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# Proportion and Associated Factors of Post Term Birth Among Mothers Who Gave Birth in Bahir Dar City Administration Governmental Hospitals, Northwest, Ethiopia, 2020

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BAHIR DAR UNIVERSITY  
COLLEGE OF MEDICINE AND HEALTH SCIENCES  
DEPARTMENT OF MIDWIFERY

PROPORTION AND ASSOCIATED FACTORS OF POST TERM BIRTH  
AMONG MOTHERS WHO GAVE BIRTH IN BAHIR DAR CITY  
ADMINISTRATION GOVERNMENTAL HOSPITALS, NORTHWEST,  
ETHIOPIA, 2020.

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A THESIS REPORT SUBMITTED TO DEPARTMENT OF MIDWIFERY,  
COLLEGE OF MEDICINE AND HEALTH SCIENCES, BAHIR DAR  
UNIVERSITY IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR  
MASTER OF SCIENCE IN CLINICAL MIDWIFERY.

JULY, 2020  
BAHIR DAR, ETHIOPIA.

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## Approval sheet

The undersigned examining committee certify that the thesis presented by Esubalew Mekuriaw entitled: proportion and associated factors of post term birth among mothers who gave birth in Bahir Dar city administration governmental hospitals, northwest, Ethiopia, 2020, submitted to department of midwifery, college of medicine and health sciences, Bahir Dar university in partial fulfilment of the requirement for master of science in clinical midwifery in partial fulfillment of the requirements for master of science in Clinical Midwifery complies with the regulation of the University and meets the accepted standards with respects to originality and quality.

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## **LIST OF ABBREVIATIONS**

<b>ANC</b>	Antenatal Care
<b>BPCR</b>	Birth Preparedness and Complication Readiness
<b>EDHS</b>	Ethiopian Demographic and Health Survey
<b>ETB</b>	Ethiopian Birr
<b>HIV</b>	Human Immune Virus
<b>LAPMs</b>	Long Acting and Permanent Methods
<b>MCHIP</b>	Maternal and Child Health Integrating Program
<b>NICU</b>	Neonatal intensive care unit
<b>OPD</b>	Out Patient Department
<b>PNC</b>	Post Natal Care
<b>PPFP</b>	Post-Partum Family Planning
<b>SPSS</b>	Statistical package of social science.
<b>TM</b>	Trimester
<b>WHO</b>	World Health Organization

## ABSTRACT

**Introduction:** Post term births is major determinants of neonatal mortality, including short- and long-term morbidity. In developing countries, where post-term birth is disproportionately common, the magnitude and underlying causes are not well understood, and evidence is required to design appropriate interventions. In Ethiopia the level of post term birth proportion was not studied, except few. Determining the proportions and associated factors for post-term births in Bahir Dar city is rational for appropriate intervention.

**Objective:** The aim was to determine proportion of post term deliveries and associated factors among mothers who gave birth in Bahir Dar city administration governmental hospitals, Northwest Ethiopia, 2020.

**Method:** Institutional based cross-sectional study was conducted among 423 systematically selected mothers who gave birth in Bahir Dar city administration governmental hospitals, From February to March 2020. Data entry and analysis was made using by epi-data version 3.1 and SPSS version 21 respectively. In binary logistic regression of dependent and each independent variables with P value  $\leq 0.2$  were included in multi-variable logistic regression and P-value  $\leq 0.05$  in multi-variable logistic regression were considered as significantly associated with post term birth.

**Result:** The proportion of post term was found to be 14.4% with [95% CI=11.1%-17.5%]. Rural residence [AOR=4.06 (95% CI=1.563,10.528)], Far from nearby health facility [AOR=5.250 (95%CI=2.489,11.071)], null parity[AOR=2.368 (95%CI=1.113,5.038)], not having ANC [AOR=7.218 (95% CI=1.108,47.024)], number of ANC [AOR=4.383 (95%CI=1.609,11.936)], family history of post term birth [AOR=2.417 (95%CI=1.075,5.436)] and no knowledge about BPCR [AOR=2.604 (95%CI=1.215,5.584)],were significantly associated with post term birth.

**Conclusion:** The proportion of the post term delivery was high. Factors associated for this result were rural residence, far from nearby health facility, null parity, not having antenatal care, number of ANC visit, family history of post term birth and lack of awareness about Birth preparedness and complication readiness plan. To decrease this proportions of post term birth; further efforts expected from maternal health care providers to increase awareness of mothers about importance of BPCR, to have ANC follow-up and sustain their follow-up till their birth will reduce the problem so far.

**Key word:** Associated factors, Post term Birth, Proportion and Bahir Dar, Ethiopia.

# 1. INTRODUCTION

## 1.1. Background

Post term birth is defined by World health organization and Federation of Gynecologists and Obstetricians as all viable births at and after 42 completed weeks of gestation (at or more than 294 days) since the first day of woman's last menstrual period[2]. Babies born post term are at higher risk of poor perinatal outcome and the problem is a common occurrence globally[3]. Even in industrialized countries post-term births still occur relatively up to 5–10% frequency [4]. As data shows, in worldwide about 287 000 women and 4 million babies die each day from complications related to pregnancy, childbirth or the postnatal period[5]. Accurate pregnancy dating is critical to the diagnosis of post-term births. Routine use of ultrasound to confirm pregnancy dating can decrease occurrence of post-term birth[6]. The common risk factors for post-term birth include null parity, advanced maternal age, obesity, prior post-term pregnancy, male gender of the fetus, and genetic factors[1]. Although, post term births are associated with an increased risk of adverse perinatal outcomes furthermore, babies who are born post term pregnancy have increased perinatal and neonatal mortality and morbidity (e.g., meconium aspiration, fetal distress, and traumatic injury, absent fat stores)[7, 8].

The rate of post term births varies considerably between and within countries, and in the developed countries; it ranges from 0.4% to 11%. For instance countries like Finland the incidence of post term births dropped from 10.3% to 2.7% once ultrasound scans became the standard technique to date pregnancies. More over in Sweden, the incidence of post term births is 7.5%.[9] Consequently the Swedish birth registry recorded nearly 311 000 children born post term in 1983-2006[10]

But in many in developing countries (poorer countries) it is important to note that mothers may not have access to ultrasound scans and will be unsure of the last menstrual period (LMP) date. Therefore, it is likely that the incidence of post term births in many countries is higher than that officially recorded. Due to this the prevalence of post term births are estimated to be around and 5–10 % only. Even though, the highest burden of incidence rates is reported in Sub-Saharan African countries [11]. Accordingly post term birth rates are commonly proposed as an indicator for monitoring perinatal health status[12]. Management of prolonged pregnancy usually follows

one of two general approaches: proposing induction to all pregnant women before they reach 42 weeks of gestation or close monitoring of pregnancy after 41 weeks with selective induction in case of fetal distress or a favorable Bishop score. A policy of systematic induction appears to reduce the caesarean rate and may be associated with a reduced perinatal mortality rate[13].

Similarly, in Ethiopia due to lack of antenatal care, late referral and lack early obstetric ultrasound scan the diagnosis of post term birth is based on last menstrual period (LMP) alone in most cases. So, it is an iceberg issue to know the proportion of post term birth. Generally, through similar trends of least developing countries, through last normal menstrual period consideration, in Addis Ababa, Ethiopia study result on two teaching hospital shows that the proportion of mothers delivering post term was 8.8% [14, 15]. The prevalence of the problem is not well known in Ethiopia except few studies. For instance, in Bahir Dar the proportion of post term delivery and associated factored of the problem is not studied. So that the aim of this study was to investigate the proportion of post term birth and associated factors among mothers who gave birth in Ethiopia Bahir Dar city.

## 1.2. Statement of the problem

Post-term birth is relatively common and worldwide[16]. Even though there has been significant progress in reducing the prevalence of post-term birth but it is more challenging and rates have even increased in some regions[1]. Recent evidence suggests that prolonged pregnancies beyond 42 weeks are associated with long-term adverse health outcomes in the offspring showed that up to 13 % of post-term newborns develop neurological or developmental disorder by the age of 5 years and disproportionately exhibit attention deficit or hyperactivity-related problem[17]. However, the effect of post-term birth on neonatal mortality is not consistent. For example, studies done in Sweden reported that post-term birth is associated with neonatal death, while no association was observed in another study done in Boston University[18]. post-term pregnancy has been associated with null parity, advanced maternal age, obesity, prior post-term pregnancy, male gender of the fetus, and genetic factor [3, 19, 20]. Moreover, studies shows that post-term birth increased the risk of neonatal encephalopathy and death during the first year of life, but the long-term consequences are unclear[21]. Among few studies, the study by found that post-term born infants did not differ from controls at age 2 years regarding general intelligence, physical milestones and illnesses[22]. Other studies done on associated factors of post term birth by Beck et al,(2010) result shows that gestational age is the most important determinants of perinatal outcomes but according to Oberg, et al (2013) and Tang et al. (2017) the multiple risk factors are associated with the prevalence of post term births, including genetic factors, maternal age, educational status of the woman, pregnancy body mass index, prime-parity and previous post term pregnancy[20, 23]. To our knowledge, in Ethiopia, there is no a systematic evidence respecting the burden and predictors of post-term birth and the associated factors to this. Most of the studies focused more on preterm births (<37 completed gestational weeks), and less on the understanding and the prevention of post term births. Even study results on post term birth shows conflicting results among factors like maternal age, education, and parity. Although, even if studies were undertaken to investigate the effects of post-term birth but they are focused on the risks during pregnancy and delivery. Post term delivery has different consequences. In most literature the major consequences of post term delivery are Perinatal Morbidity in Infants, Long-Term Pediatric Outcomes and Maternal Morbidity[24].The problem of morbidity as well as mortality is increased among post term babies. Some of the most commonly used measures of morbidity, such as low Apgar score, fetal distress, meconium staining and neonatal intensive care unit admissions. In recent literature, increased morbidity among post term babies is more consistently found than increased mortality. No regimen of antenatal tests has been found that can consistently identify

which babies are at most risk [1, 23]. Long-term pediatric outcomes are another consequence of post term delivery. To this regard only a few studies have investigated long-term outcomes of children who are born post term [25]. All babies who suffer serious perinatal morbidity (such as meconium aspiration, or neonatal seizures) are at increased risk for delayed or abnormal growth and development. Physical growth in post term babies seems to be normal but in social and mental development in post term infants are different [6]. The problem of maternal mortality is somewhat a rare event in developed countries. But, increases in the incidence of serious intrapartum and postpartum hemorrhage, instrumental delivery, and caesarean sections have been described in post term pregnancies. Post term babies are large as a group and vaginal delivery is more likely to be associated with shoulder dystocia, fractures, and other complications of macrosomia [26]. Generally, studies regarding to investigate post term births and associated factors and the availability of data nationwide in Ethiopia were relatively limited. In particular in Bahir Dar city studies on post term births is too limited. But evidence of the levels of post-term births is important to design evidence-based health care interventions to reduce the prevalence of neonatal and maternal morbidity and mortality in developing countries. So, the present study aims to estimate the proportion of post term births and associated factors using cross-sectional data among mothers who gave birth in Bahir Dar city administration government hospital. So that this study able to examined the potential association between maternal sociodemographic, obstetric characteristics, ANC and PBCR related factors and their post term births.

### **1.3. Justifications of the study**

The study related to the proportion of post term birth and associated factors are the critical issues to be studied. Because, if the associated factors are well identified; post term birth is preventable obstetric problem. So, this study helps to recommend intervention mechanism by identifying the underline problem and related factors of post term delivery. Another significance of this study is, it provides a clear empirical result for the problem in our country/region. Moreover, this study also has a great contribution to the existed literature by providing facts and figures about post term birth. Furthermore, this study may use as reference for further studies on the topic/area.

## 1.4. LITERATURE REVIEW

### 1.4.1 proportions of post term birth

Different study was conducted relating with the problem of post term birth. Although figures and empirical results in literature shows the commonness of the problem in worldwide. Globally post term neonates who develop meconium aspiration syndrome take the 3<sup>rd</sup> place for neonatal intensive care unit (NICU) admission and longer hospital stay. Children who are born post term have higher perinatal mortality than term children[27]. Post term delivery is associated with an increased risk of maternal and neonatal mortality and morbidity. Because of increased risk of maternal and perinatal morbidity and mortality, it is taken as high risk pregnancy[28]. Published data on risk of unexplained intrauterine death which ends with still birth associated with post term pregnancy. It is mostly due to decrease in amniotic fluid volume; meconium passed in utero, placental changes like calcification, abruption placentae and big baby, prolonged labor fetopelvic disproportion[29].

For instance, a population-based studies in Denmark and Sweden report a 25% increase in risks for stillbirth and neonatal death in neonates who are born after 42 weeks of gestation, with mortality increase being even greater when post term infants are growth restricted. The risks for labor complications, including induction, instrument or cesarean delivery and macrosomia, all are increased after a prolonged pregnancy.[15] For the newborn, there is a greater risk for a low Apgar score, distress, deteriorating cardiac function, asphyxia, infection, and Neonatal intensive care unit (NICU) admission. Reported neurologic complications include peripheral nerve paralysis, trauma of central nervous system, and convulsion.[8] . Common factors associated with post term birth are a first-degree relative born post term and maternal obesity. Maternal obesity has also been associated with post term birth, with a 1.4-fold increase in the risk of delivery beyond 41 weeks' gestation. [30]

The risk of moderate or thick meconium increased every week starting at 38 weeks, and peaked at  $\geq 42$ . NICU admission rates were lowest at 39 weeks (3.9%) and rose to 5% at 40 weeks and 7.2% at  $\geq 42$  weeks.[19] The risk of the baby being large at birth ( $>4500$  grams) rose starting at 38 weeks (0.5%), and doubled every week after that up until 42 weeks (6%). There is a familial factor related to recurrence of prolonged pregnancy across generations and both mother and father seem to contributor. [31]. Although, in western Uzbekistan, Muynak, once a port on the Aral Sea and now the most polluted city in Karakalpakstan, 18% of all births were reported to be at least 42

weeks' gestation, compared with 12% in the capital city of Nukus. An increase in post term births has also been reported in areas of Ukraine and Belarus after the Chernobyl accident[10].

Moreover, there was a Comparative study of post term and term pregnancy in Nepal Medical College Teaching Hospital and the incidence of post term delivery was 4.6%.[11] There was also another study reported by Ingemarsson and proportion of post term birth was 8.3%. Mother of low socio-economic status, and maternal body mass index  $>35 \text{ kg/m}^2$  are associated with increased risk for recurrent post term birth. Mothers with an initial post term birth are at increased risk for post term birth in subsequent pregnancies independent of race. There was also rate of Post term birth was slightly increased on multigravida than prim gravida mothers.[32] The fetus itself can affect gestational length, as shown by the common occurrence of prolonged gestations among anencephalic neonates. Further, aspirin increased gestational length and the incidence of post term births, due to the inhibitory effects on prostaglandins synthesis, which are important regulators of human gestation and labor.[33] It is important to stress that no human studies have elucidated the exact mechanisms (including genetic) leading to post term birth, which is a likely result of the combination of the described factor[34]

According to Katherine et al (1998) post term delivery, with an incidence of 2-5%, is not rare and is consistently associated with a small rise in perinatal death and increased neonatal morbidity. It is not clear whether prolonged pregnancy by itself causes this increased morbidity and mortality, or whether factors that put the fetus at risk also prolong the duration of pregnancy. For example, the dysmaturity syndrome has in the past been attributed to prolonged gestation, but more recent work has shown that this constellation of signs can be found in babies of any gestational age.

There was a data analysis in china from 2012 to 2016 and Prevalence of post term births was 1.61%. The association between maternal education and post term births was particularly strong. Women who were illiterate were more than four times more likely to have a post term birth than women who had completed college or higher, whereas women who had only attended primary school had a three times greater risk. A U-shape distribution was observed between the maternal ages and post term births. Mothers aged  $<20$  years, 20–24 years, 40–44years, and 45–49 years had a higher risk of post term births than mothers aged 30–34 years in the crude analysis. Interestingly, antenatal visits are a modifiable risk factor, and the increasing frequency of antenatal visits could potentially prevent post term births during pregnancy.[1]

There was a Cross-sectional comparative study of pregnancy outcome among term and post term mothers at two teaching hospitals in Addis Ababa, Ethiopia to determine pregnancy outcome



between term and post term deliveries. The proportion of mothers delivering post term at the study sites was 8.8%.[15] There was also another prospective cohort study conducted on 1152 live births born between April and July 2014 in seven hospitals in Tigray region, and prevalence of Post term birth was 6.0 %. Associated Predictors for post-term birth were overweight maternal body mass index (CI: 1.01–15.05), low reported income mothers (CI=1.1–4.3), as well as unmarried, widowed and divorced marital status (CI=1.02–5.80) [6].

Normal birth also requires an intact fetal hypothalamus-pituitary-adrenal axis as well as a healthy placenta [35]. Most of the study result in literature reveals that there is less and contradicting evidence regarding the problem of post term birth and its associated factors in general and specifically in Ethiopia and Bahir Dar. So further studies must design to investigate risk factors for post term delivery that could help to elucidate the mechanism of normal parturition. Our incomplete understanding of both normal parturition and post term pregnancies along with methodologic difficulties in defining and identifying post term pregnancies make the study of post term delivery interesting.

#### **1.4.2. Associated factors of post term birth.**

According to the existed literature, there are different causes of post term delivery. From which the major causes are fetal associations, maternal associations and maternal exposures.

##### **1. Fetal factors**

Even if the conditions are rare there are a certain major congenital anomaly which have been associated with post term delivery. Those are anencephaly, trisomy and Seckel's dwarfism, and conditions that alter fetal adrenal-pituitary function, presumably because they interfere with normal physiologic mechanisms that initiate labor [21].

##### **2. Maternal or obstetric factors**

The most causes that associated with an increased incidence of post term pregnancy and post term birth is consistent maternal characteristic which is a history of post term delivery. In some studies, prime parous women appear more likely to go beyond term than multiparous women, but this association is not always found. Maternal country of birth, threatened abortions, lower social class, and less education have also been associated with post term birth[19]. A rare biochemical deficiency, placental sulfatase deficiency, is the only causally linked maternal condition associated with prolonged pregnancy. Extra uterine pregnancies also extend into the post term period. Diabetes mellitus, hypertension, and preeclampsia are not associated with an increased incidence of post term pregnancy[36].

### 3. Maternal Exposures

Another cause of post term birth is related with maternal exposures but little work has been done to link specific environmental, occupational, or life-style exposures to post term birth. The onset of labor may involve a delicate change in the balance between progesterone and estradiol mediated through prostaglandins[36]. For example, small doses of aspirin, a prostaglandin inhibitors, have been shown to prolong the duration of pregnancy and increase the incidence of post term delivery. Fish oils, containing omega-3 fatty acids that may alter the balance of eicosanoids, has been associated with increased duration of pregnancy when used as a supplement late in pregnancy. Occupational exposure to ethylene oxide has been reported to increase the risk of both preterm and post term birth [12].

#### 1.4.3. Conceptual frame work (Adapted)

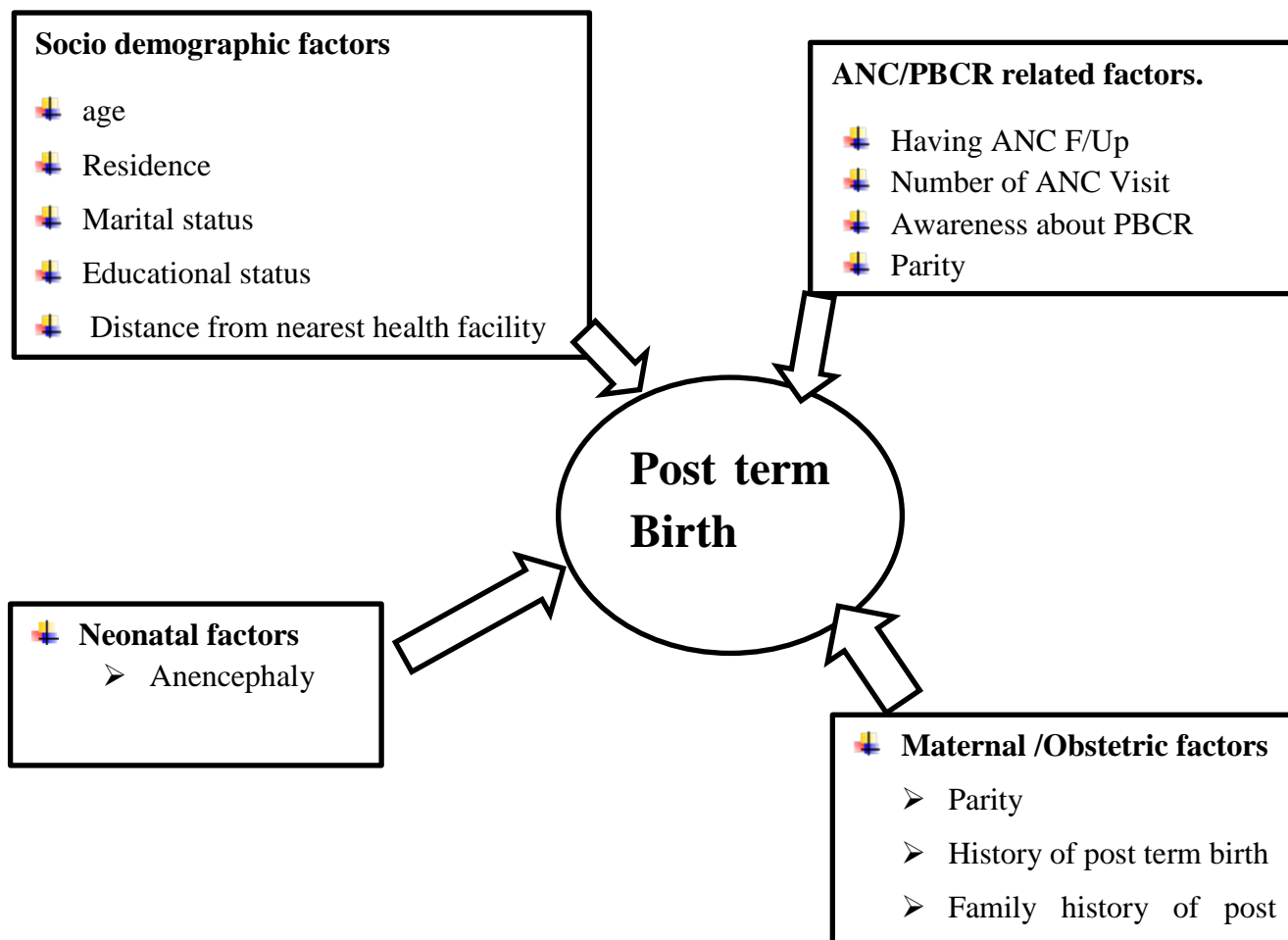


Figure 1 conceptual framework which is own completion based on reviewed literature (2020)[1]

## **2. OBJECTIVE OF THE STUDY**

### **2.1 General objective**

To assess the proportion of post term deliveries and associated factors among mothers who gave birth in Bahir Dar city administration governmental hospitals, Northwest Ethiopia, 2020.

### **3.2 Specific Objectives**

To determine proportion of post term delivery.

To identify associated factors related with post term delivery.

### **3. METHODS**

#### **3.1. Study design and period**

Institutional based cross-sectional study design was employed, from February 25 to march 25 2020G.c.

#### **3.2. Study area and setting**

The study was conducted in Bahir Dar city administration governmental hospitals. Bahir Dar city is capital city of Amhara regional state, and found at northwest Ethiopia. It located 564km far from country capital city; Adis Ababa. Administratively Bahir Dar city is a special zone, and has six sub cities and seventeen kebeles. Based on the 2007 Census conducted by the Central Statistical Agency of Ethiopia (CSA), Bahir Dar city has a total population of 221,991, of whom 108,456 are men and 113,535 women; 180,174 or 81.16% are urban inhabitants, the rest of population are living at rural kebeles around Bahir Dar.[37, 38] In city administration there are three governmental hospitals which gave all types of obstetric care services including emergency caesarian section. There are also around ten governmental health centers and more than ten non-governmental health institutions which has been giving maternal and child health related services. The data was collected from these three governmental hospitals which are Tibebe Gion specialized teaching hospital, Felege Hiwot comprehensive specialized hospital and Adis Alem district hospital.

#### **3.3. Source population**

The source population of the study were all mothers who gave birth in Bahir Dar city administration.

#### **3.4. Study population**

All mothers who gave birth in Bahir Dar city administration governmental hospitals during the study period.

#### **3.5. Inclusion criteria**

All selected mothers who gave birth in Bahir Dar city administration governmental hospitals during the study period were included in the study.

### 3.6. Exclusion criteria

- Mothers who didn't their last normal menstrual period (NLMP) or who has no first trimester obstetric ultrasound result.
- Mothers who gave other than singleton birth.
- Women who were seriously ill and enable to respond the interview.

### 3.7. Sample size determination

The sample size required to the study was calculated using the following single population proportion formula.

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

Where, n= the desirable sample size

- $Z (\alpha/2)$  =the critical value at 95% level of significance which is =1.96
- **P** = Proportion of post term deliveries, which is not clearly quantified in our country with similar study design of this study and to produce maximum sample size, is better using p as 50%.
- d=precision of measurement (acceptable marginal error) with 95% CI, which is 0.05

$$n = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2} = 385$$

After adding a 10% non-response rate (39), the total sample size was **423**.

### 3.8. Sampling procedure

There are three governmental hospitals in Bahir Dar city administration, are Tibebe Gion specialized teaching hospital, Felege Hiwot comprehensive specialized referral hospital and Adis Alem district hospital. To estimate Monthly delivered mothers data form those three hospitals; obtained by taking their last year six-months delivery service monthly report (from November 1/2018 to May 30/2019) and divided each by six to get average monthly delivery service report of three hospitals. And calculated average delivery service report was 402, 219 and 128 for Felege Hiwot comprehensive specialized referral hospital, Adis Alem district hospital and Tibebe Gion specialized teaching hospital respectively. According to their monthly report 423 participants were allocated by proportion. The first participants from each hospitals were selected by simple random sampling method (lottery method) and then the subsequent participants were selected by Systematic random sampling technique. The interval of the sampling was calculated as  $749/423 \approx$

2. Mothers who delivered at 42 completed weeks of gestation and above were taken as Post term birth. Gestational age was calculated based on LNMP or first-trimester ultrasound result.

### Schematic presentation of sampling procedure

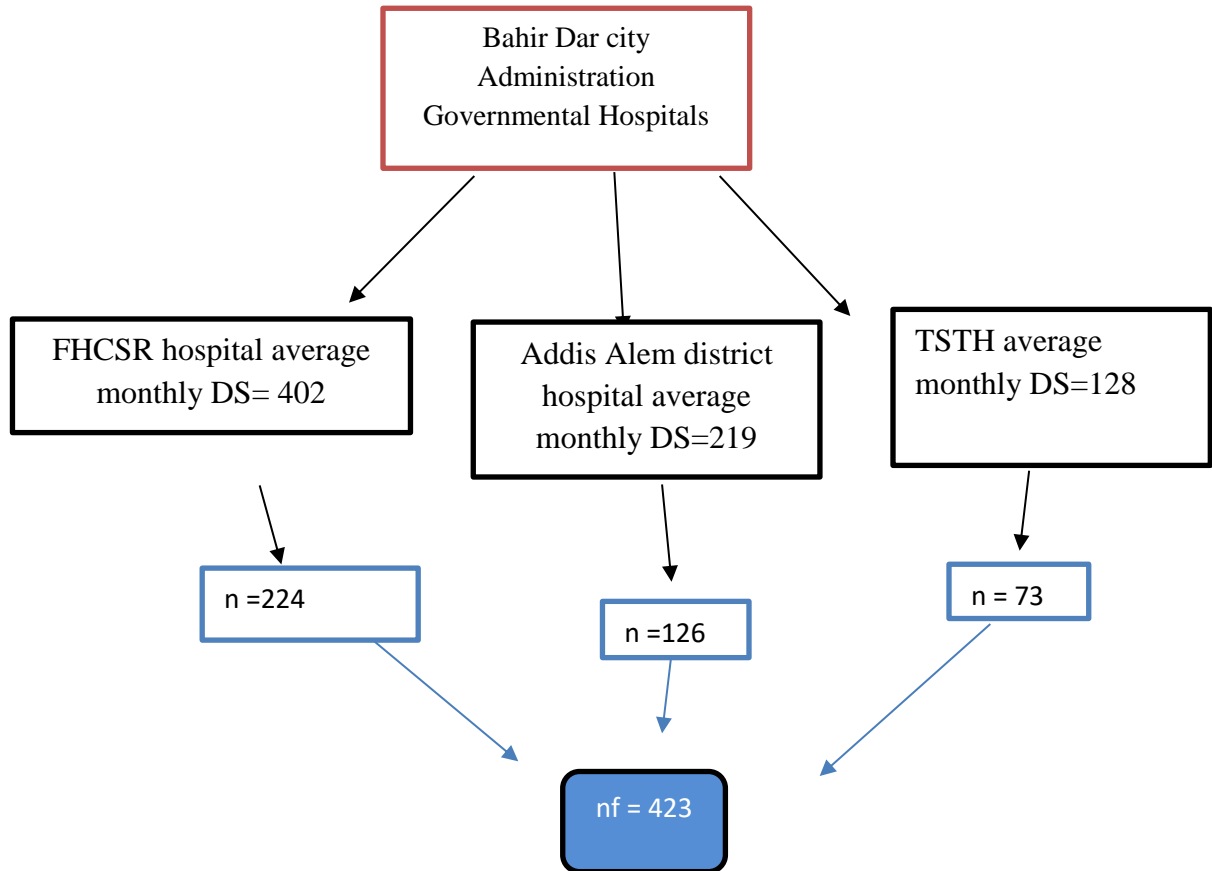


Figure 2 Schematic presentation of sampling procedure

### Key

- TST Tibebe Gion specialized teaching hospital
- FHCSR Felege Hiwot comprehensive specialized referral hospital
- DS delivery service

### **3.9. Study Variables**

#### **Dependent variables**

Post term birth yes/no

#### **Independent variables**

**Socio demographic factor:** like age, place of resident, distance from health facility, marital status, religion, Educational level and misconception.

**Obstetric factors:** like parity, previous post term delivery was included too.

**Antenatal care service and BPCRCP related factors:** which is numbers of ANC visit, birth preparedness and complication readiness plan included.

### **3.10. Operational definitions**

**Awareness about Birth preparedness and complication readiness plan :** A woman was considered as prepared for birth and its complication if she identified four and more components from birth preparedness complication readiness item[7].

**Access to nearby health facility:** health facility is accessible if it is found around 60minuets with foot walk.[39]

### **3.11. Data collection instrument**

Well Structured interview administered questionnaire and key informant interview was used. The questionnaire is adapted from relevant literatures and modified to local context in such a way that all the variables was assessed and included. Questionnaires were translated in to Amharic (the local language), then retranslated back to English to keep the consistencies. Key informant interview was used to have a clear and depth information about the causes of post term delivery.

### **3.12. Data collectors**

Three diploma midwives whose mother tongue is Amharic and currently who has not been working on study area were recruit for data collection. Three BSc holder midwives were recruit as a supervisor, and participate throughout the data collection. Data collectors and the supervisors were taken a training for one day by the principal investigator on the study instruments, consent form, how to interview and data can be collected.

### **3.13. Data quality assurance**

The quality of data was assured by; from the beginning Questionnaires were prepared first in English and then translated to Amharic for interview and then translated back to English to maintain consistency. And then pretest was done on 5 % or 22 delivered mothers before the actual data collection period at Merawi district hospital. Additional adjustments in the sequence and wording of the questionnaire was made based on the results of the pre-test. Data collectors and supervisors were taken two days training prior to data collection. Regarding the training, Emphasis was given on purposes of study, the significance and meanings of each question as well as on way of interviewing the questions. Supervision was conducted by those three supervisors and the principal investigator. Each data collector checked the code of questionnaires and their completeness before winding up their visit to each study participant. Every night each questionnaire were reviewed by supervisors to check for completeness and further edition. Any misfiled questionnaires were traced back and corrected by using their code. Necessary feedback was offered to data collectors in the next morning. The data was also thoroughly cleaned and carefully entered in to computer for beginning of analysis. During entry of data, double entry and missing value was checked.

### **3.14. Methods of data analysis**

Data was analyzed through descriptive and inferential statistics. In descriptive part different frequency tables and summary statistics were used to describe the study variables. Whereas in inferential statistics bivariate logistic regression analysis was used to see significance of association between dependent and independent variables since the dependent variable is nominal/dummy. In binary logistic regression of dependent and each independent variables with P value  $\leq 0.2$  were included in multi-variable logistic regression and with p-value less than 0.05 under 95% CI were considered as significantly associated with post term birth and reported using both p-value and odds ratio.



### **3.15. Ethical issues**

Ethical clearance was obtained from institutional review board of Bahir Dar University; with protocol number 0049/2020. A formal letters were obtained from college of medicine and health science, department of midwifery and letters were submitted to respective hospitals and concerned bodies to obtain their co-operation. The purpose of the study was explained to the study participants. At the time of data collection, verbal consent also taken from the participants to confirm whether they are willing to participate or not. Participants were informed that participation was on a voluntary and they could withdraw at any time if they were not comfortable about the questionnaire. Names or personal identifiers were not included in the written questionnaires to ensure participants confidentiality

### **3.16. Dissemination of results**

The findings of this study will be presented to Bahir Dar University; college of medicine and health science, distributed to those hospitals where the study was conducted, Bahir Dar city administration health office and to other related bodies. The findings may also be presented in different seminars, meetings and workshops. After the completion of the study properly, all effort can be made to publish the thesis in scientific journals.

## 4. RESULT

### 4.1. Socio demographic characteristics

Total of 423 mothers were interviewed which makes 100% response rate. Majority, 207 (48.9%) of mothers were in the age group of 20-24 years old and the mean age of the respondents was 24.2 years old with standard deviations of ( $\pm 4.75$ ). Majority of the respondents 342 (80.9%) were live in Urban area. In participants religion aspect most of the respondent or 311(73.5%) were orthodox Christian followers. (Table 1)

**Table 1: Distribution of study participants by their Scio- demographic characteristics in Bahir Dar, Ethiopia, 2020 (n=423)**

obstetric characteristics	Category	Frequency	Percent
Age	15-19	38	9.0%
	20-24	207	48.9%
	25-29	101	23.9%
	30-34	61	14.4%
	$\geq 35$	16	3.8%
Marital status	married	389	92.0%
	single	19	4.5%
	Divorced	12	2.8%
	Widowed	3	0.7%
Residence	Urban	342	80.9% %
	Rural	81	19.1%
Religion	Orthodox	311	73.5%
	Muslim	77	18.2%

	Protestant	35	8.3%
Ethnicity	Amhara	361	85.3%
	Oromo	18	4.3%
	Tigray	44	10.4%
Occupation	house wife	203	48.0%
	Farming	27	6.4%
	Governmental	88	20.8%
	Daily worker	14	3.3%
	Merchant	61	14.4%
	Widowed	30	7.1%
Educational level	Uneducated	69	16.3%
	simply reading and writing	64	15.1%
	Primary level 1-8	69	16.3%
	secondary level 9-12	91	21.5%
	diploma	130	30.7%
Access to nearby health facility	Below 1 hour	251	59.3%
	Above 1 hour	172	40.7%

### 5.1.2 Obstetric factors

Regarding to obstetric or reproductive health related characteristics of participants, more than 58% mothers were multi parous. According to mother's experience of previous post term birth; most of them has no such experience/delivering in post term. From 239 delivered mothers around 194(81.1%) mothers had not post term delivery experience. (Table 2)

**Table 2: Distribution of study participants by their obstetric characteristics in Bahir Dar city administration governmental hospitals, Bahir Dar, Ethiopia, 2020 (n=423)**

obstetric characteristics	Category	Frequency	Percent
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Gravidity	Prime	143	33.8%
	Multi	280	66.2%
Parity	prime para	177	41.8%
	Multi	246	58.2%
Family history of PT	No	361	85.3%
	Yes	62	14.7%
History of post term birth	Yes	45	18.8%
	No	194	81.1% %
Family history of Post term birth	Yes	62	14.7%
	No	361	85.3%

### 5.1.3 Antenatal car service and BPCRCP related factors

Most of respondents 391 or 92.4% were had ANC follow up. Most of mothers had awareness about birth preparedness and complication readiness plan (BPCRCP). It can be expressed as 340 (80.4%) of mothers had a knowledge about birth preparedness and complication readiness plan. (Table 3)

**Table 3 participants Antenatal car service and BPCRCP related factors in Bahir Dar city administration governmental hospitals, Bahir Dar, Ethiopia, 2020 (n=423)**

obstetric characteristics	Category	Frequency	Percent
ANC on this Pregnancy	Yes	391	92.4%
	No	32	7.6%
Number of ANC visit (n=391)	1	32	8.18%
	2 and above visit	359	91.82%
Awareness about BPCRCP	yes	340	80.4%
	No	83	19.6%
First trimester obstetric ultrasound scan	yes	157	37.1%

	No	266	62.9%
Have you heard about post term birth	Yes	210	49.6%
	No	213	50.4%

From awareness about birth preparedness and complication readiness plan related factors; among all post termly delivered mothers, majority or more than 50% % were Said that “ providers said me that you have finish your follow up and come when your labor is coming ”



Figure 3: post termly delivered participants response for why they come too late? Bahir Dar city administration governmental hospitals, Bahir Dar, Ethiopia, 2020 (n=61)

When we see the source of information about birth preparedness and complication readiness among mothers who had information about BPCR majority or 196 (56.2%) of participants had get information from health care providers.

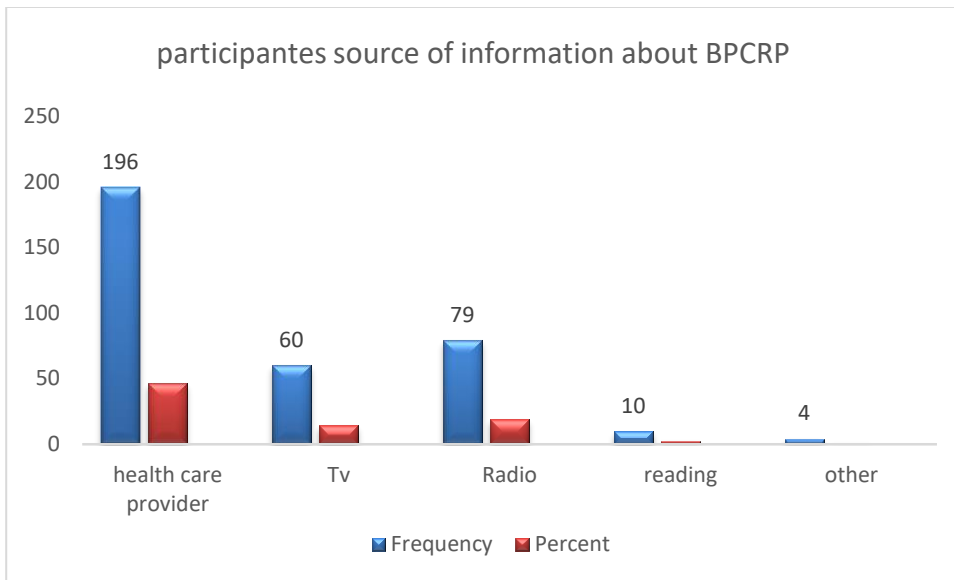


Figure 4: study participants source of information, Bahir Dar city administration governmental hospitals, Bahir Dar, Ethiopia, 2020 (n=349)

#### 5.1.4 The proportion of post term delivery

The proportion of post term was found to be 14.4% with [95% CI=11.1%-17.5%]. And explained on the following chart. (Figure 3)

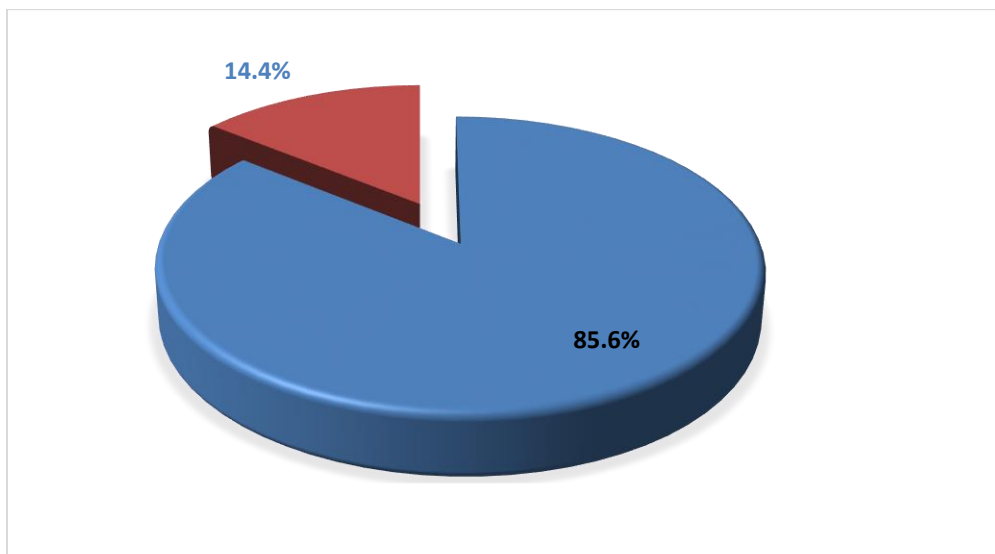


Figure 5: Proportions of Post term Birth in Bahir Dar city administration governmental hospitals, Bahir Dar, Ethiopia, 2020 (n=423)

### 5.1.5 Post term Birth and associated factors

The socio-demographic, obstetric and ANC related factors are associated with mother's post term birth. From socio demographic variables residence rural and distance from nearby health facility were associated with post term birth. From obstetric related factors parity and family history of post term and from ANC and BPCR related factors having ANC follow up and number of ANC visit were associated with post term births. To investigate this; Binary logistic regression analysis was done to assess an association between independent variables and the outcome variable. In bivariate analysis: residence, occupation, marital status, level of education, distance to nearby health facility, parity, antenatal care, numbers of antenatal care, first trimester obstetric ultrasound scan, family history of post term birth and awareness about BPCR were associated with post term birth  $p$ - value  $\leq 0.2$ . On multivariate logistic regression; residence, distance to nearby health facility parity, antenatal care, number of antenatal care, family history of post term birth and awareness about BPCR were significantly associated with Post term birth with  $p$ . value  $\leq 0.05$ .the following table can be interpreted as; Rural women were more than 4 times more likely to deliver in post term than a woman from urban; [AOR=4.06 (95% CI=1.563, 10.528)].

Far from nearby health facility, null parity, not having ANC, number of ANC family history of post term birth and no knowledge about BPCR were significantly associated with post term birth. The other socio demographic factor which associated with post term birth was distance from nearby health facility; woman who are more far from the health facility (greater than 60minutes with foot walk) were more than 5 times risky than a woman who have nearby health facility with less than 60minute foot walk; [AOR=5.250 (95%CI=2.489,11.071)]. Post term birth rate also decreased as the number of antenatal follow up increased. Women with no antenatal visits were more than 7 times more likely to have a post term birth than women who have antenatal follow up; [AOR=7.218 (95% CI=1.108,47.024)]. Number of antenatal care also significantly associated with post term birth; meaning mothers who had only one ANC visit had more than 4 times more likely to have a post term birth than women who had more than one ANC visit; [AOR=4.383 (95%CI=1.609,11.936)]. The other factor was maternal family history of post term birth. Women who had family history of post term on her first degree family ( on her mother or sister or both) were had more than 2 times more likely to have post term birth than those who didn't had;

[AOR=2.417 (95%CI=1.075,5.436)]. Additionally, a slight reduction in the risk of post term births was observed in multi parity compared with prime para women. As the Table below shows the trends of post term birth rate among women in prime para and multi parous mothers; prime para mothers had more than 2 time more likely have post term birth when compared with multi parous; [AOR=2.368 (95%CI=1.113,5.038)]. Furthermore, mothers who had no knowledge about birth preparedness and complication readiness plan were more likely had post term birth than who had knowledge; [AOR=2.604 (95%CI=1.215, 5.584)]. (Table 4)

**Table 4 Both Bi- variable and Multi-variable analysis of factors for Post term delivery in Bahir Dar city administration governmental hospitals, Bahir Dar, Ethiopia, 2020 (n=423)**

Variables		Post term birth		COR (95%CI)	AOR(95% CI)	P value
		Yes	No			
Residence	Urban	53	289	1		
	Rural	8	73	1.673 (.762,3.674)	<b>4.056</b> <b>1.563,10.528</b>	<b>.004</b>
Occupation	house wife	27	176	1		
	Farming	6	21	0.537 (0.199,1.450)	.288 .071,1.167	.081
	Governmental	11	77	1.074 (0.507,2.274)	.208 .024,1.792	.153
	Daily worker	3	11	0.563 (0.147,2.147)	.602 .109,3.313	.560
	Merchant	7	54	1.183 (0.488,2.869)	.408 .050,3.324	.402
	other	7	23	0.504 (0.197,1.288)	.273 .048,1.547	.143
Educational level	Unable to read and write	16	54	1		
	Primary level 1-8	23	109	1.4041 (0.686,2.875)	1.387 .397,4.846	.608
	secondary level 9-12	11	80	2.155 (0.929,5.000)	1.560 .596,4.080	.365
	Diploma and above	11	119	3.205 (1.394,7.368)	2.275 .810,6.390	.119
Distance from home to nearby health facility	Above 1 hour	15	236	1		
	Below 1 hour	46	126	5.744 (3.085,10.694)	<b>5.250</b> <b>2.489,11.071</b>	<b>.000</b>
Parity	Multi	46	200	2.484 (1.338,4.611)	<b>2.368</b> <b>1.113,5.038</b>	<b>.025</b>



	prime para	15	162	1		
ANC on this Pregnancy	no	15	17	6.618 3.097,14.142	<b>7.218</b> <b>1.108,47.024</b>	<b>.039</b>
	yes	46	345	1		
number of ANC visit	One times	14	18	6.222 2.880,13.441	<b>4.383</b> <b>1.609,11.936</b>	<b>.004</b>
	More than one visit	41	328	1		
First trimester obs. ultrasound	no	50	216	3.072 1.548 6.099	.514 .221,1.197	.123
	yes	11	146	1		
Family History of post term	Yes	24	38	5.531 2.993,10.218	<b>2.417</b> <b>1.075,5.436</b>	<b>.033</b>
	No	37	324	1		
Awareness about BPCR	no	27	56	4.339 2.430,7.750	<b>2.604</b> <b>1.215,5.584</b>	<b>.014</b>
	yes	34	306	1		

## 5. DISCUSSION

The result of this study shows that the proportion of post term birth was 14.4%. It is higher than the findings in two recent studies in Sweden and Holland. Also, this study result falls above the global prevalence range of 5–10 % since it is 14.4%. This variance may also relate to inaccurate measurement of the last menstrual period, since some mothers may not ably recall their date accurately and may have menstrual irregularities. This inaccuracy of gestational age could overestimate the post-term birth proportion in our study.

Distance to health facility brings significant difference in poste term delivery among mothers in the study area. If mothers found in greater than 1 hour foot walk distance from the health center, they are 5 times more likely to deliver in post term than those who are found in less that of 1 hour foot walk. Residence of the respondent is another strongly associated factor. If here residence was at rural, she would be 4 times more likely to deliver in post term compared to those reside in urban (AOR=4.046, 95% CI). This is may be due to urban area is more developed than the rural areas in health access and related services. Therefore, the level of antenatal care and awareness of pregnancy healthcare among women in urban may be higher than those among women in the rural. In this study family history of such post term delivery has significant association with her current post term delivery. Meaning mothers who have a family history of post term delivery were 2 times

more likely to deliver in post term currently (95% CI, AOR=2.417). This result is consistent with previous findings, which says that maternal genetic factor may accounts 14%-30% of all post term birth[40].

The study result also shows that women with no antenatal visits and those with only one antenatal visits were 7 and 4 times more likely to delivered in post term than their counter part, respectively. So that this study revealed that the risk of post term births decreased as the frequency of antenatal visits increased and women with no antenatal visits were more risk of post term births. Several reasons can explain this correlation. First, women with more frequent antenatal visits, particularly during the first trimester, are likely to obtain pregnancy dating through ultrasound rather than rely on the last menstrual period. Second, with more frequent antenatal visits, women have a better chance of receiving advanced pregnancy management and close antenatal fetal monitoring and having access to labor induction before 42 weeks of gestation. This study results are similar with the study conducted on china.[1]

In this study, prime parous women were delivered in post term than others. In respectively, the women's in their first parity were 2.4 times relatively risky for post term delivery compared to women's who are multi parous (95% CI=1.113,5.038). Other references also showed similar result. For instance, according to American College of Obstetricians and Gynecologists (ACOG) prim gravidity and prior post term pregnancies are the most common identifiable risk factors[18].

Furthermore, mother's knowledge about birth preparedness and complication readiness plan (BPCRP) significantly associated with post term delivery. Mothers who have no knowledge about BPCRP were 2.6 times more likely to delivered in post term than their counterparts (95% CI=1.215, 5.584). Other studies result also show the same result. If a mothers has a knowledge about BPCRP; she is less likely to delivery in post term. But, variables like maternal age, education, income, marital status and other variables were not significant at 95% confidence level or 5% significance. Regarding insignificancy of mothers age, other studies result shows similar to this study finding. For instance, a Danish study found that maternal age is not correlated with the prevalence of post term births. Also, in this study, no significant correlation exists between maternal education and post term births. This study result is says high reported income was significantly associated with post-term birth. This suggests that these mothers may engage in a sedentary lifestyle which may contribute to inappropriate weight gain and associated chronic diseases such as hypertension and diabetes mellitus during pregnancy, known risk factors for post-term birth. The contradictory results from these studies may be caused by differences in data

collection and population selection bias. This study not able to determine the association between these diseases and post-term birth in our study because of the small sample size and inadequate power to detect the effect. Furthermore, income level was not determined using a wealth index with appropriate statistical analysis, but rather it was determined based on the response of mothers which may impact on the estimation accuracy. But the association between the selected sociodemographic factors and post term births could also be modified by other important potentially confounding factors maternal previous birth history, ANC visit and term of visit, parity, residence, BPCR and distance to health facility which could greatly affect the occurrence of post term births.

## **6. CONCLUSION, LIMITATION AND RECOMMENDATION**

### **6.1. Conclusion**

The proportion of the post term delivery was high. Factors associated for this result were rural residence, far from nearby health facility, null parity, not having antenatal care, number of ANC visit, family history of post term birth and lack of awareness about Birth preparedness and complication readiness plan.

### **6.2 Recommendation**

#### **Federal Ministry of Health and Amhara regional state health bureau**

- Efforts must be devoted to increasing the health access particularly for the rural communities.
- Different templets shall be prepared regarding the problem of post term delivery and related benefit of ANC follow up.
- Compressive scheme must be design to reduce the risk of post term delivery.

#### **Zonal health offices**

- There must be awareness creation for mothers who have less understanding on post term delivery and its consequence through audio visual Medias like radio and television.
- Efforts should be in place to increase mother's awareness regarding the benefit of ANC follow up, BPCR, during their pregnancy.

#### **Health institution and health professions**

- Health institution must be mobilizing workers or staff to educate mothers on the problem of post term delivery.
- Professionals must play their role and responsibility by aware mothers to start ANC, BCRP and problems of post term birth in detail.

#### **For researchers**

Further studies should be done in different regions of Ethiopia among reproductive women about pre- cervical cancer screening including qualitative study.

### **6.2. Limitation of the study**

Like other studies, this study has the following limitation.

- This study is not experimental due to the nature of the study
- Being limited in Bahir Dar city

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## 7. Appendices

### 7.1 Annex: English questionnaire

Participants code \_\_\_\_\_

#### **Bahir Dar University, Collage of Medicine and Health Science**

Good Morning / Good Afternoon and well come, my name is----- . I am working as a data collector for the study being conducted in this Hospital by Mr Esubalew Mekuriaw Bire who is doing a for partial fulfillment of master of clinical midwifery Program in Department of midwifery College of medicine Health Sciences, Bahir Dar University. We kindly request you to lend us your attention to explain you about the study and being selected as the study participant.

**The study title:** Proportion of Post term Birth and Associated Factors among Mothers Who Gave Birth in Bahir Dar City Administration Governmental Hospitals, Northwest, Ethiopia, 2020.

**Purpose of the study:** To determine Proportion of Post term Birth and Associated Factors among Mothers Who Gave Birth in Bahir Dar City Administration Governmental Hospitals, Northwest, Ethiopia, 2020. Knowing these factors have great importance for the policy makers & Ministry of health intervention programs so as to reduce and avoid post term deliveries.

**Confidentiality:** The information gathered from this study will not be disclosed to others. The hard copy will be kept confidential and it will be burned after one year of study. The data in computer will be coded not to include your name.

**Rights:** Participation on study is fully voluntary and under informed consent. Considering the importance of the research to your health facility you are free to decide on it. If any violation of ethical rules and conduct is seen throughout study you have full right to withdraw and stop study at any time.

Would you willing to participate in the study? **Yes**..... **No** .....If, no respect the decision and thank her. If yes continue the interview.

**Name of the supervisor**..... **Signature**..... **Date**.....

If you have any questions or concerns about this request, please contact me at 09-18144159 or esuye41@gmail.com.



<b>Part One: Respondents Socio Demographic Factors</b>			
No	Question	Response	Skip
101	Participants age in years	_____	
102	Religion	1. Orthodox 2. Islam 3. Protestant 4. Other (Specify)-----	
103	Ethnic	1. Amhara 2. Oromo 3. Tigray 4. Somali 5. Other (Specify)-----	
104	Residence	1. Urban 2. Rural	
X	Marital status?	1. Single 2. Married 3. Divorced 4. Widowed	
105	Educational status?	1. Uneducated 2. Simple reading and writing 3. Primary level (1-8) 4. Secondary level (9-12) 5. Diploma and above	
106	Job	1. House wife 2. Farming 3. Governmental 4. Daily worker 5. Merchant 6. Other (Specify)-----	
107	If answer 1 for code "x" Husbands' Educational status?	1. Uneducated 2. Simple reading and writing 3. Primary level (1-8) 4. Secondary level (9-12)	Jump if answer

		5. Diploma and above	
108	If answer 1 for code "x" Husbands' Job?	1. Looking for work 2. Farming 3. Governmental 4. Daily worker 5. Merchant 6. Other (Specify)-----	
109	How did you go to (travel to) your nearby health facility?	1. Walking 2. Land transport 3. Accordingly	
110	Distance from your home to your nearby Health facility by estimation with K.M?	.....K.m/ hr on foot walk	
111	Do you have family monthly income?	1. yes 2. no	If she Ans 2/3 skip to Q114
112	On Q No. 111, if your answer is yes, Family income amount on average?	1. Below 1000 ETB 2. From 1000 to 2999ETB 3. From 3000 to 9999ETB 4. Above 10,000ETB	
113	Family size	In Number .....	
114	Who is Family head?	1. Husband 2. Wife 3. My father 4. My mother 5. Other (Specify)-----	

Part two: reproductive health (Antenatal care )related factors			
201	Gravidity?	1. Was prime gravida 2. II 3. III	

		4. IV 5. V and above	
202	Parity?	1. prime para 2. II 3. III 4. IV 5. V and above	
203	Ask only if she is para II & above  Did you have ANC f/up during your previous pregnancy?	1. Yes 2. no	
204	Did you have ANC f/up during this pregnancy?	1. Yes 2. no	If she said no skip to Q207
205	On Q No. 204, if she answer yes, at what Gestational age did you start ANC?	1. Before 4 <sup>th</sup> month 2. At 4-6 month 3. At 6-8 Month 4. Above 8 month	
206	On Q No. 204, if your answer is yes How many ANC visits did you have during this pregnancy?	1. One 2. two 3. three 4. four and Above	
207	Did you have an Ultrasound result during this pregnancy before 4 months?	1. Yes 2. No	

<b>Part three: Birth preparedness and complication readiness;</b>			
301	Had you plan place of delivery?	1. Yes 2. no	
302	Had you save/plan money for your delivery?	1. Yes 2. no	

303	Have you informed about emergency bleeding and may you identify and ready a blood donor?	1. Yes 2. No/ I have no idea	
304	Did you arrange a transport for your travel during labor?	1. Yes 2. No/ I have no idea	
305	Did you identify your support person /social attendant/ during your labor delivery processes?	1. Yes 2. No/ I have no idea	
306	Did you identify health care provider who will attend your labor delivery?	1. Yes 2. No/ I have no idea	
307	Did you prepare food materials for during labor and delivery and postnatal period?	1. Yes 2. No/ I have no idea	
308	Dose she aware about BPCR?P?	1. yes, if she answer yes at least 4 of Q from 208-214 2. No, if she answers yes $\leq$ 3 Q from Questions 208-214	
309	Have you heard about BPCR?P?	1. Yes 2. No	If she say no skip to Q401
310	On Q No. 309, if your answer is yes, where is your source of information?	1. Health care providers 2. TV 3. Radio 4. Reading 5. Other (Specify)-----	
311	Do you know dangers signs of pregnancy?	1. yes 2. No	
<b>Part Four : Knowledge and awareness about post term birth related:</b>			
401	Have you heard about post term birth?	1. Yes	If she say no skip to Q403

		2. No	
402	If she say yes for Q 401 where is her source of information?	1. Health care providers 2. TV 3. Radio 4. Reading 5. Other (Specify)-----	
403	Ask only if she is para II & above  Did you have an experience for post term birth?	1. Yes  2. No	
404	Ask only if she is para II & above  If she say yes for Q 403, how many times?	1. One times 2. Two times 3. Three times 4. Four times 5. Five times and above	
405	Have you have family (1 <sup>st</sup> degree relatives (mother or sister)) history of Post term birth?	1. No 2. Yes	
406	How many children do you delivered within one or on this pregnancy?	1. Singleton 2. Twine 3. Triple and above	
407	Is she had post term birth?	1. Yes 2. No	Please confirm from R.book and chart
408	If your answer for Q 407 is 1, why you late to come?	1. Providers said me that you have finish your follow-up and come when you have a labor 2. I be live that to come when my labor is coming 3. I do not have ANC Follow-up 4. Other (Specify)-----	
409	If your answer for Q 407 is 1, how did you come today?	1. I was have pain/my date is passed 2. With referral 3. My follow-up is here 4. Other (Specify)-----	

410	If your answer for Q 407 is 1 where was your ANC follow-up?	<ol style="list-style-type: none"> <li>1. Health post</li> <li>2. Health center</li> <li>3. Hospital</li> <li>4. Privet health facility</li> <li>5. Has no follow-up</li> </ol>	
411	By what method GA is calculated?	<ol style="list-style-type: none"> <li>1. By NLMP</li> <li>2. By 1<sup>st</sup> TM ultra sound</li> </ol>	
412	If your answer for Q 407 is 1, how did you delivered?	<ol style="list-style-type: none"> <li>1. With spontaneous starting of labor</li> <li>2. Induction</li> <li>3. Elective C/s</li> <li>4. Induction and then c/s</li> </ol>	Please confirm from R.book or chart
413	Is your neonate/es alive?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. on NICU side</li> <li>3. Is dead</li> <li>4. It was IUFD</li> </ol>	

**We Thank You!!**

## 7.2 Annex: Amharic version questionnaire

ተራ ቁጥር \_\_\_\_\_

**ባህር ዳር ዩኒቨርሲቲ ፣ ሕክምና እና ጤና ሳይንስ ኮሌጅ፤**

**“ሰላም ጤና ይስጥልን”**

**እንኳን ደህና መጡ!!!**

እኔ ----- እባላለሁ።። ይህ ቃለ-መጠይቅ የተዘጋጀው በባህር ዳር ከተማ አስተዳደር ስር በሚገኙ የመንግስት ሆስፒታሎች፣ የመውለጃ ቀን ያለፈው ወሊድ መጠን እና ተያያዥ ምክንያቶችን ለማጥናት የተዘጋጀ ነው። እኔም የዚህ ጥናት መረጃ ሰብሳቢ ነኝ። የጥናቱ ባለቤት አቶ እሱበላው መኩሪያው ብሬ ሲሆኑ፣ በባህር ዳር ዩኒቨርሲቲ ህክምና እና ጤና ሳይንስ ኮሌጅ ሚዲያዎች ትምህርት ክፍል፣ ለክሊኒካል ሚዲያዎች ማስተራት ዲግሪ ማሟያነት የሚካሄድ ጥናት ነው። ስለዚህ ለዚህ ቃለ-መጠይቅ ስለተመረጡ እባክዎ ትንሽ ጊዜ ካለዎት ለምጠይቀዎ ጥያቄዎች ምላሽ በመስጠት ይተባበሩኝ።

**የጥናቱ ዓላማ፡-** የመውለጃ ቀን ያለፈው ወሊድ መጠን (ክፋይ) እና ተያያዥ ምክንያቶችን ማጥናት፣ የቃለ-መጠይቁ ምስጢራዊነት፡- ይህ ከእርስዎ የተሰበሰበው መረጃ ሚስጥራዊነቱ የተጠበቀ ሲሆን እርስዎ በማያውቁት መንገድ፣ በማንኛውም ሁኔታ ለማንም አይሰጥም። ወረቀቱም ከአንድ አመት በኋላ እንዲቃጠል ይደረጋል። ኮምፒዩተር ላይም በኮድ ስለሆነ እና ስምዎ ሆነ አድራሻዎ ስለማይጠቀስ ሊያሳስብዎ አይገባም።

**መብትን በተመከተ፡-**በዚህ ጥናት ላይ መሳተፍ ሙሉ በሙሉ በፈቃደኝነት እና በስምምነት ላይ የተመሰረተ ነው። ያለተመቸዎት ነገር ካለ እና ቃለ-መጠይቁን ማቋረጥ ከፈለጉ በማንኛውም ሰዓት ማቋረጥ ይችላሉ።

ለቃለ-መጠይቁ ፈቃደኛ ነዎት? አዎ..... አይ .....

አይ ካሉ የተሳታፊዎን መብት ማክበር የግድ ይሏል። አዎ ከሆነ ግን ጥያቄዎችን መጠየቃችንን እንቀጥላለን።

የሱፐርቫይዘሩ ስም .....ፊርማ..... ቀን.....

ማንኛውንም አይነት ከዚህ ጥናት ጋር የተያያዘ ጥያቄም ሁነ ሌላ ገጉዳይ ካለዎት እባክዎ በ09-18144159 ይደውሉ፤ ወይም በ ኢ-ሜይል [esuyc41@gmail.com](mailto:esuyc41@gmail.com). ማግኘት ይችላሉ።

**ክፍል አንድ: ማህበራዊ እና ስነ-ህዝባዊ ጥያቄዎች፤**

ተ.ቁ	ጥያቄዎች	ምላሽ	አለፍ
101	የጥናቱ ተሳታፊ ዕድሜ	_____	
102	ሀይማኖት	1. ኦርቶዶክስ 2. ሙስሊም 3. ፕሮቴስታንት 4. ሌላ ከሆነ ይገለጽ .....	
103	ብሄር	1. አማራ 2. ኦሮሞ 3. ትግሬ 4. ሶማሌ 5. ሌላ ይገለጽ.....	
104	መኖሪያ ቦታ	3. ከተማ 4. ገጠር	
	የትዳር ሁኔታ?	5. ያገባች 6. ያላገባች 7. የተፋታች 8. ሌላ-----	
105	የትምህርት ደረጃ?	6. ያልተማረች 7. ማንበብ እና መፃፍ የምትችል 8. የመጀሪያ ደረጃ(1-8) 9. 2ተኛ ደረጃ(9-12) 10. ዲፕሎማ 11. የመጀመሪያ ዲግሪ እና በላይ	
106	ስራዎ	7. የቤት አመቤት 8. ግብርና 9. የመንግስት ሰራተኛ 10. የቀን ሰራተኛ 11. ንግድ 12. ሌላ ይገለጹ.....	
107	የባለቤትዎ የትምህርት ደረጃ?	1. ያልተማረ 2. ማንበብ እና መፃፍ የሚችል 3. የመጀሪያ ደረጃ(1-8) 4. 2ተኛ ደረጃ(9-12) 5. ዲፕሎማ 6. የመጀመሪያ ዲግሪ እና በላይ	
108	የባለቤትዎ ስራ?	1. ስራ ፈላጊ 2. ግብርና 3. የመንግስት ሰራተኛ 4. የቀን ሰራተኛ 5. ንግድ 6. ሌላ ይገለጹ.....	
109	ወደ ጤና ድርጅቱ የሚመጡ በአግርዎ ዎይስ በትራንስፖርት	4. በአግራ 5. በትራንስፖርት 6. እንደተገኘ	
110	ከቤትዎ እስከ ጤና ድርጅቱ ያለው እርቀት በግምት	.....ኪ.ሜ.	
111	ወርሃዊ ገቢ አለዎት?	3. አለኝ	



		4. የለኝም 5. መናገር አልፏልም	
112	ለጥያቄ ተ.ቁ. 111 መልስዎ አለኝ ከሆነ የቤተሰብ ወርሃዊ ገቢ በግምት ስንት ነው?	5. ከ 1 ሺ ብር በታች 6. ከ 1 ሺ እስከ 3 ሺ 7. ከ 3 ሺ እስከ 10ሺ 8. ከ 10ሺ ብር በላይ	
113	የቤተሰብ መጠን	(በቁጥር).....	
114	የቤተሰቡ ተጠሪ ማን ነው?	6. ባል 7. ሚስት 8. አባቱ 9. እናቱ 10. ሴት አማቴ 11. ወንድ አማቴ 12. ሌላ ይገለፁ.....	

<b>ክፍል ሁለት: - ስለቅድመ ወሊድ ክትትልን በተመለከተ፤</b>			
201	ከአሁን በፊት ስንት ጊዜ እርግዘዋል?	6. ይህ የመጀመሪያዬ ነበር 7. 2ተኛዬ ነው 8. 3ተኛዬ 9. 4ተኛዬ 10. 5ተኛዬ እና በላይ	
202	ከአሁን በፊት ስንት ጊዜ ወልደዋል?	1. ይህ የመጀመሪያዬ ነው 2. 2ተኛዬ ነው 3. 3ተኛዬ 4. 4ተኛዬ 5. 5ተኛዬ እና በላይ	
203	በእርግዘናዎ ወቅት የነፍሰ ጡር ክትትል ያደርጉ ነበር?	3. አወ 4. የለም	
204	በዚህ እርግዘና የቅድመ ወሊድ ክትትል ነበረዎት?	1. አዎ 2. አይ	
205	ተ.ቁ 204 ላይ አዎ ከሆነ መልስዎ እርግዘናዎ ስንት ወር ሲሆን የነፍሰጡር ክትትል ጀመሩ?	5. ከ 4 ወር በፊት 6. ከ 4-6 ወር ባለው 7. ከ 6-8 ወር ባለው 8. ከ 8 ወር በላይ	

206	ተ.ቁ 204 ላይ አዎ ከሆነ መልስዎ ስንት ጊዜ የቅደመ ወሊድ ክትትል አደረጉ?	5. አንድ ጊዜ 6. ሁለት ጊዜ 7. ሦስት ጊዜ 8. አራት ጊዜ እና ከዚያ በላይ	
207	ከ 4 ወር በፊት የአልትራሳውንድ ምርመራ ነበረዎት?	3. አዎ 4. አይ	

<b>ክፍል ሦስት፤ ሰለ ወሊድ ዝግጁነት፤ ድንገተኛ አደጋን መከላከል እና ዝግጁነት ቅድመ ጠንቃቄ በተመለከተ፤</b>			
301	ስለ ሚወልዱበት ቦታ ቀድመው አቅደው ተዘጋጅተው ነበር?	3. አዎ 4. የለም/አላሰብኩበትም ነበር	
302	ለምጥ እና ተያያዥ ጉዳዮች አገልግሎት የሚውል ገንዘብ ቆጥባቆ/መድበዋል?	1. አዎ 2. የለም/አላሰብኩበትም ነበር	
303	በሚወልዱበት ጊዜ የደም መፍሰስ አደጋ ቢያጋጥመዎት ደም የሚለግስ ሰው ተለይቶ ተዘጋጅቷል?	3. አዎ 4. የለም/አላሰብኩበትም	
304	ምጥ በመጣ ጊዜ ወይም መውለጃ ጊዜም ሲደርስ በምን ትራንስፖርት እንደሚሄዱ አቅደው ተዘጋጅተዋል?	1. አዎ 2. የለም/አላሰብኩበትም	
305	በሚወልዱ ወቅት ማን አብሮዎት እንደሚሆን አቅደው ተዘጋጅተዋል?	1. አዎ 2. የለም/አላሰብኩበትም	
306	የሚያወልደዎ ሰው (የጤና ባለሙያ) ማን እንደሆነ ለይተው አውቀዋል?	1. አዎ 2. የለም/አላሰብኩበትም	
307	መውለጃዎ በተቃረዘ ሰዓት ወይም እንደወወለዱ የሚመገቡት ምግብ (የገንፎ እህል) አዘጋጅተዋል?	1. አዎ 2. የለም/አላሰብኩበትም	

308	ሰለ ወሊድ ዝግጁነት እና ድንገተኛ አደጋን ስለመከላከል ዝግጁነት ቅድመ ጠንቃቄ ያውቃሉ?	3. ከተ.ቁ 208-214 ካሉ ጥያቄዎች 3 እና በላይ አላሰብኩበትም ካለ 4. ከተ.ቁ 208-214 ካሉ ጥያቄዎች ከ3 በታች አላሰብኩበትም ካለ	እለፍ
309	ሰለ ወሊድ ዝግጁነት እና ድንገተኛ አደጋን ስለመከላከል ዝግጁነት ቅድመ ጠንቃቄ መረጃው አልዎት?	1. አይ 2. አዎ	
310	ለ ተ.ቁ 309 መልስዎ አዎ ከሆነ የመረጃዎ ምንጭ ከየት ነው?	6. ከጤና ባለሙያዎች 7. ከTV 8. ከሬድዮ 9. በማንበብ 10. ሌላ ካለ ይገለፅ.....	

<b>ክፍል አራት : - ስለ የመውለጃ ቀን ያለፈው ወሊድ ግንዛቤን በተመለከተ፤</b>			
401	የመውለጃ ቀን ስላለፈው እርግዝና/ወሊድ ሰምተው ያውቃሉ?	1. አይ 2. አዎ	
402	ለጥያቄ ቁ. 401 አዎ ከሆነ መልስዎ ከየት ሰሙ?	1. ከጤና ባለሙያዎች 2. ከTV 3. ከሬድዮ 4. በማንበብ 5. ሌላ ካለ ይገለፅ.....	
403	ከዚህ እርግዝና በፊት የመውለጃው ቀን አልፎብዎ ያውቃል?	1. አዎ 2. የለም	
404	ለተ.ቁ 403 ምላሽ አዎ ከሆነ፤ ስንት ጊዜ አልፎብዎት ያውቃል?	6. አንድ ጊዜ 7. ሁለት ጊዜ 8. ሶስት ጊዜ 9. አራት ጊዜ 10. አምስት ጊዜ እና በላይ	
405	በቤተሰብ (እናት /እህት) የመውለጃ ቀናቸው አልፎባቸው ያውቃል ?	3. አላውቅም/አላስታውስም 4. እናት/እህት የለኝም 5. አዎ በእናቴ	

		6. አዎ በእህተ	
406	በአንድ እርግዝና የሚለዱት ልጅ ስንት ነው	4. አንድ ልጅ 5. መንታ ( ሁለት) 6. ሶስት እና በላይ	
407	የወለዱት የእርግዝናው እድሜ ምን ያህል ሳምንት ሲሆነው ነው?	1. 42 ሳምንት እና ከዚያ በላይ 2. ከ 42 ሳምንት በፊት	ከካርድም መረጋገጥ አለበት
408	ለተቁ 407 ምላሽ 1 ቁጥር ከሆነ ለምን እስከዚያ ቀን ድረስ ቆዩ?	5. ክትትልሽን ጨርሰሻል/ምጥ ሲይዝሽ ነይ ስላሉኝ 6. ምጥ ሲይዝኝ ልምጣ ብዩ 7. የነፍሰጡር ክትትል ስላልነበረኝ 8. ሌላ ካለ ይገለፅ----- -----	
409	ለተቁ 407 ምላሽ 1 ቁጥር ከሆነ አሁን እንዴት ወደዚህ ሆስፒታል መጡ?	5. ቀኑ ሲያልፍብኝ/ስላመመኝ በራሴ 6. ሪፈር ተብዩ 7. ክትትሌ እዚሁ ሆስፒታል ሰለነበር 8. ሌላ ካለ ይገለፅ-----	
410	ለተቁ 408 ምላሽ 1 ቁጥር ከሆነ ክትትልሽ የት ነበር?	6. ጤና ኬላ 7. ጤና ጣቢያ 8. ሆስፒታል 9. የግል ጤና ድርጅት	
411	የመውለጃ ቀንዎ ያለፈው የመጨረሻ የወር-አበባ ባዩበት ነው ወይስ ከአራት ወር በፊት በታዩት የአልትራ-ሳውንድ ውጤት መሰረት ነው?	5. በመጨረሻ የወር አበባ መሰረት 6. በአልትራ-ሳውንድ የእርግዝና እድሜው ከካርድ/ከ U/S ውጤት ይረጋገጥ!! ከ 14 ሳምንት በፊት የታዩ U/S ውጤት ካለ እሱ ይወሰድ ካለሆነ ግን NLMP ይወሰድ::	
412	ለተቁ 407 ምላሽ 1 ቁጥር ከሆነ እንዴት ወለዱ?	3. በተፈጥሮ ምጥ 4. ምጥ እንዲመጣ ታግዜ 5. በኦፕሬሽን 6. መጀመሪያ ምጥ እንዲመጣ ታግዜ ቀጥሎ በኦፕሬሽን	
413	የወለዱት ልጅ/ጆች በህይወት አለ/ሉ	5. አዎ 6. የህፃናት ፅኑ ህመማን ክፍል ሄዷል 7. ማህፀን ውስጥ ሞቶ ነው የተወለደው	

### አመሰግናለሁ!!