ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCE
SCHOOL OF ALLIED HEALTH SCIENCES
DEPARTMENT OF NURSING AND MIDWIFERY

ASSESSMENTS OF KNOWLEDGE AND ATTITUDES OF PREGNANT WOMEN ATTENDING ANTENATAL CARE TOWARDS ESSENTIAL NEWBORN CARE IN PUBLIC HEALTH INSTITUATIONS OFGONDAR TOWN.

BY: MULLU HAILU (BScN)

ADVISOR: MRS. RAJALAKSHMI MURUGAN (ASSISTANT PROFESSOR)

A RESEARCH THESIS SUBMITTED TO SCHOOL OF GRADUATE STUDIES OF ADDIS ABABA UNIVERSITY DEPARTMENT OF NURSING AND MIDWIFERY FOR PRTIAL FULFILMENT TO THE REQUIRMENTS FOR DEGREE OF MASTERS OF SCIENCE IN MATERNITY AND REPRODUCTIVE HEALTH NURSING

JUNE, 2015
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APPROVED BY THE BOARD OF EXAMINATION

This thesis by Mullu Hailu is accepted by the Board of Examiners as satisfying thesis requirement for the Degree of Master of Science in Child Health Nursing.

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ABSTRACT

Background: Newborn care is an effective way to meet the baby's needs like warmth, breast feeding and stimulation, safety, love, and protection from infection. It is estimated that globally four million newborns die before they reach 1 month of age. The care of the new born in the family is governed by the family's knowledge of mother. The mother's knowledge and attitude play a key role to protect health and enhancing the newborns adjustment to the new environment**.** ANC allows the opportunity for women, especially those in their 1st pregnancy to receive information from a variety of health care professionals regarding pregnancy, child birth and parenthood.

Objective: To assess knowledge and attitude of pregnant mothers attending ANC service towards newborn care practice in all public health institutions of Gondar town, Ethiopia.

Methods: Institutional based cross-sectional study was conducted in9 public health institutions of Gondar town, Ethiopia; from January – June, 2015.Antenatal mothers are selected through convenient sampling method. The data was collected among 380 antenatal mothers by standardized semi structured questionnaire. Pretesting and modification had been made before data collection.

Result: Majority 182(52.15%) of mothers at ANC were not knowledgeable on newborn care, the mean score of knowledge were 19.08, the rest of participants 167(47.85) had knowledge. majority (54.45%) had positive attitude, while mean maternal attitude was 166.3; According to this study mothers who had five children at most had three times more chance to have knowledge on newborn care as compared to those who had more than five children with odds of 3.344; 95% CI (1.010-11.073)

Conclusion and Recommendation: In general ANC attendants' knowledge on essential newborn care practice of public health institutions of Gondar town is poor, while they have positive attitude. Strategic plan and implementation is needed to strength the education of mother at ANC on components of essential new born care for North Gondar Health Burro.

LIST OF ACRONYMS

AAP-American Academy of Pediatrics

ANC – Antenatal Care

BCG - Bacilli Chalmette Guerin

EPI -Expanded Program on Immunization

EDHS – Ethiopia Demographic and Health Survey

MDG - Millennium Development Goals

OPV- Oral Polio Vaccine

SPSS- statistical package for social sciences

OR – Odds Ratio

WHO - World Health Organization

Info – Information

PX –Pregnant

Mths- Months

CHAPTER ONE

1. INTRODUCTION

1.1. Background

Newborn care is an effective way to meet the baby's needs like warmth, breast feeding and stimulation, safety, love and protection from infection[1].Moreover it is important for the proper development and healthy life of a baby [2]. For newborn care practices, WHO has guide line that protect against newborn morbidity and mortality include clean cord care (cutting and tying of the umbilical cord with a sterilized instrument and thread), thermal care (drying and wrapping the newborn immediately after delivery and delaying the newborn's first bath for at least six hours or several days to reduce hypothermia risk), and initiation of breastfeeding within the first hour of birth [3].Reduction in under-five mortality rates by two-thirds by the year 2015 is one of the eight Millennium Development Goal (MDGs). Newborn morbidity and mortality contributes significantly to the infant mortality and under-five mortality rates in most developing countries including Ethiopia [4].

It is estimated that globally four million newborns die before they reach 1 month of age. Three quarters of these deaths take place within 1 week of birth, 1–2 million die during the first day following birth, and most of these deaths occur at home [5].The 2011Ethiopia DHS reports 90 percent of births at home that is reduced from 94 percent, and the proportion of births assisted by a skilled attendants range from 6 percent in the Southern Nation and Nationality of People region to 84 percent in Addis Ababa of births. The neonatal mortality rate also remains high; with 37 per 1,000 newborns dying within the first month of life ,one in 17 Ethiopian children dies before the first birthday and one in 11 Ethiopian children dies before the fifth birthday[6].

Promotion of essential newborn care practices is one strategy for improving newborn health outcomes. Essential newborn care aims at addressing poor care practices immediately following delivery that can help mothers to aware of problems before its occurrence and to create an awareness in healthy newborn care practice[7].Systematic action is mandatory by governments and their associates to reach all newborns in addition to children under five with effective care [8].

1.2. Statement of the problem

Neonatal mortality is a worldwide problem. Although its rates are decreasing globally, Africa is experiencing much slower declines than other regions [4]. About 99% of all newborn deaths are in developing countries; with the highest number in South Asia and the highest rates in sub-Saharan Africa [9].Ethiopia is one of the ten countries with the highest number of neonatal deaths globally, with an estimated 122,000 newborn deaths per year. In Ethiopia around 90% of deliveries take place at home and attendance at antenatal care and postnatal care are also poor [10].

The care of the new born in the family is governed by the family's knowledge of mother. The mother's knowledge and attitude play a Key role to protect health and enhancing the newborns adjustment to the new environment [11]. A mother knows how to take care of her baby in a natural way. However, with the information of experts and experienced personalities, she can perform the duty of baby parenting even more successfully and professionally [12]. Many times a mother has learnt after loses of her infants once or twice in her life time, this is due to lack of adequate knowledge and practices that must be performed to her new born baby. There is lack of care in feeding, immunization, umbilical cord care, prevention of hypothermia. Thus adequate maternal knowledge on newborn care is needed to manage the neonatal mortality*;* on the other hand the poor knowledge on part of mothers can lead to terrible results [13].

Brief ANC education increases mother's understanding of basic new born care. Mothers retain this knowledge into the early postpartum period and during early infancy when might help reduce morbidity and mortality. The education is significance for women with first pregnancy (primi-gravida) and for those women with little education [14].ANC allows the

opportunity for women, especially those in their 1st pregnancy to receive information from a variety of health care professionals regarding pregnancy, child birth and parenthood [15].Evidence shows a greater attainment of knowledge in woman who have attended such education compared with those that have not [9].Providing timely education about healthy newborn care practices could fill these gaps in knowledge of Newborn care [16].

The present study is undertaken to assess the knowledge of mothers regarding newborn care and to find their attitude regarding newborn care in Public health institutions of Gondar town, Amhara region, Ethiopia. Thus it helps to achieve the millennium developmental goal 4 by reducing neonatal mortality and morbidity by empowering women in knowledge and attitude that helps to bring a healthy newborn care, as well as to get a healthy baby with a healthy mother.

1.3. Significance of the study

This study is conducted to assess the knowledge and attitude of pregnant women who attend ANC service and the associated factors towards new born care practice in Gondar town. The basic reason to conduct this study is child mortality is declined from year to year globally as well as in Africa. But neonatal mortality is remaining high and new born mortality is two-third of all neonatal mortality. So what makes this mortality remains high in Africa particularly in Ethiopia with 37 per 1,000 newborns dying within the first month of life by 2011EDHS report. Since mothers are the primary health care giver to children, how much they know about essential new born care practice and what they perceive towards these cares are significantly important to measure new born care practice. The associated factors have also their contribution to the level of knowledge and attitude towards these essential care practices. Thus this study helps:

To increase awareness of the community in relation to how much maternal knowledge and attitude towards newborn care practice has a great role to get a healthy baby and its contribution to neonatal mortality and morbidity. In addition, helps to identify the associated factors that have a power to show a difference in level of knowledge and perceptions among mothers towards these essential cares. So research based evidences has its own contribution to be prepared for action against the impacts of these factors.

For policy makers, it helps to plan and work on the gaps that helps to achieve millennium developmental goal by empowering women in regards to knowledge and perceptions and make it as norms of the community ; it give a base line data for other investigators.

CHAPTER TWO

2. LITERATURE REVIEW

Many newborn deaths are preventable with appropriate knowledge and perceptions at the family and community levels, and with appropriate care-seeking when danger signs are recognized. However, life-saving practices are not always followed due to poverty, cultural beliefs, lack of household, food security and poor access to health care [17]. In previous studies, mothers were not knowledgeable on new born care. [18], A hospital based cross-sectional study was conducted in Kenyatta National Hospital. A total of 380 postnatal mothers were interviewed using structured pretested questionnaires. Maternal attitude was associated with breastfeeding and cord care [11].On assessing the perception and health care seeking behavior of postnatal mothers regarding newborn danger signs, found. Maximum mothers were from nuclear family(52%) and live in urban area(56%), religion and occupation in which maximum mothers (90%)were Hindu and (98%) housewives by occupation [2].

2.1. Umbilical cord and cleanliness

Umbilical cord is a tie that connects the fetus to his mother's uterus through placenta. By the time of delivery it is separated from both the mother and the fetus. During separation, it should be cut down with a sterilized sharp material. After separation it needs a great care to make it healed without any infection at the stamped site. This area should be kept clean and cared for until it falls off by itself [19].

Findings of maternal knowledge on newborn care at Kenyatta national hospital shows that among the mothers interviewed, 37.9 % correctly stated that the stump should be uncovered. 26.1% a soiled umbilical stump should be cleaned with water and after cleaning a soiled

umbilical stump; it should be left clean and dry without applying any substances (1%). In a study conducted on 307 mothers in an urban slum in Kenya, Obimbo found that while most mothers (91%) knew the need for hygiene during cord cutting, only 28% knew about hygiene while tying the cord .As many as 79% of mothers were afraid of handling the unhealed cord and less than half of them had good knowledge on postnatal cord care [11].

The World Health Organization (WHO) mentioned in their training modules about Essential Antenatal Care that throughout the world there are numerous methods of caring for the cord, but the most effective is to use no application to the cord but to keep it clean and allow it to dry over the first two days[20].

Findings at Kenyatta national hospital shows that out of those interviewed, 67.6% of mothers believed that surgical spirit should be used to clean the soiled umbilical stump while 26.1% believed plain water should be used. Five percent of mothers believed that saliva should be applied to the stump while one mother did not know [11].

Findings from a study conducted in Uganda shows that for complete cord care education level and place of delivery are positively associated with complete cord care. Implying that having attended higher level of education and delivered in the health facility is significantly associated with providing complete cord care. Source of income is negatively associated with complete cord care. Independent variables included into a multivariable level analysis for complete cord care were sufficient ANC visits, age of the mother, education level, and place of delivery and woman's main source of income. In the adjusted analysis women who practiced commercial farming (46%) were less likely to report complete cord care. Sufficient ANC visit was not significantly associated with reporting complete cord care[21].

2.2. Thermoregulation

The newborn is much less efficient in thermoregulation than adults. Immediately after birth, the newborn begins to lose heat, a process which puts them at risk of hypothermia. Heat loss occurs through conduction, convection, radiation and evaporation. Low birth weight and premature infants are at an even greater risk and lose heat easily [17].Of the 3.1 million newborn deaths that occurred in 2010, a quarter to half of them occurred within the first 24 hours after birth [22]. Appropriate thermal protection of the newborn prevents hypothermia and its associated burden of morbidity and mortality, Neonatal thermoregulation is a critical function for newborn survival. In newborns, optimal temperature ranges are narrow and thermoregulatory mechanisms easily beset, particularly in premature and low-birth weight infants [23].

WHO recommends bathing after six hours of life and preferably on the second or third day of life. For the low birth weight and premature infants who are at higher risk of hypothermia, extra measures need to be taken to ensure these babies remain warm includes use of radiant heaters and incubator care[13]. Modes of thermoregulation identified in Nepal post natal mothers admitted to teaching hospital included Majority 82(82%) of respondents said wrapping with warm clothes, 58 (58%) said attaching with mother, 28(28%) keeping the room warm, and nine (9%) delay bathing to keep newborn warm. Mean knowledge on keeping the baby warm was 44.25[24].

A study conducted in rural Uttar Pradesh, India, findings shows that majority (52%) of respondents bathed newborns within 2 hours of delivery and sixteen percent had bathed the newborn within 24 hrs of birth only thirty two percent of women had bathed the newborn one or more days after birth. In fifteen percent of cases bathing was delayed for a week. This

study also shows institutional delivery has a significant impact on delaying initiation of newborn bathing [25].

2.3. Feeding

Human breast milk has a complex appearance which is consists of thousands of compounds and cellular components including high water content that can meets all the infants fluid requirements for at least 6 months. So additional fluids are not required during this time regardless of the climate. Lack of exclusive breast feeding significantly increases the risk of neonatal mortality and morbidity [13].

Globally, less than 40% of infants under six months of age are exclusively breastfed, the 2010 Australian National infant feeding survey found that the proportion of infants (0-12 months) who were exclusive breast feed at each month of age decline from 96% at birth to 61% at less than 1 months, 39% at less than 4 months and 15% at less than 6 months. At present only 22 to 28 % of mothers continue to breast feed their infant to age 12 months. Combining the results of several studies, it is estimated that 90–96% of mothers in Australia initiate breastfeeding [12]. According to EDHS 2011, about70.3% of infants less than 1 year is exclusively breastfed while 28.8% male and 25.2% female of Ethiopian newborns are given prelacteal feeds. Although breastfeeding is almost universal in Ethiopia, with over 98% of all children ever breastfed, the 2011 Demographic and Health Survey (DHS) estimated that only 52% of Ethiopian newborns benefited from early initiation of breastfeeding which is far from the government's own target of 92% [6].

It was estimated that if coverage was universal, exclusive breast feeding(13%), thermal care(2%) and cord care(4%) could save all under-five deaths. Further, studies have estimated that up to 16% of all neonatal deaths could be saved if all infants were breastfed

within the first day of life, and 22% if breastfed within the first hour after birth (also referred to as 'early initiation' [14]. Colostrum which is the first breast milk is highly nutritious and protective to the newborn. A study done in India showed that in some communities, colostrum was regarded as dirty milk and was discarded. Initiation of breastfeeding was delayed for two to three days to allow for the onset of "clean" milk [26].

A community based cross sectional studies was conducted in Enderta woreda, Tigray, North Ethiopia, a total of 541 participants using administered structured questionnaire. Findings shows that Greater number 362(68.3%) of the mothers were initiate breastfeeding immediately. Majority 491(92.6%) of the mothers had fed colostrums and only 68(12.8%) of the mothers gave prelacteal feed. Three hundred ninety seven (74.9%) of the mothers were breastfeeding less than 10 times per day [15]. When newborns later initiate breast feeding, the risk for infection related death is doubled or tripled (16). Findings in the study shows that exclusive breast feeding is 342 (68.4%) at birth while 31.4% mothers give the history of use of pre-lacteals. Un-educated mothers are more likely to have given pre-lacteals; No definite association of socioeconomic condition of families with their knowledge about feeding of their infants is observed except maternal education [27].

Factors significantly associated with higher rates of prelacteal feeding were lower maternal education (adjusted OR 2.13, 95% CI 1.06, 4.35), Muslim religion and delivery by cesarean section. There was a significant association between delayed initiation and prelacteal feeding [28].

2.4. Eye care

Gonorrhea and Chlamydia are common STIs that affect pregnant women. WHO estimates that there are approximately 32 million new cases of gonococci conjunctivitis and 46

million new cases of Chlamydia infections among women in the world annually. One-third to one-half of babies born to mothers with these STIs will develop eye infections. [23]. It typically appears 2-5 days after birth and presents with eye discharge, swelling and/ or reddening of the eye. Without treatment, ophthalmia neonatorum may lead to serious complications including blindness due to corneal ulceration [24]. Findings in Kenya national hospital shows that Substances believed to treat eye infections by respondents are breast milk (11%), Herbal extracts (7%), Saliva (4%), Water (2%), Oil (1%). These have been shown to be ineffective in treating neonatal conjunctivitis and should not be used. WHO advocated for the use of silver nitrate or tetracycline eye ointment [11].

2.5. Immunization

Immunization is one of the most effective preventive health measures in reducing child mortality and morbidity. WHO launched the Expanded Programme on Immunization (EPI) in 1974 following the campaign to eradicate polio. It aims to prevent deaths from vaccine preventable diseases such as tuberculosis, diphtheria, tetanus, pertussis, pneumococcal, polio, and measles. Immunization contributes significantly to the attainment of Millennium Development Goal 4 by reducing vaccine preventable diseases [16]. Only 17.8 % of mothers identified BCG and OPV as birth vaccines while 7 % of mothers believed vaccines were harmful. Regarding safety of vaccines, 7.1% believed vaccines would harm their children while 54.2% were unsure [18].

Although most mothers could not tell exactly against which diseases, Mothers had positive attitudes towards immunization (98%). Coverage based on the immunization card, however, was as low as 37%, indicating a discrepancy between the high level of knowledge and positive attitudes, with the observed low immunization coverage. In relation to newborn

vaccination status, sufficient ANC having attained secondary education or higher and reporting delivery at health facility are significantly associated with reporting complete newborn vaccination status. Those who have attained secondary education or higher 37% and women who delivered in the health facility 84% are significantly associated with reporting complete newborn vaccination status adjusted for age and parity. The level of statistical significance was not sustained for making sufficient ANC visits when adjusted for age and parity [12].

2.6. Recognition of danger sign

There has been an increasing trend towards early hospital discharge of the mother baby pair following delivery. Early discharge is defined by the American Academy of Pediatrics (AAP) as a postpartum hospital stay of ≤ 48 hours following vaginal delivery and ≤ 96 hours following Caesarean section [19].The infant's caregiver must recognize and act on danger signs. Some of these include hypothermia, fever, jaundice, poor feeding and convulsions. Jaundice on day one and convulsions are always indicative of serious illness. [20]. At least 6 of 13 newborn danger signs were identified by more than 90% of mothers. Illness in the newborn which included jaundice, fever, and difficulty in breathing, excessive crying, vomiting and diarrhea are recognized as signs of serious illness. Although 96.6% of mothers know fever as a danger sign, only 48.9% know hypothermia. While excessive crying and irritability was recognized by 94.2% of mothers as a danger sign, only 62.9% identified decreased activity as a sign of serious illness. Signs of ophthalmia neonatorum were identified by 85.2% of mothers and only 78.2% believed that convulsions required urgent medical attention. A small proportion of mothers (7.9%) were uncertain whether a baby stopping to breastfeed was a danger sign although the majority (87.6) agreed [9].

There were a number of ‘perceived symptoms” that were mentioned among which included fever, convulsions, weakness, warts, rash, body swelling, excessive crying and child refusing to be nursed/breastfed. Respondents were asked to identify symptoms that were of concern to them, and to state how they would respond in such a situation. Coldness was the least recognized as a danger sign while awareness of acute respiratory illnesses and their symptoms (coughs and colds) are high; awareness of the importance of a baby feeling cold to the touch is much lower[29].

Studies in Sirilanka mothers demonstrated a satisfactory knowledge in recognizing danger signs of the newborn. According to multivariate analysis, primi-parae (odds ratio (OR) = 2.31; 95% CI 1.53–3.50), unemployed women (OR = 3.31; 95% CI 1.89–5.80) and those with delayed antenatal booking visits (OR = 2.02; 95% CI 1.26–2.23) were more likely to have poor knowledge. In conclusion, mothers had a satisfactory level of knowledge about breastfeeding and recognition of danger signs, but knowledge about care of the umbilical cord was poor [30].

2.7. Conceptual frame work

This conceptual frame work was adopted from the cited literatures. This shows the association between dependent and independent variables as well as among independent variables.

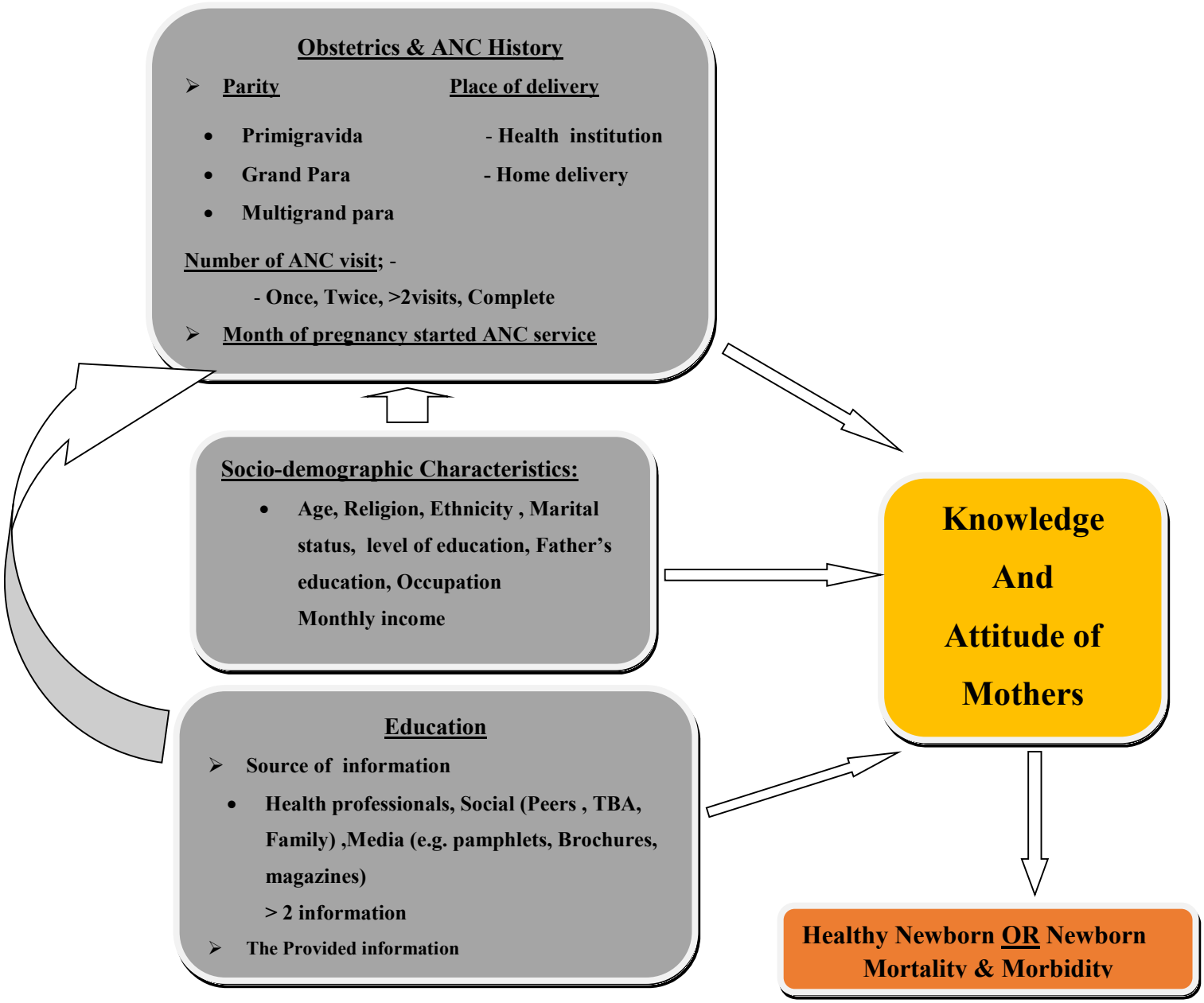

Figure.1- Conceptual frame work adopted from cited literatures.

CHAPTER THREE

OBJECTIVES

3.1. General objective

- Assessment of Knowledge and Attitude of pregnant mothers attending ANC service towards newborn care practice in governmental health institutions of Gondar town, Ethiopia.

3.2. Specific objective

- To assess the knowledge of pregnant mothers towards essential new born care practice.
- To assess the attitude of pregnant mothers regarding to essential new born care practice.

CHAPTER FOUR

METHODOLOGY

4.1- Study area

Gondar town is located in the north western part of Ethiopia; which is 748 km far from Addis Ababa the capital city of Ethiopia. Its varied landscape dominantly covered with hills and plateau formations. Azezo, Woleka and Teda were included as a part of the town which is 12Km, 13Km and 24 Km far from it respectively. The town is bounded by Amba giorgis Woreda in the north, Maksegnit, & Chilga, in the South, Dembia Woreda in the West and Belesa in the East. The total population of the town is 315,858 of which 3.3% are pregnant women attending ANC service in 2015. In the town there are 13 kebeles that contains 1 public hospital, one private hospital, eight health centers & twelve private clinics working to maintain the health status of people in the town.

The study is carried out in all public health institutions at ANC OPD where pregnant mothers get the service.

4.2- Study design and period

Institutional-based descriptive cross sectional study had been employed to assess Knowledge and Attitude of pregnant mothers attending ANC service towards newborn care practice in public health institutions of Gondar town, Ethiopia from January – June, 2015.

4.3. Population

4.3.1. Source population

All pregnant mothers who attend ANC service in Gondar town.

4.3.2. Study population

The study population consisted of mothers attending ANC service in public health institutions in the data collection period.

4.4. Sampling and Sampling Technique

4.4.1. Sample size calculation

Sample size is first determined by single proportion formula. Since this study isn't conducted previously in the study area assumption of proportion of knowledge and attitude of pregnant mothers attending ANC service towards newborn care practice 50% (p = 0.5), level of significance to be 5% (α = 0.05), 95 % confidence level (Z α/2 = 1.96) and margin of error to be 5% (d = 0.05).

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

Where, **N**=population size (Based on the Gondar health bureau plan records for the last six Months in year 2015, the study population size is 3419)

P=population proportion (in the absence of previous studies in similar settings, an assumption is made of 50% prevalence.)

d=standard error in this case 0.05

Z=normal standard deviation with a 95% confidence interval in this case 1.96

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

n = **384 ANC attendants**

Since total study population within study period is less than 10,000, sample size correction formula is used to get the actual sample size

$$n = \frac{n_o}{\left(1 + \frac{n_o}{N}\right)}$$

n = Final sample size

n○ = first calculated sample size

N = Source population

$$nf = \frac{384}{1 + \frac{384}{3419}}$$

$$= 345$$

Therefore the minimum sample size will be 345

Adding 10% grant for non-response rate, the total sample size in the study period will be 380 pregnant mothers attending ANC visits.

4.4.2. Sampling procedures

Gondar town has 13 kebeles that is consisted of nine health institutions. Since those health institutions gave ANC service to pregnant mothers, all these eight public health centers and the referral hospital were selected. Each health institution had proportionate samples. The

study subjects were selected through convenient sampling method until the maximum sample size had been fulfilled.

Proportional formula for each health institution

$$\text{Health Institution A} = \frac{\text{Total sample size} * \text{monthly client flow in each health institutions}}{\text{Total number of clients in all health institutions}}$$

Referral hospital = $\frac{380 * 192}{570}$

= 128 samples were taken through convenient method

Azezo HC = $\frac{380 * 110}{570}$

= 73

Poli HC = $\frac{380 * 100}{570}$

= 67

Maraki HC = $\frac{380 * 90}{570}$

= 60

Gebreal HC = $\frac{380 * 30}{570}$

= 20

Teda HC = $\frac{380 * 20}{570}$

= 13

Woleka HC = $\frac{380 * 10}{570}$

= 7

Ginbot 20 HC = $\frac{380 * 6}{570}$

= 4

Blajig HC = $\frac{380 * 12}{570}$

= 8

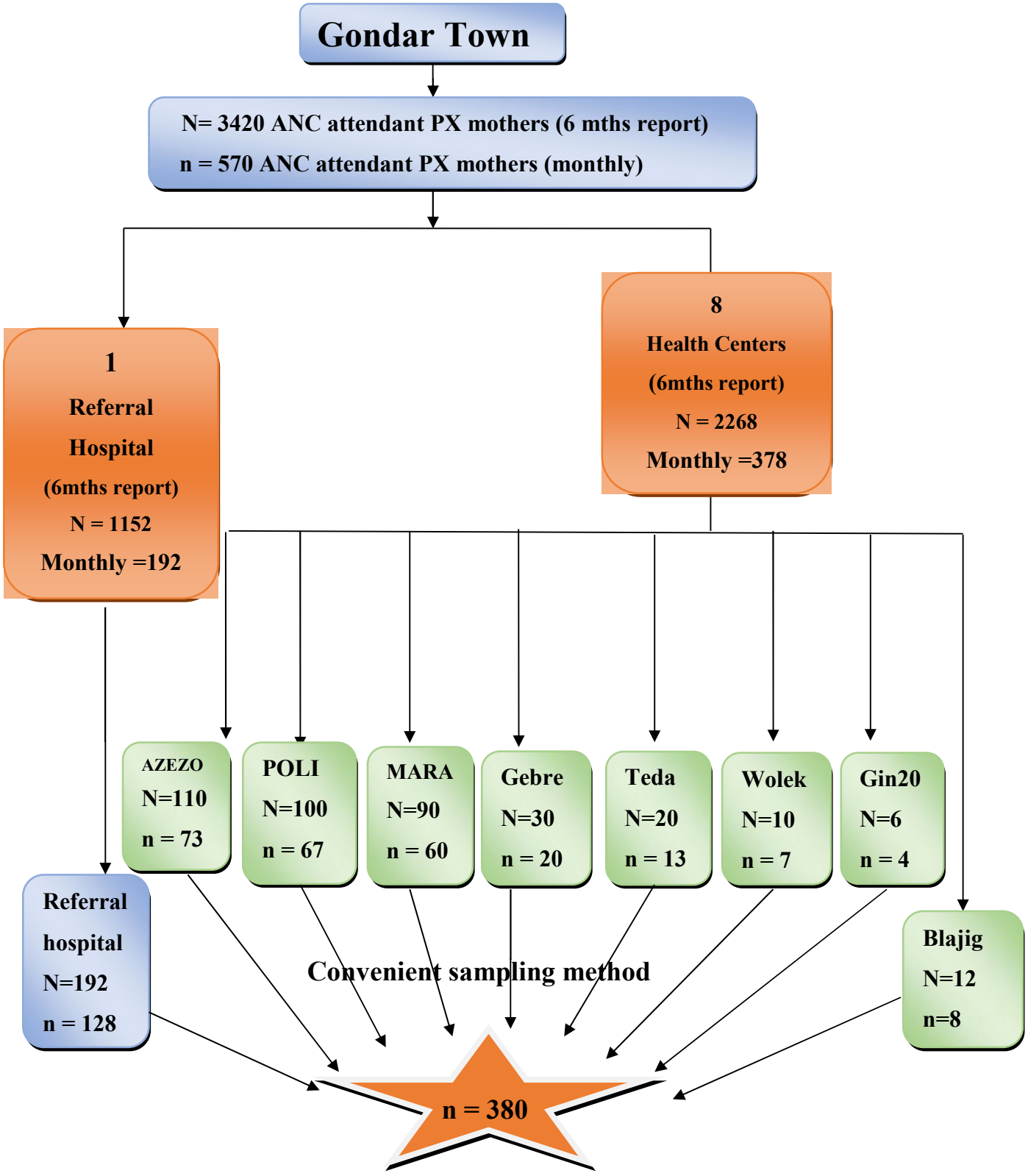

Figure 2: Schematic presentation of sampling procedures in Gondar town, 2015.

4.5. Inclusion criteria and Exclusion criteria

4.5.1. Inclusion criteria

- Pregnant mothers attending ANC service in Public health institutions of Gondar town for at least one year.
- ANC attending Pregnant mothers voluntary to participate in the study.

4.5.2. Exclusion criteria

- ANC attending pregnant mothers who can't respond or with complicated case.
- Pregnant mothers with Mental illness at the time of ANC visit.
- Pregnant mothers attending their 1st ANC visit during data collection period.

4.6. Methods of Data collection

4.6.1. Data collection tools and procedure

The questionnaire was used to obtain pertinent information. This instrument was adopted from previous researcher's thesis for the degree of Masters in Medicine, University of Nairobi with little modification based on Ethiopia context. The questionnaire was prepared in English then translated into Amharic which is the local language of the area. The data was collected by interview using a semi structured questionnaire. The questionnaire was consisted of four parts; part I- has Socio-demographic Characteristics, part II-has 5 questions regarding ANC and obstetrics history, part III-has 3 questions on source of information about new born care and part IV -three point Likert scale was used to assess maternal attitude on various aspects of essential newborn care practices. The ratings included: Agree, Undecided and Disagree.

Before data collection, the data collectors explained about the purpose of the study to the respondents. A semi structured pretested questionnaire was used to collect data. The

questionnaire was administered to the mother by 6 BSc nurses and 4 BSc midwifery; these data collectors read out the questions and fill in the mother's responses .The principal investigator and 4 research assistant supervised the data collection process.

4.7. Data quality control

The questionnaire was pretested on a sample population to ensure validity of the questionnaire before starting of the study. Pre-testing of the questionnaire was done for its simplicity, understandability, and completeness on 5% of the sample (20 clients) on private health institution (Arsema Obstetrics and Gynacology clinic) of the town and modifications was made based on the outcome of the pre-test. Data collectors and supervisors were trained for three days on the study tools and data collection procedure by the principal investigator.

During data collection the collected data was assessed on a daily basis to ensure completeness. Supervisors and principal investigator collect filled questionnaires every day and check for uniformity. A questionnaire incorrectly or incompletely filled was rejected. The principal investigator was responsible for coordination and supervision of the whole data collection process. Five percent of data was entered into a pre-programmed computer on a weekly basis. The data entered was cross checked against the questionnaire to ensure validity of the entries. Frequencies was used to check for missed values and outliers. Any mistakes recognized at this time was corrected after review of the original data.

4.8. Variables

4.8.1. Dependent variables

- Knowledge and attitude are the dependent variable

4.8.2. Independent variables

- Socio-demographic data**(**age, religion, marital status, ethnicity, level of education, occupation, monthly of income,)
- Education :Source of information(nurses, doctors, media, family, friends) and the provided information
- ANC and obstetrics history (parity, place of delivery, number ANC visit starting time to ANC visit)

4.9. Operational definition of terms

Knowledge: Refers to the responses of pregnant mothers what they knows about newborn care practice to the semi structured questionnaire; so as good knowledge when they respond to above or equal to the mean score of the knowledge(≥19.08), poor knowledge respond to less than mean score(< 19.08).

Attitude: Refers to pregnant women's perception on newborn care was measured by three point Likert scale. Positive attitude when a pregnant mother responds more than mean score according to previous study(≥166.3) and negative attitude if a respondent response below the mean score(<166.3).

Essential newborn care: A care given to newly born babies in the area of cleanliness and umbilical cord care, thermal care, immunization, breastfeeding, eye care, and recognition of danger sign like thermal care, immunization, breastfeeding.

Antenatal Care: The service given to pregnant mothers related to giving pertinent information for the sake of the mother and her baby.

Pregnant mother: Refers to all females who conceive a child or going to give birth.

Danger sign: A prominent sign that needs medical interventions, manifested by newborns while they get discomfort or problems.

4.10. Data analysis

The collected data was entered and cleaned in EPI Info version 3.2 and then transported to SPSS version 20; In SPSS software the data coded, confirmed and analyzed. A scoring system was used to analyze responses to closed ended questions on knowledge

1=Correct response (consistent with WHO essential newborn care guidelines),

0= Incorrect response (inconsistent with WHO essential newborn care guidelines). Any mother who did not know the answer was considered to have an incorrect response.

For positive attitude questions the scoring system was similar to knowledge scoring system while for negative attitude questions scoring system was reversibly coded.

The variables which are significantly associated with maternal knowledge at bi-variate analysis were further analyzed using multivariate analysis test to determine factors independently associated with maternal knowledge and Attitude. Associations between maternal knowledge and attitude, and each independent variable was examined by odds ratios (OR) and 95% Confidence Interval. Finally, result was presented in texts, graphs and tables.

4.11. Ethical Considerations

Ethical clearance of research proposal was attained from Addis-Ababa University, college of health science, department of nursing and midwifery ethical committee. After approval of research proposal, the letter was obtained from department of nursing and midwifery to Gondar town health bureau and written permission from each health institutions was taken. Permission was secured at all levels. The Antenatal attendant mothers were free to withdraw from the study without any penalty. No compensation was offered for participation in the study.

CHAPTER FIVE

RESULT

A total sample size of this study was 380; 349(91.8%) were none response rate. Of the total respondent 119(34.1%) were between the age of 26-30 while 10 (2.9%) were above age of 40; of the participants, majority 294(84.2%) were Orthodox religion followers followed by Islamic religion followers 41(11.7%). More than 90% of pregnant women were married 315(90.3%).The dominant number of ethnicity was Amhara 305(87.4%) followed by Tigre 39(11.2%) and Oromo 5(1.4%). Of the total sample 172(49.3%) were house wife and 12(3.5%) had worked in the agriculture. The majority of this study participant 105(30.1%) was within the range of 501-1000 monthly income.

Table 1: Socio-demographic information of pregnant mothers attending ANC service, in Gondar town, 2015.

Variables	Number (N=349)	Percent (%)
Mother's age in years		
16-20	3	0.9
21-25	117	33.5
26-30	119	34.1
31-35	61	17.5
36-40	39	11.1
>40	10	2.9
Mother's religion		
Orthodox	294	84.2
protestant	11	3.2
Islam	41	11.7
Catholic	3	0.9
Marital status		
Single	30	8.6
Married	315	90.3
Divorced	4	1.1
Ethnicity		
Amhara	305	87.4
Tigrae	39	11.2
Oromo	5	1.4
Monthly Income		
<500	70	20.1
501-1000	105	30.1
1001-1500	42	12.0
1501-2000	68	19.5
>2000	64	18.3

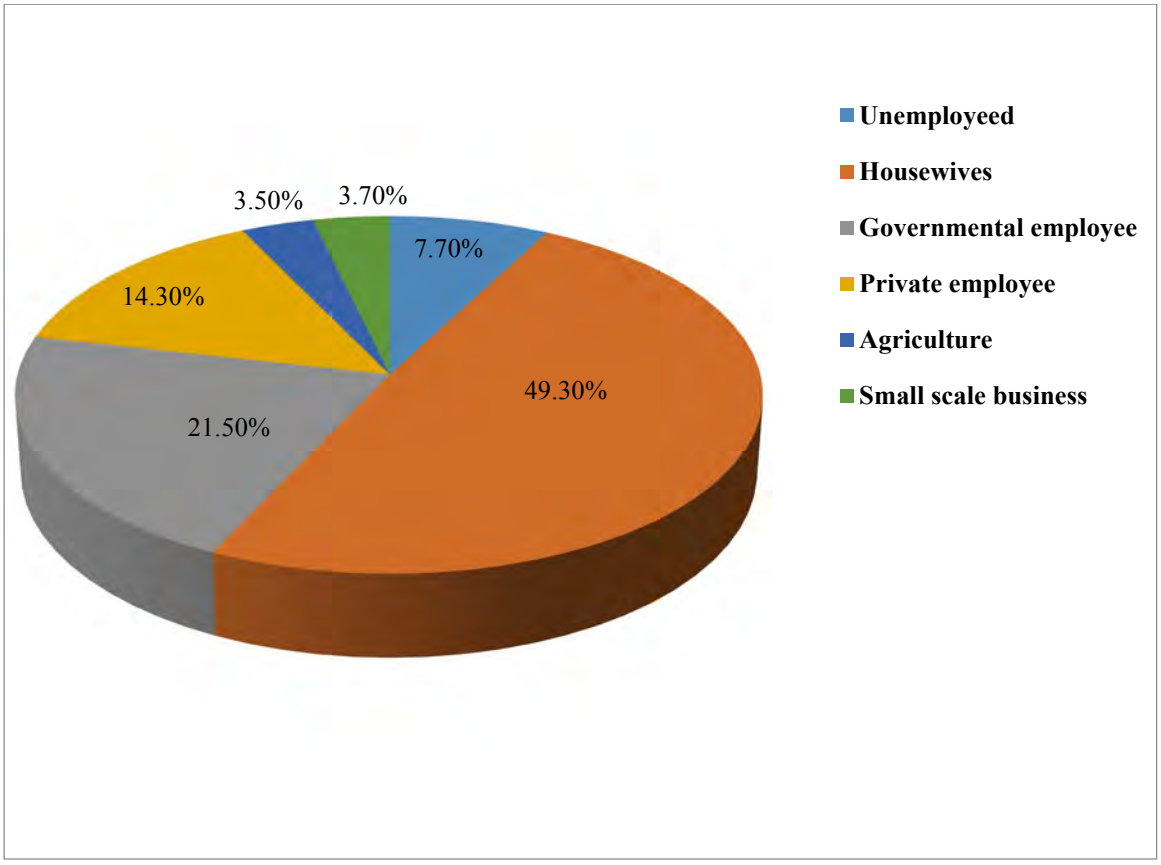

Figure 3: Maternal occupation at ANC visit in Gondar town, 2015

The majority of husbands were with no formal education 75(21.5%) while 12(3.4%) were in Masters level. In regards to maternal level of education, most of the mothers 89(25.5%) had no formal education whereas 19(5.4%) of the participants were with degree level.

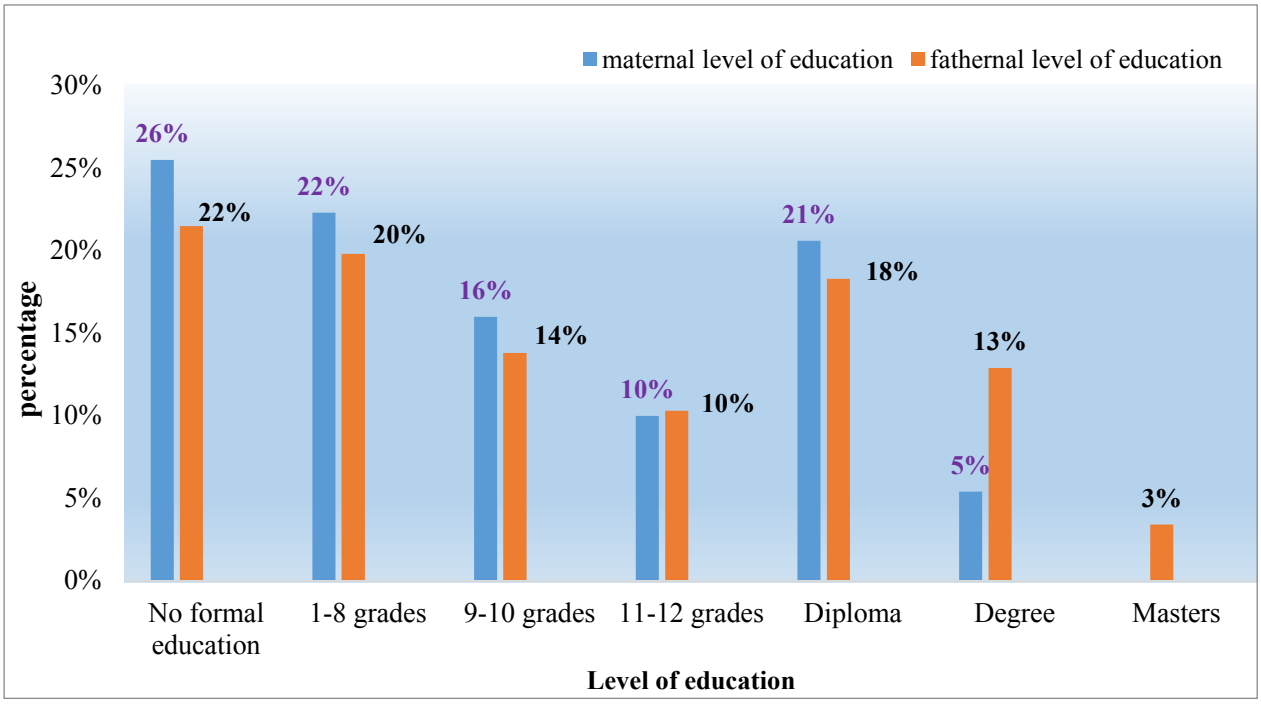

Figure 4: Educational level of the parents of newborn baby, Gondar, 2015.

Of the total participants in this study 137(39.3%) were Primi-gravida, 163(46.7%) were multi pares and 49(14%) grand multi-Para. Pregnant mothers who had at least one ANC visit were 46(13.2%), two times 157(45%), more than two frequent visit 122(35%) and complete visit were 24(6.9%). Of these mothers 131(37.5%) began their visit before 16 weeks of pregnancy, 179(51.3%) 2nd trimester, 36(10.3%) in 3rd trimester and 3(0.9%) at 36 weeks of their gestation. 343 (98.3%) of participants responded that they want to give birth at health institution while the rest 6(1.7%) want to give birth at their home.

Table 2: Antenatal and obstetrics information on pregnant mothers attending ANC service, in Gondar town, 2015

Variables	**Number(N =349)**	**Percent (%)**
Mother's parity		
Primi-gravida	137	39.3
Multi-Para	163	46.7
Grand multi Para	49	14
How many ANC visits did you attend till now?		
Once	46	13.2
Two times	157	45
More than two frequent visits	122	35
Complete visit	24	6.9
When did you attend ANC visit?		
Before 16 weeks of pregnancy	131	37.5
Between 24-28 weeks of pregnancy	179	51.3
Between 28-32 weeks of pregnancy	36	10.3
At 36weeks of pregnancy	3	0.9
Did you receive TT injections?		
Yes	330	94.6
No	15	4.3
Don't know	4	1.1
Total	349	100
Where do you plan to have delivery?		
Health facility	343	98.3
At home	6	1.7

About 235(67.3%) of ANC attendant mothers had received information, among those more than half (53%) had got information about breast feeding, 77(22.1%) about cord care and 72(20.6%) about thermoregulation. 210 (89.8%) had received the information from health professionals, 3(1.3%) media, 10(4.2%) social (families and peers) and 11(4.7%) had more than two information sources.

Table 3: Source of information on pregnant mothers attending ANC service, in Gondar town, 2015.

Variables	**Number (N= 349)**	**Percent (%)**
Did you receive any information on newborn care practices during this pregnancy?		
Yes	235	67.3
No	113	32.7
Who provided you with the information?		
Health professionals	211	89.8
media	3	1.3
socials(peers, family)	10	4.2
more-than two information source	11	4.7

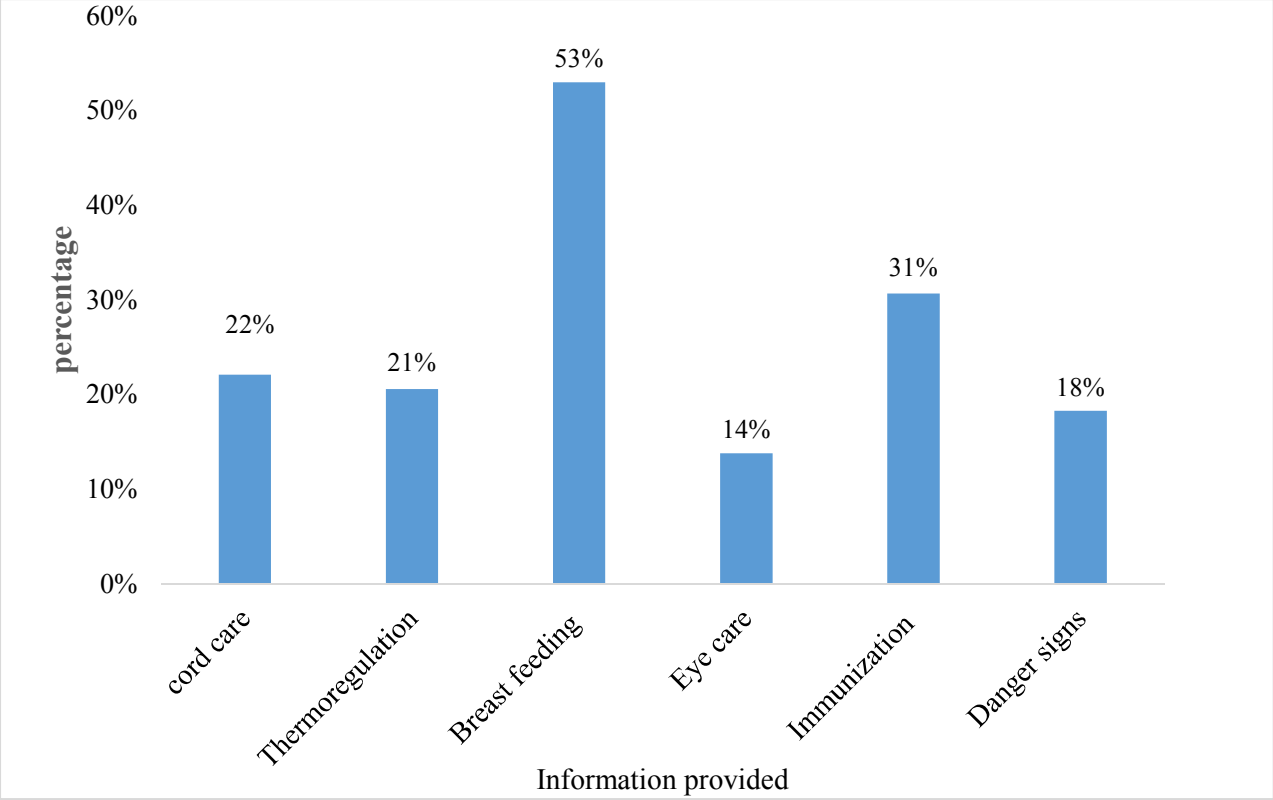

Figure 5: Clients information about newborn care at ANC, Gondar, 2015.

Among the participant mothers majority 224(64.2%) respond wrapped the newborn to keep warm, 126(36.1%) through skin to skin, 23(6.6%) by making the room warm. Of the total respondents 118(33.8%) would give bathing immediately after delivery whereas 76 (21.8%) after two or three days of delivery, and only 2(0.6%) respond bathing after a week. Mean knowledge of mothers on thermoregulation of newborns were 44. Majority (74.7%) of respondents were not knowledgeable.

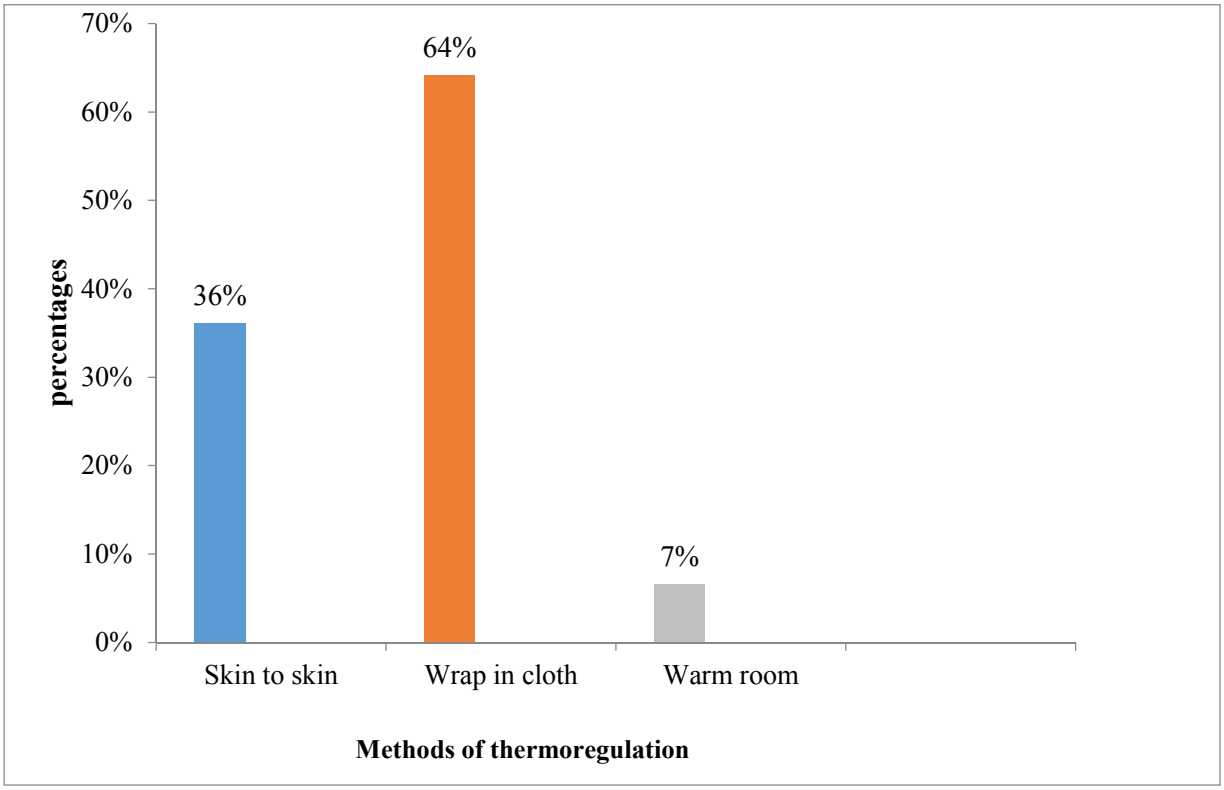

Figure 6: Client's knowledge on thermoregulation of newborns, Gondar, 2015

The majority of mothers 294(84.2%) would give tab bath to their newborn, and of the total 335(96%) of mothers knew sterile scissors or new blade was a material to cut babies umbilical cord; There were 14(4%) knew previously used scissor or blade could be serve as cutting material with or without sterilize. 258 (73.9%) of the total keep the umbilical stump uncover while 47(13.5%) had no awareness what should be done. Almost all women 341(97.7%) would use clean water for soiled umbilical stump. Among these respondent 247(70.3%) of them would not apply substance to umbilical stump. However, of those who would do 43(55.1%) apply butter and 6(7.7%) ointments (TTC, Vaseline). Mean knowledge of the participants to umbilical cord care and cleanliness was 81.8.Of the total participants 69.92% had knowledge on cord care.

Table 4: Frequencies for Knowledge aspect of questions on Thermoregulation and Cord care of newborn among pregnant mothers attending ANC service in Gondar town, 2015

Variables	Number (N=349)	Percent (%)
When do you think to give bathing for the newborn baby?		
Immediately after delivery	118	33.8
Within 6 hrs of delivery	74	21.2
Within 6 to 12 hrs	79	22.6
After two or three days of delivery time	76	21.8
After a week	2	0.6
What type of bathing do you give?		
Tab bath	294	84.24
Sponge/cloth bath	55	15.76
What material do you use to cut umbilical cord?		
Previously used blade	10	2.9
Sterile scissor or ne blade	335	96.0
Previously used unsterile scissor	4	1.1
How do you keep the umbilical stump of your baby?		
Covered	44	12.6
Uncover	258	73.9
Don't know	47	13.5
If the umbilical stump is soiled with baby's urine or faeces how would you clean it?		
Clean with water	341	97.7
Clean with saliva	3	0.9
Apply alcohol	5	1.4
After cleaning your baby's soiled umbilical stump, should any substances be applied to it?		
Yes	78	22.3
No	247	70.8
Don't know	24	6.9
If yes, what material should be applied on your baby's umbilical stump?		
Butter	43	55.1
Alcohol	25	32.1
Ointment	6	7.7
Cow dung	4	5.1

Majority 305(87.3%) of mothers would have early initiation of breast feeding with in 1hr, 36(10.3%) after 1hr and 3(0.9%) after 2 days. There were 57(16.3%) who had given prelactant feeding; less than half 156(44.7%) of mothers give breast feed to their baby 8-10 times per day and 117(33.5%) if the baby cry or looking for breast. There were 245(70%) of mothers feed breast milk just for 6 months, 57(16.3%) for less than 6 months and 11(3.2%) for greater than 2 years. The majority of women 268(76.8%) would feed the first milk (colostrum) to their baby. However, those who threw colostrum, 81(23.2%) considering it as a dirty while 16(4.6%) respond baby would get diarrhea. Majority 207(59.3%) respond correctly about the advantages of colostrum that prevents baby from getting disease and 20(5.7%) did not know its advantage. On feeding mean maternal knowledge was 90.9; of the total participants 56.16% of the respondents had knowledge on feeding.

Table 5: Frequencies for Knowledge aspect of questions on feeding of newborn among pregnant mothers attending ANC service in Gondar town, 2015

Variables	Number (N=349)	Percent (%)
How soon after delivery you will feed breast milk to your baby?		
Immediately after delivery	223	63.9
After 30 Minutes	82	23.4
After 1 Hours	46	10.3
After 6 hrs	2	0.6
After 24hrs	3	0.9
After 48 hrs	3	0.9
Do you (or anyone else) give any fluid/feeds to your baby before giving breastfeeding?		
Yes	57	16.3
No	260	74.5
Don't know	32	9.2
How often you will breastfeed your baby?		
On demand (when baby cries/looking for breast)	117	33.5
4-6 times	76	21.8
8-10 times	156	44.7
How long you will exclusively breastfeed your baby (in months)?		
< 6 months	57	16.3
For 6 months	245	70.2
6-12 months	17	4.9
1-2 years	19	5.4
>2 years	11	3.2
What should you do with the first milk (colostrums) that came from your breast?		
Feed the baby	268	76.8
Threw it away	81	23.2
If you aren't feeding colostrums, what is the reason?		
It is dirty	50	61.7
The baby will get diarrhea	16	19.8
The baby will get vomiting	8	9.9
It isn't our culture	7	8.6
Do you advantage of first milk/colostrums?		
It prevents baby from diseases	187	69.8
It helps the baby to grow well	29	10.8
It contains so many nutrients	32	11.9
I don't know	20	7.5

Even if 199(57%) of the respondent had not awareness which vaccine is given after birth, from the total respondents 329(94.3%) of them respond vaccine is required at birth and 8(2.3%) did not know about it. Majority of mothers 243(69.6%) were respond vaccines help to prevent disease and 106(30.4%) of the total did not know. Majority 193(55.3%) of the women had not awareness to the disease which BCG vaccine could prevent; Likewise 187(53.6%) of the participants did not know the disease that OPV vaccine could prevent. Mean knowledge on vaccination was 53; of the total respondents 49% had knowledge on vaccination while 51% were not knowledgeable.

Table 6: Frequencies for Knowledge aspect of questions on Vaccination of newborn among pregnant mothers attending ANC service in Gondar town, 2015.

Variables	**Frequency (N= 349)**	**Percent (%)**
Does your baby require any vaccination at birth?		
Yes	329	94.3
No	12	3.4
Don't know	8	2.3
What vaccines should your baby received at birth?		
BCG	91	26.1
OPV	59	16.9
BCG &OPV	45	12.8
Don't know	154	44.2
Why do we give vaccines to the baby after birth?		
To prevent diseases	243	69.6
Don't know	106	30.4
What disease does BCG vaccine could prevent your baby from?		
Tuberculosis	130	37.2
Polio	22	6.3
Tetanus	4	1.2
Don't know	193	55.3
What disease does OPV vaccine protect your baby from?		
Polio	135	38.7
Measles	27	7.7
Don't know	187	53.6

Among the respondents of 329 that knew vaccines requirement at birth, 154 (44.2%) had no awareness which vaccine would be given to the baby while 45(12.8%) knew BCG and OPV were given at birth.

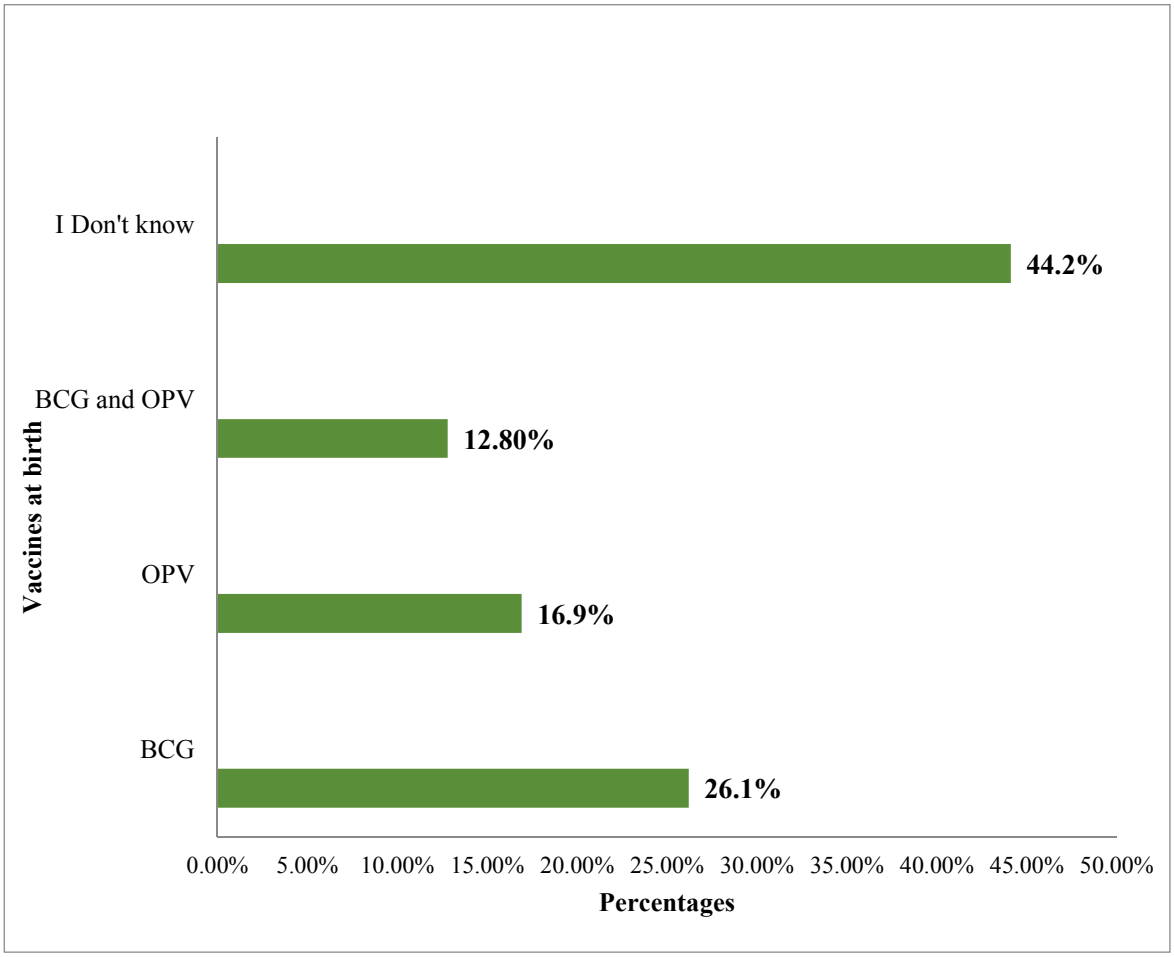

Figure 7: Maternal knowledge on Immunization of newborn care, Gondar, 2015.

There were 59(16.9%) of mothers aware discharge in the eyes as an indicator of eye infection to the baby, 7(2.0%) aware pus in the eyes. Mean knowledge on eye care was 21.8; among the participants 60.17% were not knowledgeable on eye care of newborns.

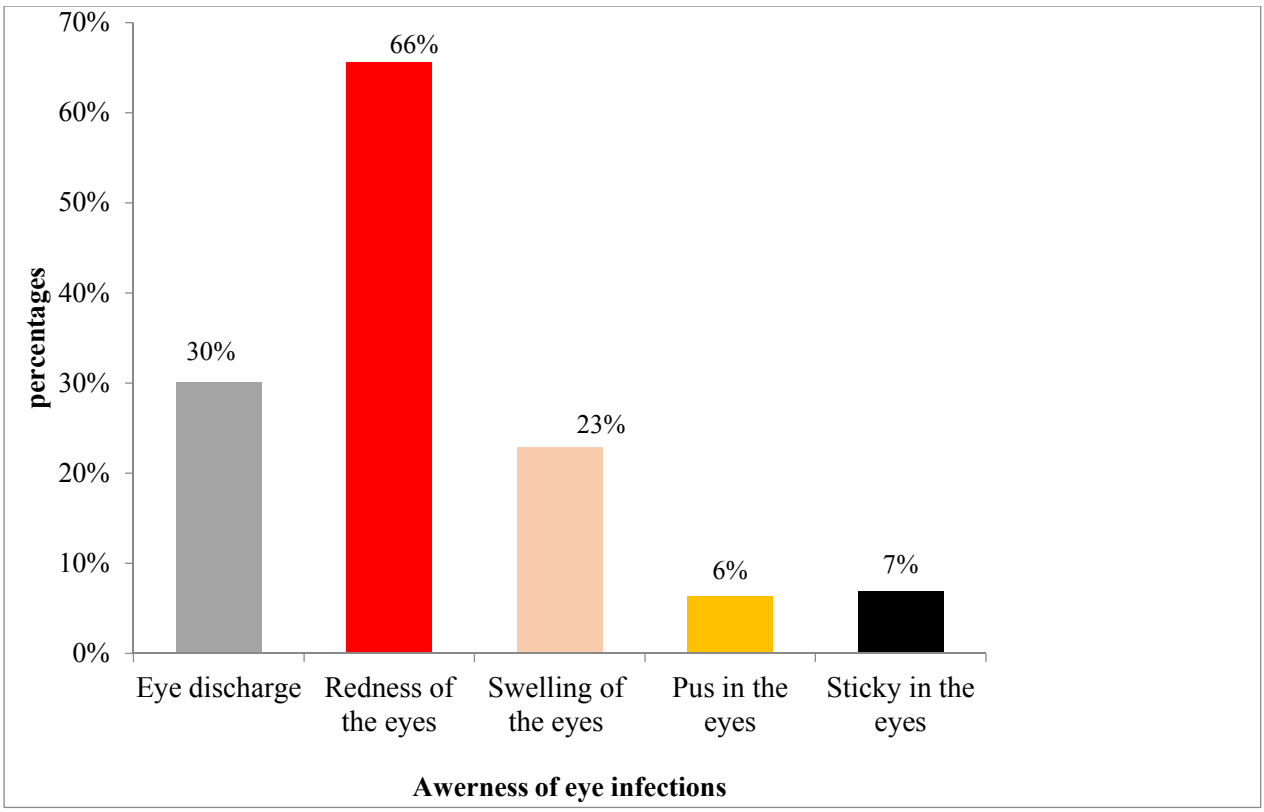

Figure 8: Maternal knowledge on Eye infection of newborn, Gondar, 2015.

A total of 114(32.7%) of women did not know any danger signs of newborn, while the rest 235(67.3%) knew about it. However, of those who knew 100(28.7%) yellow eyes, 193(55.3%) not breast feed and 65(18.6%) convulsion were recognized by the mothers as a danger signs. The mean knowledge on danger sign was 19.5. Of the total participants, majority 210(60.17%) were not knowledgeable while the rest of 139(39.8%) had knowledge on recognition of danger signs in newborn baby.

Of the total respondents, 167(47.85%) of mothers had good, while majority 182(52.15%) had poor knowledge score on newborn care.

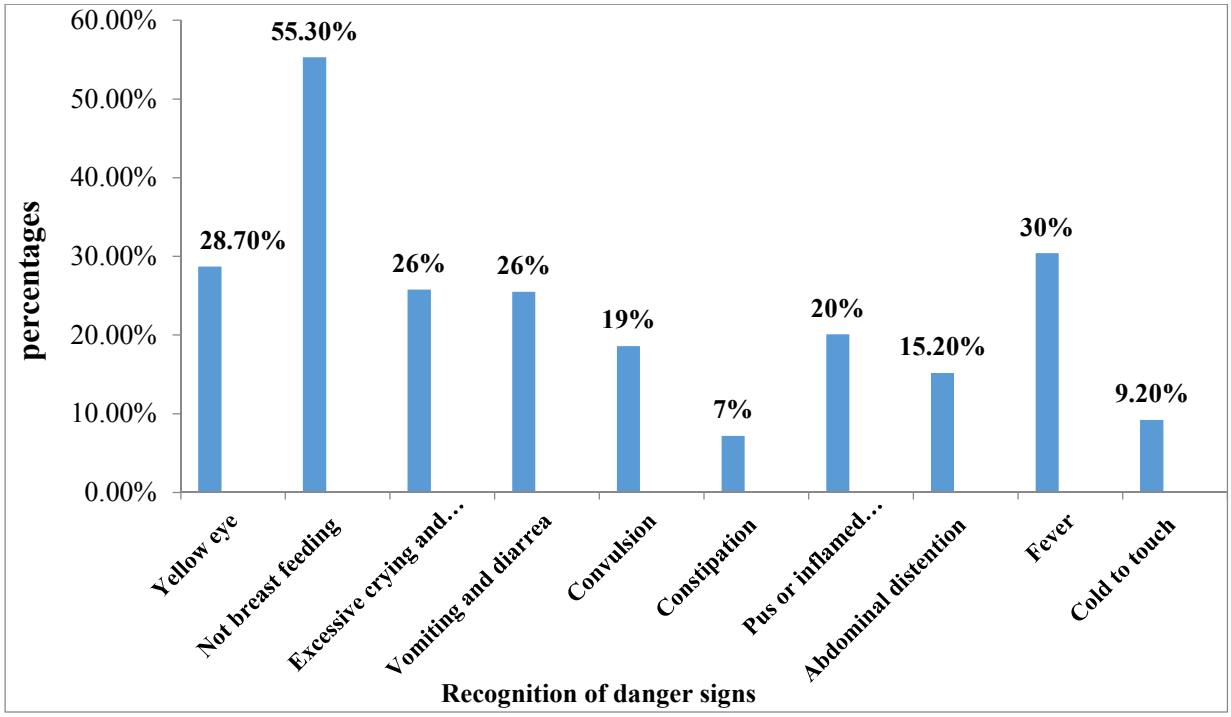

Figure 9: Maternal knowledge on danger signs of newborn care, Gondar, 2015.

These study subjects were assessed their attitude about newborn care, and of the total sample unit, 298(85.4%) did not prefer to use a previously used blade. 297 (85.1%) of the respondents had perceived that a dirty umbilical cord can cause infection to the baby. Mean maternal attitude on cord care was 201. Of the samples 303(86.8%) had negative attitude on umbilical cord care and cleanliness while 46(13.19%) had positive attitude.

Regarding to thermoregulation, 283(81.1%) participants belief skin to skin contact is one preventive way for the baby from getting cold; 163(46.7%) of the respondent did not accept bathing a baby in a cold water. Mean score of maternal attitude on thermoregulation was 167.

Majority 175(50.14%) of participants had negative attitude on thermoregulation for the newborn baby, while 174(49.86%) were perceive positively.

On danger signs, 266(76.2%) of the participants believe yellowish discoloration of

Eyes, palms and soles are signs of series illnesses to the baby whereas 60(17.2%) were not sure. Of the total participants 326(93.4%) believe that red or discharging pus of baby's umbilicus is a sign to go hospital immediately but 13 (3.7%) had negative attitude on going to hospital. 93 (26.6%) of participants were agreed to apply breast milk on baby's swollen or sticky eye, while 80(22.9%) were not sure. Most of the respondents 296(84.8%) perceive that increasing breast feeding frequency for sick baby is needed; 31 (8.9%) had negative attitude on increased frequency. Jerking movement of limbs and eyes were not recognized as a danger signs by 138(39.5%) of participant mothers but the majority 157(45%) perceived as a danger signs. The majority of participants 329(94.2%) belief baby with fever or cold to touch need medical attention immediately. For the question given water and stop breast milk for abdominal distended baby, 152(43.8%) of the participants accept it whereas 142(40.4%) did not belief with the idea.

According to this study finding 329(94.2%) of attendants would go to their baby to hospital if it cries excessively or being irritable, and 285(81.4%) of the respondents continue breast feeding to the baby even if it has got diarrhea and vomiting. Mean score of maternal attitude on feeding of newborns were 158.8.Majority of the participants 191(54.73%) had positive belief on newborn feeding. In general, 190(54.4%) of the total participants had positive attitude about newborn care while 159(45.6%) had negative attitude about it. Mean maternal attitude was 166.3.

Respondents were asked about feeding a baby at any time, of the respondents 320(91.7%) believed in it. The majority of respondents 209(59.9%) believed that babies should have other feed with breast milk. Most of the respondents 296(84.8%) perceive that increasing breast feeding frequency for sick baby is needed; 31(8.9%) had negative attitude on increased frequency. For the question given water and stop breast milk for abdominal distended baby, 152(43.8%) of the participants accept it whereas 142(40.4%) did not belief with the idea. 285(81.4%) of the respondents continue breast feeding to the baby even if it has got diarrhea and vomiting. Of the total respondents 349, 191(54.73%) had positive attitude on feeding babies but 158(45.27%) had negative attitude with mean maternal attitude was 158.8.

Table 7: Frequencies for attitude aspects of question about new born care among pregnant mothers attending ANC service in Gondar town, 2015.

Variables (N=349)	Agree (%)	Disagree (%)
A previously used blade can be washed and used to cut the cord.	20(5.7)	329(94.3)
A dirty umbilical cord can cause infection in babies	297(85.1)	52(14.9)
Mother-baby skin to skin contact prevents the baby from getting cold	283(81.1)	66(18.9)
Baby can be bathed in cold water	152(43.6)	197(56.4)
Babies should be breastfed at any time.	320(91.7)	29(8.3)
Babies should be given other feeds with breast milk.	110(31.5)	239(68.5)
For sick baby breast feeding frequency is need so need to increase the breast feeding.	296(84.8)	53(15.2%)
Baby has got abdominal distension, give water and stop breast milk	152(43.8)	197(56.2%)
Baby who has diarrhea or vomiting continue breast feeding	285(81.4)	64(18.6%)

About 262(75.1%) of the respondents accept vaccines are harmful to the baby. whereas 151 (43.3%) of the participants perceive that polio myelitis was prevented by OPV. Mean score of maternal attitude on immunization was 152.There were 244 (69.9%) mothers who had negative attitude, while 105(30.1%) had positive attitude on immunization in newborn babies.

There were 276 (79.1%) of the units had decide to apply eye drops if their baby's eye would have got eye discharge or redness without doctor's advice. 93(26.6%) of participants were agreed to apply breast milk on baby's swollen or sticky eye, while 80(22.9%) were not sure. Mean score of attitude on eye care was 172.5. Majority (63.9%) had positive perception on eye care of newborn baby whereas 126(36.6%) had negative believe on eye care of newborn babies.

Regarding to danger signs 266(76.2%) of the participants believe yellowish discoloration of Eyes, palms and soles are signs of series illnesses to the baby whereas 60(17.2%) were not sure. Of the total participants 326(93.4%) believe that red or discharging pus of baby's umbilicus is a sign to go hospital immediately but thirteen (3.7%) had negative attitude on going to hospital. Jerking movement of limbs and eyes were not recognized as a danger signs by 138(39.5%) of participant mothers but the majority 157(45%) perceived as a danger signs. The majority of participants 329(94.2%) belief baby with fever or cold to touch need medical attention immediately. According to this study finding 329(94.2%) of attendants would go to their baby to hospital if it cries excessively or being irritable. Mean score of maternal attitude on recognition of danger sign was 160.4. Among the participants 203(58.16%) had poor perception, while 146(41.4%) positive perception on recognition of danger signs in newborn babies. In conclusion, mean maternal attitude on essential newborn

care was 166.3.Of the total 190(54.45%) had positive attitude on newborn care practice, while 159(45.55%) had negative perception.

Table 8: Frequencies for attitude aspects of question about new born care among pregnant mothers attending ANC service in Gondar town, 2015.

Variables (N=349)	Agree (%)	Disagree (%)
Vaccines are harmful to the babies.	262(75.1)	87(24.9)
OPV is given to prevent polio myelitis.	151(43.3)	198(56.7)
Any medication or eye drops can be applied if the baby got eye discharge or redness without Doctor's advice.	276(79.1)	73(20.9)
Baby has eyes swollen, sticky, and red or draining pus apply breast milk to baby's eye.	93(26.6)	256(73.4%)
Baby umbilicus is red, discharging pus, and surrounding umbilical skin red is immediately take the baby to hospital	326(93.4)	23(6.6%)
Baby has yellowish discoloration of eyes, palms, and soles are signs of serious illnesses to the baby.	23(6.6)	326(93.4%)
If a baby cries excessively/irritable take baby to hospital.	329(94.2)	20(5.8%)
Baby with fever or cold to touch need medical attention immediately.	329(94.2)	20(5.8%)
Abnormal (jerking) movement of limbs and eyes are not a danger signs	138(39.5)	211(60.5%)

Maternal occupation, parity and source of information associated with maternal knowledge on newborn care

In logistic regression, the independent variables were tested to identify which variable could be related maternal knowledge. According to this study private employee and governmental employee has significantly associated to maternal knowledge in bi-variate logistic regression ,but when the confounding factors were avoided, have private employee does not show association with maternal knowledge unlike mothers who were governmental employee twenty two times more likely having knowledge on newborn care than those who had small scale business with significance of 0.026 and AOR 22.247; CI (1.461-335.611).Likewise mothers who had got at most two of the six of information about newborn care has five times less likely to have knowledge than those who had got all information provided in ANC service about newborn care with odds 0.152 ; 95% CI (0.048-0.482); mothers who received more than two of the information about newborn care has three times less likely to have knowledge as compared to mothers had received all the information OR 0.3060; 95% CI (0.098-0.950) respectively.

According to this study mothers who had five children at most had three times more chance to have knowledge on newborn care as compared to those who had more than five children with odds of 3.344 ;95% CI (1.010-11.073).(see table)

Table 9: Maternal occupation, parity and the provided information associated with maternal knowledge on newborn care in Gondar town, 2015.

Variables	P-value	COR;95%CI	AOR;95%CI	P-value
Maternal occupation				
Unemployed	0.824	1.200(0.241 - 5.967)	0.884(0.130 - 6.017)	0.900
House wife	0.534	1.531(0.400 - 5.867)	1.155(.237 - 5.623)	0.858
Government employee	**0.012**	**20.182(1.924 - 211.644)**	**22.147(1.461 -335.611)**	**0.026***
Private employee	**0.031**	**13.364(1.267 - 140.934)**	10.330(0.804 - 132.721)	0.073
Agriculture	0.999	440584053.905(.000-)	898844142.105(0.000 -)	0.999
Small scale business	0.041	1	1	0.057
Parity				
Primi gravida	**0.135**	**1.939(0.814 - 4.622)**	1.038(0.307 - 3.512)	0.953
Multi parity	**0.005**	**3.923(1.526 - 10.087)**	**3.344(1.010 - 11.073)**	**0.048***
Grand multipara	0.017	1	1	0.035
The provided information				
<= Two of the info	0.998	0.000(0.000 -)	**0.152(0.048 -0 .482)**	**0.001****
> two of the info	0.998	0.000(0.000 -)	**0.3060(.098 - 0.950)**	**0.041***
All info	0.002	1	1	0.740

P< 0.05* shows association; P< 0.001 shows strong association.**

Father's education, maternal occupation, parity and number of ANC visit associated with maternal attitude on essential newborn care

In binary logistic regression all independent variables were tested to identify the factors associated with maternal attitude on essential newborn cares. In multivariate, husbands education, maternal occupation, parity and number of ANC visits has association. According to the present study findings participants who had husband's with primary education has almost ten times more likely to have maternal attitude on newborn care than those husband's educational level were Masters OR 9.589; 95%CI (1.518 – 60.564), P = 0.016.Similarly, husbands at diploma level had almost Six folds greater on wives attitude of newborn cares as compared to husband's with masters level of education OR 6.777; 95% CI (1.112-41.309), P = 0.038.

In regards to occupation, unemployed were approximately six folds more chance to have attitude on newborn care than respondents work in small scale business OR 5.561;95% CI(1.023 - 30.227), P= 0.047.In the same way, mothers who had agricultural practice twenty times more likely to have maternal attitude on newborn care than mothers with small scale business.

Our study findings show that participants who gave at most five children has 2.5 times more chance to maternal attitude on newborn care. Maternal attitude also had association with number of ANC visits. Mothers with second visits were four folds less likely to have maternal attitude on newborn care as compared to participants who had complete visit OR 0.258; 95% CI (0.071 - 0.945), P=0.041 ; mothers who had more than two frequent visits also have association with maternal attitude with odds of 0.319;CI(0.106 -0 .959), P= 0.042

Table 10: Father's education, maternal occupation, parity and number of ANC visit associated with maternal attitude on newborn care in Gondar town, 2015.

Variables	P-value	COR;95%CI	AOR;95%CI	P-value
Husband's education				
No formal education	**0.043**	**5.135(1.053 - 25.037)**	2.812(0.444- -17.801)	0.272
1-8 grade	**0.004**	**10.682(2.156 - 52.928)**	**9.589(1.518 – 60.564)**	**0.016***
9-10 grade	**0.186**	**3.000(0.590 - 15.262)**	2.163(0.332-14.081)	0.419
11-12 grade	**0.030**	**6.250(1.195 - 32.687)**	4.786(0.732-31.295)	0.102
Diploma	**0.012**	**7.800(1.576 - 38.598)**	**6.777(1.112-41.309)**	**0.038**
Degree	**0.021**	**6.842(1.341 - 34.899)**	5.262(0.852 – 32.503)	0.074
Masters	0.043	1	1	**0.004**
Mother's occupation				
Unemployed	**0.038**	**4.275(1.086 - 16.827)**	**5.561(1.023 - 30.227)**	**0.047***
House wife	0.194	2.119(.682 - 6.583)	2.108(0.522 - 8.506)	0.295
Government employee	0.400	1.662(.509 - 5.425)	1.414(0.306 - 6.541)	0.658
Private employee	0.186	2.291(.671 - 7.819)	2.544(0.579 - 11.177)	0.216
Agriculture	**0.029**	**8.100(1.233 - 53.200)**	**20.396(2.165 - 192.127)**	**0.008****
Small scale business	0.038	1	1	**0.035**
Mother's parity				
PrimiPara	0.291	1.4420(0.748 - 2.777)	2.765(0.999 - 7.656)	0.050
Multipara	0.274	1.672(0.879 - 3.180)	**2.551(1.070 - 6.082)**	**0.035***
Grand multipara	0.117	1	1	0.095
How many ANC visits attend till now?				
Once	**0.048**	0.346(0.121 - 0.993)	**0.258(0.071 - 0.945)**	**0.041***
Two times	0.177	0.525(0.206 - 1.338)	0.384(0.127 - 1.161)	0.090
More than two frequent visits	0.103	0.454(0.176 - 1.174)	**0.319(0.106 -0 .959**	**0.042***
Four complete	0.127	1	1	0.170

P< 0.05* shows association; P< 0.001 shows strong association.**

CHAPTER SIX

DISCUSSION

In the present study findings related to demographic variables 119(34.1%) majority of antenatal mothers belongs to the age group of 26-30 and majority of 163(46.7%) were multi gravid. Maximum 19(5.4%) mothers were educated upto degree level and 89(25.5%) were with no formal education. Majority 172(49.3%) had occupation by housewife, but contradictory findings by occupation was 98% in other study conducted in India. [2].

In this study findings 235 (67.3%) of the mothers had retain information about newborn care whereas the rest 114 (32.7%) did not receive the information. Among the mothers who had receive the information 185(53%) about breast feeding, 77(22.1%) about cord care 107(30.7%) immunization, 72(20.6%) about thermoregulation, 48 (13.8%) on eye care, and 64(18.3%) about danger signs in newborn babies. Findings in Kenya national hospital on postnatal mothers shows 75.2% about breastfeeding, 10% on immunization, 26.3% on thermoregulation, 16.8% cord care, 8.7% danger sign and 1.6% eye care receive the information [11]. This difference between the two studies, in Kenya they were used sample unit in post natal mothers of national hospital whereas in the present study pregnant mothers attending ANC service; since post natal mothers were admitted in the hospital, they were vulnerable to get better information on each moment of mothers care to newborn as compared to ANC mothers.

This study assessed knowledge of ANC mothers on essential newborn care. Average maternal Knowledge on newborn care shows that 167(47.85%) had good, while majority 182(52.15%) had poor knowledge score. Findings of this study also shows that ANC mothers had 244(69.9%) knowledge in the area of cord care, while minimum knowledge

score 69(19.7%) regarding eye care. Likewise, pregnant mothers attitude on essential newborn care was 223(63.9%) in the area of danger signs recognition and breast feeding 191(54.73%) whereas minimum attitude score was 57(16.44%) regarding cord care. Similarly, in previous studies, mothers were not knowledgeable on new born care [18].

A hospital based cross-sectional study was conducted in Kenyatta National Hospital. A total of 380 postnatal mothers were interviewed using structured pretested questionnaires. Similar to present findings Positive attitude was noted most consistently on breastfeeding but contradictory findings on cord care [11].

In this study associated factors like occupation, findings reveal that majority (49.3%) of the participants were housewives, 75(21.5%) governmental employed, 50(14.3%) private employee, 27(7.7%) were unemployed, 13(3.7%) small scale business and 12(3.5%) have agricultural practice. Maternal knowledge on newborn care has association with their occupation AOR 22.147; 95% CI (1.461 -335.611), P= 0.026.

In Post natal mothers of tertiary hospital in south India did not show the association between maternal occupation with their knowledge on newborn care [10]. Studies done in Sirilanka Postnatal mothers of hospital-delivered unemployed women [AOR 3.31; 95% CI (1.89–5.80)] had association to maternal knowledge [21].

In this study findings, information provided at ANC and parity also has association to maternal knowledge on new born care [AOR 0.152; 95% CI (0.048 -0 .482)], P= 0.001 in the second visits, AOR 0.3060; 95% CI (0.098 - 0.950)], P= 0.041in the third visit and [AOR 3.344; 95% (1.010 - 11.073)], P=0.048 for multi grand parity. Findings in Postnatal mothers of Kenya national hospital shows that not completing the recommended four ANC visits on newborn care practices during pregnancy were independently associated with

maternal knowledge on newborn care. It did not reveal any association between maternal parity [11]. A study done in Sirilanka shows similar to present study findings, primi para odds ratio (AOR) = 2.31; 95% CI 1.53–3.50) [21].

Regards to maternal attitude on newborn care, on socio demographic information husbands' education and occupation independently associated [AOR 9.589; 95% CI (1.518 – 60.564), P= 0.016* for primary education and AOR 6.777; 95% CI (1.112-41.309), P= 0.038] and [AOR 5.561; 95%CI(1.023-30.227), P= 0.047 for unemployment and AOR 20.396; 95% CI(2.165 - 192.127), P= 0.008 for agricultural practice.] respectively. The present study also shows that maternal attitude has association with parity and number of ANC visits. No similar or contradictory findings in other studies on the association of maternal attitude to parity and number of visits.

6.1. STRENGTH AND LIMITATION

6.1.1. Strength of study

The findings of this study provide valuable information for improving the quality of ANC service to educate mothers on essential newborn care practices. This is possible by enabling the identification knowledge and attitude gaps towards newborn care.

6.1.2. Study limitations

The length of the questionnaire could have produced respondent and interviewer fatigue, compromising the quality of the data collected.

The information on newborn care practices has been collected from all pregnant mothers. Hence, there could be some recall bias that affected the quality of data.

The study was based on mothers speaking reported rather than observed knowledge and attitude towards newborn care practices. There was therefore a risk that mothers may report what was expected of them but their actual practices may be different.

As the study was carried out among antenatal mothers in all public health institutions, samples were collected continently that was fulfill the eligible criteria; findings may not be generalized to the whole city.

No similar studies were found in Ethiopia as well limited in other countries, this makes the references to use repeatedly.

CHAPTER SEVEN

CONCLUSION AND RECOMMENDATION

7.1. Conclusion

In general ANC attendants' knowledge on essential newborn care practice of public health institutions of Gondar town is poor, while they have positive attitude.

ANC attending pregnant mothers were knowledgeable on cord care and feeding but on thermoregulation, immunization, eye care and danger signs were poor; Regards to attitude, on cord care, thermoregulation, immunization and danger sign was negative whereas on breast feeding and eye care was positive.

Maternal knowledge on essential newborn care practice was associated with maternal occupation, parity and number of ANC visits; husbands' education, mothers' occupation, parity and number of ANC visits also had association to maternal attitude of pregnant mothers.

7.2. Recommendation

Strategic plan and implementation is needed to strength the education of mother at ANC on components of essential newborn care for North Gondar Health Bureau.

Strategic plan and implementation of ministry of health on scheduled educational program for all children bearing age women with the involvement of husbands.

Health institutions should give special emphasis on care of thermoregulation, immunization, eye care and danger signs of Newborn that mothers had poor knowledge.

Since this study is a baseline data, further research should be done in triangulation method by including their practice to work on poor maternal knowledge in Gondar town.

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ANNEXES

Annex I. Information Sheet

How are you? My name is Mullu Hailu. I am from Addis Ababa university health Science College. I am conducting a study for partial fulfillment of master of Maternity and Reproductive health in Nursing.

This is a study conducted to find out ANC attendant pregnant womens' knowledge and attitude towards essential newborn care practice which helps the mothers to improve their care to this age group to reduce neonatal mortality. I would very much be pleased about your participation in this survey. You are selected to participate in this study by systematic method. These are some common information about the study.

Objectives of the study: The objective of this study is to assess the Knowledge and Attitude of pregnant mothers attending ANC service towards newborn care practice in selected public health institutions of Gondar town, Ethiopia

Participants to be included: Participants to be included in this study are all public ANC attendant pregnant women in the health institutions Gondar town, Ethiopia.

Confidentiality: Any information that you provide will be held in strict confidentiality and will only be used for the purpose of this study.

Benefits of the study: Any mother who is found to be lacking in knowledge on essential newborn care practices will be educated quickly.

Risks of the study: There is no invasive procedure or tissue samples will be obtained from you as part of the study.

Consent

Participation in this study is purely voluntary. You are free to withdraw from the study if you so wish without any penalty.

Expected time in the study

An exit interview will be carried before you leave the hospital once the attendant leaves the ANC OPD. No follow up interviews or visits related to the study will be required.

Annex II. Informed consent

I have read this form or it has been read to me in the language I understand all conditions stated above. Therefore, I am willing to participate in this study.

Signature _____

Name of **PI**: Mullu Hailu

Address: Tell -09 46 68 97 71

E-mail -Mulluhailu12@gmail.com

Name of witness_____

Signature _____

Date of interview----------Time started---------- Time completed----------

Result of interview:

1. Completed 2. Refused 3. Partially completed

Checked by:

Supervisor Name----------signature----------Date---------

If no, skip to the next participant by writing reasons for his/her refusal

Annex III. English version Questionnaire

Part I: Socio-demographic Characteristics of Mother attending ANC service

Tick appropriate response

1. Mother's age in years
    1. 16-20
    2. 21-25
    3. 26-30
    4. 31-35
    5. 36-40
    6. >40
2. Mother's religion
    1. Orthodox
    2. protestant
    3. Islam
    4. Catholic
    5. Other(specify)…….

3- Marital status

1. Single
2. Married
3. Divorced
4. Widowed

4- Ethnicity

1. Amhara
2. Tigrae
3. Oromo
4. Other(specify)……..

5- Father's educational status

1. No formal education
2. 1-8 grade
3. 9-10 grade
4. 11-12 grade
5. Diploma
6. Degree
7. Masters

6- Mother's occupation

1. Unemployed
2. House wife
3. Government employee
4. Private employee
5. Agriculture
6. Small scale business

7. Mother's level of education

1. No formal education
2. 1-8 grade

3. 9-10 grade
4. 11-12 grade
5. Diploma
6. Degree
7. Masters

8- Monthly Income

1. <500
2. 501-1000
3. 1001-1500
4. 1501-2000
5. > 2000

Part II: Antenataland Birth History of Mothers

Tick appropriate response

1. Mother's parity
    1. Primipara
    2. Grandpara
    3. Grand multipara

2. How many ANC visits did you attend till now?
    1. once
    2. Two times
    3. More than three
    4. Four(complete) ANC visit

3 when did you attend the ANC visit?

1. Before 3 months of pregnancy
2. Between 3-6 months
3. Between 6-7 months
4. Between 7-8months
5. At 8 months
6. > 8 months

4. Did you receive tetanus toxoid injections during this (or your previous) pregnancy?

1. Yes
2. No
3. Don't know

5. Where do you plan to have delivery?

1. Health facility
2. At home
3. Other(specify)……

Part III: Source of information regarding to newborn care

1. Did you receive any information on newborn care practices during this Pregnancy?

1. Yes
2. No

2. If yes, what information was provided for you about newborn care practice?

1. Cord care
2. Thermoregulation

3. Breastfeeding
4. Eye care
5. Immunization
6. Danger signs in newborn
7. Other (specify)…….

3. Who provided the information to you?

1. Doctor
2. Nurses
3. Family
4. Media(e.g. pamphlets, brochures, magazines)
5. Traditional Birth Attendant
6. Peers/ friends
7. Other(specify)……..

Part IV: Knowledge aspect of questions about new born care among pregnant mothers

1. How should you keep your baby warm after delivery?

1. Skin to skin contact
2. Wrapped the baby in a cloth
3. Warm room
4. Other(specify)…….

2. When do you think to give bathing for the newborn baby?

1. Immediately after delivery
2. Within 6 hrs of delivery
3. Within 6 to 12 hrs

4. After two or three days of delivery time
5. After a week

3. What type of bathing do you give?
    1. Tab bath
    2. Sponge/cloth bath
    3. Other(specify)…….
4. What material do you use to cut umbilical cord?
    1. Previously used blade
    2. Sterile scissor
    3. Previously used unsterile scissor
    4. Other(specify)……
5. How do you keep the umbilical stump of your baby?
    1. Covered
    2. Uncovered
    3. Don't know
6. If the umbilical stump is soiled with baby's urine or faeces how would you clean it?
    1. Clean with water
    2. Clean with saliva
    3. Apply alcohol
    4. Other(specify)……

7. After cleaning your baby's soiled umbilical stump, should any substances be applied to it?

    1. Yes
    2. No
    3. Don't know

8. If yes, what material should be applied on your baby's umbilical stump?

    1. Butter
    2. Alcohol
    3. Saliva
    4. Cow dung
    5. Other (specify) …….

9. How soon after delivery you will feed breast milk to your baby?

    1. Immediately after delivery
    2. After 30 Minutes
    3. After 1 Hours
    4. After 6hours
    5. After 24hrs
    6. After 48 hours

10. Do you (or anyone else) give any fluid/feeds to your baby before giving breastfeeding?

    1. Yes
    2. No
    3. Don't know

11. How often you will breastfeed your baby?

    1. On demand(when baby cries/looking for breast)
    2. 4-6 times per day
    3. 8-10 times per day
    4. Other (specify)……..

12. How long you will exclusively breastfeed your baby (in months)?

    1. < 6 months
    2. For 6 months
    3. 6-12 months
    4. 1-2 years
    5. >2 years

13. What should you do with the first milk (colostrums) that came from your breast?

    1.Feed the baby

    2.Threw it away

    3.Other (specify)…….

14. If you aren't feeding colostrums, what is the reason

    1. It is dirty
    2. The baby will get diarrhea
    3. The baby will get vomiting
    4. Culturally prohibited
    5. Other (specify)……..

15. Tell the advantage of first milk/colostrums?

    1. It prevents baby from diseases
    2. It helps the baby to grow well
    3. It contains vitamins and many nutrients
    4. I don't know

16. Does your baby require any vaccination at birth?

    1. Yes
    2. No
    3. Don't know

17. What vaccines should your baby received at birth?

    1. BCG
    2. OPV
    3. Don't know
    4. Other (specify)……

18. Why do we give vaccines to the baby after birth?

    1. To prevent diseases
    2. Don't know
    3. Other (specify)…….

19. What disease does BCG vaccine prevent your baby from?

    1. Tuberculosis
    2. Polio
    3. Tetanus
    4. Don't know

5. Other (specify)……

20. What disease does OPV vaccine protect your baby from?

1. Polio
2. Measles
3. Don't know
4. Other (specify)……

21. Are you aware of any signs that your baby has an eye infection?

1. Eye discharge
2. Redness of the eyes
3. Swelling of the eyes
4. Pus in the eyes
5. Sticky of the eyes

22. Do you know any danger signs of newborns?

1. Yes
2. No

23. If yes, what are the danger signs do you know babies are seriously sick? (more than one answer is possible.)

1. Yellow eye
2. Not breast feed
3. Excessive crying and irritability
4. Vomiting and diarrhea
5. Convulsion
6. Constipation

7. Pus or inflamed umbilical stamp

8. Abdominal distention

9. Fever

10. Cold to touch

Part v: Attitude scale about Newborn care practice among pregnant women.

S. No	Variables	Agree	Undecided	Disagree
1	Mother-baby skin to skin contact prevents the baby from getting cold			
2	Newborn baby can be bathed in cold water			
3	A previously used blade can be washed and used to cut the cord.			
4	A dirty umbilical cord can cause infection in babies.			
5	Newborn babies should be breastfed at any time.			
6	Newborn babies should be given other feeds with breast milk.			
7	Vaccines are harmful to the babies.			
8	OPV is given to prevent polio myelitis disease.			
9	Any medication or eye drops can be applied if the baby got eye discharge or redness without Doctor's advice.			
10	Baby has yellowish discoloration of eyes, palms, and soles are signs of serious illnesses to the baby.			
11	Baby has umbilicus is red, discharging pus, and surrounding umbilical skin red is immediately take the baby to hospital.			
12	Baby has eyes swollen, sticky, red or draining pus apply breast milk to baby eye.			
13	For sick baby breast feeding frequency is need so need to increase the breast feeding			
14	Abnormal jerking movement of limbs and eyes are not a danger signs			
15	Baby with fever or cold to touch need medical attention immediately.			
16	Baby has got abdominal distension, give water and stop breast milk			
17	Baby who has diarrhea or vomiting continue breast feeding			
18	If baby cries excessively/irritable take the baby to hospital			

Annexs IV አማርኛ ትርጉም አባሪ

አባሪ I. የመረጃ ፅሁፍ

ጤና ይስጥልኝ ሙሉ ሃይሉ እባላለሁ፡፡ በአዲስ አበባ ዩኒቨርስቲ በጤና ሳይንስ ዘርፍ የሁለተኛ አመት የእናቶችና የስነ ተዋልዶ ጤና በነርሲግ ትምህርት ክፍል ውስጥ የሁለተኛ ድግሪ ትምህርቴን ለማጠናቀቅ በሚረዳ የመመረቂያ ፅሁፍ ላይ እገኛለሁ፡፡

ይህ ጥናት የሚካሄደው በጤና ተቋም ውስጥ የእርግዝና ክትትል ያላቸው እናቶች አዲስ ለተወለዱ ህፃናት ስለሚደረግላቸው መሰረታዊ እንክብካቤዎች ያላቸውን እውቀትና ግንዛቤ ለማዎቅና እናቶች ለእነዚህ ጨቅላ ህፃናት የሚያደርጉትን እንክባካቤ ለማሻሻል ብሎም የህፃናት ሞትን ለመቀነስ ይረዳል፡፡ እርስዎ በዚህ ጥናት ላይ ለመሳተፍ ስለ ተመረጡና ፈቃደኛ ስለሆኑ በጣም ደስተኛ ነኝ፡፡ከዚህ በታች ስለ ጥናቱ አንዳንድ መረጃዎች ይገኛሉ፡፡

የጥናቱ አላማ፡ይህ ጥናት በሃንደር ከተማ የእርግዝና ክትትል ያላቸው እናቶች አዲስ ለተወለዱ ህፃናት ስለሚደረጉ መሰረታዊ እንክብካቤዎች ምን ያህል ያውቃሉ፣ግንዛቢያቸውስ ምን ያህል ነው? የሚለውን ለማጥናት ነው፡፡

የጥናቱ ተሳታፊዎች፡ በዚህ ጥናት ውስጥ የሚሳተፉ በሃንደር ከተማ ውስጥ በሚገኙ የመንግስት ጤና ተቋማት የእርግዝና ክትትል ኑሯቸው ፈቃደኛ የሆኑ እናቶች ናቸው፡፡

ሚስጥርነቱ፡ በዚህ ጥናት ላይ የሚሰጡት ማንኛውም መረጃ በሚስጥር የተጠበቀና ለዚሁ ጥናት ብቻ የሚውል ነው፡፡

የጥናቱ ጥቅም፡ ማንኛዋም እናት ስለ መሰረታዊ የጨቅላ ህፃናት እንክብካቤ የእውቀትም ሆነ የግንዛቤ ጉድለት ካለባት በፍጥነት እንድትማር ይረዳል፡፡

በጥናቱ ውስጥ ያጋጥማል ተብሎ የሚፈራ ችግር፡ በዚህ ጥናት ውስጥ ምንም አይነት ተግባር በአካልዎት ላይ አይካሄድም፣ ለጥናትም አይወሰድም፡፡

ስምምነት፡ በዚህ ጥናት ውስጥ የሚሳተፉት ፍፁም ፍቃደኛ የሆኑት ብቻ ናቸው፡፡ ይህንንም ተሳትፎ ቢያቋርጡ የሚቀጡት ቅጣት የለም፡፡

የጥናቱ ጊዜ፡ እጣ የወጣላቸው እናቶች ከእርግዝና ክትትል ክፍል ወጥተው ሆስፒታሉን ከመልቀቃቸው በፊት መጠይቅ ይቀርብላቸዋል፡፡ ጥናቱ ተከታታይነት የለውም፡፡

አባሪII. የነፍሰ-ጡሮች መመሪያ ቅጽ

ይህ ቅጽ በሚገባኝ ቋንቋ ተነቦልኛል /አንብቤዋለሁ፡፡ ጥያቄዎችን እንድጠይቅ እድል ተሰጥቶኛል፡፡ ሁሉም ጥያቄዎች ለእኔ እርካታ በሚያስገኝ መለኩ ተመልሰዋል፡፡ስለሆነም በዚህ ጥናት ለመሳተፍ ተስማምቻለሁ፡፡

ፊርማ----------

የጥናቱባለቤት፡ *ሙሉ ሀይሉ*

አድራሻ ስልክ ቁጥር: 0918034089; email-mulluhailu12@gmail.com

የአማካሪ ስም----------

ፊርማ----------

የመጠይቁ ቀን ---------- መነሻ ሰአት---------- የሚጠናቀቅበት ሰአት----

የመጠይቁ ውጤት----------

የሚያረጋግጠዉ፡

የተቆጣጣሪ ስም---------- ፊርማ----------ቀን ----------

Annex III - የአማርኛ ትርጉም መጠይቅ

ከፍል 1-በጎንደር ከተማ ጤና ተቋማት የእርግዝና ከትትል ላላቸዉ እናቶች የስነህዝብ መረጃ ጥያቄዎች

1. የእናት እድሜ
    1. ከ16 -20
    2. ከ21-25
    3. ከ26-30
    4. ከ31-35
    5. ከ36-40
    6. ከ40በላይ
2. የእናት ሀይማኖት
        1. ኦርቶዶክስ
        2. ፕሮቴስታንት
        3. እስላም
        4. ካቶሊክ
        5. ሌላ ካለ ዘርዝሩ……
3. ጋብቻ
        1. ያላገባ
        2. ያገባ
        3. የፈታ
        4. መበለት
4. የእናት ብሄር
        1. አማራ
        2. ትግራይ
        3. ኦሮሞ

4. ሌላ ካለ ዘርዝሩ.....

5- የአባት ትምህርት ደረጃ

1. ትምህርት የሌለዉ
2. 1-8 ኛ ክፍል
3. 9-10 ኛ ክፍል
4. 11-12ኛ ክፍል
5. ዲፕሎማ
6. ዲግሪ
7. ማስተርስ

6- የእናት ቅጥር

1. ስራ አጥ
2. የቤት እመቤት
3. የመንግስት ሰራተኛ
4. የግልስራ ተቀጣሪ
5. ግብርና
6. ጥቃቅን

7- የእናት የትምህርት ደረጃ

1. ትምህርት ያልተማረ
2. 1-8 ኛ ክፍል
3. 9-10 ኛ ክፍል
4. 11-12ኛ ክፍል
5. ዲፕሎማ
6. ዲግሪ
7. ማስተርስ

8- የእናት ወርሃዊ ደሞዝ

1.<500

2.501-1000

3.1001-1500

4.1501-2000

5. > 2000

ክፍል 2- በጎንደር ከተማ ጤና ተቋም የእናቶች እርግዝና ክትትልና የዉልደት መረጃ

1. የውልደት ብዛት
    1. የመጀመሪያ ወሊድ
    2. ከ 5 በታች የወለደች
    3. ከ 5 በላይ የወለደች
2. እስካሁን ምን ያህል የእርግዝና ክትትል ነበረሽ

    1.አንድ ጊዜ

    2.ሁለት ጊዜ

    3.ከሶስት ጊዜ በላይ

    4.ያጠናቀቀች
3. የመጀመሪያ የእርግዝና ክትትል ስትጀምሪ የእርግዝና ወርሽ ስንት ነበር?
    1. ከ3ወር እርግዝናሽ በፊት
    2. ከ 3-6 ወር እርግዝናሽ
    3. ከ6-7 ወር እርግዝናሽ
    4. ከ 7-8 ወር እርግዝናሽ
    5. በ 8ኛ ወር እርግዝናሽ

6. > 8 ወር እርግዝናሽ

4. የመንጋጋ ቆልፍ በሽታ መከላከያ ክትባት ተከትበሻል?

1.አዎ

2.አይደለም

3.አላውቅም

5. የት ለመውለድ አቅደሻል?

1.ጤና ተቋም

2.መኖሪያ ቤት ውስጥ

3.ሌላ ካለ ይግለጹ……

ክፍል3 በጎንደር ከተማ ጤና ተቋም የእርግዝና ክትትል ላላቸዉ እናቶች አዲስ ስለሚወለዱ ህጻናት የሚደረጉ መሰረታዊ እንክብካቤዎች መረጃ ማግኛ መንገድ

1. ለጨቅላ ሕጻናት ስለሚሰጠው እንክብካቤ ትምህርት በዚህ የእርግዝና ጊዜዎ አግኝተዋል?

1. አዎ
2. አላገኙም

2. አዎ ከሆነ መልስዎ፣ምን መረጃ አገኙ?

1. ስለ ጡት ወተት
2. የእትብት ንጽህና አጠባበቅ
3. የአይን እንክብካቤ
4. ሙቀት አሰጣጥ
5. ስለ ክትባት
6. የአደጋ ምልክቶችን በጨቅላ ህጻናት ላይ ስለመረዳት
7. ሌላካለይዘርዝሩ……

3. ይህንን መረጃ ማን ሰጠዎት?

1. ከሀኪም
2. ከነርስ
3. ከቤተሰብ
4. ከመረጃ አውታሮች (ለምሳሌ ከበራሪ ወረቀቶች፣ከጋዜጣ)
5. ከልምድ(ባህላዊ አዋላጆች)
6. ከጓደኛ
7. ሌላ ካለ ይዘርዝሩ……

ክፍል4- በጎንደር ከተማ ጤና ተቋም የእርግዝና ክትትል ላላቸዉ እናቶች አዲስ ለተወለዱ ህጻናት የሚደረጉ መሰረታዊ እንክብካቤዎች ያላቸዉን እዉቀት መመዘኛ ጥያቄዎች

1. አዲስ ለተወለዱ ልጅዎት ሙቀት እንዴት ይጠብቃሉ(ይሰጣሉ)?
    1. አካልዎን ከልጅዎ አካል ጋር በማገናኘት
    2. ህጻኑን በጨርቅ መጠቅለል
    3. ለቤትዎ ሙቀት በመስጠት
    4. ሌላ ካለ ይዘርዝሩ……
2. አዲስ የወለዱትን ልጅዎን ገላዎን መቼ እንዲታጠብ ያስባሉ?
    1. ልክ እንደተወለደ
    2. በተወለደ እስከ 6 ሰዓት ባለው ጊዜ ውስጥ
    3. ከ6-12 ሰዓት ባለው የውልደት ጊዜ ውስጥ
    4. ከ 2 ወይም ከ 3ቀን በኋላ
    5. ከሳምንት በኋላ
3. ለልጅዎ የሚሰጡት የገላ ማጠብ ዘዴ
    1. በሳፋ ውስጥ
    2. በእስፖንጅ ወይም በጨርቅ ውሃ በመንከር ሰውነቱን ማጽዳት(ማጠብ)

3. ሌላ ካለ ዘርዝሩ……..

4. አዲስ ለሚወለዱ ህጻናት እትብት መቁረጫ የሚጠቀሙበት መሳሪያ ምንድን ነው?

    1. በፊት የተጠቀሙበትን ምላጭ
    2. አዲስ የተቀቀለ መቀስ
    3. በፊት የተጠቀሙበትን መቀስ
    4. ሌላ ካለ ይዘርዝሩ……..

5. የልጅዎን እትብት ከታሰረ በኋለ መታሸግ አለበት ወይስ የለበትም

    1. መታሸግ አለበት
    2. መታሸግ የለበትም
    3. አላውቅም

6. የልጅዎ እትብት በጽዳጆች(ሽንት፣ካካ) ቢቆሽሽ በምን ያጸዱታል?

    1. በንጹህ ውሃ
    2. በምራቅ
    3. በመጠጥ(ጠላ፣ጠጅ….)
    4. ሌላ ካለ ይዘርዝሩ……

7. የልጁን እትብት ካጸዱ በኋላ በእትብት ላይ የሚጨምሩት ነገር አለ?

    1. አለ
    2. የለም
    3. አላውቅም

8. አዎ ካሉ በእትብቱ ላይ ምን ይጨምራሉ?

    1. ቅቤ
    2. አልኮል
    3. ምራቅ
    4. የከብቶች እበት

5. ሌላ ካለ ይዘርዝሩ……

9. ልጅዎን በወለዱ በምን ያህል ጊዜ ዉስጥ የጡት ወተት ይሰጡዋታል?

    1. ልክ እንደ ተወለደ
    2. ከ 30 ደቂቃ በኋላ
    3. ከ1 ሰአት በኋላ
    4. ከ6 ሰአት በኋላ
    5. ከ24 ሰአት በኋላ
    6. ከ48 ሰአት በኋላ

10. እርስዎ ወይም ሌላ ሰው ልጅዎን ወልደው ጡት ከማጥባትዎ በፊት ሌላ ምግብ ወይም መጠጥ ይሰጡታል

    1. አዎ
    2. አይደለም
    3. አላውቅም

11. ምን ይህል ጊዜ ልጅዎን ያጠባሉ?

    1. ሲፈልግ ወይም ሲያለቅስ
    2. 4-6 ጊዜ በቀን
    3. 8-10 ጊዜ በቀን
    4. ሌላ ካለ ይዘርዝሩ……

12. ልጅዎን ለምን ያህል ጊዜ የጡት ወተት ብቻ ይሰጡታል

    1) < 6 ወር
    2) ለ6 ወራት
    3) 6-12 ወራት
    4) 1-2 አመታት
    5) >2 አመታት

13. የመጀመሪያውን የጡትዎን ወተት ወይም እንገር ምን ያደርጉታል

1. ልጅዎን ይመግቡበታል
2. አፈሰዋለሁ
3. ሌላ ካለ ይዘርዝሩ……

14. የመጀመሪያውን የጡት ወተት የማይሰጡበት ምክንያት ምንድን ነው?

1. እንደ ቆሻሻ ስለ ሚቆጠር
2. ልጁን በተቅማት ታምማል
3. ልጁን ወደ ላይ ይለዋል
4. በባህል ነዉር ነዉ
5. ሌላ ካለ ይዘርዝሩ……..

15. የእንገር ጥቅም ለልጅዎ ምንድን ነው?

1. በሽታን ይከላከላል
2. ልጁ በጥሩ ሁኔታ እንዲያድግ ይረዳል
3. ቪታሚንና ጠቃሚ የምግብ ይዘት አለዉ
4. ሌላ ካለ ይዘርዝሩ……..
5. አላዉቅም

16. ልጅዎ እንደ ተወለደ ከትባት ያስፈልገዋል

1. አዎ
2. አያስፈልገውም
3. አላውቅም

17. ልጅዎ እንደተወለደ የሚሰጠው ከትባት ምን ይባላል?

1. ቢ .ሲ .ጂ
2. ኦ .ፒ .ቪ

3. አላውቅም

4. ሌላ ካለ ይዘርዝሩ……

18. እንደ ተወለደ ክትባት የሚሰጠው ለምንድን ነው

1. በሽታን ለመከላከል

2. አላውቅም

3. ሌላ ካለ ይዘርዝሩ……

19. ቢ.ሲ.ጂ ክትባት ከየትኛው በሽታ ይከላለላል?

1. ከሳንባ ነቀርሳ

2. ከልጅነት ልምሻ

3. ከቲታነስ

4. አላውቅም

5. ሌላ ካለ ይዘርዝሩ……..

20. ኦፒቪ ክትባት ከየትኛው በሽታ ይከላከላል?

1. ከሰውነት ልምሻ

2. ከኩፍኝ

3. አላውቅም

4. ሌላ ካለ ይዘርዝሩ……

21. የልጆትን አይን መታመምን በተመለከተ ለማወቅ የሚረዳዎት ምልክት ምንድን ነው፡

1. ከአይን የሚወጣ ፈሳሽ

2. የአይን ቅላት

3. የአይን እብጠት

4. የአይን መምገል

5. የአይን መጣበቅ

22. አዲስ በተወለዱ ጨቅላ ህጻናት ላይ ሊከሰቱ የሚችሉ የአደጋ ምልክቶችን ያዉቃሉ

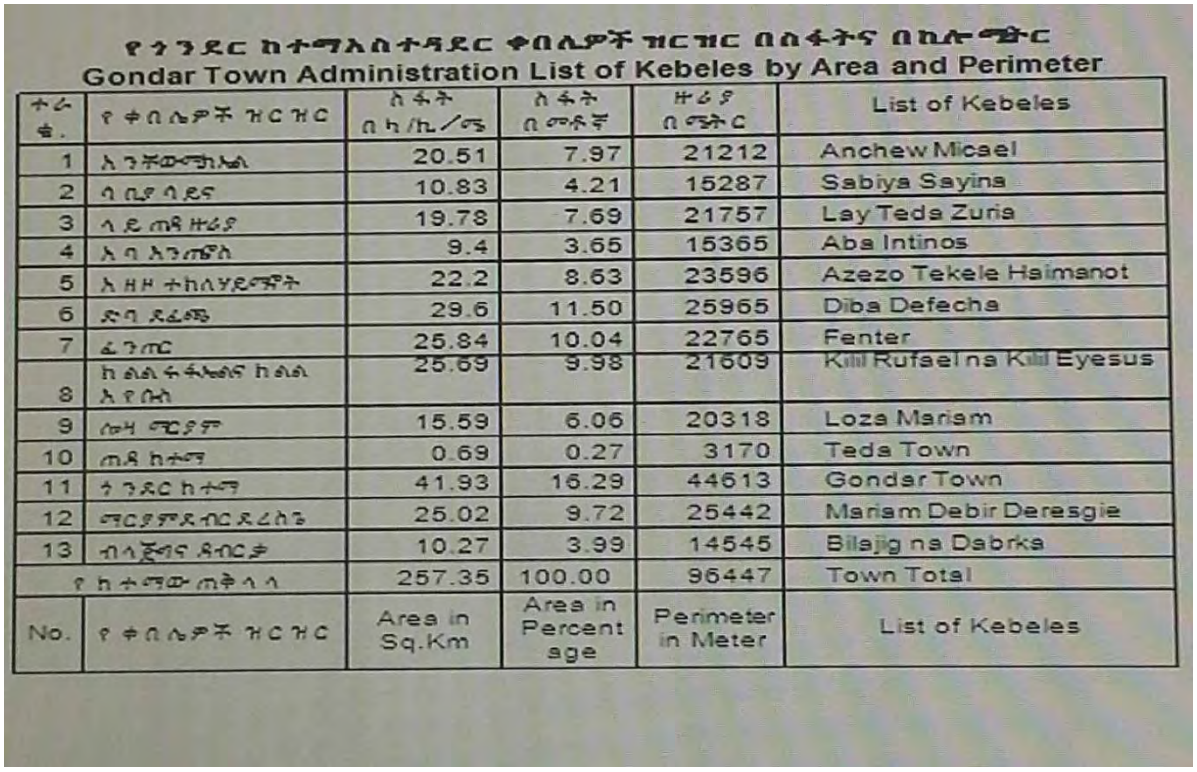
    1. አዎ
    2. አይደልም

23. አዎ ከሆነ መልስዎ፣ልጅዋን በጥብቅ ለመታመሙ ማስረጃ ምልክቶች ዘርዝሩ (ከአንድ በላይ መልስ ይቻላል)

    1. የአይን ቢጫ መሆን
    2. ጡት አለመጥባት
    3. ያለማቋረጥ ማልቀስና መወራጨት
    4. ተቅማጥና ማስመለስ
    5. ማንቀጥቀጥ
    6. የሆድ ድርቀት
    7. የእትብት መምገልና መቁሰል
    8. የሆድ መነፋት
    9. ትኩሳት
    10. ለእጅ መቀዝቀዝ

ከፍል5-በጎንደር ከተማ ጤና ተቋም የእርግዝና ክትትል ላላቸዉ እናቶች የተዘጋጀ የግንዛቤ ጥያቄ በ 3 የሊከርት መስፈርት እንደሚከተለዉ ቀርቧል

ተ.ቁ		እስማማለሁ	አላዉቅም	አልስማማም
1	የጨቅላ ህጻኑን አካል ከእናት አካል ጋር ማገናኘት ህጻኑን እንዳይበርደው ይከላከላል			
2	ጨቅላ ልጅዎ በቀዝቃዛ ዉሃ መታጠብ ይችላል			
3	የተጠቀሙበትን ምላጭ አጥቦ ለእትብት መቁረጫ መሆን ይችላል			
4	.የልጅዎ እትብት መቆሸሸ በልጅዎ ላይ በሽታ ያመጣል			
5	ልጅዎ በማንኛዉም ጊዜ ጡት መጥባት አለበት			
6	ጨቅላ ልጅዎ ከጡት ወተት በተጨማሪ ሌላ ምግብ ወይም መጠጥ መውሰድ አለበት			
7	ክትባት ልጅዎን ይጎዳል			
8	OPV ክትባት ከስዉነት ልምሻ ይከላከላል፡፡			
9	የልጅዎ አይን መታመሙን ካረጋገጡ በኋላ ሀኪሙ ካዘዘለዎት መድሀኒት በተጨማሪ ሌላ ነገር ህፃኑ አይን ላይ መጨመር ለልጁ አይን ይረዳዋል			
10	በህጻናት የአይን የመዳፍና የእግር መርገጫ ቢጫ ቀለም መሆን የአደጋ ምልክት ነዉ			
11	የህጻናት እትብትና አካባቢው መቆላት መምገል በቶሎ ወደ ሆስፒታል ህጻኑን እንድንወስድ ያመለክታል			
12	በህጻኑ የአይን እብጠት፣መቅላትና መጠባበቅ ካለ የጡት ወተት መጨመር ይጠቅማል			
13	ለታመመ ህጻን ቶሎ ቶሎ ጡት ማጥባት ያስፈልጋል			
14	ልክ ያልሆነ የእጅና የእግር እንዲሁም የአይን እንቅስቃሴ የአደጋ ምልክትን አያመለክትም			
15	በጣም ቀዝቃዛ ወይም ትኩሳት ላለዉ ልጅ ቶሎ ህክምና ያስፈልገዋል			
16	ሆዱ ለትነፋ ልጅ ዉሃ መስጠትና ጡት ማጥባትን ማቋረጥ አለብን			
17	ተቅማጥና ማስመለስ ላለዉ ልጅ ጡት ማጥባትን መቀጠል አለብን			
18	ያለማቋረጥ የሚያለቅስና የሚወራጭ ህጻን ወደ ሆስፒታል መሄድ አለበት			



የጎንደር ከተማአስተዳደር ቀበሌዎች ዝርዝር በስፋትና በኪሎሜትር

Gondar Town Administration List of Kebeles by Area and Perimeter

ተራ ቁ.	የ ቀ በ ሌ ዎ ች ዝ ር ዝ ር	ስፋት በ ካ/ኪ/ሜ	ስፋት በ መቶኛ	ዙሪያ በ ሜትር	List of Kebeles
1	አ ን ቾ ው ሚ ክ ኤ ል	20.51	7.97	21212	Anchew Micael
2	ሳ ቢ ያ ሳ ይ ና	10.83	4.21	15287	Sabiya Sayina
3	ላ ይ ጠ ዳ ዙ ሪ ያ	19.78	7.69	21757	Lay Teda Zuria
4	አ ባ እ ን ጦ ኖ ስ	9.4	3.65	15365	Aba Intinos
5	አ ዘ ዞ ተ ከ ለ ሃ ይ ማ ኖ ት	22.2	8.63	23596	Azezo Tekele Haimanot
6	ድ ባ ደ ፈ ጫ	29.6	11.50	25965	Diba Defecha
7	ፈ ን ጦ ር	25.84	10.04	22765	Fenter
8	ከ ል ል ሩ ፋ ኤ ል ና ከ ል ል አ የ ሱ ስ	25.69	9.98	21609	Kill Rufael na Kill Eyesus
9	ሎ ዛ ማ ር ያ ም	15.59	6.06	20318	Loza Mariam
10	ጠ ዳ ከ ተ ማ	0.69	0.27	3170	Teda Town
11	ጎ ን ደ ር ከ ተ ማ	41.93	16.29	44613	Gondar Town
12	ማ ር ያ ም ደ ብ ር ደ ሪ ሲ ኤ	25.02	9.72	25442	Mariam Debir Deresgie
13	ብ ላ ጅ ና ዳ ብ ር ቃ	10.27	3.99	14545	Bilajig na Dabrka
የ ከ ተ ማ ው ጠ ቅ ላ ላ		257.35	100.00	96447	Town Total
No.	የ ቀ በ ሌ ዎ ች ዝ ር ዝ ር	Area in Sq.Km	Area in Percentage	Perimeter in Meter	List of Kebeles

Source: North Gondar of Finance and Economic Development, Development planning process (NGoFED, DPP)

Declaration

I the undersigned declared that this is my original work and has not been presented in this or other University and all sources of materials used for the thesis have been fully acknowledged.

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Signature _____

Date_____

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Signature _____

Date_____

Place: Addis Ababa University School of Allied Health Department of Nursing and Midwifery