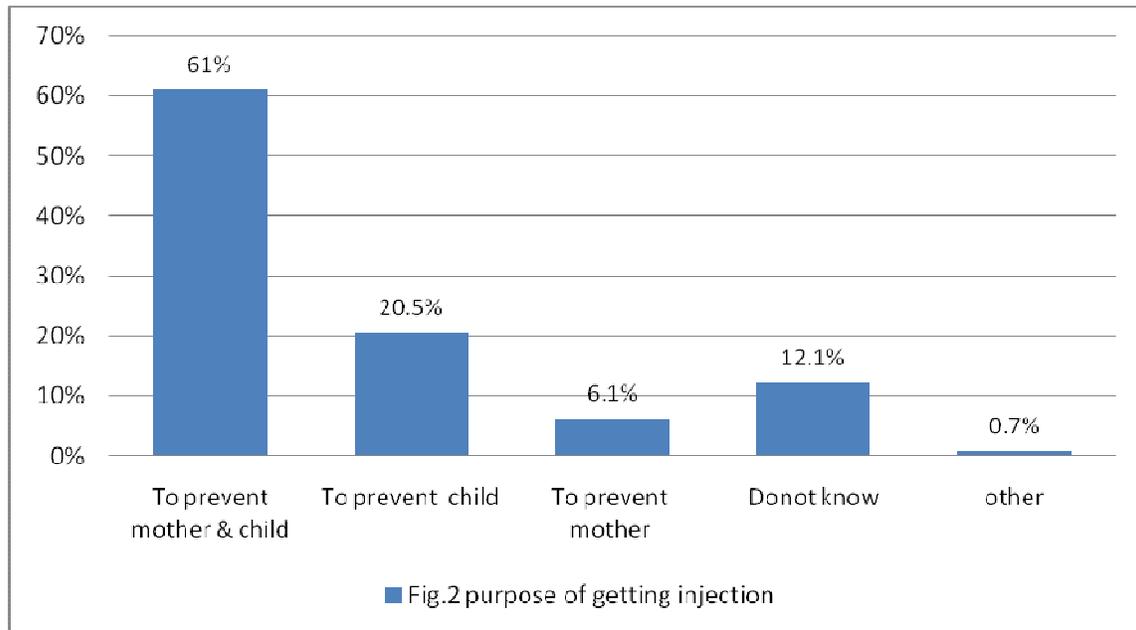


Fig.3. Maternal perception on the purpose of TT immunization, 2011

5.6. Reasons for not getting TT immunization

The reasons for not taking TT or taking valid TT injection were, not aware of the service 66(42.9%), fear of injection side effects 31(20.1%), and nobody advice 22(14.3%), were the major reason for not getting TT injections respectively.

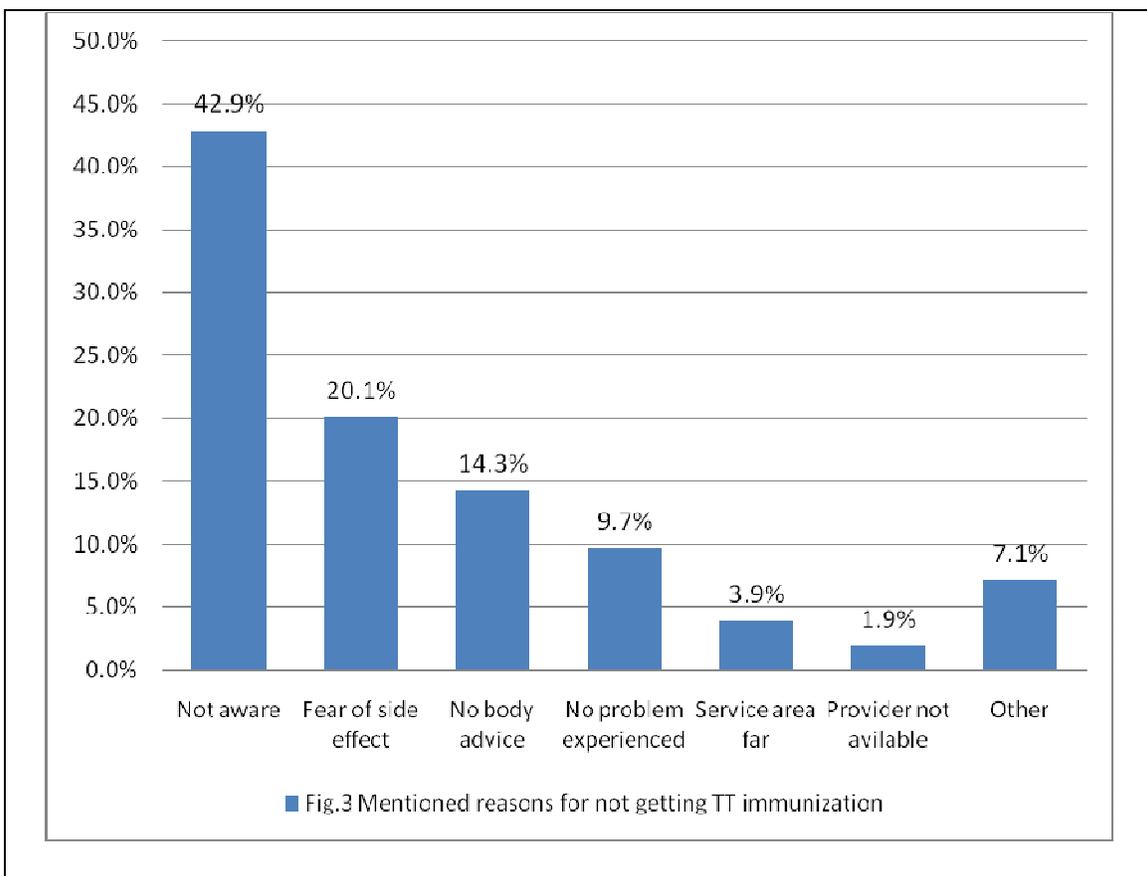


Fig.4. Reasons for not getting TT immunization

5.7. Respondents view on quality of immunization services

Five hundred eighty nine (86.7%) of the respondents replied that health workers were respectful, and lack of privacy was mentioned as a problem by 67.5% of the respondents. Majority of the respondents replied that the quality of service given were good 83.8%, satisfactory 14.5%, and poor 1.6% respectively.

Tabl.6. Maternal view on quality of immunization services, in Ambo town and its surrounding area, 2011

Variables	Frequency	Valid Percent
Where the health workers respectful		
Yes	589	86.7
No	26	3.8
Don't know	66	9.4
Lack of privacy is a problem		
Yes	458	67.5
No	159	23.4
Don't know	62	9.1
Quality of service given		
Good	527	83.8
Satisfactory	91	14.5
Poor	10	1.6
Don't know	1	0.2
Confidence on service provided		
Yes	599	88.1
No	18	2.6
Don't know	63	9.3
Behaviour of health workers		
Good	191	30.4
Fair	402	63.9
Bad	36	5.7

II. Qualitative Findings

A. Focus group discussion

A total of 24 participants were involved in the group of pregnant women, Husbands and religious and opinion leaders in three groups, seven major question and other supplementary probe questions were employed. The questionnaire aimed to discuss the community understanding, perceptions and utilization of Tetanus toxoid immunization in the study area.

The informants from the community mentioned that TT immunization is important to prevent the mother from getting different diseases during pregnancy and to deliver healthy and strong baby. Another participant mentioned that TT immunization is important to prevent trachoma, handicap, and death.

Concerning the cause of tetanus diseases and means of transmission another participant mentioned that it transmits from person to person by flies due to lack of personnel and environmental hygiene.

Regarding the place and accessibility of the immunization services all groups mentioned that, it is possible to get from all health institutions and some time it provided house to house by health extension workers.

Although all the group members agree on institutional delivery and it is important for the safety of the mother and new born. Because of the distance from health institution and unpredictable time of labour starting most deliveries took place at home by traditional birth attendants in un hygienic area and material.

Other discussant from the rural kebele claimed that she is a customer of TT immunization and took TT in all her pregnancy and it should be taken only during pregnancy.

In general all the group members fail to mention at least one of the tetanus sign during the illness and none of them mention the way one can acquire the diseases.

B. Key informants In depth interviews

A Total of four from health institution, Woreda health office, and Zonal health department's family health experts gave responses to the questionnaire that contains maternal immunization services utilization problems, and factors affecting TT immunization.

One of the zonal respondents said that even though the health facilities and health extension workers close to the community, TT immunization is still underutilized services among all other immunization services for both pregnant and non pregnant mothers in the zone due to fear of injection pain and rumors like infertility following TT immunization.

Another respondent mentioned that- TT immunization is poor or not good at all level due to the low attention/negligence of the health workers since TTI is not the main indicator of EPI service coverage evaluation as that of other maternal health services like penta (DPT3), family planning and ANC services.

Concerning the schedule of immunization services, respondents have different opinion when to hold the immunization services such as-

- Weekly or monthly at health post,
- Every day at health centers and hospitals,
- At convenient time in high school and higher institutions.

The reasons mentioned for weekly or monthly were, health extension workers have other competing programmes on other days and shortage of cold chain in their health posts, and they are expected to provide by woreda health office on weekly or monthly basis.

Factors that can affect the TT immunization coverage:-

Respondents reported that different factors can affect the utilization such as

- Commitment of the health workers to ward defaulters tracing and minimizing the missed opportunities.
- Shortage of supplies like AD syringe, cold chain breakage due to power interruption or lack of kerosene.
- Lack of regular monitoring of the services

Action taken to promote the TT immunization services majority of them mentioned that human resource development like on job training and supportive supervision, improving supply and equipment needed for vaccination, community awareness raising on advantage of immunization for both mother and newborn, on side effects and rumors toward TT immunization.

Mechanisms to trace defaulters one woreda family health expert responded that, after identifying the defaulters from facility registration book, the health extension workers and health centers HW in collaboration with the lower governmental administrative structures go from home to home to draw out those defaulters and brought to the immunization services.

VI. Discussion

The survey undertaken for this study tried to examine the socio-demographic characteristics of clients and identified the factors associated with the TT immunization services.

In this study mothers with at least two TT doses were found to be 499(73.3%) by history and card. This finding is lower than (75.6%) EPI coverage survey conducted in 2006, in Ethiopia (12). Among these only 32% of the mothers and 26.8% last births were immunized TT2+ and protected at birth by card respectively. This is much lower than (41%) and 28.7% of the survey conducted in Ethiopia 2006(12).

This study revealed that only 14 (2.1%) of mothers had achieved complete dose of five TT immunization or protected for lifelong, which is lower than the results (11%) and 13.7% of study conducted in Bangladesh and Ethiopia respectively. (6, 12)

Although large number of respondents received two or more doses of TT injection a considerable number 112(16.5%) of mothers were not immunized yet, this result is less than the results (18.6% and 44%) of study conducted in Bangladesh and Indonesia respectively. (6, 8)

This study also revealed that literate mothers were about two times more likely to have been immunized than illiterate mothers, consequently children born from literate mother were better protected at birth than their counterparts, as found in other studies (3,4,8,12,). This may be due to easy access to information and knowledge of immunization services, and because of the fact that, education is likely to enhance female independence so that women may develop greater confidence and capacity to make decisions about their own health.

The TT2+ coverage in this study was higher by card plus history among rural than urban areas 77% and 73% respectively. This is consistent with study done in Tigray Ethiopia (10). The possible explanation may be due to the health extension workers are giving the services from house to house in rural kebeles.

Taking valid tetanus immunization is also associated with monthly income those who have better income /more than 500 ETB per month/ were 1.7 times protected than those who earned less monthly income. This similar with other studies done abroad and in the country. (3, 5)

The odds of taking valid TT immunization among those who come from more than one hour distance is about 2.4 times immunized than those who come from less than one hour distance. This may be due to the existence of health extension workers in rural area. It suggests that health extension program would equal benefit for the urban community if services were available and started earlier as that of rural extension program.

Planned pregnancy is associated with tetanus toxoid immunization, Women whose pregnancies were unplanned and unwanted were less likely to utilize TT vaccination than women whose pregnancy were planned and wanted.

Utilization of antenatal care service for the last pregnancy was also associated with taking valid dose of tetanus toxoid immunization. Those who had no ANC services were less likely to be immunized than those who used the services in the last pregnancy. This result is less than the study done in Indonesia and SNNP in Ethiopia, that showed women who had antenatal care were 30 times more likely to have been immunized than those who did not.(8, 11). This implies that taking ANC service is one of the major opportunities to have maternal tetanus toxoid immunization.

Sixty one percent of the respondents knew that the purpose of taking TT immunization is to prevent mother and the newly born child from tetanus, followed by 20.4% to prevent the newly born child alone from getting tetanus diseases.

In the Ethiopian context women traditionally are under the influence of men and there is power imbalance between men and women. This has great implication on TTI services, hence this study has asessed near to 50% (334) mothers has no Freedom of mobility or need permission of their husband for any health services seeking in the area.

The quantitative part of this study revealed that not aware of the immunization services and fear of side effects were identified as the main reasons not immunized TT in the area, which is consistent with the FGD findings in the qualitative part of the study.

Similarly as it could be observed from the qualitative data above TT immunization also affected by commitment of the health workers, awareness of the community, Shortage of supplies, cold chain breakage due to power interruption or lack of kerosene, and Lack of regular monitoring of the services are some of the factors which may affect TT immunization in the area.

This study also suggests ways of improving TT immunization coverage. For instance, summary human resource development like on job training and supportive supervision, improving supply and equipment for vaccination, community awareness raising on advantage of immunization, on side effects, rumors toward TT immunization and promoting of the urban health extension program are important measures to raise the coverage.

VII. Strength and limitation of the study

7.1 Strength of the study

- Selection bias was minimized since it was community- based study with probability sampling technique.
- Similar sex interviewers were used who were health workers, know the localities, and speaks local languages.
- Absence of non response.
- Furthermore, qualitative design was used to complement the findings.

7.2. Limitation of the study

- This study did small proportion of the rural population, which might be affecting its generalizability to Zone.
- For time and logistic reasons the study was conducted on accessible kebele, so that it might not be generalizable to all women in the Zone.
- There could be recall bias since the women were asked for events within the last five years prior to the survey. However, the most recent births were considered and local events were utilized to remind them.

Conclusions

This particular study indicates that a substantial proportion of mothers and newborn were not took valid TT dose and protected at birth as evidenced by card alone.

Though majority of mothers can mention the importance of having tetanus toxoid vaccination is to protect mother and new born from getting diseases, still large number of mothers were not aware of the immunization services and fear of side effect were the major reasons for not having the immunization.

During service delivery, there was poor communication between programs like Tetanus toxoid immunization and ANC services, Family planning and TTI services. This may result in high missed opportunities and make low coverage of the services.

Recommendation

Based on the findings of this study it is generally recommended that:-

1. Regular and frequent health education for general community and CBAW in particular is important to raise awareness on Tetanus toxoid immunization and improves low coverage.
2. It is desirable to create awareness among both rural and urban women and their husbands and families about the importance of TT vaccination and the consequences of not being vaccinated.
3. Improving the Monitoring and supervision of vaccination activities, providing the equipment required for delivery of vaccination services are another important strategy to improve the services.
4. Strengthening internal referral linkage of the programs to avoid missed opportunities at the level of health facilities.
5. Establishing defaulters tracing mechanism using health extension package workers and the lower governmental structures below kebele level.
6. Strengthening family folder for holding EPI card through health management information system/HMIS/ at health facility and individual level.
7. Enable women to exercise their rights to make decision concerning freedom of movement, own health care and access to economic resources.
8. Improving the educational status of parents can potentially improve the immunization coverage.

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ANNEX 1: General information sheet

Read the Verbal consent as it is!

Verbal consent

Greetings Hello! My name is _____ I am a master of public health student of Addis Ababa University Medical Faculty, School of Public Health.

I am conducting a study on maternal Tetanus toxoid immunization service coverage in Ambo town and its surrounding.

The interview will take about 30 minutes. No information concerning you, as individual will be passed to another individual or institution without your agreement.

You are kindly invited to be included in the study, which will have importance in improving maternal and child health services.

All information which you are being, asked to provide in this questionnaire will be kept strictly confidential. And, will be used only for study purposes. Your participation is voluntary and you have the right to participate or not has been communicated. However, your participation is important to full fill the study purpose.

Contact Address

1. principal investigator, Cell phone 0911894161

e-mail edoadugna@yahoo.com.

2. Institutional review board -251-11-553-87-34

Consent form that certify the respondents agreement before the interview

Do you agree to answer the following questions to the best of your ability?

Yes _____ No _____

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

Name of the interviewer _____ Signature _____

Date of interview _____

Name of the supervisor _____ Sign. _____ Date _____

Questionnaire for community based survey on factors influencing coverage of TT immunization and PAB coverage in Ambo Town

Households Identification

001. Questionnaire Code _____

002. Residence /___/ 1.Ambo town 2. Ambo Surrounding Area.

003. Kebele _____ 004. House number _____

005. How long have been living in this town/Area _____(If less than one year thank and stop interviewing and skip to the next house but if not preceding the study next question).

006. Time table for visiting/revising a household

	First visit	Second visit	Third visit
Date			
Interviewer			
Result			

Results of visiting: 1. Completed, 2.Rejected, 3.No response, 4.partially response 5.other

- Show the answer of the respondent by circling the number and / or writing or marking “√” on the space provided.
- Time of interview start _____ ended _____

English version of the questionnaire

Part I -Questionnaire on socio-demographic characteristics.

No	Questionnaire	Alternative choice for responses	Skip to code
101	Present maternal age	_____Years	
102	What is the highest level of schooling you have attended	1. Never attended 2. Only read & write 3. Elementary school 4. Secondary high school 5. 12+ 99. Other Specify	
103	What ethnic group do you belong?	1. Oromo 2. Amhara 3. Guraghe 4. Tigrie 99 . Other specify_____	
104	What is your occupation?	1. Housewife 2. Maid servant 3. Civil servant 4. Merchant 5. Student 99. Other specify	
105	What is your religion?	1. Orthodox 2. Catholic 3. Protestant 4. Muslim 99. Other specify	
106	What is your marital status?	1. Married 2. Divorced 3. Widowed 4. Never married 5. Separated	
107	What is your Monthly income?	_____birr	
108	What is the number of people Who live usually in this	Total_____	

	household?		
109	occupancy status of the house	1 Private 2 Rental 3.others specify_____	
110	Material used to construct the roof and floor	1. Corrugated Iron and Cement/wood 2 Corrugated Iron and mud 3 Thatch 99. other, Specify_____	
111	Do you have radio/TV	Radio -1 yes 2 No TV- 1. yes 2. No	
112	Husbands Occupation	1. Governmental Employee 2. Farmer 3. Civil servant 4. Merchant 5. Student 99. Other specify	
113	Husband Educational status	1. Never attended 2. Only read & write 3. Elementary school 4. Secondary high school 5. 12+ 99. Other Specify	
114	Has permission to go outside alone	1. Unrestricted 2. restricted 3. No mobility	

Part II: Questionnaire on Obstetric determinants

201	Parity	1. 0-1 2. 2-4 3. ≥ 5	
202	Future Fertility Intention	1. Wants 2. Don't want 3. Undecided	
203	Planned pregnancy for a child being assessed	1. Yes 2. No	
204	What was the total number of ANC visits for the child being assessed	1. Once 2. Two 3. Three 4. Four and more	
205	Has ever been given "vaccination injections" to prevent from getting tetanus,	1. Yes 2. No 3. Don't Know	

Part III: Questionnaire on TT immunization

301	During your index pregnancy, were you given TT injection?	1. yes 2. No 3. Don't remember	
302	Source of information TT immunization	1. Card 2. History 3. 3. both history 4, Don't know	
303	Time of TT Dose during pregnancy	1. Up to 4 month 2. 5-7 month 3. >7 month	
304	Place of TT dose given	1. Health Post 2. Health Centre 3. Hospital 4. Home/Out reach	

305	Immunization status(Dose) Total	<ol style="list-style-type: none"> 1. None vaccinated 2. TT1 3. TT2 4. TT3 5. TT4 6. TT5 7. Unknown 	
306	Reference Child age Group	<ol style="list-style-type: none"> 1. 0-11months 2. 12-23 months 3 24-59 months 	
307	Purpose of getting injection	<ol style="list-style-type: none"> 1. To prevent self from Tetanus 2. To prevent Child from Tetanus 3. To prevent both, self and child from tetanus 4. Don't know 5. other 	
308	Reason not getting TT injection (more than one answer is possible)	<ol style="list-style-type: none"> 1. Not aware 2. Nobody advice 3 Service area too far 4 Fear of side effects 4. Provider not available 5. No problem experienced 6. Other 	
309	Protection at birth information	<ol style="list-style-type: none"> 1. History 2. by card 3. both 	

Part IV: Question on respondents view on quality of immunization services

No	Questionnaire on identification of the respondents	Alternative choices for responses	Skip to Code
401	Were the health workers respectful?	1. Yes 2. No 99. Don't know	
402	Did you think that lack of privacy was problem at TT immunization?	1. Yes 2. No 99. Don't know	
403	What is your feeling about the quality of Services given?	1. Good 2. Satisfactory 3. Poor	
404	Do you have confidence on the service Provided at that health institution?	1. Yes 2. No 99. Don't know	
405	How do you rank the behaviour of health Workers providing immunization services?	1. V. Good 2. Good 3. Fair 4. Bad	
406	How do you feel about the distance from your home to the nearest health institution? (Health center, Clinic)	1. Very close 2. Average 3. Too far	
407	How long does it take to travel from your home to the nearest health institution?	1. < 1hrs. 2. 1-2 hrs. 3. > 2hrs.	

“Thanks for your cooperation!”

Questionnaire of Amhric Version

በአዲስ አበባ ዩኒቨርሲቲ የህክምና ፋኩልቲ የህብረተሰብ ጤና ሳይንስ ት/ቤት የሚስጥር አጠባበቅ ስምምነት :

ጭቀጥሎ የተጻፈውን እንደላ ይናገሩ።

ጤና ይስጥልኝ፡ ስሜ _____ እባላለሁ። ከአዲስ አበባ ዩኒቨርሲቲ ህክምና ፋኩልቲ የህብረተሰብ ጤና ሳይንስ ት/ቤት እየካሄደ ባለው ሳይንሳዊ ጥናት ውስጥ የቡድን አባል ሆኜ የእናቶች የመንጋጋ ቆልፍ ክቲባት ሽፋን አጋልጧለሁት የሚወስን የምርምር ሥራ እያሰራው እገኛለው። ለዚህ ሥራ የእርስዎንም መልካም ድጋፍና ትብብር እሸለው። የጥናቱ ዓላማም ለእናቶች ጤና አገልግሎት ጥራት ለማሻሻልና ለማሳደግ ይረዳል። የእርስዎን ስም አልጠ ይቅም።

ማንኛውም ከእረስዎ የምንወስደውን መረጃ ለሌላ ሦስተኛ አካልም ሆነ ድርጅት ከእርስዎ ፋቀድ ውጪ የማላስተላፍ መሆኑን ከወዲሁ አራጋግጧለሁ። የምርምር ስራውም በአዲስ አበባ ዩኒቨርሲቲ ተቀባይናት አግኝቷል።

ቃላ መጠየቁን በመመለስ ለመሣተፍ ፋቃደኛ ከሆኑ ጥያቄዬን እጀምራለሁ። ለመሳተፍ ፋቃደኛ ነዎት? 1.አዎን ---- 2.የለም ---- (መልሱ አዎን ከሆነ ወደሚቀጥለው ጥያቄዎች ወይም የለም ከሆነ አመስግነሽ/ህ ወደሚቀጥለው ቤት እላፊ/ፍ

የመረጃ ሰብሳቢ፣ ስም-----ፊርማ----- የተሰበሰበበት ቀን-----
የተቆጣጣሪ፣ ስም-----ፊርማ -----ቀን -----

- 1. አጥኝወ. አዲራሻ:- ሞባይል 0911894161/+251-11-236-47-58
e-mail edoadugna@yahoo.com.
- 2. Institutional review board +251-11-553-87-34

Questionnaire Amhric Version

በአዲስ አበባ ዩንቨርሲቲ የእናቶችን የመንጋጋ ቆልፍ ክቲባት ሽፋን አገልግሎት በገብለተሰብ ዉስጥ የሚወስን ጥናት

የቤተሰብ መለያ

001. የጥያቄዉ መለያ ቁጥር _____

002. የመኖሪያ አድራሻ/____/ 1.አምቦ ከተማ 2. አምቦ ዙርያ 003. ቀበሌ _____ 004.

የቤት ቁጥር _____ 005. ለምን የህል ጊዜ እዝህ ኖሯል

(ከአንድ አመት በታች ከሆነ በማመስገን ወደሚቀጠለው ቤት እላፊ/ፍ)

006. ቤቶችን ለመጎብኘት የወጣ የጊዜ ሠሌዳ

	የመጀመሪያ ጉብኝት	ሁለተኛ ጉብኝት	3ኛ ጉብኝት
ቀን			
መረጃ ሰብሳቢ ስም			
ወ.ጤት			

የጉብኝት ወ.ጤት 1/ ተሟልቷል 2/ ተቃውሞ 3/ መልስ የለም 4/ በከፊል ተመልሷል 99/ ሌላ ካለ ይገለጽ -----

☞ የእናቶችን ትክክለኛ መልስ በተሰጡት የምርጫ ቁጥሮች ላይ በማክበብና ወይም በክፍት ቦታ ላይ በመጻፍና ወይም በ"√" ምልክት በመማልካት አሳዩ/ይ::

ክፍል አንድ፤ ስለ ግልና ማገባራዊ ጉዳዮች የሚመለከቱ ጥያቄዎች

ተ.ቁ	ጥያቄ	ለአማራጭ መልስ በማጻፍ ወይም በመክበብ አሳይ	እለፊ ወደ ኮድ
101	እድሜ? በሙሉ አመት	_____ ዓመት	
102	ትምህርት ደረጃ /-----/	1. ያልተማረ 2. ማበብና መጻፍ ብቻ 3. አንደኛ ደረጃ ትምህርት 4. ሁለተኛ ደረጃ ት/ት 5. 12ኛ ና ከዚያ ባላይ	
103	ብሔረሰብ /-----/	1. ኦሮሞ 2. አማራ 3. ጉራጌ 4. ትግሬ 99. ሌላ ከለ ይጣቀስ _____	
104	ፖሊ/-----/	1. የቤት እመቤት 2. የቤት ሠራተኛ 3. የመስሪያ ቤት ሠራተኛ 4. ነጋዴ	

		5.ተማሪ 99. ሌላ ካለ ይጠቀስ _____	
105	ሃይማኖት/-----/	1. ኦርቶዶክስ 2. ካቶሊክ 3. ፕሮቴስቲያንት 4. እስላም 99. ሌላ ካለ ይጠቀስ _____	
106	ያጋብቻ ሁኔታ /-----/	1. ያገባ 2. የተፋታ 3. ባል የሞተባት 4. ያላገባ 5. ተለየይተዉ የሚኖሩ	
107	በወር ውስጥ ጣቅላላ የቤተሰብ ገቢ	_____ ብር	
108	ጠቅላላ የቤተሰብ ብዛት	- _____ ሰዎች	
109	የቤት ይዞታ/-----/	1. የግል 2. የክራይ 99. ሌላ ካለ ይጠቀስ _____	
110	ቤቱ የተሣራባት ቁሳቁስ/-----/	1. በቆርቆርና ሲሚንቶ/እንጫት 2. በቆርቆርና ጭቃ/እንጫት 3. በሣር/እንጫት 4. በድንጋይ/በቆርቆር 99. ሌላ ካለ ይጠቀስ _____	
111	ቲቪ /ሬዲዮ ከቤትዎ አለዎት/-----/	ቲቪ 1. አዎን 2. የለም ሬዲዮ 1. አዎ 2. የለም	

ክፍል: ሁለት: የወሊድና ጤና ጉዳዮችን ጥናት በተመለከተ

ተ.ቁ	ጥያቄ	አማራጭ መልስ	ወደ- እላፍ
201	ጠቅለላ የወሊድ ቁጥር/-----/	1. አንድ 2. ከሁለት እስከ አራት 3. ከአምስት በላይ	
202	የወደፊት የእርግዝና እቅድ አለዎት/-----	1. አዎ 2. የለም	
203	አሁን ያለውን ልጅ አቅድሞ ነው የወለዱት?	1. አዎ 2. የለም	
204	አሁን በመጨረሻ ለተወለደው ልጅ ቅደመ ወልድ ምርመራ አድርገዋል? /-----/	1. አዎ 2. የለም	
205	ጥያቄ 204 አዎ ከሆነ ስንት ጊዜ ምርመራ አድርገዋል?/-----/	1. አንድ ጊዜ ብቻ 2. ሁለት ጊዜ 3. ሶስት ጊዜ 4. አራት ጊዜ እና በላይ	
207	የመጨረሻ ልጅ ዕድሜ በወር ስንት ነው	1. ከአስራ አንድ ወር በታች 2. ከ12-23 ወር 3. ከ24-59ወር	
208	ነፍስ ጡር፣ እናቶች የክትባት አገልግሎት ያስፈልጋል ብለው ያስባሉ?	1. አዎን 2. የለም 3. አላቅም	

ክፍል: ሦስት :- ተጠያቂዎች በመንጋጋ ቆልፍ በሽታ ክትባት ላይ ያላቸው ግንዛቤ መጠየቅያ

ቁጥር	ጥያቄ	አማራጭ መልስ በማጻፍ ወይም በመክበብ አሳይ	እላፍ ኮድ
301	የመንጋጋ ቆልፍ በሽታ መከላከያ ወስደው ያዉቃሉ	1. አዎ 2. የለም	303
302	በመጨረሻው እርግዝና የመንጋጋ ቆልፍ ክትባት ወስደዋል?	1. አዎን 2. የለም 3. አላስታውስም	
303	የመንጋጋ ቆልፍ መከላከያ ክትባት	1. የክትባት ካርድ	

	ለመውሰዳቸው ማስረጃ	<ol style="list-style-type: none"> 2. በአፍ /ያሰካረርድ/ 3. በሁለቱም 4. አይታወቅም 	
304	በመጨረሻ እርግዝና የመንጋጋ ቆልፍ ክትባት የተወሰደበት ወቅት	<ol style="list-style-type: none"> 1. ከአራት ወር በፍት 2. ከአምስት እስከ ሳባት ወር 3. ከሳባት ወር በሃላ 4. አላስታወሰም 	
305	ክትባት የተወሰደበት ቦታ	<ol style="list-style-type: none"> 1. ጤና ከላ 2. ጤና ጣቢያ 3. ሆስፒታል 4. ቤት ወይም መሰክ 	
306	የክትባት መጠን ሁኔታ በዙር	<ol style="list-style-type: none"> 1. አይታወቅም 2. አንድ ጊዜ 3. ሁለት ጊዜ 4. ሶስት ጊዜ 5. አራት ጊዜ 6. አምስት እና ከዚያ በላይ 	309
307	የመንጋጋ ቆልፍ ክትባት ጥቅም ምንድነው?	<ol style="list-style-type: none"> 1. ለራስ መከላከያ 2. ለምወለደው ልጅ መከላከያ 3. ለእንትና ልጅ /ለሁለቱም/ 4. አይታወቅም 5. ሌላ 	
308	ክትባት ያልተከተቡበት ምክንያት	<ol style="list-style-type: none"> 1. አለማወቅ 2. የመከረኝ የለም 3. የአገልግሎት መስጫ ርቀት 4. የክትባት መዘዝ ፍራቻ 5. ከታቢዎች አልተገኙም 6. ችግር አጋጥሞኝ አያወቅም <p>99. ሌላ</p>	

ክፍል:4:ተጠያቂች በመንጋጋ ቆልፍ ክትባት ላይ ያላቸው የጥራት፡ የግንዛቤ እና ዝንብሌ ሁኔታ

ቁጥር	ጥያቄ	አማራጭ መልስ በማጻፍ ወይም በመክበብ አሳይ	እለፍ ኮድ
401	የጤና ባለሙያዎቹ እናቶችን ያከብራሉ?	1. አዎን 2. የለም→	
402	በመንጋጋ ቆልፍ ክትባት ጊዜ የምስጥር መጠበቅ ችግር አለብላለሁ ያምናሉ?	1. አዎን 2. የለም 3. አላቅም	
403	ሰለ ክትባቱ ጥራት ምን አስተያየት አለዎት?	1. ጥሩ ነው 2. በቂ ነው 3. ደካማ ነው	
404	በክትባት መስጫ ጤና ድርጅቶች ላይ እምነት አለዎት ወይ	1. አዎን 2. የለም→	
405	የጤና ባለሙያዎቹን ጸባይ እንደት ይመለከታሉ?	1. በጣም ጥሩ 2. ጥሩ 3. በቂ 4. መጥፎ	
406	የጤና ድርጅት ከበትዎ ያለውን ርቀት እንደት ይመለከታሉ	1. በጣም ቅርብ 2. መካከለኛ 3. በጣም ርቅ	
407	ከበትዎ እስከ ጠና ድርጅት በሰዓት ምን ያህል ይወሰዳል?	1. ከ1 ሰዓት በታች 2. ከ1 ሰዓት እስከ ሁለት ሰዓት 3. ከሁለት ሰዓት በላይ	

ለትብብርዎ በጣም እናመሰግናለን!

Odeffannoo waligalaa General information sheet

Walgaltee kana akkumaa jiruttii dubbisii

Duraan dursee akkam jirtuu isinin jechaa, maqaan koo _____ jedhamaa , Ani barataa masteer Univaarsiitii Finfinnee, fakaality fayyaa tii.

Yeroo amma qorrannoo dhimmaa uwwinsaa talaallii tetaanoos kan hadhoolii fi daa'immaan magaalaa Amboo fi Gandootaa naannoo ishee irraattii gaggeessuuf hojjechaan jira. Issinis qorrannoo kana keessattii akka dabalamitaan kabajaan afferamitanituu, qorrannon kunis tajajjilaa fayyaa hadhooliif daa'imaanii foyyessuuf bakka olaanaa qaba.

Odefanno fi deebi'ii issin naaf kennitaan martii iccitiidhaan kan eegamuu, qaamaa sadaffaa tiif darbee kan hinkennamnee ta'uu isaa fi dhimmaa qorrannoo kana qofaaf kan oluu ta'uun isaa issin hubachisuu barbanna.

Hirmaannan keessaan fedhii fi mirgaa keessan, hirmachuu dhisuun keessan qorrannoo kana irrattii midhaa hinqabuu, garuu qoodaa fudhachuun keessan qorrannoo kana guutuu gochuuf bakka gudda qaba.

Yoon gaaffii koo ittifufee feedhii qabdu 1. Eeyee 2. Lakkii (Deebiin issan Eyyee yoo ta'e gaaffii armaan gadii itti fufii, Lakkii yoo ta'ee galatefadhuutii mana kan itti aannuutti darbi)

Maqaa Gaafataa _____ Mallattoo _____ Guyyaa _____

Maqaa To'aataa _____ Mallattoo _____ Guyyaa _____

Tessoo Qo'ataa, Bil, 0911894161

e-mail edoadugna@yahoo.com.

2. Institutional review board -251-11-553-87-34

Questionnaire of Afaan Oromo version Qoraannoo Universitii Finfinee waaee itti fayyadama fi uwwinsaa tajaajila talallii tetaanoos hadhollii.

Addan Baafannoo Manaa

001_____Kodii Gaffillee_____ 002.Teessoo/___/1.Magaala Amboo 2. Naannoo Magaalaa Amboo 003. Gandaa _____ 004. Lakkofsaa Mana _____

005. Yeroo ammamiif bakka kana /jiraattanittu? ____ (Waggaa tokkoo-ol yoo ta'ee gaffii armaan gadii itti fufii lakki yoo ta'e galaateefadhuuttii mana itti aanuutti darbii)

006. Gabatee yeeroo mana irra deebiaan to'ataan

	Yeroo duraa	Yeroo lamm aafa	Yeroo sadaff aa
Guyyaa			
Kan gaffii Diyyesee			
Firri argamee			

Firii argamee:1.qulqula'era, 2.Hindidaan, 3.debii dhowwatan, 4.gariisa debisaaniru, 5.kan bira ibsii_____

- yerroon gaffii itti eegalee _____Yeroo itti Xumuramee_____

L	Gaaffilee deebistootaaf dhiyaate	Deebii deebi'e	koodiitti darbii
101	Umuriin Dhaloota Keessani ammam ta'a ?	_____(Waggaa guutuun)	
102	Sadaarkaan Barumisaa keessan ini gudda ammam?	1. Homa hin barane 2. Barreessuuf Dubbisuu nan danda'a 3. Barnoota sadarkaa duraa(1-8) 4. Barnoota Sad. Lammaaffa(9-12) 5. 12+ 99.Ykn kan bira yoo jiraate ibsaa_____	

103	Sabni keessan maalii?	<ol style="list-style-type: none"> 1. Oromoo 2. Amarraa 3. Guraghee 4. Tigree <p>99. kan birra, ibsaa _____</p>	
104	Hojiin keessan maali?	<ol style="list-style-type: none"> 1. Hadha warraa 2. Hojjeettuu manaa 3. Hojjeettuu mootumma 4. Daldaltuu 5. Barattuu <p>99. kan bira, ibsaa _____</p>	
105	Amanitiin Keessan kami?	<ol style="list-style-type: none"> 1. Orthodoxii 2. KatolKii 3. Protestanti 4. Muslimaa <p>99.kan birra, ibsaa _____</p>	
106	Bultiin keessan maal fakkata?	<ol style="list-style-type: none"> 1. Heerumeen dhirsaa qaba 2. Abbaa warraa koo waliin wal hikineera 3. dhirsii koo na jala du'ee 4. takkaayu hin heerumine 5. dhirsii koo nabirra hin jiru 	
107	Gallin issin ji'aatti argaattan qarshiidhaan meeqaa?	_____	
108	Nama meeqatu mana kana keessa jirataa?	_____	
109	Qabiyyeen Mana kan eeynuutti?	<ol style="list-style-type: none"> 1 Kan dhunfaa koo 2 Kiraan kanfala jira <p>99. kan bira, ibsaa _____</p>	
110	Manni kun maaliin ijaaramee?	<ol style="list-style-type: none"> 1. Qorqorroof simintoon 2 Qorqorroo, mukaa fi Dhoqqee 3 Citaa fi mukaa <p>99. . kan bira, ibsaa _____</p>	

111	Radiooni/Telvizyoona Qabiduu	Radiyoo -1 Eeye -2. Lakkii Telvizyoona-1. Eeye -2. Lakkii	
112	Hojii abba warraa/Dhirsaa/	1. Hojjetaa mootumaa 2. Qote bulaa 3. Hojii humna 4. daldalaa 5. barataa 99. kan biraa ibsaa	
113	Sadarkaa barumsaa abba warraa.	1. Hin barannee 2. Barresuu fi dubisuu qofa 3. sadarkaa 1 ^{ffaa} (1-6) 4. sadrkaa 2 ^{ffa} 5. 12+ 99. kan biraa	
114	Eeyyamaa abba mana malee mana ba'uu dandess?	1. kan hinmurtofnee 2.kan murta'ee 3. socho'uun hin Eeyyamamuu.	

Kutaa II: Gaaffii fayyaa hormataan nama walqabataan

201	Lakkofsaa da'umsaa	1. 0-1 2. 2-4 3. ≥ 5	
202	Karoora fi fedhiif da'umsaa fulduraaf	1.ni barbada 2. hin barbaaduu 3. hin murtessinee	
203	Daa'immaa xiqaa amma jiruuf taj da'umsaan duraa hordoftaanii?	1. EeYe 2. lakkii	Lak. => 205
204	Yeroo ulfa turtaan hangaam deddebitaanii ilaalamtaan?	1.yeroo Tokko 2. yeroo lama 3. yeroo sadi	

		4. yeroo afur fi ol	
205	Talaallii tetanoosii fudhataanii beektuu?	1. Eeye 2. lakkii 3. Hinbeekuu	

Kutaa III: gaaffii talaallii TT irrattii dhiyaataan

301	Ulfaa isaa dhuma kan irraattii talaallii tetanoos fudhatanituu?	1. EeYe 2. lakkii 3. Hinbeekuu	
302	Oddefannoo talaallii kan eesaa argataan?	1. kardii 2. jechaa afaanii 3. lamaanuu 4, Hinbeekamuu	
303	Yeroo ulfaa ji'aa meeqaaffa irrattii talaallii kan fudhataan?	1. Ji'aa 4 ^{ffaa} dura 2. Ji'aa 5-7 3. ji'aa 7 ^{ffaa} booda	
304	Talaallii kana eessattii fudhataan?	1. Keellaa fayyaa 2. Buufataa fayyaa 3. Hospitalaa 4. Bakka dirree olmaa/mana-manattii	
305	Walgala talaallii hangaa ammattii fudhtaan doosiidhaan?	1. Hin talaalfamnee 2. TT1 3. TT2 4. TT3 5. TT4 6. TT5 7. hinbeekamuu	
306	Ummurii Da'ima xiqaa mana keessaa jiruu ji'aan?	1. Ji'aa 0-11 2. Ji'aa 12-23 3. Ji'aa 24-59	
307	Fayiidaa talaallii kan ibsaa (deebi'ii tokko oli nidanda'ama)	1. Hadhaa Dhibee Tetanoos irra ittisuuf 2. Mucaa dalatuu Tetanoos irra ittisuuf 3. Hadhaa fi mucaan dhalatuu ittisuuf	

		4. Hinbeekamuu 5. kan bira	
308	Sababnii talaallii kana hinfudhanee?	1. Hubannootu hinjiru 2. Namnii gorse hinjiru 3. Bakka tajaajilaatuu fagoo dha. 4. Midhaa fidaa jedhanii sodachuu 5. namnii tajaajilaakana kennu hinjiruu 6. Rakkon qunnamee hinbeekuu. 7. kan biraa	
309	Ittisin yeroo dhalootaa kan ittin mirkannefamee?	1. Jechaa afaanii 2. Kardii 3. Lamaanuu	

Kuta IV: Gaaffii ilaalchaa hirmatootaa qulqullinaa tajajilaa talaallii irratti qabaan.

No	Gaaffiwaan hirmaatootaa qorrannoo keenyaa addaan baasuuf Qopha'ee.	Filannoo deebi'ii dhaaf qopha'an	lakk Cee'ii
401	Akkaa ilaalchaa keessanittii oggessi fayyaa nama kabajuu?	1. Eeyyee 2. Lakkii 99. Hinbeekuu	
402	Kenninsaa tajaajilaa talaallii tiif Iccittii eeguudhabuun rakkoodhaa jettanii yaaduuyyuu?	1. Eeyyee 2. Lakkii 99. Hinbeekuu	
403	Qulqullinaa keenninsaa tajajilaa talaallii irrattii maltuu issinittii dhaga'amaa?	1. Gaarii 2. Quubsa 3. Dadhabaa	
404	Keenninsaa tajaajilaa talaallii dhabbataa fayyaa irrattii amantaa qabduu?	1. Eeyyee 2. Lakkii 99. Hinbeekuu	
405	Amalaa Oggesootaa fayyaa tajajilaa talaallii kennannii sadarkaa akkamii keennituuf?	1. B.Gaarii 2. Gaarii 3. Qubsa 4. Daadhaabaa	

406	Faageenyii dhabbataa fayyaa mana keessan irra maal fakkataa? Health center, Clinic)	1. Bayyee dhiyyoo 2. Gidduu Gallesaa 3. Bayyee Fagoo	
407	Mana keessan irraa hangaa dhabbataa fayyaa tii sa'aa meeqaa fudhataa?	4. < 1hrs. 5. 1-2 hrs. 6. > 2hrs.	

Hirmaanaa keessaniif Bayyee galaatoomaa!

Focus group discussion and Interview guide

Introduction

Good morning and thank you all for coming!

My name is----- . My colloquy near to me is----- . We came from the Zonal Health Office, Oromia Regional Health Bureau and working with research team of SPH, AAU.

Read the following as it is:

“After we conduct some brief introduction, we will be talking about several different issues. We will be asking you questions about your overall experience with the maternal healthcare services in your locality and questions pertaining to Tetanus Toxoid immunization and factors influencing utilization of the available health services. Then, we will conclude the session by asking you for your recommendations on how such program might be implemented in your community in any way in the future.

Would you be willing to participate in the discussion? If yes, proceed, if no, thank and stop the discussion.

Name of the moderator-----Sign-----

Date-----Time-----.

Preparation

Topic; Community perception of Tetanus toxoid immunization and services utilization.

Target audience: CBAW, husbands, religious & community leaders and health workers.

Objective of the discussion

- To explore the community understands and perceptions of Tetanus toxoid immunization and utilization in Ambo Town.
- To assess factors affecting utilization of TT immunization

Description of the participants

A total of four focus groups, each comprising six to eight participants will be involved.

The selection criteria and the targeted audiences;

Category	# area of selection	Member of the group
	District health office	2
	Health center	2
	Health posts	2
CBAW -2	community	3
Opinion and religious leaders-3	Community	3
Husbands -4	Community	3
Total		31

Description of the focus group

The participant and the facilitator will sit in a circle or around a table for the discussion. The facilitator will begin the session by introducing himself and explain the purpose of the focus group. The focus group meeting will last about 60 to 90 minutes.

Potential use of data

The gathering of this information will have an effort to gain further insight about underutilization of tetanus immunization services among CBAW in the District.

Ground rules

Issue of confidentiality

Please be assured that any information collected here is strictly confidential. The staff of research and other participants will not directly share the information in a way that would reveal an individual's personal identity.

Consent for participation and tape-recording

At this point it is important that we obtain your consent for conducting the session. Understand that this is more for your protection than anything else.

Read consent form out loud to the group:

“Your remaining in the session indicates that you voluntarily agree to participate in this discussion program. You have the right to refuse to answer any questions and to end the discussion if you find it necessary to do so. For the sake of accuracy and efficiency, we will take notes and tape recording these sessions, unless any one has any objections.”

Role of moderator and note taker

The moderator will be in charge of facilitating the discussion. The moderator will bring the discussion back to the topic at hand should it go beyond the main issues. The moderator will not give any indication (verbal or physical) that would encourage certain types of comments or discourage other types of comments. In short, the moderator will guide the discussion when necessary, with care not to lead the discussion. It is our role to facilitate, but your role to tell us what you think. The note taker will have the sole responsibility of capturing the sessions accurately as possible. This will include not only participants' responses, but also nonverbal actions, physical environment, atmosphere of the session, as well as other vital characteristics of the session.

Importance of total group

In this group everybody should feel free to talk. Each and every opinion is important and wanted. It is very important that all the people in the group get a chance to express their opinions.

Agreement to disagree

In this group there are no rights or wrong answers. Everybody should express the opinions or attitude pertinent to him or her. When you express your opinions you are encouraged to be honest in your views of the immunization programs (especially Tetanus toxoid). We want you to focus your comments on the program and not toward each member of the staff.

FGD topic guide

1. Introduction

At this point, we would like to ask you to introduce yourself to the rest of the group. Let us start with the research team (Name, age, education status) and each of you please tell me your name, how long you have lived in this area and your job.

2. Warm up questions

1. Next we would like to hear a little about your experience or knowledge about Immunization services.
 - 1.1. Who can tell us about Tetanus toxoid immunization services?
 - 1.2. Who would like to tell us health problems related to Tetanus toxoid ?
 - 1.4 What are the causes?
 - 1.5 What are the consequences?
 - 1.6 What are the prevention methods?

Probe Questions for all

(to be asked at the end of all 6 Qs /in probe area)

1. Would you explain further?
2. Would you give me an example?
3. Has anyone else had similar experience?
4. Is there anything else?
- 5."I don't understand."

3. Tetanus toxoid immunization questions

2. Now we would like to ask you specific questions about health problems related Tetanus toxoid.
 - 2.1. Do you think that a healthy pregnant woman should take TT. immunization?
 1. Yes 2.No, why?

2.2. Where do you think is the best place for TTI?

Why? What are the advantages? (**Probes**)

3 What are the primary reasons pregnant women should take TTI? What are the advantages and disadvantages? (**Probes**)

4. Where do you think the best place for delivering a child? Why?

What are the advantages and disadvantages? (**Probes**)

Ending questions

Are there any issues, questions, comments that you would like to raise or points to you wanted to add? Debriefing I would like to thank you for your participation. I also want to restate that what you have shared with us is confidential. No part of our discussion that includes names or other identifying information will be used in any reports, displays or other publicly accessible media coming from this research. Finally, I want to provide you with a chance to ask any questions that you might have about this research. Do you have any questions for me?

“Thank You”

Interview Guide questions for key informants

1. How do you see the status of maternal health service in your area (wereda health office)
2. Causes of maternal morbidity and mortality
 - Service organization and utilization
 - Utilization of Immunization? Which immunization service/es are underutilized? Why?
 - How many facilities rendering the services?
 - Are they accessible to the users; are they user friendly, why?
3. How do you see the status of TT immunization at health institutions (HC, GHC, HP and at community)?
 - Equipments and supplies, (Refrigerators, ICE box, cold box....)
 - Staffing, skill
 - Quality of Services
 - Utilization pattern
4. What do you understand by;
 - NNT?
 - PAB?

- Any training provided to health providers? No. of trainees?
 - Status of service provision at facilities
5. When to hold immunization session?
- weekly
 - Every day
 -
 - monthly
 - Other
 - Any convenient time
6. In your opinion what are the most important factors that affect TT immunization?
- Staffing(skill, behaviour, commitment)
 - Equipment, supplies, (vaccines, electricity, water...)
 - Quality of service,
 - Lack of supervision?
 - Other
7. What actions have you been taking to promote TT immunization service?
- Human resource development
 - Improving supply and equipping
 - Community awareness creation , collaboration with Community health promoters (TBAs, TTBAAs,)
8. Where do women in your area prefer to get the immunization services?
- Home, health facility, Why?
9. Have reasons for any high dropout rate been identified?
- yes
 - No
10. If yes, is there a mechanism in place to trace defaulters?

4: Information Sheet AMBO TOWN AND its SURROUNDINGS

AREA POPULATION

Ser No	Kebeles	Tot. Pop/2010	CBAW	Expected pregnancy
	urban			
1	Ambo 01	12289	2728	467
2	Ambo 02	9309	2067	354
	Ambo 03	9110	2022	346
3	Ambo 04	9467	2102	360
	Ambo 05	9110	2022	346
4	Ambo 06	9754	2165	371
	Subtotal	59039	13107	2243
1	Awaro	2733	607	104
2	Sankale Farisi	3101	688	118
3	Gosu Kora	5008	1112	190
4	Kisose Iddo Liben	2092	464	79
	Sub Total	12934	2871	491

Annex 2. Declaration

I, the undersigned, declare that this thesis is my original work and has not been presented for a degree in this or another university and that all sources of materials used for this thesis have been fully acknowledged.

Name: **Edossa Adugna Dima (Bsc.)**

Signature: _____

Date: _____

Place: AddisAbaba university college of health science, School of public health

Date of submission: may _____, 2011.

This thesis work has been submitted for examination with my approval as university advisor.

Name: **Prof. Mesganaw Fentahun (MD, MPH, PhD.)**

Signature: _____

Date: _____