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ASSESSMENT OF KNOWLEDGE AND HEALTH CARE SEEKING BEHAVIOR ABOUT NEONATAL DANGER SIGNS AMONG MOTHERS VISITING IMMUNIZATION UNIT IN SELECTED GOVERNMENTAL HEALTH CENTERS ,ADDIS ABABA, ETHIOPIA.

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A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCE SCHOOL OF ALLIED HEALTH SCIENCES DEPARTMENT OF NURSING AND MIDWIFERY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF SCIENCE IN CHILD HEALTH NURSING.

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This thesis by Fisseha Mulatu Assefa is accepted in its present form by the board of examiners as satisfying thesis requirement for the degree of Master of Science in Child Health Nursing.

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Acronyms/Abbreviations

- AOR :Adjusted Odd Ratio
- CI: Confidence Interval
- COR :Crude Odd Ratio
- CSA: Central Statistical Agency
- EDHS: Ethiopia Demographic and Health Survey
- ENC: Essential Newborn Care
- ETB: Ethiopian Birr
- IMCI : Management Of Childhood Illnesses
- IMNCI: Integrated Management Of Neonatal And Childhood Illnesses
- IMR: Infant Mortality Rate
- MDG: Millennium Development Goal
- NMR: Neonatal Mortality Rate
- OR: Odds Ratio
- SPSS: Statistical Package for Social Scientists
- WHO: World Health Organization

Abstract

Background: Danger signs in the neonatal period are nonspecific and can be a manifestation of almost any neonatal disease. Early identification of neonatal dander signs by mothers with prompt and appropriate referral service are backbone programs aiming at reduction in neonatal mortality. In Ethiopia, a country where a neonatal mortality rate high, raising the awareness of mothers on danger signs of neonate and appropriate care seeking behavior is crucial to sustain the achievement done.

Objective: To find out knowledge and health care seeking behavior about neonatal danger signs among mothers visited immunization unit in selected governmental health centers, Addis Ababa, Ethiopia, 2014.

Methods: An institutional based cross-sectional study was conducted from November 2013-June 2014 on a sample of 373 mothers from randomly selected 16 governmental health centers of Addis Ababa, Ethiopia. The study participants were selected using convenient sampling technique. A structured pre-tested questionnaire was used to collect quantitative data. Qualitative data was collected through in-depth interview with mothers. Data entering, coding and clearing were performed using Epinfo version 3.5.4 and analyzed by using SPSS version 16.

Result: Out of the total respondents about 280(77.1 %) mothers knew at least one neonatal danger sign. The most common mentioned neonatal danger signs were Diarrhea 58.9%, Persistent vomiting, 43.9%, and Fever, 32.9%. About 121 (39.5%) of mothers had seen a sick neonate with common manifestation of fever and health care was sought for 65.3% of sick neonates. Overall, most of the respondents 59.8% were a moderately knowledgeable of neonatal danger signs while 24.2% were highly knowledgeable, and 16% were poorly knowledgeable. Knowledge of at least one neonatal danger sign was significantly associated with health care seeking behavior (AOR: 1.43, 95% CI: 1.04, 3.062, P=0.038), and mother's decision making on health care seeking (AOR: 2.031, 95% CI (1.001, 16.927, P=0.01).

Conclusion and Recommendation: This study indicated that the knowledge level of most mothers about neonatal danger signs was moderate. Therefore, the identified deficiencies in awareness and health care seeking practice should be addressed through maternal and child health services by designing an appropriate strategies including provision of targeted information, education and communication.

1. INTRODUCTION

1.1. Background

Danger signs in the neonatal period (0-28 days) are nonspecific and can be a manifestation of almost any newborn disease. Neonates are more prone to show subtle signs of illness. Lethargy or difficulty feeding are sometimes the only signs present and illness may advance quickly [1]. Since most infants are either born at home or are discharged from the health facility early, families should be able to recognize signs of newborn illnesses and bring the newborn infant to the attention of a health worker.

Different tools to facilitate identification of these health problems and reduce neonatal mortality have been introduced into health programs in several countries. Integrated Management of Newborn and Childhood Illness (IMNCI) developed by the World Health Organization (WHO) focuses on assessment of general danger signs in the examination of children presenting with illness at health care centers. The danger signs of severe illness included are 1) history of difficulty feeding, 2) movement only when stimulated, 3) temperature below 35.5°C, 4) temperature above 37.5°C, 5) respiratory rate over 60 breaths per minute, 6) severe chest in drawings and, 7) history of convulsions. Assessment of these signs will result in a high overall sensitivity and specificity for predicting the need for hospitalization of a newborn in the first week of life [2].

The primary causes of neonatal death are believed to be complications of prematurity (28%), sepsis and pneumonia (26%), birth asphyxia and injuries (23%), tetanus (7%), congenital anomalies (7%), and diarrhea (3%), with low birth weight contributing to a large proportion of infant deaths [3].

The World Health Organization (WHO) recommends improving care practices at birth in order to reduce neonatal morbidity and mortality. These have been described as essential newborn care (ENC) practices and include clean cord care, thermal care and initiating breast feeding

immediately or within the first hour after birth. These simple practices are critical for all babies in order to save lives, but also need to be fitted into a comprehensive newborn care package which includes skilled care at birth, care-seeking, extra care for sick and small babies, and skilled care at birth including resuscitation. Effective promotion of ENC at scale could significantly contribute to reducing the leading causes of newborn deaths in low- and middle-income countries, especially those due to sepsis/pneumonia, preterm births and tetanus [4].

Neonatal mortality now accounts for about two-thirds of global infant (0–1 year) mortality and about 3.8 million of the 8.8 million annual deaths of children under five [5]. Effective strategies to improve newborn survival in developing countries require clear understanding of the patterns and determinants of newborn-care seeking by mothers, families and other newborn caregivers [6].

Improving families' care seeking behavior could contribute significantly to reducing child mortality in developing countries. The World Health Organization estimates that seeking prompt and appropriate care could reduce child deaths due to acute respiratory infections by 20% [7]. An important method to reduce neonatal mortality is the provision of quality curative health services for sick newborns [8].

1.2. Statement of the Problem

Early detection of neonatal illness is an important step towards improving newborn survival [9]. Worldwide the average neonatal mortality is estimated to be 33 per 1000 live births. It is estimated that each year four million neonatal deaths occur, and almost exclusively in low income countries [10]. Three quarters of neonatal deaths occur in the first week of life, suggesting the need for early care[11].

Over the past several decades, the global incidence of child mortality has steadily decreased. More than 40% of under-five deaths now occur in the first month of life—the neonatal period; thus, achievement of Millennium Development Goal 4 (MDG-4) for child survival depends on more effectively addressing neonatal deaths, particularly early deaths in the first week of life. Despite the progress made worldwide in newborn survival, the speed is low in developing countries where the burden of neonatal death accounted for 99% of all deaths[12,13].

Neonatal morbidity and mortality rates in Ethiopia are among the highest in the world and stem from a range of socio-economic, political and demographic factors. Many of these deaths are preventable. Around 120,000 newborns die every year and the neonatal mortality rate is 37 per 1000 live births [14]. Childhood mortality levels are decreasing in Ethiopia. According to Ethiopian Demographic Health Survey (EDHS 2011), Neonatal Mortality Rate (NMR) is rate 37 per 1,000 live births. Infant mortality Rate (IMR) is 59 deaths per 1,000 live births for the five-year before the survey compared with 77 deaths per 1,000 live births in 2005. Under-five mortality levels have also decreased from 123 deaths per 1,000 live births in 2005 to the current level of 88 deaths per 1,000 live births [15].

The newborn cannot explain or express their discomfort and therefore identification and diagnosis of illness may be delayed if parents are not intelligent, observant, and concerned [16]. Mothers are the primary caregivers of the newborn. Thus the knowledge of the mothers regarding newborn danger signs has a great influence on the health of the newborn [17].

Integrated Management of Newborn and Childhood Illnesses emphasize on mothers, community leaders and health workers to identify danger signs among newborns for early referral to appropriate health care provider/ facility. Early identification with prompt and appropriate referral serves as backbone of the programs aiming at reduction in neonatal mortality [18].

Absence of health care seeking and late seeking are associated with numerous infant deaths in developing countries. In these countries, easily treatable diseases like pneumonia and diarrhea are still the principal causes of illness and death among children under one year of age. [19]

Some studies have shown that perceived illness severity, maternal recognition of certain signs and symptoms of childhood illness were critical factors determining health care-seeking behavior [20, 21].

In order to achieve Millennium Development Goal-4 (MDG) of reducing child mortality by two-thirds by the year 2015, it is important to study distribution of neonatal illnesses, Care-seeking behavior, and direct enabling and disabling factors related to health systems which affect neonatal health [22].

Various studies from developing countries have reported that delay in seeking appropriate care and not seeking any care contributes to the large number of child deaths [23]. Mothers need to know the danger signs of sick newborn. They can explain these signs to others or family member in a simple language so as to enable them to identify the danger signs and to seek early and prompt medical help. Hence, this study will be carried out to assess mothers' knowledge and health care seeking behavior about neonatal danger signs.

1.3. Significance of the Study

Improving newborn survival is one part of Millennium Development Goal. The greatest gap in newborn care is often during the critical first week of life when most neonatal deaths often occur at home and without any contact with the formal health sector. These conditions can be managed if mothers are aware of newborn danger signs and develop experience of early recognition and health care seeking behavior for newborn illness.

This study will assess knowledge of mothers about newborn danger signs and their health care seeking behavior. The results of the study will be used as base line information to design appropriate policies, strategies, and intervention, which can improve mothers' early recognition of newborn danger signs and their health care seeking behavior and support the maternal and child health service improvement.

The results of the study will also add the evidence about mother's recognition of newborn danger signs and give background information for further studies in neonatal health and newborn survival.

2. LITERATURE REVIEW

Newborn danger signs refer to presence of clinical signs that would indicate high risk of neonatal morbidity and mortality and the need for early therapeutic intervention. Nowadays mortality among sick neonates is very high and facilities for appropriate care of very sick neonates are less. It may take a long time for a sick neonate to reach a hospital. It is therefore important that they are identified early and referred for appropriate treatment. Early identification of a sick newborn however, has some problems. The clinical features are nonspecific e.g. whether the illness is of infective or metabolic origin; the signs do not help us in differentiating the cause. Moreover, the distinction between variation of normal behavior and early signs of illness becomes more difficult in low birth weight and preterm infants [24].

2.1. New born Danger Signs

Lethargy/poor feeding

In a full-term baby, lethargy and poor sucking, especially in an infant who was feeding well earlier, are very important and sensitive indicators of neonatal illness. Most of the mothers shall be able to give this history and most of the times mothers are rightly concerned. In a preterm baby, however, poor feeding and/or lethargy may at times be normal. Such infants must be carefully assessed for referral, as even these babies often need better health care facilities available in some hospitals only [24].

Thermal imbalances

Temperature instability is a very important danger signs in neonates. Hypothermia (temperature below 36.5 degrees centigrade) is a common signs in sick neonates especially in low birth weight babies. Auxiliary temperature recorded for at least three minutes will indicate the extent of hypothermia in a baby who is "cold to touch". Unlike adults, neonates often manifest hypothermia as a sign of infection. Fever (temperature above 37.5 degrees centigrade) is a sign of infection usually in term neonates [24].

Convulsions

Convulsions happen because of **sudden, abnormal electrical activity in the brain**. Febrile convulsions are seizures that occur because of fever, which is a temperature higher than 38°C. High fevers might come with an infection. We don't know why, but in these cases, the rapid rise in temperature causes an abnormal electrical discharge in the brain. Febrile convulsions are pretty common, occurring in about 4% of children between the ages of six months and five years. Two-thirds of these children will only ever have one fit. Most will occur while the child is younger than three years old. Children who have their first febrile convulsion before the age of one year have a higher risk of having recurrent febrile convulsions. This type of convulsion tends to run in families, and affects boys more often than girls [24].

Respiratory problems

Breathing difficulties indicate serious illness in the new born. An increased respiratory rate (more than 60 per minute when counted for at least one minute) and chest retractions indicate a serious problem. It could be due to pneumonia, hyaline membrane disease, heart failure or malformation. Since neonates, especially preterm babies, have a very soft chest wall and their breathing is mainly diaphragmatic, one needs to count the rise of abdomen in a minute for counting respiration (inspiration). The normal breathing pattern in the new born is characterised by brief periods of cessation of breathing called periodic breathing. The common causes of apnea in a neonate can be (any one or in combination): hypo -or hyperthermia, hypoglycemia, septicemia, anemia, meningitis, intracranial hemorrhage or apnea of prematurity [24].

Cyanosis

Cyanosis is bluish discoloration of skin and mucosa. Peripheral cyanosis or acrocyanosis is seen in the extremities only. It may be normal in babies in the first few days of life, especially when they are cold. Central cyanosis is a very important danger signs. It is seen all over especially on lips and tongue. Central cyanosis indicates underlying cardiac or respiratory disease and therefore always requires prompt attention and appropriate referral. Neonates may not manifest cyanosis till very late due to the presence of fetal haemoglobin [24].

Vomiting

Regurgitation or vomiting soon after feeds is often due to faulty feeding technique or aerophagy. In case of persistent, projectile or bile stained vomiting in association with failure to pass meconium during the first 24 hours and or abdominal distension, the baby should be investigated for intestinal obstruction. Such neonates must reach the hospital before becoming dehydrated or worse due to electrolyte imbalance [24].

Diarrhoea

Change in established bowel pattern towards greater frequency and looseness should be taken seriously. Many infants pass stools while being fed but otherwise remain alright and keep on gaining weight. Breast fed babies pass more frequent stools than formula fed babies. Maternal ingestion of drugs (ampicillin, laxatives) and certain fruits like mango may result in loose stool in breast fed babies; it does not need any specific treatment [24].

Failure to Pass Meconium and Urine

All healthy babies must pass meconium within 24 hours of age. Non passage of meconium by 24 hours age is an indication for doing appropriate investigations to exclude intestinal obstruction. After birth, most babies pass urine by 48 hours of age. Infants with delayed passage of urine should be investigated for congenital conditions like obstructive uropathy and agenesis of kidneys. Normal neonates pass urine 6 to 10 times in a day if feeding is adequate [24].

Pathological Jaundice

Jaundice in the newborn may be physiological, but when it appears on the first day of life or the skin staining is up to palms and soles or it persists beyond 2 weeks of life, needs investigation and appropriate treatment. Hyper-bilirubinemia in the first week could lead to kernicterus and severe disabilities [24].

Tracheo-Esophageal Fistula

A new born baby with excessive drooling, frothy saliva and choking and cyanosis during first feed should alert staff to rule out atresia of the upper digestive tract. Overflow of milk and saliva from oesophagus and regurgitation of secretions through the fistulous tract into the lungs results in pneumonia [24].

Excessive Weight Loss

If birth weight or previous weight records are available, weight loss pattern is an objective indicator of not being well in a new born. Weight loss more than 10 per cent over birth weight in a term baby and more than 15 per cent in preterm and any acute loss of more than 5 per cent should be viewed with concern and one should attempt to seek the cause as early as possible [24].

Congenital Heart Disease

Cardiac disease should be suspected when there is significant distress with cyanosis, tachycardia, murmur and hepatomegaly. Tachypnea may be marked but chest retractions are minimal. If the baby presents in shock and distress one should suspect cardiac disease [24].

2.2. Knowledge about neonatal danger signs

Although many babies will have a healthy birth and will breathe easily and begin feeding soon after being placed on the mother's breast, other babies will have a range of needs, some urgent, in order to ensure their safety and wellbeing. It is very important to check the newborn for the danger signs of illness as the actions taken to help the newborn are crucial to ensure prompt and safe care. It is also need to teach the mother to look for these signs in the newborn and advise her to seek care promptly if she observes any one of the danger signs.

A study conducted in Uganda on inadequate Knowledge of Neonatal Danger Signs among Recently Delivered Women showed that Knowledge of at least one of the defined key danger signs was present in 58.3% of all women: however, only 14.8% could name at least two signs. "Fast or difficulty breathing" was the most commonly known danger sign and referred to by almost 30% of the women. The response "fever" and "difficulty feeding" was given by approximately 20% of the women. The least known danger signs were "convulsions", "movement only when stimulated" and "hypothermia", stated by less than 5% of the respondents. There is also no significant association seen between knowing at least one danger sign and any socio-demographic characteristic were found. Knowledge of at least one of the defined key danger signs was present in 58.3% of all women: however, only 14.8% could name at least two signs. "Fast or difficulty breathing" was the most commonly known danger sign and referred to

by almost 30% of the women. The response “fever” and “difficulty feeding” was given by approximately 20% of the women. The least known danger signs were “convulsions”, “movement only when stimulated” and “hypothermia”, stated by less than 5% of the respondents [25].

A study conducted in Northern India on the perception of care giver an health worker about the danger signs of neonatal illness with 200 mothers reported that more than one-third of the caregivers recognized fever, irritability, weakness, abdominal distension/vomiting, slow breathing and diarrhea as danger signs in neonates. Seventy-nine (39.5%) of the caregivers had seen a sick neonate in their own family in the past 2 years. Continuous crying was reported as a common manifestation of neonatal illness and this was supported by the findings of eight key informant interviews with caregivers who had experienced adverse neonatal events. Twenty-three per cent (46/200) of respondents sought health care and administered medicines for neonatal illness [26].

According to the study the preferred health-care provider was either a local medical doctor (60.7%; 28/46), followed by a traditional healer (19.6%; 9/46) while the remainder were treated with home remedies. Modern medicines were administered to 78.3% (36/46), while the rest used indigenous medicine and traditional homemade medicines, either alone or in combination with modern medicine [26].

Another study conducted in Wardha India on knowledge of mothers on newborn danger signs and health care seeking behaviors reported that about 67.2 % mothers knew at least one newborn danger signs. Poor sucking, low birth weight, lethargy/unconsciousness, rapid/difficulty in breathing were known as danger signs to 34.4%, 25.8%, 25.5%, 10.3% mothers respectively, while hypothermia and convulsions were referred as danger signs by 10.3% and 8.6% mothers respectively [27].

The study also showed that majority of mothers (87.4%) responded that the sick child should be immediately taken to the doctor but only 41.8% of such sick newborns got treatment either from government hospital (21.8%) or from private hospital (20%) and 46.1% of sick babies received

no treatment. As told by mothers, the reasons for not taking actions even in presence of danger signs/symptoms were ignorance of parents, lack of money, faith in supernatural causes, non-availability of transport, home remedy, non-availability of doctor and absence of responsible person at home. For almost all the danger signs/symptoms supernatural causes were suspected and remedy was sought from traditional faith healer followed by doctor of primary health center and private doctor [27].

A study conducted in Peri-urban Wardha, India on Awareness and health care seeking for newborn danger signs among mothers in with 72 identified mothers of children (0-11 months) in social mapping by interview method reported that Out of 72 mothers, 29 (40.3%), 16 (22.2%) and 10 (13.9%) identified difficulty in breathing, poor sucking and lethargy/unconsciousness as newborn danger signs respectively. Majority *i.e.,* 55(76.4%) mothers identified fever as newborn danger signs. The awareness of mothers regarding newborn danger signs was found to be poor. Only 7(9.7%) and 2 (2.8%) identified convulsion and hypothermia as newborn danger signs respectively. All sick newborns with danger signs were taken to the doctor and only two mothers consulted faith healer for treatment [28].

According to study conducted in Mangalore, India on knowledge on warning signs of newborn illness among the 70 mothers with, reported that It was found that 43 (62%) had good knowledge and 25 (36%) of the samples had average knowledge. 1(1%) of the samples had excellent knowledge and 1(1%) of samples had poor knowledge [29].

Poor care seeking contribute significantly to high neonatal mortality in developing countries. A study conducted to identify care-seeking patterns for sick newborns in rural Rajasthan, India, reported that 70% of mothers mentioned at least one medical condition during the neonatal period that would have required medical care, and 137% reported a danger signs during the illness. However, only 63 (31%) newborns with any reported illness were taken to consult a care provider outside home, about half of these to an unqualified modern or traditional care provider. In response to hypothetical situations of neonatal illness, families preferred home treatment as the first course of action for almost all conditions, followed by modern treatment if the child did not

get better. For babies born small and before time, however, the majority of families did not seem to have any preference for seeking modern treatment even as a secondary course of action [30].

The study also showed that Perceptions of ‘smallness’, not appreciating the conditions as severe, ascribing the conditions to the goddess or to evil eye, and fatalism regarding surviving newborn period were the major reasons for the families’ decision to seek care. Mothers were often not involved in taking this critical decision, especially first-time mothers. Decision to seek care outside home almost always involved the fathers or another male member. Primary care providers (qualified or unqualified) do not feel competent to deal with the newborns [30].

2.3. Care seeking for neonatal danger signs

A study conducted in rural Ghana on recognizing childhood illnesses and exploring options for care-seeking interventions reported that symptom recognition was a care-seeking barrier, and interventions must move away from a narrow symptom recognition focus because there are other significant barriers to care-seeking; symptom recognition is not always necessary for care-seeking; not all recognition problems can be addressed; and little is known about which symptoms or symptom combinations trigger action [31].

The study also showed that financial access was a major barrier to appropriate care-seeking. Although interventions to improve care-seeking must consider logistic factors as important influencers on the care-seeking process, we found that poor physical access resulted in delayed care-seeking rather than no care-seeking. Poor access does not reduce the importance of care-seeking interventions, in fact, where access is poor caregivers would benefit greatly from being able to discern which episodes really need to be taken to a health facility [31].

Another study conducted in Southern Tanzania on understanding home-based neonatal care practice reported that majority of mothers reported that they knew what action to take when the baby became sick, but accessibility, lack of money, lack of drugs and abusive language by health

personnel were mentioned as barriers to neonatal care-seeking. Mothers discuss issues related to childcare with their female friends, husbands, aunts and other close female relatives [32].

A study conducted in South Asia on a Care-seeking practices in using formative research to design program interventions to save newborn lives Bangladesh reported that Newborn danger signs were not well known. However, when families recognize newborn illness, they do not routinely seek treatment initially from a qualified provider. Instead, they usually seek initial care from locally available unqualified practitioners, such as traditional healers. The reasons are traditional beliefs (for example, the influence of evil spirits and harmful effects of allopathic treatments), lack of understanding of the problem, distance to clinics or facilities, costs of treatment and perceived lack of quality of health services [6].

In general the study in Nepal showed that knowledge of Knowledge of newborn danger signs was poor. The finding also revealed that women were more knowledgeable than men. Most people use home remedies to treat newborns with danger signs, or they call faith healers. Only after these remedies have failed to alleviate the problem do they seek care from health facilities [6].

A study conducted in Uttar Pradesh, India on gender differences in perception and care-seeking for illness of newborns. Perception of illness was significantly lower in incidence among households with female versus male newborns. These results suggest that, during the neonatal period, care-seeking for girls is neglected compared to boys, laying a foundation for programs and further research to address gender differences in neonatal health in India [34].

A study conducted in India on the counselling program in improving care seeking behavior in families with sick children conclude that Mothers' appreciation of the need to seek prompt and appropriate care for severe episodes of childhood illness increased, but their care seeking behavior did not improve significantly [35].

Generally neonates and young infants often present with non-specific symptoms and signs that indicate severe illness. These signs might be present at or after delivery or in a newborn presenting to hospital or develop during hospital stay. Because most babies are born at home or

are discharged from the hospital in the first 24 hours, increasing community awareness of the danger signs of newborn and improving care seeking of newborn care is of critical importance for improving newborn survival.

Conceptual Framework

This is the conceptual frame work developed specifically for this study by the principal investigator through reviewing related literatures. The frame work emphasizing on the need to focus on major determinants of mothers' knowledge (recognition) about neonatal danger sign and care seeking behavior. And it is believed to support the study entitled as "Assessment of knowledge and health care seeking behavior for neonatal danger signs among mothers."

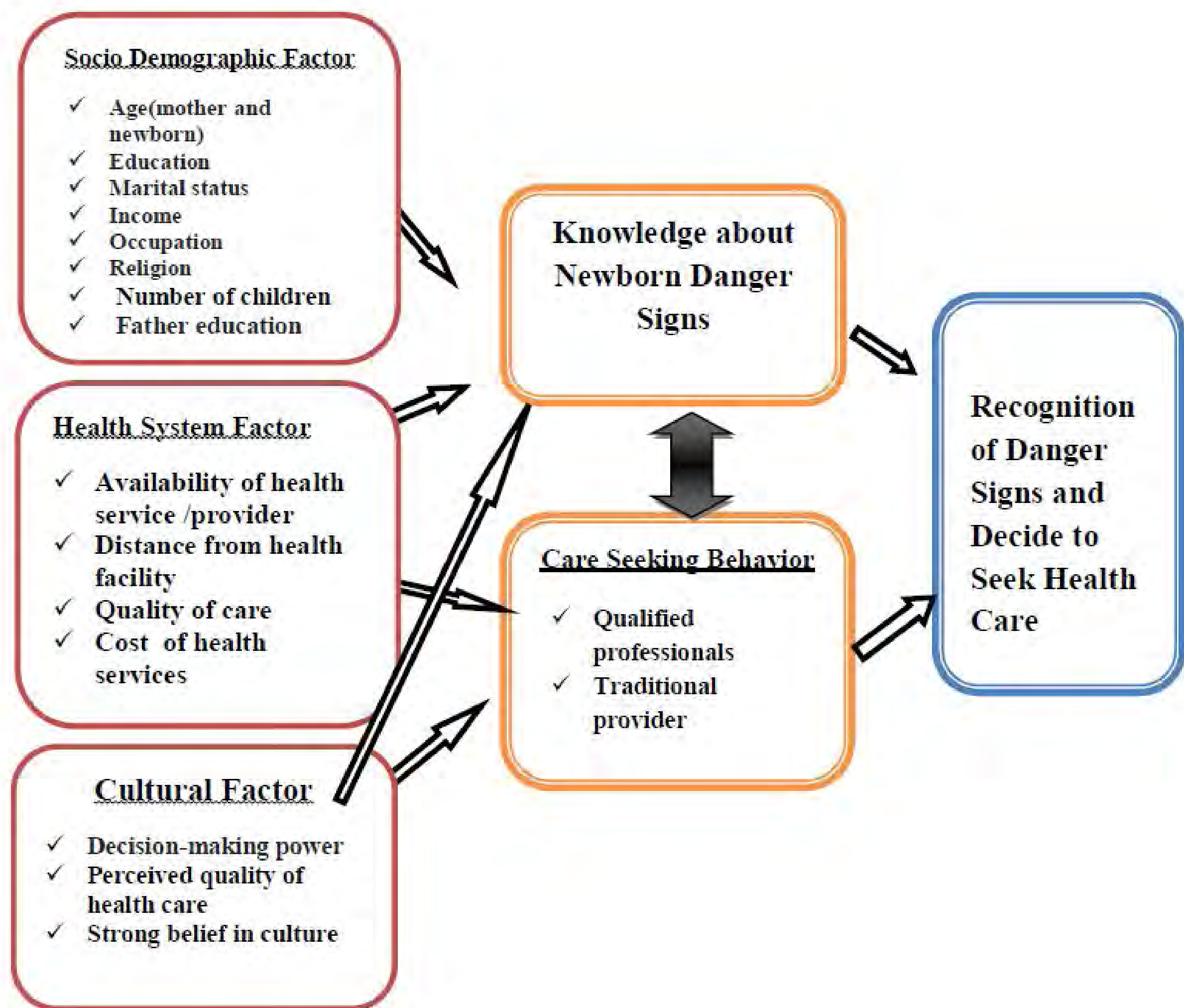


Figure 1 Conceptual framework for Knowledge and Health Care Seeking Behavior for Newborn Danger Signs, 2014.

3. OBJECTIVE

3.1. General Objective

The general objective of this study is to find out knowledge and health care seeking behavior about neonatal danger signs among mothers visiting immunization unit in selected governmental Health Centers, Addis Ababa, Ethiopia, 2014

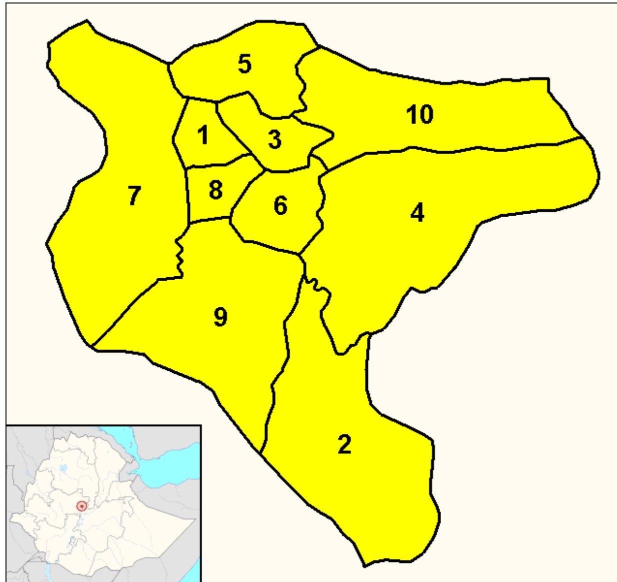
3.2. Specific Objectives

1. To determine mothers knowledge about neonatal danger signs.
2. To assess mothers health care seeking behavior for neonatal danger signs.

4. METHODS AND MATERIALS

4.1. Study Area

The study was conducted in Addis Ababa, the capital city of Ethiopia. Addis Ababa is located at 9°1′48″N latitude and 38°44′24″E longitude. According to Central Statistical Agency (CSA), the total population of Addis Ababa was estimated to 3,048,631 of whom 1,595,968 were females and the rest 1,452,663 were males. Under-five mortality rates in Addis Ababa was 53 per 1,000 live births which was the lowest compared to other urban centers in Ethiopia. There are 10 sub cities and 116 weredas in the city administration. There are 42 hospitals (36 private and 6 governments), 53 Health Centers (all governments), 700 health clinics from low to higher (all Private), 235 drug store, 293 pharmacies and 2 health posts both government and private owns [34]



http://commons.wikimedia.org/wiki/File:Addis_Ababa_%28district_map%29.png

4.2. Study Design and Period

An institutional based cross sectional study design using quantitative and qualitative methods was conducted to assess knowledge and health care seeking behavior about neonatal danger signs among mothers visiting immunization unit in selected governmental health centers, Addis Ababa, Ethiopia from November 2013- June 2014.

4.3. Source Population

The source population for this study was all mothers who have children less than one year of age of Addis Ababa, Ethiopia.

4.4. Study Population

The study population was mothers who have children less than one year of age and who are attending well baby clinic for immunization during data collection period in selected governmental Health Centers, Addis Ababa, Ethiopia.

4.5. Inclusion and exclusion criteria

4.5.1. Inclusion

- All mothers those who have children less than one year of age.
- All mothers those who come for immunization for their infants.
- Mothers who are willing to participate in the study.

4.5.2. Exclusion

- Mothers those who are not resident in Addis Ababa city.
- Mothers those who are not mentally and physically capable of being interviewed
- Mother who are not willing to participate in the study.
- Mothers with children greater than one year of age.

4.6. Sample Size Determination and Sampling Procedure

4.6.1. Sample size determination

Sample size was determined by using single population proportion formula based on the following assumptions: 95% confidence level, finding 67.2% of mothers knew at least one neonatal danger sign) from previous study (27), and a 5% margin of error.

$$n_i = \frac{Z^2_{\alpha/2}(p(1-p))}{d^2}$$

Where n= minimum sample size required for the study

Z= standard normal distribution (Z=1.96) with confidence interval of 95% and α=0.05

P=prevalence/ population proportion (p= 0.672)

d=is a tolerable margin of error (d=0.05)

$$N= (1.96)^2 * 0.672\ (1-0.672)/(0.05)^2$$

With the above inputs the minimum sample required for qualitative study was 339. Taking 10% non response rate the final sample size was 373.

4.6.2. Sampling Technique and Procedure

4.6.2.1. Sampling Procedure of Quantitative Study

Simple random sampling method was used to select 16 governmental health centers from the total of 53 governmental health centers found in Addis Ababa. The desired number of clients was determined based on the amount of patient flow in each health centers using proportional allocation. Individual study participants were selected by using convenient sampling technique until required sample size obtained during the actual data collection period. Finally data was collected from Lideta, T/Haym, Abnet, Addisketema, Arada, Baeta, Kebena, Janmeda, Bole 17/20, Kazanchis, Kirkos, Kolfe, Alem Bank, Akaki, Addisu Mikael, Sheromeda health centers.

$$n\ in_{health\ center} = n_f * \frac{N_{in\ a\ health\ center}}{N_{total}}$$

Where: n in health center= proportion of mothers in a given health center

N-total = total number of mothers in the selected health centers

nf = Total sample size

N in a health center= average number of patient flow in immunization clinic in a given health center.

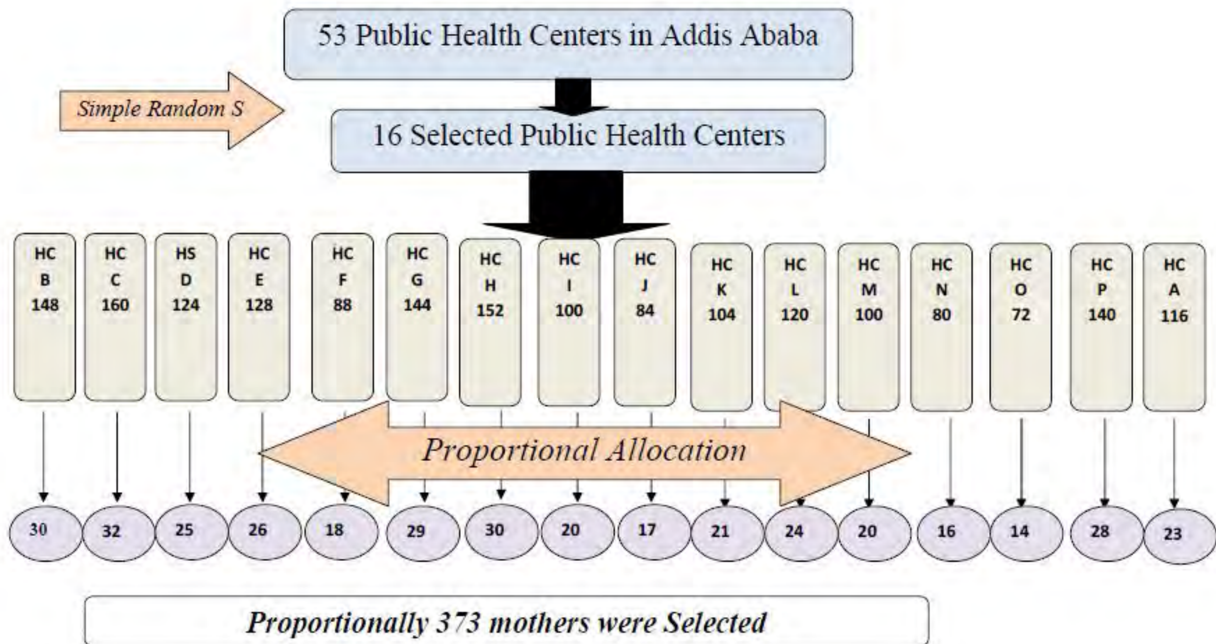


Fig 2: Schematic representation of sampling procedure

4.6.2.2. Sampling Procedure of Qualitative Study

By listing those who are not participated in the actual study purposive sampling was used to select mothers who can participate for the in-depth interview. And a minimum of 8 mothers was selected.

4.7. Variables in the study

4.7.1. Dependent variables

- Knowledge about neonatal danger signs
- Health care seeking behavior

4.7.2. Independent variable

- ✓ Age of mother
- ✓ Age of child
- ✓ Marital status
- ✓ Occupation
- ✓ Ethnicity

- ✓ Religion
- ✓ Mother educational level
- ✓ Father educational level
- ✓ Income
- ✓ Number of children
- ✓ Distance from the health center
- ✓ Decision making ability
- ✓ Perceived ability of health professionals

4.8. Operational Definition

- **Neonatal** period refers to the first 28 days of life (divided into early neonatal period (first 7 days) and late neonatal period (days 8-28).
- Neonatal **danger signs** refer to the presence of clinical signs that would indicate high risk of neonatal morbidity and the need for early therapeutic intervention.
- **Health Care Seeking Behavior** is defined as any action undertaken by individuals who perceive they have a health problem for the purpose of finding an appropriate remedy.
- **Governmental Health Centers** is a governmental organization that serves primary health care for the community.
- **Highly knowledgeable** mothers those who answered more than 80% of the knowledge questions.
- **Moderately knowledgeable** mothers those who answered between 55-79.9% of the knowledge questions.
- **Poor knowledgeable** mothers those who answered <55% of the knowledge questions.

4.9. Data Collection Instrument and Procedure

4.9.1. Data collection instrument

Quantitative data was collected from selected health facilities consecutively starting from March 15 up to April 15, 2014 by using a pretested structured questionnaire. Structured English version questionnaire was prepared by using literature review used in this study and related studies done in other countries. It includes three main parts about mothers' socio-demographic factors, knowledge and health care seeking behavior about neonatal danger signs. For qualitative data a semi-structured interview guide containing questions to explore knowledge and care seeking behavior of mothers about neonatal danger signs was designed in English and translated to Amharic version and was used to conduct an in-depth interview.

4.9.2. Data Collection Procedure

Before the actual data collection, pretest (5% of questionnaire) was done and data collectors taken half day training about the aim of the study, the content of the instrument, and how to conduct it. Diploma graduate Nurses were recruited as data collectors and Bachelor of Science graduate Nurses were recruited as supervisors. Face to face interview was held privately after verbal consent is obtained from each patient by using Amharic translated structured questionnaire. Clients were interviewed after they got the service. The data was collected for 30 days under close supervision and facilitation by the principal investigator. For qualitative data in-depth interview was conducted with mothers who were not participated in the quantitative study.

4.10. Data Quality Assurance

The questioner was prepared by the principal investigator in English version and translated in to Amharic version and back to English version. There were two nursing expatriates who checked the instrument for the content validity. According to their advice, the comments were accommodated before data collection. The questionnaire was pretested to minimize ambiguity of words applicability to the local context in Hiwot Amba Health Center which was not included in the study. Additional adjustment was made based on the results of the pre-test. Data collection was carried out by trained nurses who were from other department of the health facilities. Close supervision was taken during data collection and questioners were checked daily for consistency and completeness by data collectors and supervisors. Finally the completeness of the

questionnaire was checked before entering data into computer software program and before analysis and interpretation.

4.11. Data Analysis

Data entering, coding and clearing was performed using Epinfo version 3.5.4 and the analysis was done using SPSS version 16. Descriptive statics, Logistic regression was used for the analysis. P- Value of <0.05 and 95% confidence level was used as a difference of statistical significance. Finally results were compiled and presented using tables, graphs and texts.

Qualitative data which is from an in-depth interview was transcribed by arranging the record according to forwarded questions and translated to English version. Then thematic data analysis method was used .Then comparison was done on the responses of different mothers to identify similarities and differences. Finally, information was linked to its congruence with data obtained from quantitative findings.

4.12. Ethical Clearance

Paper of approval and letter of permission was obtained before the beginning of data collection from IRB of Departmental of Nursing and Midwifery, College of Health Science, Addis Ababa University. Letter from the Research Ethics Committee was submitted to Addis Ababa Regional Health Bureau and to selected health centers. The purpose of the study was briefly explained for the respondents and informed consent was obtained. During data collection the study participants were informed that the information collected would be kept anonymous and confidential.

4.13. Dissemination

The study result will be disseminated through AAU website, Addis Ababa University nursing library, Addis Ababa city Regional Health bureau, International Journals, and to Federal Ministry of Health maternal and child health service office.

5. RESULT

5.1. Quantitative Study Result

A total of 363 mothers were included in this study making a response rate of 97.3%. The mean age of respondents was 27.8 (SD±4.7) years and the mean age of infants was 14.94 (SD±11.5) weeks. Majority of the respondents accounting for 123(30.9%) were Amhara by ethnicity, 208 (57.3%) Orthodox, 306 (84.3%) currently in marital union, 181(49.9%) were house wife, 103(28.4%) were grade Five to Eight. Regarding father's educational level majority 113(32.9%) were grade nine to twelve. Out of the total respondents 199 (54.8%) had regular source of income and of which 186 (93.5%) had a monthly income of less than or equal to 1500 Birr. Regarding number of children majority of the respondents 274 (75.5%) had one to two children.

Table 1: Distribution of socio demographic characteristics of mothers in selected governmental **health centers, Addis Ababa, Ethiopia, 2014.**

Variable	Response	Frequency	Percent (%)
Age of mother(yr)	10-19	10	2.8
	20-29	220	60.6
	30-39	131	36.1
	40-49	2	0.6
	Total	363	100
Age of child(wk)	1-8	168	46.3
	9-16	83	22.9
	17-24	55	15.2
	25-32	39	10.7
	33-40	18	5
	Total	363	100
Ethnicity	Amahara	123	33.9
	Oromo	82	22.6
	Gurage	66	18.2
	Tigre	44	12.1
	Silte	29	8
	Welayta	9	2.5
	Gamo	8	2.2
	Others	2	0.6
	Total	363	100
Religion	Orthodox	208	57.3
	Muslim	87	24
	Protestant	48	13.2
	Catholic	18	5

	Other	2	0.6
	Total	363	100
Educational status of mother	Illiterate	32	8.8
	Read & write	31	8.5
	Primary(1-4)	72	19.8
	Primary (5-8)	103	28.4
	Secondary (9-12)	85	23.4
	Tertiary(>12)	40	11
	Total	363	100
Occupation	House wife	181	49.9
	Private employee	88	24.2
	Government employee	46	12.7
	Merchant	37	10.2
	Student	11	3
	Total	363	100
Marital status	Married	306	84.3
	Single	20	5.5
	Separated	15	4.1
	Divorced	13	3.6
	Widowed	9	2.5
	Total	363	100
Father's educational status	Illiterate	7	2
	Read & write	17	5
	Primary(1-4)	36	9.9
	Primary (5-8)	82	23.9
	Secondary (9-12)	113	32.9
	Tertiary(>12)	88	25.7
	Total	343	100
Regular source of income	Yes	199	54.8
	No	164	45.2
	Total	363	100
Average monthly income	≤1500 ETB	186	93.5
	>1500 ETB	13	6.5
	Total	199	100
Number of children	1-2	274	75.5
	3-4	87	24
	5-6	2	0.6
	Total	363	100

Knowledge about Neonatal **Danger Signs**

From the total respondents about 280(77.1 %) mothers knew at least one neonatal danger signs. The most common mentioned neonatal danger signs were diarrhea 165(58.9%), persistent vomiting, 123(43.9%), fever 92(32.9%), and cough 72(25.7%). Only 14(4.6%), 12(4.3%), 10(3.6%) and 8(2.9%) identified pus discharge from umbilicus, convulsions, hypothermia (decrease body temperature) and lethargy/unconsciousness as neonatal danger signs respectively.

Table 2: Recognition of neonatal **danger signs of mothers in selected** governmental **health centers, Addis Ababa, Ethiopia, 2014**

VARIABLE	RESPONSE	FREQUENCY	PERCENT (%)
Know about danger signs	Yes	280	77.1
	No	83	22.9
	Total	363	100
Recognition of danger signs	Diarrhea	165	58.9
	Persistent vomiting	123	43.9
	Fever	92	32.9
	Cough	72	25.7
	Continuous crying	67	23.9
	Unable to breast feed	54	19.3
	Difficulty of breathing	37	13.2
	Constipation	22	7.9
	Skin rash/pustules	19	6.8
	Pus discharge from umbilicus	13	4.6
	Skin color yellow (jaundice)	13	4.6
	Convulsion	12	4.3
	Decreased body temperature	10	3.6
	Lethargic/unconsciousness	8	2.9
	Not crying	8	2.9
	Red/discharge from eyes	7	2.5
	Unable to pass urine	2	0.7

Of the total respondents who recognize at least one neonatal danger signs, the major Source of information 144(51.4%) was health professionals, and followed by media, 49(17.5.

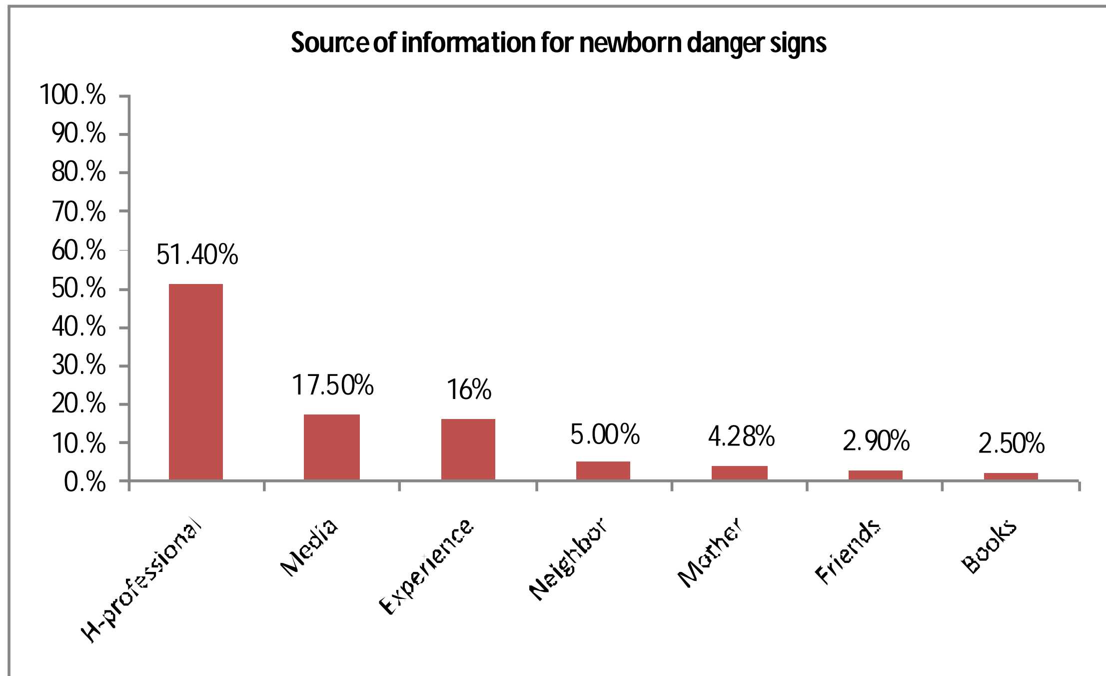


Figure 3: Source of information for neonatal **danger signs of mothers in selected** governmental **health centers, Addis Ababa, Ethiopia, 2014.**

Majority of mothers 196(54%) responded that the cause of neonatal illness was poor hygiene and followed by 66(18.2%) lack of breast feeding.

Table 3: Response of Cause of Neonatal Illness of Mothers in Selected governmental Health Centers, Addis Ababa, Ethiopia, 2014

Variable	Response	Frequency	Percent (%)
Cause of neonatal illness	Poor Hygiene	196	54
	Poor feeding	66	18.2
	Exposure to cold/wind	56	15.4
	Don't know	39	10.7
	Evil spirit (eye)	4	1.1
	Other	2	0.6
	Total	363	100

Majority of mothers 312(86%) recognize signs of neonatal illness that need immediate health care. From this fever 233(74.7%), diarrhea 173(55.4%), persistent vomiting 137(43.9%), unable to breast feed 73(23.4%), and 66(18.2%) continuous crying respectively, were major signs identified as need immediate health care. The main source of information for recognition of signs of illness that need immediate health care seeking was health professional 185(59.3%) and followed by media 49(15.7 %) and self experience 38(12.2%). And others got this information from 12 (3.8%) neighbor, 10(3.2%) grandmother, 9(2.9%) friend, and 9(2.9%) reading book.

Table 4: Danger signs of neonate **that need immediate health care seeking of mothers in selected** governmental **health centers, Addis Ababa, Ethiopia, 2014.**

VARIABLE	RESPONSE	FREQUENCY	PERCENT (%)
Immediate health care seeking for neonatal danger signs	Yes	312	86
	No	51	14
	Total	363	100
Conditions that need immediate health care	Fever	233	74.7
	Diarrhea	173	55.4
	Persistent vomiting	137	43.9
	Unable to breast feed	73	23.4
	Continuous crying	66	18.2
	Cough	60	19.2
	Difficulty of breathing	47	15.1
	Skin rash/pustules	26	8.3
	Constipation	24	7.7
	Skin color yellow (jaundice)	21	6.7
	Pus discharge from umbilicus	19	6.1
	Cold(decrease body temperature	15	4.8
	Convulsion	14	4.5
	Red/discharge from eyes	10	3.2
	Lethargic/unconscious	8	2.6
	Unable to pass urine	7	2.2
	Not crying	6	1.9

From the total respondents 188(51.8%) the most common way to identify poor feeding was unable to suck followed by 62 (17.1%) breast engorgement, 41 (11.3%) unable to swallow, 39 (10.7%) crying, 16 (4.4%) suck for long time, 11 (3%) lack of interest, and 6 (1.7%) did not know.

One hundred thirty six (37.5%) respondents did not mention any signs of lethargic/ unconsciousness while others mentioned lack of energy, weakness, sleep long time, unable to suck, unable to awake for breastfeeding, 96(26.4%) , 61(16.8%), 28(7.7%), 24(6.6%), and 18(5%), respectively. Most of the respondents 203(55.9%) appreciate the presence of fever by touching forehead while 115(31.7%) touching body, 14(3.9%) by presence of sweating, 8(2.2%) by using thermometer, 6(1.7%), and 17(4.7%) did not know.

Regarding action for diarrhea about 166(45.7%) of mothers mentioned take to health facility. Others replayed 76(20.9%) give ORS, 59(16.3%), continue breastfeeding, 35(16.3%) do nothing, 22(6.1%) home remedy (TENADAM), 5(1.4%) not give breast feeding.

Most of the respondents 114(31.4%) did not know signs of unable to pass stool/constipation. About 91(25.1%) mentioned unable to pass stool for more than 2 days, and others mentioned , dry stool, irritability/crying , pain during defecation , hard abdomen , 80(22%) , 40(11%) , 21(5.8%) , 17(4.7%), respectively.

Most of the study participants 170(46.8%) did not know signs of breathing problems in neonates. Others mentioned apnea, fast breathing, runny nose, cough, and grunting, 79(21.8), 31(8.5%), 29(8%), 27(7.4%), 27(7.4%), respectively.

Out of the total participants 333(91.7%) knew the importance of the continuing breast feeding for sick neonate. About 325(89.5%) respondents feed first milk (colostrum) to their neonates while 38(10.5%) mothers did not. The main reason given was 18(5%) mothers forbid, 10(2.8%) bad to the baby, 4(1.1%) don’t know use, 2 (0.6%) baby was sick, and 1(0.3%) it is not clean.

Level of knowledge about danger signs of neonate

According to this study most of respondents about 88 (24.2%), were highly knowledgeable, 217 (59.8%) moderately knowledgeable and 58 (16%) were poor knowledgeable about neonatal danger signs.

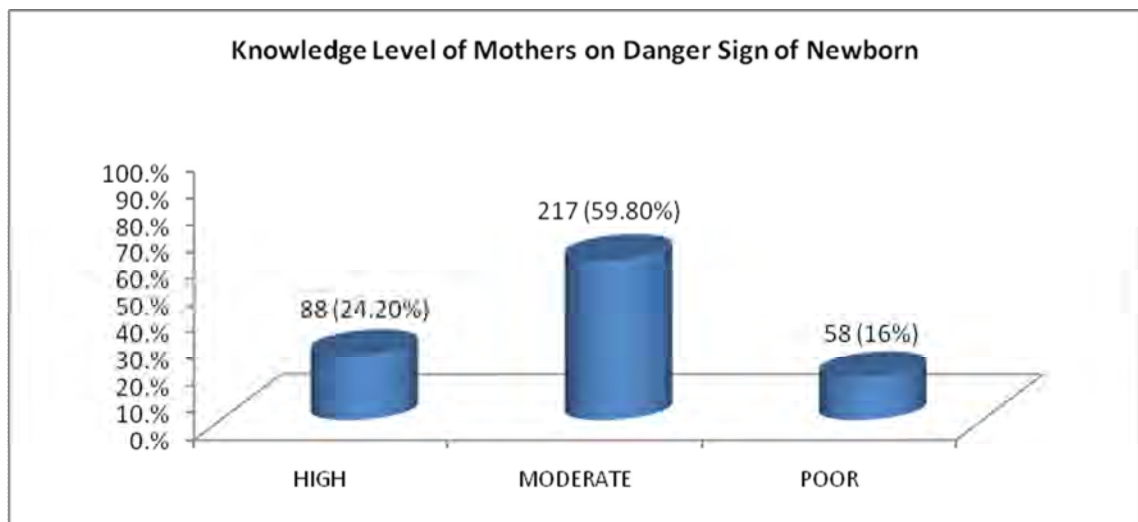


Figure: 4- Knowledge level about neonatal danger signs among mothers in selected governmental health centers, Addis Ababa, Ethiopia, 2014.

Health Care-Seeking for Neonatal Danger Signs

About 121(33.3%) of the mothers had seen a sick neonate in their family in the past one year. And 52(43%) of neonates manifested as fever, 42(34.7%) diarrhea/loose stools, and 28(23.1%) cough/ breathing problems.

Table 5: Mothers' report on the presentation danger signs in a sick neonate in Selected governmental **Health Centers, Addis Ababa, Ethiopia, 2014**

Variable	Response	Frequency	Percentage (%)
Seen Sick Neonate in a Family	Yes	121	33.3
	No	242	66.7
	Total	363	100
Signs of Sickness recognized by mothers	Fever	52	43
	Diarrhea/loose stools	42	34.7
	Cough/breathing problems	28	23.1
	Vomiting /Abdominal distention	15	12.4
	Constipation stomach pain	14	11.6
	Inability to breast feed	12	9.9
	Skin rash/pustule	12	9.9
	Continuous crying /	10	8.3
	Irritability	9	7.4
	Skin color yellow (jaundice)	9	7.4
	Lethargy /unconscious	4	3.3

Health care was sought for 79 (65.3%) neonates. The rest were treated with home treatment, traditional treatment, religious treatment, 25(20.7%), 8(2.2%), 5(1.4%) respectively, while 4(1.1%) did nothing for their sick neonates.

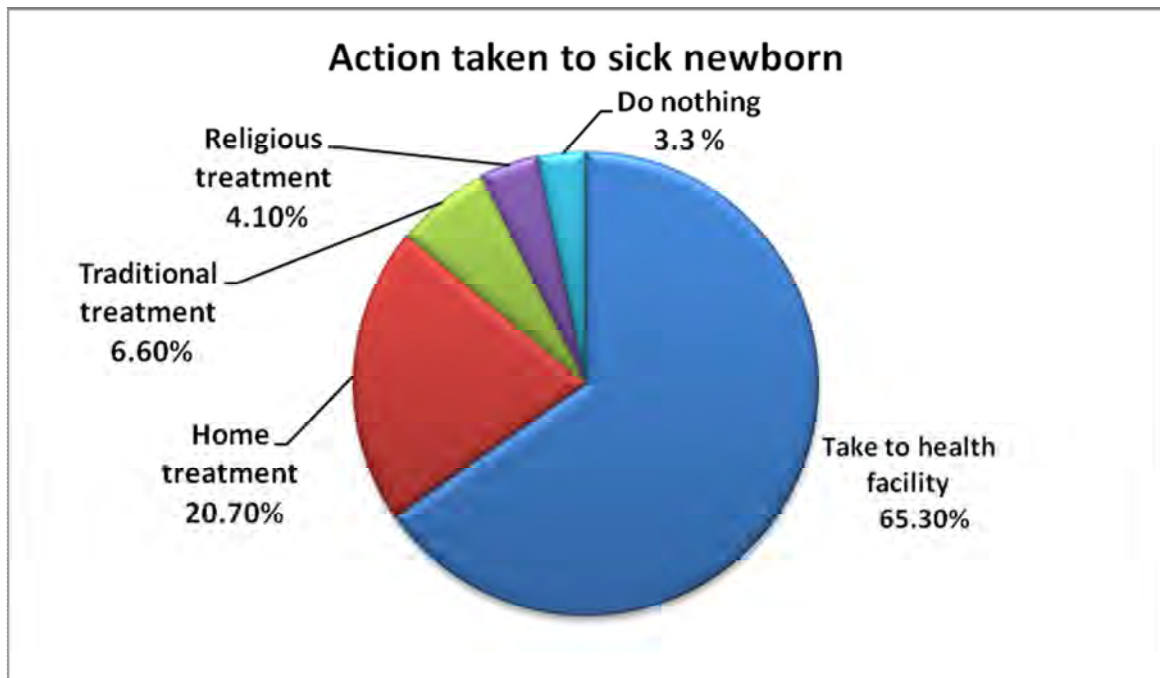


Figure 5: Action taken for sick neonates of mothers in selected governmental **health centers, Addis Ababa, Ethiopia, 2014.**

Among 121(33.3%) mothers who sought health care for their sick neonate majority 40(50.6%) preferred government health centers and followed by 23(29.1%), private health facilities. Regarding the time taken to seek health care for sick neonate majority 30(38%) of mothers brought their neonate to health facilities within one to four hours after recognition of signs of illness. And others spent one day, two days, five to eight hours, more than two days before seeking health care, 21(26.6%), 16(20.3%), 11(13.9%), 1(1.3%), respectively.

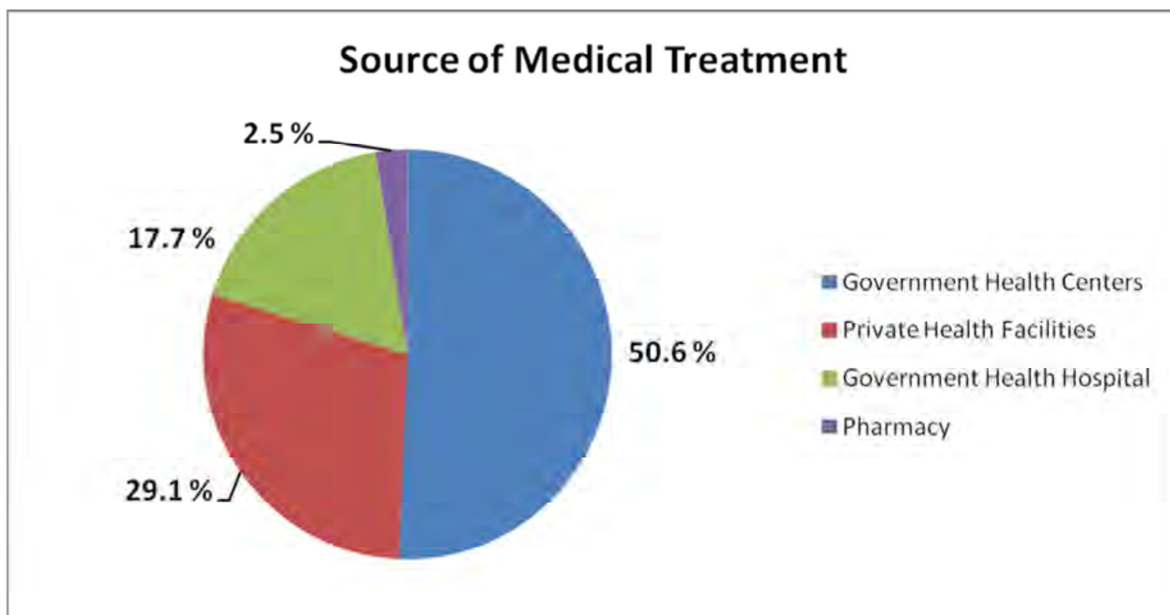


Figure 6, Source of medical treatment for sick neonates of mothers in selected governmental **health centers, Addis Ababa, Ethiopia, 2014.**

When we look at reason for delayed health care seeking majority 24 (49%) of mothers mentioned the child would be better. Other reasons mentioned include medication not given to neonate, to begin with home treatment, it is not sever, lack of awareness, and traditional treatment and neonate not take out of home.

Table 6: Reason for delay of health care seeking for sick neonate **of mothers in selected** governmental **health centers, Addis Ababa, Ethiopia, 2014**

	Responses	**Frequency**	**Percent (%)**
Reason for delayed health care seeking	Baby would be better	24	49
	Medication not given to neonate	10	20.4
	To start with home treatment	4	8.2
	It is not sever	4	8.2
	Lack of awareness	3	6.1
	Traditional treatment	3	6.1
	Neonate not take out of home	1	2
	Total	49	100

Regarding the mothers perception towards the ability of health professional in neonatal care unit of the health center, most respondents accounting for 133 (36.6%) said health professionals were good.

Variable	Response	Frequency	Percent (%)
Perceived ability of health professionals	Good	133	36.6
	Excellent	93	25.6
	Very good	67	18.5
	No idea	30	8.3
	Fair	24	6.6
	Poor	16	4.4
	Total	363	100.0

Table 7: Perception of mothers about ability of health professional working in neonatal and child health unit in selected governmental **health centers, Addis Ababa, Ethiopia, 2014**

Out of the total respondents majority 250 (68.9%) of mothers could decide on health care seeking for their sick neonate while 55 (15.5%) decision could be decided by fathers. Other said decision could be made by grandparent, neighbors and relatives.

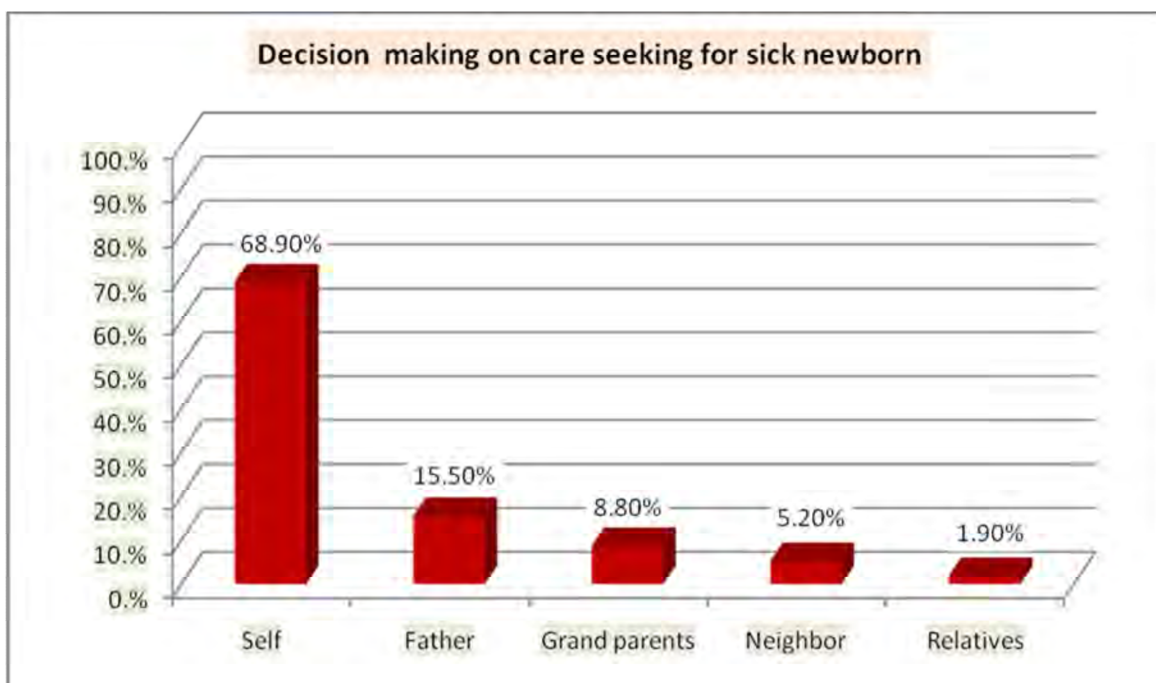


Figure 7: Decision making for sick neonate of mothers in selected governmental **health centers, Addis Ababa, Ethiopia, 2014.**

In the binary logistic regression analysis Table 7, having attended primary school (5-8 grade) (COR=2.0(95% CI: 1.073, 5.481) and being private employee (COR; 7.603, 95% CI: 1.936, 29.856), were associated with mentioning of at one neonatal danger signs. And there is no a significant association with mother source of information and their knowledge for neonatal danger signs.

In a multivariate logistic regression analysis shown in Table 8, those mother whose child aged from 9-16 weeks were 12.9 times more knowledgeable for neonatal danger signs than those whose child was aged below and above the specified week, (AOR 12.9, 95% CI (2.2, 76.25, P=0.004). Regarding level of education of father, mothers who had partner joining secondary education (9-12 Grade) were 2.893(AOR:2.893, 95% CI: (1.067,17.854, P=0.032) times more likely to recognize (have knowledge) about neonatal danger signs than mothers who had partner having below or above mentioned level of education.

Regarding source of income mother who have regular source of income were 0.716 (AOR: 0.716, 95% CI: (1.007, 3.168, P=0.045) times less likely to have recognition or know about neonatal danger sign.

Mother those who seen sick neonates in their family in the last one year were 1.235(AOR: 1.235, 95% CI (1.015, 2.961, P=0.029) time more knowledgeable about neonatal danger signs than mothers those who did not.

Regarding action taken to sick neonate mothers those who take their sick neonate to health facilities were 1.43 (AOR: 1.43, 95% CI: 1.04, 3.062, P=0.038) times more knowledgeable about danger signs of neonate.

Regarding decision about health care seeking for sick neonate mothers those who can decide by themselves were 2.031(AOR: 2.031, 95% CI,(1.001,16.927,P=0.01) time more knowledgeable (recognize) about neonatal danger signs than those whose decision made by father, grandparents, neighbor and relatives.

Table 8: Association between knowledge of at least one neonatal danger signs and selected variables of mothers in selected governmental **health centers, Addis Ababa, Ethiopia, 2014.**

	variable		**Knowledge About Neonatal Danger Signs COR 95% C.I**	**Knowledge About Neonatal Danger Signs AOR 95.0% C.I**
1	**Age of Child**			
	1-8 Wk	168	1.870(0.78,4.484)	4.367(0.78,24.457)
	9-16 Wk	83	3.306(1.322,8.266)	12.97(2.206,76.25)*
	17-25 Wk	55	1.770(0.583,5.372)	1.03(0.073,14.614)
	26-32 Wk	39	2.637(0.718,9.687)	2.941(0.18,48.134)
	33-49 Wk	18	1	1
2	**Educational Level**			
	Illiterate	32	1	1
	Read And Write	31	5.250(1.034,26.656)	1.131(0.062,20.545)
	Primary (1-4 Grade)	72	6.222(1.964,19.511)	0.893(0.067,11.854)
	Primary (5-8 Grade)	103	2.000(1.073,5.481)*	1.231(0.189,8.038)
	Secondary (9-12 Grade)	85	1.441(0.613,3.387)	1.584(0.388,6.466)
	Above 12 Grade	40	2.646(1.244,5.63)	2.392(0.738,7.75)
3	**Educational Status of Father**			
	Illiterate	7	1	1
	Read And Write	17	5.250(1.034,26.656)	1.131(0.062,20.545)
	Primary (1-4 Grade)	36	1.441(0.613,3.387)	1.584(0.388,6.466)
	Primary (5-8 Grade)	82	2.000(0.73,5.481)	1.231(0.189,8.038)
	Secondary (9-12 Grade)	113	6.222(1.964,19.511)	2.893(1.067,17.854)*
	Above 12 Grade	88	2.646(1.244,5.63)	2.392(0.738,7.75)
4	**Regular Source of Income**			
	Yes	199	0.425(0.257,0.702)	0.716(1.007,3.168)*
	No	164	1	1
5	**Occupation**			
	Government Employee	46	0.694(0.311,1.544)	0.645(0.125,3.329)
	Private Employee	88	7.603(1.936,29.856)*	0.704(0.197,2.509)
	Student	11	0.634(0.336,1.196)	0
	Merchant	37	0.252(0.074,0.858)	0.152(0.014,1.667)
	House Wife	181	1	1

6	**Seen Sick** Neonate **in their Family**			
	Yes	121	0.518(0.294,0.913)	1.235(1.015,2.961)*
	No	142	1	1
	Action taken to sick neonate			
7	Take to health facility	79	0.960(0.41,2.249)	1.43(1.04,3.062)*
	Home treatment	25	2.681(1.072,6.706)	4.038(1.497,10.894)
	Traditional treatment	8	12.375(1.132,35.23)	0.897(0.294,2.735)
	Do nothing	4	1	1
8	**Source Of Information**			
	Health Professionals	144	0.417(0.18,0.967)	0.48(0.144,1.604)
	Media	49	0.249(0.071,0.87)	0.311(0.06,1.628)
	Neighbor	13	0.933(0.21,4,153)	0.614(0.074,5.104)
	Friends	8	1.4(0.293,6.68)	0.525(0.058,4.721)
	Reading Book	7	0	0
	Grandmother	13	0.7(0.127,3.868)	0.906(0.095,8.688)
	Experience	46	1	1
9	**Decision for Health Care Seeking**			
	Self	250	1.057(0.011,4.305)	2.031(1.001,16.927)*
	Father	55	0.211(0.37,1.193)	0.174(0.006,5.47)
	Grand Parent	32	0.360(0.055,2.338)	0.16(0.004,6.684)
	Neighbor	19	0.585(0.098,3.485)	0.039(0.001,1.685)
	Relatives	7	1	1

5.2. Qualitative Study Result

A total of eight mothers were participated in the in-depth interview of assessment of knowledge and health care seeking behavior about neonatal danger signs. The respondents' age range was in between 25-35 years. Most of the respondents were housewives and were in marital union. The respondent opinion and experience was written as follows.

Knowledge about Newborn Danger Signs

Most of the in-depth interview participants mentioned fever diarrhea persistent vomiting, unable to suck, fast breathing, continuous crying, cough, yellow skin (jaundice) as the neonatal danger signs. A 31 years old mother said that "newborn only express its hunger, pain, and discomfort by crying, therefore, crying is a major sign of any problem the newborn developed". And most of the participants also mentioned health professional were major source of information for their recognition of neonatal danger sign

Most of the in-depth interview participants also mentioned lack of cleanliness, mother's health condition, amount of breast milk mother produce, lack of care and warmth, exposure to cold weather, inappropriate positioning during holding a newborn (KICHIT), as cause for neonatal illness. A 29 years old mother said that "newborn need care and breast feeding unless they easily develop fever and diseases."

Health Care-Seeking for Neonatal Danger Signs

Majority of respondents mentioned fever, diarrhea, persistent vomiting, unable to breast feed and continuous crying as neonatal danger signs that need immediate health care. A 35 years old mother said that "newborn has no ability to resist disease therefore need immediate health care." Most of the in-depth interview participants mentioned major reason for delay for health care seeking was newborn cannot be given any medication, the new born would be better, lack of awareness about neonatal illness, use home treatments and use of culturally believed treatments. A 26 years old mother said that "nurses did not give medication to newborns therefore I will never take my sick newborn to health center unless it is get worse."

6. DISCUSSION

This study tried to assess knowledge and health care seeking behavior about new neonatal born danger signs among mothers visited immunization unit in selected governmental health centers of Addis Ababa, Ethiopia.

This study showed that about 77.1 % mothers knew at least one neonatal danger sign while 22.9% of mothers did not know any of the danger signs of neonate. The most common mentioned neonatal danger signs were Diarrhea 58.9%, Persistent vomiting 43.9%, Fever 32.9%, and cough 25.7%. Only few mothers mentioned convulsion 7.9%, pus/ discharge from umbilicus 4.6%, hypothermia/decrease body temperature 3.6%, and lethargy/ unconsciousness 2.9% as danger signs of neonate. This finding was comparably more than a study conducted in Rural Wardha, India, in which 67.2 % of mothers of knew at least one neonatal danger sign. This difference might be due to difference in health intervention activities in the areas. And another study conducted in Peri-Urban Wardha, India 40.3% mothers identified difficulty in breathing, 16(22.2%) poor sucking and 13.9% lethargy/unconsciousness as neonatal danger signs respectively. Only 9.7% convulsion and 2.8% hypothermia identified as neonatal danger signs respectively. In both studies few mothers identified convulsions and hypothermia as danger signs of neonate.

According to this study most mothers mentioned 54% poor hygiene, 18.2% unable to suck 15.4% exposure to cold weather/wind and 1.1% evil spirit/eye as cause of neonate illness while 11.3% mothers don't know cause of neonatal illness. This finding is different with study conducted in Wardha, India in which almost all the danger signs/symptoms supernatural causes were suspected. This might be socio cultural deference between the study participants.

This study showed that most of 74.7% mothers recognize signs of neonate illness that need immediate health care, in which fever, diarrhea, persistent vomiting, unable to breast feed, and continuous crying were major. This finding is comparably more than study conducted in rural Rajasthan, India n which 70% mothers reported at least one medical condition during the neonatal period that would have required health care. This difference might be varying focus in the health education provided to mothers or community interventions aimed at the study areas.

According to this study about 24.2%, were highly knowledgeable, 59.8% moderately knowledgeable and 16% were poor knowledgeable about neonatal danger signs. This result is lower than study conducted in Mangalore, Karnataka, INDIA in which 62% had good knowledge and 36% of the samples had average knowledge, 1% of the samples had excellent knowledge and 1% of samples had poor knowledge. This difference could be attributed to presence or absence of relevant intervention to promote neonatal care in this study area.

The result of this study showed that 33.3% of mothers had seen a sick neonate in their family in the past one year, with common manifestation of fever 43%, Diarrhea/loose stools 34.7%, Cough/ breathing problems. And health care was sought for 65.3% neonates. Similar study conducted in Northern India 39.5% of care givers seen sick neonate in their family with a common manifestation of fever 72.14 % and only 23% of mothers sought health care for sick neonates. This study also varies with study conducted in Wardha, India in which 41.8% of sick neonates got medical treatment. These variations might be explained by differences in the disease spectrum between these different study areas.

This study also showed that only 38% of mothers brought their sick neonate to health facilities within one to four hours after recognition of signs of illness. And the main reason for delayed for health care seeking 49% of mothers mentioned was thinking the neonate would be better. Other reasons include perception of medication not good for neonate, to start with home treatment, thinking it is not sever, lack of awareness. This finding was different to that of study conducted in southern Tanzania accessibility, lack of money, lack of drugs and abusive language by health personnel were mentioned as barriers to neonatal care-seeking. This study also varies with study conducted in Ghana in which major barrier to appropriate care-seeking was financial issue. The reason could be that this study was conducted in the center of the city where better access of health care is available.

According to this study 68.9% of mothers could decide on health care seeking for their sick neonates while 15.5% decision made by father. Other said decision could be made by grandparent, neighbors and relatives. This finding is different with study conducted in Rajasthan, India in

which Mothers were often not involved in taking this critical decision, to seek care outside home almost always involved the fathers or another male member. This difference might be socio cultural difference between the study areas.

In the binary logistic regression analysis showed that having attended primary school (5-8 grade) (COR=2.0(95% CI: 0.73, 5.481) and being private employee (COR; 7.603, 95% CI: 1.936, 29.856), were associated with mentioning of at one neonatal danger signs. This finding was different with study conducted in Uganda in which no significant associations between knowing at least one danger sign and any socio-demographic characteristic were found. This difference might be due to difference in socio-demographic conditions in the areas.

7. Strength and Limitation of the Study

7.1. Strength

- This study is the first research done related to neonatal danger signs and health care seeking behavior in the study area.
- The questioner was pretested on similar setting and a necessary modification was made to minimize the difficulty during the data collection.
- The study also used qualitative method to support the quantitative findings.
- Recall bias was minimized since it focused on mothers who had infant less than one year.

7.2. Limitation

- Since the study is cross –sectional it may not be strong to demonstrate direct cause and effect between dependent and independent variables.
- Lack of adequate similar studies in our country to make comparative discussion.

8. Conclusion and Recommendation

7.1. Conclusion

This study reviled that the main predictor of knowledge about neonatal danger sign was age of child, having seen sick neonate, father educational status, action taken to sick neonate and decision making ability for care seeking.

Most of the respondents knew at least one danger sign of neonate mainly diarrhea, vomiting and fever but other danger signs were not well recognized.

Most of the participants were moderately knowledgeable about neonatal danger signs.

Even though most mothers seek health care for their sick neonates there were delays in time of health institution visit. And the main reason for delay was waiting sign and symptoms of illness to resolve by itself and assuming that medication administration was not good for the health of neonate.

Most mothers could decide on health care seeking for their neonate which is good and has a significant association with their knowledge about neonatal danger sign.

7.2. Recommendation

- Federal Ministry of health should design a regular training and workshops about neonate care for health professional working at maternal and child health unit to increase the awareness of mother regarding these issues.
- Addis Ababa Regional Health Bureau should strengthen health services in improving the information given during Ante natal, postnatal and immunization follow up, with special emphasis given to danger signs of neonate.
- Further studies should be done on assessment of neonatal care practice at community level.

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Annex I Information Sheet

Questionnaire Identification Number ____________

My name is __________________________. I am working as data collector in the research conducted by Fiseha Mulatu Assefa, who is conducting his research for the partial fulfillment of her Master degree in Child Health nursing specialty track in Addis Ababa University. We are trying to assess Knowledge and Health Care Seeking Behavior for Neonatal Danger Signs of Mothers. We would like your honest opinion pertaining to the questions.

Name of advisor **Mrs. Rajalakshmi Murugan** (RN, MSN, Assistant Professor)

Name of the organization: **Addis Ababa University**, College of Health Sciences, And Department of Nursing and Midwifery.

Name of the Sponsor: **Addis Ababa University**

Introduction:

Information sheet and consent form is prepared for mothers who will participate in research project, a cross-sectional study of assessment of knowledge and health care seeking behavior for neonatal danger signs among mothers in selected health centers Addis Ababa Ethiopia.

This information sheet and consent form is prepared to explain the study you are being asked to join. Please listen carefully and ask any questions about the study before you agree to join. You may ask questions at any time after joining the study. The investigator is final year Masters graduate student from the Department of Nursing and Midwifery, College of Health Science, Addis Ababa University, and one advisor from Addis Ababa University.

Purpose

I am hopeful that this research will benefit the maternal child health care improvement and quality of care. I will provide each of the units with research results and conclusions for your information.

Procedure

In assessment of Knowledge and Health Care Seeking Behavior for Neonatal Danger Signs of Mothers in Selected Health Centers Addis Ababa Ethiopia You are invited to take part in this project. If you are willing to participate in this project, you need to understand and say ‘yes’ on the agreement form. Then after, you will be interviewed by the data collector. All your responses and the results obtained will be kept confidential by using coding system whereby no one will have access to your response.

Risk/ Discomfort

By participating in this research project, you may feel that it has some discomfort especially on wasting time about 20 minutes. We hope you will participate in the study for the sake of the benefit of the research result. There is no risk in participating in this research project.

Benefits

If you participate in this research project, there may not be direct benefit to you but your participation is likely to help us in assessing of Knowledge and Health Care Seeking Behavior for Neonatal Danger Signs. Ultimately, this will help us to identify the gap and take the appropriate intervention by the authorized stakeholder. You will not be provided any incentive or payment to take part in this project.

Confidentiality:

The information collect from this research project will be kept confidential and information about you that will be collected by this study will be stored in a file, without your name, but a code number assigned to it. In addition, it will not be revealed to anyone except the principal investigator and will be kept locked with key.

Right to refuse or withdraw:

You have full right to refuse from participating in this research. You can choose not to respond to some or all questions if you do not want to give your response. You have also the full right to withdraw from this study at any time you wish, without losing any of your right.

Persons to contact:

If you have any question to ask, please contact

1. Fisseha Mulatu Assefa
   Tel: +251-919-40-56-34
   Email: *mfisseha@ymail.com*
2. **Mrs. Rajalakshmi Murugan** (RN, MSN, Assistant Professor)
   Tel: +251-911-72-11-93
   Email: rajisomanathan@gmail.com

Annex II Consent form

I undersigning this document, I am giving my consent to participate in the study entitled as "Assessment of knowledge and health care seeking behavior about neonatal danger signs among mothers visiting immunization unit in selected governmental health centers, Addis Ababa, Ethiopia." I have been informed that the purpose of this study is to assess knowledge and health care seeking behavior about neonatal danger signs among mothers visiting immunization unit in selected governmental health centers, Addis Ababa, Ethiopia. I have understood that participation in this study is entirely voluntarily. I have been told that my answers to the questions will not be given to anyone else and no reports of this study ever identify me in any way. I have also been informed that my participation or non-participation or my refusal to answer questions will have no effect on me. I understood that participation in this study does not involve risks. I understood that Fisseha Mulatu is the contact person if I have questions about the study or about my rights as a study participant. Do you have any question?

- ✓ Do I have your agreement to proceed? If yes continue, if no .Stop, Thank you!
    - Name of facility/hospital/Health centre: ___________________________
    - Date: ______/_____/_____
    - Interviewer's Name ______________________ Signature___________
    - Supervisor's Name_______________________ Signature_________

Annex III Questionnaire : Section A: Socio-Demographic Characteristics

S. No	Question	Coding categories	Skip
101	Where do you live now?	Sub city Kebele	
102	Age of mother (in complete year)		
103	Age of child(wk)		
104	Religion	Orthodox……………….….1 Catholic………………...….2 Protestant …….….…………3 Muslim …………..….…….4 Other (specify)………………5	
105	Ethnicity:	Amhara……………………1 Oromo,…………………….2 Tigray……………….……..3 Guragae, …………….……4 Other……………………..…5	
106	What is your level of education?	Didn't attend school……...1 Read and write ….….……2 Primary (1-4)……………..3 Primary (5-8)……………..4 Secondary (9-12)…………5 Tertiary (above 12)………6	
107	Husbands' level of education?	Didn't attend school………...1 Read and write ….…….…...2 Primary (1-4)…………..……3 Primary (5-8)…………..…….4 Secondary (9-12)…….…..…..5 Tertiary (above 12)…………6	
108	What is your occupation?	Employed…………………1 Student……………………2 Merchant………..…………3 Farmer…………………….4 Housewife…………………5 Other (specify) ………………6	
109	What is your marital status now?	Not married………………1 Married………………….. 2 Separated…………………3 Divorced………………… 4 Widowed……………….5	
110	Income (ETB)	No income………………..1 Below 200. . . . . …. 2 201-500 …………………..3 501-1000. . . . . …4 1001-1500. . . . . …5 Above 1500. 6	

111	Family size:	1-3……………1 4-6……………2 7-9……………3 >9…………..…4	

Section B: Knowledge about neonatal **danger signs**

S. No	Question	**Coding categories**	Skip
201	Do know any neonatal danger signs?	Yes………………….1 No…………… …….2	If 2 go to 204
202	Can you mention neonatal danger signs? ***(More than one answer is possible)***	Difficult/fast breathing ……………….1 Lethargy/unconsciousness..………...…2 Convulsion …………………….…..….3 Baby won't cry………………..…….4 Fever …………………..……...…….5 Baby is cold…………………....……6 Pus discharge from umbilicus ….…….7 Poor feeding or unable to suckle……..…8 Persistent vomiting…………………..……9 Diarrhea……………………………......10 Unable to pass stool………………..…11 Unable to pass urine…………….……12 Red/discharge from eyes…………..….13 Yellow Skin color (jaundice) ….….….14 Other (specify) …………………….....15	
203	From whom did you get the information?	Health professional …………….1 Media ……………….…...2 Neighbors…………...……. 3 Friends ……………….……4 Reading books…….……….. 5 Other (specify) ……………6	
204	Do you know what causes neonatal illnesses problems? ***(More than one answer is possible)***	Lack of cleanliness…………………1 Hanger…………………………….2 Coldness…………………………..3. Evil spirit (eye) …………………...…4 I don't know ………………………5 Other (specify) ……………………..6	
205	Do you know complications/conditions of a newborn that need medical care?	Yes ………………1 No ……………….2	If 2 go to 208

206	What are the complications/conditions of a newborn that need medical care?	Difficult/fast breathing ……………….1 Lethargy/unconsciousness..………..…2 Convulsion …………………….…..….3 Baby won't cry……………….….……4 Fever ……………………..……...…….5 Baby is cold……………………...……6 Pus discharge from umbilicus ….…….7 Poor feeding or unable to suckle….…..8 Persistent vomiting………………..……9 Diarrhea…………………………….....10 Unable to pass stool………………..…11 Unable to pass urine…………….….…12 Red/discharge from eyes…………..….13 Yellow Skin color (jaundice) ….…….14 Other (specify) ……………………......15	
207	From whom did you get the information?	Health professional …….1 Media ……….…...2 Neighbors…..……. 3 Friends ………….4 Reading books….……….. 5 Other (specify) ………………6	
208	Sign of unable to beast feed?	Unable to suck…1 Unable to swallow…2 Breast engorgement….3 Suck long time ….4 Crying…..5 Lack of interest….6 I don't know …………7… other (specify) ……………8	
209	Sign of lethargic or unconscious newborn	No energy…1 Weakness…2 Sleep long time…3 Unable to awake for feeding….4 Unable to suck….5 I don't know ……………..…6 Other (specify) ……………7	
210	How did you check of fever	Hot to touch forehead……1 Hot to touch body…………2 Sweating…………..3 Weakness/lethargic…4 Using thermometer….5 I don't know ………………6 Other (specify) …..………..…..………..7	

211	If a newborn have diarrhea what will you do?	Increase breast feeding……….1 Give LEMLEM/ORS………2 Take to health institution…………….……3 Not gain any fluid orally………………4 I don't know …….………5 Other (specify) …………6	
212	How did you identify sign of unable to pass stool?	Irritable /cry…1 Pain during defecation…2 Hard abdomen…3 Dry stool…..4 I don't know ……5 Other (specify) …….6	
213	If a newborn have persistent vomiting what will you do?	Stop breast feeding……………….…….…1 Continue breast feeding………………...2 Take to health institution………………3 Give LEMLEM/ORS..…………………4 I don't know ……………………………..5 Other (specify) ………………………..…..6	
214	If a newborn is sick do you continue breast feeding?	Yes……………….1 No……………….2	If 2 go to 216
216	Reason for not continuing breast feeding?	Cause vomiting …….1 Cause chocking………2 Cause diarrhea ………3 I don't know…………4 Other (specify) ………..….5	
217	Do you give colostrums for newborn?	Yes ……………….1 No………………...2	If 2 go to 126
218	Reason for not giving colostrums?	It is harmful for a baby ……………….1 Prohibited by elderly..……..2 Due to ignorance of advantage……….……3 Don't know……….….……4 Other (specify) ……………5	

Section C Neonatal Health **care-seeking behavior**

S. No	Question	**Coding categories**	Skip
301	Have you seen sick neonate in your own family in the past 1 year?	Yes……………………1 No……………………..2	If 2 go to 130
302	What type of manifestation seen by them?	Fever ………………….……..1 Diarrhea/loose stools …..… …..2 Continuous crying …………….3 Cough/breathing problem…..….4 Irritability …………..………..5 Lethargy ………………….….6 Inability to feed …………..…7. Vomiting ……………..…...8 Abdominal distention/stomach pain …9 Pus/pustule………..…….10 Other specify…………………………11	
303	If your newborn has any of manifestations of illness what did you do?	Take to Health institution……………..…1 I will give Home treatment……………..2 Take to Traditional healer …………..3 Do nothing ………...…….4 Leave to god……………..……5 Others ……………………..….6	If 2,3,4,5, 6 go to 305
304	Where do you seek medical care for your sick neonates	Government health institution…………1 Private clinic……………………………..2 Pharmacy……………………..….3 Other (specify) …………..…………..4	
305	If you identify /recognize any sickness to your baby how many hours /days you take to show to the	1-4Hrs 5-8Hrs One day	

	health care provider/Doctor?	Two days More than two days	
306	Reason for delayed health care seeking for newborn danger sign?	Did not know that it is a danger sign. … 1 Health Center is far …………………….2 Lacked money …………………………3 Thought the child would get better ……4 Wanted to try home remedies first ……5 Absence of responsible person at the home…. 6 Newborn don't taken to outside ……7 Other …………….8	
307	How do you explain the ability of primary care providers in the health centers?	Excellent…………………1 Very good ……………………2 Good ………………………..3 Fair…………………………4	
308	Who will decide to seek care for to the neonate/child in your family?	My Self ………………………………1 Husband ……………………………..2. Neighbor ………………………..…3. Grandmother/Relative……….………4. Other specify…………………………5	

Qualitative Questions

Title of the study: Assessment of Knowledge and Health Care Seeking Behavior for Newborn Danger Signs among mothers in Selected Health Centers Addis Ababa Ethiopia.

In-depth interview

Elements of interview guide for mothers/caregivers

1. What are causes for newborn illness?
2. How did you know that a newborn is seriously ill?
3. What are newborn danger signs? (list)
4. From whom did you seek health care for your child? (Probe on consultations with traditional healers.)
5. What home remedies did you use to treat the illness of your child? (explain)
6. What are barriers that can affect medical care seeking behavior of mothers for sick newborn?

Thank you!!

Amharic Information Sheet (Amharic Version)

ይህ የሚካሄደው እናቶች አዲስ የተወለዱ ህፃናት አደገኛ የበሽታ ምልክቶች ላይ ያላቸውን እውቀት እና የጤና አገልግሎት ከሚፈልጉበት ባህሪ ጋር የተያያዙ ጉዳዮችን ለማጥናት ነው፡፡

የምርምር ፕሮጀክቱ ርዕስ፡ እናቶች አዲስ የተወለዱ ህፃናት አደገኛ የበሽታ ምልክቶች ላይ ያላቸውን እውቀት እና የጤና አገልግሎት ከሚፈልጉበት ባህሪ ጋር የተያያዙ ጉዳዮችን ለማወቅ የሚደረግ ጥናት

የዋና ተመራማሪ ስም፡- **ፍስሃ ሙላቱ አሰፋ** (ቢ.ኤ ስሲ. ነርስ)

የጥናቱ አማካሪ ስም፡- **ራጃራኪሰሂም ሙራንግ (ተባባሪ ፕሮፍሶር)**

የዬርጅቱ ስም፡- **አዱስ አበባ ዩኒቨርሲቲ**

የገንዘብ ዬጋፍ ያደረገው ዬርጅት ስም፡- አዱስ አበባ ዩኒቨርሲቲ

መግቢያ

የዚህ ምርምር ማብራሪያና የስምምነት ቅጽ አሊማ አሁን እርስዎ እንዱሳተፈበት የምንጠይቆትን የምርምር ጥናት ምንነት ማብራራት ነው፡፡ በዚህ የምርምር ፕሮጀክት ለመሳተፍ ከመወሰዎ በፊት ይህንን የማብራሪያ ቅጽ በጥንቃቄ በማንበብ ጥያቄ ካለዎት ይጠይቁ፡፡ በጥናቱ መሳተፍ ከጀመሩ በሁላ በማንኛው ጊዜ ጥያቄ ካለዎት መጠየቅ ይችሊለ፡፡

የምርምር ፕሮጀክቱ ዓሊማ

የዚህ ጥናት ዓሊማ እናቶች አዲስ የተወለዱ ህፃናት አደገኛ የበሽታ ምልክቶች ላይ ያላቸውን እውቀት እና የጤና አገልግሎት ከሚፈልጉበት ባህሪ ጋር የተያያዙ ጉዳዮችን ለመፈተሽ የሚደረግ ጥናት ነው. እንሁም አዲስ የተወለዱ ህፃናትን ሕይወት የሚቀጥፉ አደገኛ የበሽታ ምልክቶችን ለእናቶች በማሳወቅ እና የጤና አገልግሎት የሚፈልጉበትን ባህሪ የማሳደግ እቅድ ለማውጣት እና በተግባር ለማዋል ነው፡፡

የአሰራር ሂደት

በዚህ ጥናት ውስጥ መሳተፍ ከተስማሙ ስምምነቱን በደንብ መረዲትና እንዱሁም መፈረም ይገባዎታሌ፡፡ ከዚህ በመቀጠሌ በጥናቱ መረጃ ሰብሳቢዎች ለሚጠየቁጥ ጥያቄ እንዱመሌሱ ፍቃደኛነቶት ይጠየቃል፡፡

ሊከሰቱ የሚችለ ስጋቶቸና ምቾት መጓደልች

በዚህ ጥናት መሳተፍዎ ምናልባት ጊዜዎትን ሉሻማዎት ይችሌ ይሆናሌ፤ ነገር ግን ወደ ጤና አገሌግልት ሰጪ ድርጅቶች ከመመሊለስዎ እና የጥናቱ ውጤት አዲስ ለሚወለዱ የህፃናት ሕይወት ለማዳን ከሚሰጠው ጥቅም አንፃር ይህን ያህል አይደለም፡፡ በዚህ ጥናት በመሳተፍዎ ምንም አይነት ስጋት (ችግር) አያጋጥምዎትም፡፡

ጥቅሞች

በዚህ ጥናት በመሳተፎ የተለየ ጥቅም አያገኙም ነገር ግን የእርሶ በጥናቱ መሳተፍ አዲስ ለሚወለዱ ህፃናትን ከበሽታ ለመከላከል እንዱሁም ያሉትን ችግሮችን ለማወቅ ይረዲል፡፡

ማካካሻ

በዚህ ጥናት በመሳተፍዎ ምንም አይነት ማካካሻ አይሰጦትም፡፡ ነገር ግን በጥናቱ በመሳተፍዎ ምስጋናችን ከፍተኛ ይሆናሌ፡፡

ሚስጢር ስለመጠበቀ

ከዚህ ጥናት የሚገኘው መረጃ ሁለ በሚስጥራዊነት ይጠበቃሌ፡፡ ለዚህ ጥናት የሚሰበሰበው እርስዎን የሚመለከት መረጃ በማህደር የሚቀመጥ ሲሆን ማህደሩም በስሞ ሳይሆን በተለየ ኮዴ ሲቀመጥ ኮደ ከዋናው ተመራማሪ ውጭ ለማንም አይገለጽም፡፡ በጥናቱ ያለመሳተፍ ወይም እራስዎን ለማግለሌ መብት: በጥናቱ ላለመሳተፍ ከፈልጉ በዚህ ጥናት ያለመሳተፍ እንዱሁም ከአንድ በላይ ወይም ሁሉንም ጥያቄዎች አለመመለስ ይቻላሉ፡፡ በዚህ ጥናት ባለመሳተፎ ወይም በከፊልም ሆነ በሙለ ጥያቄዎችን ባለመመለስዎ እንደነዋሪነቶ የሚያጡት አገሌግልት አይኖርም፡፡

የሚገናኟቸው ሰዎች

ይህ ጥናት የጥናቱ ተሳታፉዎች ከጉዳት መጠበቃቸውን የሚያረጋግጠው ከአዱስ አበባ ዩኒቨርሲቲ በሚገኘው ኮሚቴ ታይቶ ድጋፍ አግኝቶአል፡፡ በጥናቱ ዙሪያ ማንኛውም ጥያቄ ካልት የሚከተለትን ሰዎች በሚፈልጉት ጊዜ ማነጋገር ይችሊለ፡፡

1. አቶ ፍስሃ ሙሳቱ አሰፋ፤ አዱስ አበባ ፣ስልክ ቁጥር: +251-919-40-56-34
   ኢሜሌ ፣ *mfisseha@ymail.com*

2. **ወ/ሮ *ራጃራኪሰሂም ሙራንግ*፣** አዱስ አበባ፣ስልክ **ቁጥር** :: +251-911-72-11-93

   ኢሜሌ፣: rajisomanathan@gmail.com

ይህንን ቅጽ አንብበው ከሆነ እና አሁንም ሆነ በላሊ ጊዜ ጥያቄ የመጠየቅ እዴሌ ተሰጥተው ከሆነ ወይም ይህ ቅጽ ተነቦና ተብራርቶልት ከሆነና ለመሳተፍ ከተስማሙ እባኮን ስሞንና ፊርማዎን ከዚህ በታች ያስቀምጡ፡፡

የተሳታፊ ስም፡ ቀን _____________

የስምምነት ተቀባይ ፊርማ፡______________________

አዲስ አበባ ዩኒቨርሲቲ

ጤና ሳይንስ ኮሌጅ

ነርሲንግ እና የሚድዋይፈሪ ትምህርት ክፍል

ቃለ መጠይቅ

መግቢያ

ጤና ይስጥልኝ ስሜ____

እኔ በአዲስ አበባ ዩኒቨርሲቲ የጤና ሳይንስ ኮሌጅ ነርሲንግ እና የሚድዋይፈሪ ትምህርት ክፍል በጊዜያዊነት ተወክዬ ነው ይህን ጥያቄና መልስ ይዤ የመጣሁት፡፡

ይህ ጥናት የሚካሄደው እናቶች አዲስ የተወለዱ ህፃናት አደገኛ የበሽታ ምልክቶች ላይ ያላቸውን እውቀት እና የጤና አገልግሎት ከሚፈልጉበት ባህሪ ጋር የተያያዙ ጉዳዮችን ለመፈተሽ ነው፡፡

ይህ ጥናት ከእናቶች ጋር በቀጥታ የተያያዘ ስለሆነ በጥናቱ እንዲሳተፉ በእጣ ከተመረጡት እናቶች አንዶ እርሶኖት፡፡ ስለዚህ እዚህ ጥናት ላይ እንዲሳተፉና አስፈላጊ መረጃ እንዲሰጡን በትህትና እንጠይቃለን፡፡ ይሁን እንጂ ማንኛውንም ጥያቄ አለመመለስ ይችላሉ፡፡ እንዲሁም በማንኛውም ጊዜ ጥያቄውን ማቋረጥና በጥናቱ አለመሳተፍ ይችላሉ፡፡ በጥናቱ ባለመሳተፎ ማግኘት ከሚገባዎት አገልግሎት ከማግኘት አያግዶትም፡፡ ጥያቄና መልሱ 20 ደቂቃ ይወስዳል፡፡ ይህ በግልዎ የሚሰጡት መልስም በሚስጢር የሚጠበቅ ስለሆነ ከጥናቱ ውጤት ጋር በምንም የሚያያዝ አይደለም፡፡ ላረጋግጥልዎ የምፈልገው ግን ይህ የሚሰጡት መልስ በጣም አስፈላጊ የሚሆነው ጥናቱን ለማጥናት ብቻ ሳይሆን አዲስ የተወለዱ ህፃናትን ሕይወት የሚቀጥፉ አደገኛ የበሽታ ምልክቶችን ለእናቶች በማሳወቅ እና የጤና አገልግሎት የሚፈልጉበትን ባህሪ የማሳደግ እቅድ ለማውጣት እና በተግባር ለማዋል እንዲሁም አዲስ ለሚወለዱ የህፃናት ሕይወት ለማዳን የሚጠቅም አስተያየት ለማግኘት ነው፡፡

በመጥይቁ ለመሳተፍ ፍቃደኛ ነዎት? አዎ………………..ይቀጥሉ

አይደለም……….………………………………ያቁሙ

ተጠያቂ ፍቃደኛ ካሌሆኑ አመሰግነው ያሰናብቷቸው ፍቃደኛ ከሆኑ ግን የሚከተለትን ጥያቄዎች ይጠይቋቸው፡
፡

አመሰግናለሁ!!!

1. የጤና ተቋሙ ስም

2. ቀን ______/_______/______

3. የጥያቄ ወረቀቱ መለያ ቁጥር ____________

4. የመረጃ ሰብሳቢ ስምና ፊርማ__________________________

ክፍል ሀ: ሥነ ህዝብና ማህበራዊ ጉዳዮች				
ተ.ቁ	ጥያቄ	ምላሽ		እለፍ
101	አድራሻ	ክፍለ ከተማ ቀበሌ		
102	እድሜዎ ምን ያህል ነው?			
103	የህፃኑ እድሜ ምን ያህል ነው?			
104	ሀይማኖት ምንድነው?	ኦርቶዶክስ ካቶሊክ ፕሮቴስታንት ሙስሊም ሌላ	1 2 3 4 5	
105	ብሔርዎ ምንድነው?	አማራ ኦሮሞ ትግሬ ጉራጌ ሌላ	1 2 3 4 5	
106	የትምህርት ደረጃዎት?	ማንበብ እና መፃፍ የመጀመሪያ ደረጃ 1-4 የመጀመሪያ ደረጃ 5-8 ሁለተኛ ደረጃ 9-12 ከፍተኛ ደረጃ ከ12 በላይ	1 2 3 4 5	
107	የባለቤትዎ ትምህርት ደረጃ	ማንበብ እና መፃፍ የመጀመሪያ ደረጃ 1-4 የመጀመሪያ ደረጃ 5-8 ሁለተኛ ደረጃ 9-12 ከፍተኛ ደረጃ ከ12 በላይ	1 2 3 4 5	
108	ስራዎት ምንድን ነው?	መንግስት ተቀጣሪ የግል ተቀጣሪ ተማሪ ነጋዴ የቤት እመቤት ሌላ	1 2 3 4 5 6	

109	የጋብቻ ሁኔታ ምንድን ነው?	ያላገባ ያገባ ተለያይቶ የሚኖር የተፋታ የትዳር ጉዋደኛ የሞተበት	1 2 3 4 5	
110	መደበኛ የገቢ ምንጭ አልዎት?	አዎ አይደለም	1 2	2 ከሆነ ወደ 112
111	አማካይ ወርሃዊ ገቢዮ ምን ያህል ይገምቱታል? (በብር)	ከ200 በታች 201-500 501-1000 1001-1500 1500 በላይ	1 2 3 4 5	
112	ስንት ልጆች አሉሽ ?	1 --3 4-- 6 7 --- 9 ከ 9 በላይ	1 2 3 4	
ክፍል ለ፡ የጨቅላ ህፃናት አደገኛ የበሽታ ምልክት እውቀት				
213	የጨቅላ ህፃናት አደገኛ የበሽታ ምልክት ያውቃሉ?	አዎ አይደለም	1 2	
214	አደገኛ የበሽታ ምልክቶች ሊጠቅሶአቸው ይችላሉ? (ከአንድ በላይ መልስ መስጠት ይቻላል)	የመተንፈስ ችግር ሳል እራስን መሳት ማንዘፍዘፍ ማልቀስ ከፍተኛ ሙቀት ሰዉነት መቀዝቀዝ ፈሳሽ/መግል ከእትብት ጡት የመጥባት ፍላጎት መቀነስ ተከታታይ ትውከት ተቅማጥ የሆድ መድረቅ የሽንት መሽናት ችግር ቀይ ዓይን/ ፈሳሽ ከዓይን የሰውነት ቆዳ ቢጫ መሆን ሌላ	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	

215	ይህን መረጃ ከየት አገኙ?	የጤና ባለሙያ ከመገናኛ ብዙሐን ጎረቤት ጉአደገኛ መጽሀፍ በማንበብ ሌላ	1 2 3 4 5 6	
216	የእነዚህ በሽታ ምልክቶች ዋነገኛ መንስኤ ምንድን ነው?	የንፅህና ጉድለት ርሀብ ብርድ ቡዳ (መንፈስ) አላውቅም ሌላ	1 2 3 4 5 6	
217	ፈጣን ህክምና እርዳታ የሚያስፈልጋቸው የጨቅላ የህፃናት የበሽታ ምልክቶች ያውቃሉ?	አዎ አይደለም	1 2	መልሱ 2 ከሆነ ወደ 220
218	ፈጣን ህክምና እርዳታ የሚያስፈልጋቸው የጨቅላ የህፃናት የበሽታ ምልክቶች ምንድን ናቸው ? (ከአንድ በላይ መልስ መስጠት ይቻላል)	የመተንፈስ ችግር ሳል እራስንመሳት ማንዘፍዘፍ ማልቀስ ከፍተኛ ሙቀት ሰዉነት መቀዝቀዝ ፈሳሽ/መግል ከእትብት ጡት የመጥባት ፍላጎት መቀነስ ተከታታይ ትውከት ተቅማጥ የሆድ መድረቅ የሽንት መሽናት ችግር ቀይ/ፈሳሽ ዓይን የሰውነት ቆዳ ቢጫ መሆን ሌላ	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	
219	ይህን መረጃ ከየት አገኙ?	የጤና ባለሙያ ከመገናኛ ብዙሐን ጎረቤት ጓደኛ መጽሀፍ በማንበብ ሌላ (ግለፅ)	1 2 3 4 5 6	
220	ጨቅላ ህፃን ልጅ ጡት በደንብ አለመጥባቱን የምታዉቂዉ እንዴት ነዉ ?	ጡት በደንብ የማይስብ ከሆነ ሲውጥ ካልተሰማኝ ካጠባሁት በሁላ ጡቱ ካልቀነሰ ብዙ ሰአት ከጠባ አላዉቅም ሌላ	1 2 3 4 5 6	

221	የደከመ ህጻን ልጅ ምልክቶች ምንድናቸዉ?	አቅም ማጣት መዝለፍለፍ ብዙ ሰአት መተኛት ቶሎ ካልነቃ አላዉቅም ሌላ	1 2 3 4 5 6	
222	የጨቅላ ህጻን ልጅ ትኩሳት እንዳለዉ እንዴት ታዉቂለሽ?	ግንባሩ ካተኮሰ ግላዉ ካተኮስ ላብ ካለዉ ድክምክም ካለ አላዉቅም ሌላ	1 2 3 4 5 6	
223	ተቅማጥ ላለበት ህጻን ምን ያደርጋሉ?	ጡት ቶሎ ቶሎ እሰጠዋለሁ ለምለም/ኦ አር ኤስ እሰጠዋለሁ ወደ ጤና ጣቢያ እወስደዋለሁ ምንም ፈሳሰሽ ባፉ አለመስጠት አላውቅም ሌላ	1 2 3 4 5 6	
224	የጨቅላ ህጻን ልጅ የሆድ መድረቅ ምልክቶች ምንድን ናቸዉ?	በሳምንት ከ3 በታች ካካ ካለ ማልቀስ መነቻነጭ ካካ ሲል ህመም ሆድ ጠንካራ ሲሆን ደረቅ ካካ አላዉቅም ሌላ	1 2 3 4 5 6 7	
225	የጨቅላ ህጻናት የመተንፈሻ አካል ችግር ምልክቶች ምንድናቸዉ	የትንፋሽ መቆም ሳል ማቃሰት ቶሎ ቶሎ መተንፈስ አላዉቅም ሌላ	1 2 3 4 5 6	
226	ለታመመ ጨቅላ ህፃን ጡት ያጠቡታል?	አዎ አደለም	1 2	መልሱ 2 ከሆነ ወደ 227
227	የማይሰጥበት ምክንያት ምንድን ነው?	ወደላይ እንዳይለው ትን እንዳይለው ተቅማጥ እንዳይዘው ሌላ ጥቀስ	1 2 3 4	
228	ለጨቅላ ህፃን ልጅ እንገረር ወተት ትሰጪዋለሽ?	አዎ አይደለም	1 2	መልሱ 1 ከሆነ ወደ ሚቀጥለዉ

229	የማይሰጥበት ምክንያት ምንድን ነው?	ለህፃኑ መጥፎ ስለሆነ እናቶች ስለሚከለክሉ ጥቅሙን ስለማላውቅ አላውቅም ሌላ	1 2 3 4 5	
ክፍል ሐ፡ የጤና አገልግሎት የመፈለግ/የመሻት ባህሪ				
330	ባለፈው አንድ ዓመት ውስጥ በቤተሰብዎ ውስጥ የታመመ ጨቅላ ህፃን ልጅ ነበር?	አዎ የለም	1 2	መልሱ 2 ከሆነ ወደ 334
331	የበሽታው አይነት/ምልክት ምን ነበር?	ከፍተኛ ትኩሳት ተቅማጥ ማልቀስ ሳል /የመተንፈስ ችግር መወራጨት እራስን መሳት (ድካም) ጡት የመጥባት ፍላጎት መቀነስ ትውከት የሆድ ህመም የቆዳ ህመም ሌላ	1 2 3 4 5 6 7 8 9 10 11	
332	ለታመመዉ ህጻን ልጅ ምን አደረጉለት	ወደ ህክምና ተቋም ወሰድኩት ቤት ውስጥ ተንከባከብኩት ባህላዊ ህክምና ምንም አላደረኩም ለፈጣሪ ሰጠሁት ሌላ	1 2 3 4 5 6	መልሱ 1 ከሆነ ወደ 333
333	የህክምና አገልግሎቱን ከየት ነው የሚያገኙት?	የመንግስት ህክምና ተቋም የግል ክሊኒክ ፋርማሲ ሌላ (ግለጽ)	1 2 3 4	
334	የታመመ ጨቅላ ህፃን ልጅን በምን ያህል ሰዓት ውስጥ ወደ ህክምና ተቋም ይወስዱታል?	1-4 ሰ 5-8 ሰ አንድ ቀን ሁለት ቀን ከሁለት ቀን በላይ	1 2 3 4 5	

335	የታመመ ህፃንን ወደ ህክምና ተቋም ለመሄድ የሚዘገዩበት ምክንያት ምንድን ነው	አደገኛ በሽታ ምልክትስለማላዉቅ የጤና ጣቢያው እሩቅ ስለሆነ የገንዘብ ችግር ህፃኑ ይሻለዋል በማለት የቤት ውስጥ ህክምና መጀመሪያ ለመስጠት አዲስ የተወለደ ህጻን ልጅ ወደ ጤና ጣቢያ ስለማይወሰድ ሌላ	1 2 3 4 5 6 7	
336	የጤን ባልሞያዎችን ትሎታ እንዴት ይመዝኑታል	አጅግ በጣም ጥሩ በጣም ጥሩ ጥሩ ደካማ ሀሳብ ይኝም	1 2 3 4 5	
337	የታመመ ጨቅላ ህፃን ልጅን ወደ ጤና ጣቢያ ለመውሰድ ማነው የሚወስነው?	እራሴ ባል ጎረቤት የሴት አያት/ዘመድ ሌላ (ግለጽ)	1 2 3 4 5	

ቃለ ምልልስ (ከእናቶች ጋር)

***የጥናቱ ርዕስ:* እናቶች አዲስ የተወለዱ ህፃናት አደገኛ የበሽታ ምልክት እውቀት እና የጤና አገልግሎት የመፈለግ ባህሪ ስለ መጠየቅ**

1. አዲስ የተወለደ ህፃን ልጅ ለበሽታ የሚያጋልጡ ነገሮች ምንድን ናቸው?
2. አዲስ የተወለደ ህፃን ልጅ እንደታመመ እንዴት ያውቃሉ?
3. አዲስ የተወለደ ህፃን ልጅ አደገኛ የበሽታ ምልክቶች ምንድን ናቸው?
4. የታመመ አዲስ የተወለደ ህፃን ልጅ የህክምና አገልግሎት ከየት ነዉ የሚያገኘዉ? (በተለይ ሥለ ባህላዊ ህክምና)
5. ለታመመ አዲስ የተወለደ ህጻን ልጅ በቤት ውስጥ የሚደረጉ እንክብካቤዎች ምንድን ናቸው?
6. የታመመ አዲስ ህፃን ልጅ ወደ ህክምና ተቋም ለመውሰድ የሚያግዱ ነገሮች ምንድን ናቸው?

አመሰግናለሁ!!

Declaration

I the undersigned declare that this is a thesis report and has not been presented in this or any other University and all sources of materials used for this report have been fully acknowledged.

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Signature: __________

Date: _____________

Place: School of Allied Health Sciences Department of Nursing and Midwifery, Addis Ababa University**.** This thesis report has been submitted to Department of Nursing and Midwifery for approval.

Advisor: Mrs. Rajalakshmi Murugan (Assistant Professor)

Signature: __________

Date: _____________