Assessment of Factors Affecting Utilization of EPI service among mothers in Adi/remets town, Welkiet woreda, Humera zone, North West Ethiopia, 2013

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Abstract

Back ground: - The process of protecting the body against disease by means of vaccines or serum (immunization) is the most cost effective of all the health intervention developed so far. However, the poorest countries and those affected by war or civil disturbance continue to have low immunization coverage contributing at least 2 million child hood deaths per year.

Objectives: - The objective of the study was to assessment of factors affecting utilization of EPI among mothers in Adi/remets town.

Method:-A cross- sectional community based study would be conducted in Welkite woreda, Humera Zone, North West in Ethiopia and data would be collected from 19th to 29th, Feb. 2013 Consecutively ; the necessary data would be collected from EPI card, maternal history and observation for the presences or absence of BCG scar.

Result: Accordingly form the 294 mother, 68.4% have knowledge about EPI (know at least of the 8 VPDs), 97.6% positive attitude towards EPI, while 94.4% have positive attitude towards the vaccinators .As to the general benefit of EPI, 82.3% replied that vaccination is given to protect diseases, 11.6% answered to cure a disease, while 6.1% don't know the general use of vaccines.

Out of the same total number of children 67% were fully immunized (DPT3, measles) and 78% were vaccinated against measles .the number of children with three doses of DPT, OPV, PCV were 82.6% While the overall dropout rate was 24.6%, the drop-out-rate between DPT3/PCV3/OPV3 and measles was 19% .From the 280 children who visited the nearby health facility, then returned without any vaccination and this makes the missed opportunity rate to be 3.6%.

ACKNOWLEDGEMENT

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Abbreviation

1. ANC =   Antenatal Care
2. AOR   Adjusted Odds Ration
3. BCG =   Bacillus Chalmette Guerin
4. COR =   Crude Odds Ration
5. CI   =   Confidence Interval
6. DPT =   Diphtheria Pertussis and Tetanus
7. DHS =   Demographic and Health Survey
8. EDHS =   Ethiopian Demographic and Health Survey
9.   EPI =   Expanded program on immunization
10. Hep B =   Hepatitis B
11.   Hib =   Haemophilus influenza type B
12. MCV = Measles Containing Vaccine
13. MDG = Millennium Development Goal
14. OPV = Oral Polio Vaccine
15. OR =   Odds Ration
16. TT =   Tetanus Toxoid
17. WHO = World Health Organization
18. VPD=   Vaccine Preventable Disease
19. UNICEF = United Nation International Children Emergency Fund
20. UCI   =   Universal Child Immunization
21. NNT   =   Neonatal Tetanus

CHAPTER ONE: INTRODUCTION

1.1. BACKGROUND

Children are the world's most valuable assets and their well -being indicates the standard of living of the country. They constitute one third of the total population. It has been noticed that almost one out of every five live birth infants die before reaching 5 years of age. Health is both a responsibility and a right of those with power and without it. It has been seen that some 5 million children are dying each year and another 5 million disabled by six childhood diseases in developing countries [1].

Child immunization, as the one component of primary Health Care, is worldwide accepted as a cost – effective method in reducing morbidity and mortality rates among children [1-4].

Childhood immunization almost guarantees protection from many major diseases. It prevents 2 million deaths per year worldwide and is widely considered to be tremendously good by the medical science community. However, 2.5 million deaths a year continue to be caused by vaccine – preventable diseases, mainly in Africa and Asia among children less than 5 years old [5].

Expanded program on immunization (EPI) was launched in 1976 by WHO and UNICEF with the aim of controlling six childhood diseases: tuberculosis, diphtheria, pertussis (whooping cough), tetanus, polio and measles. Immunization is the most cost effective health intervention in existence [6].

The community participation is also important especially mothers who take care of the children too, and mothers are so the one dominant group who can make child immunization campaign to be successful as shown in many literatures [1,4].

In 2001 the global alliance for Vaccines and immunization (GAVI) offered financial support to developing countries to introduce new vaccines and strengthen immunization services. With these funds, Hib – conjugate and Hepatitis B

Vaccines were introduced into the EPI schedule combined with diphtheria, pertussis and tetanus (DPT) antigens as a pentavalent vaccine administered at 6,10 and 14 weeks of age. Timely administration of these new antigens was considered essential, as invasive Hib disease incidence peaks at 4 months and vaccination beginning at 6 weeks can prevent early horizontal HBV infection [7].

Now a day's all countries have national immunization programmes, and in most developing countries, children under five years old are immunized with the standard WHO recommended vaccines that protect against eight diseases: tuberculosis, diphtheria, tetanus (including neonatal tetanus through immunization of mothers), pertussis, polio, measles, hepatitis B (Hepatitis b), and homophiles influenza (Hib). Vaccine preventable diseases are among the major causes of childhood morbidity and mortality in Ethiopia [8, 9,].

In Ethiopia, the EPI program was started in 1980 and about 1 million children were estimated to be unvaccinated and about 16% under five mortality has been attributed to vaccine preventable diseases in 2010. Immunization is one of the national child survival strategies in the country to reach diphtheria – pertussis and tetanus (DPT3) /measles vaccination coverage 90% in 2010. It is also presented as the key strategy to achieving the Millennium Development Goals (MDGs) specially to reduce the child mortality and proportion of children immunized against measles is one of the MDG indicators of health [1,3,10].

Evidences show that Ethiopia has made notable progress in routine immunization coverage with an increase in DPT3, Overall improvement in coverage has been mainly attributed to the Reaching Every District (RED) approach, which was started in 2004 [5,6].

The RED approach was developed in 2002 by W.H.O, UNICEF, USAID and CDC to address common obstacles to increase immunization coverage [7]. And Ethiopia was one of the fires African countries selected for implementation. In Ethiopia

RED was first introduced in 13 highly populated priority zones and then scaled up phase by phase to all zones. RED has five operational components: re-establishing of outreach, supportive supervision, monitoring for action, linking services with the community, and planning and management of services [5].

Now a day's Ethiopia, the routine immunization services have been provided to children under - one year of age for the eight vaccine preventable childhood diseases (tuberculosis, poliomyelitis, tetanus, diphtheria, pertussis and measles, homophiles influenza (Hib), hepatitis B (Hep B), and tetanus Toxoid is given to women of childbearing age. The schedule for child and TT immunization is in accordance with the WHO recommended schedule for developing canters [1, 3]. The program had been planned to make immunization services available to 10% of the population in 1980 and to increase immunization access by 10% each year and reach to 100% coverage [10].

1.2. Statement of the problem

A number of evaluations have been carried out to identify knowledge, attitude and practice of population towards EPI [6].

The global universal Childhood Immunization initiative goals for Routine Immunization (RI) are 80% coverage (Immunization) [11]. It has been shown that in 2007 approximately 27 million infants were not vaccinated against common childhood diseases, such as measles or tetanus. In the same year, 24 million children were not being reached with vaccines and over 10% of children under one year old in developing countries were not receiving with vaccines and over 10% of children under one year old in developing countries were not receiving even one dose of DPT vaccine, compared with 2% in industrialized countries [10].

Between 5 years ranged 1998-2002, it was found that the immunization coverage of Lao PDR was very low, as shown on its average values, BCG, OPV3, DPT3 and Measles coverage were 57.8, 58.6, 53.6 and 53.2 respectively. With regard to Pakistan, in 1980 the immunization coverage was 20% which increased to 51% in1990 [6, 12].

Whereas Immunization coverage in the case of South Asia has increased from about five percent in the 1970s to nearly 50% at present but still half of the children remain un-immunized [7].

In the United Arab Emirates (UAE), vaccination coverage is high due to a rigorous follow-up programmed; in 2006, coverage for BCG was 98% while for both the pentavalent (DPT/HBV/Hib) and the measles-mumps-rubella (MMR) vaccines, coverage was 92%, and in 2008, average immunization coverage was more than 90% [13

The WHO Africa regional office estimated that about five million children were un-immunized for DPT3 in 2007. Thus, the challenge of meeting the EPI goal is not only limited to a few countries, many countries in Africa are struggling to meet the immunization targets [14]

Among the 29 sub-Saharan countries survived, full childhood immunization coverage varies widely from only 11% of children of age 12-23 Months in Chad to 78% in Zambia [15].

Although estimated global routine measles vaccination coverage reached 82% in 2007, in 2007, nearly 23.2 million children were unvaccinated, of which 15.3 million (65%) resides in eight countries mainly in Africa, from these 1 million of them live in Ethiopia [10]. A national household survey carried out in 1995 in the Democratic Republic of Congo (DRC) , noted that the EPI was far from reaching its target, as the routine coverage was as low as 57% for BCG, 27% for DPT3, 28% for OPV3 and 39% for the measles vaccine [16].

Ethiopia, in 2010 has an aggregated coverage rate of 61-75%, well below the international standard (WHO: Expanded program on immunization). In this country, regional coverage ranges from 4-92% (WHO: expanded program on immunization) (11a) . In Ethiopia, the 13 RED zones reported a 47% increase in DPT3 coverage by administrative records in 2004 over 2003, while the increment was 29% for RED zones (16, 17).

 In the national EPI coverage survey in 2001 national DPT3 coverage was 56% by card plus history (8). Welfare Monitoring survey in 2004 (WMS - 2004) reported a national DPT3 coverage of 50.3% (card plus history) for 12-23 months of children at the time of the survey [9]. The Ethiopia Demographic and Health survey (EDHS) in 2005 reported that by card plus history 29% of children aged 12-13 months had been vaccinated for DPT3 before the age of one year (10). The EDHS 2005 reported coverage was much lower than the 2004 administrative coverage of 61% from regular reports (17, 18).

The Ethiopian Demographic and Health Survey (EDHS) 2005 revealed only 20% of children 12 -23 months of age were fully vaccinated and 24 of children did not receive any vaccination. Children were more likely to be vaccinated the first doses of vaccination than the third and the fourth doses in which 60% of children received BCG and from these only 35% of them received measles vaccine and this shows that there is a high rate of drop out from vaccination [10]. According to the 2006 national EPI survey in Ethiopia, only 50% of the children were fully immunizes, with wider variations from one region to another. These shows, half of the children were not fully protected. With regard to each vaccines, the BCG, DPTI, DPT3, measles and FIC coverage before the age of one year by card plus history was 83.4%, 84.3%,54.3% and 49.9% respectively in Ethiopia in 2006[16].

According to a study done in ambo, Ethiopia in 2011, 35.6%, 40.7% and 23.7% were children less than two years who were fully vaccinated, partially vaccinated and unvaccinated respectively. In addition, immunization coverage by routine vaccination was less than 20% with card and less than 50% with card and history [10].

Inadequacies in immunization coverage relate to a number of factors such as the level of sensitization by health workers and lack of political will by political leaders to mobilized and support immunization services. Other factors are low parent acceptability in terms of expected benefits, social mobilization of various elements of society for a common developmental goal, insufficient community participation due to lack of awareness, distance from the health facility, place of delivery, migration of families, mothers knowledge and attitudes towards immunization, weather conditions and low literacy levels of the parents[15].

 Parents' knowledge about vaccinations is poor, and the knowledge they do have is often wrong. When parents refuse to accept vaccination, it is because of wish to protect their children from harm [6].

According to study done in the United Arab Emirates (UAE) in 2011, more than 85% of the participants knew that childhood vaccinations prevent life- threatening diseases and 62% aware that immunizations provide lifelong protection as well as 93.1% of participants had positive attitude towards immunizations [13].

Whereas according to a study done in USA, 30% of children whose parents had the lowest attitude score had received measles vaccine, and coverage increased to 90% among children whose parents had the highest attitude score and this indicates mother's attitude towards child immunization has an effect on EPI [19].

According to study done In the Democratic Republic of Congo in 2008, there was confusion in the mother's minds as to which diseases were targeted by the EPI. Some mothers cited diarrhea (3.9%) and malaria (3%) among the EPI – targeted diseases. In addition, half of the mothers knew the schedule for BCG (52.3%) and measles (45.5%) and a third (32.3%) did not know the schedule for polio, implying that half of the mothers had missed the BCG or measles vaccines [16].

But according to a study conducted in Ambo town, majority of the respondents (79.5%) mentioned the objective of immunization is to prevent disease. Whereas; 7.8% said they do not know and 0.6% mentioned it is for other reason like for diarrheal disease as well as 76.7%, knew less than or equal to 3 vaccine preventable disease and only 8.4% of them knew four or more vaccine preventable disease and 9.1% do not know any of the disease[10].

Similarly other previous studies have demonstrated that behavior and characteristics of parents and caregivers can give an indication of a child's likelihood of being vaccinated [11].

1.3. Significance of the study

It is clear that different group of people with low coverage need different approaches in order to increase coverage. Some groups may simply need more reminders and more flexibility from the immunization services while other groups may need more information tailored to their specific concerns. Even in a population with high coverage, therefore, it is important to identify knowledge, attitudes and concerns about immunizations in order to improve services and maintain ongoing high coverage.

Evaluation of vaccination programmers is the principal indicator of the success of the program for health planners, yet little or no studies have been done to evaluate the programmed in many parts of Ethiopia. The situation in Adi-remetse town is not different to the other parts of the country.

However, as to the investigator knowledge, there is not Current research done about Mother's knowledge, attitudes and practice towards childhood vaccination (EPI) in the study area. Therefore the aim of this study is to assess factors affecting utilization towards childhood and mothers EPI services.

CHAPTER TWO: LITERATURE REVIEW

Data sources for immunization coverage in Ethiopia are frequently obtained from the Ministry of Health and surveys. The National Demographic and Health survey of 2000 and 2005 provides the immunization status of the children. According to the DHS 2005 only 20% of children aged 12-23 months were fully vaccinated and 60% had received the BCG vaccination, and 35% had been vaccinated against measles. About 32% DPT3 and 24% of them not took any vaccination (34). In national survey conducted in 2006, 83.4% children age 12-23 months received BCG, 84.3% received DPT1, 54.3% received measles and only 50% are fully immunized (23).

According to 2007/08 health related indicators of Ethiopian, the DPT3/ pentavalent and measles coverage was 76% and 66% respectively. While the coverage for full immunization of children was 45%. In Oromia region the DPT3/pentavalent coverage was 84.6%; and measles was; 73.6% while 60.4% was fully vaccinated (24).

Maternal characteristics are the most known determinate factors of child immunization. A comparative study done among slum and non slum dwellers in Bangladesh children age of 12-23 months of age in three zone of Dhaka demonstrated that complete coverage is associated with educational status of the mother, income and living conditions (23). The study revealed that mothers with lowest education, households with limited monthly income and people living in slum area were less likely to complete a child immunization. It also indicated that children whose mothers were born in a rural area or an urban slum, and those whose mothers were aged less than 30 years are 0.43 times less likely to be fully immunized (18). But in Kenya young age of mothers was associated with high immunization coverage as compared with the older mother (25).

In other cross sectional study done in Burkina Faso children of with higher educational status mother significantly associated with complete immunization. It also, showed children of polygamous parent were less likely to be completely immunized than that of monogamous. Religion also shows significant association with the immunization status of the children in which children of non Muslim followers were 1.8 times more likely to complete immunization (20). A study done in 2004 from reanalysis of the DHS data Bangladesh compares the educational status of mothers of children less than five year of age indicated that mothers who had primary, secondary and higher education were more likely to fully immunized their children than those with no education (20). In the study also age of the mother was also another determinant of child immunization status in which children of middle age mothers are more likely to be fully immunized than children of youngest and oldest mothers (27).

A case control study done in Wanago Woreda south Ethiopia in 2008 identified monthly income as the only factor associated with defaulting from immunization (26). But other socio demographic factors such as family size , age of the mother or immediate car taker, occupational status, ethnicity, religion, parity, and educational status does not show and association with defaulting. In contrast to this study from Tikrit city indicates that urban resident (being urban or rural), educated mothers and those who have 2 and less children were more likely to complete the recommended vaccine (22,23). Also mothers age and mothers job were significantly associated with complete vaccination.

Study in the USA found that mothers with 2 to 3 children were 20% less likely and those with 4 or more children were 40% less likely to have vaccinated children than those with only 1 child. In another case control study in 2003 in USA, children were less likely to be fully vaccinated if their mothers were black or

Hispanic, were to 29 years of age, were unmarried, had less than a college education, had multiple children, or were living near to below the poverty (28).

In cross sectional study in Ethiopia in Tigray region Tselemti Woreda in 2000 indicates that, fully vaccinated coverage among children 12-23 months was higher for literate compared to illiterate mothers (card plus history), 17 (94.4%) with 66 (71.7%), p=0.0441. Fully vaccinated coverage was higher in rural than in urban areas, 56 (80%) vs. 72 (67.5%), p=0.143. The difference in the coverage of the various EPI vaccines among the four groups of mothers of 12-23 months old children increased with time. In the study area of rural residence and maternal education significantly predicted vaccination compliance among 12-23 months old children (29). In contrast to these in Sudan urban residence are 7.4 time more likely to complete immunization of their children than rural residence (30).

Knowledge is another factor which affects the immunizations status of the child. These include knowledge and attitude toward vaccination and vaccine preventable disease. Study done in Nigeria on determinants of immunization status of children in rural area showed that mothers of higher knowledge score more fully immunize their children. Also more than half of mother can correctly calls the symptoms of vaccine preventable disease, and 99% the mothers felt immunization is good for the child (31).

Health facility is another factor which contributed to full immunization of the child. Different studies showed the importance of availability and accessibility of health facility in immunization coverage. Families nearer to the health facility are more likely to complete the immunization than those far from it. Cross sectional study done in India, as same district showed that immunization status of the children was significantly higher where the distance of the health center was <2km compared with those residing in remote inaccessible areas with a distance of >5km to the health center (32).

In the study of Bangladesh mothers near to health facility (<1km) were 2.11 times more likely to be fully vaccinate than those who were far away from health facility (26).

In contrast, a study done in rural Mozambique showed that accessibility to health facility in terms of distance and need of transport to get vaccination site doesn't show significantly associate with the complete immunization (33).

Another cross sectional study done in Sudan showed that walking time to the nearest place of vaccination strongly influenced the correct vaccination status of the child. Children of mothers who have better access to vaccine services (less than 30 minutes walking time to the nearest place of vaccination) were 3.4 times more likely to have had the correct vaccination than children of mothers who have to walk 30 minutes or longer (30)

Maternal health utilization like antenatal care, TT status of mother and place of delivery are those factors that are associated with the immunization status of children. Studies indicate that mothers who follow ANC and give birth at health facility are more likely to fully vaccinate their children. Some studies also show that attendant at birth has an impact on the immunization status of children. For example study done 2001 in rural Mozambique shows that home delivered children have a 2.27 times higher risk of not completing their vaccination program (33).

Chapter three: Objectives

3.1. General objective

Assessment of factors affecting utilization of EPI service among mothers in Adi-remetse town; Welkite woreda, Humera zone, North West Ethiopia.

3.2. Specific Objectives

3.2.1 To determine factors affecting utilization of EPI among mothers.

3.2.2 To determine the current EPI coverage for every antigen of the EPI target diseases in the town.

3.2.3 To verify the association between immunization status of the study population and their socio-demographic characteristics.

3.2.4 To describe KAP of mothers or guardians towards EPI and vaccinations.

CHAPTER FOUR: Methodology

4.1. Study area and period

cross sectional study on awareness, utilization and factors associated with EPI among mothers was conducted in Adi-remetse town, which is one of sub-urban of Humera Zone, North west Ethiopia. The town is located 114 kms away from Humera, the capital of the zone, on the way to Dansha. The town has total population of 5,817 people while the health center has 5,017, People in its catchment area. The man power distribution in the health center is that there is; 11 diploma nurses, 1 BSC, 1 HO, 5 MW, 1 MPH, 02 LAB, 02 Pharmacy, one malaria expert. The health center also has 9 administrative staff which is, 1 accountant, 1 cashier, 1deiver, 3 Guards, 2 Janitors and 1 store man.

Vaccination is given both at 1 static and 17 out –reach sites among which only 10 are accessible to transportation during rainy season. Data would be collected from Feb, 19-29/2013

4.2. Study design:-

A cross-sectional community based study would be conducted to assess the awareness and utilization of EPI in study area.

4.3. Population

4.3.1. Source population

The source population would be all reproductive age group women with their children who had came to the health facility during the study period.

4.3.2 Study population

The study population had 294 reproductive age group mothers/ care takers and grandmothers with their children.

4.4. Sample size determination

The sample size was determined using the following sample size determination formula
n= $Z^2 / 2$ X p (1-P) / d^2

Where:-

✓ $(Z/2)^2$ z=value at 95% conference interval (1.96)　　　　n = sample size

✓ P= EPI coverage (fully immunized) and 2004 Year　　　　P= Prevalence

In Adi-remetse town is 28% (

✓ In 95% Confidence level mostly 5% is take　　　　d= Margin of error

n= $(1.96)^2$ (0.28) (1-0.28)　　　　z= level of confident

(0.05)2

(3.8416) X (0.28- 0.0784)

0.0025

= 3.8416 X 0.2016

0.0025

= 309.7 $\Rightarrow$ 310

Since the source population is 2961 which is less than 10,000 approximating this number using the correction formula

nf = ___ni___

1+ni

N　　　　where; nf = adjusted sample

ni = grater calculated sample

N =total population of reproductive age

grope

= 1 +309　　　　309 x 2961 = 914949　　　　mothers

2961   309+2961 = 3270

$$\Longrightarrow$$

15

$\dfrac{914949}{3270}$ = 279.8   **280**

❖   280 X 5% = 14   The final sample size will be 280+14 = **294**

4.4.2 Sampling techniques

All eligible participants who had came to the health center with their children were consecutively interviewed until the sample size is saturated.

4.5. Eligibility criteria

4.5.1 Inclusion criteria

In order to included in the study; Participants should be**,** women of reproductive age group, grandmother/care taker/ and who are living in Adi-remets town.

4.5.2. Exclusion criteria

Subjects had be excluded; if they refuse to participate and/or unable to communicate.

4.5. Measurements

4.5.1. Dependant variables

- **Immunization status**

4.5.2. Independent variables

➢ **Maternal characteristics:-** Age, sex, ethnicity, religion, educational status, marital status, income, religion

➢ **Knowledge, Attitude of mothers or care takers on immunization**

➢ **health care service related factors:-** ANC, availability of vaccines, Health education,

➢   **Child related factors:- age, sex, illness,** side effects of vaccines,

4.6. Data collection techniques and tools

All necessary data had be collected by face to face interview of the respondents using structured and pre-tested questionnaire. Vaccination card and BCG-scar had be reviewed for history of vaccination. The necessary information from the card or maternal history (card + history methods) had be collected and registered. The data collected was be in the institutional based study by Diploma nurses .

4.7. Data Quality Control

Training would be given for one day for data collectors and supervisors and Verification at data collection level had be done by the principal investigator and supervisor and at least completion of questionnaire had be checked on daily basis during data collection. Reliability and validity of data would be considered by observing BCG scar, immunization card when available and if not from maternal history .Age range of the children were sought from card, maternal history or local calendar method.

4.8. Pretest

The data collection tools was be pre tested by taking 5% of the study population on Kafta-Humera town, which is 28 KM away from Adi-remets town, before the actual   study to overcome shortcomings ahead of time by the principal investigator and interviewers.

4.7. Data processing and analysis

After the data collection, Processing had be made by sorting and coding each and every variable on data master sheet which had be prepared manually. Data analysis was be done using manual calculator and results had be described by both simple descriptive and analytic statistic contingency table. For the presence

or absence of an association between the study variables, the chi-square test was employed and data interpretation had be made in the context of the study objectives.

4.9. Ethical consideration

Letter of permission had be taken from JU, ethical clearance committed and submitted to the Adi-remets woreda Health office. And then the woreda health office was write a letter of cooperation to the health center, then Oral consent had be obtained from the each study participants. Study subjects would be well informed about the purpose of the study by the interviewers as relates to the six vaccine preventable diseases

4.10. Limitation of the study

- **It may**   - respondent bias

        - Interviewer bias

        - Methodology used

4.11. Operational definitions

1. **Vaccines: -** are antigens derived from the naturally occurring or wild infective agent against which immunity is sought.
2. **Immunization status:-** refers to the number of children or women in population who have been made immune via vaccination.
3. **Drop-out rate:-** the proportion of children or women who started the initial antigen (BCG,TT respectively) but have not completed the full course within the time frame.
4. **Drop-out (defaulter):-** Children or women who did not return for subsequent immunization.
5. **Missed opportunity: -** Children or women who made at least one visit to health institution at the illegible i.e. below one year and from 15-49 respectively, but did not receive any vaccination.

6. **Fully immunization:**- children who received BCG, DPT3/OP3/PCV3, measles and a women who had got five doses of TT2 and above .

7. **Immunization: -** is the process of protecting the body against disease by means of vaccines or serums.

CHAPTER -5

RESULT

Out of the three hundred and nine study population, 294 (95.1%) were responded to the questionnaires.

From the 294 mothers interviewed 74% were Orthodox, while 25.8 Muslims by religion. The age range of the mothers varies from 15 to 49 year. Accordingly, 22.1% were 15-49 years old, 52.7% 20-34 years, while 25.1% were 35-49 years old.

Out of the same number of mother interviewed 97.6 were tigress followed by 7% Amharas by Ethnicity. As to the marital status of the mother , 88.1% were married 7.1% divorced , while only 0.3% mothers were divorced regarding educational status 41.5% of the mothers were illiterate , 3.8% were able to read and write , while only 2.4% of the mothers had above 10th grade Educational level.

Like most others Ethiopians, majority of the women were confined to home and house hold activities occupationally .Accordingly, 92.2% were house wives, while 2.7% were government employees and students each. The remaining 2.4% of the mothers were merchants by occupation. Concerning income level is concerned, 82.7% had income, <2oobirr per month, 11.2% had income between 200-4OO birr per month, while only 6.1%had income >4OO birr per month.

The average number of children alive per house hold was found to be four. As there is no electrical power supply in the town, the main stay of mass media was radio. Accordingly while 78.9% of the respondents had radio, 21.1% had not any means of media (Table 1).

Table 1: Distribution of mothers by socio_demographic characteristics, at Adie-ramtse town, Hum era zone, North-west Ethiopia, May/2013

S.N	Maternal Variable	No	%
1	Religion ➢　　Orthodox ➢　　Muslim	 218 76	 74.1 25.8
2	Age distribution ➢　　15 – 19 ➢　　20 – 34 ➢　　35 – 49	 65 155 74	 22.1 52.7 25.1
3	Ethnicity ➢　　Tigers ➢　　Amhara	 287 7	 97.6 2.3
4	Marital status ➢　　Single ➢　　Married ➢　　Divorced ➢　　Widowed ➢　　Separated	 4 258 21 10 1	 1.4 87.8 7.1 3.4 0.3
5	Educational status ➢　　Illiterate ➢　　Read and write	 122 26	 41.5 8.8

	➢ 1 – 6	77	26.2
	➢ 7 – 8	34	11.6
	➢ 9 – 12	28	9.5
	12+	7	2.4

20

6	Occupation		
	➢ House wife	271	92.2
	➢ Students	8	2.7
	➢ Gov't employee	8	2.7
	➢ Merchant	7	2.4
7	Income		
	➢ < 100	155	52.7
	➢ 1OO – 2OO	88	30
	➢ 2O1 – 4OO	33	11.2
	➢ >4O1	18	6.1
8	Availability of Radio		
	➢ Yes	232	78.1
	➢ No	62	21.1

Out of the respondents ,78.2% had had antenatal visit during the last pregnancy ,while 12.6% were pregnant at the time of the interview .From the same number of pregnancy,280(95.2%) have at least once taken their index child to nearby health facility where vaccination is available out of which 270 have vaccinated their index at least once(table2).

Table 2 : Distribution of mothers by ANC follow up during the last pregnancy ,In Adi-Remtse town, Hum era zone ,North-West Ethiopia, May/2013

ANC follow up	No	%
Yes	230	78.2
No	64	21.8
Total	294	100

From the mothers whose index child was vaccination at least once, 85.2% had vaccinated card, while14.8% had no .From the mothers who did not have vaccination card, and maternal history was the main information for their vaccination status. Out of 294 index children 51.4 were males, while 48.6% were female's .Accordingly, the male to female ratio was 1:1(table 3, 4)

Table 3: Distribution of children by availability of card, Adi-Remtse town, Hum era zone, North-west Ethiopia, May/2013

S.N	Immunization card	No	%
1	Available	230	85.2
2	Not available	40	14.8

Table 4: Distribution of children by sex, Adi-remets town, Hum era zone, North-west Ethiopia, May/2013

S.N	Variable	No	%
1	Male	151	31.4
2	Female	143	48.6

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Out of children included in the status 67% were fully immunized (DPT3,measles) and 78% were vaccinated against measles .the number of children with three doses of DPT,OPV,PCV were 82.6% While the overall dropout rate was 24.6% ,The drop-out-rate between DPT3/PCV3/OPV3 and measles was 19% .From the 280 children who visited the nearby health facility , then returned without any vaccination and this makes the missed opportunity rate to be 3.6% .(Table 5)

Table 5: Distribution of children   by immunization status, Adi-remets town, Hum era zone, North-west Ethiopia, May/2013

S.N	Immunization Card	No	%
1	BCG	270	91.8
2	DPT1,OPV1,PCV1	270	91.8
3	DPT2,OPV2,PCV2	250	85.03
4	DPT3,OPV3,PCV3	243	82.6
5	Measles	230	78
6	Fully Vaccinated	197	67
7	Overall drop out	73	24.8

NB: Each and individual children vaccinated one and above accordingly.

The four main reasons indicated by the mothers for not vaccinating and /or defaulting their children from vaccination are un awareness of EPI (35.1%) ,unawareness of the need to return (31.9%) , child too sick (19.6%) and family problem (13.4%) (Table 6).

Table 6: Distribution of mothers by reason for not immunization their children or defaulting from EPI schedule, Adi-remets town, Hum era zone, North-West Ethiopia, May/2013

S.N	Reason stated	No	%
1	Unawareness of EPI	34	35.1
2	Un awareness of the need to return	31	31.9
3	Child to sick	19	19.6
4	Family problem	13	13.4

Knowledge about EPI, attitude towards EPI and attitude towards vaccination were the other maternal variables assessed. Accordingly form the 294 mother ,68.4% have knowledge about EPI (know at least of the 8 VPDs),97.6% had positive attitude towards EPI,while 94.4% hade positive attitude towards the vaccinators .As to the general benefit of EPI,82.3% replied that vaccination is given to protect diseases , 11.6% answered to cure a disease ,while 6.1% don't know the general use of vaccines(Table7,8).

Table 7: Distribution of mothers by knowledge about immunization and attitude towards immunization and vaccinators, Adi-remets town, Hum era zone, North-West Ethiopia, May /2013.

S.N	Maternal variable	No	%
1	Knowledge about EPI		
	Yes	201	68.4
	No	93	31.6
	Total	294	100
2	Attitude to EPI		
	Positive	287	97.6
	Negative	7	2.4
	Total	294	100
3	Attitude towards vaccinators		
	Positive	255	94.4
	Negative	15	5.6
	Total	270	100

Table 8: Distribution of respondent about benefits of EPI, Adi-Rmste town, Hum era zone, north -west Ethiopia, May/2013

S.N	Response	No	%

S.N		No	%
1	To Protect	242	82.3
2	To cure	34	11.6
3	Don't know	18	6.1

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Concerning to the benefit of maternal vaccination, 49.6% of the mothers replied that TT is used to protect both the mothers and new born from tetanus while 33.3% said to cure a disease .As to the frequency of maternal vaccination, 8.5% replied that TT is given only once, while 65, 9% replied that the vaccine is given for five times.(Table 9,10).

Table 9: Distribution of mothers by reason for their own immunization, Adi-Remtse town, Hum era zone, North-west Ethiopia, May/2013

S.N	Response	No	%
1	Protect new born only	18	6.7
2	Protect mothers only	28	10.4
3	Protect both	134	49.6
4	To cure	90	33.3

Table 10 Distribution of mothers by knowledge about number of TT does, Adi-Remtse town ,Hum era zone ,North-west Ethiopia, May/2013

S.N	Response	No	%

1	1X	23	8.5
2	2X	31	11.5
3	3X	10	3.7
4	4X	28	10.4
5	5X	178	65.9

Out of 201 mothers have knowledge about EPI were also asked about the source of their information. Accordingly, while 96.5% replied that their sources were health workers, neighbors and friends contributed for 0.5 each (table 11)

Table 11: Distribution of mother by sources of information about EPI,Adi-Remtse town, Hum era zone ,North-west Ethiopia ,May/2013

S.NO	Source of information	No	%
1	Health worker	194	96.5
2	Radio / Mass media	5	2.5
3	Neighbors	1	O.5
4	Friends	1	0.5

Out of the 270 mothers who vaccinated their index child at least once , 76.3% have got health information on adverse effects of vaccines by vaccinators , while 23.7% didn't have any information .

From the 294 mothers interviewed 91.8% were vaccinated against tetanus at least once .Accordingly, while 12.2 % of the vaccinated mothers are on TT1, 87.8% have got two and more does of TT vaccine. On part of the pregnant and non pregnant TT immunization status, while 81.1 % of the pregnant mothers

have taken two and more dose of TT ,80.5 % of the non pregnant had TT2+ .Lack of information , fear of adverse reaction and lack of interest were the reason sited by the mothers for their own immunization failure (table 12,13).

Table 12: Distribution of TT vaccination status among mothers of index child, Adi-Remtse town, Hum era zone, north –west Ethiopia, May /2013

S.No	Immunization status of mothers	Pregnant		Non pregnant		Total	
		No	%	No	%	No	%
1	Not immunization	2	5.4	22	8.6	24	8.2
2	TT1	5	13.5	28	11	33	12.2
3	TT2	30	81.1	207	80.4	237	80.6

Table 13: Distribution of mothers by reason for failure to have TT immunization, Adi – Remtse town, Hum era zone, North- west Ethiopia, May/2013

S.No	Reason stated	No	%

1	Lack of information	12	50
2	Fear of adverse reaction	8	33.3
3	Lack of interest	4	16.6

In these studies, selected parental socio-demographic characteristics and children's sex were computed for their association with immunization status of the study population. Accordingly, while ANC follow up knowledge about EPI and availability of radio were the variable statically associated with children's immunization status, ANC follow up availability of radio were also associated with maternal immunization (P. value < 0.05) table 14 to 17.

Table 14: Distribution of certain maternal socio- demographic characteristics and their association with immunization status, Adi-Remtse town, Hum era zone, North –west Ethiopia, May /2013.

S.N	Variable	Fully immunized		Total		X2	Df	P.
		Yes	No	yes	No			
1	Religion ✓ 0rtodox ✓ Muslim	147 50	71 26	218 76	69 21.8	o.176	2	>o
2	Age ✓ 15-19 ✓ 20-34 ✓ 35-49	53 110 34	12 45 40	65 155 74	22.1 52.1 25.1	2.33	2	>0

#	Variable							
3	Marital status							
	✓ Single	1	3	4	1.4			
	✓ Married	176	83	259	88.1	0.078	3	>0
	✓ Divorced	12	9	21	7.1			
	✓ Widowed	8	2	10	3.4			
4	Education							
	✓ Illiterate	50	72	122	41.5			
	✓ Read and Write	24	2	26	8.8			
	✓ 1-6	63	14	77	26.2	8.564	5	>0
	✓ 7-8	29	5	34	11.6			
	✓ 9-12	24	4	28	9.5			
	✓ 12+	7	0	7	2.4			
5	Occupation	181	90	271	92.2			
	✓ House-wife	5	3	8	2.7	0.013	3	>0
	✓ Student	6	2	8	2.7			
	✓ Gov't employee	5	2	7	2.4			
	✓ Merchant							
6	Availability of radio							
	✓ Yes	175	57	232	78.2			
	✓ No	22	40	62	21.1	5.44	1	<0
		197	97	294	100			
7	ANC follow up							
	✓ Yes	186	44	230	78.2			
	✓ No	11	53	64	21.8	13.9	1	<0
		197	97	294	100			
8	Knowledge about EPI							
	✓ Yes	180	21	20	68.4			
	✓ No	17	76	93	31.6	27.6	1	<0

9	Attitude to EPI	197	97	294	100			
9	Attitude to EPI					0.34	1	>0
	✓ Positive	1970	907	2877	97.6			
	✓ Negatives	197	97	294	2.4			
	Total				100			

Table 15: Distribution of certain maternal socio- demographic characteristics and their association with immunization status, Adi-Remtse town, Hum era zone, north –west Ethiopia, May /2013

Maternal age	Attitude towards EPI		Total		X2	Df	P.value
	Positive	Negative	No	%			
15_19	64	1	65	22.1			
20_34	153	2	155	52.7	0.1	2	>0.10
35-49	70	4	294	100			

Table 16 : Association between children by sex and age fully immunization , Adi-Remtse town ,Hum era zone ,North-west Ethiopia ,May/2013

Sex	Fully immunized		Total		X2	df	p.value
	Yes	No	No	%			

Male	110	42	152	51.7			
Female	87	55	142	48.3	0.87	1	>0.10

Table 17: Association between certain maternal variable and TT2+ immunization status, Adi-Remtse town, Hum era zone, North-west Ethiopia, May / 2013

Variable	TT2 Yes		Total	%	X2	Df	p.value
EPI attitude • Yes • No	237 0	50 7	287 7	97.6 2.4	0.34	1	>0.10
Availability of radio • Yes • No	208 29	24 33	232 62	78.9 21.1	6.17	1	<0.025
ANC follow up • Yes	210	20	230	78.2	8.17	1	<0.005

		27	37	64	21.8			
•	No							

CHAPTER _ 6
DISCUSSION

According to this study 197(67%) of the children were fully vaccinated .The result is almost comparable to the study done on the immunization status of the same age group children in Alexandra town ship ,South Africa in 1990 (which was 65%)(37). The slight variation between the results of the two study area could be attributed to the sample size and the study area covered.

When compared to the studies done in three selected administrative region of Ethiopia and to a similar study in Tsegedae woreda, which showed 63.2 % and 37 % fully immunized respectively, the result obtained in this study is a big higher 28.4 .the behavioral changes of the community obtained through in this study area could be possible explanation for this difference in addition to the above mentioned reasons.

The number of fully immunized children in this study is also much higher compared to the result obtained Hum era zone hum era pediatric department hospitals which showed 36.4 % fully immunized (32) .This variation is result could be attitude to the age variation of the children incorporated in the two study areas .

The overall dropout rate in this study was found to be 24.8%. This rate is fairly less than the 1990's national dropout rate which was 36% .(33).

Similarly the dropout rate is less than that which was observed in Tsegedae woreda, which showed 39% drop out rate (33) .As earlier above, and the possible explanation for the difference.

In the study TT vaccination coverage was determined for pregnant and non pregnant mothers .Accordingly 81.1% of the pregnant and 80.5% of the non pregnant mothers were on TT2+ .The total number of TT2+ coverage to both pregnant and non pregnant mothers was (80.6%).This figure is much higher compared to the 2000/2001 national converge of TT2+ for pregnant and non pregnant mothers ,which was 29.3%and 14.85% respectively (35).

The result is also much higher when compared to the 2000/2001 TT2+ coverage for pregnant and non pregnant mothers of Tigray region which was 29.5% and 10.8% respectively (35).

The study area covered, distance to the health care system could be the reason for the difference in utilization rates of these study areas

CHAPTER_7

CONCLUSION AND RECOMMENDATION

CONCLUSION

 In this study only 67% of the children were fully immunized leaving 24.8% overall dropout rate and 8.2% having no even a single vaccination. Hence, these 33% of the children could be targets for any of the six VPDs.

Even if maternal TT2+ coverage is 80.6% ,the fact that the other 19.4% are not vaccinate could put both the mothers and new born at risk of contracting tetanus.

Similarly, unawareness of some of index children mothers on immunization schedule for their children and them solves, unawareness of EPI on the eight VPDs could lead to low utilization or an increased dropout rate.

The fact that some of the mothers did not keep their immunization card could lead to difficulties in evaluation of immunization status.

On the health personal technical point of view 23.7% (64/270) of the children who got BCG did not have BCG scar.

On the other hand unawareness of some of the mother on vaccine side effect would lead the mothers to think that vaccination could cause suffering of their children and hence increasing the dropout rates.

RECOMMENDATIONS

Based on the study results, the investigator would like to recommend the following

1. A strong health information mechanism needs to be designed and put   into effect in order to make mothers aware of the value of immunization both for their children's health.
2. Supervision must be strengthened with the aim of continuous quality Assurance and technical support at all levels.

3. Strategies to involve the community in EPI activities through effective social mobilization should be established to create an active demand and minimize defaulters.

4. Monitoring of the immunization program me using the routinely collected data needs to be strength above all , health workers need to be motivated through a system of innovative incentives .

5. Continuous further studies shall be implemented.

Reference

1. Vittappa C.A study to assess the effectiveness of information bookelet on vaccine preventable diseases among the mothers in Begur PHC. Dissertation. Maaruthi college of Nursing, 2006

2. Keochanthala S. the study of knowkedge and perception of mothers with children under two years of age on immunization status in khammuane province, Lao PDR. [M.P.H>M thesis in primary Health Care Management]. Nakhon pathom:2002

3. Amer A. the utilization of immunization services among mothers with children under five years of age in Abbottabad District. Pakistan [M.P.H.M. theseis in primary Health care Management] . NAkhon pathom: faculty of Graduate studies, Mahidol University; 1999.

4. Ashraf UA. Factors affecting immunization acceptance among mothers of one year pld children in kabinburi District, prachinburi province Thailand. [M.P.H.M. thesis in primary Health care Manage ment .] NAkhon pathom; faculty of Graduate Studies, Mahiol University; 1989.

5. Prance S. Factors related to incomplete immunization in children under two years old and child bearing age mothers who attended curative care at Maharj hospital [M.Sc. thesis in clinical Tropical Medicine]. Nakhon pathom: faculty of Graduate Studies, Mahiol University;1992.

6. Zulfiqar A, Aziz SA,Haq MI, khan AA, Niazi S. Current Maternal Attitudes and Trend Towards Vaccination of Children in EPI program. Journal of Rawalpindi Medical college (JRMC); 2008;12(2):99-101

7. Siddiqi N, Khan A, Nisar N, Siddiqi AA. Asessnment of EPI (Expanded program of immunization) vaccine coverage in a peri-urban area. Jpak Med Assoc, August 2007; vol. 57,NO.8

8. Ndiritu M, Cowgill KD, Ismail A et al Immunization coverage and risk factors for failure to immunizae within the Expansed programme on Immunization in Kenya After introduction of New Haemophilus influenza type b and hepatitis b viru antigens. BMC public Health 2006,6:113

9. Berhane Y, schluter ww, oyewole F, mamaniya oa . age at first dose of measles vaccination in Ethiopia. East African Medical Journal vol. 86 No. 3 March 2009

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10. Etan B, DEressa W.factors associated with complete immunization coverage in children aged 12-23 months in Am Woreda, Central Ethiopia . BMC public Health 2012,12:566.

11. Roy, S G. Risk Factors for childhood Immunization Incompletion in Ethiopia. Public Health theses 2010, pager 90. http://digitalarchive.gsu.edu/iph theses/90.

12. Shiyalap K, Siharath D, Chamoroonsawasedi K. maternal utilization of immunization sevices for their children aged 2-5 years in sanakham District, Vientane province, Lao PDR, jounal of public Health and Development 2004, vol. 2 No.3.

13. Bernsen RM, AL-Zahmi FR,AL-Ali NA et al. knowkedge, attitude and practice towards Immunizations among Mothers in a Traditional City in the United Arab Emirates. Journal of Medical Sciences 2011;(4(3): 114-121.

14. Berhane Y. university Childhood Immunization: a realistic yet not achieved goal. Ethiop.J.Health Dev.2008;22(2)

15. KAMANDA BC< wek by, Igumbor E. Immunization coverage and factors associated with failure to complete childhood immunization in KAWEMPE DIVISION. UGANDA.

16. Mapatano MA, Kayembe K, piripiri L, Nyandwe K.Immunisation-related knowledge, attitudes and practices of mothers in Kinshasa, Democratic Republic of the Congo. SA fam pract 2008;(50(2);61

17. Kidane Y, Yigzaw A, sahilemariam Y et al. National EPI covrage survey reprt in Ethiopia, J. Health DEV,2008;22(2):148-157

18. Federal Democratic Republic of Ethiopia Ministry of Health. Health and Health Related Indicators 2003/2004. Cutts FT, Orentein WA, Bernier .

19.WHO. Immunization practice module land 2. Expanded program on immunization 1998.

20. WHO> Ethiopan routine EPI activites, immunization schedule. 2008; Available From: http: www.who.int/countries/eth/areas/immunization/routine/en/indez3.html.

21. FMOH. Helth and health relators In. department planning and program, editor, Addis Ababa 2008.

22. N. KAmau, F.O. Esami Determination of immunization coverage among childen in mather valley, Nirobi. East African Medical journal 2001;78(11):590-4

23. Mosiur R, Sarker O-N. Factors affecting acceptance of complete immunization coverage of children under five years in rural Bangladesh. Salud publica Mex 2010;52 (2): 113-40.

24. Sarab K. Abedalrahman ARS, Ruqiya S. Tawfeek. Factors predicting immunization coverage in Tikrit city middle east journal of family medicine 2008;6(1):8-10

25. lizabeth TL, MM, Abigail S,Susan YC> Maternal Charactertistics Associated with Vaccination og Young Children. Paediatrics 2003;111(5):11255-8.

26. Kidane T, Tekei M. Factors influencing chid immunization covarge in rural district of Ethiopia. Ethiopian Journal of Health Development 2003; 17(2): 105-10.

27. Ibnouf A, Van den Borne H, Maarse J. Faxtors influencing immunization coverage among children under five years of age in Khartoum state, sudan AS FAm Pract 2007;49(8):14c-f

28. Olumuyiwa OO, Ewan FA, Francois PM, Vincent IA. Determinants of vaccination coverage in rural Nigeria. BMC public Health 2008;8(281):2458-8.

29. Rup KP, Manash PB< Jagadish M. Factors Associated with Immunization coverage of Children in Assam, India.: Over the First Year of life. Journal of Tropical pediatrics 2008;52(4):249-52.

30. Jagrati VJ, Caroline DS, Ilesh VJ, Gunnarpia B. Risk factors for incomplete vaccination and missed opportunity for immunization in rural Mozambique. BMC public Health 2008;8(161).

31. Central statics agency, ORC Macro. Ethiopia demographic and health survey 2005. Addis Ababa, Calverton Maryland, USA: central statics agency and ORC macro 2006.

32. Samuel Girma atal,2000.Missed opportunity for immunization humera Hospital. Ethiopia jornal of health scince ;10(2)

33. Fikrue Tsehaye ,etal ,2000.EPI coverage in tsegedae woreda Etiopia journal of Health development 11(2)

34. Minster of health Ethiopia ,2001.status of routen immunization in Etiopia .EPI/AFP News;5(1).

35. World Health organization ,1998.General immunization .The immunization ;1(1):1-4.

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Annex I: QUESTIONNAIRE

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This is a questionnaire to assess factors affecting utilization of EPI in Adi-remetse town, Welkite Woreda, Humera Zone, North West Ethiopia.

Instruction to data collectors

1. Please read each and every question carefully and tick (   ) the number which belongs to correct response of interviewee and check the formal for completeness before you leave the house

2.   Have an informed consent from the interviewee
3.   Observe the child for BCG scar on his/her right upper arm
4.   Identify whether immunization card is available or not
5.   Write the exact date of vaccination from card which coincides with each antigen.
6.   Don't forget that the age range of the child is between 12 -23 months and possibly that of the mother is between 15 -49 years
7.   If the child has no card, discuss with the mother/ guardian as to how many times she took him/her for vaccination and write the information and notify that it is by history.
8.   If the child is defaulter, ask the mother "why was the child not immunize" or why was the child unable to complete vaccination
9.   If the child of 12 – 23 months of age is not totally immunized, ask for information such as, sex, birth date and house number.

2. Identification

1.   Mother _____ Gordian_____
2.   Age of mother/Gordian_____   3. Sex_____

3.   Back ground information

1.   What is your religion affiliation

1 .Protestant _____   3. Muslim _____

     2 .Orthodox _____   4. Others (specify)___

     3

2 .What is your ethnicity

1.   Oromo _____ . 2.   Amhara _____   3. Kefa _____ *4. Dawuro* ____
4.   Gurage _____   6. Tigre _____

3 .How much is the average monthly income of your family as a whole birr (estimate)

1.   <100____   3. 201 – 400____
2.   100 – 200 ___   4. >400_____

4. What is your marital status?

     1. Single _____   3. Divorced_____

     2. Married _____   4. Widowed _____

     5. Separated_____

5. If married or living with a partner, what is your husband's/partners educational level?

    1. Illiterate _____   4. 1- 6 Grade___

    2. Read and write _____   5. 7 – 8 Grade ____

    3. 9 – 12 _____   6. 12+ _____

6. What is his occupation?

    1. Farmer _____   2. Merchant _____

    3. Government employee ____   4. Daily laborer ____

    5. Other (specify)_____

7. What is your occupation?

    1. House wife _____   3. Student _____

    2. Government employee ____   4. Civil servant ___

8. What is your level of education?

    1. Illiterate_____   4. 7 – 8 grade____

    2. Read and write _____   5. 9 – 12 grade ____

    3. 1- 6 grade _____   6. 12+_____

9. Number of children alive now

    1. One _____   4. Four_____

    2. Two _____   5. Five and above _____

    3. Three ____

10. Have you ever attended ANC during your last pregnancy?

    1. Yes_____   2. No _____

11. Are you pregnant now? Gestational age (if yes)____

    1. Yes ____   2. No+

12. Have you ever taken your index child to nearby health facility were vaccination is available

    1. Yes _____   2. No _____

13. If "yes" to Q1. 3 12, is he/she is vaccinated?

1. Yes _____   2. No_____

14. Did you vaccinate for TT?

1. Yes   2. No

15. If yes, How many times did you vaccinated?_____

16. If "No" to Q 1,3,13 why?

   1. Child too sick _____   4. No vaccination_____

   2. Health worker busy_____   5. Others (specify)_____

   3. Health worker forgot_____

17. How long does it take you to reach vaccination site?

   1. < 15minutes _____   3. ½ to 1 hour ____

   2. 15 – 30 minutes ___   4. > 1 hour _____

18. For how long would you stay at vaccination site to get you and your child vaccinated

   1. No queue _____   3. 30 minute to 1 hour ____

   2. less than 30 minute _____   4. > 1 hour_____

19. Have you ever been told about the side effects of Vaccines by health workers?

   1. Yes _____   2. No_____

4. Knowledge assessment of mothers about immunization

   1. Do you know about immunization (against the 6 VPDS?)

      1. Yes _____   2. No_____

   2. If "Yes" to Q1.4.1 what is the source of your/information?

      1. Health workers _____   4. Neighborhood____

      2. Radio and /or television____   5. Others/specify___

   3. Do you have a radio?   1. Yes _____   2. No _____

4. For what disease is vaccination given?

      1. Tuberculosis _____   5. Tetanus_____

      2. Poliomyelitis _____   6. Diphtheria____

      3. Measles_____   7. I don't know____

      4. Pertussis _____

5. Do you know when to start and finish vaccination for your child?

      1. Yes _____   2. No

6. What do you think the benefit of vaccination in general?

      1- To cure already developed diseases_____

      2- To prevent a disease _____

    3-Idon'tknow----------------- _

7. What do you think the benefit of maternal vaccination?

      1. To cure already developed disease _____

      2. To protect the new born only _____

      3. To protect only the mother _____

      4. To protect both _____

      5. No idea _____

8. Have you ever been vaccinated?

      1. Yes _____   2. No

9. If "Yes" to Q1.4.8 how frequent should a mother be vaccinated?

      1.   1X _____   4. 4X_____

      2.   2X_____   5. 5X_____

   3. 3X_____   6. No idea_____

10. If "No" to Q1.4.9 why not?

1. Lack of information _____   3. Fear of adverse reaction ____

2. Lack of interest_____   4. Others (specify)_____

5. Assessment of attitude of mothers towards immunization

1.   What is your attitude toward vaccine ?
1.   Very important_____   4. Very bad _____
2.   Important _____   5. Other (specify)_____
3.   Bad_____   6. No idea_____
2.   What is your attitude towards vaccinators?
1.   Not good _____   3. Very good_____
2.   God _____   4. Excellent _____

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6. EPI Converge Survey

Date _____

Location_____

Age of Child_____

Sex of Child _____

Child No _____

House No _____

Birth date _____

Vaccination card Yes _____ No _____

Type Vaccine	1st Vaccine	2nd Vaccine	3nd Vaccine	4th vaccine	Fully Vaccinated
BCG from card					
DPT1/PCV1 //					
Dpt2/pcv2 //					
Dpt3/pcv3 //					
Polio1 //					
Polio2 //					
Polio3 //					
Measles //					
BCG scar //					
BCG scar yes----no ----					
TT1 from card					
TT2 //					
TT3 from card					
TT4 //					
TT5 //					

7. Reason for immunization failure of the child continuation

Child No					
1. Unaware of Immunization					
2. Unaware of need to return for 2nd or 3rd dose					
3. Fear of Side reaction					
4. Place and time of immunization unknown					
5. Natural disease					

6.	Wrong idea about contra indication					
7.	Rumors					
8.	No faith in immunization					
9.	Left it for the next year					
10.	Mother busy					
11.	Time of immunization inconvenient					
12.	Family Problem					
13.	Child sick on day of immunization					
14.	Vaccination site					
15.	Have staff rude and impolite					
16.	Health staff rude and impolite					
17.	Vaccine not available					
18.	Vaccinator absent					
19.	Mother Ill					

N.B. Refer to instruction 01.1

Thank you

Collected by: - Name _____

Signature _____

46   Date _____