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Magnitude of hypertensive disorders of pregnancy and associated factors among pregnant women attending maternal care services in public hospitals in Dire Dawa and Harar Cities, eastern Ethiopia

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Jun , 2021

Harar, Ethiopia

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MPH thesis

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1 APPROVAL SHEET

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I hereby certify that I have read and evaluated this thesis Magnitude of hypertensive disorders of pregnancy and associated factors among pregnant women attending maternal care services in public hospitals in Dire Dawa and Harar Cities, eastern Ethiopia, prepared under my guidance by yodahe knife . I recommend that it be submitted as fulfilling the thesis requirement.

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3 BIOGRAPHICAL SKETCH

The author was born in 1986 E.C in Harar town. I attended elementary in Menfsawi pramariy shchool and high School in guniar secondary school , Harar. After completion of high School, I joined Harar health science college in 2001E.C. At Harar health science college I studied midwafriy nurse and got my diploma in midwafriy in 2004 E.C. After graduation I was employed in jeldessa health center , Dire dawa on march , 2005 and in 2006 I joined Harar health science college,At Harar health science college I studied B**sc** midwafriy nurse and got my degree in midwafriy in 2009 E.C currently I am working in Dechatu health center,Dire Dawa. I joined Haramaya University School of Graduate study in 2011

Acknowledgements

I would like to express my heartfelt gratitude to Haramaya University for giving me this opportunity. I would also like to gratefully acknowledge my advisors Abera Kenay (PhD) and Hirbo Shore (MPH) for their unreserved assistance from the onset till now. I want to thank my friends for their valued comments and support during education and research thesis development.

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List of Abbreviations / Acronyms

ANC ----------Antenatal Care

AOR ---------- Adjusted Odds Ratio

BP ----------Blood Pressure

CI ---------- Confidence Interval

COR---------- Crude Odds Ratio

CVD ----------Cardiovascular Disease

DM ---------- Diabetes Mellitus

EDHS ---------- Ethiopian Demography Health Survey

ETB ----------Ethiopian Birr

FP ---------- Family Planning

HDP ----------Hypertensive Disorders of Pregnancy

HMIS ----------Health Management Information System

HTN ----------Hypertension

IUCD ---------- Intra-Uterine Contraceptive Device

LB ---------- Live Birth

NCD ----------Non-Communicable Disease

OR ---------- Odds Ratio

PIH ---------- Pregnancy Induced Hypertension

PPH ---------- Postpartum Hemorrhage

SPSS ---------- Statistical Package for Social Science

WHO ---------- World Health Organization

Abstract

Background: Hypertensive disorders of pregnancy (HDP) represent a group of conditions associated with high blood pressure, proteinuria, and in some cases convulsions during pregnancy. HDP is one of the leading causes of maternal and perinatal mortality and morbidity, especially in low resource settings. In addition, women with HDP are also at high risk of developing heart disease, stroke, and hypertension.

Objective: To assess prevalence and factors associated with HDP among pregnant women attending maternal care service at public hospitals in Dire Dawa and Harar cities,June-1to 30, 2020

Methods: A hospital-based cross-sectional study was conducted among randomly selected women seeking care during pregnancy in two public hospitals (Dire Dawa and Harar: Dil Chora and Hiwot Fana Specialized University Hospital). Data on sociodemographic characteristics, reproductive and obstetric conditions, and HDP related information were collected using face to face interview complemented with document review and anthropometric measurment. Data were checked for completeness and entered into EpiData 3.1 and then exported to SPSS 23 for analysis. Descriptive statistics of participants was computed. Binary and multiple logistic regression analysis with a 95% confidence interval (CI) were employed to identify factors associated with HDP. P-value < 0.05 was considered statistically significant.

Results: Of a total 726 women, 23.4% of women had HDP, majority of which was pre-eclampsia (67%), followed by chronic hypertension (17.6%). HDP was more likely among rural residents (AOR=1.81; 95% 1.11– 2.95) those who drink coffee (AOR = 2.73; 95% CI:1.80-4.14), did not often have intake of fruits (AOR=2.33; 95% CI:1.47-3.69), have limited physical activity, (AOR=2.89; 95% CI:1.13-7.37), had family history of hypertension (AOR:3.56; 95% CI:2.11-6.03), had family history diabetes mellitus (AOR: 1.98; 95% CI:1.01-3.87), and gestational age <37 weeks (AOR = 1.69; 95% CI: 1.11-2.56).

Conclusion: Almost one out of four pregnant women had HDP. Pregnant women with limited exercise and had no fruit intake, often intake coffee, and with history of hypertension and diabetes should be screened for risk of HDP.

Keywords: hypertensive disorders of pregnancy, preeclampsia /eclampsia

1. Introduction

1.1. Background

Hypertensive disorders of pregnancy (HDP) represent a group of conditions associated with high blood pressure (BP), proteinuria, and in some cases convulsions (Dolea and AbouZahr, July 2003) during pregnancy. HDPs are among the most common medical problems in pregnancy and remain a leading cause of maternal death worldwide (McCarthy and Kenny, 2015, Jafar et al., 2018). Around 40,000 women, mostly from developing countries, die each year due to HDP (Payne et al., 2018, Ukah et al., 2018). HDP has a multifactorial etiology with no exactly known etiology (McCarthy and Kenny, 2015, Jena et al., 2016, Dhariwal and Lynde, 2017, Jafar et al., 2018). A number of factors including genetic or hereditary predisposition, obstetrics, and medical conditions play a significant role in the development of HDP (McCarthy and Kenny, 2015, Jena et al., 2016).

HDP is classified into four categories: (pre)eclampsia, gestational hypertension, chronic hypertension (of any cause), and pre-existing hypertension with superimposed pre-eclampsia (Jena et al., 2016, Dhariwal and Lynde, 2017). Pre-eclampsia is the development of gestational hypertension and significant proteinuria after 20 weeks of gestation or during labour and/or within 48 hours of delivery. Eclampsia is the occurrence of seizures in addition to the pre-eclampsia syndrome (Dolea and AbouZahr, July 2003 , Dhariwal and Lynde, 2017, Jafar et al., 2018). Gestational hypertension is elevated BP first detected after 20 weeks of gestation or during labour and/or within 48 hours of delivery in the absence of significant proteinuria (<0.3 g/l) or other diagnostic features of pre-eclampsia which generally resolves before 12 weeks postpartum (American, 2013, Magee et al., 2014, Dhariwal and Lynde, 2017). Pre-existing hypertension with superimposed pre-eclampsia or eclampsia is a worsening of hypertension, with an increase in diastolic BP (DPB) to at least 15 mmHg above non-pregnancy values, accompanied by the development or worsening of proteinuria (Magee et al., 2014). Chronic hypertension is a systolic BP (SBP) $\geq$140 mmHg and/or DPB $\geq$ 90 mmHg that predates conception, is present before the 20th week of pregnancy, or persists longer than 12 weeks postpartum (Dolea and AbouZahr, July 2003)

World Health Organization (WHO) reported that 14.0% of global maternal deaths are attributed to HDP (Say et al., 2014b), although it varies from region to region: 9.1% in Asia and African countries, 16% in sub-Saharan African countries and 25.7% in Latin America and the Caribbean (Say et al., 2014b, Steegers et al., 2010). The risk that a woman in a developing country will die of the complication of HDP is approximately 300 times higher than that for a woman in a developed country (Vivekanand, 2007). In Ethiopia, HDP is one of the major obstetric complications, and studies indicated that 12.3-17% of maternal mortality in the country is due to HDP (Garomssa and Dwivedi, 2008, Walle and Azagew, 2019)

1.2. Statement of the problem

Globally, around 10% of all pregnant women are affected by HDP (Duley, 2009). The magnitude of HDP in developing countries was estimated to be 3.4%, ranging from 1.8% to 16.7% (Dolea and AbouZahr, July 2003 , Lakew et al., 2013). The WHO Multi-country survey reported that the overall prevalence of pre-eclampsia in low and middle-income countries (LMICs) is 2.2%, ranging from 1.4% in the Middle East to 3.9% in the African region (Abalos et al., 2014). Other cohort studies reported that the prevalence of HDP estimates ranges from 1.2% to 8.4% (Gaym et al., 2011, Li et al., 2013). WHO estimates that the incidence of pre-eclampsia is seven times higher in developing nations (2.8% of live births) as compared to the developed countries (0.4% of live births) (Xiong et al., 2018).

In LMICs the problem of HDP is at an increasing rate. For example, in India, the incidence of HDPs has increased from 10.3% of all births (1996–2004) to 11.8% (2005–2010)(Sebastian et al., 2015). The incidence of HDP was estimated at 9.8% in a study conducted in South Africa (Moodley, 2004). According to a systemic review and meta-analysis, the prevalence of HDP in Ethiopia is 6.07% (95% CI: 4.83%, 7.31%) (Berhe et al., 2018) .

Likewise, HDP is the leading global health problem among pregnant women that contribute to a significant proportion of maternal morbidity and mortality(Duley, 2009) HDP are implicated in 10–17 % of maternal deaths worldwide (Duley, 2009, Steegers et al., 2010, Say et al., 2014a). On the other hand, the report also showed that HDP is directly associated with 7–8% of maternal deaths worldwide (Khan et al., 2006). Women with pre-eclampsia have 4 times higher risk of death compared with non-pre-eclamptic women (Abalos et al., 2014). More than 99% of all HDP-related maternal deaths occurred in LMICs where no adequate numbers of trained health professionals exist (Magee et al., 2016). Studies in developing countries like South Africa and

Ethiopia indicated that HDP contributed 1 in 5 or 20% of maternal deaths (Moodley, 2004) (Berhan and Berhan, 2014).

HDP also increase the risk of developing serious chronic diseases including coronary heart disease, heart failure, dysrhythmia, stroke, hypertension, diabetes mellitus, end-stage renal dysfunction and cardiomyopathy (Umesawa and Kobashi, 2016). Rates of HDP related morbidity reported in LMICs tend to be higher (10–20%) than those reported in high-income countries (5–9%) (Magee et al., 2016).

In addition, HDP is associated with an increased risk of adverse fetal and neonatal outcomes (Obsa et al., 2019). The main adverse perinatal outcomes associated with the HDP include stillbirth, neonatal death, oligohydramnios, bronchopulmonary dysplasia and fetal growth restriction (Magee et al., 2016). Pre-eclampsia increased the risk of fetal death by almost three times (AOR 2.73: 95% CI: 2.57–2.89 (Haavaldsen et al., 2019). Moreover, pre-eclamptic women and children born from pre-eclamptic pregnancies are at greater risk to develop severe cardiovascular complications and metabolic syndromes later in life (Malik et al., 2019)

Different epidemiological studies have been performed to determine risk factors of HDP. Several risk factors have been found to be associated with an increased risk of developing HDP which can be categorized as demographic, familial factors, past medical/ obstetric history, current pregnancy history and paternal factors (Magee et al., 2016). Some of these factors like body mass index, dietary habits, anemia and lower education are modifiable risk factors (Ayele et al., 2016b, Kahsay et al., 2018a, Umesawa and Kobashi, 2016, Ye et al., 2014) (Whereas others including maternal age, primiparous, multiple pregnancy, history of HDP, history of gestational DM, pre-existing medical conditions (mainly type 2 DM, hypertension and urinary tract infection) and a family history of, are non-modifiable risk factors (Ayele et al., 2016b, Magee et al., 2016, Umesawa and Kobashi, 2016, Ye et al., 2014).\

Distribution of subtypes, underlying etiologies, risk factors, magnitude and complications are the heterogeneous condition of HDP. Complications that arise from HDP are the most common causes of maternal and fetal mortality in developing countries. It is very crucial to determine the magnitude and specific associated factors of HDP in among pregnant women in a given setting and population in order to develop early diagnosis and appropriate treatment strategies. Even though women in less-developed countries bear the greatest burden of HDP and its

complications, there is a high scarcity of data about it in most areas of developing counties including Ethiopia (Magee et al., 2016). Similarly, little is known about magnitude and risk factors of HDP among pregnant women in Dire Dawa and Harar cities. Therefore, the aim of this study is to assess the prevalence of and factors associated with HDP among pregnant women attending maternal care service in public hospitals in Dire Dawa and Harar, eastern Ethiopia.

1.3. Significance of the study

Identifying the magnitude and factors associated with HDP paves the way for disease-specific health promotion and education in the prevention of hypertensive related mortality in Ethiopia in general, in Dire Dawa and Harar in particular. The finding of this study will help Dire Dawa administrative health bureau and Harari region health bureau a better understanding of the burden of HDP among pregnant women and provide preliminary insights in order to plan strategies to combat this common problem.The study could also help managers of the health facilities and health care workers working in the area to know the main factors that lead to the development of HDP. The finding of this study will provide necessary information to the local planners and Nongovernment organizations practicing in the area to design appropriate and effective programs for preventing and managing HDP. Finally, this study may be useful to other researchers as baseline data for conducting further studies on similar problems.

1.4. Objectives

General Objective

- To assess the prevalence of and factors associated with HDP among women attending maternal care services at public hospitals in Dire Dawa and Harar from June 1 to 30, 2020.

Specific Objectives

- To determine the prevalence of HDP among pregnant women attending maternal care services.
- To identify factors associated with HDP among pregnant women

2. Literature Review

2.1. Prevalence of HDP

The magnitude of HDP and its subtypes greatly varies based on the inclusion criteria and geographical locations. A cross-sectional study in Brazil in 2016 indicated that the overall prevalence of pre-eclampsia was 6.74% (de Castro Rezende et al., 2016b). A multicenter report in Mainland China showed that 5.22% of pregnant women had HDP. Severe preeclampsia was the most common (39.96%) subtypes of HDP, followed by gestational hypertension (31.40%) and mild pre-eclampsia (15.13%) (Ye et al., 2014). In Pune of India, the overall prevalence of HDP was 7.85%. The main sub-type of HDP was pre-eclampsia (5.6%), followed by gestational hypertension (1.5%), chronic hypertension (0.15%) and eclampsia (0.60%) (ManjushaSajith et al, 2014). A higher magnitude HDP was reported from studies in Africa countries, Zambia and Zimbabwe, which indicated the prevalence of HDP of 17.7% and 19.4% respectively (Shaba and Siziya, 2015, Muti et al., 2015).

Different facility-based studies in Ethiopia indicated that the prevalence of HDP to be 7.9% in Mizan Tepi, 8.4% in Dessie, 10.3% in Jimma, 16.8% in Gondar and 19.1% Jigjiga (Tessema et al., 2015, Mekonen et al., 2018, Tesfaye and Tilahun, 2017, Walle and Azagew, 2019). Pre-eclampsia with different degrees of severity was the most common subtype of HDP in Ethiopia followed by gestational hypertension and eclampsia. In Jimma, 63.9% of women with HDP had pre-eclampsia followed by gestational hypertension (30.6%) and eclampsia (5.6%) (Tesfaye and Tilahun, 2017). Similarly, in Jigjiga, almost half (43.6%) of HDP were mild pre-eclampsia, followed by severe pre-eclampsia (21.8%), gestational hypertension (17.9%) and eclampsia (16.7%) (Mekonen et al., 2018). On the other hand, a study by Tesfaye and Tilahun showed that the most common type of HDP in Mizan Tepi, Ethiopia was severe pre-eclampsia (45.5%), mild pre-eclampsia (36.4%), gestational hypertension (15.2%) and eclampsia (3%) hypertension (Tesfaye and Tilahun, 2017).

2.2. Factors associated with HDP

2.2.1. Socio-demographic factors

Socio-demographic characteristics like maternal age, level of education, marital status, and place of residence were factors that have been associated with the risk of developing HDP. A study conducted in Jinhua People's Hospital, China revealed that women with advanced age (>35 years old) were 6.321 (95% CI: 3.142-20.342) times higher risk of preeclampsia (Quan et al., 2018). A study conducted in Dirashe, Dessie, MizanTapi and Jijiga Ethiopia revealed that Women with advanced age (> 30 years) had higher risk of developing HDP compared to younger women(Tessema et al., 2015, Mekonen et al., 2018, Gudeta and Regassa, 2019, Ayele et al., 2016a). A study conducted by Ayele and Tesma revealed that women with advanced age had 6.59 (2.99- 14.50) and 4.5 times (95% CI 1.56–12.8) times higher risk of developing HDP than younger women, respectively(Tessema et al., 2015, Mekonen et al., 2018, Gudeta and Regassa, 2019, Ayele et al., 2016a). In a study conducted in Dessie unmarried women had higher risk of developing HDP than married women(Tessema et al., 2015).

Studies conducted in Iran and Jigjiga city (Ethiopia) showed that women with no formal education were 4 and 2.5 times more likely to develop HDP compared to women with higher education level respectively (Direkvand-Moghadam et al., 2012) (Mekonen et al., 2018). A facility based unmatched case control study in Kombolcha (Ethiopia) also indicated that women who could not read and write were 2.6 and 4.4 times more likely to have HDP than women who can read and write, and had primary education respectively (Temesgen, 2017).

Women's place of residence was also one of the associated factors with the development of HDP according studies in Jimma and Tigray, Ethiopia. The studies showed that rural resident women in Jimma and Tigray were 5.31 (95% CI=1.518-18.574) and 3.7 (95% CI; 1.9, 7.1) times higher odds of suffering from HDP, respectively (Tesfaye and Tilahun, 2017, Kahsay et al., 2018b).

2.2.2. Medical factors

Maternal medical diseases such as chronic hypertension, diabetes mellitus, kidney disease, and asthma have been considered to be high risk factors for HDP. A case control study conducted in Jinhua People's Hospital, China revealed that women who had a history of hypertension (AOR=7.487, 95% CI: 2.541-11.247), history of diabetes (AOR = 4.568, 95% CI: 2.451-

15.264), high blood lipids (OR 5.578, 95% CI: 3.145-26.642), and BMI of >24 kg/m (AOR = 5.412, 95% CI: 1.169 -9.447) were at higher risk of pre-eclampsia (Quan et al., 2018).

Studies in Jimma and Mizan Tepi, Ethiopia found that women with kidney diseases were 3.97 times and 3.32 times higher chance of developing HDP respectively (Tesfaye and Tilahun, 2017, Gudeta et al., 2018). Another study reported that pregnant women with asthma were 37.95 (95% CI: 1.41- 1021) times higher chance of developing HDP (Tesfaye and Tilahun, 2017). Pregnant women with diabetes were also at increased risk of developing HDP (Kahsay et al., 2018b). In addition, having family history of HDP was significantly associated with HDP development (Tessema et al., 2015, Ayele et al., 2016b, Temesgen, 2017, Mekonen et al., 2018, Tesfaye and Tilahun, 2017). History of pre-eclampsia in previous pregnancy was a significant risk factor for pre-eclampsia development in the index pregnancy (Temesgen, 2017, Mekonen et al., 2018). In addition, obese women (BMI $\geq$ 25 Kg/m2) are at risk of developing HDP compared with the normal and underweight mothers (Ayele et al., 2016b, Kahsay et al., 2018b). A study in Zambia found that for every unit change of BMI, respondents were 1.17 (95% CI: 1.08 - 1.27) times more likely to develop HDP (Shaba and Siziya, 2015).

2.2.3. Obstetric factors

Women with smaller pregnancy interval had a higher chance of developing pre-eclampsia (Grum et al., 2018). Study in Derashe Woreda found that primi-gravida women were 5.09 (1.23-21.02) times higher chance of developing of HDP than multi-gravid women (Ayele et al., 2016b).

2.2.4. Behavioral factors

A facility based matched case-control study in public hospitals of Tigray region, Ethiopia showed that mothers who consume less amount of fruits in their diet had 5 times higher odds of developing hypertensive disorders than their counterparts (AOR = 5.1, 95% CI; 2.4, 11.15) (Kahsay et al., 2018b). A similar association was also observed from a study conducted in Bahir Dar that showed women who had taken fruit and vegetables were more likely to be protected from the incidence of preeclampsia(Endeshaw et al., 2016). In addition, coffee consumption during pregnancy was associated with having HDP (Endeshaw et al., 2016). Women who received nutritional advice during ANC visits had less chance of developing preeclampsia (AOR: 0.22 95% CI: 0.1, 0.48). (Grum et al., 2017)

Conceptual framework

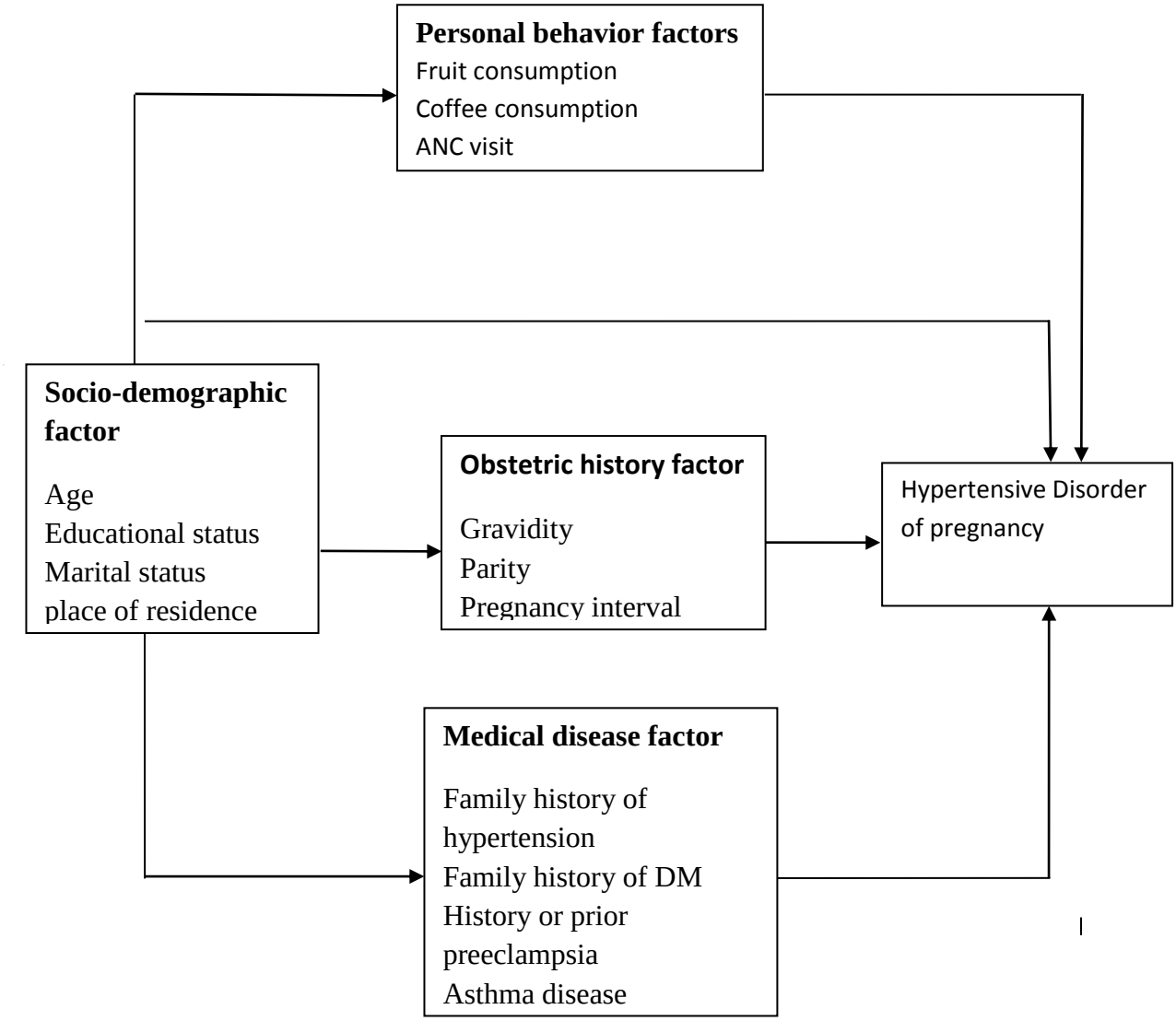

Figure 1: Conceptual framework on HDP and associated factors among pregnant women attending maternal care services (adapted from literature)

3. Materials and methods

3.1. Study area and period

The study was conducted in hospitals in Dire Dawa City Admnistration and Harari Regional State, eastern Ethiopia. Dire Dawa, one of the two city admnistrations, is located 515 KM east of Addis Ababab, capital of Ethiopia. Harari is one of the nine regional states located 526 KM east of Addis Ababa. Dire Dawa has 6 hospitals (two public, and 4 private), 15 health centers, 34 health posts, and 53 private clinics. Harar also has 6 hospitals (4 government hospital, 2 private hospitals), 8 health center and 27 health posts. The study was conducted in two public hospitals, namely Dil Chora Referral Hospital and Hiwot Fana Specialized University Hospital.

Dil-chora Referral Hospital is one of the oldest public hospitals established in 1960. It renders a variety of services like gynecology and obstetrics, psychiatry, orthopedics, pediatric, dental medical ward, out-patient departmentand in-patient department to population in eastern part of Ethiopia and neighboring countries like Djibouti and Somalia. It has central and emergency laboratory, x-ray and pharmacy services serving a catchment population of around 2.5 million and it has 210 beds in the hospital. The maternal unit, which has 35 beds, is run by 16 midwives, three obstetricians, and two general surgeons in three shifts.

Hiwot Fana Specialized University Hospital, with a catchment population of around 5.8 million, renders a variety of services like Gyn & obs, psychiatry, orthopedics, pediatric, dental medical ward, Out-patient department (OPD), In-patient department (IPD), physiotherapy, emergency laboratory, x-ray and pharmacy services mainly for referred cases. During the study period, the maternity unit was run 24/7 by 28 midwives, seven obstetricians, and residents in obstetricians and gynaecologists.The maternity has 56 beds for admissions in pregnancy, childbirth, and postpartum. The study was conducted from June 1-30, 2020.

3.2. Study design

A hospital-based cross-sectional study will be conducted using quantitative method.

3.3. Population

3.3.1. Source population

All pregnant women attending maternal care services in public hospitals in Dire Dawa and Harar cities

3.3.2. Study population

All pregnant women attending maternal care services in the selected public hospitals during the study period.

3.4. Inclusion and exclusion criteria

3.4.1. Inclusion criteria

All pregnant women attending maternal care service with a gestational age greater than 20 weeks

3.4.2. Exclusion criteria

Pregnant women who are unconscious or unable to communicate and the women returned during the study period were excluded from the study.

3.5. Sample size determination

We calculated sample size based on our objectives and the largest sample was taken.

Objective 1: using a single population proportion formula with the assumptions of a 95% level of confidence and a 3% margin of error, and proportion of HDP 19.1% from a study conducted in Jigjiga town (Mekonen et al., 2018). Considering a 10% non-response rate, the sample size become 737.

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

n = Sample size from a finite population.

$Z\alpha/2$ = critical value for normal distribution at 95% significance level (z value=1.96 at α =0.05)

d= margin of error = 3%.

P =estimated proportion of HDP

Objective 2: by using a double population proportion formula by using EPI Info version 7.2.2.2 by taking two-sided confidence level at 95%, power 80%, and with the ratio of exposed to non-exposed 1:1. We considered different factors associated with HDP (Table 1).

Table 1: Sample size estimation for HDP among pregnant women in eastern Ethiopia

Predictors	HDP status		Odds ratio (OR)	Sample size	Reference
	Yes %	No %			
Gravida			4.66	266	(Ayele et al., 2016b)
Multigravida	31	69			
Primigravida	3.9	96.1			
Previous history of HDP			2.81	160	
No	52.7	47.3			
Yes	21.4	88.6			
Awareness on risk			8.24	133	
Yes	47.5	52.5			
No	23	77			
Previous History of HDP			4.22	88	(Temesgen, 2017)
Yes	51	49			
No	17.7	82.3			
Family history of HDP			3.94	266	
Yes	40.7	59.3			
No	23.9	76.1			
Pregnancy type			4.2	78	(Kahsay et al., 2018a)
Multiple Pregnancy	64.3	45.7			
single Pregnancy	30.3	69.7			
BMI			5.5	110	
BMI > 25	66.7	33.3			
BMI < 18	30	70			
Residence			3.7	78	
Rural	48.3	51.7			
Urban	21.3	78.7			

HDP, hypertensive disorders of pregnancy; BMI, body mass index; OR, odds ratio

After considering 10% non-response rate, the largest sample for the second objective was 293. Therefore, the final sample size for this study was taken from objective one (737)

3.6. Sampling procedure

Using a proportionate allocation, the total sample size was allocated to each hospital using the prior 12 months report of pregnant women attending each hospital. Then, the average number of pregnant women attending the services per month was calculated (estimated to be 1,536). Based on this assumption, the required sample for each hospital was computed as follows (figure 2).

- ✓ Dil Chora referral hospital = $\frac{N_i}{N} \times n = \frac{440}{1060} \times 737 = 306$
- ✓ Hiwot Fana Specialized University Hospital = $\frac{N_i}{N} \times n = \frac{620}{1060} \times 737 = 431$

Then, sampling interval (k) was calculated by dividing the total number of study population (Ni) to the allocated sample size of each hospital (k=2). This interval was used to select eligble women in each hospital. After selecting the first client in both hospitals, every other patient was included in the study. We also strafitied women in each hospital into ANC attendants and those coming for labor and delivery (fFigure 2).

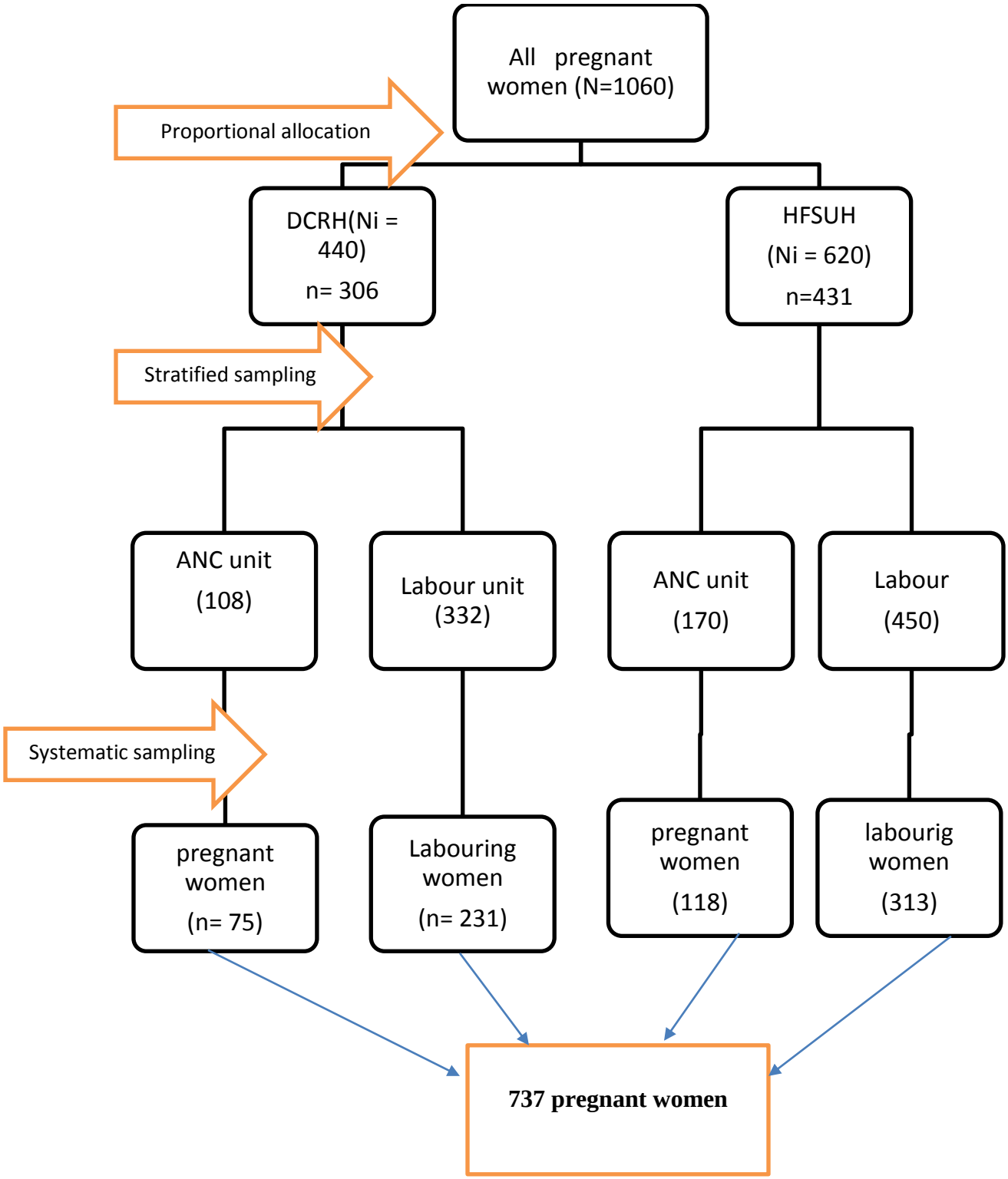

Figure 2: Sampling scheme of selecting pregnant women attending maternal care unit at public hospitals to determine prevalence and associated factors of HDP at Dire Dawa and Harar cities, 2020

3.7. Data collection tool and procedure

Data was collected by face-to-face interview using a pre-tested structured questionnaire complemented with anthropometric measurements and medical record review. The questionnaire consisted of socidemographic characteristics, reproductive and obstetric conditions, and HDP related questions. It was first prepared in English and then translated to local languages (Afan Oromo, Amharic, and Somali) by experts with good command of the languages and back to English by different experts to maintain consistency. Six BSc midwives, who are fluent in Afan Oromo, Amharic, and Somali languages were recruited for data collection.The overall activity was supervised by the principal investigator & one senior midwife (MSc) with relevant experience in data collection.

Blood pressure was measured using a validated mercury sphygmomanometer apparatus for three consecutive times, with the woman seated with the left arm resting on a flat surface at the height of the heart. The first measurement was taken after the woman rested for at least 10 minutes and followed by the two measurements every 5 minutes thereafter. The cuff was inflated at a rate of 2–3 mmHg per second. The average of the second and third measurements was taken. Data regarding proteinuria and other clinical data were retrieved from the women's medical records.

3.8. Study variables

3.8.1. Dependent Variable

Hypertensive disorders of pregnancy

3.8.2. Independent variable:

- **Socio-demographic factors**: age, religion, ethnicity, occupation, educational status, marital status, house hold income, residence
- **Medical disease factors**: family history of hypertension, diabetes, history of HDP, history of asthma
- **Obstetric history factors**: gravidity, parity, pregnancy interval, number of fetus, sex of newborn, maternal blood group, Rh-factor, ANC visit, and nature of the pregnancy (planned vs unplanned; wanted vs unwanted)

- **Behavioral factors**: nutrition advice during ANC, alcohol consumption, coffee intake during pregnancy, fruit and vegetable intake during pregnancy, physical exercise, use of traditional treatment

3.9. Operational definitions

Hypertensive disorders of pregnancy: is a blood pressure >140/90 mm Hg during pregnancy at least two times four hours apart with or without proteinuria. HDP includes gestational hypertension, pre-eclampsia/eclampsia, superimposed pre-eclampsia on chronic hypertension.

Chronic hypertension: is an elevated BP (SBP ≥140 or DBP ≥90 mmHg) with in the first 20 weeks of gestation or that does not resolve by the 12-week postpartum

Gestational hypertension: is an elevated BP (SBP ≥140 or DBP ≥90 mm Hg) 4 hours apart after 20 weeks of gestation without proteinuria on women with previously normal blood pressures

Pre-eclampsia: is a pregnant woman with gestational hypertension plus proteinuria.

Mild preeclampsia: is when two readings of diastolic blood pressure 90-110 mmHg 4 hours apart after 20 weeks gestation and proteinuria up to 2+ through dipstick.

Severe preeclampsia: Is when two readings of diastolic blood pressure 110 mmHg or more after 20 weeks gestation and proteinuria 3+ or more with blurred vision, severe headache, oliguria, altered mental status and epigastric pain.

Eclampsia: is when SBP ≥140 or DBP ≥90 mmHg after 20 weeks gestation with convulsions and proteinuria 2+ or an elevated BP plus seizure that cannot be attributed to some other cause.

Chronic hypertension superimposed with preeclampsia: A woman known to have hypertension before pregnancy or before 20 weeks of gestation and who had developed signs of pre-eclampsia after 20 weeks of gestation.

Proteinuria: a dipstick result of 1+ and above in a qualitative measurement.

Fruit intake: The general recommendation for a **pregnant** woman is 2-4 servings of **fruit** per day

Physical exrcise: Pregnant women should accumulate at least 150 minutes of moderate-intensity physical activity each week over a minimum of three days per week

3.10. Data quality control

In order to assure the quality of data, training of data collectors, pre-testing of questionnaire and supervision of the data collection process were undertaken. Data collectors and supervisor was trained for two days on interviewing technique, objectives of the study, BP measurement, and the different sections of the questionnaire. The performance of the BP measuring instruments was checked. BP measurement was taken by one nurse so as to avoid inter-observer bias. Participants was asked to remove tight outer-wearing and shoes.

The questionnaire was pre-tested in Jugel General Hospital on 36 women and the questionnaire was modified accordingly. The supervisors and the principal investigator checked the collected questionnaires on daily basis for consistencies and completeness.

3.11. Data processing and analysis

The filled questionnaires were checked for completeness, cleaned and entered in to EpiData 3.1 and then exported in to SPSS 23 for analysis. Descriptive statistics of basic characteristics of the woman were computed and described using percentage, frequencies, and mean/median as appropriate. Binary and multiple logistic regression analysis with 95% confidence interval was employed in order to identify factors associated with HDP. Variables with p-value less than or equal to 0.25 were entered in to multiple logistic regression model after checking multi-collinearity. The predictive ability of the model was tested with Hosmer-Lemeshow goodness-of-fit test. Associations were described using adjusted odds ratio (AOR) with 95% confidence interval. Finally, variables with p- value <0.05 were considered as statistically significant.

3.12. Ethical considerations

Ethical clearance was obtained from the Intuitional Health Research Ethics Review Committee (IHRERC) of College of Health and Medical Sciences, Haramaya University. A formal letter of cooperation from Haramaya University was submitted to Dire Dawa and Harari Regional Health Bureaus for permission. After explaining the purpose, significance, benefit and risk of the study, written informed consent was obtained from each study participant prior to data collection. Women were informed about their rights to participate, withdraw, and refuse the interview at any time. Confidentiality was maintained by making the data collection procedure anonymous. The questionnaire was coded to exclude names and no reference was made in oral or written that could link participants to the research. Participation in this study was completely voluntary and

they have the right to with draw from the study at any time. During the interview both standard precaution and droplet based precaution were strictly followed for COVID-19 prevention. Moreover, pregnant women were educated about transmission and prevention of COVID-19.

3.13. Dissemination of results

The findings of this study will be submitted to Haramaya University. The reports will be submitted to Dire Dawa and Harar Health Bureaus and respective hospitals. The theis will be defended in public in College of Health and Medical Sciences, Haramaya University. The findings will be presented in seminars, meetings, conferences and workshops. Moreover, it will be submitted for publication in reputable journals.

4. Results

Sociodemographic characteristics

From a total 737 women approached in both hospitals, 726(98.5%) were interviewed and included in the analysis. The mean age of respondents was 26.63 (±5.21), ranging from 15 to 40 years. Majority of the women were married (98.5%), Muslim (61.4%), housewives (63.5%), and urban dwellers (69.7%). The median time to reach the nearest health facility was 30 minutes (IQR 20-40), ranging from 5 minutes to 5 hours (Table 2).

Table 2 Sociodemographic characteristics of women who attended maternal care service in public hospitals in Eastern Ethiopia, 2020

Variables	Categories	Frequency	Percentage (%)
Age (years)	15-24	225	31.0
	25-34	438	60.3
	≥35	63	8.7
Marital status	Married	715	98.5
	Single	11	1.5
Ethnicity	Oromo	449	61.8
	Amhara	173	23.8
	Somali	48	6.6
	Others	56	7.7
Religion	Orthodox	229	31.5
	Muslim	446	61.4
	Protestant	47	6.5
	Catholic	4	0.6
Educational level	No formal education	235	32.4
	Primary	262	36.1
	Secondary	47	6.5
	College and above	182	25.1
Employment	(Non)Gov employee	116	16.0
	Housewife	461	63.5
	Self	121	16.7
	Private	28	3.9
Residence	Urban	506	69.7
	Rural	220	30.3

Obstetrics characteristic

Obstetric and reproductive charcetritics of respondents is summarized in Table 4. From all the study participants, 82.1% had antenatal follow up, 39.1% were nulli-parous, 74.2% became first pregnant between 15-24 years, and 41.0% had history of abortion. A quarter of the women (25.3%) reported that their current pregnancy is unplanned. Median gestational age was 36 (IQR 32–38) weeks, ranging from 22 to 42 weeks (Table.3).

Table 3 Obstetric characteristics of women in public hospitals in Eastern Ethiopia, 2020 (n=726).

Characteristics	Categories	Frequency	Percentage (%)
Gravidity	Prime-gravida	241	33.2
	Multi-gravida	357	49.2
	Grand-multi gravidum	128	17.6
Parity	Nulli-parous	284	39.1
	Prime-parous	211	29.1
	Multi-parous	141	19.4
	Grand-multi parous	90	12.4
Age at first pregnancy	15-24	539	74.2
	25-34	186	25.6
	≥35	1	0.1
Pregnancy category	Planned	542	74.7
	Not planned	184	25.3
Gestational age	≤37	484	66.7
	>37	242	33.3
Number of fetus	Single	703	96.8
	Twins	23	3.2
Ante natal care follow up	Yes	597	82.1
	No	130	17.9

Personal and family history of illness

A total of 94(12.9%) and 51(7%) had family history of hypertension and diabetes, respectively. In addition, 52(7.2%), 14(1.9%), and 8(1.1%) reported personal history of hypertension, diabetes, and asthma, respectively. Moreover, 52(7.2%) and 13(1.8%) reported history HDP and gestational diabetes, respectively (Table 4)

Table 4: Personal and family history illness among women who attended maternal care services in public hospitals in Eastern Ethiopia, 2020 (n=726).

Characteristics	Categories	Frequency	Percentage (%)
Family history of hypertension	Yes	94	12.9
	No	632	87.1
Personal history of hypertension	Yes	52	7.2
	No	674	92.8
History of HDP	Yes	52	7.2
	No	674	92.8
Family history of DM	Yes	51	7.0
	No	675	93.0
Personal history of DM	Yes	14	1.9
	No	712	98.1
History of gestational diabetes	Yes	13	1.8
	No	713	98.2
History of Asthma	Yes	8	1.1
	No	718	98.9

HDP, hypertensive disorders of pregnancy; dm, diabetes mellitus,

Behavioral and medical history

Ten (1.4%) pregnant women reported smoking cigarettes that ranges from 2 to 5 cigarettes per day. Fifty-eight (8%) women report alcohol intake in pregnancy. In addition, 50.4%, 60.5% and 48.9% reported drinking coffee daily, eating fruit, and vegetables, respectively. Only 54 (7.4%) women reported doing physical exercise.

Nearly half (43. 5%) of the responds had blood group "O". The mean hemoglobin level of the study participants was 11.65 (SD $\pm$ 1.91) mg/dl, ranging from 3.8 to 16.2. Two hundred one (27.7%) of respondent were anemic. About 20.8% had albuminuria (Table 5)

Table 5: Behavioural and medical characterstics of women who attended maternal care service in public hospitals in Eastern Ethiopia, 2020

Characteristics	Categories	Frequency	Percent
Currently smoking	Yes	10	1.4
	No	716	98.6
Drinking alcohol	Yes	58	8.0
	No	668	92.0
Drinking coffee	Yes	366	50.4
	No	360	49.6
Eating fruit	Yes	439	60.5
	No	287	39.5

Eating vegetable	Yes	355	48.9
	No	371	51.1
Doing physical exercise	Yes	54	7.4
	No	672	92.6
Sought traditional treatment	Yes	50	6.9
	No	676	93.1
Blood group	A	187	25.8
	B	167	23.0
	AB	56	7.7
	O	316	43.5
Maternal RH	Positive	714	98.3
	Negative	12	1.7
Hemoglobin level	Anemic	201	27.7
	Normal	525	72.3
Average DBP	<60	55	7.6
	60-89	497	68.5
	≥90	174	24.0
Average SBP	<90	25	3.4
	90-139	556	76.6
	>139	145	20.0
Urine albumin result	Negative	575	79.2
	+	28	3.9
	++	92	12.7
	+++	24	3.3
	Greater than +++	7	1.0
Has HDP	Yes	170	23.4
	No	556	76.6

RH, rhesus factor; DBP, diastolic blood pressure; SBP, systolic blood pressure; HDP, hypertensive disorders of pregnancy

Presence of hypertensive disorders of pregnancy

A total of 170 (23.4%; 95% CI: 20.4%-26.4%) women had HDP, mainly (pre)eclampsia (67%), followed by chronic hypertension (17.6%), gestational hypertension (11.8%) and superimposed pre-eclampsia (3.5%).

Factors associated with HDP in the binary analysis are summarized in Table 6. Of 23 variables considered, the following were candidate for multiple logistic regression: educational level, employment, residence, alchol consumption, coffee intake, eating fruits, physical exercise, family history of hypertension, personal history of hypertension, history of HDP, family history of

diabetes melitus, and personal history of diabtes melitus, history of gestational diabetes, gestational age and number of fetus were associated with developing HDP (Table 6)

Table 6: Bivarite analysis of factors associated with hypertensive disorders of pregnancy among women who attended maternal care service in public hospitals in Eastern Ethiopia, 2020

Characteristics	Has HDP		p-value	Crude OR (95%CI)
	Yes	No		
Education level of mother				
No formal education	63(26.8%)	172(73.2%)		1.00
Primary	62(23.7%)	200(76.3%)	0.20	0.74(0.47-1.17)
Secondary	6(12.8%)	41(87.2%)	0.58	0.880(0.558-1.386)
More than secondary	39(21.4%)	143 (78.6%)	0.18	1.86(0.73-4.70)
Mother employment				
(Non)governmental employee	31(26.7%)	85(73.3%)		1.00
Housewife	113(24.5%)	348(75.5%)	0.02	0.10(0.01-0.77)
Self-employee	25(20.7%)	96(79.3%)	0.03	0.11(0.01-0.84)
Private	1(3.6%)	27(96.4%)	0.06	0.14(0.01-1.09)
Residence				
Urban	102(20.2%)	404(79.8%)	0.00	1.00
Rural	68(30.9%)	152(69.1%)		1.77(1.23-2.53)
Drinking alcohol				
Yes	20(34.5%)	38(65.5%)	0.04	1.81(1.02-3.21)
No	150(22.5%)	518(77.5%)		1.00
Drinking coffee				
Yes	106(29.0%)	259(71.0%)	0.00	1.89(1.33-2.70)
No	64(17.7%)	297(82.3%)		1.00
Eating fruits				
Yes	84(19.1%)	355(80.9%)	0.00	1.00
No	86(30.0%)	201(70.0%)		1.80(1.27-2.55)
Eating vegetables				
Yes	79(22.3%)	276(77.7%)	0.47	1.00
No	91(24.5%)	280(75.5%)		1.13(0.80-1.60)
Physically active				
Yes	6(11.1%)	48(88.9%)	0.03	1.00
No	164(24.4%)	508(75.6%)		2.58(1.08-6.14)
Traditional treatment				
Yes	14(28.0%)	36(72.0%)	0.42	1.29(0.68-2.46)
No	156(23.1%)	520(76.9%)		1.00
Family history of HPT				
yes	43(45.7%)	51(54.3%)	0.00	3.35(2.13- 5.25)
No	127(20.1%)	505(79.9%)		1.00
Personal History of HPT				
Yes	48(92.3%)	4(7.7%)	0.00	54.29(19.21-153.40)
No	122(18.1%)	552(81.9%)		1.00
History of HDP				
Yes	50(96.2%)	2(3.8%)	0.00	115.41(27.7-480.87)

No	120(17.8%)	554(82.2%)		1.00
Family history of DM				
Yes	20(39.2%)	31(60.8%)	0.00	2.25(1.25-4.07)
No	150(22.2%)	52(577.8%)		1.00
Personal history of DM				
Yes	7(50.0%)	7(50.0%0	0.02	3.36(1.16-9.74)
No	163(22.9%)	549(77.1%)		1.00
Gestational diabetes history				
Yes	8(61.5%)	5(38.5%)	0.00	5.44(1.75-16.86)
No	162(22.7%	551(77.3%)		1.00
History of Asthma				
Yes	2(25.0%)	6(75.0%)	0.91	1.09(0.21-5.45)
No	168(23.4%)	550(76.6%)		1.00
Gravidity				
Prime	49(20.3%)	192(79.7%)		1.00
Multi	84(23.5%)	273(76.5%)	0.06	1.59 (0.97-2.61)
Grand-multi	37(28.9%)	91(71.1%)	0.22	1.32 (0.83-2.08)
Parity				
Nulli-parous	59(20.8%)	225(79.2%)		1.00
Prime-parous	43(20.4%)	168(79.6%)	0.46	1.23(0.70-2.15)
Multi-parous	46(32.6%)	95(67.4%)	0.43	1.26(0.70-2.27)
Grand-multi parous	22(24.4%)	68(75.6%	0.18	0.66(0.36-1.21)
History of abortion				
Yes	46(23.1%)	153(76.9%)	0.45	0.85(0.55-1.29)
No	75(26.1%)	212(73.9%)		1.00
Was the current pregnancy is planed				
Yes	130(24.0%)	412(76.0%)	0.53	1.136(0.76-1.69)
No	40(21.7%)	144(78.3%)		1.00
Gestational age category in week				
≤ 37	127(26.2%)	357(73.8%0	0.01	1.64(1.11-2.42)
>37	43(17.8%)	199(82.2%)		
Number of fetus				
Single	10(11.6%)	76(88.4%)	0.02	1.00
Twin	10(43.5%)	13(56.5%)		2.61(1.12-6.06)
Attended ANC?				
Yes	118(19.8%)	478(80.2%)	0.53	1.13(0.76-1.69)
No	52(40.0%)	78(60.0%		1.00
Hemoglobin level				
Anemic	46(22.9%)	155(77.1%)	0.83	1.00
Normal	124(23.6%)	401(76.4%)		0.96(0.65-1.41)

HPT: hypertension; ANC: Antenatal care

After checking for multicollinearity, varibales such as personal history of hypertension, history of HDP, personal history of DM, history of gestational DM and mother employement were excluded due to showing significant collinearity. Then, in the multivariate logistic regression, residence, drinking coffee, fruit consumption, physical exercise, family history of hypertension, family history of DM and gestational age remained significantly associated with having HDP. Women living in rural areas were 2 times (AOR=1.81; 95% 1.11 – 2.95) more likely to develop HDP than urban dweller. The odds of developing HDP was almost 3 among women routinely drinking coffee(AOR = 2.73; 95% CI:1.80-4.14). In addition, HDP was 2 times more likely among women who did not eat fruits(AOR=2.33; 95% CI:1.47-3.69). The odds of developing of HDP was nearly 3 among womene with limited physical excercise than their counterparts (AOR=2.89; 95% CI:1.13-7.37). Women with family history of hypertension were almost four times (AOR: 3.56; 95% CI:2.11-6.03) more likely to develop HDP compared to those who do not have family history. In addition, women with family history of diabetes mellitus were almost 2 times (AOR: 1.98; 95% CI:1.01-3.87) more likely to develop HDP compared to those who do not have family history. The odds of developing HDP was 1.69 (AOR = 1.69; 95% CI: 1.11-2.56) among pre-term (<37 weeks) pregnacy than their counterparts (Table 7).

Table 7: Factors associated with hypertensive disorders of pregnancy among women who attended maternal care service in public hospitals in Eastern Ethiopia, 2020

Characteristics	HDP		Crude OR (95%CI)	AOR (95%CI)
	Yes	No		
Residence				
Urban	102(20.2%)	404(79.8%)	1.00	1.00
Rural	68(30.9%)	152(69.1%)	1.77(1.23-2.53)	**1.81(1.11-2.95)**
Drinking alcohol				
Yes	20(34.5%)	38(65.5%)	1.81(1.02-3.21)	1.11(0.56-2.17)
No	150(22.5%)	518(77.5%)	1.00	1.0
Drinking coffee				
Yes	106(29.0%)	259(71.0%)	1.89(1.33-2.70)	**2.73(1.80-4.14)**
No	64(17.7%)	297(82.3%)	1.00	
Eating fruits during current pregnancy				
Yes	84(19.1%)	355(80.9%)	1.00	1.0
No	86(30.0%)	201(70.0%)	1.80(1.27-2.55)	**2.33(1.47-3.69**)
Physically active				
Yes	6(11.1%)	48(88.9%)	1.00	1.0
No	164(24.4%)	508(75.6%)	2.58(1.08-6.14)	**2.89(1.13-7.37)**
Family history of HPT				
Yes	43(45.7%)	51(54.3%)	3.35(2.13-5.25)	**3.56(2.11-6.03)**
No	127(20.1%)	505(79.9%)	1.00	
Family history of DM				

Yes	20(39.2%)	31(60.8%)	2.25(1.25-4.07)	**1.98(1.01-3.87)**
No	150(22.2%)	52(577.8%)	1.00	1.0
Gravidity				
Prime	49(20.3%)	192(79.7%)	1.00	1.0
Multi	84(23.5%)	273(76.5%)	1.59(0.97-2.61)	1.04(0.60-1.81)
Grand-multi	37(28.9%)	91(71.1%)	1.32(0.83-2.08)	1.00(0.59-1.69)
Gestational age (week)				
<37	127(26.2%)	357(73.8%)	1.64(1.11-2.42)	**1.69(1.11-2.56)**
≥37	43(17.8%)	199(82.2%)	1.00	1.00
Number of fetus				
Single	10(11.6%)	76(88.4%)	1.00	
Twin	10(43.5%)	13(56.5%)	2.61(1.12-6.06)	**1.86(0.73-4.75)**

HPT, hypertension; DM, diabetes mellitues; COR, crude odds ratio; AOR, adjusted odds ratio

5. **Discussion**

In this study, we assessed the prevalence and factors associated with HDP among pregnant women attending maternal care services in two major public hospitals in Dire Dawa and Harar City, eastern Ethiopia. We found that 23.4% of pregnant women visiting both hospitals during the study period had HDP. HDP was more likely among women who reside in rural areas, routinely consume coffee, take less fruits, physically less active, have family history diabetes mellitus and hypertension, and <37 weeks of gestation.

Our finding is higher than studies conducted in southern Ethiopia (2.3%), China (5.22%), Brazil (6.74%), India (7.85%), Mizan Tepi (7.9%), Dessie (8.4%), Mongolia (9.5%), Jimma (10.3%), India (13.58%), Haiti (16.6%), Gondar (16.8%), Zambia (17.7%), Jigjiga (19.1%), and Zimbabwe (19.4%) (Vata et al., 2015, Ye et al., 2014, de Castro Rezende et al., 2016a, Malik et al., 2019, Gudeta and Regassa, 2019, Tessema et al., 2015, Nathalie et al., 2016, Gudeta et al., 2018, Aggarwal et al., 2016, Raghuraman et al., 2014, Walle and Azagew, 2019, Shaba and Siziya, 2015, Mekonen et al., 2018, Muti et al., 2015).The difference might be related with sociodemographic factors, study setting, and differences in definition of HDP. As our study is limited to the main referral hospitals in Eastern Ethiopia, it is more likely that women receiving in these facilities will be those with high riks complications, including HDP. This could also result from filtered hospital visits by patients with complications only because of the covid-19 epidemics. It has been reported that antenatal care, postnatal visits and institutional deliveries substantially declined during the covid-19 epidemic in Bangladesh (Sigma et al., September 2020).

Inline with previous reports, the commonest form of HDP was pre-eclampsia and eclampsia (67%), followed by chronic HPT (17.6%), and gestational hypertension (11.8%) (Gudeta et al., 2018), (Ye et al., 2014), (Malik et al., 2019) (Gudeta and Regassa, 2019). HDP is influenced by varying and complex interrelated factors. Consistent with studies conducted in several parts of Ethiopia, jimma and Tigray rural residents were more likely to develop HDP compated to urban dwellers (Gudeta et al., 2018, Kahsay et al., 2018a). But, it is inconsistent with findings from Dessie (Ethiopia) and Ghana which reported that urban resident were more likely to develop HDP (0.4%)(van et al., 2013, Tessema et al., 2015). This might be related to differences in the demographic characteristics of study participants in Ghana and Dessie which may indicate the epidemiologic transition due to urbanization.

Behavioral factors like coffee consumption, fruit intake and physical exercise were found to be associated with HDP. Women who regularly drink coffee were more likely to develop HDP. A similar association was also observed from a study conducted in Bahir Dar (mulualem endashaw2016). Similar to findings reported from studies in Bahir Dar and Tigray, women who did not intake fruits were more likely to develop HDP (Endeshaw et al., 2014, Kahsay et al., 2018a). This might be associated with higher contents of micronutrients, many of the vitamins and minerals in fruits that play antioxidant role which could in turn help in the prevention of hypertensive disorders of pregnancy. Less active women were found to develop HDP more likely compared to women doing physical exercise, an association previously reported (Ning et al., 2003).

Women with family history of hypertension were also more likely to develop HDP. This was in line with several studies studies conducted in Ethiopia (Dessie, Jijiga, Jimma, Addis-Ababa, Mizan Tepi, Gondar, Kombolcha (Tessema et al., 2015, Mekonen et al., 2018, Gudeta et al., 2018, Grum et al., 2018, Gudeta and Regassa, 2019, Walle and Azagew, 2019, Temesgen, 2017), in Sudan (Adam et al., 2011), Uganda (Kiondo et al., 2012), Ghana (Jones et al., 2017), Zambia(Shaba and Siziya, 2015), Brazil (Dalmaz et al., 2011), Pakistan (Shamsi et al., 2015) and China(Ye et al., 2014)**.** Those pregnant women with family history of diabetes mellitus were more likely to develop HDP. The report in the present study was in line with the research done in Thailand and Dessie (Aksornphusitaphong and Phupong, 2013, Tessema et al., 2015).This might have occurred due to genetic factors that contribute to the physiologic predisposition of HDP.

Obstetric factors like gestational age was also associated with HDP. Women with gestational age less than 37 weeks of gestation were more likely to develop HDP. This finding is consistent with the studies conducted on mizan-Tipe (Gudeta and Regassa, 2019).

6. Strengths and limitation of the study

Our study has the folloing stregnths. *First*, we used bothe interview and review of medical records to collect data.*Second*, we followed the standard procedure to measure blood pressure and also cross checked our findings with the hospital records. But, the study has also some limitation that should be taken into account. *First*, there might be issues of recall bias with regard reporting of behavioral factors. *In addition*, this study was conducted during covid-19 epidemics when majority of facilities were locked and services were directed towards covid-19 care. As such several women, especially with (no)minor illeness, might abstain from coming to facilities with only women with complications or risk factors visiting our study facilities which might over estimate our findings.

7 Conclusion and recommendations

7.1. Conclusion

We found that one out of four pregnant women attending both hospitals during the study period had HDP. Several socio-demographic, behavioural factors, obstetric conditions and family history of hypertension were significantly associated with HDP.

7.2. Recommendations

For participating hospitals

- Strengthing the screening of HDP through giving more stress for high risk pregnant womn including living in rural area, consume coffee regular, take less fruit, physically less active and have family history of hypertension
- Give due emphasis for women at highest risk of HDP in order to early recognition and management of mothers with HDP.

For health professional and health extension workers

- To screen family history of hypertension and history of gestational diabetes for early recognition and treatment of HDP.
- Educate women on problems of coffee drinking, importance of fruit intake, and physical activity during pregnancy

For researchers

- To determine the effect of HDP on maternal and perinatal outcomes and assess community based estimates and factors related with HDP.

7. Reference

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8.Appendix

8.1 Participant Information Sheet and informed voluntary consent form for pregnant women

Participant Information Sheet

Good morning /Good afternoon‖ My name is ----------. I am a data collectors for Yodahe Kinfe, student of Haramaya University School of Postgraduate study. She is conducting a research on title "Hypertensive disorders of Pregnancy and Associated Factors among Pregnant Women attending maternal care Services at selected hospitals of Dire Dawa and Harar city, Eastern Ethiopia" for the partial fulfillment of masters' degree. I kindly request your attention to explain about the general overview of the study and how you are being selected.

Title of the Project

Magnitude of Hypertensive disorders of Pregnancy and Associated Factors among Pregnant Women attending maternal care Services at selected hospitals of Dire Dawa and Harar city, Eastern Ethiopia

Purpose of the Study

The purpose of this study is for partial fulfillment of Master's degree in reproductive health. In addition, this study will provide valuable information to policy makers, health program planners and health care providers to prevent and manage hypertensive disorders of pregnancy.

Confidentiality

I strongly assure that your name and other identifiers will not be documented in the questionnaires and the information you provide us was kept confidential and will not be used for anything other

than the research purpose. Any of your information you provide us was used only by the research team and will by no means be revealed to a third party.

Procedures

Today, I was here to collect data on Magnitude of Hypertensive disorders of Pregnancy and Associated Factors among Pregnant Women. The data collection was take about 30 to 40 minutes.You are among the group of pregnant women who have been randomly selected for this study from this hospital. The research procedure was include face to face interviews and reviewing your record by data collectors. I was ask you questions about socio-demographic characteristics and question related to hypertensive disorders of pregnancy.

Risk and Benefits of the Study

By participating in this study and answering the questions you was not receive any direct benefit. However, you was help to increase our understanding of factors that are directly or in directly affecting the occurrence of hypertensive disorders of pregnancy in this specific locality. The risk of being participating in this study is very minimal, only taking few minutes from your time that it will not affect any of your personal interest or social life.

Rights

Your participation in this study is voluntary and you have the right to refuse to participate or to answer any questions that you feel uncomfortable to you. If you change your mind about participating during the course of the study, you have the right to withdraw at any time. The decision not to participate or to withdraw will not affect any aspect of your social life or future medical care you should require or any other benefits to which you would be entitled.

Contact address

If you have any question about the study, the procedure, or anything else related to the study, please contact through the following address:

Principal investigator: Yodahe Kinfe, yodahekiya@gmail.com +251-913-574-485.

Haramaya University, College of health and medical Sciences, Instituitional Health Research Ethics Review Committee (IHRERC): office phone 0254662011 P.O.Box 235, Harar

At this time, do you want to ask me anything about the research?

Consent form or Declaration of the Volunteer

I understand the purpose of the study. I have read the above information or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate in this study and I understand that I have the right to withdraw from the study at any time without in any way affecting my future social life or medical care.

Name and Signature of participant_____ Date ___/_____/_____

Name and Signature of the data collector_____ Date___/_____/_____

8.2Information sheet and informed voluntary consent form for head of hospitals

Good morning /Good afternoon‖

My name is ----------. I am on behalf of Yodahe Kinfe, student of Haramaya University School of Postgraduate study. She is conducting a research on title " magnitude of Hypertensive disorders of Pregnancy and Associated Factors among Pregnant Women attending maternal care Services at selected hospitals of Dire Dawa and Harar city, Eastern Ethiopia" for the partial fulfillment of masters' degree. This will help us to understanding the magnitude of hypertensive disorders of pregnancy and factors associated with it based on the answer of the study participants in your hospitals. I kindly request your attention to explain about the general overview of the study and how your hospital is being selected.

Title of the Project

Magnitude of Hypertensive disorders of Pregnancy and Associated Factors among Pregnant Women attending maternal care Services at selected hospitals of Dire Dawa and Harar city, Eastern Ethiopia

Purpose of the Study

The purpose of this study is for partial fulfillment of Master's degree in reproductive health. In addition, this study was provide valuable information to policy makers, health program planners and health care providers to prevent and manage hypertensive disorders of pregnancy.

Confidentiality

The name and other identifiers of the participants was not documented in the questionnaires. The information provide was kept confidential and was not used for anything other than the research purpose. The findings of the study was general for study population and was not reflict anything

thing particular of individual person. Any of your information provide was used only by the research team and was by no means be revealed to a third party.

Procedures

Today, I was here to collect data on Magnitude of Hypertensive disorders of Pregnancy and Associated Factors among Pregnant Women attending maternal care Services. The study participants was selected randomly from all pregnant women who was attend the maternal health care services in this hospital. The research procedure was include face to face interviews and reviewing record by data collectors. The data collector was ask the pregnant women about socio-demographic characteristics and question related to hypertensive disorders of pregnancy. The completion time of the data collection was take about 30 to 40 minutes.

Risk and Benefits of the Study

By participating in this study and answering the questions the study participants wil not receive any direct payment. However, their response will help us to increase our understanding of factors that are directly or in directly affecting the occurrence of hypertensive disorders of pregnancy in this specific locality. The risk of being participating in this study is very minimal, only taking few minutes from the participants' time that it will not affect any of their personal interest or social life.

Rights

The pregnant women participation in this study is fully voluntary and they have the right to refuse to participate or to answer any questions that they feel uncomfortable to them. If they change their mind about participating during the course of the study, they have the right to withdraw at any time. The decision not to participate or to withdraw will not affect any aspect of thier social life or future medical care they should require or any other benefits to which they would be entitled.

Contact address

If you have any question about the study, the procedure, or anything else related to the study, please contact through the following address:

Principal investigator: Yodahe Kinfe, yodahekiya@gmail.com +251-913-574-485.

Haramaya University, College of health and medical Sciences, Instituitional Health Research Ethics Review Committee (IHRERC): office phone 0254662011 P.O.Box 235, Harar

At this time, do you want to ask me anything about the research?

Consent form or Declaration of the Volunteer

I have read the above information. I have clearly understood the purpose of the study, the procedure, the risk and benifts, issues of confidentialities and the right of the participants. I have been given the opportunity to ask questions for things that have been unclear and any questions that I have asked have been answered to my satisfaction. I am informed that the participants have right to withdraw from the study at any time without any way affecting thier future medical care utilization. I am also informed the the hospital has the right to stop this study from being conducted if any misdedeeds and unethical procedures are observed during the data collection process in the hospital premises. Therefore, I declare my voluntary consent to allow this study to be conducted in _____hospital on behalf of the hospital management with my initials (signature) as indicated below:

Name and Signature of head of the hospital _____ Date ___/_____/_____

Name and Signature of the data collector_____ Date___/_____/_____

Thank you very much for your participate

8.3English Version of the questionnaires

HARAMAYA UNIVERSITY

COLLEGE OF HEALTH AND MEDICAL SCIENCES

SCHOOL OF POSTGRADUATE STUDY

Magnitude ofHypertensive disorders of Pregnancy and Associated Factors among Pregnant Women attending maternal care Services at government hospitals of Dire Dawa and Harar city, Eastern Ethiopia

Section 1: RESPONDANT'S SOCIODEMOGRAPHIC CHARACTERISTICS

No.	Questions	Coding Categories	Skips
101	How old are you?	_____years	
102	Marital status	1. Married 2. Single 3. Divorced 4. Separated 5. Widow	
103	Religion	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. Other (specify)_____	
104	Ethnicity	1. Oromo 2. Amhara 3. Somali 4. Aderie 5. Other (specify)_____	
105	Your education Level	1. Primary 2. Secondary 3. Technical/vocational 4. Higher	
106	Your spouses' level of education	1. Primary 2. Secondary 3. Technical/vocational 4. Higher	
107	Your current employment status	1. Gov/NGO Employee 2. Housewife 3. Farmer 4. Daily labor 5. Merchant 6. Other (Specify)……	
108	Your spouse's employment status	1. Gov/NGO Employee 2. Farmer	

		3. Daily labor 4. Merchant 5. Other (Specify)……	
109	Residence	1. Urban 2. Rural	
110	woreda		
111	kebele		
112	How far is the nearest health facility from you house?	_____minutes	
113	What is your family monthly income	_____Birr	

SECTION 2: RESPONDANTS' MEDICAL CONDITIONS

No.	Questions	Coding Categories	Skips
201	Had any body from your family had or have hypertension? (check all that apply for first degree relatives only)	1. Yes 2. No ----------	203
202	If yes, who?	1. Father 2. Mother 3. Sister 4. Brother	
203	Have you been told by a physician that you had or have hypertension (high BP) before this pregnancy?	1. Yes 2. No	
204	Have you been told by a physician that you had high blood pressure during any previous pregnancy?	1. Yes 2. No	
205	Has anybody from your family had or have diabetes mellitus? (check all that apply for first degree relatives only)	1. Yes 2. No ……	207
206	If yes, who?	1. Father 2. Mother 3. Sister 4. Brother	
207	Have you been told by a physician that you had or have diabetes mellitus?	1. Yes 2. No	
208	Have you been told by a physician that you had gestational diabetes?	2. Yes 3. No	
209	Have you been told by a physician that you had or have asthma?	1. Yes 2. No	
210	Do you have any chronic medical illness?	1. Yes 2. No……	301
211	If yes for Q208 , specify it		

Section 3: RESPONDANTS' OBSTETRIC HISTORY

No.	Questions	Coding Categories	Skips
301	Have you been pregnant before this pregnancy? (Include all pregnancies that ended in life births, spontaneous or induced abortions, ectopic pregnancy and stillbirth as well)	1. Yes 2. No …….	308
302	How many have you been pregnant (Gravida)	1. Yes 2. No ……	
303	How many times you gave birth in your lifetime?(para)	----------Times	
304	At what age your first pregnancy occurred?	_____	
305	What was the time interval between previous and this pregnancy?	_____year____ month	
306.	Have you ever had history of abortion	1. Yes 2. No …….	308
307.	if 'Yes' to Q304 how many?	_____	
308.	Was the current pregnancy planned	1. Yes 2. No	
309	Gestational age	_____ weeks	
310.	Is this pregnancy multiple or single? (if not known check from the chart)	1. Single 2. Twins 3. Other	
311	What is the sex of newborn for this pregnancy?	1. Male 2. Female 3. Unknown	
312	Have you attend ANC for this pregnancy?	1. Yes 2. No ……	315
313	Number of ANC clinic visit	_____ times	
314	Have you received nutritional advice during ANC	1. Yes 2. No	
315	Maternal blood group? (check from medical chart)	1. A 2. B 3. AB 4. O	
316	RH factor	1. Positive 2. Negative	
317	What is the hemoglobin level of the mother in mg/dl? (check from medical	_____ mg/dl	

	chart)		

Section 4: RESPONDANT'S Pregnancy behavior factors

No.	Questions	Coding Categories	Skips
401	Were you smoking during the current pregnancy?	1. Yes 2. No ……	403
402	How often?	1. Daily: ____cigarette per day 2. Sometimes: _____cigaretteper week 3. I stopped smoking at_____weeks of that pregnancy	
403	Were you drinking alcohol during the pregnancy (Read: Beer, Tala, Katikala, wine, Tej or others)?	1. Yes 2. No ……	405
404	Which type?	1. Beer 2. Tala 3. Katikala 4. Wine 5. Tej 6. Others specify _____	
405.	Were you drinking coffee during pregnancy?	1. Yes 2. No……	407
406.	How often?	1. Daily 2. _____ days per week 3. I have stopped at _____ weeks of gestational age	
407.	Were you eating fruit during pregnancy?	1. Yes 2. No……	409
408	How often?	1. Daily 2. _____ days per week 3. I have stopped at _____ weeks of gestational age	
409	Were you eating vegetables during pregnancy?	1. Yes 2. No ……	411
410	How often?	1. Daily 2. _____ days per week 3. I have stopped at _____ weeks of gestational age	
411	Were you doing physical exercise during pregnancy	1. Yes 2. No ……..	413
412	How often	1. Daily----------minute 2. _____ days per week/minute 3. I have stopped at _____ weeks of gestational age	
413	Were you using traditional treatment during pregnancy	1. Yes 2. No	

Section 5: MEASUREMENT AND EXAMINATION

No.	Questions	Coding Categories				
501	BP measurement		First reading	Second reading	Third reading	Average reading
		SBP				
		DBP				
502	If hypertensive, the type is	1. Gestational hypertension 2. Pre-eclampsia, and eclampsia, 3. Superimposed preeclampsia on chronic hypertension 4. Chronic hypertension				
503	Urine protein result	1. Negative 2. + 3. ++ 4. +++ 5. Greater than +++				
504	Weight	_____kg				
505	Height	_____cm				
506	BMI	_____				

Thank you for your participation.

8.4Amharic version of Participant Information Sheet and informed voluntary consent form

ለ ተሳታፊዎች የተዘጋጀ አጠቃላይ መረጃ እና በፍቃደኝት ላይ የተመስረተ የመስመሚያ ቅጽ

መግቢያ፡-ጤና ይስጥልኝ

ስሜ_____እባላለሁ። የመጣሁት ወ/ሪት ዮዳሄ ክንፈ የተባሉት ለሁለተኛ ድግሪ መመረቂያ የሚሆን ጥናታዊ ጽሁፍ በእርግዝና ግዜ የሚከሰት የደም ገፊት እና ተያያዥ መንስኤዎች በተመለከተ መረጃ ለመሰብሰብ ነው። ይህ ለመሰራት ደግሞ በሀረማያ ዩኒቨርሲቲ ጤና ሳይንስ ኮሌጅ የሕብረተሰብ ትምህርት ክፍል ፍቃድ ኣግኝተዋል። መረጃ የሚሰበሰበው በድሬደዋ እና በ ሐረር የህዝብ ሆሲፒታሎች ለ ቅድመ ወሊድ ክትትል፣ ለመውለድ አገልግሎት የመጡ እናቶች ላይ ነው።

የጥናቱ እርስ

በእርግዝና ግዜ የሚከሰት የደም ገፊት እና ተያያዥ መንስኤዎች በድሬደዋ እና ሐርር የህዝብ ሆሲፒታሎች ለቅድመ ወሊድ ክትትል ለመውለድ አገልግሎት ከመጡ እናቶች

የጥናቱ ጥቅም

የጥናቱ ጥቅም ባይነሮውምም በስነተዋለዶ ጤና ለሁለተኛ ድግሪ መመረቂያ እና ለህግ አውጭዎች፣ለጤና አጠባበቅ እቅድ አውጪዎች እዲሁም ለጤና ባለሞያዎች በእርግዝና ግዜ ለሚከሰተው የደምግፊት እና ተያያዥ መንስኤዎች ለመከላከል ትልቅ ጥቅም ኣለው።

ሚስጥራዊነቱ

የእርስዎ ስምምም ሆነ ሌሎች እርሶ መሆኖትን የሚያሳውቅ መረጃዎችን በቃለመጠየቁ ቅጽ ላይ አይመዘገቡም እዲሁም እርሶ የሚሰጡኝ መረጃ ሚስጢራዊነቱ የተጠበቀ እና ለጥናቱ ብቻ የሚውል መሆኑን አረጋግጥሎታለው ።

የአጠያየቅ ስነ ስርአት

ዛሬ እኔ እዚህ የተገኘሁት በእርግዝና ግዜ የሚከሰት የደምግፊት እና ተያያዥ መንስኤዎች በድሬደዋ እና በ ሐረር የህዝብ ሆሰፒታሎች ለ ቅድመ ወሊድ ክትትል ፣ለመውለድ እና ከመጡ እናቶች መረጃ ለመስብሰብ ነው።።ቆይታችን ከ30-40 ደቂቃ ያክል ይወስዳል፡ እርስዎ በአንድ የመንግስት ሆሰፒታል ከመውለድዎ ጋር ተያይዞ በእጣ በጥናቱ ላይ ተሳታፊ ሁነዋል።የጥናቱ የአጠያየቅ ስነ ስርአም በቃለመጠየቅና የእረሶን የጤና መረጃ መያዣ ቅጽ በመመልከት ነው።።ነው።የምነጠይቆትን መረጃውነ ለመስጠት ፍቃደኛ ከሆኑ አንድአንድበእርግዝና ግዜ የሚከሰት የደምግፊት እና ተያያዥ መንስኤዎች እና ስለማህበራዊኩነቶች ጋር የተያያዙ መረጃዎች እጠይቅዎታለሁ።

የጥናቱ ጥቅምና ጉዳት

የእርስዎ ጥናቱ ላይ መሳተፍ አሁን ለግልዎ ጥቅም ባይኖረውም የሚሰጠኝ መለጃ ግን በእርግዝና ግዜ ለሚከሰተው የደም ግፊት መንስኤዎች ለመዳሰስ ትልቅ ጥቅም አለው።። የእረስዎ ጥናቱ ላይ ስለተሳተፉ የሚደርስብዎት ችግር የለም።።ስለዚ ፍቃደኛ ከሆኑ የርስዎን ጊዜ በማይሻማ መልኩ ለተወሰኑ ደቂቃ እጠይቅዎታለሁ።

በቃለመጠየቁ ጊዜ ያሎት መብት

እርስዎ የሚሰጡ ኝመረጃ ሚስጢራዊነቱ የተጠበቀ እና ለጥናቱ ብቻ የሚውል ጥናቱ ላይ ለመሳተፍ በፍቃደኝነት ሰለሆነ ስጠይቅዎት በመሐል መጠይቅ፤ ጥያቄው መዝለል፤ ብሎም ማስቆምይችላሉ። እርስዎ በጥናቱ ላይ ስለተሳተፉ የሚደርስብዎት ችግርየለም። እስከ አሁን ከነገርኩዎት ወይም ጥናቱ ላይ በተመለከተ ሊብራራልዎ የሚፈልጉት አለ? ስለጥናቱ ማወቅ የሚፈልጉት ማንኛውም መረጃ እንዲሁም ግልጽ ያልሆኖሎዎት ነገር ካል

በማንኛውም ጊዜ በዚህ አድራሻ yodahekiya@gmail.com ወይም በስልክ ቁጥር (251)913-574-485 ሊያገኙን ይችላሉ

አሁን ጥናቱ ላይ ለመሳተፍ ፍቃደኛ ኖት? አዎ አደለሁም

የስምምነት ቅጽ

የዚህን ጥናት ጥቅም ተረድቻለሁ በእርግዝና ግዜ የሚከሰት የደምግፊት መንስኤዎች ለመዳሰስ በሚደረገው ጥናት ለመሳተፍ ፍቃደኛ ነኝ በተጨማሪም ጥያቄ መዝለል ብሎም ማስቆም እንደሚችል የተነገረኝ ሁኖ መረጃው ለጥናቱ ብቻ የሚዉል ከመሆኑ ጋር ተያይዞ በጥናቱ ላይ ለመሳ ተፍ በፍላጎቴ መሆኑን በፊርማ ዬአረጋግጣለሁ።

የተጠያቂው ፊርማ _____ ቀን _____/_____/_____

የጠያቂው ፊርማ_____ቀን _____/_____/_____

ጥናቱ ላይ ስለ ተሳተፍ አመሰግናለሁ

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8.5Amharic version of Information Sheet and informed voluntary consent form for heads of the hospitals

ለ ጤና ተቆማት የተዘጋጀ አጠቃላይ መረጃ እና በፍቃደኝት ላይ የተመስረተ የመስመሚያ ቅእጽ

መግቢያ፡-ጤና ይስጥልኝ

ስሜ_____እባላለሁየመጣሁ ወ/ሪት ዮዳሄ ክንፉ የተባሉት ለሁለተኛ ድግሪ መመረቂያ የሚሆን ጥናታዊ ጽሁፍ በእርግዝና ግዜ የሚከሰት የደምገፊት እና ተያያዥ መንስኤዎች በተመለከተ መረጃ ለመሰብሰብ ነው። ይህ ለመሰራት ደግሞ በሀሮማያ ዩኒቨርሲቲ ጤና ሳይንስ ኮሌጅ የሕብረተሰብ ትምህርት ክፍል ፍቃድ ኣግኝተዋል። መረጃ የሚሰበሰበው በድሬደዋ እና በ ሐረር የህዝብ ሆሰፒታሎች ለ ቅድመ ወሊድ ክትትል፣ ለመውለድ አገልግሎት የመጡ እናቶች ላይ ነው።

የጥናቱ እርስ

በእርግዝና ግዜ የሚከሰት የደምገፊት እና ተያያዥ መንስኤዎች በድሬደዋ እና ሐርር የህዝብ ሆሰፒታሎች ለ ቅድመ ወሊድ ክትትል ፣ለመውለድ አገልግሎት ከመጡ እናቶች

የጥናቱ ጥቅም

የጥናቱ ጥቅም ባይነሮውምም በስነተዋለዶ ጤና ለሁለተኛ ድግሪ መመረቂያ እና ለህግ አውጭዎች፣ለጤና አጠባበቅ እቅድ አውጪዎች እዲሁም ለጤና ባለሞያዎች በእርግዝና ግዜ ለሚከሰተው የደምግፊት እና ተያያዥ መንስኤዎች ለመከላከል ትልቅ ጥቅም አለው።

ሚስጥራዊነቱ

የእርስዎ ስምምም ሆነ ሌሎች እርሶ መሆኖትን የሚያሳውቅ መረጃዎችን በቃለመጠየቁ ቅጽ ላይ አይመዘገቡም እዲሁም እርሶ የሚሰጡኝ መረጃ ሚስጢራዊነቱ የተጠበቀ እና ለጥናቱ ብቻ የሚውል መሆኑን አረጋግጥሎታለው ።

የአጠያየቅ ስነ ስርአት

ዛሬ እኔ እዚህ የተገኘሁት በእርግዝና ግዜ የሚከሰት የደምግፊት እና ተያያዥ መንስኤዎች በድሬደዋ እና በ ሐረር የህዝብ ሆሰፒታሎች ለ ቅድመ ወሊድ ክትትል ፣ለመውለድ እና ከመጡ እናቶች መረጃ ለመስብሰብ ነው።።ቆይታችን ከ30-40 ደቂቃ ያክል ይወስዳል፡ እርስዎ በአንድ የመንግስት ሆሰፒታል ከመውለድዎ ጋር ተያይዞ በእጣ በጥናቱ ላይ ተሳታፊ ሁነዋል።የጥናቱ የአጠያየቅ ስነ ስርአም በቃለመጠየቅና የእረሶን የጤና መረጃ መያዣ ቅጽ በመመልከት ነው።።ነው።የምነጠይቆትን መረጃውነ ለመስጠት ፍቃደኛ ከሆኑ አንድአንድበእርግዝና ግዜ የሚከሰት የደምገፊት እና ተያያዥ መንስኤዎች እና ስለማህበራዊኩነቶች ጋር የተያያዙ መረጃዎች እጠይቅዎታለሁ።

የጥናቱ ጥቅምና ጉዳት

የእርስዎ ጥናቱ ላይ መሳተፍ አሁን ለግልዎ ጥቅም ባይኖረውም የሚሰጡኝ መለጃ ግን በእርግዝና ግዜ ለሚከሰተው የደም ግፊት መንስኤዎች ለመዳሰስ ትልቅ ጥቅም አለው።። የእረስዎ ጥናቱ ላይ ስለተሳተፉ የሚደርስብዎት ችግር የለም።።ስለዚ ፍቃደኛ ከሆኑ የርስዎን ጊዜ በማይሻማ መልኩ ለተወሰኑ ደቂቃ እጠይቅዎታለሁ።

በቃለመጠየቁ ጊዜ ያሎት መብት

እርስዎ የሚሰጡ ኝመረጃ ሚስጢራዊነቱ የተጠበቀ እና ለጥናቱ ብቻ የሚውል ጥናቱ ላይ ለመሳተፍ በፍቃደኝነት ሰለሆነ ስጠይቅዎት በመሐል መጠይቅ፤ጥያቄውመዝለል፤ብሎም ማስቆምይችላሉ። እርስዎ በጥናቱ ላይ ስለተሳተፉ የሚደርስብዎት ችግርየለም። እስከአሁን ከነገርኩዎት ወይም ጥናቱ ላይ በተመለከተ ሊብራራልዎ ትየሚፈልጉት አለ? ስለጥናቱ ማወቅ የሚፈልጉት ማንኛውም መረጃ እዲሁም ግልጽ ያልሆኖሎዎት ነገር ካል በማንኛውም ጊዜ በዚህ አድራሻyodahekiya@gmail.com ወይም በ ስልክ ቁጥር (251)913-574-485 ሊያገኙን ይችላሉ

አሁንጥናቱላይለመሳተፍፍቃደኛኖት? አዎ አደለሁም

የስምምነት ቅጽ

የዚህን ጥናት ጥቅም ተረድቻለሁ በእርግዝና ግዜ የሚከሰት የደምግፊት መንስኤዎች ለመዳሰስ በሚደረገውጥናት ለመሳተ ፍፍቃደኛ ነኝ በተጨማሪም ጥያቄ መዝለል ብሎም ማስቆም እንደሚችል የተነገረኝ ሁኖ መረጃው ለጥናቱ ብቻ የሚዉል ከመሆኑ ጋር ተያይዞ በጥናቱ ላይ ለመሳ ተፍ በፍላጎቴ መሆኑን በፊርማ ዬአረጋግጣለሁ።

የተጠያቂውፊርማ _____ ቀን ____/_____/_____

የጠያቂውፊርማ_____ቀን ____/_____/_____

ጥናቱ ላይ ስለ ተሳተፍ አመሰግናለሁ

8.6Amharic version of the questionnaire

መጠይቅ

ሀሮማያ ዩኒቨርሲቲ ጤና ሳይንስ ኮሌጅ የሕብረተሰብ ትምህርት ክፍል

መጠይቅ በአማረኛ ትረጉም

በድሬደዋ እና በሐረር የህዝብ ሆሰፒታሎች ለ ቅድመ ወሊድ ክትትል ለመውለድ እና ለድህረ ወሊድ አገልግሎት ለመጡ እናቶች በእርግዝና ግዜ የሚከሰት የደምገፊት እና ተያያዥ መንስኤዎች ለመዳሰስ የተዘጋጀ መጠይቅ

ክፍል 1፡ ስነ ህዝብና ማህበረዊ ኩነቶች ጋር የተያያዙ ጥያቄዎች

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች	ሽግግር
101	ባለፈው ልደትዎ ሲያከብሩ ዕድሜዎ ስንት ነበር?	_____አመት	
102	የትዳርዎ ሁኔታ ምንድነው?	1. አግብቻለሁ 2. አላገባሁም 3. ተፋትተናል 4. ተለያይተን ነውየምንነሮው 5. ባለቤቴ በሂወት የለም	
103	ሀይማኖትዎ ምንድነው?	1. ኦርቶዶክስ 2. ሙስሊም	

		3. ፕሮቲስታንት 4. ካቶሊክ 5. ሌላ ካለ ይገለጽ_____	
104	ብሄርዎ ምንድነው?	1. ኦሮሞ 2. አማራ 3. ሱማሌ 4. አደሬ 5. ሌላ ካለ ይገለጽ_____	
105	የትምህርት ደረጃዎ ሰንት ነው? (ያጠናቀቁት)	1. አንደኛ ደረጃ 2. ሁለተኛ ደረጃ 3. የሞያ ትምህርት/TVET 4. ከፍተኛ ትምህርት	
106	የባለቢትዎ የትምህርት ደረጃዎ ሰንት ነው? (ያጠናቀቁት)	1. . አንደኛ ደረጃ 2. . ሁለተኛ ደረጃ 3. . የሞያ ትምህርት/TVET 4. ከፍተኛ ትምህርት	
107	የስራ ድርሻዎ ምንድነው?	1. የመንግስት ሰራተኛ 2. የቤት እመቤት 3. ገበሬ 4. የግል ተቀጣሪ 5. ነጋዴ 6. ሌላ ከሆነ ይገለጽ___	
108	የባለቢቶዎ የስራ ድርሻዎ ምንድነው?	1. የመንግስት ሰራተኛ 2. የቤት እመቤት 3. ገበሬ 4. የግል ተቀጣሪ 5. ነጋዴ 6. ሌላ ከሆነ ይገለጽ___	
109	የመኖሬያ ቦታዎ	1. ከተማ 2. ገጠር	
110	ወረዳ		
111	ቀበሌ		
112	በቅርብ የሚገኘው ጤና ተቆም ከመኖሪያ ቤታቹ ምን ያህል ይርቃል	_____ በደቂቃ	
113	በአማካይ የቤተሰብዎ ገቢ በወር ስን ት ይሆናል?	_____ ብር	

ክፍል ሁለት፤ የጤና ችግር ጋር የተያያዙ ጥያቄዎች

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች	ሽግግር

201	በቤተሰብዎ ዉስጥ የደም ግፊት በሽታ የነበረበት ወይም ያለበት ኣለ?	1. አዎ 2. የለም……..	203
202	ይህ በሽታ ያለው በማን በኩል ነው?	1. አባት 2. እናት 3. እህት 4. ወድም	
203	በእርግዝና የሚከሰት የደም ግፊት እንደነበርዎት በ ዶክተር ወይም በኣዋለጅ ነርስ ተነግርዎት ነበር?	1. አዎ 2. አልተነገረኝም	
204	ከዚህ በፊር ባሉት እረግዝናዎች በእርግዝና የሚከሰት የደም ግፊት እንደነበርዎት በ ዶክተር ወይም በኣዋለጅ ነርስ ተነግርዎት ነበር?	1. አዎ 2. አልተነገረኝም	
205	በቤተሰብዎ ዉስጥ የሰካር ህመም የነበረው ወይም ያለው ኣለ?	1. አዎ 2. የለም……..	207
206	ይህ በሽታ ያለው በማን በኩል ነው?	1. አባት 2. እናት 3. ወንድም 4. እህት	
207	በቤተሰብዎ ዉስጥ የሰካር ህመም የነበረው ወይም ያለው ኣለ?	1. አዎ 2. የለም……..	
208	ከዚ በፊት በእርግዝና የሚከሰት የሰካር ህመም እንዳልዎት ወይም እንደነበርዎት በዶክተር ተነግርዎት ያውቃል?	1. አዎ 2. አልተነገረኝም	
209	ከዚ በፊት የአስማ በሽታ እንዳልዎት በዶክተር ተነግርዎት ያውቃል?	1. አዎ 2. የለብኝም	
210	ለረጅም ጊዜ የቆየ የጤና ችግር አለቦት ?	1. አዎ 2. የለብኝም…….	301
211	አዎ ከሆነ መልሶ ለመ 210 ምን እደሆነ ይግለጹ		

ክፍል ሠስት፤ የዕርግዝና እና ወሊድን ሁኔታ የተመለከቱ ጥያቄዎች

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች	ሽግግር
301	ከዚ በፊት አርግዘው ያውቃሉ?	1. አዎ 2. አላረገዝኩም……	308
302	በህይወቶት ስንት ግዜ አርግዘዋል?	_____ ግዜ	
303	ስንት ግዜ ወልደዋል?	_____ ግዜ	
304	የመጀመሪያ ልጆትን ሲያረግዙ እደሚያት ስት ነበር?	_____	

305	በዚህ እና ባለፈው እርግዝናዎ መካከል ያለው የጊዜ ልዩነት ምን ያህል ነበር?	____ አመት____ ወር	
306.	የጽንስ ማቋረጥ ገጥሞት ያውቃል?	1. አዎ 2. አያውቅም…… …	308
307	የጽንስ ማቋረጥ ምን ያህል ጊዜ ገጥሞት ያውቃል?	_____ ግዜ	
308.	ኣሁን የተረገዘው እረግዝና በግዜው ነበር ያረገዝሽው?	ı. አዎ 2. አይደለም	
309	የእረግዝናው እድሜ ስንት ነው	----------በሳምንት	
310	የእርግዝናው አይነት (የእናትየዎ ቅጽይመለከቱ)	1. አንድ 2. መንትየዎቸ	
311	የአሁኑ እርግዝና ጸታው ምንድነው?	1. ወንድ 2. ሴት 3. አይታወቅም	
312	ለዚ እረግዝና የቅድመ ወሊድ ክትትል ነበርዎት?	1. አዎ 2. አልተከታተልኩም……	315
313	ስንት ግዜ ተከታትለዋል?	_____ ግዜ	
314	በአርግዝና ግዜ ስለ መመገብ ያለብዎት ምክር ተነግሮት ነበር?	1. አዎ 2. አልተነገረኝም	
315	ከዚ እርግዝና በፊት ዘመናዊ የቤተሰብ ምጣኔ ይጠቀሙ ነበር?	1. አዎ 2. 2አልተጠቀምኩም	
316	የእናትየዋ ደም አይነቱ ምንድነው? (የእናትየዋ ካርድ አይተው ይሙሉ)	1. A 2. B 3. AB 4. O	
317	Rhesus (RH) factor	Rhesus (RH) factor	
318	የእናትየዋ ሂሞግሎቢን መጠን ስንት ነው? (የእናትየዋ ካርድ አይተው ይሙሉ)	_____mg/dl	

ክፍል ኣራት፤ የግል ባህሪያት ጋር የተያያዙ ጥያቄዎች

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች	ሽግግ
401	በእርግዝና ግዜ ያጨሱ ነበር?	ı. አዎ 2. አላጨስም……..	403
402	መልሶ አዎ ከሆነምን ያህል ያጨሱ ነበር?	1. በየቀኑ፤ በቀን___ሲ.ጋራ 2. ኣልፎ ኣልፎ፤ በሳምንት ____ ሲ.ጋራ 3. እርግዝናው____ሳምንት ሲ.ሀ	

		ነው ግዜ አቁሜያለሁ	
403	በእርግዝና ግዜ አልኮል (ቢራ፣ ጠላ፣አረቄ /ካቲካላ፣ ጠጅ፣ ዋይን የመሳሰሉት) ይጠጡ ነበር?	1. አዎ 2. አልጠጣም……	405
404	መልሶ አዎ ከሆነ፣ አይነቱ?	1. ቢራ 2. ጣላ 3. አረቄ/ካቲካላ 4. ዋይን 5. ጠጅ 6. ሌላ ካለ ይገለጽ_____	
405.	በእርግዝና ግዜ ቡና ይጠጡ ነበር?	1. አዎ 2. አልጠጣም……	407
406.	መልሶ አዎ ከሆነ፣ ምን ያህል?	1. በየቀኑ 2. አልፎ አልፎ፣ በሳምንት _____ቀን 3. እርግዝናው ___ ሳምንት ሲሆነው ግዜ አቁሜያለሁ	
407.	በእርግዝና ግዜ ፍራፊሬ ይመገቡ ነበር?	1. አዎ 2. አልመገብም……..	409
408	መልሶ አዎ ከሆነ፣ ምን ያህል?	1. በየቀኑ 2. አልፎ አልፎ፣ በሳምንት ለ____ቀን 3. እርግዝናው____ ሳምንት ሲሆነው ግዜ አቁሜያለሁ	
409	በእርግዝና ግዜ የሿሮ ኣትክልት ይመገቡ ነበር?	1. አዎ 2. አልመገብም……..	411
410	መልሶ አዎ ከሆነ፣ ምን ያህል?	1. በየቀኑ 2. አልፎ አልፎ፣ በሳምንት ለ _____ ቀን 3. እርግዝናው _____ ሳምንት ሲሆነው ግዜ አቁሜያለሁ	
411	በእርግዝና ግዜ ስፖርት(የአካል እንቅስቃሴ) ይሰሩ ነበር?	1. አዎ 2. አልሰራም……	413
412	መልሶ አዎ ከሆነ፣ ምን ያህል?	1. በየቀኑ_____ደቂቃ 2. አልፎ አልፎ፣ በሳምንት ለ_____ ቀን_____ደቂቃ	

		3. እርግዝናው _____ ሳምንት ሲሆነው ግዜ ኣቁሜያለሁ	
413	በእርግዝና ግዜ የባህል መድሀኒት ይጠቀሙ ነበር?	1. ኣዎ 2. ኣልጠቀምም	

ክፍል ኣምስት ፤ ልኬትና ምርመራ

ተ.ቁ	ጥያቄዎች	ኣማራጭ መልሶች				
501	የደ ም ግፊት ልኬት		የመጀመሪያ ንባብ	ሁለተኛ ንባብ	ሶስተኛ ንባብ	ኣማካኝ ውጤት
		SBP				
		DBP				
502	የደ ም ግፊት ኣይነት	1. Gestational hypertension 2. Pre-eclampsia, and eclampsia, 3. Superimposed preeclampsia 4. Chronic hypertension				
503	የሽንት ምርመራ ውጤት	1. Negative 2. + 3. ++ 4. +++ 5. Greater than +++				
504.	ክብደት	_____ በኪሎ				
505		_____ በሜትር				
506	BMI	_____				

ኣመሰግናለሁ

8.7Oromifa version of Participant Information Sheet and informed voluntary consent form

Odeeffannoo hirmaattuu fi uunka walii galtee

Shiitii waliigaltee odeeffannoo hirmaattonniittiwaliif galan

Uunka odeeffannoo hirmaattotaa

Nagaan bultanii / nagaan ooltanii‖

Maqaankoo ----------. Ani maqaankoo Yodahe Kinfe n jedhama, Barattuu Universiitii Harammayyaaa barattuu digirii lammaffaati. Qorannoo matadureenisaa "dhukkubinni dhiibbaan dhiigaa dubartoota ulfaa irraan gahuu fi miidhaa isaa dubartoota ulfaa hospitaala filatamaa magaala Dire Dawaatti tajaajila dahumsaa hordofaa jiran, Baha Etiyoophiyaa " gidduu galeessaan digirii lammaaffaa raawwachuudhaaf '. kun gargaarsaa fi hubannoo uumuu waa'ee hanga miidhaan dukkubin dhiibbaa dhiigaa waliin walqabatee dubartoota ulfaa irraan gahu gaaffilee kana keessatti dhiyaatan deebbii keessaniin kan jubatamu taha.

Matadurees projektichaa

Miidhaa dhukkubini dabala dhiigaa dubartoota ulfaa irraan gahu dubartoota hordoffii dahumsa duraa Hospitaala filataman Baha Etiyoophiyaa magaalaa Diree Dhawaa.

Kaayyoo qorannichaa

Kaayyoon qorannoo kanaa gidduu galeessaan digirii lammaaffaa raawwachuudhaaf waa'ee fayyaa walhormaata, itti dabalataan ammo qorannoon kun kan qophahe odeeffannoo dabalataa murteessaa tahe sagantaa fayyaa irratti gargaarsa sagantaa qajeelfama ejjennoo (policy makers), sagantaa karoora fayyaa fi ogeessota fayyaadhaaf ammo dhukkuba dhiibbaa dhiigaa dubartoota ulfaa waliin kan walqabatu ittisuu fi yaaluu oola.

Iciitii

Maqaankee fi waantonni adda addaa gaaffilee kana keessatti akka hin galmeessamne yookiin ammo iciitiidhaan akka qabamu fi qorannoo kanaaf qofa akka oolu cimseen siif ibsa qaama sadaffaadhaafis dabarsamee hin kennamu.

Kaayyoo

Ati dubartoota ulfaa Hospitaala kana dhufan keessaa tokko yoommuu taatu carraadhaan filatamtee qorannoo kanaaf gaafiidhaaf dhiyaate. Adeemsi qoranichaas fuula duratti gaaffii fi deebii fi nama daataa kana guutuun kan galmaahudha. Gaaffii kan agaafatus waa'ee jireenya dhuunfaa fi gaaffilee waa'ee miidhaa dhiibbaa dhiigaa dubartootaulfaa irratti uumamuu waliin kana walqabatu taha.

Miidhaa fi faayidaa qoranichaa

Yeroo qorannoo kana irratti hirmaattan fi yeroo gaaffilee dhiyaataniif deebbii deebistan faayidaa kallattiidhaan hin argatan. Haata'u malee miidhaa dhukkubni dabala dhiigaa dubartoota ulfaa irraan gahu ittisuudhaaf hubannoo keenya waan cimsuuf kallattiidhaanis al kallatiidhaanis gargaarsa guddaa nuuf taasistu. Miidhaan isaa inni xiqaan ammo yeroo qorannoo kanaaf gaaffii fi deebbii isiniif taasisinu daqiiqaa muraasa fudhata garuu jireenya keessanii fi fedhii dhuunfaa keessanii hin miidhu..

Mirga

Qorannoo kana irratti hirmaachuun fedhii keessanirratti kan hundaa'e fi mirga irratti hirmaachuu dhiisuudhaafis niqabdu fi gaaffilee deebisuu hin barbaannes yookaan isin hin gammachiisne dhiistanii bira darbuu dandeessu. Murteen isin irratti hirmaachuu dhiistanis jireenya keessan fi tajaajila fayyaa gara fuulla duraa taasistan irratti miidhaan inni fidu tokko illee hin jiru. Odeeffannoon isin kennitan hundi iciitiin isaa kan eegamee fi qorannoo kannaaf qofa kan ooludha. Yoo waan isiniif ifa hin taane yookiin ammo ibsa dabalataa barbaaddan jiraate isiniif ibsuudhaaf nan dandaha. Yoo waa'ee qorannoo kanaa irratti odeeffannoo dabalataa barbaaddan iimeelii fi bilbila kanaan quunnamuu dandeessu. yodahekiya@gmail.com bilbila (251)913-574-485. Yeroo kanatti waa'ee qorannoo kanaa irratti waan fedhe irratti gaaffii ni qabduuyii? **Uunka waliigalteen irratti walmallateessan**

Ani kaayyoo qorannichaa hubadheen jira. Ani odeeffannoo armaan olii dubbiseen jira. Yookaan naaf dubbisanii jiru. Akkan gaaffii gaafaadhu carraa naaf kennanii jiruakkasumas waanin gaafadhes sirriitti naaf deebisanii jiru. Ani fedhiikootiin gaaffii fi deebbii kana irrattihirmaadheen jira. Yoonhin barbaannes qorannookana yeroon barbaade dhiisuuf akkan mirga qabu hubadheen jira.

Mallattoo fedhaan yaada kennituu: _____guyaa_____/_____/_____

Maqaa fi mallattoo ragaa funaantuu _____ guyaa_____/_____/_____

8.8 Oromifa version of Information Sheet and informed voluntary consent form for heads of the hospitals

Maana Haakiimaa odeeffannoo hirmaattotaa

Nagaan bultanii / nagaan ooltanii‖

Maqaankoo ----------. Ani maqaankoo Yodahe Kinfe n jedhama, Barattuu Universiitii Harammayyaaa barattuu digirii lammaffaati. Qorannoo matadureenisaa "dhukkubinni dhiibbaan dhiigaa dubartoota ulfaa irraan gahuu fi miidhaa isaa dubartoota ulfaa hospitaala filatamaa magaala Dire Dawaatti tajaajila dahumsaa hordofaa jiran, Baha Etiyoophiyaa " gidduu galeessaan digirii lammaaffaa raawwachuudhaaf '. kun gargaarsaa fi hubannoo uumuu waa'ee hanga miidhaan dukkubin dhiibbaa dhiigaa waliin walqabatee dubartoota ulfaa irraan gahu gaaffilee kana keessatti dhiyaatan deebbii keessaniin kan jubatamu taha.

Mataduree projektichaa

Miidhaa dhukkubini dabala dhiigaa dubartoota ulfaa irraan gahu dubartoota hordoffii dahumsa duraa Hospitaala filataman Baha Etiyoophiyaa magaalaa Diree Dhawaa.

Kaayyoo qorannichaa

Kaayyoon qorannoo kanaa gidduu galeessaan digirii lammaaffaa raawwachuudhaaf waa'ee fayyaa walhormaata, itti dabalataan ammo qorannoon kun kan qophahe odeeffannoo dabalataa murteessaa tahe sagantaa fayyaa irratti gargaarsa sagantaa qajeelfama ejjennoo (policy makers), sagantaa karoora fayyaa fi ogeessota fayyaadhaaf ammo dhukkuba dhiibbaa dhiigaa dubartoota ulfaa waliin kan walqabatu ittisuu fi yaaluu oola.

Iciitii

Maqaankee fi waantonni adda addaa gaaffilee kana keessatti akka hin galmeessamne yookiin ammo iciitiidhaan akka qabamu fi qorannoo kanaaf qofa akka oolu cimseen siif ibsa qaama sadaffaadhaafis dabarsamee hin kennamu.

Kaayyoo

Ati dubartoota ulfaa Hospitaala kana dhufan keessaa tokko yoommuu taatu carraadhaan filatamtee qorannoo kanaaf gaafiidhaaf dhiyaate. Adeemsi qoranichaas fuula duratti gaaffii fi

deebii fi nama daataa kana guutuun kan galmaahudha. Gaaffii kan agaafatus waa'ee jireenya dhuunfaa fi gaaffilee waa'ee miidhaa dhiibbaa dhiigaa dubartootaulfaa irratti uumamuu waliin kana walqabatu taha.

Miidhaa fi faayidaa qoranichaa

Yeroo qorannoo kana irratti hirmaattan fi yeroo gaaffilee dhiyaataniif deebbii deebistan faayidaa kallattiidhaan hin argatan. Haata'u malee miidhaa dhukkubni dabala dhiigaa dubartoota ulfaa irraan gahu ittisuudhaaf hubannoo keenya waan cimsuuf kallattiidhaanis al kallatiidhaanis gargaarsa guddaa nuuf taasistu. Miidhaan isaa inni xiqaan ammo yeroo qorannoo kanaaf gaaffii fi deebbii isiniif taasisinu daqiiqaa muraasa fudhata garuu jireenya keessanii fi fedhii dhuunfaa keessanii hin miidhu..

Mirga

Qorannoo kana irratti hirmaachuun fedhii keessanirratti kan hundaa'e fi mirga irratti hirmaachuu dhiisuudhaafis niqabdu fi gaaffilee deebisuu hin barbaannes yookaan isin hin gammachiisne dhiistanii bira darbuu dandeessu. Murteen isin irratti hirmaachuu dhiistanis jireenya keessan fi tajaajila fayyaa gara fuulla duraa taasistan irratti miidhaan inni fidu tokko illee hin jiru. Odeeffannoon isin kennitan hundi iciitiin isaa kan eegamee fi qorannoo kannaaf qofa kan ooludha. Yoo waan isiniif ifa hin taane yookiin ammo ibsa dabalataa barbaaddan jiraate isiniif ibsuudhaaf nan dandaha. Yoo waa'ee qorannoo kanaa irratti odeeffannoo dabalataa barbaaddan iimeelii fi bilbila kanaan quunnamuu dandeessu. yodahekiya@gmail.com bilbila (251)913-574-485. Yeroo kanatti waa'ee qorannoo kanaa irratti waan fedhe irratti gaaffii ni qabduuyii? **Uunka waliigalteen irratti walmallateessan**

Ani kaayyoo qorannichaa hubadheen jira. Ani odeeffannoo armaan olii dubbiseen jira. Yookaan naaf dubbisanii jiru. Akkan gaaffii gaafaadhu carraa naaf kennanii jiruakkasumas waanin gaafadhes sirriitti naaf deebisanii jiru. Ani fedhiikootiin gaaffii fi deebbii kana irrattihirmaadheen jira. Yoonhin barbaannes qorannookana yeroon barbaade dhiisuuf akkan mirga qabu hubadheen jira.

Mallattoo fedhaan yaada kennituu: _____guyaa_____/_____/_____

Maqaa fi mallattoo ragaa funaantuu _____ guyaa_____/_____/_____

Hirmaannaakeessaniifhedduugalatoomaa!

8.9 Oromifa version of the questionnaire

UNIVARSIITII HARAMAYAA

KOOLLEEJII SAAYINSII FAYYAA

KUTAA BARUMSAA QORANNOO DIGIRII LAMMAFFAA

Miidhaa dhukkubini dhiibbaaa dhiigaa dubartoota ulfaa fi ulfa waliin wal qabatu irrn gahu hospitala mootummaa keessatti tajaajila dahumsa duraa hordofaa jiran Baha Etiyoophiyaa magaalaa Diree Dhawaa

KUTAA 1: RESPONDANT'S SOCIODEMOGRAPHIC CHARACTERISTICS

Lak.	Gaaffii	Ramadddii	Bira darbi
101	Umuriinkee meeqa?	_____waggaadhaan	
102	Haala fuudhaa fi heerumaa…..	1. Kan fuudhee/heerumte 2. Kan hin fuune/hin heerumne 3. Wal hiikan 4. Addaan bahuu 5. Irraa du'e	
103	Amantaa	1. Orthodox 2. Musliima 3. Protestaantii 4. Catholicii 5. Kan biroo (ibsi)_____	
104	Saba	1. Oromoo 2. Amaara 3. Sumaalee 4. Adaree 5. 5. Kan biroo (ibsi)_____	
105	Sadarkaa barnootaa olaanaa	1. Barreessuus dubbisuus kan hin dandeenye 2. Barreessuu fi dubbisuu 3. ------xumurte	
106	Sadarkaa barnoota abbaa warraakee	1. Kanhin baratiin 2. Barreessuu fi dubbisuu 3. -----xumurte	
107	Hojii yeroo ammaan hojjettu	1. Kan mootummaa/miti mootummaa 2. Haadha warraa 3. Qonnaan bulaa 4. Hojii humnaa 5. Daldalaa 6. Waan biraa (ibsi)……	
108	Hojii abbaa manaakee	1. Kan mootummaa/miti mootummaa 2. Qonnaan bulaa	

		3. Hojii humnaa 4. Daldalaa 5. Waan biraa (ibsi)……	
109	Bakka jireenyaa	1. Magaala 2. Baadiyyaa	
110	Woreda		
111	Kebele		
112	Fageenya buufata fayyaa mana jireenyaa irraa	daqiiqaa_____	
113	Galii maatiinkee ji'aan argatan	Qarshii_____	

KUTAA 2: WAA'EE FAYYAA NAMA GAAFATAMAA JIRU

No.	Questions	Coding Categories	Skips
201	Maatiikee keessaa namini dhukkuba dhiibbaa dhiigaa qabu nijiraa?	1. Eeyyeen 2. Miti ----------	203
202	Yoo eeyyeen ta'e, eenyu?,	1. Abbaa 2. Haadha 3. Obboleettii 4. Obboeessa	
203	Ulfa kana dura ogeessi fayyaa dhukkuba dhiibbaa dhiigaa qada siin jedhanii beekuu?	1. Eeyyeen 2. Miti	
204	Ulfa keekamiyyuu irratti dhukkubadhiibbaa dhiigaakka qabdu sitti himamee jiraa?	1. Eeyyeen 2. Miti	
205	Maatiikee keessaa namini dhukkuba sukaaraa qabu nijiraa?	1. Eeyyeen 2. Miti …….	207
206	Yoo eeyyee ta'e, eenyu?	1. Abbaa 2. Haadha 3. Obboleettii 4. Obboeessa	
207	Kanaan dura Ogeessi fayyaa dhukkuba sukkaaraa akka qabdu sitti himanii beekuuyii?	1. Eeyyeen 2. Miti	
208	Ogeessonni fayyaa dhiibbaa dhiigaa yeroo ulfaa uumamu akka qabdu sitti himanii beekuu?	3. Eeyyeen 4. Miti	
209	Ogeessnni fayyaa dhukkuba asmii akkaqabdu sitti himanii beekuu?	3. Eeyyeen 4. Miti	
210	Dhukkuba yeroo dheeraadhaaf nama dhukkubun qabamtee /dhukkubsattee beektaa?	1. Eeyyee 2. Miti …….	301
211	Yoo gaaffii 210f deebbiinkee eeyyee ta'e adda baasii natti himi , ……..		

\KUTAA 3: SEENAA ULFA WALIIN WAL QABATU

Lak.	Gaaffiiwwan	Ramaddii	Bira darbi
301	Ulfa kanan duura ulfooftee beekta	1. Eeyyee 2. Miti ……	308
302	Yeroo meeqa ulfoofte	…… meeqa	
303	kan duura meeqa dhalte	_____ meeqa	
304	Ulfa jalqabaa umuriikee meeqatti ulfooftee	_____	
305	Ulfakee jalqabaa fi kana ammaa gidduu wal'rraa fageenyi jiru meeqa?	Waggaa _____ji'a____	
306.	Kanaan dura ulfi sirraa bahe nijiraayii?	1. 1.Eeyyee 2. 2.Miti ……	
307	Eeyyee yoo ta,e Ulfa meeqatu sirraa bahee?	_____meeqa	
308	Ulfakee ammaa kana sagantaadhaan itti yaaddee yookiin karoorfattee ulfootee?	1. 1.Eeyyee 2. 2.Miti	
309	Ulfike kun bati meeqa	1. ----------meeqa	
310	Ulfikee kun ulfa lakkuudhaamoo tokko? (yoo hin beektu tahe galmeeirraa ilaali)	1.Tokko/qeenxee 2.Lakkuu	
311	Ulfa kee kana saalaisaani beektaa?	1. 1.Dhiira 2. 2.Dhalaa 3.Hinbeeku	
312	Ulfakee kanaaf horddoffii dahumsa duraa gochaa jirtaa?	1.Eeyyee 2.Miti ……	315
313	Yeroo meeqaaf horddoffii dahumsa goote?	_____ meeqa	
314	Yeroo horddoffii dahumsa duraa gootu haala nyaataa si gorsanii jiruu?	1,Eeyyee 2.Miti	
315	Ulfa kana dura qusannaa maatii ammayyaa'aafayyadamtee beektaa?	1.Eeyyee 2. Miti ……	315
316	Gosni dhiigaakee maali? (galmee irraa ilaali?	1. A 2. B 3. AB 4. O	
317	RH	1.Positive 2.Negative	
318	Hanga heemoogiloobinii (galmee irraa ilaali	_____ mg/dl	

KUTAA 4: AMALOOTA ULFA WALII IN WALQABATAN

Lak.	Gaaffiiwwan	Ramaddii	Bira darbi

401	Erga ulfa kanaulfooftee sigaaraa ni aarsitaayii?	1. Eeyyee 2. miti ……	403
402	Yeoo hangamiif ?	1. Guyyaa guyyaan : sigaaraa ____ 2. Darbee darbee :sigaaraa _____ 3. Ergan ulfaaheekaasee torbee ____ dhaabee jira	
403	Erga ulfooftee kaasee dhugaatii ni dhugdaa?	1. Eeyyee 2. Miti ……	405
404	Gosa kami?	1. Biiraa 2. Farsoo 3. Haraqee 4. Waynii 5. daadhii 6. kan biraa _____	
405.	Erga ulfooftee kaasee buna dhugdee beektaa?	1. Eeyyee 2. Miti ……	407
406.	Yeroo hangamiif?	1. Torbaankeessatti Guyyaa ____ 2. Ergan ulfaahee ulfikoo torbee ____gahee dhaabee jira	
407.	Erga ulfootee kaastee kuduraalee ninyaattaa?	1. Eeyyee 2. Miti ……	409
408	Yeroo hangamiif?	1. Guyyaa guyyaan 2. Torbaankeessatti Guyyaa ____ 3. Ergan ulfaahee ulfikoo torbee ____ gahee dhaabee jira	
409	Erga ulfootee kaastee muduraa ninyaattaa?	1. Eeyyee 2. Miti ……	411
410	Yeroo hangamiif?	1. Guyyaa guyyaan 2. Torbaankeessatti Guyyaa____ 3. Ergan ulfaahee ulfikoo torbee ____ gahee dhaabee jira	
411	Erga ulfootee kaastee ispoortii nihojjetaayii?	1. Eeyyee 2. Miti ……..	413
412	Yeroo hangamiif?	1. Guyyaa guyyaan 2. Torbaankeessatti Guyyaa____ 3. Ergan ulfaahee ulfikoo torbee ____ gahee dhaabee jira	
413	Erga ulfooftee kaasee dawaa aadaa fudhattee beektaa?	1. +	

KUTAA 5: SAFARUU YOOKIIN QORACHUU

Lak.	Gaaffiilee	Ramaddii

501	Safaruu dhiibbaa dhiigaa (BP measurement)		Dubbisa jalqabaa First reading	Dubbisa lammaffaa Second reading	Dubbisa sadaffaa Third reading	Gidduugaleessa Average reading
		SBP				
		DBP				
502	Yoo dabala dhiiqaa qabaatte gosa yookiin ramaddii (If hypertensive, the type is)	**1.** Dabala dhiigaa yeroo ulfaa (Gestational hypertension) **2.** Preeclampsia, and eclampsia, 3. Superimposed preeclampsia on chronic hypertension **4.** Chronic hypertension				
503	Fincaan (Urine protein result)	1. Negative 2. + 3. ++ 4. +++ 5. Greater than +++				
504.	Ulfaatina	_____kg				
505	Hojjaa	_____cm				
506	Gidduu galeessa safara qaamaa (BMI)	_____				

Hirmaannaa keeessaniif galatoomaa!

8.10 Somali version of Participant Information Sheet and informed voluntary consent form

Lifaaqa

Xaashida Macluumaadka Kaqeybgalka iyo foomka ogolaanshaha ikhtiyaariga ah ee la oggol yahay

Xaashida Macluumaadka Ka-qaybgalaha

Subax wanaagsan / galab wanaagsan

Magacaygu waa ----------. Waxaan ahay aniga oo wakiil ka ah Yodahe Kinfe, oo ah ardayda wax ka barata jaamacadda Haramaya University ee Postgraduate. Waxay sameyneysaa daraasad cinwaankeedu yahay "Dhibaatooyinka halista ah ee Uurka iyo Waxyaabaha La Xiriira ee Haweenka Uurka leh ee tagaya Adeegyada Daryeelka Hooyada ee isbitaallada la xushay ee Dire Dawa iyo Magaalada Harar, Bariga Ethiopia" si qayb ahaan loo dhammaystiro shahaadada masters-ka. Tani waxay naga caawin doontaa inaan fahanto baaxadda cudurada dhiig karka ee uurka iyo arrimaha la xiriira iyada oo ku saleysan jawaabtaada su'aalaheenna.

Cinwaanka Mashruuca

Cudurka halista ah ee Uurka iyo Waxyaabaha Ka Dhaxeeya Haweenka Uurka leh ee tagaya Adeegyada Daryeelka Hooyada ee isbitaallada la xushay ee Dire Dawa iyo magaalada Harar, Bariga Itoobiya

Ujeedada Daraasadda

Ujeedada daraasaddan ayaa ah qayb dhammaystirka shahaadada Master ee caafimaadka taranka. Intaa waxaa u dheer, daraasaddan ayaa siin doonta macluumaad qiimo leh siyaasad-dejiyeyaasha, qorsheeyayaasha barnaamijka caafimaadka iyo bixiyayaasha daryeelka caafimaadka si looga hortago loona maareeyo dhibaatooyinka dhiig-karka ee uurka.

Qarsoodinimada

Waxaan si aad ah u xaqiijinayaa in magacaaga iyo aqoonsi-bixiyeyaasha kale aan lagu diiwaangelin doonin xogururinta isla markaana macluumaadka aad na siiso loo ilaalin doonaa qarsoodi oo looma isticmaali doono wax aan ka ahayn ujeeddada cilmi-baarista. Mid kasta oo ka mid ah macluumaadkaaga aad na siiso waxaa isticmaali doona kooxda cilmi-baarista oo sinaba looma muujin doono dhinac saddexaad.

Nidaamyada

Maanta, waxaan halkaan u imi doonaa inaan soo aruuriyo xogta ku saabsan heerka sare ee dhibaatooyinka dhiig-karka ee Uurka iyo Waxyaabaha Ku Saabsan ee Haweenka Uurka leh ee tagaya adeegyada daryeelka hooyada. Waqtiga dhammaystirka xog aruurintu wuxuu qaadanayaa 30 ilaa 40 daqiiqo. Waxaad kamid tahay kooxda dumarka uurka leh ee si aan kala sooc lahayn loogu xushay daraasaddan cisbitaalka. Habka cilmi baarista waxaa ka mid noqon doona wareysi fool ka fool ah iyo dib u eegista rikoorkaaga aruurinta xogta. Xog ururiyaha ayaa ku weydiin doona su'aalo ku saabsan astaamaha dhaqan-bulsheedka iyo su'aal laxiriirta xanuunnada dhiig karka leh ee uurka leh.

Khatarta iyo Faa'iidooyinka Daraasadda

Markaad kaqaybqaadato daraasaddan oo ka jawaabto su'aalaha ma heli doontid waxtarka tooska ah. Si kastaba ha noqotee, waxaad gacan ka geysan doontaa kordhinta fahamkeenna arrimaha ku saabsan

ama si toos ah u saameeya dhacdooyinka cudurada dhiig-karka ee uurka ee deegaankan gaarka ah. Khatarta kaqeybgalka daraasaddan ayaa ah mid aad u yar, kaliya qaadataa daqiiqado yar waqtigaaga in aysan wax saameyn ah ku yeelan doonin danahaaga shaqsiyeed ama nolosha bulshada.

Xuquuqda

Kaqeybgalkaaga daraasaddan waa iskaa wax u qabso oo waxaad xaq u leedahay inaad diido ka qeybqaadashada ama ka jawaabista su'aalaha aad adiga kuula jecleysan. Haddii aad beddesho maskaxdaada ku saabsan ka qeybqaadashada inta lagu gudajiro daraasadda, waxaad xaq u leedahay inaad ka laabato waqti kasta. Go'aanka ah inaan kaqeybgal ama ka noqosho lahayn saameyn kuma yeelan doonto qayb kasta oo ka mid ah noloshaada bulshada ama daryeelka caafimaad ee mustaqbalka ee aad u baahan tahay ama wixii dheef ah ee kale ee aad xaq u yeelan lahayd. Macluumaadka aad bixisay si buuxda ayaa loo xafidayaa waxaana loo isticmaali doonaa oo keliya daraasadda. Haddii ay jiraan wax aan caddayn ama haddii aad u baahan tahay macluumaad dheeri ah, waan ku farxi doonaa inaan ku siiyo. Hadaad rabto inaad qofna kala hadasho daraasaddan cilmi baarista waxaad la xiriiri kartaa yodahekiya@gmail.com ama soo wac (251) 913-574-485. Waqtigan xaadirka ah, miyaad dooneysaa inaad wax iga weydiiso baaritaanka?

Foomka oggolaanshaha ama Baaqa mutadawiciinta

Waan fahmay ujeeddada daraasadda. Waan akhriyey macluumaadka kor ku xusan ama waa la ii aqriyay. Waxaan fursad u helay inaan weydiiyo su'aalaha ku saabsan wixii su'aalo ah ee aan weydiiyayna waxaa looga jawaabay qanacsanaanta. Waxaan oggolahay ikhtiyaar ahaan inaan kaqeyb galo daraasaddan oo waxaan fahamsanahay inaan xaq u leeyahay inaan ka baxo daraasadda waqti kasta aniga oo aan sinaba u saameynayn noloshayda bulshada mustaqbalka ama daryeel caafimaad.

Magaca iyo Saxeexa kaqeybgalayaasha_____ Taariikhda ___ / _____ / _____

Magaca iyo Saxiixa xog aruuriyaha_____ Taariikhda ___ / _____ / _____

Aad baad ugu mahadsantahay ka soo qeyb galkaaga

8.11 Somali version of Information Sheet and informed voluntary consent form for heads of the hospitals

5.2 Xaashida macluumaadka iyo foomka oggolaanshaha ee ikhtiyaarka ikhtiyaariga ah ee madaxa hay'adda / xarunta caafimaadka

Subax wanaagsan / galab wanaagsan

Magacaygu waa ----------. Waxaan ahay aniga oo wakiil ka ah Yodahe Kinfe, oo ah ardayda wax ka barata jaamacadda Haramaya University ee Postgraduate. Waxay sameyneysaa daraasad cinwaankeedu yahay "baaxadda cudurada halista ah ee hypertensive ee Uurka iyo Waxyaabaha laxiriira ee Haweenka Uurka leh ee tagaya Adeegyada Daryeelka Hooyada ee isbitaallada la xushay ee Dire Dawa iyo magaalada Harar, Bariga Ethiopia" si qayb ahaan looga fuliyo shahaadada masters-ka. Tani waxay naga caawin doontaa inaan fahanto baaxadda cudurada dhiig karka ee uurka iyo arrimaha la xiriira iyada oo ku saleysan jawaabtaada su'aalaheenna.

Cinwaanka Mashruuca

Baaxadda weyn ee xanuunnada dhiig karka leh ee Uurka iyo Waxyaabaha La Xiriira ee Haweenka Uurka leh ee taga adeegyada Adeegyada hooyada ee isbitaallada la xushay ee Dire Dawa iyo magaalada Harar, Bariga Itoobiya

Ujeedada Daraasadda

Ujeedada daraasaddan ayaa ah qayb dhammaystirka shahaadada Master ee caafimaadka taranka. Intaa waxaa u dheer, daraasaddan ayaa siin doonta macluumaad qiimo leh siyaasad-dejiyeyaasha, qorsheeyayaasha barnaamijka caafimaadka iyo bixiyayaasha daryeelka caafimaadka si looga hortago loona maareeyo dhibaatooyinka dhiig-karka ee uurka.

Qarsoodinimada

Waxaan si aad ah u xaqiijinayaa in magacaaga iyo aqoonsi-bixiyeyaasha kale aan lagu diiwaangelin doonin xogururinta isla markaana macluumaadka la bixiyo waxaa lagu hayn doonaa qarsoodi oo looma isticmaali doono wax aan ka ahayn ujeeddada cilmi-baarista. Wixii macluumaad ah ee aad soo gudbiso waxaa isticmaali doona kooxda cilmi-baarista oo sinaba looma muujin doono dhinac saddexaad.

Nidaamyada

Maanta, waxaan halkaan u imi doonaa inaan soo aruuriyo xogta ku saabsan heerka sare ee dhibaatooyinka dhiig-karka ee Uurka iyo Waxyaabaha Ku Saabsan ee Haweenka Uurka leh ee tagaya adeegyada daryeelka hooyada. Waqtiga dhameystirka xog aruurintu wuxuu qaadanayaa 30 ilaa 40 daqiiqo. Waxaad ka mid tahay kooxdii haweenka uurka leh ee si aan kala sooc lahayn loogu xushay daraasaddan cusbitaalkan. Habka cilmi baarista waxaa ka mid noqon doona wareysi fool ka fool ah iyo dib u eegista rikoorkaaga aruurinta xogta. Xog ururiyaha ayaa ku weydiin doona su'aalo ku saabsan astaamaha dhaqan-bulsheedka iyo su'aal laxiriirta xanuunnada dhiig karka leh ee uurka leh.

Khatarta iyo Faa'iidooyinka Daraasadda

Markaad kaqaybqaadato daraasaddan oo ka jawaabto su'aalaha ma heli doontid waxtarka tooska ah. Si kastaba ha noqotee, waxaad gacan ka geysan doontaa kordhinta fahamkeenna arrimaha ku saabsan ama si toos ah u saameeya dhacdooyinka cudurada dhiig-karka ee uurka ee deegaankan gaarka ah. Khatarta kaqeybgalka daraasaddan ayaa ah mid aad u yar, kaliya qaadataa daqiiqado yar waqtigaaga in aysan wax saameyn ah ku yeelan doonin danahaaga shaqsiyeed ama nolosha bulshada.

Xuquuqda

Kaqeybgalkaaga daraasaddan waa iskaa wax u qabso oo waxaad xaq u leedahay inaad diido ka qeybqaadashada ama ka jawaabista su'aalaha aad adiga kuula jecleysan. Haddii aad beddesho maskaxdaada ku saabsan ka qeybqaadashada inta lagu gudajiro daraasadda, waxaad xaq u leedahay inaad ka laabato waqti kasta. Go'aanka ah kaqeybgalka ama ka noqoshada ma saameyn doono qeyb kasta oo ka mid ah noloshaada bulshada ama daryeelka caafimaad ee mustaqbalka ee aad u baahan tahay ama waxtarka kale ee aad xaq u yeelan doonto. Macluumaadka aad bixisay si buuxda ayaa loo xafidayaa waxaana loo isticmaali doonaa oo keliya daraasadda. Haddii ay jiraan wax aan caddayn ama haddii aad u baahan tahay macluumaad dheeri ah, waan ku farxi doonaa inaan ku siiyo. Hadaad rabto inaad qofna kala hadasho daraasaddan cilmi baarista waxaad la xiriiri kartaa yodahekiya@gmail.com ama soo wac (251) 913-574-485. Waqtigan xaadirka ah, miyaad dooneysaa inaad wax iga weydiiso baaritaanka?

Foomka oggolaanshaha ama Baaqa mutadawiciinta

Waan fahmay ujeeddada daraasadda. Waan akhriyey macluumaadka kor ku xusan ama waa la ii aqriyay. Waxaan fursad u helay inaan weydiiyo su'aalo ku saabsan waxaas oo su aal kasta oo aan weydiiyayna waxaa looga jawaabay qanacsanaanta. Waxaan oggolahay ikhtiyaar ahaan inaan kaqeyb galo daraasaddan oo waxaan fahamsanahay inaan xaq u leeyahay inaan ka baxo daraasadda waqti kasta aniga oo aan sinaba u saameynayn noloshayda bulsho ee mustaqbalka ama daryeelka caafimaad.

Magaca iyo Saxeexa kaqeybgalayaasha_____ Taariikhda ___ / _____ / _____

Magaca iyo Saxiixa xog aruuriyaha_____ Taariikhda ___ / _____ / _____

Aad baad ugu mahadsantahay ka soo qeyb galkaaga

8.12 Somalic version of the questionnaire

WEYDIINAYAASHA

HARAMAYA UNIVERSITY

XARUNTA CAAFIMAADKA CAAFIMAADKA iyo CIIDAMADA CAAFIMAADKA

DUGSIGA HOOSE EE POSTGRADUATE

SU'AALO KU SAABSAN SHARCIGA SOMALI

Cabirkiisu ofHypertensive xanuunada Uurka iyo Arrimaha Associated ka mid ah Haweenka Uurka leh dhigata Adeegyada daryeelka hooyada ee isbitaallada dowladda ee Dire Dawa iyo Harar magaalada, Eastern Itoobiya

Qeybta 1: JAAMACADAHA SOCIODEMOGARIIC SIFIODEMOGARIIC

Maya.	Su'aalo	Qeybaha koodhadhka	Skips
101	Meeqa sano ayaad jirtaa	_____-dheeg	
102	Xaaladda guurka	1. Waa la guursaday 2. 2. Kali 3. 3. Furiin 4. 4. Kala go ’ 5. 5. Carmal	
103	Diinta	1. Orthodox 2. Muslim 3. Protestant 4. Kaatoolig 5. Wax kale (cadee) _____	
104	Qowmiyadeed	1. Oromo 2. Amxaarada 3. Soomaali 4. Aderie 5. Wax kale (cadee) _____	
105	Heerka waxbarashada	1. Koowaad 2. Secondary 3. Farsamo / xirfad 4 . Sare	
106	Heerka waxbarashada ee xaaskaaga / saygaaga	1. Koowaad 2. Secondary 3 . Farsamo / xirfad 4. Sare	
107	Xaaladdaada shaqo ee hadda	1. Shaqaalaha Dowlada / NGO 2. Xaas 3. Farmaajo 4. Foosha maalinlaha ah 5. Ganacsato 6. Wax kale (Cadee) ……	
108	Xaaladda shaqada ee saygaaga / xaaskaaga	1. Shaqaalaha Dowlada / NGO 2. Farmaajo 3. Foosha maalinlaha ah 4. Ganacsato 5. Wax kale (Cadee) ……	
109	Degenaansho	1. Magaalada 2. Miyiga	
110	Cinwaanka	Woreda ------- Kebele -------	
111	Ilaa intee waa xarunta ugu dhow ee caafimaadka ka aad guriga? Lug / baabuur ma?	_____ daqiiqo	
112	Qiyaasta daqliga qoyska bishii	_____Birr	

QAYBTA 2: SHURUUDAHA XILALKA CAAFIMAADKA

Maya.	Su'aalo	Qeybaha koodhadhka	Skips
201	Ma jiraa qof qoyskaaga ka tirsan oo lahaa ama qaba dhiig karka? (calaamee dhamaan codsiyada qaraabada heerka koowaad kaliya)	1. Haa 2. Maya ---------- ---	203

202	Hadday haa tahay, waa kuma?	1. Aabe 2. Hooyo 3. Walaasha 4. Walaal	
203	Dhakhtar ma kuu sheegay inaad qabtid ama aad qabtid dhiig karka (BP sare) uurka kahor?	1. Haa 2. Maya	
204	Dhakhtar ma kuu sheegay inaad qabtid dhiig karka inta aad uur kasta oo aad qabtid?	1. Haa 2. Maya	
205	Ma jiraa qof qoyskaaga ka tirsan oo qaba cudurka sonkorowga mellitus? (calaamee waxaas oo dhan dalbo qaraabada darajada koowaad kaliya)	1. Haa 2. Maya …….	207
206	Hadday haa tahay, waa kuma?	1. Aabe 2. Hooyo 3. Walaasha 4. Walaal	
207	Dhakhtar ma kuu sheegay inaad qabtid ama aad qabtid sonkorow mellitus?	1. Haa 2. Maya	
208	Dhakhtar ma kuu sheegay inaad qabtid kaadi macaan uurka?	1. Haa 2. Maya	
209	Dhakhtar ma kuu sheegay inaad qabtid ama neefta qabtid?	1. Haa 2. Maya	
210	Ma qabtaa wax cudur caafimaad oo raaga?	1. Haa 2. Maya …….	301
211	Hadday haa tahay Q208, sheeg		

Qaybta 3: RESPONDANTS ' TAARIIKHDA uurreyda iyo umulaha

Maya.	Su'aalo	Qeybaha koodhadhka	Skips
301	Miyaad uur laheyd kahor uurkaan? (Ku dar dhammaan uurihii ku dhammaaday dhalashada nolosha, si lama-filaan ah ama ilmo iska soo ridid, uur-jiif iyo ilmo-galeen)	1. Haa 2. Maya …… …….	308
302	Sidee badan oo ay leeyihiin aad ahayd uurka (Gravida)	1. Haa 2. Maya …… …….	
303	Imisa jeer aad dhashay in aad nooshahay? (Para)	---------- Waqtiyada	
304	Da'da uurka koowaad	_____ dheraad	
305	Waqtigee baaxad aheyd oo udhexeysa tii hore iyo uurkaan?	____ bilood	
306.	Weligaa taariikhdaada ma soo maray taariikhda ilmo soo ridid da	1. Haa 2. Maya ……	308
307.	Hadday 'Haa' tahay Q304 meeqa?	_____	
308.	Uurka hadda socda ma la qorsheeyay	1. Haa 2. Maya	
309	Da'da uurka	_____ toddobaadyo	

310.	Uurkan ma mid badan baa mise waa mid keliya? (haddii aan la aqoonin jeega shaxanka)	1. Hal 2. Mataanaha	
311	Waa maxay galmada dhallaanka cusub ee uurkan?	1. Lab 2. Dhedig 3. Lama yaqaan	
312	Miyaad ka qeybgashay ANC uurkaan?	1. Haa 2. Maya ……	315
313	Tirada booqashooyinka rugta caafimaad ee ANC?	_____ jeer	
314	Ma heshay talo bixin nafaqo inta lagu jiray ANC	1. Haa 2. Maya	
315	Ayaa aad u isticmaalaya casriga ah ka hortagga uurka ka hor inta this uurka?	1. Haa 2. Maya ……	

Qeybta 4: JOOJINTA Sababaha dhaqanka uurka

Maya.	Su'aalo	Qeybaha koodhadhka	Skips
401	Sigaar ma cabtay intii uurka lagu jiray?	1. Haa 2. Maya …….	403
402	Inta jeer?	1. Maalin kasta: ____cabbirka sigaarka maalin kasta 2. Mararka qaarkood: _____ toddobaad sigaar cabba 3. Waxaan joojiyay sigaar cabidda_____ toddobaadki uurkaas	
403	Miyaad khamri cabtay intii aad uurka lahayd (Akhri: Beer, Tala , Katikala , khamri, Tej ama kuwa kale)?	1. Haa 2. Maya ……	405
404	Noocee?	1. Beer 2. Tala 3. Katikala 4. Khamri 5. Tej 6. Kuwa kale waxay cayimeen _____	
405.	Miyaad khamri cabaysay intaad uurka leedahay?	1. Haa 2. Maya ……	407
406.	Inta jeer?	1. Maalin walba 2. _____ maalmood usbuucii 3. Waxaan joojiyay _____ toddobaadyo ah da'da uurka	
407.	Miyaad cunaysay miro intaad uurka leedahay?	1. Haa 2. Maya ……	409
408	Inta jeer?	1. Maalin kasta 2. _____ maalmood usbuucii 3. Waxaan joogsaday _____ toddobaadyo ah da'da uurka	
409	Miyaad cunaysay khudradda intaad uurka lahayd?	1. Haa 2. Maya ……	411

410	Inta jeer?	1. Maalin kasta 2. _____ maalmood usbuucii 3. Waxaan joogsaday _____ toddobaadyo ah da'da uurka	
411	Miyaad sameysay jimicsi jireed intii aad uurka lahayd	1. Haa 2. Maya …… ..	413
412	Inta jeer?	1. Maalin kasta 2. _____ maalmood usbuucii 3. Waxaan joogsaday _____ toddobaadyo ah da'da uurka	
413	Miyaad isticmaaleysay daaweyn dhaqameed intii aad uurka lahayd	1. Haa 2. Maya	
414	Guri noocee ah?	----	

Qeybta 5: QIIMAYNTA IYO TILMAAMAHA

Maya.	Su'aalo	Qeybaha koodhadhka				
501	Cabbirka BP		Akhrinta koowaad	Akhrinta Labaad	Akhrinta saddexaad	Akhriska celceliska
		SBP				
		DBP				
502	Haddii dhiig karka, nooca ayaa ah	1. Dhiig karka uurka 2. Pre- eclampsia , iyo eclampsia , 3. Qiimaynta dhiig karka ee dhiig karka loo yaqaan 'preeclampsia' 4. Cadaadis daran				
503	Miisaan	_____kg				
504	Dherer	_____cm				
505	BMI	_____				

Qeybta 6: dib u eegista diiwaanka

601	Natiijooyinka borotiinka kaadida	1. Taban 2. + 3. ++ 4. +++ 5. Ka weynaan +++ 6. Lama qaadan	
602	Kooxda dhiigga hooyada? (ka eeg shaxda caafimaadka)	1. A 2. B 3. AB 4. O	
603	RH factor	1.Maxamed Negative	
604	emoglobin in mg / dl? (ka eeg shaxda caafimaadka)	_____ mg / dl	

Waad ku mahadsantahay ka qeyb galkaaga.