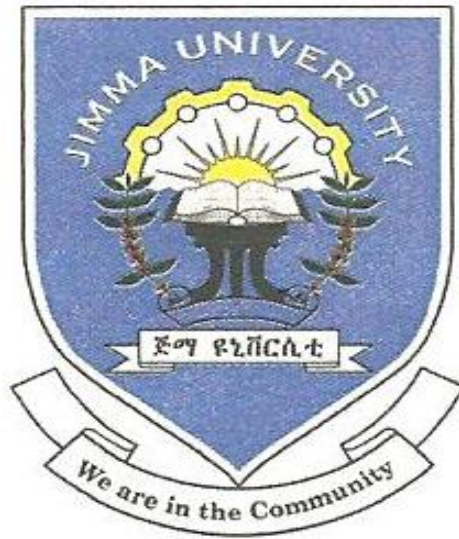


**JIMMA UNIVERSITY, COLLEGE OF HEALTH SCIENCES,
DEPARTMENT OF PEDIATRICS AND CHILD HEALTH**



**ASSESSMENT OF CARE SEEKING BEHAVIOUR AND KNOWLEDGE OF
PARENTS AND ASSOCIATED FACTORS FOR SICK NEW BORN AND YOUNG
INFANTS
THE CASE OF TIRO AFETA WOREDA, JIMMA ZONE SOUTH WEST ETHIOPIA**

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ASSESSMENT OF CARE SEEKING BEHAVIOUR AND KNOWLEDGE OF PARENTS
AND ASSOCIATED FACTORS FOR SICK NEW BORN AND YOUNG INFANTS;THE
CASE OF TIRO AFETA WOREDA, JIMMA ZONE SOUTH WEST ETHIOPIA

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A THESIS TO BE SUBMITTED TO JIMMA UNIVERSITY COLLEGE OF HEALTH
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CERTIFICATE IN PEDIATRICS AND CHILD HEALTH

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Executive Summary

Background:

Neonatal and young infant mortality has become a substantial problem in many developing countries like Ethiopia. More specifically, neonatal mortality rates in Ethiopia are among the highest in the world. In this regard, reducing neonatal and young infant mortality highly relies on care -seeking behaviour of mothers for newborn and young infant illness. In addition reduction of neonatal and infant mortality to acceptable level is impossible without good parents /care givers knowledge. This is because of the fact that, these signs are the entry point to provide comprehensive neonatal health care. It has been also hardly investigated; therefore this study was intended to determine the parents/care taker care seeking behaviour and level of knowledge about newborn and young infant illness and to identify factors associated with them.

Objective: *The main objective of this study was to assess the care seeking behaviour and knowledge of parents/care giver for newborn and young infants and associated factors among women who have child age less than 6 month in Tiro Afeta Woreda, Jimma Zone, South West Ethiopia .*

Methodology: *A community based cross -sectional study was conducted using systematic random sampling technique to get 422 samples of women who have infants age less than 6 months in Tiro Afeta Woreda, Jimma Zone from May 10 - June 10, 2016. face-to-face interviews were conducted by using structured questioners and focus group discussion were also conducted .Data was cleaned, coded and entered into Epi data 3.1 and then exported and analysed using SPSS 20.0. Bivariable and multivariable analysis was used to identify factors related to care seeking behaviour and knowledge of parents/care givers on newborn and young infant illness. Finally P-value < 0.05 was considered to declare a result as statistically significant in this study and results presented with tables and graph. Moreover the focus group discussions was analysed qualitatively and presented using narrative approach.*

Findings

In this study care seeking behaviour for new born and young infant illness is high (83%). In addition the study found poor knowledge of newborn and young infant illness among parents/care givers. Having antenatal care found to be associated with knowledge of

newborn and young infant illness with AOR of 3.124 and 95 CI(1.533,6.367) compared to their counterparts.

Conclusions and Recommendation

Parents/care givers knowledge level about newborn and young infant illness in study area was found to be low, even though care seeking behaviour for new born and young infant illness is high. So to improve knowledge of parents/care givers about newborn and young infant illness the government, health facility and health extension worker, should intensify the education about newborn and young infant illness. More ever mothers during antenatal followe up and after delivery should be strongly advised about new born and young infant illness.

Key Words: Neonatal illness, care seeking behaviour, new born, knowledge

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Abbreviations

WHO	World Health Organization
CSA	Central Statistical Agency of Ethiopia
MDG	Millennium Development Goal
HP	Health Post
HC	Health Centre
HEW	Health Extension Worker
SPSS	Statistical Package for Social Science
CSB	Care Seeking Behaviour

CHAPTER ONE: INTRODUCTION

1.1 Background

Neonatal mortality is declining globally but more slowly than post-neonatal (1-59 months) mortality. The first 28 days of life (the neonatal period) are the most vulnerable time for a child's survival. Neonatal mortality is becoming increasingly important not only because the proportion of under-five deaths that occur during the neonatal period is increasing as under-five mortality declines, but also because the health interventions needed to address the major causes of neonatal deaths generally differ from those needed to address other under-five deaths and are intimately linked to those that are necessary to protect maternal health [48].

The neonatal period is the most critical period for the survival of the child. Every year over 4 million babies die within this period globally; with 98% of the deaths occurring in the developing world. In developing countries, the risk of death in the neonatal period is six times greater than in developed countries; in the least developed countries it is over eight times higher [7].

Globally, the neonatal mortality rate fell from 33 deaths per 1,000 live births in 1990 to 20 in 2013, and the number of neonatal deaths declined from 4.7 million in 1990 to 2.8 million -- in 2013. However, the decline in neonatal mortality over 1990–2013 has been slower than that of post-neonatal mortality: 40 percent, compared with 56 percent (and 49 percent for overall under five mortality), a pattern consistent across all MDG regions [48].

In five developing regions—Eastern Asia, Latin America and the Caribbean, Northern Africa, Southern Asia and Western Asia—more than half of under-five deaths took place during the neonatal period in 2013. Eastern Asia cut overall under five mortality rates so quickly that the share of neonatal deaths among under-five deaths jumped from 47 percent in 1990 to 60 percent in 2013[48].

Sub-Saharan Africa lags behind other regions in reducing neonatal mortality. Sub-Saharan Africa—where about a third of under-five deaths occurred during the neonatal period—has the highest neonatal mortality rate (31 deaths per 1,000 live births in 2013) and accounts for 39 percent of global neonatal deaths. Together with Oceania, the region has recorded the least

improvement over the last two decades, with the neonatal mortality rate declining only 32 percent. The greatest progress was in Eastern Asia (69 percent decline in the neonatal mortality rate), followed by Latin America and the Caribbean (58 percent) and Northern Africa (56 percent) [48].

In Ethiopia, under-five mortality rate has declined by two thirds from the 1990 figure of 204/1,000 live births to 68/1,000 live births in 2012, thus meeting the target for Millennium Development Goal 4 (MDG 4) on child survival three years ahead of time. However the mortality data by age reveals that the decline in neonatal mortality is not as impressive as the infant and child mortality figures. It has fallen only by 42% during the same period; from 54/1000 live births in 1990 to 28/1000 live births in 2013. About 44% of the childhood deaths occur within the first 28 days of life, thus increasingly accounting for a larger proportion of the under five deaths [8].

Neonatal and infant mortality pose a major public health challenging problem in the world, according to Save the children report in 2012 the global distribution of neonatal death is Preterm birth complications 34%, Intrapartum-related complications 24%, sepsis/meningitis 12%, Pneumonia 10%, Congenital abnormalities 9%, Tetanus 2%, Diarrhoea 2% and other 6% . Early detection of neonatal illness and increasing facility births will improve care-seeking behaviour for neonatal illness [9].

Health care-seeking involves a series of stages or phases, beginning with the patient becoming aware of a need and ending with medical assessment and treatment, if warranted. Millions of mothers and their children through the world are living in a social environment that doesn't encourage health care seeking behaviour.

Knowledge is believed to influence appropriate health seeking behaviour in reducing neonatal mortality [24]. Designing health care policies and programmes requires knowledge about health care seeking behaviour, so that possible difficulties with early diagnosis and effective treatment can be identified and so that appropriate interventions can be implemented. Early recognition of symptoms, presentation to health care facilities and compliance with effective treatment can reduce morbidity and thereby mortality [1]. In addition, successful adherence to health care programmes is determined by the interactions of ill people with health care systems. Care seeking behaviour will be influenced by the

individual, diseases, and the availability and accessibility of health services. Dependent on these determinants and their interactions, health care seeking behaviour is a complex outcome of many factors operating at individual, family and community levels [1]. Care-seeking behaviour is that action taken by an individual in response to a stimulus (such as the perception of a symptom) that he or she decides is indicative of a condition needing evaluation by a health professional. This behaviour is influenced by personal, physical, and psychological characteristics and by sociocultural and environmental factors [2].

Care-seeking involves a series of stages or phases, beginning with the patient becoming aware of a need and ending with medical assessment and treatment, if warranted. Delay can occur at any stage, including delay in patient care-seeking and delay in treatment once contact is made with the health care system. While structural-environmental issues may play a role in treatment delay (that is access to care, poor emergency medical service and doctor-instituted delays in diagnosis or treatment), the largest component of delay for acute problems occurs before the patient contacts the health care system [2]. Women's empowerments are very important for maternal and newborn health care seeking. Low income nations like Ethiopia are striving for sustainable economic and social progress to improve the health of women during pregnancy and ensuring the newborn health care service [42].

Different studies have cited different issues/problems including distance to health facility, hostile of health worker, preference of herbs medication, perception of mother about evil eye, lack of transport, delay in receiving treatment in health facility and cost are a barriers for precluding access to health services [7, 13, 37, 38] and also which affect health seeking behaviour of mother [53]. Women are known as the first providers of health care in the home [3]. So, all babies need basic care to ensure their survival and well-being which has to be provided by the mother at home [4, 5].

Neonatal danger signs and other newborn illness are the signs of serious life-threatening problems which are often nonspecific. Many newborn often die due to delay in recognizing neonatal illness, delay in deciding to get medical care and delay in reaching a health worker or facility [5]. So every newborn needs careful attention especially during the first month of life [5, 6]. The most common neonatal danger signs/illness are breathing problems, Feeding difficulties or not sucking, feels cold, fever, red swollen eyelids and pus discharge from eyes,

redness of the skin, swelling, pus, or foul odour around the cord or umbilicus, Convulsions and Jaundice/yellow skin [5].

1.2 Statement of the problem

Globally 2.7 million deaths, or roughly 45% of all under-five deaths, occur during the first 28 days of life. Of these, almost 1 million neonatal deaths occur on the day of birth and close to 2 million die in the first week of life [49]. Each year in Africa, around 1.16 million babies die in their first month, among this half of them die in the first day of life. Sub-Saharan Africa—where about a third of under-five deaths occurred during the neonatal period—has the highest neonatal mortality rate (31 deaths per 1,000 live births in 2013) and accounts for 39 percent of global neonatal deaths. In Ethiopia, according to EDHS 2011 Around 120,000 newborns die every year and the neonatal mortality rate is 37 per 1000 live births [49].

The previous research was incorporate both quantitative and qualitative study and some studies involve community based but their study subject are mothers who have <five year of child these may cause recall bias. So this study was try to identify the factors for health seeking behaviour of newborn and young infant illness and what seeking behaviour is done in the community during their neonate or young infant was sick. The study was Include all infant less than 6 month, so these may minimize recall bias.

Recent studies show that educating caregivers about newborn and young infant illness has associated with improved care seeking behaviour [21, 32]. As a result neonatal morbidity and mortality has been significantly decreased in some part of the world [4, 16]. Timely health education strategy that is primarily targeted to pregnant women about newborn illness and appropriate health care seeking behaviour is an advance to facilitate decision making for newborn care [11]. In addition designing health care policies and programmes requires knowledge about health care seeking behaviour, so possible difficulties with early diagnosis and effective treatment can be identified and so that appropriate interventions can be implemented. So this study will fill some gap by investigating care-seeking behaviour of mothers in Tiro Afeta woreda ,Jimma Zone, south west Ethiopia.

CHAPTER TWO: LITERATURE REVIEW AND SIGNIFICANCE OF THE STUDY

2.1 Literature Review

2.1.1 Mothers Care Seeking Behaviour

According to a study done by Rashed Shah, in Bangladesh, Among 6,090 preterm babies Only one-fifth (19.7%) of preterm newborn were taken to seek either preventive or curative health care. Among care-seeker preterm newborn preferred providers included homeopathic practitioners (50.0%), and less than a third (30.9%) sought care from qualified provider [18]

On study done in rural Tanzania the vast majority of neonates (73%) died at home due to mothers and parents lack of care during the neonatal period [13]. Increasing access to and use of health services is the prime goal of many low income countries in order to attain the health care seeking behaviour. Safe motherhood and child survival have recognized the critical importance of household behaviours in determining maternal and child health outcomes [14].

A comparative study conducted in Lagos, Nigeria shows that before taking the child to hospital they give drugs bought from the chemist shop/drug vendors with herbal concoction at home and some women consult auxiliary nurses who live close to them [20]. But, another study in Enugu State, Nigeria 47.7% of the mother took the child to the hospital immediately without any home intervention [21]. In Pakistan, out of 200 interviewed mothers 85.2% of had taken care from registered medical professional whereas 14.8% mothers sought inappropriate care for their child [22].

2.1.2 Mothers' knowledge about neonatal and young infant illness

According to a study done by Amol R Dongre, Pradeep R Deshmukh in India, Out of 72 mothers, 29 (40.3%), 16 (22.2%) and 10 (13.9%) identified difficulty in breathing, poor sucking and lethargy/unconsciousness as newborn danger signs respectively. Only 7(9.7%) and 2 (2.8%) identified convulsion and hypothermia as newborn danger signs respectively. About 11(15.3%) and 8 (11.1%) were reported to have poor sucking and difficulty in breathing respectively [5]

A facility based study in Trivandrum hospital on Mothers Awareness Regarding Danger Signs of Neonatal Illnesses shows that, Out of seventy mothers, 3 (4.3%) had very good

knowledge, 51 (72.9%) had good knowledge and 16 (22.9%) had average knowledge about newborn danger signs, From this study mothers' age and education is significantly associated with knowledge score of neonatal danger sign [25]. But in a study done in india , there was no significant association between the knowledge of the mothers and selected demographic variables such as age, gender, educational status, birth order, religion, type of residence, and place of residence[52].The Study done in Natal 2011 indicates that the most common danger signs recognised by the care giver were fever (25%) and difficulty breathing (28%) [26].

Similar findings in western Uganda, shows that 87% of the village health team members could mention 3 and more of the newborn danger signs [27, 28]. But a community based study in a peri urban area of Wardha showed that a majority of the respondent (63%) did not recognize danger signs of neonatal problem. [24]From this study the majority of mothers know one newborn danger sign but many of the respondents did not mention more than one danger sign. Similar study in Nigeria, Eighty two (56.2%) mothers reported that their babies had some of the danger signs during the neonatal period [7].

In Bangladeshi majority (94.6%) of mothers were aware of at least two neonatal danger signs that require immediate medical care and the major neonatal danger signs perceived by the respondents were fever (81.3%), difficult or fast breathing (75.2%), yellow discolouration of the palm and sole-jaundice (36.6%), poor sucking or feeding (26.6%), redness and discharge around the umbilicus/cord stump (25.2%), and convulsion (24.3%) [26].

A study in Gonder, North West Ethiopia shows that more than 79.8% of mothers have mentioned at least one key neonatal danger sign and only 108(18.2%) of mothers had mentioned at least three neonatal danger sign [32]. Mothers and husbands having secondary and above educational level is three and four times more likely mentioned at least three neonatal danger sign than those who are primary educated respectively [32]. But a study done in Nigeria indicate that, 95.2% of the mothers have listed correctly at least one of the WHO recognized neonatal danger signs. The most frequent signs mentioned by the mothers were fever 305 (25.4%), refusal to feed 102 (8.5%) and weakness 85 (7.1%) [33]. Mothers with knowledge of at least one danger sign were 4 times more likely to seek healthcare services compared to those with no knowledge of these dangers signs[33].

2.1.3 Factors affecting health seeking behaviour of mothers

A community based study in west Bengal indicates that 71.2% of the mothers opined that ignorance, lack of awareness, fixed firm cultural beliefs, male-dominated society and more concern for the well-being of the male child were contributory factors for not seeking health care for their child (34).Based on the above study, inconvenience of transport facilities, religious misinterpretations, socioeconomic constraints, and women's restricted movements during post-partum period are the major factors of seeking health care behaviour for their child [34,35].

In Edo State of Nigeria the major reason of mothers who are not seeking care in health facility were cost (41%), condition illness not being serious(50%) and due to long waiting time in health facility [39]. Moreover a study from Natal shows that 24% of mothers use home treatment for their sick infant and the major reason for the delay in consulting medical care for their neonate and infant is; lack of clinic and mothers not recognising the seriousness of illness [26].

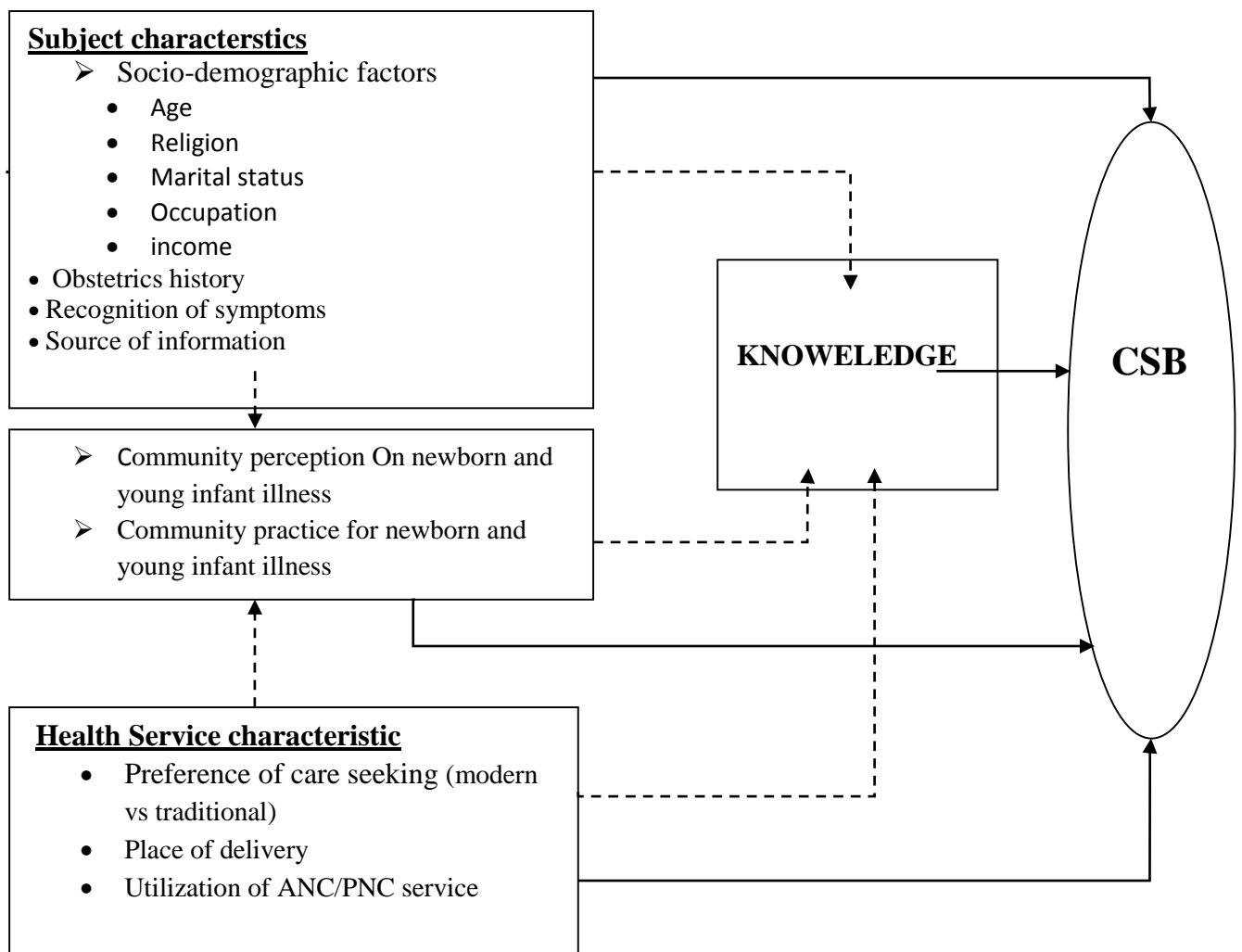
A study in Ntchisi district of Malawi shows that eighty three percent of the mothers who preferred home treatment for their sick neonate rather than Hospital care/treatment was due to their trust to traditional medicine for curing their baby and they wanted to observe the child first while giving home treatment [24].

A facility based study in Nigeria and West Bengal shows that income, age, education, occupation, ethnicity, religion of mother and proximity to health facility are the strong determinant factor for health care seeking behaviour and practice when the child was sick [24,34,40].

According to the study in Matlab, Bangladesh sex different for health care seeking was observed regarding to treatment type; care seeking was greater for males compared with females and also male newborns were more likely to have received treatment from a medically qualified source (medical doctors and paramedics) than female newborns [43 ,44]. In Urban Lucknow of India male was 1.24 times higher any care seeking than female and also 3.8 times more likely to be seen by a qualified provider [43].A study in Uttar Pradesh, India shows that sex preference of newborn Health care expenditure is common. From this study the average amount of spent for male newborn infant was nearly four-fold higher than for female newborn infant [46].

According to a study done in Nigeria by TA Ogunlesi and AR Abdul, out of 98 mothers, 57.1% had good knowledge on newborn jaundice. Most of the mothers with good knowledge had tertiary education ($P = 0.004$), had good care-seeking behaviour for newborn jaundice ($P = 0.027$) and their infants did not develop kernicterus ($P = 0.0001$). Mothers with tertiary education also had significantly better performances on the knowledge and care-seeking evaluation scales [19].

2.2 Conceptual Framework



Where CSB; care seeking behaviour

Figure1. Conceptual frame work for care seeking behaviour of parents/caregiver on neonatal and young infant illness in Tiro Afeta woreda Jimma Zone South West Ethiopia.

2.3 Significance of the study

A substantial proportion of childhood deaths occur in the first two months of life, especially neonatal mortality during the first 28 days of life accounts for two thirds of deaths in infancy, and nearly two fifths of all deaths in children under 5 ages. Mostly neonatal death occurs at home due to lack of knowledge and poor health care seeking behaviour of their Mother or care giver [14].

This study will analyse the care seeking behaviour and knowledge of parents/caregiver for newborns and young infants in Ethiopia particularly in Tiro Afeta Woreda ,Jimma Zone. So, this study give the present image regarding the care seeking behaviour and knoweldge of parents/care taker and associated factors, so it will be important as a base line study for future plan and to prepare policies.

CHAPTER THREE: OBJECTIVES

3.1 General Objective

To assess care seeking behaviour and knowledge of parents/care taker for newborns and young infant illness and associated factors in Tiro Afeta Woreda, Jmma zone , South west Ethiopia.

3.2 Specific objectives

- ✓ To determine the care seeking behaviour of mothers/care giver on neonatal and young infant illness.
- ✓ To identify factors associated with care seeking behaviour for Neonatal and young infant illness.
- ✓ To identify knowledge of parents/care takers about newborn and young infant illness
- ✓ To identify factors associated with knowledge for Neonatal and young infant illness.

CHAPTER FOUR: METHODS AND MATERIAL

4.1 Study area and period.

Jimma Zone is one of the 18 zones in Oromia National Regional State. It is located in the south western part of the region and the country as well. Its zonal administrative town, Jimma, is located at about 350 km from Addis Ababa. Based on the 2007 censuses conducted by the central statistical agency of Ethiopia (CSA) the zone has a total population of 2,486,155 of whom 1,250,527 are male and 1,235,628 are female with an area of 50.52 square kilometres. Tiro Afeta is located at 70 km from Jimma town to the east. Its total population is 142,065. The district consists of 27 HPs, 7 HCs and 61 HEWs. The study was conducted from May 10 - June 10, 2016.

4.2 Study design

A community-based cross sectional study complemented with qualitatively collected data was conducted in Tiro Afeta Woreda Jimma Zone, South West Ethiopia.

4.3 Populations

4.3.1 Source population

All parents/care givers who have infant age less than 6 months in Tiro Afeta Woreda Jimma Zone were the source population.

4.3.2 Study population

Sampled parents/care givers who have infant age less than 6 month in Tiro Afeta woreda Jimma Zone were the study population.

4.4 Inclusion and exclusion criteria

4.4.1 Inclusion criteria

All parents/caregivers who have infant age less than 6 month and who are living in Tiro Afeta Woreda.

4.4.1 Exclusion criteria

Parents /caregivers who are critically ill, can't talk or hear.

4.5 Sample Size determination

The sample size for this study was determined using single population proportion formula:

P = the proportion of parents/care givers who sought medical care for their newborn after experiencing neonatal illness is considered 50 %(0.5) because a reference research study is not available from the study area.

$Z_{\alpha/2}$ = Critical value for normal distribution at 95% confidence level which equals to 1.96 (Z value at $\alpha=0.05$), w= margin of error to be 5 %.

With the above assumptions the formula yields:

$$n = \frac{(1.96)^2 * 0.5(1-0.5)}{(0.05)^2}; n = 384$$

Adding non responses rate of 10%, Therefore, the total sample size for this study was 422 parents/care givers who are having < 6 month of infant in Tiro Afeta Woreda.

4.6. Sampling procedure

Selection of study participant's, that parents/caregiver who are having less than < 6 month of infant, was selected by cluster sampling technique . According to Tiro Afeta woreda health office there are 2907 infant who are less than 6 month of age . In Tiro Afeta Woreda there is 6 cluster based on nearby health centre in which one cluster have its own health centre. The calculated sample size was proportionally allocated in each cluster then the study participants were selected by cluster sampling technique untile the sample size fulfilled. To approach 422 study participants, data collectors used kebele and health extension worker for guidance.

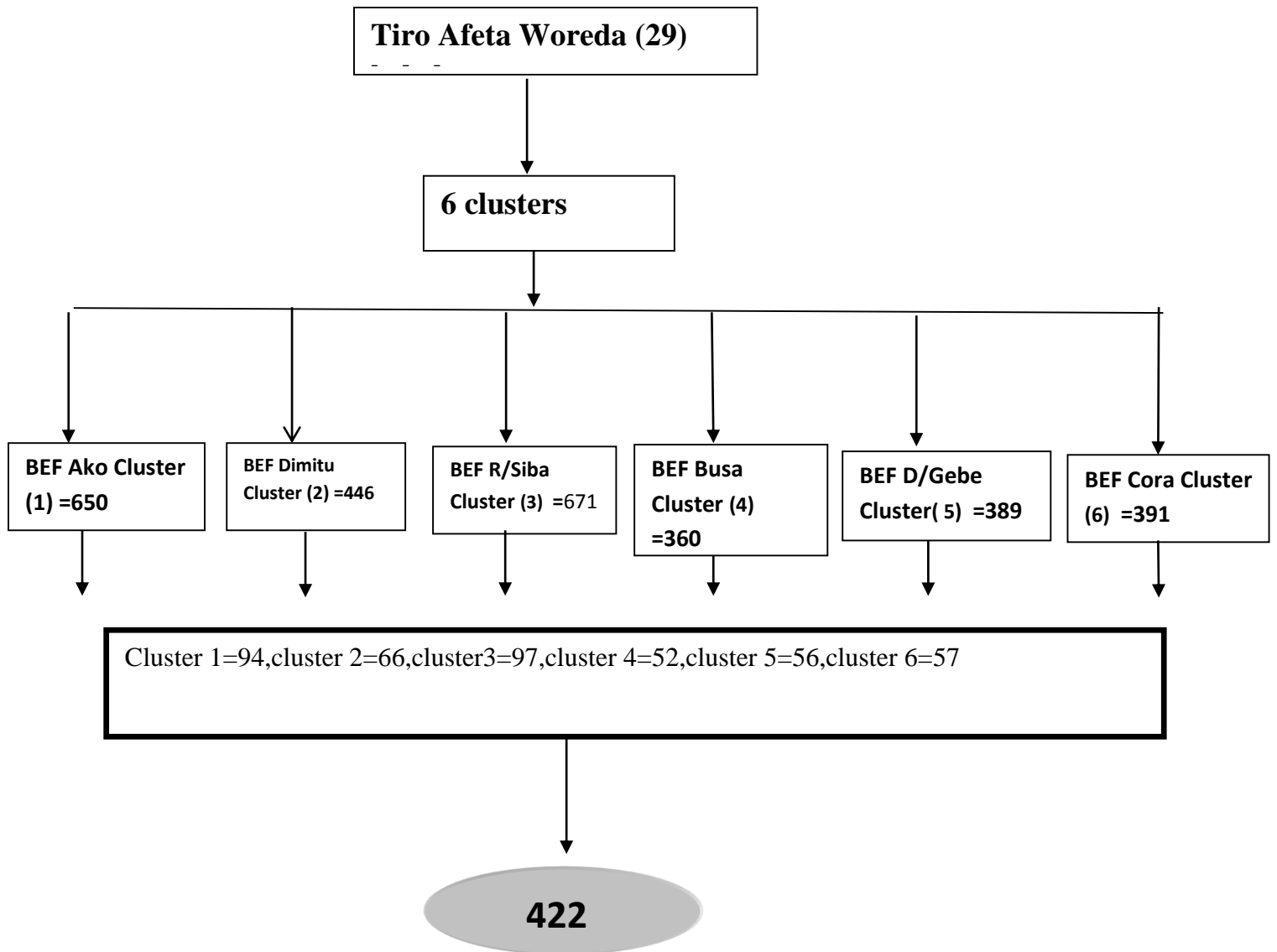


Figure 2: Framework of sampling procedure for assessment of care seeking behaviour of parents/caregiver for newborn and young infant illness in Tiro Afeta woreda iimma zone

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4.6 Data Collection Technique

4.6.1. Data Collection tools/instrument

Data collection was carried out with structured, interviewer-administered questionnaires. The questionnaire was initially prepared in English and then translated in to Afan Oromo language. Finally the data collectors used the translated Afan Oromo language to interview the study participants. Moreover Focus group discussions regarding newborn and young infant illness was conducted with mothers, fathers, and elderly in Tiro Afeta Woreda. and recorder was used to collect the data.

4.6.2. Data processing and analysis

The collected data was cleaned, coded and entered into EPI data version 3.1 computer programs. The data was exported to Statistical Package for Social Sciences (SPSS) version 20, and then recoded, categorized and sorted for further analysis. The completeness of the data was checked and errors related to inconsistency were verified using cross tabulation.

Descriptive statistics (proportions, percentages, frequency distribution, cross tabulation and graphs) was used to describe the respondents by socio-demographic characteristics and other relevant variables in the study. Furthermore, logistic regression, specifically bivariable and multivariable analysis was used to identify factors associated to care seeking behaviour of neonatal danger sign.

Independent variables with p-value less than 0.05 and odds ratio (crude and adjusted odds ratios) with 95% confidence intervals were considered as having significant association with dependent variable. All independent variables which had significant association in bivariable analysis with p value less than 0.25 was included in multiple back ward logistic regression model in order to assess the independent predictors of care seeking behaviour of neonatal and young infant illness. Finally P-value < 0.05 was considered to declare a result as statistically significant in this study. The results of the study were presented in text, tables and graphs as based on the types of data. The result from focus group discussion was analysed qualitatively.

4.7 Variables

4.7.1 Dependent Variable

- ❖ Care seeking behaviour of parents/care givers
- ❖ Knowledge of parents/care givers

4.7.2 Independent variables

- ❖ Perceived illness
- ❖ Socio demographic characteristic
 - ✓ Socio-demographic factors (age of mother, religion, marital status, occupation, income, infant age ,infant sex)
- ❖ Obstetric history (parity).
- ❖ Preference of care seeking (traditional vs modern)
- ❖ Place of delivery

4.8 Operational Definitions

Care seeking behaviour: action taken by the mothers/caregivers in response to neonatal and young infant illness.

Care seeking :parents/care takers who took their infants to health facility.

Young infant: infant age less than 2 months.

Newborn and young infant illness: are sign in which the newborns/young infant experiencing the following; unable to feed/poor sucking, Convulsion, difficulty of breathing , fever, hypothermia, lethargic/unconscious, redness of umbilicus or pusy discharge ,purulent eye discharge , abdominal distention ,diarhea ,vomiting .

A caregiver:-Defined as the individual who sought care for the ill neonate/infant, is often a family member, such as a mother or grandmother or relatives.

Home-remedies: - were defined as goods that were fed or applied at home that is prepared by care giver to a perceived sick neonate/infant

Neonatal mortality:-defined as death of an infant during the first 28 days of life.

Less knowledgeable: - parents/care givers who score below the mean (<3.04) was considered less knowledgeable:

Knowledgeable: - parents/care givers who score above the mean (>3.04) was considered to be knowledgeable.

4.9 Ethical Consideration

Ethical clearance was sought from Jimma University, College of Health Science Ethical Review Board. Letters of permission was obtained from Tiro Afeta Woreda Health office. Written consent was obtained from care taker in the language they understand. All the information was kept confidential (name was not included in the data collection tool and all the information retrieved was kept confidential between the data collector and the investigator).

CHAPTER FIVE: RESULTS

5.1 Socio demographic characteristics of parents/caretakers and their infants

A total of 400 parents/caregiver participated in the study giving a response rate of (94.7%). Majority of the respondents were between the age of 25-34 years (55.4%) followed by age between 18 -24 years (26.8%). Majority of the respondents (96.3%) are married.

Regarding religion, (80.5%) are Muslim followed by orthodox Christians (14.3%). Almost two third of the mothers cannot write and read (no education) which accounts for (64%), while only (7.5%) of the respondents have completed secondary school and above. About (60.2%) of the fathers cannot write and read (no education) and only (11%) completed secondary school and above. Almost half of the mothers in this study are house wives (47.2%) followed by farmer (38%), while majority of the fathers are farmer (71%) and more than half (50.2%) of paternal income is below 500 birr per month. Majority of the infant in this study were between age 9-24 weeks (38.8%) followed by age between 5-8 weeks (32.3%) and only (5.5%) are age between from birth up to 1 week (table 5.1).

Table 5.1: Socio demographic characteristics of parent/caretakers and their infants in Tiro Afeta woreda Jimma Zone South West Ethiopia 2016.

Variable (n=)	Frequency	Percentage
Age of caregivers		
18-24	107	26.8
25-34	222	55.5
35-44	69	17.3
45+	2	.5
Total	400	100.0
Religion		
Muslim	322	80.5
Orthodox	57	14.3

protestant	21	5.3
Total	400	100.0
Maternal Educational		
Cannot read and write	256	64.0
primary education(1-8)	114	28.5
Secondary school and above	30	7.5
Total	400	100.0
Paternal Educational status		
Cannot read and write	241	60.25
primary education(1-8)	115	28.75
Secondary school and above	44	11.0
Total	400	100
Maternal Occupation		
Government employee	24	6.0
Self-employee or merchant	24	6.0
Daily labourer	5	1.2
Farmer	152	38.0
House wife	189	47.2
Student	6	1.5
Total	400	100
Paternal Occupation		
Government employee	36	9.0
Self-employee or merchant	66	16.5
Daily labourer	13	3.2
Student	1	0.2
Farmer	284	71.0

Total	400	100
Maternal Marital Status		
Married	385	96.3
Single	10	2.5
Widowed	2	.5
Divorce	3	.8
Total	400	100
Paternal Income (monthly)		
<500	201	50.25
500-1500	128	32.0
>1500	71	17.75
Total	400	100
Family size		
<3	56	14.0
3-5	138	34.5
>5	206	51.5
Total	400	100
Parity		
<3	184	46.0
3-5	142	35.5
>5	74	18.5
Total	400	100
Infant Age		
0-1 week	22	5.5
2-4 weeks	94	23.5
5-8 weeks	129	32.3
9-24 weeks	155	38.8
Total	400	100
Infant Sex		
Male	179	44.8
Female	221	55.3

Total	400	100.0
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5.2 Health service characteristics

Majority of respondents have ANC follow up during their pregnancy (78.8%). Among the mothers who have ANC follow up majority of them (71.5%) get ANC counselling services. During their ANC follow up (49.5%) of the respondents were advised about immunization while (15%) were advised about new-born illness. Among the respondents who had post-natal visit, (63.5%) were advised about breastfeeding while (33.8%) advised about newborn illness. Majority of the mothers delivered their last child in health facility (93.5) and only (6.5%) delivered at home (table 5.2).

Table 5.2: Health Services Characteristics mothers in Tiro Afeta woreda Jimma Zone South West Ethiopia 2016.

	Frequency	Percentage
ANC follow up		
No	85	21.3
Yes	315	78.8
Total	400	100.0
ANC counselling service		
No	90	28.5
Yes	225	71.5
Total	315	100.0
Type of counselling during ANC		
Birth preparedness	115	28.8
Danger sign of PX	57	14.3
New-born illness	62	15.5

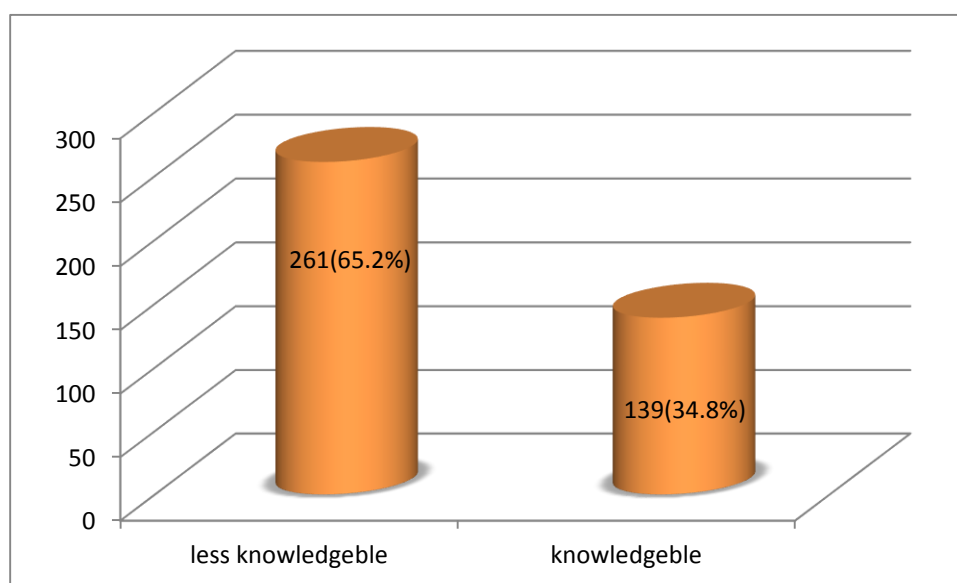
Breast feeding	141	35.3
Immunization	198	49.5
PMTCT	27	6.8
Maternal Nutrition	181	45.2
Harmful substance	34	8.5
Personal Hygiene	57	14.3
Others(specify)	18	5.5
PNC Attendance		
No	43	10.8
Yes	357	89.2
Total	400	100
Type of PNC counselling		
New-born illness	135	33.8
Breast feeding	254	63.5
Immunization	248	62.0
Nutrition	200	50.0
Personal Hygiene	70	17.5
Others (specify)	51	12.7
Place of Delivery		
Home	26	6.5
Health institution	374	93.5
Total	400	100
Graduation from health extensiton package		
No	314	78.5

Yes	86	21.5
	400	100

5.3 knowledge of parents/care takers about newborn and young infant illness

From 13 symptoms which was recognized by the respondents, the calculated mean was 3.04 and the parents/care givers who score above the mean are considered to be knowledgeable and the others who score below the mean are considered to be less knowledgeable. So in this study More than half of the respondents (65.2%) (are less knowledgeable about newborn and young infant illness. (figure 3)

Figure 3: knowledge of parents/care givers about newborn and young infant illness in Tiro Afeta woreda Jimma Zone South West Ethiopia 2016



5.4: Recognition of symptoms

Among the respondents, majority of them identified fever as new born and young infant illness (74.2%), followed by diarrhea, vomiting and poor feeding or unable to suck (68.2, 60.5% and 49.8%) respectively. But only (2%) and (2.3%) of the respondents know yellowish discoloration and umbilical redness/discharge as newborn and young infant illness respectively (table 5.4).

Table 5.4: Recognition of symptoms of parents/care takers for newborn and young infant illness in Tiro Afeta woreda Jimma Zone South West Ethiopia 2016.

Variable	Frequency	Percentage
When do you think a new-born or young infant ill ?*		
Yellow discoloration of the body	8	2.0
umbilical redness or pussy discharge	9	2.2
Fever	297	74.2
Hypothermia	25	6.2
Difficulty of breathing	30	7.5
Unable to feed/poor sucking	199	49.8
Convulsion	20	5.0
Lethargic/unconscious	11	2.8
Fast breathing	35	8.8
Discharge, Redness and purulent eye	13	3.2
Vomiting	242	60.5
Diarrhea	273	68.2
Abdominal distention/cramping	54	13.5

*more than one answer possible

5.5. Care seeking behaviour and reason for not taking to health facility

Majority of the parents/care givers said they take their infants to the health facility(health center (92.8%)health post (17.5%)and to the hospital (2.3%) and the other take to the traditional healer and spitual healer (4.0%, .5%)respectively. In majority of cases(77.3%), both the mother and father decide to seek care during new-born and young infant.Among parents/caregivers who do not take their infants to health facilities which is (17%) (Figure 3) the major reason mentioned high treatment cost and lack of enough money (32.3%) (table 5.5) .

Figure 4: care seeking behaviour of parents/care givers about newborn and young infant illness in Tiro Afeta woreda Jimma Zone South West Ethiopia 2016

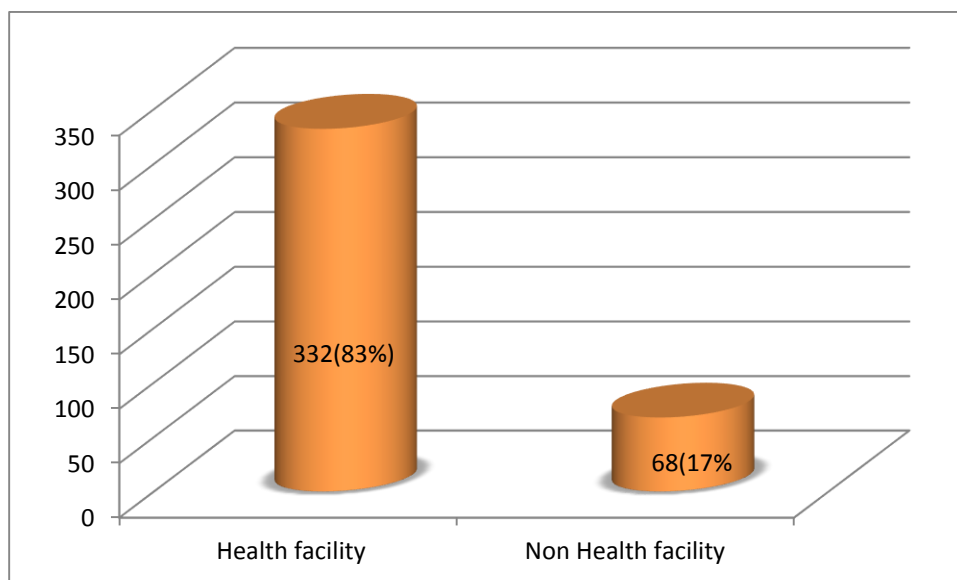


Table 5.5: care seeking behaviour of parents /caregiver on Neonatal and young infant illness in Tiro Afeta woreda Jimma Zone South West Ethiopia 2016.

What do you do when a new-born/young infant is sick?*(more than one answer possible)		
Take to health post	70	17.5
Take to health centre	371	92.8
Take to hospital	9	2.3
Call HEW	4	1.0
Take to traditional healer	13	4.0
Give home remedies	48	13.8
Take to spiritual healer	2	.5
Do nothing/ take no action	5	1.3

Reason for not taking to health facility?*		
Illness was not serious	3	4.4
Had no enough money	22	32.3
Long distance to health facility	4	5.9
Busy	4	5.9
High Treatment cost	22	32.3
Health workers are hostile	5	7.3
considering that Herbs are more effective	9	13.2

*more than one answer possible

5.6 Source of information about Neonatal and young infant illness

More than half of respondents (56.3%) have heard about new born and young infant illness From those who heard about newborn and young infant illness, majority (80.4%) of them heard from health institution(table 5.6).

Table 5.6.Source of information of about Neonatal and young infant illness in Tiro Afeta woreda Jimma Zone South West Ethiopia.

Question	Frequency	Percentage
Have you heard about neonatal And young infant illness?		
No	175	43.8
Yes	225	56.3
Total	400	100
From where did you hear?		
Radio	20	8.9
TV	8	3.6

Health institutions	181	80.4
Printed papers	2	0.9
Others	14	6.2
Total	225	100

5.7 Factors associated with knowledge of parents/care givers on newborn and young infant illness

Chi square test was used to find the association between the level of knowledge of parents/care givers about new born and young infant illness and possible factors associated .The finding indicates that maternal education($x^2 = 21.023, p < 0.001$),maternal occupation ($x^2=18.242 ,p < 0.001$),paternal education($x^2=25.962, p < 0.001$),paternal occupation($x^2=21.00, p < 0.001$)ANC follow up($x^2=21.001, p \text{ value} < 0.001$),graduation from health extension package($x^2= 13.015 p < 0.001$) was associated with level of knowledge of parents/care givers about new born and young infant illness. (table 5.7).

Table 5.7 Factors associated with knowledge of parents/care givers on newborn and young infant illness in Tiro Afeta Woreda Jimma Zone South west Ethiopia 2016.

Variable	category	Knowledge		X ²	p-value
		less knowedgeble	Knowledgeble		
Age	18-34	210(80.5%)	119(85.6%)	1.649	0.199
	>=35	51(19.5%)	20(14.4%)		
Maternal education	Non educated	188(72.0%)	68(48.9%)	21.023	<0.001
	Educated	73(28.0%)	71(51.1%)		
Maternal occupation	Government employee	6(2.3%)	18(12.9%)	18.242	<0.001
	Non government employee	255(97.7%)	121(87.1%)		
Paternal education	Non educated	181(69.3%)	60(43.2%)	25.962	<0.001
	Educated	80(30.7%)	79(56.8%)		
Paternal occupation	Government employee	11(4.2%)	25(18%)	21.001	<0.001
	Non government employee	250(95.8%)	114(82.0%)		
ANC follow up	No	74(28.4%)	11(7.9%)	22.641	<0.001
	Yes	187(71.6%)	128(92.1%)		
Graduated	NO	219(83.9%)	95(68.3%)	13.015	<0.001

from extension package	YES	42(16.1%)	44(31.7%)		
Marital status	Married and live together	250(95.8%)	135(97.1%)	0.449	0.503
	Single or married but not live together	11(4.2%)	4(2.9%)		

Among the eight factors which fulfill assumption of logistic regression 7 variable were selected for final model, Variables having $p < 0.25$ during Bivariate analysis. With Bivariate analysis the following variables are associated with knowledge of newborn and young infant illness: **maternal occupation** (COR 95% CI 0.158[0.061,0.409], p value 0.00) which means those mothers who are non-government employees have less knowledge than their counterparts, **paternal occupation** COR, 95% CI (0.201(0.095,0.422) p value 0.00, which means fathers who are non-government employees have less knowledge than their counterparts, **maternal education** COR, 95% CI 2.689(1.752,4.128) p value 0.00) mothers who are educated are two times more knowledgeable than their counterparts, **paternal education** COR, 95% CI 2.979(1.945,4.563) p value 0.00) those fathers who are educated are almost three times more likely to be knowledgeable than their counterparts, **ANC attendance** COR, 95% CI(4.605(2.351,9.018) p value 0.00) those mothers who attend ANC are 4 times more knowledgeable than their counterparts. **graduation from health extension package** COR, 95% CI 2.415(1.485,3.929) those who graduated from health extension package are more knowledgeable than their counterparts.

Among variable analysed on multivariate regression **ANC follow up** found to be statistically significant with AOR(95% CI) 3.124(1.533,6.367). That is those who have ANC follow up are three times more knowledgeable than their counterpart. (table 5.8).

Table 5.8: Logistic regression for factor affecting knowledge of parents/care givers on neonatal and young infant illness in Tiro Afeta woreda Jimma Zone South West Ethiopia

Variable	knowledge		COR (95%CI)	AOR(95%CI)
Age	less knowledgeable	knowledgeable		
16-34	210(80.5%)	119(85.6%)	1	1
>35	51(19.5%)	20(14.4%)	0.692(0.394,1.216)*	0.947(0.519,1.727)
Maternal Occupation				
Government employee	188(72.0%)	68(48.9%)	1	1
Non Government employee	73(28.0%)	71(51.1%)	0.158(0.061,0.409)*	0.335(0.954,9.345)
Paternal occupation				
Government employee	6(2.3%)	18(12.9%)	1	1
Non Government employee	255(97.7%)	121(87.1%)	0.201(0.095,0.422)*	0.656(0.107,2.519)
Maternal education				
Non educated	181(69.3%)	60(43.2%)	1	1
Educated	80(30.7%)	79(56.8%)	2.689(1.752,4.128)*	1.400(0.778,1.285)
Paternal education				
Non educated	11(4.2%)	25(18%)	1	1
Educated	250(95.8%)	114(82.0%)	2.979(1,945,4.563)*	1.472(0.824,2.628)
ANC follow up				
No	74(28.4%)	11(7.9%)	1	1
Yes	187(71.6%)	128(92.1%)	4.605(2.351,9.018)*	3.124(1.533,6.367)**
Graduated from extension package				
No	219(83.9%)	95(68.3%)	1	1
Yes	42(16.1%)	44(31.7%)	2.415(1.485,3.929)*	0.692(0.407,1.176)

*P value <0.25, **p value <0.05

5.9 Factors associated with care seeking behaviour

Among the 8 variable which were entered to chi square test only one variable (place of delivery) was associated with care seeking behaviour at($\chi^2=9.077$ p value 0.003).

Table 5.9: Factor affecting care seeking behaviour of parents/care givers on neonatal and young infant illness in Tiro Afeta woreda Jimma Zone South West Ethiopia

Variable		Care seeking		χ^2	p-value
		Health facility	Non health facility		
				0.452	0.501
Age	16-34	275(82.8%)	54(79.4%)		
	>=35	57(17.2%)	14(20.6%)		
Maternal education	Non educated	211(63.6%)	45(66.2%)	0.168	0.681
	Educated	121(36.4%)	23(33.8%)		
Maternal occupation	Government employee	21(6.3%)	3(4.4%)	0.366	0.545
	Non-government employee	311(93.7%)	65(95.6%)		
Paternal education	Non educated	202(60.8%)	39(57.4%)	0.287	0.592
	Educated	130(39.2%)	29(42.6%)		
Paternal occupation	Government employee	30(9.0%)	6(8.8%)	0.003	0.955
	Non-government employee	302(91.0%)	62(91.2%)		
ANC follow up	No	68(20.5%)	17(25.0%)	0.688	0.249
	Yes	264(79.5%)	51(75.0%)		
Graduated from extension package	NO	261(78.6%)	53(77.9%)	0.015	0.902
	YES	71(21.4%)	15(22.1%)		
Marital status	Married and live together	320(96.4%)	65(95.6%)	0.099	0.753
	Single and married but not live together	12(3.6%)	3(4.4%)		
Place of delivery	Home delivery	16(4.8%)	10(14.7%)	9.077	0.003
	Health institution delivery	316(95.2%)	58(85.3%)		
		332(83%)	68(17%)		

Qualitative result

We conducted focus group discussions among fathers, mothers, community leader and elderly in separate session. Each focus group had 11-12 participants. Participants were encouraged to use local terms and concepts to describe knowledge and careseeking behaviour about newborn and young infant illness.

The fathers perceived that the newborn and young infant is sick when it cries. *Crying is the indicator that the infant is sick; people, traditionally, used to call that illness/disease ‘ciniinna’, and they used to massage an infant’s stomach by bringing it close to fire; they did not have understanding to take the infant to the health centre. But today, even, if five days infant becomes sick, people takes it to the health centre, and now that traditional practices are rare. In addition to crying other symptoms described by fathers are sleeplessness, rising temperature and choking.*

But most mothers recognized newborn and young infant are sick if the following symptoms occur, rising temperature, vomiting, unable to breast feeding. Most mothers said that they learned these symptoms from health extension workers. *Health extension workers are assigned for us in our village/local area, and they have been advising us on issues regarding how to raise infants and their health issues. Serious health problems which affect infants are diarrhea, vomiting and cold; whenever these problems happen, we take an infant to health center. We are protecting infants from flies by using ‘hagobar’; we are in a well condition.*

Many community member said that both a father and a mother will take it to the health centre when new born and young infant is ill. *Both father and a mother take it to the health centre; whenever, there is a problem, the father does not leave it to the mother .* Majority of the father said that mothers decided whether the young infant is to be taken to health centre or not. *If the mother is sure that the infant is sick, we take the infant to the health centre (thus, it is a mother who decides),* so the mother is most commonly involved in taking young infant to the health centre. *It is a mother who is very close to the infant, thus, if the mother said that the infant is*

seriously sick thus, should be taken to health centre; both the father and mother take the infant to the health centre, but if it is not a serious issue, the infant is observed at home for a while.

There is no role of neighborous, elderly regarding decision making in newborn and young infant illness in the community. . *These ones do not decide it; it is with a decision of a mother or a mother's sister that a father accompanies them (a mother or a mother's sister) to take a child to the necessary place for a treatment.*

Majority of mothers took their young infant to health centre immediately after the illness starts. *If an infant has been sick throughout a night, in the morning we take it to the health center; local people also do the same; we do not ignore the issue for a long time; we do it immediately*

The reason for not taking to health centre in majority of the community is having financial problem. *There are people who could not take their infants to health center because of financial problems; a father may go out to borrow money or work for someone in order to get some payments in return, but when he come back and try to take the infant to health center, the health problem of the infant is already deteriorated. Both a father and a mother love their infant, but it is a poverty that inhibits them from taking it health center.*

CHAPTER SIX: DISCUSSION

Care seeking for common newborn and young infant illness from health institution has a great potential to reduce newborn and young infant mortality [4]. In this study, parents/caregiver who took their newborn /young infant to health facility during illness was (83%). But in study done in rural Tanzania the majority of the respondents do not take their neonate to health facility during illness (73%) [13] . This might be due to the accessibility of health care for the community. It could also be due to accessibility of information about the importance of care seeking for newborn and young infant illness.

Those who deliver their last child in health facility are more likely to take their infant to health facility than who deliver at home. This may be due to the fact that, they might have received advises about newborn and young infant illness during delivery at health facility.

Several reasons were given for non-utilization of health facilities for neonatal and young infant illness in this study. The commonest reason was the high cost of treatment from qualified health providers and lack of enough money. This is may be because majority of the family were having family income of less than 500 birr(50.25%). There is also the same reason for not seeking care in health facility described by study done in Edo State of Nigeria the major reason being treatment cost (41%) [39]. These reasons have also been cited in a previous study [7]

Care givers/parents knowledge of the newborn and young infant illness is an essential step in the recognition of complications and a way towards reducing neonatal mortality [30]. Among the respondents, majority of them have identified fever as new born and young infant illness (74.3%) followed by diarrhea, vomiting (68.3, 60.5%) respectively. This finding is almost comparable with study done in Bangladesh in which most of the respondents identify fever (81.3%) for newborn illness .Even if poor feeding or unable to suck is common and easy to identify, only (49.8%) were identified as newborn and young infant illness. parents/caregivers may bring sick infant late if they are not able to recognize poor feeding or unable to suck as new born and young infant illness because it is one of major manifestation of common newborn and young infant illness. This finding is against in a study done in Kenya in which majority of the mothers (84.6%) identified poor sucking and unable to feed as newborn danger sign., In this study, signs which signify serious neonatal illnesses such as yellowish discoloration of the skin and eyes, purulent eye discharge, convulsion, hypothermia, difficulty of breathing were all poorly recognized by

parents (2%,3.3%,5%,6.3%,7.5%,%) respectively. There is also similar finding in a study done by Amol R Dongre, Pradeep R Deshmukh in India, where only (9.7%) and (2.8%) identified convulsion and hypothermia as newborn danger signs respectively[5].Reduction of neonatal and infant mortality to acceptable level is impossible without good parental knowledge regarding neonatal illness. This is because of the fact that, these signs are the entry point to provide comprehensive neonatal health care [32]. Further more,since recognition of signs and symptoms of neonatal and young infant illnesses is an important factor associated with timely and appropriate care seeking in developing countries [8, 10],it can therefore be assumed that poor recognition of these signs will lead to delay in seeking appropriate health care and thus poorer treatment outcome.

This study has demonstrated that there was poor knowledge of newborn and young infant illness amongst parents/care givers in Tiro Afeta woreda as there was less than 50%. This is similar to the report of Alex hurt [7] who found poor awareness of danger signs amongst caregivers in Niger. It however differs from the high level of awareness of newborn danger signs by caregivers in India reported by Awasthi et [10] and Dongre [12].

The study also confirmed that ANC follow up creates a good opportunity for the mother to have good knowledge towards newborn and young infant illness. Antenatal care attendant mothers were three times more likely to have knowledge of newborn and young infant illness with AOR of 3.124 and 95 CI(1.533,6.367) compared to their counterparts.There is also similar finding in a study done in Gondor North West Ethiopia[32]

Graduation of health extension package, educational status of mother and father, occupation of both mother and father were associated with knowledge of parents/caregiver about newborn and young infant illness but they are not statistically significant. There were similar finding in a study done in india in which there was no significant association between the knowledge of the mothers and selected demographic variables such as age, gender, educational status, birth order, religion, type of residence, and place of residence[52].But in a study done in Gonder North West Ethiopia, the odds of having good knowledge was positively associated with mother's and father's higher educational achievement. Similarly, the odds of having good knowledge about neonatal danger signs was higher among Antenatal care and Postnatal care attendant mothers[32] . The lack of association between higher education and increased knowledge of newborn danger signs in this study was unexpected. An explanation for this results might be

that the overall understanding of newborn health in the community is very low, which does not give more educated parents/care givers much of an advantage.

Another important finding was that very few parents/care givers reported to have received information on new born and young infant illness either during antenatal visits (15%) or after delivery(33.8%). There is need to incorporate this message in health education messages given to mothers during antenatal visits and after delivery. In his study in Lao, Weiner et al demonstrated significant increase in mothers understanding of newborn care, after they were educated antenatally on newborn danger signs [53]. Dongre et al also demonstrated improvement in mother's knowledge regarding newborn danger signs after pregnant women were given health education regarding newborn care and danger signs[12].

Limitation and strength

The main strength of this study are the study done in community based which was complimented with qualitative study. In addition the respondents may have socially desirable response, to reduce this we recruit the data collectors from different area.

The current study was based on reported practices and not on actual observation and hence was subject to response bias. Hence, the interpretation and generalizability of our findings may be limited. In addition ,even though the community-based nature of the study improves the generalizability of the study, its cross-sectional nature affects the establishment of the cause and effect relationship.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION

7.1 Conclusion

Although Ethiopia has taken great initiative to empower the community to improve neonatal and infant health services at the grass root level, parents/care giver knowledge level about newborn and young infant illness, which is, a key entry point to improve neonatal health, was found to be low, even though care seeking behaviour for new born and young infant illness is high. ANC follow up creates a good opportunity for the mother to have good knowledge towards newborn and young infant illness. From those having ANC follow up and post natal follow up only few are advised about newborn and young infant illness. So to increase knowledge of parents/care givers about new born and young infant illness the health extension worker should strongly advise about it. In this study, signs which signify serious neonatal illnesses such as yellowish discoloration of the skin and eyes, purulent eye discharge, convulsion, hypothermia, difficulty of breathing were all poorly recognized by parents.

7.2 Recommendation

From this study to improve knowledge of parents/care taker about newborn and young infant illness the government, health facility and health extension worker, should intensify the education about newborn and young infant illness. Further more mothers should be educated about newborn and young infant illness during antenatal visits as well as after delivery .

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Annex 1 Questionnaire

Part I- Question Related to Socio-demographic Characteristics

Q.N	Question	Categories
1	Age in years	18-24 25-34 35-44 45+
2	Marital status	1. Married 2. Single 3. Widowed 4. Divorced
3	Religion	1. Muslim 2. Orthodox 3. Protestant 4. Catholic
4	Maternal educational status	1. No education 2. Primary(1-8grade) 3. Secondary (9-12 grade) 4. Higher education (diploma and above)

5	Paternal educational status	<ol style="list-style-type: none"> 1. No education 2. Primary(1-8grade) 3. Secondary (9-12 grade) 4. Higher education (diploma and above)
6	Maternal occupation	<ol style="list-style-type: none"> 1. Government employee 2. Self-employed/merchant 3. Farmer 4. Daily labourer 5. House wife 6. Student
7	Paternal occupation	<ol style="list-style-type: none"> 1. Government employee 2. Self-employed/merchant 3. Farmer 4. Daily labourer 5. Student
8	Family Monthly in come in Birr	<ol style="list-style-type: none"> 1. <=500 2. 500-1500 3. >1500
9	How many family sizes did you have?	<ol style="list-style-type: none"> 1. <3 2. 4-5 3. >6
10	How many times have you given birth ever?	<ol style="list-style-type: none"> 1. <3 2. 4-5 3. >6
11	Did you graduate from Health extension package?	<ol style="list-style-type: none"> 1. Yes 2. No
12	What is your last infant' age In weeks?	<ol style="list-style-type: none"> 1. 0-1 2. 2-4 3. 5-8 4. 9-24

13	What is your last infant 'sex?	1. Male 2. Female
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PART II -Questions related to Health Services Characteristics

Q.N	Question	Categories
18	Did you attend ANC in health facility for your last PX?	1. Yes 2. No
19	If Yes to Q18, Did you get any counselling service during ANC visit?	1. Yes 2. No
20	If Yes to Q19, Which type of counselling did you get during ANC visit?	1. Birth preparedness 2. Danger sign of PX 3. Newborn illness 4. Breast feeding 5. Immunization 6. PMTCT 7. Nutrition 8. Harmful substance 9. Personal Hygiene 10. Others(specify)
	What advices were given after delivery?	1. Newborn illness 2. Breast feeding 3. Immunization 4. Nutrition 5. Personal Hygiene 6. Others (specify)

21	Where did you deliver your last child?	<ol style="list-style-type: none"> 1. Home 2. Health post 3. Health centre 4. Hospital

Part I11-Question related to care seeking behaviour

Q.N	Question	Categories
23	When do you think a newborn or young infant is ill	<ol style="list-style-type: none"> 1. Yellow discoloration of the body 2. Redness of Umbilicus/umbilical pus infection 3. Fever 4. Cold to touch 5. Difficulty of breathing 6. Unable to feed/poor sucking 7. Convulsion 8. Loss of consciousness 9. Fast breathing 10. Redness and purulent eye discharge 11. Vomiting 12. Diarrhea 13. Abdominal distension/cramping 14. Other (specify) <ul style="list-style-type: none"> • more than one answer possible
24	What do you do when newborn/young infant is sick?	<ol style="list-style-type: none"> 1. take to health post 2. take to health centre 3. take to hospital 4. call HEW

		5. take to traditional healer 6. Give home remedies 7. take to spiritual healer 8. Do nothing/take no action <ul style="list-style-type: none"> • More than one answer possible
25	Reason if not taking to health facility?	1. Illness was not serious 2. Had no enough money 3. Long distance to health facility 4. Busy 5. high Treatment cost 6. Health workers are hostile 7. considering that Herbs are more effective
26	Who decides to seek care when your infant is sick?	1. Mother alone 2. Father alone 3. Both 4. Others (specify).....

Part IV- Questions related to knowledge of Mother on Neonatal and young infant illness

Q.N	Question	Categories
27	Have you heard about neonatal and young infant illness?	1. Yes 2. No
28	From where did you hear?	1. Radio 2. Tv 3. Health institutions 4. Printed papers 5. Others

Guiding Questions for focus Group discussion

1. What are the major symptoms of illnesses in young infants known by the community?
2. What do they do when the young infants are sick?
3. Where do you take when newborn and infant is sick?
4. Who decides to take the infant to health facility?
5. What is the reason for not taking to health facility?

