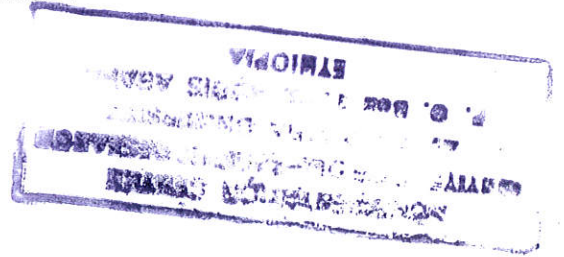




ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
COLLEGE OF DEVELOPMENT STUDIES

**DETERMINANTS OF MOTHERS' HEALTH CARE SEEKING
BEHAVIOR FOR COMMON CHILDHOOD ILLNESS IN FOGERA
WOREDA, AMHARA REGION**



By: FIRHIWOT MEGABIAW

ADDIS ABABA UNIVERSITY

June, 2011

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**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
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**A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF ADDIS
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ADDIS ABABA UNIVERSITY SCHOOL OF GRADUATE STUDIES

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By

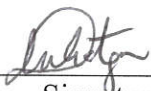
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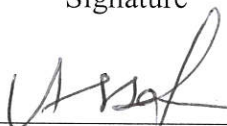
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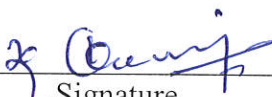
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ACRONYMES

AIDS	-Acquired Immune Deficiency Syndrome
ARI	-Acute Respiratory Infection
AU	-African Union
CSA	-Central Statistical Agency
CSRHP	-Country Status Report on Health & Poverty
DHS	-Demographic and Health Survey
ECA	-Economic Commission for Africa
ESHE	-Essential Services for Health in Ethiopia
FES	-Focus Ethnographic Survey
FGD	-Focus Group Discussion
HEW	-Health Extension Workers
HIV	-Human Immune Virus
HSDP	-Health Sector Development Program
IMNCI	-Integrated Maternal and Neonatal Childhood Illness
ITNs	-Insecticide Treated Mosquito Nets
KAP	-Knowledge, Attitude and Practices
MDGs	-Millennium Development Goals
MOH	-Ministry of Health
PHC	-Primary Health Care Unit
SES	-Socio Economic Status
SNNPR	-Southern Nations Nationalities and Peoples Region
SPSS	-Statistical Package for Social Science
SSA	-Sub Saharan Africa
UNDP	-United Nations Development Program
UNFPA	-United Nations Population Fund
UNICEF	-United Nation Children's Fund
USD	-United States Dollar
VIF	-Variance Inflationary factor
WHO	-World Health Organization



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Abstract

According to WHO, 2010 recent figure, globally around 9 million children still dies every year before reaching their fifth birthday. Almost all of these deaths occur in low and middle-income countries. The under-five mortality rate is seven times higher in the African Region than that of Europe. Large number of children in Ethiopia in general and Amhara region in particular die without ever reaching a health facility and due to delays in seeking care. Health care seeking interventions have the potential to considerably reduce child mortality. However, Mothers in Fogera woreda did not have sufficient knowledge of signs that their child's health is in danger, or of appropriate treatments, or access to appropriate health services.

This study aims to assess determinants of mothers' health care seeking behavior for common childhood illness. A cross-sectional study was conducted from January 1-20, 2011 in Fogera Woreda, Amhara Regional state. Data were collected from five rural and one urban kebeles of mothers whose children under the age of five got ill in the last 30 days. A total of 610 study subjects were included in the study. Multi stage sampling techniques was used to reach the respondents. Both quantitative and qualitative methods were employed. The data were analyzed using SPSS window version 15. Odds ratios were calculated using logistic regression model to control confounders. Statistical tests were done at a level of significance of $p < 0.05$

The results showed that Mothers' health care seeking behavior and action taken when childhood illnesses persist differ across various demographic, socio economic and health accessibility characteristics. 89.5% of mothers have observed diarrhea, malaria (fever) and acute respiratory infections were the most serious child health problem in the study area. Mothers who have one child are 2times more likely to have been health care seeker than those having more than one child .The result also revealed that health care seeking behavior for those unmarried mothers declined by 88% as compared with that of the married mothers. The multivariate analysis indicates that as educational status increases mothers who seek modern treatment for their children also increases. Mothers with primary and higher level of education were 4 times more likely to seek modern treatment compared to those with no education. Those who have media exposure were 5 times more likely to seek modern treatment than those who didn't have exposure to any type of media. Mothers who engaged in off farm activities were four times more likely to seek modern treatment as compared with farmers. : Respondents who earned more than1000 Birr were 3.5 times more likely to seek modern treatment as compared with those who earned to Birr 1000 or less per month. Those mothers who had no contact with health extension workers did have lesser perception, behavior and practices to treat childhood illness than those who had contact and discuss with health workers.

Demographic, Socio economic and accessibility of health care services factors were found to be barriers to mothers' health care seeking behavior for common childhood illness. Based on the findings, improving health education, quality of service delivery, and effective behavioral change and communication are recommended to bring about proper health care seeking behavior

CHAPTER ONE

1. INTRODUCTION

1.1 Background

Mothers' Health care seeking behavior is defined as mother's response for signs and symptoms of her child illnesses to reduce severity, complication or even death after she recognized child's illness and if she reported visiting any health institutions; hospital, health center, health post, clinic or at least community health worker (Tsion A et al, 2008). Child Health care is one of the crucial components of basic social services that have a direct linkage to the growth and development of a country as well as to the welfare of a society (MOH, 2006). However, in a year 2008, more than 8.8 million children under the age of five had been died worldwide (UNICEF, 2010). Recently, about 29,000 children under the age of five die every day globally, mainly from preventable diseases (UNICEF, 2010).

Majority of child deaths are preventable if early and appropriate treatment were rendered (Jones G et al, 2003). More than 70% of all child deaths are attributable to six causes mainly diarrhoea, malaria, neonatal infection, pneumonia, measles and lack of oxygen at birth. This is largely occurring in the developing world (UNICEF, 2010). Diarrhea, measles and acute respiratory diseases are the major causes of morbidity and mortality among children in developing countries (UNICEF, 2009).

Diarrhoea, malaria and pneumonia are responsible for more than half of the under-five mortality in Sub Saharan Africa (ECA and AU, 2011). In 2010, Child Mortality rate in Sub Saharan Africa was 174 for every 1,000 children. According to the African 2011 economic Report, life expectancy in this region was 47 years and this is the lowest in the world. With only 11% of the world population, the region accounts for 49% of maternal deaths and 50% of deaths of children under the age of five.

In the Ethiopian Context about 472,000 children die each year before celebrating their fifth birthdays (MOH, 2005). An Ethiopian child is 30 times more likely to die by his or her fifth birthday than a child in Western Europe (WHO, 2006). This kind of tragic fact places Ethiopia

sixth among the countries of the world in terms of absolute number of child deaths (UNICEF, 2009). Under-5 Mortality rate in Ethiopia was 123 per1000 live birth in 2005 (CSA and ORC Macro, 2006). However, in a year 2010, the figure was inclined to 101 per 1000 (MOFED, 2011).

The most prevailing child health problems in Ethiopia are communicable diseases and nutritional disorders that are causing high rates of morbidity and mortality. According to the 2005 Ethiopian Demographic and Health Survey limited health infrastructure and lack of access to health services aggravate child morbidity and mortality. Access to health services in the country was estimated 72 % (CSA and ORC Macro, 2006). Although progress has been made in Ethiopia, access and utilization of health care facilities remain low (MOH, 2007).

In order to curb down child illnesses and child mortality, effective management of childhood illness is being given priority in the health policy of Ethiopia. This involves a partnership between families and health workers. Parents particularly mothers need to be able to respond appropriately and timely when their children getting sick (MOH, 2005). However, mothers in developing countries often do not have sufficient knowledge of signs that their child's health is in danger, or taking of appropriate treatments, or access to appropriate health services (Jones G et al., 2003). Poor mothers who are more likely to live in remote areas delayed in seeking child health care to modern health institutions. So improving mother's health care-seeking behavior is particularly important in resource-poor countries (Sakisaka et al, 2010).

Health care behavior in sub-Saharan Africa usually considers mothers as the reference in the household when a child is sick (Castle, 1993). According to this premise, the mother is naturally at the heart of home-based care management. However, mother's health care seeking behavior on childhood illness influenced by various factors. Tsion, et al., (2008) found that Lack of money, distance to health facilities and perception of mother's about the illness were the main factors that affect mothers' health care seeking behavior in Derra district Oromia zone, Ethiopia.

In short, evidences show that mother's non health care seeking behavior on child hood illness has aggravated the infant and child mortality rate. In sub Saharan Africa, among other things, socio economic factors like income, education, occupation and place of residence as well as demographic and health care systems are the most noted factors of mothers' health care seeking

behavior. So an understanding of factors associated with mothers' health care seeking behavior on common childhood illness is believed to assist program planners and policy makers to improve the child health care.

1.2 Statement of the problem

According to WHO (2008) despite the substantial reductions in the number of deaths observed in recent decades, around 9 million children still die every year before reaching their fifth birthday. Almost all of these deaths occur in low and middle-income countries. The under-five mortality rate is seven times higher in the African Region than in the European Region. Most deaths among children of under five years are avoidable through simple and integrated interventions. High level of child mortality could be partly due to low level of health care seeking for both preventive and curative services.

Ethiopia has poor health status relative to other low-income countries, even within SSA (MOH, 2005). In Ethiopia, 70% of children who seek medical care suffer from preventable illnesses such as; malaria, diarrhea, pneumonia, measles and micronutrient deficiency or malnutrition (MOH, 2005). CSA and ORC Macro (2006) indicated that 19% of children under the age of five were reported to have had fever or malaria. 18% and 13% of them showed symptom of diarrhoea and acute respiratory infection respectively. Study on children under the age of five in the Amhara regional state shown that the percentage of symptoms of ART, diarrhoea and fever or malaria were 9.3%, 14.6% and 14.2% respectively.

The under five mortality of the Amhara Region in 2005 was 154 per 1000 live births. This is higher figure compared with the average of the national data of 123 under five deaths per 1000 live birth. This could also be due to lack of accesses to health facilities, low educational backgrounds, and cultural factors such as gender inequality and religion as well as socio economic status (CSA and ORC Macro, 2006). The settlement pattern of the population and its density greatly affect the provision of health care including the accessibility and utilization of existing health care facilities (MOH, 2005)

The second Ethiopian demographic and health survey 2005 also indicates 53% of the households in the Amhara region reside in greater than 2-hours walk from a health facility. Child

immunization coverage also represents 33.3% and with a lesser proportion receiving treatment for illnesses (CSA and ORC Macro, 2006).

In line with the accessibility of health service facilities, mothers' health care seeking interventions have the potential to considerably reduce child mortality. However, Waqqari (2007) posited that large number of children in Ethiopia dies without ever reaching a health facility and due to delays in seeking care. However, timely and appropriate care seeking could reduce child deaths due to acute respiratory infections by 20 % (WHO, 2008). Appropriate care seeking is particularly important in areas like Ethiopia where access to health services is limited (WHO, 2006). Families in general and mothers' in particular need to be able to respond appropriately and on time assistance when their children are getting sick as well as need additional care and give the recommended treatments (MOH, 2005).

Tsion et al., (2008) found that delay in seeking appropriate care and not seeking any care contributes to the large number of child deaths in the country. Improving mothers' health care seeking behavior for common childhood illnesses could contribute significantly for reducing childhood morbidity and mortality in developing countries in general and in Ethiopia in particular.

The Integrated Management of Neonatal and Childhood illness (IMNCI) strategy has been extended into communities and households to promote improved preventive and curative health behaviors to address the major causes of childhood illness and death (MOH, 2009). This strategy is adapted by Ministry of Health to reduce child mortality and to realize this; the Ministry had launched and already implemented a new innovative household level health service approach through health extension program during the 3rd health sector development program (MOH, 2010).

In most developing countries, the health of the children is strongly dependant on maternal healthcare behavior (Grace, et al., 2005). That's why the researcher has focused attention to studying the relationship between socio economic, demographic, health facility factors and mothers health seeking behavior on common childhood illness.

So this paper deals with issues related to factors that determine mothers' health care seeking behavior on childhood illness in Fogera worda. Those include general poverty, access to Medias, access to health services and health education, place of residence, mothers' educational level, age, number of live birth, occupation, and availability of health services.

Despite the fact that mothers' health care seeking behavior for child hood illness is essential to curb down under five mortality rate, little is known about factors affecting mothers' health care seeking and non seeking behavior on common childhood illnesses in Ethiopia in general and in Fogera worda of Amhara regional state in particular. Thus, this paper aims to fill this gap using primary and secondary data collected from the study area.

1.3 Significance of the study

The research is needed to identify what factors affect Ethiopian mothers' health care seeking behavior in controlling their children illnesses. The result of the current study helps decision-makers in Ethiopia to take a holistic approach in dealing with child health problems. The findings of this research are expected to contribute a little to show the gap in understanding between mothers' health care seeking behavior and childhood illness. The findings will be helpful to policymakers, program developers, health services providers, health educators, and mothers to enable children to live healthy lives and to meet MDGs goal 4 as well in the study area. Besides, research organizations and other interested groups, that are working on child health would benefit from the findings of this research either in planning their activities or using them as references for further investigation. The output increases awareness of mothers, and all others concerned bodies about the possible causes of aggravating child morbidity and mortality in the study area. It is also helpful in utilization for planning and evaluation of Child Health services in the study area. Finally, through this the existing high mortality rate in the study area can be reduced at a lower level.

1.4. Organization of the study

This study is organized in six chapters. The first chapter presents the background, statement of the problem and significance of the study. The second part reviewed the literature and presented the analytical framework and objective of the study. Chapter three discussed about study

methods, methodology and method of data analysis. Chapter four presents the background characteristics of the study population which include socio economic, demographic and health service characteristics of the population. It also presented the analysis of measuring of association between independent variables and mothers' health care seeking behavior. Bi-variate and multivariate analysis to examine the relative importance of independent variables that affect health seeking behavior are also discussed. Chapter five presents discussion of the main findings. The last chapter summarized the key findings and recommendation emerging for the study .

CHAPTER TWO

2. REVIEW OF THE LITERATURE

2.1 Mothers' Health care seeking behavior for childhood illness, Synopsis

Knowledge of families about how and when to seek treatment for some prevalent childhood illnesses is not well known. Terra, et al., (2000) found that even though care seeking interventions have the great possibility to trim down child mortality, in developing countries large number of children die without ever reaching a health facility and due to delays in seeking care .

In a study by Mariam et al., (2000) appropriate health care seeking is particularly important in areas where access to health services is limited. Immediate and appropriate care seeking practices have importance to avoid many deaths attributed to delays and not seeking care particularly in developing countries (Terra et al, 2000).

There was low health care seeking practices particularly among rural mothers which might have a significant contribution to malnutrition and child mortality (MOH, 2008). As to Tsion, et al., (2008) mothers' main reasons for not seeking care from health facilities includes lack of money, distance from health facility and perception of the seriousness of illnesses). According to the study by Sumampouw (2000) in Indonesia, the possible reason for delay could be trying of home care including traditional treatment, poverty and lack of access to health facilities.

2.2 Determinants of mothers' health care seeking behavior on childhood illness

poor socio economic status, lack of physical accessibility, low level of mother's literacy, large family size, cultural beliefs and perception are some of the leading causes of poor mothers' health care seeking behavior for common childhood illness in Pakistan (Babar et al., 2004). Mothers' health care seeking behavior in Nepal is determined by household size, age, education, income, lack of access to health care, medical cost and place of residence (Chandrashekhar et al, 2006).

2.2.1 Socio economic Status and Health Seeking Behavior

Mothers' health care seeking behavior is affected by socio-economic factors like level of education, access to health services, income, and place of residence, occupational status and access to media (Granich et al, 1999). Social class influences how much power individuals have to manage their bodies and their external environment and also influence their health seeking behavior for their children's illness. Other enabling factors such as proximity to the health facility and availability of funds and income were also important in determining health-seeking behavior (Grace, 2005).

Poverty is a serious constraint on a family's choices about how and where to treat their children's illnesses. Direct and indirect treatment costs are among the most commonly mentioned obstacles to adequate health-seeking behavior of mothers (Worrall, et al., 2003). The same study also stated that even if direct costs are affordable, or if medical services are free, indirect costs (transport, special food and other related fees) can limit access to treatment or lead patients to interrupt therapies.

In a rural society of Senegal, mothers of the relatively higher socio economic status were more likely to bring their sick children to a health facility timely than those who were relatively poorer (Aurelen F and Richard L, 2008). Study by Grace, et al., (2003) confirmed that treatment costs are not only an obstacle for adequate health-seeking of the poor; they also signify a higher burden for the poorer households compared to the more affluent. In addition, the availability of modern health facilities within the community has a substantial impact on the type of providers sought to treat.

The importance of mothers' education regarding to reduce infant and child mortality has been well established and widely accepted. It is generally agreed that maternal education acts as an independent determinant of infant and child mortality. Maternal education influences child survival through many pathways, such as enhancing socio-economic status, greater health choice for children, including interaction with medical personnel (Rajina, 1998).

Maternal education was identified as an important factor affecting the utilization of health care services. Mothers who completed junior high school or higher were 1.40 times more likely to

obtain treatment for their children than those who had not finished the junior level (Dreze et al., 2001). Study by Dominique et al (1999) indicated that in Vietnam ill children whose mothers were better educated were more likely to receive outside medical care. Higher educational levels have been associated with an increased self-perception of health status and influence child survival and the use of both curative and preventative health care services (Fernandez et al., 1996).

In Ethiopia, the general level of education has marked influence on the spread of diseases, the acceptability of health practices and utilization of modern health services. However, the literacy status of the population is low (MOH, 2005). The total adult literacy rate is 36% (50% for males and 26.6% for females). This makes the population more at risk of preventable diseases including HIV/AIDS (UNDP, 2010).

2.2.2 Demographic factors

Age is one of the demographic factors that affect the behavior of individuals towards health related management (Torgler et al, 2005). People in the same age cohort would have similar attitude towards health issues as compared to those in different cohort. Younger mothers are less likely to give increased fluids to their children during a diarrheal episode and that may increase the child mortality caused by diarrhea (Al-Mazrou, 1995).

Young and adolescent mothers had enjoyed slight advantages in terms of both physical status and better health care seeking behavior than the older ones (Mednick, 2005).

Maternal fertility characteristics also affect child mortality. In contrast, in Nigeria the under-5 mortality rate for children whose mothers were less than 20 years of age when they gave birth was 225/1000, versus 179 for children whose mothers were in their twenties. However, children whose birth order is seven or higher have a mortality rate of 196/1000, compared with 177 for those born second or third (first-born children have the highest rate: 225/1000). In 2000, 66% of women 30-34 years of age had had their first child when they were less than 20 years old, and 18% of this group had had seven or more children (Tinuade, 2010).

There is also a variation between those ever married and unmarried in knowledge and behavior towards protecting their families and surroundings. When people get married they establish strong social network within the community. Therefore they are expected to involve in community activity like health management activities (Torgler et al, 2005). On the contrary, married mothers as compared to the unmarried ones are busy of activities like housekeeping, raising children, cooking and other activities. So, they are less aware about health prevention mechanisms (Flintan, 2003).

According to Heaton et al., (2005) more children in a household are associated with more competition for scarce resources, which could reduce children's dietary intake, decrease access to medical treatment, and increase their exposure to infectious diseases. It is also revealed that a greater number of adults in the household can also bring about more unsanitary living conditions and a heightened risk for the spread of disease.

Larger households and those where the child had many siblings were less likely to provide outside care to ill children than the smaller households. Households with six or more members were about 1.5 times less likely to seek medical care outside the home, compared to those with three or fewer members. An ill child with no or one sibling was about 2.5 times more likely to receive care outside the home, compared to those with three or more siblings (Robert et al,2008). Bronte et al., 2004 also showed the numbers of children in a household and female headship are each associated with birth outcomes, child survival rates, and nutritional status.

2.2.3 Health Care Accessibility Factor

Expansions of health care facilities and community health workers (CHWs) have positive impact on child health care particularly in resource-limited countries. A Study in rural Mali by Black (2003) shows that a substantial reduction in child mortality has been observed, particularly with case management of ill children by community health workers A study in Tigray, Ethiopia by Kidane (2000) demonstrated that training local health extension workers to teach mothers, to give anti malarial promptly and timely to their sick children in the home showed a 40% reduction in under-5 mortality

Assessment of a primary health -care program in Gambia also showed that measures of child morbidity decreased more in the intervention area, where community health workers were implemented, and child and infant mortality also declined in comparison villages (Lewin, 2005). The study in Nepal by Manandhar et al (2004) as well demonstrated that establishment of women's groups led by health extension workers to provide education and to reduce neonatal and maternal mortality contributed a lot to achieve the MDGs. The program achieved a substantial reduction in both the neonatal and maternal mortality rate.

According to the Ethiopian Health Sector Development Program (2005-2010) Health Extension Workers (HEWs) were the main change agents for health in the community (MOH, 2005). Their primary task will be to mobilize and empower mothers and communities to take responsibility for their own health by involving them in the planning and execution of community health activities and services (MOH, 2005). They operate out at the Health Posts. Although the primary focus of their work will be prevention, HEWs will provide basic health care for the most important causes of child mortality (MOH, 2007).

Availability of transport and physical distance of health institutions undoubtedly influence the mothers' health seeking behavior and health services utilization (Fatimi Z et al 2002). As a result, the factor of distance gets strongly adhered to other factors such as availability of transport, total cost of one round trip and women's restricted mobility.

According to the United Nation human right declaration access to a primary health care facility is projected as a basic social right (UN, 2001). In line with this in Ethiopia, accelerating physical infrastructure expansion is a base for improving access to basic health care services in rural Ethiopia. It is also proposes to enhance the health care system inputs towards the achievement of the MDGs (MOH, 2005).

Restrictions on access of mothers to health facilities necessarily limit the effectiveness of any intervention which depends on such facilities. Lacks of referral health institutions influence mothers to treat their sick children very timely. Not only this but also for poor families, services may become inaccessible because of high cost (MOH, 2005)

2.3 Conceptual Framework

Kroeger (1983) provided a holistic framework for examining health care-seeking behaviors, which is applicable for developing countries. His framework covers major determinants of health care-seeking behaviors, namely, economic, socio demographics, physical accessibility, medical cost for treatment, women's autonomy, and given health service factors. The kroeger model proposes that mother's use of healthcare services is a function of their predisposition to use services, the factors enabling or impeding use, their need for care, and their satisfaction with services. It has also identified age, life-style, cultural or other affecting differences in the use of health services affect mothers' health seeking behavior. Health- and treatment-seeking behavior models from social psychology, medical sociology and medical anthropology allow for considerable extension of the determinant factors for behavior of KAP and FES studies.

In public health, probably the most utilized models from social psychology are the Health Belief Model. Most known models from medical sociology and medical anthropology are the Health Care Utilization or Socio-Behavioral Model by Andersen and the Decision Making Model respectively. All models contain associations of variables which are considered relevant for explaining or predicting health-seeking behaviors.

2.3.1 Health seeking behavior models

2.3.1.1 The Health Care Utilization Model (Andersen model).

The Health Care Utilization Model is the one which was being applied in this study of mothers' health care seeking behavior for common childhood illnesses. This model groups in a logic sequence of three clusters or categories of factors (predisposing, enabling and need factors) which can influence health behavior of mothers on childhood illness. The model proposes that mothers' use of healthcare services is a function of their predisposition to use services, the factors enabling or impeding use, their need for care, and their satisfaction with services. Age, life-style, cultural or other affecting differences in the use of health services are also some of the determinants of mothers health care seeking behavior. The model includes other health care sectors like traditional medicine and domestic treatments.

Generally, some of the factors organized in the categories of the Health Care Utilization Model (Weller et al. 1997) are:

- **Predisposing factors:** age, religion, prior experiences with illness, formal education, general attitudes towards health services, knowledge about the illness etc.
- **Enabling factors:** availability and accessibility of health services, Distance, income or financial resources to purchase services, health insurance, social network support etc.
- **Need factors:** perception of severity, total number of sick days for a reported illness, total number of days in bed, days missed from work or school, help from outside for caring etc.

2.3.1.2 The “four As” model

It has become popular among researchers to use different categories which group key factors for health-seeking behavior. The best known is the grouping into the “four As”:

- **Availability:** refers to the geographic distribution of health facilities, pharmaceutical products etc.
- **Accessibility:** refers to distance, transport, roads, etc.
- **Affordability:** includes treatment costs for the individual, household or family. A distinction is made between direct, indirect and opportunity costs.
- **Acceptability:** relates to cultural and social matters. This mainly refers to the characteristics of the health providers – health workers’ behavior, gender aspects (non acceptance of being treated by the opposite sex, in particular women who refuse to be seen by male nurses/doctors), excessive bureaucracy etc.

According to Good (1993) the ‘model’ of the “four As” has been widely used by medical geographers, anthropologists and epidemiologists who mainly emphasized distance (both social and geographical) and economic aspects as key factors for access to treatment.

The advantage of the “four As” is the easy identification of key potential ‘barriers’ for adequate treatment.

2.3.2 Conceptual frameworks

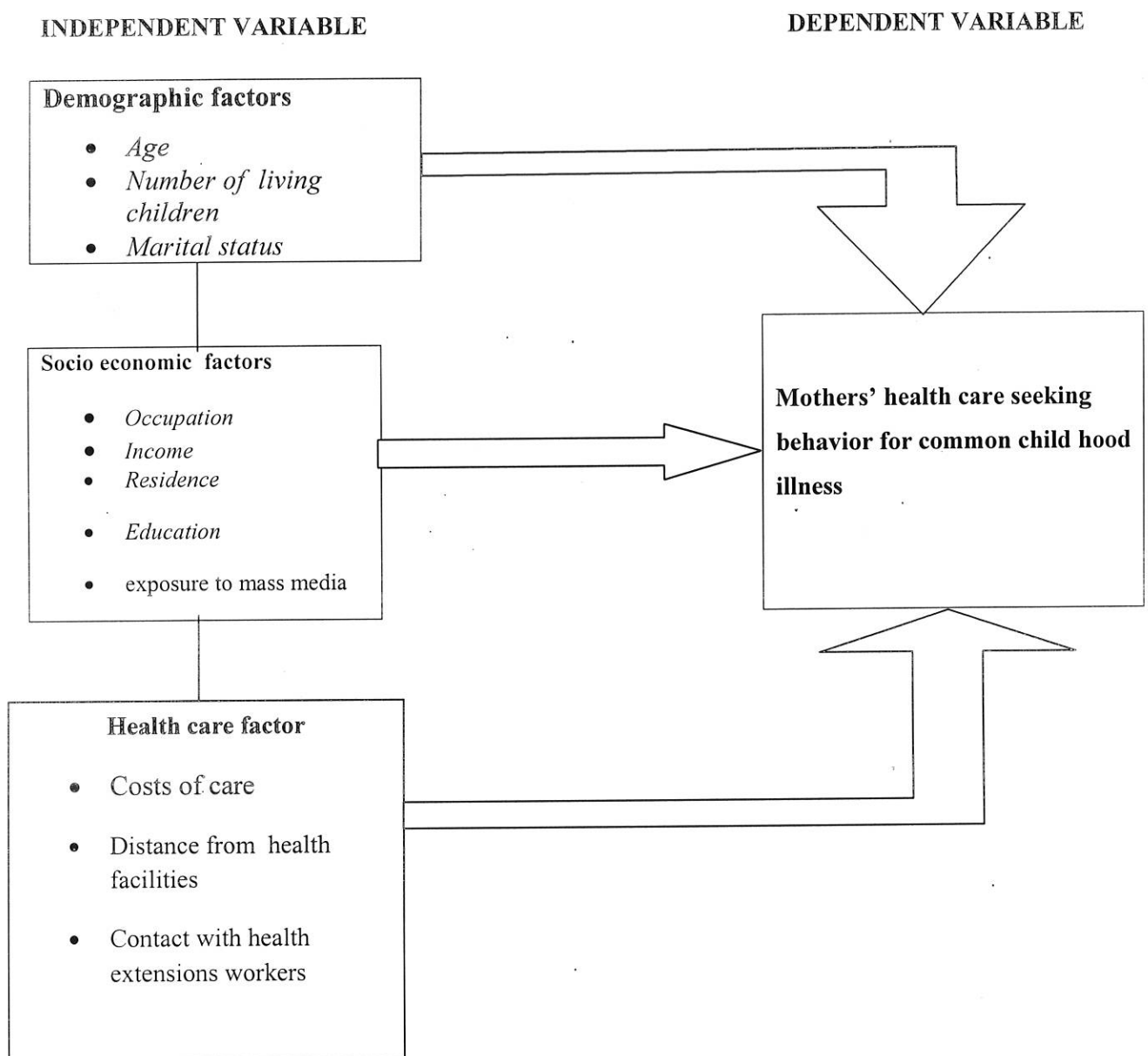
The following conceptual frame work shows that determinants of mothers' health care seeking behavior for childhood illness (figure 1) the major dependent variable that constitute the conceptual frame work for this study is mothers' health care seeking behavior . This dependent variable is affected by different demographic, socio-economic and health institutional factors.

The demographic factors include age, number of living children, and marital status of the respondents. There are also certain socio economic variables like literacy status, level of income, occupation, place of residence and access to Medias which have strong relation with mothers' health care seeking behavior towards childhood illness.

The health institutional factors include type, availability and distance of health institutions and contact with health workers.

In the conceptual frame work the arrow reveals the impact of the independent variables on the dependent variable .The dependent variable was expected to affect by the independent variables positively or negatively. The figure1 below shows the relationship found between dependent variable and independent variables.

Figure1. The Conceptual Framework of the study



Source, modified from Kroeger A, 1983

2.5 Objective of the study

The **general objective** of the study

- To assess the determinants of mothers' health care-seeking behavior for common childhood illnesses in Fogera woreda.

Specific objectives

- To assess the level of mothers' health care seeking behavior for common childhood illnesses in the study area.
- To identify socio-economic and demographic determinants of mothers' health care seeking behavior for common childhood illnesses in the study area.
- To provide recommendations for programmers, planners and implementation based on the findings from the study.

2.6 Research Questions

1. What are the main factors that affect mothers' health care seeking behavior for common childhood illness?
2. Is there differences in knowledge and practices of mothers in utilizing health care services for their sick children across different socio-economic and demographic characteristics in the study area
3. Is there a relationship between mothers' health care seeking behavior and their practices of preventing childhood illness?

CHAPTER THREE

3. DATA AND METHODOLOGY

3.1 Profile of the Study Area

The study was conducted in Fogera woreda, South Gondor Zone, Amhara Regional State, Ethiopia. Woreta Town is the capital of Fogera; located 620 kilometers north of Addis Ababa. The district has 29 rural and four urban kebeles. According to information obtained from the CSA (2007) annual abstract, the total population of the woreda was estimated about 270,243. Out of these 20.5% were under the age of five children and about 87,447 of the population were women in the reproductive age group(15-49 years of age).The district has one health center, 2 public clinics and 18 health posts, which are functional.

3.2 Study design

A cross-sectional study design with both quantitative and qualitative data methods had been employed. The study population in the Woreda was all mothers who have children under the age of five and those children have got sick in the last one month. It attempted to assess those selected mothers to know their own health care seeking behavior for childhood illness and its determinants among rural and urban communities by selecting them randomly.

3.3 The Study Population

The source population was all women residing in 33 kebeles in the study area. The study population was all mothers who have had under five children and those who were sick in the last 30 days prior to the survey in Fogera woreda. This relatively recent time frame is chosen to limit recall bias. Permanent residents or those who lived for at least six months and above were also the participant of the study.

3.4 Sample Size Determination

To determine the sample size, the following formula was employed (Julie P, 2004). Assuming the proportion of mothers' who are seeking health care institutions for their child when they are ill to

be 50%, adding non-response rate of 15%, This has given a sample size of 633 mothers of under five children.

$$n = \frac{Z^2_{\alpha/2} (P*(1-P))}{d^2}$$

Where: n = Sample size

P= in the absence of any previous data on the population under study, and to obtain the maximum sample size, p is assumed to be= 0.5

Z= the number of standard error corresponding to 95 percent *confidence interval* which is 1.96.

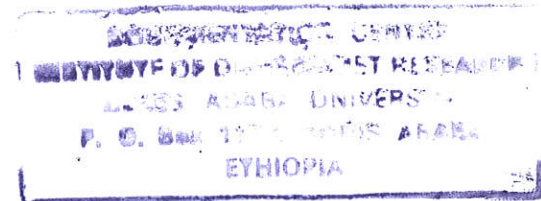
d= the *margin of error* that the researcher tolerates which is 0.05

Therefore:

- The total number of sample to be included in the study

$$n = \frac{1.96^2 (0.5*0.5) * 1.5}{(0.05)^2}$$

$$= 384 \text{ multiplied by design effect } 1.5 \text{ plus } 15\% \text{ contingency} = 633$$



3.5 Sampling Procedure

A multi-stage sampling technique was applied to select the study subjects. In the study area, there are 4 urban and 29 rural kebeles. First, six kebeles were selected (one urban and five from rural). Five rural kebeles namely Gina, Shaga mariam, Menahir, Quhar giorgis, Meneguzer were selected using simple random sampling method and woreda 04 urban kebele was also selected using random sampling method.

The second step involved the selection of eligible mothers. A total of 2774 households were listed in the selected kebeles and 1865 households with eligible mothers were visited. The listing was used as a sampling frame. The number of respondents to be included in each kebele was determined in proportion with the total number of eligible mothers found in each kebele.

Finally, 633 mothers were selected from the six kebeles for the study by using systematic random sampling. Whenever more than one eligible respondent was found in the same selected household, only one respondent was chosen. Once the first household selected, the consecutive household was being systematically picked by adding 'n' to the one previously selected ('n' being the number of eligible women in the kebele divided by the required number of households from that particular kebele).

Thus, the total sample size of the study was 633. Accordingly, 633 questionnaires were prepared and distributed. Out of these, 610 eligible mothers were interviewed. Non response and absentees accounted for the remaining 23(3.6%).

Table 1 distribution of respondents in the sampled kebeles

Kebele Urban/rural	Population	Number of house hold	Number of househ old with eligible women	House hold sample	Eligible women interviewed
Woreta 04 (urban)	2980	740	401	136	131
Gina (rural)	3114	623	397	135	127
Shaga mariam (rural)	2210	417	313	106	103
Menahir(rural)	2684	142	110	37	35
Quhar giorgis(rural)	2110	351	243	83	81
Meneguzer(rural)	3020	501	401	136	133
Total	16118	2774	1865	633	610

3.6 Methods of data collection

The study was rely both on quantitative and qualitative data which were being collected through different data collection methods such as; structured questionnaire interview, focus group discussion, key informant interview and observation. In short, both quantitative (structured questionnaires) and qualitative (FGDs) methods were used. Questionnaires were administered to mothers who have had recent ill children of under five age. Information from FGDs was used to complement the findings from the quantitative survey. FGDs were conducted in three selected kebeles. Participants in the discussions were recruited to represent the socio-economic and cultural compositions of the targeted population. Each FGD consists of 8-10 participants from different age, economic status, social status, educational status and place of residence. Woreda health officer, Kebele health extension workers and health personnel were also being included in the key informant interview.

3.7. Data sources

The two main data sources namely primary and secondary had been used in the study. The primary data was being collected from key informants, focus group discussion members and mothers using structured and semi structured interview questions and observation. In addition to this, secondary data was collected from different sources. The sources include: statistical abstracts, yearbooks, reports and maps. The questionnaire was similar with the type of Ethiopian Demographic and Health Survey and MOH survey standard questionnaire. Changes had been made to adopt the questionnaire to the current research objectives and context.

3.8. Pre test

The pre-test of the questionnaire was carried out in one kebele outside of the selected kebeles that has similar socio-economic and demographic characteristics in the selected kebeles. The pretest had been done with 50 respondents. Both the interviewers and supervisors assess clarity, understandability, completeness of questions and others. The interviewers, supervisors and the principal investigator discussed about the results. The feedbacks that were being obtained from the pretest contributed much to the improvements of the measurement questionnaire. This is because the pretest helps to ensure its accuracy and flexibility of the study objectives and then modified accordingly.

3.9 Methods of data analysis

In analyzing the data, appropriate statistical tools were employed to test the findings. Uni-variate bivariate and multivariate analysis techniques were employed. In the Univariate analysis, the frequency distribution of respondents and their background information were analyzed. At the bivariate stage, Chi-square test was used in order to identify the important explanatory variables and to test possible association of the independent variables with the dependent one. At the multivariate stage, logistic regression was used to determine the relative importance of a set of predictive variables. Logistic regression was well suited for describing and testing hypothesis about the relationships between categorical dependent variables (mothers' health care seeking behavior) and categorical independent variables (age of mothers, marital status, number of living children, income, occupation, access to media, place of residence, education, availability of health services, and contact with health services).

3.10 Limitation of the study

Mothers' health seeking behavior to control their children's illness is not an individual phenomenon. Other factors such as socio-cultural beliefs, as well as the influence of parents and peers that affect mother's decision making about choice of care. The unavailability of information regarding these factors is one limitation of this study. When drawing a general conclusion about patterns of mothers' health seeking behavior towards illness, these limitations must be taken into consideration. Another limitation of this study has to do with the sequence of actions that mothers chose in order to treat their children's illness. The mother's second option of treatment, after the first option was not improving the child's condition, was not included in the data set. Exclusion of husbands in the questionnaire is another limitation because they can influence the decisions of their wives.

3.11 Ethical Consideration

The present study has got official approval from College of Development Studies, Addis Ababa University. Relevant permission also obtained at Woreda level from the responsible bodies of the health department. The woreda health administration gave permission letters to the selected study kebeles before the study started. All respondents were asked for verbal and written informed consent before participation. The study participants were informed about the purpose of the study. They were also informed as they can skip questions that they do not want to answer fully or partly. After assuring the confidential nature of the response and obtaining informed consent from the study subject, the questionnaire was filled with strict privacy. The individual autonomy was being respected. Finally, it was being ensured that individuals and communities would benefit from the results.

3.12 Operational definitions

Mothers' Health care seeking behavior: is defined as mother's response for signs and symptoms of illnesses to reduce severity, complication or even death after she recognized her child's illness and if she reported visiting any health institutions; health center, health post, private clinic or at least community health worker.

Health care non-seeker: Mothers that did not report visiting any health institution for the perceived common childhood illness.

Access to health services is defined as residence less than 10kms from a health facility. It is not actually measured, but is calculated on theoretical catchment areas (e.g., 25,000 catchment area per Health Centre and 5,000 per Health Post).

Acute respiratory infection: all cases who had cough accompanied by short or rapid breathing in the two weeks preceding the survey as perceived by mothers or care takers.

Community health worker: was defined as a trained person who was serving the community including Trained Traditional Birth Attendants and Health Extension Workers.

Diarrhea: is determined as perceived by mother or caretaker, or three or more loose or watery stools per day, or blood in stool was reported.

Fever: - perceived by mother as fever or hot body for any child two weeks preceding the survey.

Housewife: women whose main occupation is caring for her family and running the household, who does not have regular paid work out side home

The Integrated Management of Childhood Illnesses (IMCI) is an intervention specifically targeted at improving the survival of children by improving the efficacy of diagnostic and therapeutic measures.

Zone: Government administration hierarchy next to regional state.

Woreda: Government administrative hierarchy that exists between kebele and zone.

Kebele: the lowest Government administrative hierarchy that exists next to woreda.

Better knowledge: - those mothers who are able to name one or more causes, symptoms and methods of preventing of the common childhood health problems.

Poor knowledge: - those mothers who are able to name none of the accepted causes, symptoms and ways of preventing common childhood health problem.

Under-five Mortality: -The probability of dying between birth and age five per live births in a given year.

Health station: the smallest health units in the conventional health service structure and are staffed with 1-3 health assistant

Health post: one of the satellite health facilities in the primary health care unit

3.13 Study Variables

2.8.1 Dependent Variable

- ❖ Mothers' health care seeking behavior for childhood illness.

2.8.2 Independent Variables

- ❖ Demographic factors (age of mother, number of children, marital status).
- ❖ Socio economic factors (monthly family income, occupation, access to media, residence, education).
- ❖ Health care factor (Availability of health service, Distance of health facilities, Contact with health extensions workers).

Table 2 Study variables and their level of measurements

Variables	Category
Dependent variable Mothers' health care seeking behavior	Health care seeker/non seeker
Independent variable	
Demographic factors Age of mother Marital status Number of children	15-19,25-35, > 35 married/never married 1-3,4-6,>6 ever
Socioeconomic factors Income occupation Access to media Place of residence Education	High, middle , low farm/ off farm access/have no Urban/rural Literate/illiterate
Health care factor facility Availability of health service, Distance of health facilities, Contact with health extensions workers)	yes/no Less than an hour/1-2hrs/>2hrs Yes/no

CHAPTER FOUR

4. DATA ANALYSIS AND INTERPRETATION OF RESULTS

4.1 Background Characteristics of the Study Population

This chapter deals with the background characteristics of 610 mothers who had under the age of five children and whose children got sick within the last 30 days prior to the survey in Fogera woreda. It includes demographic factors like age, number of living children, current marital status, socio-economic factors such as place of residence, education, occupation, income and exposure to mass media as well as access to health care facilities like proximity of the service institutions and contact with health extension workers.

4.1.1 Demographic characteristics of respondents

As revealed on table 3 below, close to three quarter or (74.3%) of the study population was in the age group between 20-34 years. While only 3% and 4.9% of mothers were categorized in the age group of less than the age of 20 and above 44 respectively. Concerning marital status of mothers' more than two third or (70.7%) of mothers was married and (8.9%) were divorced and separated. The other (15.4%) were widowed and the rest (4.9%) were never married. More than three quarter of respondents (76.9%) have had more than one living children. The rest 23.1% of the study mothers had only child.

Table 3 Percentage distributions of Respondents Major Demographic Characteristics

<i>Characteristics</i>	<i>Frequency</i>	<i>Percent</i>
<i>Age of mother</i>		
15-19	18	3.0
20-24	140	23.0
25-29	215	35.2
30-34	98	16.1
35-39	73	12.0
40-44	36	5.9
45-49	30	4.9
<i>Number of living children</i>		
One child	141	23.1
More than one child	469	76.9
<i>Marital status</i>		
Never married	31	5.1
Currently married	431	70.7
divorced/separated	54	8.9
Widowed	94	15.4

Source; own field survey 2011

4.1.2 Socio-Economic Characteristics

The socio economic background characteristics of all respondents as presented on Table 4 demonstrated that, the majority of mothers 500 (82%) were orthodox Christian and (84.3%) lived in rural areas. Regarding educational status only 14.6% of mothers were literate who could read and write. Among these large number of respondents (94.4%) attended formal education and of these (58.3%) attended primary education and the other 34.5% and 7.1% attend secondary and tertiary level respectively. Amhara ethnic group has got the largest proportion (99.2%) of the respondent.

Regarding the occupational status of the respondent table 4 illustrated that, large number of mothers (83.4%) was engaged in an on farm activity. 16.6% of them were engaged in off-farm activities. As far as average monthly income was concerned 260 mothers (42.6%) had monthly income of less than 500 Birr or at a current exchange rate of less than one US Dollar per a day while (36.7%) earned between 500 and 1000 birr. The rest (20.5%) mothers were earned a monthly income of more than 1000 birr. Therefore, more than three quarter (79.3%) of the study population had earned less than 2 USD per a day. So, according to World Bank report a person getting less than one dollar per day categorized as living in absolute poverty and getting less than

two dollars per day were living in a relative poverty. So, 42.6% and 36.7% of the study mothers were living in absolute and relative poverty respectively.

As far as exposure to mass media is concerned, majority (81%) of the respondent had no exposure to radio and television media. As it can be seen in table 4 small percentage of the study population have had exposure to any form of Medias.

Assessment of households on sanitary usage showed that (67%) of respondents were disposed house wastes anywhere in the open field and (73.4%) of them were defecate human excretal in the open field. Almost a quarter of respondents (24.4%) were reported that they got drinking water from pipe, and others got from river (36.9%) and pond (38.7%).so, majority of mothers had not an access to get clean and safe drinking water.

Table 4 distribution of the respondents by socio economic factors mothers 2011 n=610

<i>Characteristics</i>	<i>frequency</i>	<i>Percent</i>
<i>Place of Residence</i>		
Rural	509	83.4
Urban	101	16.6
<i>Ethnicity</i>		
Amhara	605	99.2
Others	5	0.8
<i>Religion</i>		
orthodox	500	82.0
Islam	104	17.0
Protestant	6	1.0
<i>Literacy status(read and write)</i>		
Yes	89	14.6
No	521	85.4
<i>Attend formal education</i>		
Yes	84	94.4
No	5	5.6
<i>Level of educational attendance</i>		
primary	49	58.3
secondary	29	34.5
tertiary	6	7.1
<i>Occupation</i>		
On farm	509	83.4
Off farm	101	16.6
<i>Monthly Income</i>		
Less than 500	260	42.6
500-1000	224	36.7
More than 1000	126	20.5
<i>Source of water used for drinking</i>		
River	225	36.9
Pond	236	38.7
Pipe	149	24.4
<i>Place of human excretal disposal</i>		
Open field	448	73.4
Using toilet	162	26.6
<i>place of waste disposal</i>		
disposal any where	409	67.0
disposal in pit hole	6	1.0
disposal by burn	195	32.0
<i>Exposure to media</i>		
No exposure	494	81
Exposure to radio or tv	116	19

Source; own field survey, 2011

4.1.3 Health care accessibility information

According to FMOH, 2010 access to health services is defined as residence less than 10kms from a health facility. It is not actually measured, but is calculated on theoretical catchment areas (e.g., 25,000 catchment area per Health Centre and 5,000 per Health Post).

As table 5 below shown that majority of the respondents 449(73.6%) had access to health post in the nearby areas at the kebele level whereas more than a quarter of the them 161 (26.4%) had access to health center (station). There is no hospital in the study area.

However, most of them 111(18.2%) had traveled at least a maximum of five kilometers to get any form of health care facility to treat their ill children. Out of the total respondents nearly two thirds 363(59.5%) of mothers had contact with health workers and health institutions in order to get medical treatment for their children. The rest 40.5% of mothers had no contact with them. Majority (73.6%) of the respondents replied that the expected health cost could not prevent them to visit in the health institutions. However, almost half of the respondents (48.7) demonstrated that they could not get sufficient information and better treatment from the nearest health facilities.

Table.5 Percentage distribution of respondent by health care accessibility

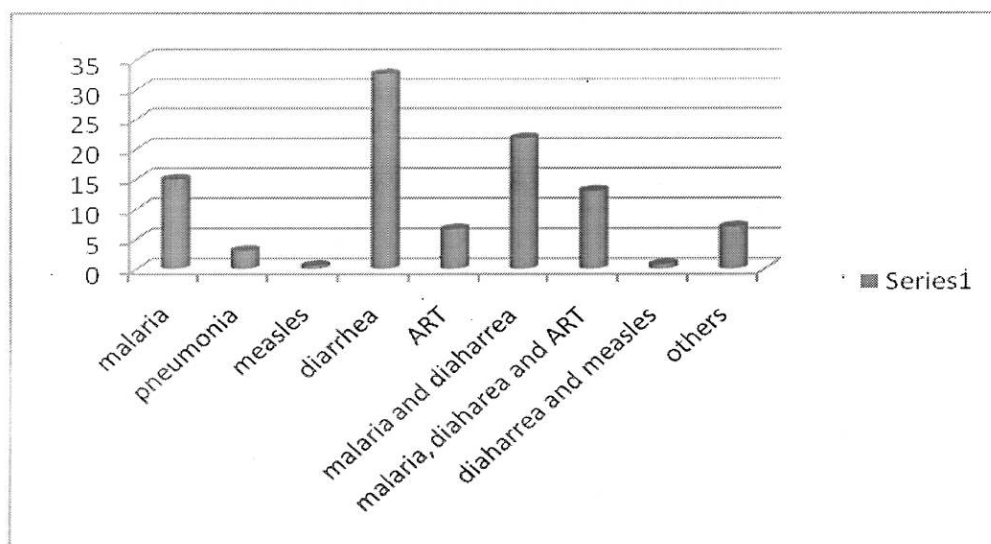
Health care accessibility	Frequency	Percent
contact with health institution		
Yes	363	59.5
No	247	40.5
Type of health institution		
Health post	449	73.6
Health station	161	26.4
the cost prevent from treatment		
No	449	73.6
In part	161	26.4
Sufficient information and treatment		
Yes	297	48.7
No	313	51.3
satisfied with the service		
Yes	254	85.5
No	43	14.5
Level of satisfaction		
Completely	97	38.2
Partly	157	61.8
Distance to the nearest health facility		
< 5 km	499	81.8
> 5 km	111	18.2

Source own field survey, 2011

4.1.4 Common child hood health problems

As figure 2 below revealed that of the total 610 respondents it was found that the majority (78.2%) have observed diarrhoea, fever and acute respiratory infections as the top three major common child health problems in the area. Mothers who respond both malaria and diarrhoea as the main child hood health problem in the last one month were 61.8%. The other 16.4% of them forwarded ARI as a major common childhood illness. The remaining 10.5% of mothers replied that there were child health problem like measles, cough and pneumonia and others in the study area. This was supported by the information obtained from three FGD participants. The participants pointed out that *due to lack of sanitation in the area, the existence of diarrhoea, malaria and cough are now common as the most serious child hood health problems and the communities have got and understood that malaria and diarrhoea are the top killer diseases.*

Figure 2. Common child hood health problems in the study area



Source: field survey 2011

4.1.5 Occurrence of common child hood illness in the last four weeks and actions taken by mothers

As it can be seen in table 6 below more than half of mothers (55.4%) replied their children attacked by diahorrea in the last 30 days. Greater than quarters (27%) of the total mothers respond that children were attacked by malaria. Only 17.5% of them said ARI was occurred for the last 30 days.

From mothers of those who respond their children were attacked by diarrhea, 13.9% of them did not taken any action. 11.1% mothers replied milk teeth extraction as a way of preventing diahorrea. 4.6% took traditional medicine and 2.6% of the respondents take their sick children to religious leaders as a first option. However, 30% of them were taken their sick children to modern medical care institutions in the last one month.

From mothers of those who respond their children were attacked by malaria, 21(12.7%) of them were not taken their children to health centers. The other 23.6% of them said giving home remedies at home and 21.2% of them were took their sick children to traditional healers. The other 64 mothers(38.8 %) were taken their children to modern medical care centers.

From mothers of those who respond their children were attacked by, ARI only 36.4% of them were taken their sick children to medical care for the last one month.

Table.6 Distribution of respondents by occurrence of common child hood illness and actions taken

<i>Characteristics</i>	<i>Frequency</i>	<i>Percent</i>
<i>child attacked with diahhorea</i>		
yes	338	55.4
no	272	44.6
<i>Action taking</i>		
no action taken	38	6.2
milk teeth extraction	68	11.1
traditional medicines for evil eyes	28	4.6
take to religious leaders	16	2.6
take to modern health centers	183	30.0
others	5	.8
<i>child attack with ARI</i>		
yes	107	17.5
no	503	82.5

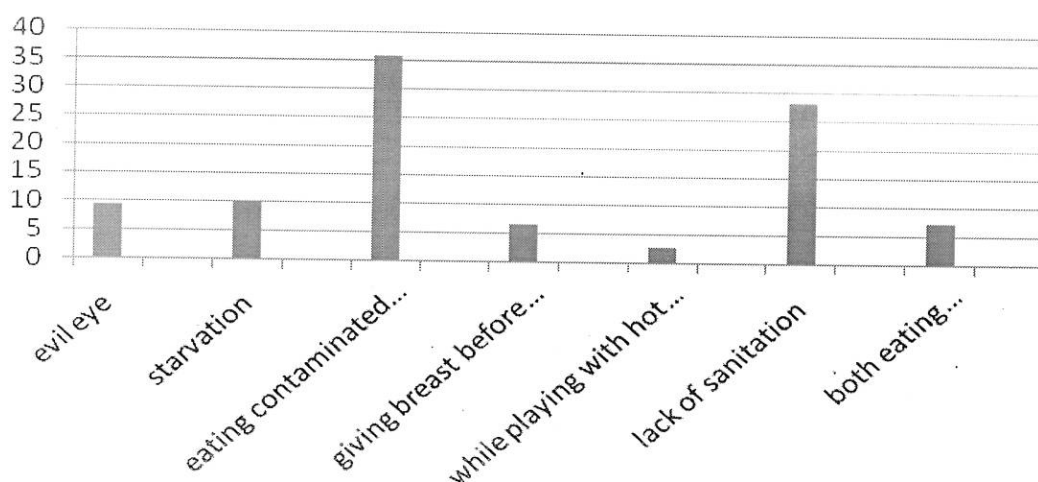
<i>actions taken</i>	7	1.1
<i>No action taken</i>	14	2.3
<i>Give home remedies</i>	18	3.0
<i>taken to traditional healer</i>	65	10.7
<i>take to medical care</i>	3	.5
<i>Others</i>		
<i>child attack with malaria</i>	165	27.0
<i>yes</i>	445	73.0
<i>no</i>		
<i>Actions taken</i>	17	2.8
<i>no action was taken</i>	25	4.1
<i>give home remedies</i>	23	3.8
<i>taken to traditional healers</i>	94	15.4
<i>take to modern health institutions</i>	6	1.0
<i>others</i>		

Source: own field survey, 2011

4.1.6 Mothers perception on causes of illnesses

As it is clearly demonstrated in figure 3 below that out of the total 610 respondents 51.3% of them said daihorrea is the major child hood health problem in the study area. Among these 35.7% of them associated the cause of diahorrea with lack of sanitation and 35.3% by eating contaminated food. Around 9.4% of mothers replied evil eye as the cause of diahorea. However 10.1% of the respondents mentioned starvation as the causes of the disease while the rest 6.5% and 2.9% said giving breast before cooling mother's body and playing hot weather were causes respectively.

Figure 3. Percentage distribution of mothers' response on causes of dihorrea

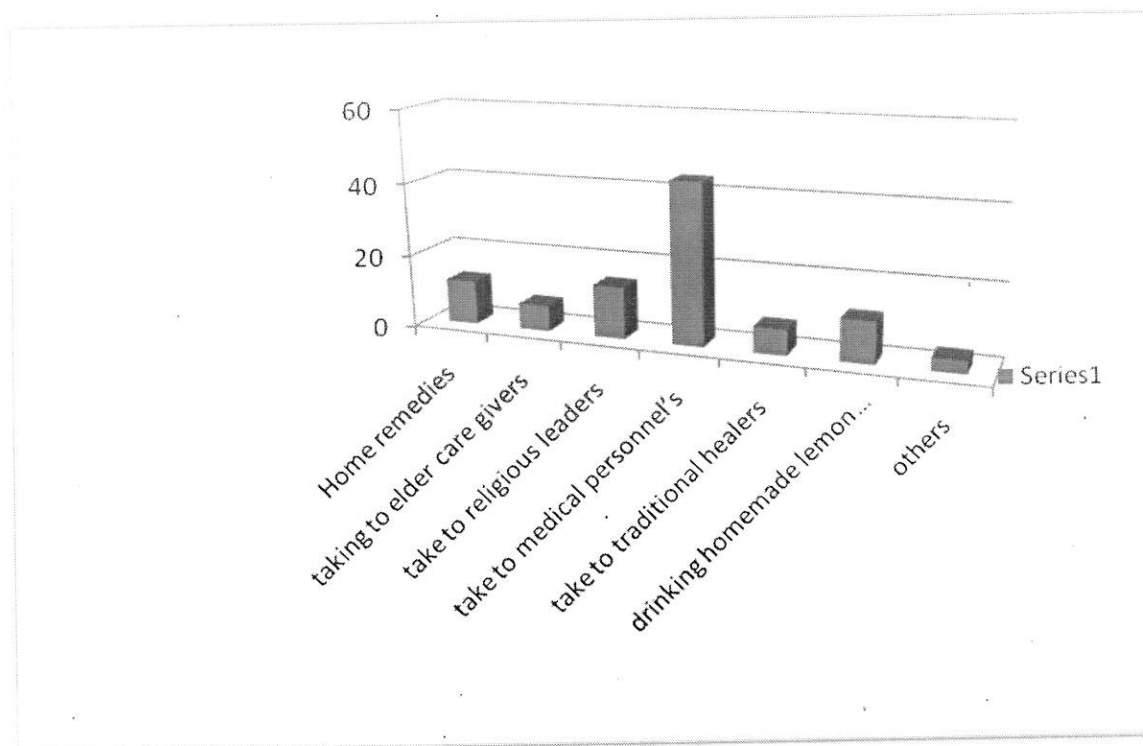


Source: own field survey, 2011

Possible ways of preventing diahorea

As figure 4 below stated that about 42% of mothers suggested modern medical treatment as the possible ways of preventing and controlling diahorea. The other 20% of mothers said cleaning the home and the surrounding to control and prevent daihorria. Those who said taking children to religious leaders and giving traditional medicine were 20%. Others as a ways of preventing the disease were 6%. 15% of mothers did not know to take any action.

Fig 4 percentage distribution of mothers' perception and response on the solution of diahorrea

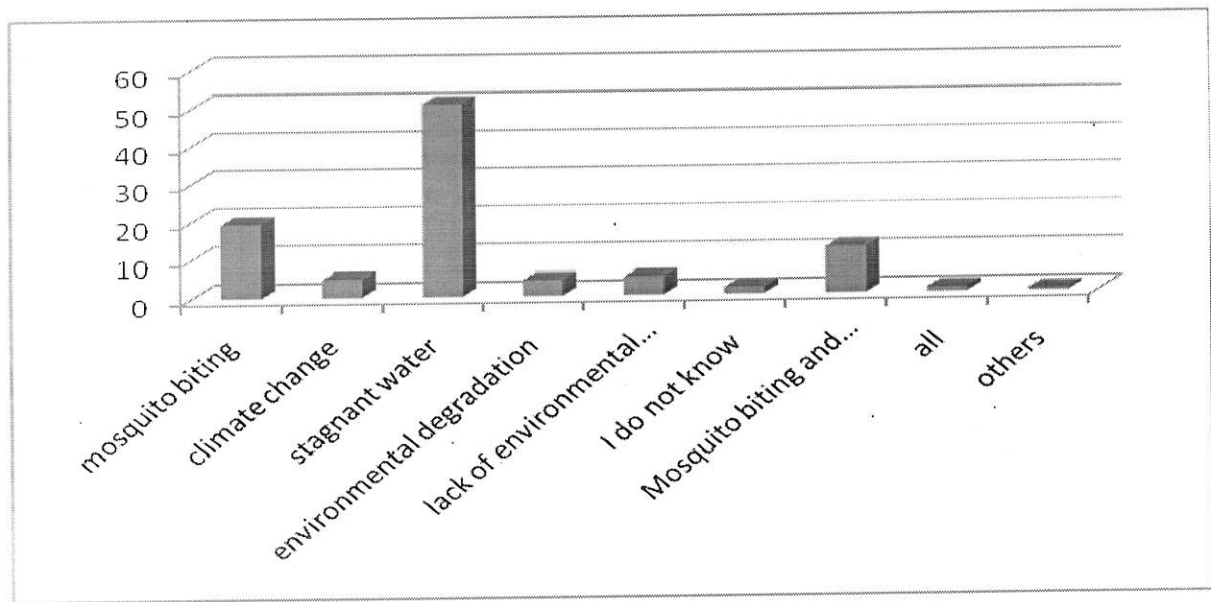


Source: own field survey, 2011

Malaria

Of the total of 610 respondents 39% of them said that malaria was the major childhood health problem in the last one month. Out of whom 19.4% associated mosquito bite as a cause of malaria. Around 50.9% mothers replied exposure for dirty and stagnant water. 9.4% mother replied environmental degradation. 9% mothers replied lack of environmental sanitation and the other 4.8% replied climate change as the cause of the disease. However, few of them (1.5%) of mothers did not know the causes at all. The rest replied all are the causes of malaria.

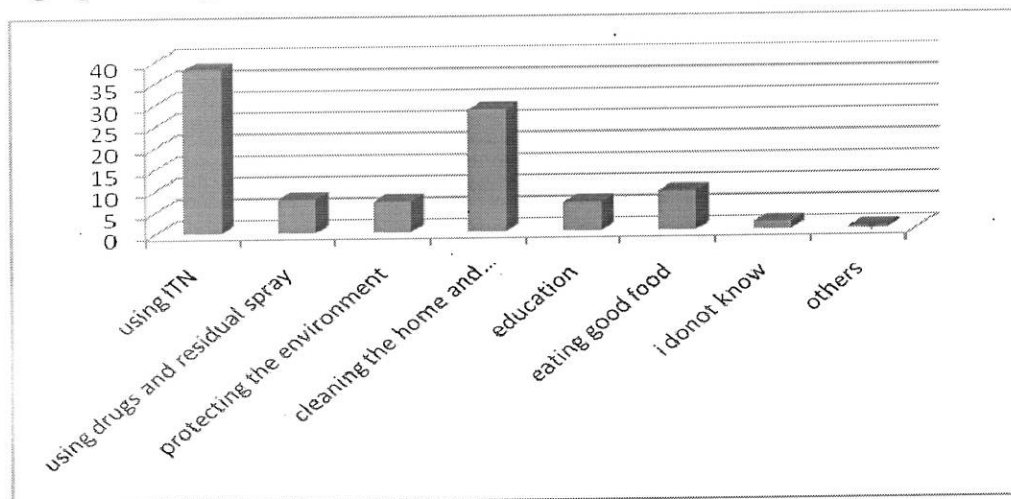
Fig 5 Response on the possible causes of fever or malaria



Source; own field survey, 2011

As far as the possible ways of malaria prevention is concerned figure 6 below revealed that, 36.1%) of the respondents suggested using ITN and indoor chemical spray as a way of malaria prevention. The other 28.5% said cleaning the home and the surrounding to control and prevent malaria. Those who said eating the child dietary food was only 9.1%. Providing environmental education as a solution was also indicated by 6.7% of the respondent while the rest 1.8% of mothers did not know to take any action.

Fig 6 percentage distribution of respondents by solution to prevent malaria

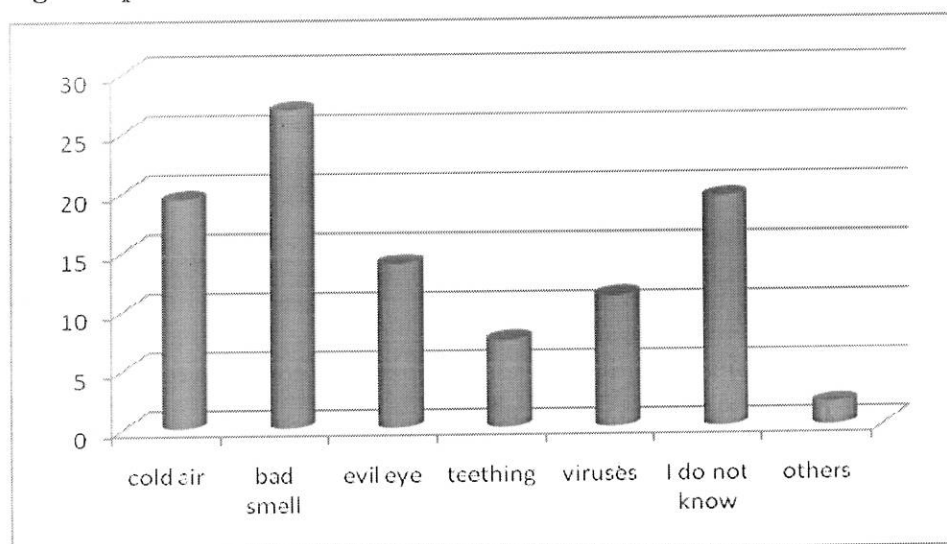


Source field survey, 2011

ARI

Of the total of 610 mothers respondents 13% of them said that Acute Respiratory Infection (ARI) was the major child hood health problem in the study area. As it can be depicted in figure 7 below 18.6% of them associated cold air as a major cause of ARI. More than one quarter of respondent mothers(27.1%) replied bad smell and the other 11.2% said viruses were causes of the disease .However 18.7% of mothers did not know the causes at all. The rest replied teething and others.

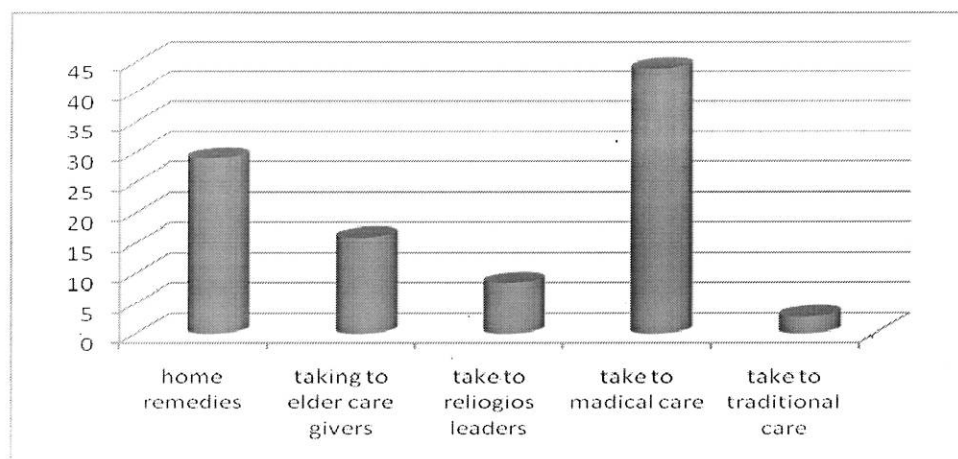
Fig 7 respondents answer on the causes of ARI



Source: own field survey, 2011

Figure 8 below demonstrated that about 27% of mothers suggested home remedies and 14.9% taking to elder care givers as the possible ways of preventing and treating ARI. Large number of mothers (43.9%) were respond that they took their children to modern medical institutions. 8.4% said taking to religious leaders.

Figure 8. Possible ways of preventing ART by respondents



Source: own field survey, 2011

4.2 Measuring of association between independent variables and mothers health care seeking behavior

Health care seeking behavior was cross tabulated with residence, age, marital status, parity (number of living children), educational status, occupation, family monthly income, distance, access to mass media, access to health services, contact with health extension workers Chi-square statistic showed that mothers' health care seeking behavior for common childhood illness is significantly associated with those variables ($P < .05$).

4.2.1 Bi-variate Analysis

4.2.1.1 Demographic factors towards mothers' health care seeking behavior

Age

As table 7 clearly depicted, mother's health care seeking behavior has variation across various age groups. Age of mother has the influence on the level of health care seeking behavior. Accordingly, mothers' health care seeking behavior was better and higher in the younger age

group (from 15-24) which accounted more than three quarter (67.1%) of the total respondents($\chi^2=15.235$ at $p<0.001$). Table 7 below shows that the level of health care seeking behavior decreases with increase of mother's age. 55.4% of the respondents who were found in the age group of 35 and above categorized under non health care seeker. .

Marital status

As table 7 below demonstrated that there is a difference in mother's health seeking behavior in terms of marital status. The finding of the study indicated that (64.7%) currently married respondents had better health care seeking behavior for common childhood illness than never married mothers with($\chi^2=45.094$ at $p<0.001$). Majority of widowed mothers (60.6%) were non health care seekers. Similarly, 70.9% divorced and separated respondents were non health care seekers.

Number of living children

According to table 7 below out of 469 respondent mothers with more than one child, (49.5%) of them were found to be non health care seeker. However, mothers who had only one child did have better knowledge and health care seeking behavior for common childhood illnesses. Out of 141 mothers who had only one child, 74.5% of them were health care seekers. Number of living children has a significant association with mother's health care seeking behavior ($\chi^2=25.213$ at $p<0.001$). According to the study, mothers who had large number of children did not have health care seeking behavior and practices.

Table.7 percentage distribution of mothers according to their health care seeking behavior by Demographic characteristics, fogera woreda 2011

Characteristics	Mothers health care seeking behavior			
	health care seeker	non health care seeker	χ^2	p.value
Age				
15-24				
25-34	106(67.1%)	52(32.9%)	15.235	.000
35 and above	174(55.6%)	139(44.4%)		
	62(44.6%)	77(55.4%)		
Number of living children				
Only one child	105(74.5%)	36(25.5%)	25.213	.000
More than one child	237(50.5%)	232(49.5%)		
Marital status				
Never married			45.094	.000
Currently married	11(35.5%)	20(64.5%)		
divorced/separated	278(64.7%)	152(35.3%)		
Widowed	16(29.1%)	39(70.9%)		
	37(39.4%)	57(60.6%)		

Source, Field survey result, 2011

4.2.1.2 Health care seeking behavior and Socio economic characteristics

Place of Residence

As it can be seen in table 8 below mothers' health care seeking behavior for common childhood illness has varied across place of residence. The table 8 depicted that health care seeker mothers were higher in urban areas than rural areas. Among mothers those who reside in urban areas, 88.2% were health care seekers and about 50.4% of rural dwellers were non health care seekers when their children got ill with ($\chi^2 = 50.487$ at $p < 0.001$). The result implies that respondents who were residing in urban areas have good health seeking behavior than that of rural ones. Better accesses to information and better health infrastructure have positive impact on the knowledge of mothers. The availability of services and better awareness about health treatment seeking may have contributed much in urban areas. The focus group discussion conducted in Woreta 04 and Gina kebeles supported the above explanation by saying that their living areas have relatively better access to make use of those opportunities. They have better infrastructural development like education, media (radio, television, news paper etc) and health facility than rural areas. Moreover, the discussants explained that there is no need of transportation to obtain the service at the nearest town.

Education

As it is shown in the table 8 below the level of mothers' health seeking behavior varies with the educational level. It is expected that respondents with better education have higher health seeking behavior and practices may be due to the direct effect of education. Therefore, the current study shows there is a direct relationship between health care seeking behavior and level of education. Among the 526 illiterate respondents 50.2% were health care seeker while out of the 84 literate respondents the larger proportions (92.9%) were health care seekers with ($\chi^2 = 53.533$ at $p < 0.001$)

Occupation

Table 8 below revealed that 49.5% of mothers who were participating in on-farm activities and 89.1% of mothers who engaged in off-farm activities had better health care seeking behavior and practices with ($\chi^2 = 53.654$ at $p < 0.001$). The result indicates that mothers engaged in non agricultural activities have better knowledge and child treatment perception. This may be due to the fact that they are assumed to be more educated; more exposed to the outside world and have

Table.9 percentage distribution of the respondent according to their health care seeking behavior by health care facility characteristics, fogera Woreda 2011

Characteristics	health care seeking			
	health care seeker	non health care seeker	X ²	p.value
Type of health institution				
Health post	234(52.1%)	215(47.9%)	10.774	.001
Health station	108(67.1%)	53(32.9%)		
The cost of treatment				
No	234(52.1%)	215(47.9%)	10.774	.001
In part	108(67.1%)	53(32.9%)		
contact with health extension workers				
yes	226(62.3%)	137(37.7%)	13.960	.000
no	116(47.0%)	131(53.0%)		
Distance from the health facilities				
<5 km	312(62.5%)	187(37.5%)	46.452	.000
5 km and above	30(27.0%)	81(73%)		

Source; Field survey result, 2011

4.3 Multivariate analysis

Since the dependent variable is dichotomous, a binary logistic regression model was used to assess the net effect of each of the independent variable. Logistic regression model was also used to predict the probability of mothers' health care seeking behavior for the independent which were found to have significant effect and conceptually importance in the model.

In fitting multiple regression model, the first thing to be done is to examine the existence of inter correlation among explanatory variables. The existence of this effect in the model can be checked by using tolerance or variance inflation factors (VIF). Tolerance is $1-R^2$ for the regression of that independent variable on the other independents, ignoring the dependent. The higher the inter correlation of the dependents, the more the tolerance will approach zero. As a rule of thumb, if tolerance is less than 0.2, a problem with multicollinearity will exist in the given model. However, if the tolerance is highly greater than 0.2, the multicollinarty effects do not influence the models (Schwarz, 2007).

Likewise, the VIF, which is simply the reciprocal of tolerance shows whether or not the explanatory variables are related with each others. When VIF is high there is high, multicollinearity and instability of the beta coefficient. VIF 4 is an arbitrary but common cut off criterion for deciding when a given independent variable displays “too much” multicollinearity: a value above four suggests a multicollinearity problem (Schwarz, 2007). The values of VIF in the model were highly less than four; the multicollinarty problems in the models were already defeated after assessing multicollinarty in the variables (see annex D).

With respect to the goodness of fit of the models, there are various ways to assess the extent to which the models fit the data. One way of assessing how the modes fit the data is by using the hosmer and lemshow goodness of fit test. Insignificant value of this test shows the goodness in a model.

In this study, the values of hosmer and lemshow tests were insignificant for the model the percentage is 69.1. Therefore; the model was fitted well with the data. The binomial logistic regression analysis indicated that occupation, income, educational status, residence, marital status, number of living children, distance with health facility, access to mass media, contact with health extension workers Were stasticaly significant factors to explain the dependent variable at $P < 0.05$ level. Age of mothers' and cost of care had no significant effect on health care seeking behavior.

Number of living children has two categories, of which the first category (mothers who have more than one child) was selected as a reference category for analysis. It is found that a category has made a statistically significant contribution at $p < 0.05$ to explain health care seeking behavior. Thus, mothers who have only one child were 2.416 more likely to be health care seeker than the reference category.

The result analysis also revealed that the likely hood of health care seeker for those unmarried mothers declined by 70.9 % as compared with the married ones.

The multivariate analysis indicated that educational status increases the likely hood of the mothers who seek modern treatment also increases. The odds ratio of having modern health care was 4.674 and it was highly significant at P-value .000. It can be inferred that mothers with

primary and higher level of education were 4 times more likely to seek modern treatment compared to those with no education.

Respondents who were lived in urban have positive relation with health care seeking behavior, with a significant P- value .000 .This means the odd for those who were lived urban were 2.289 times more likely to seek modern treatment than those who were lived in rural.

Respondents who have access to media have positive relation with health care seeking behavior, with a significant P- value .000 .This means the odd for those who have media exposure was 5 times more likely to seek modern treatment than those who didn't have exposure to any type of media.

Regarding occupation variation of respondents, mothers engaging in off farm activities were five times more likely to seek modern treatments as compared with on farm activities.

As far as the family monthly income is concerned, the multivariate analysis result showed that the likelihood of health care seeking behavior increased, as the household income increases. The result of table 10 showed that respondents who earned greater than 1000 Birr were 4.8 times more likely to seek modern treatment as compared with those who earned below or equal to Birr 1000 per month.

Those mothers who had discussing with health extension workers were found to be strongly associated with mothers' health care seeking behavior. Table 10 revealed that the odds ratio Exp (B) = .332. This indicates that mothers who have never discussed with health extension workers about child health were 66.8% less likely to seek modern treatment than those who had discussed with Health extension workers.

The multivariate analysis result revealed that the odds ratio Exp (B) = .422 for those who lived greater than 5 km from health facilities were 55.8 % less likely to seek modern treatment as compared with those who reside less than 5 km.

Table .10 results of logistic regression analyses on health care seeking behavior

Variables	B	S.E.	Sig.	Exp(B)
Age				
15-24(RC)				
25-34	.151	.339	.656	1.163
35 and above	-.265	.251	.290	.767
Number of living children				
two and above(RC)				
Only one	.882	.316	.005	2.416
Marital status				
Ever married(RC)				
never married	-1.235	.514	.016	.291
Place of residence				
rural (RC)				
urban	.828	.397	.037	2.289
educational status				
no schooling(RC)				
primary and above	1.542	.526	.003	4.674
Monthly Income Of house hold				
<1000 (RC)				
Greater than 1000	1.573	.334	.000	4.822
Type of occupation				
On Farm(RC)				
Off farm	1.570	.485	.001	4.805
exposure to media				
have no exposure(RC)				
exposed to radio or Tv	1.623	.383	.000	5.068
contact with health extension workers				
yes(RC)				
no	-1.102	.237	.000	.332
Distance from the health facilities				
<5 km(RC)				
5 km and above	-.862	.279	.002	.422
Cost of treatment				
No(RC)				
partially	.410	.317	.196	1.506

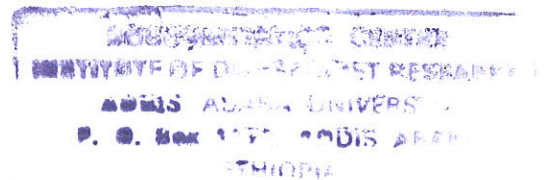
Note- RC- Reference category, $P < 0.05$ - significant
Source; Field survey, 2011.

CHAPTER FIVE

5. DISCUSSION ON MAIN FINDINGS

The study explored that factors affecting mothers' health care seeking behavior towards common childhood illness. The result showed that mothers in Fogera woreda had less health care seeking behavior on common childhood illness. Therefore, the finding pinpoints the gap between mothers' knowledge, behavior and prevention practices towards common childhood illnesses. This is consistent with findings from studies like Ansari, et al, (2009) shows that mothers who did not perceive and know the cause of diarrhoea and malaria transmission and methods of prevention they had not take significant measures to protect and treat children against the diseases.

The result showed that 10.7% of children with ARI, 15.4% of children with fever and 30% with diarrhoea were taken to a health provider. There was similar finding to the study conducted in Nepal by Chandrashekhar, et al, (2006) showed that majority of mothers (88.7%) did not seek healthcare for their ill children appropriately and promptly. Prompt diagnosis and appropriate treatment can prevent death and long-term illness.



According to CSA and ORC Macro (2006)

Appropriate care was given to only 3% of children with fever, 16% with ARI and 45% with diarrhoea (. Children in Hararge with cough and fever only 29% and 18%, were taken to clinics for treatment respectively. The study in South Gondar also demonstrated that 27.3% of children with ARI sought care; only 3.2% of children with fever and 29% with diarrhoea were taken to a health provider. Similar findings in Dabat showed that less than 30% of children with ARI were taken for modern treatment.

The researcher has found that 56% of mothers had better health seeking behavior in fogera woreda. They had taken their children for modern treatment while children got sick. A study from Jimma to determine mothers' health seeking behavior by MOH (2005) showed that 45% of mothers were treated their children in health institutions, 24% at home, 4% by traditional healers and 27% received no care

According to CSA, ORC Macro (2006) that 55.4%, 27% and 17.5% of respondents said diarrhoea, fever and ARI respectively were the top three major and common child health problems in the area. In line with this a study by ESHE (2005) demonstrated that 40% of mothers the Southern Nations, Nationalities and Peoples Region (SNNPR) reported their child had fallen sick in the previous two weeks, 30% with fever, 25% with diarrhoea, 23% with cough and 13% with ARI. A similar study in East Hararge found that 38%, 19% and 34% of children had suffered from diarrhoea, fever and cough and ARI respectively.

Significant proportion of mothers explained that common childhood illnesses have an impact on their livelihood. 78% of them did perceive that common childhood illness increase their direct and indirect costs. This is consistent with the studies like Rennie (2003) shows that major child illness places significant financial hardships both on households and the economy.

Mothers health care seeking behavior towards child hood illnesses differ across various demographic, socio economic and health institutional characteristics.

According to the finding it is possible to conclude that literate mother tends to be more concerned about common childhood illness than the illiterate ones. Study by Padmawiti (2005) showed that education is consistently and strongly associated with health care seeking behavior and practices. For respondents who were illiterate at the time of the survey did have lesser healthcare seeking behavior than those literate respondents. In this regard, other things being constant, positive and direct relationship were observed between literacy status of mothers and having of better health care seeking behavior and practices. For example in Zambia, knowledge of malaria was found to be positively associated with level of education (Kaona et al 2000).

According to Jonas Sumampouw (2002) ;

Educating women can raise mothers' level of awareness on childhood illness issues and increases their role in prevention activities. Educated mothers are usually more likely to be exposed to current ideas than mothers with no education. Hence, educated mothers are more likely to seek modern treatment. Education challenges some traditional beliefs and has a positive effect on the use of modern health services. Educated mothers were found to be less likely to use traditional healers.

In Ghana, formally educated mothers tended to classify illnesses as naturally caused, while those without formal education tended to attribute illness to supernatural causes (Fosu, 1981). This is also supported by findings in rural Karnataka where educated mothers identified more with the modern health system (Caldwell *et al.*, 1983). They were more autonomous in decision-making, more likely to take their sick children for treatment, to follow the treatment advised and also to persist sufficiently long for it to work. In addition, they also reported back to the health services if there was no improvement. Other studies by Cleland & van Ginneken, (1988) have also identified that educated mothers make better use of health services than less educated mothers. According to CSA, (2006) in Ethiopia the under five mortality rate for children whose mothers have no schooling is 121% higher than those whose mothers have at least a secondary education

The general level of education has marked influence on the spread of diseases, the acceptability of health practices and utilization of modern health services. According to UNDP, 2010 the total adult literacy rate in Ethiopia was 36% (50% for males and 26.6% for females). It can be inferred that the literacy status of the population is low. The gross enrollment ratio in primary schools at national level is 84% (67.6% for girls). Although more than triple from the 20% enrollment level of 1994; it is still much lower than the Sub Saharan Africa (SSA) average of 86% (MOE, 2005). This makes the population more at risk of preventable diseases including HIV/AIDS (MOH, 2005).

The finding of the study here also indicated that mothers' respondents who have got an average monthly income of above 1000 Ethiopian birr have had better health care seeking behavior and practices than those of less than 500 birr. This is also to mean that poor mothers that have less access to intervention do have less practice to prevent and treat common childhood illness. In Burkina Faso, Mugisha *et al* (2002) found that mothers in urban areas and those with high income were more likely to seek health care (for any child illness) from health facilities compared with self treatment or a traditional healer) as a result of ease of geographical and monetary access. The same study by Holtz, 2002 revealed that pervasive poverty and the expense of medical treatment were the chief reasons for rural households. Different studies revealed that the evidence suggests that the poor are less likely to use modern child illness preventive measures, especially the most effective ones. CSA and ORC Macro, 2006, confirmed that the under five

mortality rate (U5MR) for the poorest 20% of the Ethiopian population is 32% higher than that for the richest (20%). Poverty not only affects food supply but also access to health care.

Regarding contact with health extension workers, its relationship with mothers' health care seeking behavior in the study was statistically significant. The likelihood that those who had no contact with health extension workers did have lesser perception, behavior and practices to treat childhood illness than those who had contact and discuss with health workers. The result may be related to the work done by health extension workers. Health extension workers are playing an important role in educating the community at the grass root level. This was also confirmed in the study conducted in Lusaka, Zambia by Fujino, et al, (2009) that Community-based health-education programs are essential for improving the present care-seeking behaviors.

It was also confirmed by the African 2011 Economic report that, Ethiopia, one of the countries facing a crisis in human resources for health, has put in place a health extension program that focuses on meeting human resource needs where they are most critical. An estimated 60% to 80% of the country's annual mortality rate is due to preventable communicable diseases such as malaria, pneumonia and tuberculosis. The program trained and deployed more than 34,000 new health extension workers to work at local health posts and to provide a package of essential interventions to meet needs at this level. The government recruited female high school graduates from rural areas and provided one year of relevant training in 16 packages of promotive, preventive and basic care. Results showed success, particularly in reduced incidence of malaria.

Access to any form of media was the other variable significantly influenced mother's health care seeking behavior for their child illnesses. In fact in Ethiopia urban areas have better infrastructural development like education, health facility and media (radio, television and magazines etc) and others than rural areas. Therefore, people in urban areas have better access to make use of these opportunities. They could easily access different health and medical research findings and became aware of the issues concerning to child hood health problems. This is confirmed by CSA and ORC Macro, 2005 that the U5MR for children who live in rural areas is 30% higher than that for children who live in urban areas.

According the key informant interview like woredas health office expert and kebeles health extension workers, *lack of television transmission in rural areas of the woreda enforced the community in general and mothers in particular to be ignorant about modern methods of preventing common childhood health problems. The community has no alternative source of getting timely information.* In order to fill the gap the major tool to enhance mother's participation is widely providing health education using different medium of communication.

The availability of modern health facilities within the community has a substantial impact on the type of providers sought to treat children's illnesses. This study also showed that the major reasons why treatment was not sought from health facility were lack of money and distances from health facilities. In other studies like David (2004) proximity to the health facility and availability of finance were factors that determine health care seeking. The Ethiopian health service reached about 72% of the population and the Amhara health service coverage was estimated about 52% in 2005. However, there are critical shortages of skilled human resources (CSA and ORC Macro, 2006).

Distance to health facilities strongly influenced the probability of consulting a health centre. Health seeking behavior and the choice of treatment are affected not only by the traditional beliefs, but also by socio-demographic factors, distance of modern health care facilities and the type of health care providers [Goldman et al, 2002]. According to MOH, 2007 access at the national level is improving but it is still too low. However, utilization of services continues to be poor despite the achievements in increasing access to health facilities.

From the present study it appears that the likelihood of having health care seeking decrease with the number of living children. Mothers who have fewer living children are more likely to have health care seeking behavior than those who have more children. The result is consistent with earlier study by Tinuade, et al, (2010) revealed that children who were of the first birth order and those without siblings also had good care-seeking attention. This may also be related to the cultural values to the 'only-child' and the 'first-child' in the studied population.

The study showed that, mothers that had participating voluntarily on the community village sanitary activity were more health care seekers than those who did not participate on it. In this

study it is proved that the knowledge and practice of mothers health care seeking increased from 23% for those who had no participation to 56% who had participated on local environmental sanitary management activity at the community level. Key informant discussion from the woreda health office, health extension workers and volunteers community health promoters also confirmed the above finding that:

There are about 263 voluntary health promoters in the woreda. These volunteers are selected in each clusters of the kebele and they can mobilize the local communities in environmental sanitary management like cleaning the village, draining the of mosquito breeding sites (dirty stagnant water) twice in a month if necessary. Participation in these activities is also very pertinent for the community because it creates awareness about the cause and prevention of common childhood illness. Health extension workers give health education particularly on the issue of diaphorrea and malaria prevention methods. The communities discuss very closely how to prevent and eradicate the diseases from their surroundings. Therefore, the perception of mothers' is now improving.

CHAPTER SIX

6. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 SUMMARY

Health is fundamental to the broader notion of expanded human capabilities that lay at the heart of the meaning of development. The burden of common childhood illnesses is one challenge to human development.

This study was conducted in South Gondar zone particularly Fogera woreda, Amhara regional state. It is one of the areas where childhood illness and under five mortality are more common. The basic data used in this study were collected from structured questionnaire survey, focus group discussions and key informant interview. Different statistical methods were employed to analyze relationship between mothers' health care seeking behavior and their demographic, socio economic and health accessibility situations. The methods vary from simple statistics to the higher logistic regression models.

The majority of the respondent mothers (61.2%) were found in the age group between 15 and 29. With regarding to marital status, (70.7%) of them were currently married at the time of the survey. The largest proportion of the respondents (78%) had more than two living children. Literate respondent mothers make up only 16.4% of the sample population. And only 10.7% of mothers participated in off farm activities and most of them (89.3%) were engaged in on farm activity. Majority of mothers in the study area (73.6%) had an access of health post institution relatively in the nearby areas and about 62.1% of the respondent mothers had contact with health extension workers frequently.

Mothers' health care seeking behavior and action taken when childhood illnesses persist differ across various demographic, socio economic and health accessibility characteristics. Based on this assumption the researcher had tried to look at health care seeking behavior of the sample population towards child illnesses. Accordingly, 89.5% of mothers have observed diahorrea, malaria (fever) and acute respiratory infections as the most serious child health problem in the study area.

As far as malaria is concerned, about 37% of the respondents mentioned mosquito bite as a major cause for malaria in the study area. In forwarding the ways of prevention 44% said using ITNs and indoor chemical spray and 21% said draining the stagnant water. About 40% mentioned lack of sanitation and eating contaminated food as the major source of diarrhoea and 39% of them responded cleaning the home and the village as a ways of preventing diarrhoea. Around 25% of mothers replied bad air as a major cause of ART. Only small percentages of mothers in the study area were taking their sick children to modern health institutions.

The finding of the study indicated that mother's health care seeking behavior did vary with differing in marital status. Concerning with this respondents having only one child relatively had better health care seeking behavior than those of possessing two and above children. Low children size did have better health treatment and prevention practices.

When we look at mothers health care seeking variation among the major occupation groups, the higher proportion (63%) of those who were engaged in off farm activities had better health care seeking behavior than those involved in on farm activities.

Regarding to income, mothers health care seeking behavior and practices had increased with increasing of family income that they get in a month. Respondents who had contact with kebeles health extension workers had better health seeking behavior and practices towards child illness. In this regard, mothers who had contact and discuss with health workers obtained different health education related to childhood illness prevention.

The result of the chi square test shows that among the independent variables, literacy status, income, occupation, place of residence, number of living children, access to any form of media, distance from the health facility, contact with kebeles health extension workers, marital status were significantly associated with the dependent variable health care seeking behavior.

6.2 Conclusions

Improving mothers' health care seeking behavior for common childhood illnesses could contribute significantly for reducing childhood morbidity and mortality. This study demonstrates

gaps that need urgent action in order to promote mothers health care seeking behavior and save children from death caused by health problems and thereby to mitigate common childhood illness in the area.

In light of this, the finding of the study indicated that demographic, socio economic and health care facility factors had significant impact on mother's health care seeking behavior .The result showed that understanding of mothers about the common childhood illness and its prevention was relatively poor in fogera woreda. It shows that despite the existence of access to health facilities majority of mothers have no health care seeking behavior for common child hood illness in the study area. There for the finding pinpoint the gap between mothers' perception and practices to treat child illness.

The demographic factors like number of living children and marital status were significantly affect mothers health care seeking behavior. Socio economic factors such as literacy status, income, place of residence, occupation and exposure to any form of media were associated significantly with mothers' health seeking behavior. Mothers who have only one child are 2times more likely to have been health care seeker than those of having more than one .The result analysis also revealed that the likely hood of health care seeking behavior for those unmarried declined by 88% as compared with married women.

The multivariate analysis indicates as educational status increase the likely hood of the mothers who seek modern treatment for their children also increases. The result show that the odds ratio of having modern health care is 3.265 that mothers with primary and higher level of education were 3 times more likely to seek modern treatment compared to those with no education. Maternal education is a major determinant of child survival, influencing care-seeking and morbidity. Respondents who have access to media have positive relation with health care seeking behavior. Those who have media exposure were 6 times more likely to seek modern treatment than those who didn't have exposure to any type of media. Mothers who engaged in an off farm activities were four times more likely to seek modern treatment as compared with on farm sectors. .Respondents who earned greater than Birr 1000 were 3.5 times more likely to seek modern treatment as compared with those who earned below or equal to Birr 1000 per month.

Discussion with health extension workers about children health is found to be strongly associated with health care seeking behavior.

In general, the overall finding of the research showed that considerable proportion of the sample population had no health care seeking behavior towards common child hood illness

6.3 Recommendations

This study demonstrates gaps that need urgent action in order to promote mothers health care seeking behavior and save children from death caused by health problems and thereby to mitigate common childhood illness in the area. Based on the findings of this study, the following points are recommended:

- . It is important to narrow the knowledge gap between the health concerned bodies and the community at the grassroots level. Therefore, there should be good ground to have smooth relationship in between them. For such important activities, an extensive health education through local institutions such as religious, schools, public gatherings should be provided to at large.

- . A system that could bring about alternative source of disseminating information on common child hood illness should be developed by the government and other concerning bodies. As observed in the study area, mothers are highly inaccessible of timely information on major child health problem either by electronic or printing Medias. The role of health extension workers to prevent common child hood health problem is very pertinent by increasing the awareness of mothers towards mitigating the diseases. Health extension workers at the kebele level should be utilized properly in teaching mothers about the serious childhood illnesses. Others like teachers, NGOs and agricultural development agents are very helpful in bringing better health care seeking behavior.

Construction of health institutions and assigning better health professionals in the nearby should be considered as a long term solution. The regional and local administrations have to improve the health care service delivery and mainly need increasing staff, commitment and responsibility. Even though health promotion and prevention play a large role in these areas, the MDGs will not be achieved without facility-based services.

The work done by the NGOs in the area of capacity building program should be continued in a sustainable manner.

The study calls for further research in the area of poverty alleviation, environmental degradation and women empowerment or gender issues in the study area.

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ANNEX A

ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

Questionnaire prepared to assess determinants of mothers' health care seeking behavior for common childhood illness in Fogera Woreda, Amhara Region.

Objective of the study

The basic objective of this study is to assess the determinants of mothers' health care-seeking behavior for common childhood illnesses in Fogera woreda, Amhara regional state. In this study the various demographic and socio-economic, cultural and health facility factors influencing mothers' health seeking behavior towards the illnesses of their children under the age of five will be covered. Therefore, you are requested kindly to give answer freely and openly. To conduct our study, I would like to ask you some questions which may take about 30 minutes. Any information you give kept confidential. All the information that you and other respondents are going to provide us remains confidential and do not need to mention your name. Thus your cooperation is very necessary to achieve the objective of the study. In addition to this, It helps to designing acceptable intervention of childhood illness management and other problems with child illness in your community. So, your participation is voluntary and you have the right to not participate fully or partially. If you agree to be included in the study, I will start my questions by asking general identification points. Remember, only honest answers would contribute the improvement of child health related planning. The study has approved from Addis Ababa University. May I continue? If yes continue interviewing. If no, thank and stop interviewing.

Are you willing to participate in the interview?

Yes, _____ (continue the interview)

No, _____ (Thank and stop)

Name _____ Signature _____ Date _____

(Signature of the interviewer certifies that consent has been obtained verbally) Name of the Name

of the Supervisor _____ Sign _____ Date _____

1. Households identification

001. Questionnaire code _____

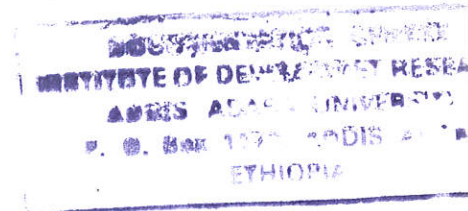
002. Residence: - kebele _____

003. House number _____

N.B please fills on each answer sheet as follows;

- Time of start of interview _____

- Time of end of interview _____



Questionnaires Part one:-demographic and socio economic characteristics

S.no	Questions	Choice of answer	Skip to question...
101	Present age	 years (in complete years)	
102	How old were you at your last birth day?	-----years(in full years)	
103	Your religion?	1. orthodox Christian 2. Islam 3. protestant 4. catholic 5. Other (specify).....	
104	Your ethnicity?	1. Amhara 2. Tigrary 3. Oromo 4. Others (specify)	
105	What is your marital status?	1.never married 2.married 3.divourced 4.widowed 5.separated	
106	How many living children do you have? whose age is/are under five	1. only one 2. more than one	
107	Your place of residence	1.urban 2.rural	
108	How long have you been continuously living in the area? (<i>If it is less than six months write "00"</i>)	Years-----	
109	Can you read and write?	1. yes 2.no →	Skip to question 112
110	If yes, have you attended any formal education?	1. yes 2.no →	Skip to question 112
111	If yes, What is the highest grade you have attained	1.1-8 grade(primary) 2. 9-12 grade(secondary) 3. higher institutions(tertiary)	
112	Do you have any occupation?	1. yes 2.no →	Skip to question 115
113	If yes, What is the current occupation you are engaged in?(<i>you earn more than 3/4 of your income</i>)	1.on farm 2.off farm	

114	If the response is yes for question 112, what type of occupation you are currently engaged in?	1. house wife (for wife) 2. merchant 3. daily laborer 4. house maid (for wife) 5. government employee 6. farmer (for husband) 7. others (specify)	
115	What is your monthly income? (3/4 of income source) in br.	1. less than 400 2. 401-600 3. more than 600 br.	
116	If you compare your monthly income with your neighbors, where do you put your economic status?	1. very poor 2. poor 3. medium 4. rich 5. I can't say 6. no response	
117	Source of water used for drinking	1. River 2. Pound 3. pipe	
118	Place of human excretal disposal	1. open field defecation 2. use latrine	
119	Waste disposal management	1. Dispose any where 2. dispose in pit hole	

2. Accessibility Measures to any form of Media

No	Questions	Coding category	Skip to
201	Do you read news papers, magazines? (only for answer Q.109 is Yes)	1.yes 2.no	
202	If the answer is yes, have you read any health related issues concerning to child hood illnesses on the news paper?	1. Yes no	2.
203	If the answer is no for number 201, why not?	1.Iam not interested 2.not easy available 3.Idon't know	
204	Do you listen to the radio?	1.yes 2.no	
205	If yes, have you heard of any health program concerning to child hood illnesses on the radio?	1.yes 2.no	
206	If the answer is no for number 204, why not?	1.Iam not interested 2.not easy available 3.Idon't know	
207	Do you watch Television?	1.yes 2.no	
208	If yes, have you watched of any health program concerning to child hood illnesses on the television?	1.yes 2.no	
209	If the answer is no for number 207, why not?	1.Iam not interested 2.noteasyavailable 3.Idon't know	

3. Health care system information

No	Questions	Coding category	Skip to
301	Is there any health facility in your area	1. Yes 2.No →	Skip to 304
302	If yes, what type of health institution	1. Health post 2. health station 3.clinic 4.hospital 5.others,specify	
303	How far from your residence is the nearest health facility?	1.<5km 2 .>5km 3.doesn't k now	
304	How much time do you spend to reach the nearest health care facility?	1.up to 30 minutes 2.up to one hour 3.up to 2 hour 4.over 2 hours 5.doesn't know	
305	Do the treatments cost (transportation, consultation, observation etc?)Prevent you from applying for the health care?	1.no 2.in part 3.always	
306	Have you ever contacts with health institutions concerning to your child health status	1.yes 2.no →	Skip to 401
307	In which organization do you contact?	1.government 2.non government 3.private 4.other ,specific	
308	Do you get sufficient information and treatment for your child when you contact with health workers?	1.yes 2.no	
309	If yes, would you satisfied with the service given in the institution concerning to child illnesses	1.yes 2.no	
310	If yes how much	1.completely 2.partialy 3.not at all 4.no response	
311	If no what is your reason, describe		

4. Knowledge and behavioral measures

S. no	Questions	Coding category	Skip
401	What is the serious childhood health problem in your area? (Multiple responses are possible)	1. Malaria 2. Acute respiratory disease 3. Fever 4.measeals	

		5.diahorria 6.others,specify	
402	Have you heard of common child hood illness in your area?	1.Yes 2.no	
403	If your answer is yes, what are they? (Multiple responses are possible)	1. Malaria 2. Pneumonia 3.measeal 4..diahorrea 5.Acute respiratory infection 6..others,specify	
404	If your answer is acute respiratory infection, what do you think is the cause?	1. By cold air 2.by bad smell 3. Evil eye 4.Teething 5. viruses 6.others, specify	
405	What do you think is the solution?	1.Trying home remedies 2.Taking to elder care givers to checked by them 3.Take to religion leader 4.Take to medical care 5.Take to traditional healer 6.Others	
406	What is the typical clinical symptom of ART?	1. Congestion 2.Itchy eyes 3.Runny nose 4.Sneezing 5.Stuffy nose	
407	Did your child attack with acute respiratory infection in last four weeks?	1.yes 2.no	
408	If the answer is "yes" what" action was taken by you	1. No action taken 2.Give home remedies 3.Taken to traditional healer 4.take to medical care 5.Others	
409	Do you know a child with ARI/who has died of ARI	1.yes 2.no	
410	Are you willing to go to health center? When your child got symptoms	1.yes 2.no	
411	Can people prevent common childhood illnesses from the surrounding?	1 .yes 2.no	
412	If your answer for 403 is diahorrea, what do you think is the cause?	1.Evil eye 2.Teething 3.If the child remains without food for long hours 4.Eating contaminated food 5.Giving breast for the child before cooling the body when mother wait in hot weather 6.If the child play in hot	

		7.Others	
413	What do you think is the solution?	1. Trying home remedies 2.Taking to elder care givers to checked by them----- 3.Take to religion leader 4.Take to medical care 5.Take to traditional healer 6.Using medication of child things 7.Drinking medication prepared from lemon sugar and water 8.Others	
414	What is the typical clinical symptom of diahorrea?	1. stools containing blood or pus 2.black stools 3.a temperature above 102 degrees 4.signs of dehydration 5.others	
415	Did your child attack with diahorrea infection in last four weeks?	1.yes 2.no	
416	If the answer is "yes" what" action was taken by you?	1.Milk teeth extraction for teething 2.Traditinal medicines for evil eye 3.Take to religious leaders Stop feeding 4Take to modern medicine 5.Others	
417	Do you know a child with diahorrea /who has died of diahorrea	1.yes 2.no	
418	Are you willing to go to health center? When your child got symptoms	1.yes 2.no	
419	Can people prevent common childhood illnesses or diahorrea from the surrounding?	1.Yes 2.no	
420	If your answer for 403 is malaria, what do you think is the cause?	1. Mosquito biting 2.Climate change 3.Stagnant water 4.Environmental degradation 5.Lack of environmental education 6.Lack of other source of livelihood 7.Lack of government control 8.Idon't know 9.Others,specify	
421	What do you think is the solution?	1.Using ITN 2.Using drugs and indoor spraying 3.Protectin the environment 4.cleaning the home and the village 5.Education 6.Idont Know 7.Othres,specify	
422	What is the typical clinical symptom of malaria?	1.headache 2.nausea 3.fever 4.vomiting 5.flu-likesymptoms 6.didn'tknow	

		7.others,specify	
423	Did your child attack with malaria in last four weeks?	1.yes 2.no	
424	If the answer is "yes" what" action was taken by you?	1.No action taken 2.Give home remedies 3.Taken to traditional healer 4. Take to modern medicine 5.Others,specify	
423	Do you know a child with malaria/who has died of malaria	1.yes 2.no	
424	Are you willing to go to health center? When your child got symptoms of malaria	1.yes 2.no	
425	If your answer is others what is the cause, specify		
426	Do you think the presence of childhood illness is a hindrance of development in your area?	1.yes 2.no 3.I don't know	
427	Who should prevent childhood illness in your area?	1.Mothers 2.parents(both mothers and mothers) 3.Community 4.Government/state 5.State and community 6.I don't know 7.Others, specify	
428	If your answer is "mothers "why? Specify		
429	If your answer is "both mothers and fathers", why?		
430	If your answer is "community", why?		
431	If your answer is "government", why?		
432	If your answer is "both government and community", why?		
433	If your answer is no, would you please tell me why not?		
434	Mothers who are willing to go to health facility when their children get sick must be encouraged.	1. I agree 2. I disagree 3 .don't know	
435	If you agree, why do you agree? Specify		
436	If you Don't agree, why not? specify		
437	people who are not cleaning the home and village must be punished	1 I agree 2 I disagree 3 don't know	
438	If you agree, why do you agree? Specify		
439	If you Don't agree, why not? Specify		

4. Mothers' common child hood treatment practices

No	Questions	Coding category	Skip to question
501	Have you ever had any common childhood illness prevention practice?	1.yes 2.no 3.I don't know	
502	If yes, what type of practice do you know?	1 Drug usage 2 Cleaning the child and the home 3 Using ITN and residual spraying 4 Using traditional herbal 5. Others specify	
503	Can mothers prevent common childhood illness from their household?	1.yes 2.no	
504	If your answer is yes for Q 501,From where did you get the advice to use modern types of preventing child hood illness	1. Inherited from the ancestors 2 From Health office. 3. From medias 4 From NGOs 5. Have previous experience 6.Neighbors 7.Reading leaf lets 8. From others, specify	
505	If your answer is no for Q 501, why?, describe it		
506	If you used to visiting traditional healers what practices you did	1 Praying 2 Holly water 3 Fasting 4. Leafs and roots	
507	If you used to home remedies what kind	1 Leafs 2 Roots 3 Herbs 4 Others specify 5Holly water	
508	Have you participating on communities environmental sanitary management	1 yes 2.no	
509	If your response is yes what kind of sanitary management	1.cleaning the home and the surrounding 2 draining the stagnant and marshy waters 3 Reforestation 4 Others specify	

Issues Raised on the Focus Group Discussion

1. What is the serious child health problem in your area?
2. What do you think the possible cause of this problem?
3. What do you think the major consequence of this health problem in your area?
4. What is the attitude of mothers towards treating childhood illness?
5. Do you think mothers are practicing to treat and to protect this problem?
6. What is the role of health institutions to protect and treat childhood illnesses?
7. Is there NGOs in your area working to prevent the common childhood illness issues?
8. If yes what is the contribution of them to upgrade the behavior of mothers' on common childhood illnesses?
9. What is the level of Knowledge of mothers' about the common childhood illness? Is there demographic, socioeconomic and health facility factors and variation

Is there occupation variation

Is there literacy variation

Is marital status variation

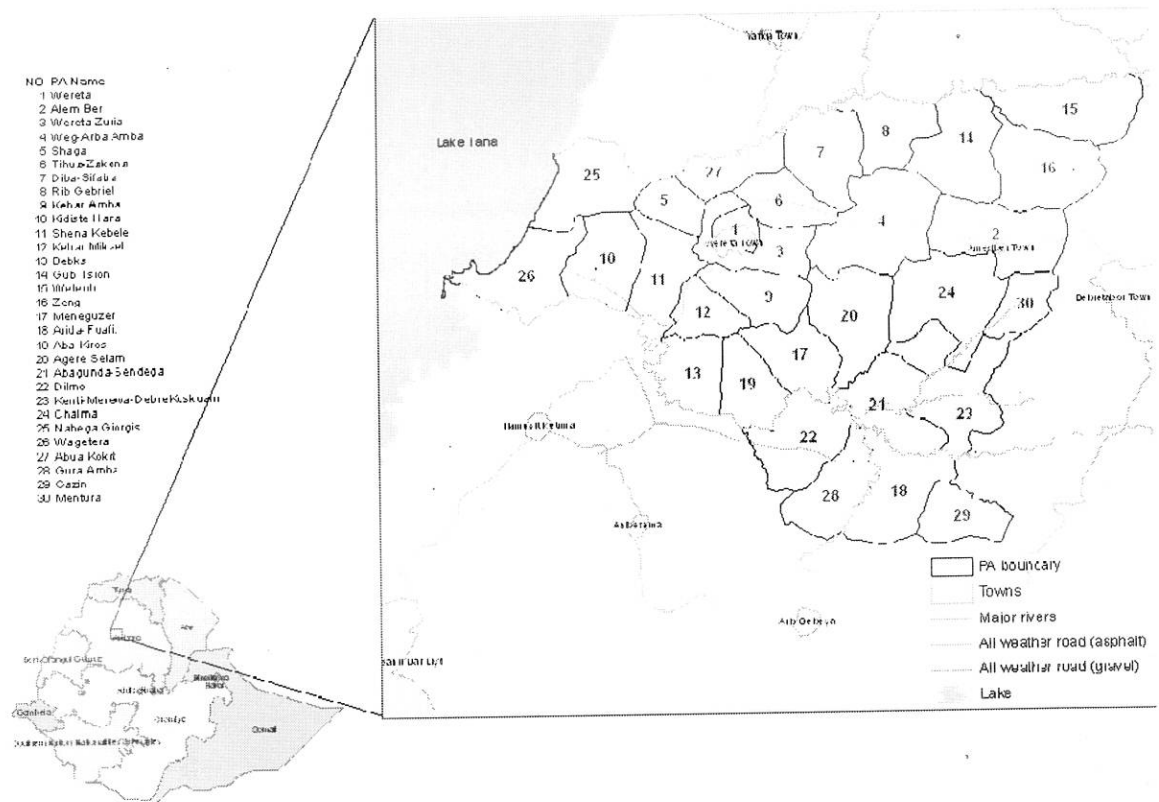
Is there age variation

Is there income variation etc..

10. What is the extent of the community participating in protecting and treating child illness?

What is the role of health institutions to protect and treat childhood illnesses?

Annex B



Annex c: Hosmer and lemeshow goodness of fit test

Table C. Hosmer and lemeshow goodness of fit test

Step	Chi-square	df	Sig.
1	5.611	8	.691

Source: survey result, 2011

Annex D: Tolerance and VIF value

Variables	Tolerance	VIF
Age	0.342	.887
Number of living children	2.632	.009
Marital status	2.644	.008
Place of residence	1.526	.127
educational status	2.791	.005
Monthly Income Of house hold	4.885	.000
Type of occupation	2.647	.008
exposure to media	4.521	.000
contact with health extension workers	4.633	.000
Distance from the health facilities	4.039	.000
Cost of treatment	1.215	.225

DECLARATION

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

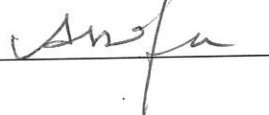
Name FIRHIWOT MEGABIANI

Signature 

Place _____

Date of submission _____

This thesis has been submitted for examination with my approval as University Advisors.

Dr. Assefa Hailemariam  July 11, 2011

Advisor Signature Date