ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

ASSESSMENT OF THE EFFECT OF SUBSTANCE ABUSE AND OTHER FACTORS ON BIRTH WEIGHT OF NEWBORN AMONG MOTHERS WHO ATTENDED BIRTH AT HOSPITALS, ADDIS ABABA

By: EMEBET DENDIR (MD)

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Assessment of the effect of substance abuse and other factors on birth weight of newborn among mothers who attended birth in hospitals, Addis Ababa

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Acronyms

AARHB	Addis Ababa Regional Health Bureau
AAU	Addis Ababa University
ANC	Antenatal Care
AOR	Adjusted Odds Ratio
CSA	Central Statics Agency
CI	Confidence Interval
EPHA	Ethiopian Public Health Association
FMOH	Federal Ministry of Health
OR	Odds Ratio
SD	Standard Deviation
SPSS	Statistical Package for Social Science
WHO	World Health Organization
X^2	Chi-Square test

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Abstract

Background: Substance abuse during pregnancy is more prevalent than commonly realized.The problem is greatly underestimated in many parts of the world. Specifically limited research to date has addressed the relationship between substance use and birth outcomes among women in Ethiopia. Therefore, the study to close the gap in generating first hand information on the issue

Objective: The main objective of this study was to examine the effect of maternal substance abuse on the birth weight of a newborn

Methods*:* The study used analytic study method in the form of facility based unmatched case control study, which compares the substance use of women during pregnancy with birth weight of newborns delivered from women in Addis Ababa Hospitals using an interview with a structured and pre-tested questionnaire. Sample total sample was allocated to each health facility based on their patient load by proportionate to size, and a total of 112 cases of neonates with low birth weight were compared with 235 controls of neonates born with normal or higher birth weight to identify gaps. The data were analyzed using the SPSS-21 statistical - package.

Results:- khat chewing, cigarette and shisha smoking and having a partner smoking during pregnancy were statistically significant with lower birth weight Overall, factors associated with low birth weight were mothers who had sexual violence during pregnancy, Mothers who did not attend primary school (Education) and those with history of low birth weight. Moreover, lesser weight gain during pregnancy and short birth interval were associated with low birth weight.

Conclusion:- The association of low birth weight among mothers who had substance abuse was strong for particularly khat, cigarette and shisha smoking during pregnancy therefore, I recommend health professionals working in antenatal care service should be given training on counseling of mothers for banning or lowering use of substance abuse, and providing educational opportunity for girls and mothers is needed.

1. Introduction

1.1 Background

Substance abuse has crossed social, economic, and geographical borders, and remains one of the major problems that modern society is facing worldwide. The incidence of substance use among women of reproductive age continues to increase. Substance abuse during pregnancy is a growing health issue because it affects the future generations of our country. Alcohol and substance abuse by women during pregnancy has also been reported to be widespread and can affect the unborn fetus with the potential for lifelong disabilities (1).

Substance use during pregnancy can affect the developing fetus both directly, through passage of the drug through the placenta, and indirectly, through poor maternal health habits and environmental conditions (2). Although the placenta was once thought to protect the fetus against exposure to toxins, it is now known that metabolites of drugs, including cocaine, opiates, amphetamines, marijuana, and tobacco, enter the fetal bloodstream(3).Active metabolites can penetrate the fetal blood-brain barrier and interfere with early neuronal cell development or cause neuronal death(4).

The prevalence of substance abuse in young adults of both genders has increased markedly over the past 20 years. Nearly 90% of drug-abusing women are of childbearing age (5). However, the exact number of drug-dependent women is unknown because the statistics relies heavily on voluntary patient disclosure (6).

Research findings concerning the effects of prenatal substance exposure on children's development are often inconclusive and controversial. It is often difficult to quantify the developmental effects of prenatal exposure to a specific substance (7). The development of infants exposed prenatally to substances may be simultaneously affected by numerous factors, including exposure to multiple substances and utilization of prenatal care (8) .

1.2 Rationale of the study

In Ethiopia, substance use is increasing in some of the major towns including Addis Ababa and Birth defects and other problems caused by illicit drugs are completely preventable. However Research findings concerning the effects of prenatal substance exposure on children's development are often inconclusive and controversial. This study, therefore, is conducted to explore the relation between maternal substance abuse and adverse birth outcome among those people visiting health facilities in Addis Ababa, and come up with recommendations to enable the responsible bodies and policy makers to design appropriate strategies and measures to control the responsible substances and to fill the knowledge gap on the substance abuse during pregnancy, its impact level associated risk factors more particularly emphasized on our county context

2. Literature Review

2.1 Overview of substance abuse

Substance abuse is a maladaptive pattern of use that results in clinically significant functional impairment without satisfying the criteria for substance dependence. Abuse is indicated by any one of the following: failure to fulfill reasonable obligations, drug use in dangerous

situations, and continued use despite recurrent legal, social, and psychological problems (9)

Substance abuse and dependence have well-defined criteria based on the DSM-IV guide .Substance dependence is characterized by compulsive drug use, loss of control over use, and physical, social, and psychological consequences .Physical dependence is characterized by tolerance and withdrawal; however, it is not in itself sufficient to make a diagnosis of substance dependence. Substance withdrawal consists of a combination of drug specific symptoms and signs that occur within hours to days of stopping drug use (10).

The four general categories of substances abused by pregnant women are central nervous system depressants, including alcohol, sedatives, anxiolytics, and hypnotics; stimulants, including cocaine and amphetamines; opiates; and hallucinogens/ psychotomimetic, including lysergic acid diethylamide (LSD) and phencyclidine (PCP)(11). With the exception of caffeine and nicotine, these substances are associated with both abuse and dependence disorders (5).

Substance abuse during pregnancy is common. Illicit drug use in pregnancy is an increasingly common problem and has become an important public health issue. Because maternal drug use is a significant public health concern given the potential consequences for the health and well-being of both the mother and developing fetus (12). Drug use in pregnancy has been associated with a significant decrease in birth weight, gestational age at delivery and neonatal head circumference and with an increase in anemia, hepatitis, abruption and neonatal withdrawal syndrome (13). Even though in Ethiopia, there is a gap in conducting studies on this issue numerous studies are conducted in other countries, more particularly in the developed world. Thus, conducted researches discussed on different substance abuse, their impacts, and solutions and they could come up crucial findings.

2.2 Magnitude of the problem

Estimates also indicate that 4.3 percent of pregnant women use illicit drugs during pregnancy and 9.8 percent of pregnant women use alcohol during pregnancy, with 4.1 percent being binge drinkers (4)

As one study noted that substance abuse during pregnancy is more prevalent than commonly realized, with up to 25% of gravidas using illicit drugs (14) .In fact, substance abuse is more common among women of reproductive age than among the general population ,and figured that the average pregnant woman will take four or five drugs during her pregnancy, with 82% of pregnant women taking prescribed substances and 65% using nonprescription substances, including illicit drugs(15).

According to the study**,** national prevalence surveys of Canada, 14% of Canadian women reported using alcohol during their last pregnancy, and 17% reported smoking during pregnancy. The prevalence of illicit drug use among Canadian women of childbearing age is less but not insignificant. Where as in United States population surveys ~5% of pregnant women reported illicit drug use during the preceding month. Marijuana remains the most commonly used illegal drug, followed by cocaine. Women report higher rates than men of prescription drug use, including pain relievers (23.1%), opioid analgesics (2.1%), sleeping pills (1.7%), tranquilizers (1.1%), and antidepressants (2.1%)(1).

2.3 The Effects of Prenatal Drug Exposure—What the Research Shows

According to one study of illicit substances, cocaine is most consistently associated with birth outcomes, particularly those that capture dimensions of fetal growth such as birth weight, low birth weight, intrauterine growth restriction, and head circumference. Besides, the study indicated that marijuana is weakly and unreliably related to birth weight. Opiate use is also inconsistently related to birth outcomes; both large and small decrements in birth weight have been noted.(16)

According one study conducted by Karolinska University Hospital cited newborn infants with frequent and regular marijuana exposure throughout pregnancy have significant reductions in birth weight as compared to those with infrequent exposure to the drug (17). Although one would predict that heavy maternal marijuana use would be most associated with the greatest impairment of fetal growth, significance was only primarily evident for those with moderate, regular marijuana exposure of approximately three to six joints/week. Thus, these growth parameters may be more sensitive to marijuana exposure during later stages of pregnancy.

Marijuana impairs growth in mid-gestation fetuses**,** although both nonusers and marijuana users tended to decrease their cigarette smoking approximately twofold during pregnancy, the same was not apparent for alcohol use. Alcohol intake during pregnancy was reported in 54% and 23% of the marijuana and nonuser groups, respectively (18).

Cigarette smoking is associated with several maternal complications of pregnancy: premature rupture of membrane, abruption placenta and placenta previa; there is also a small increase in the risk of spontaneous abortion (19, 20). Infants of smoking mothers are more likely to experience preterm delivery, have a high perinatal mortality, are small for gestational age, are more likely to die of sudden infant syndrome and appear to have a developmental lag for at least the first several years of life. This is because many of the carcinogenic and mutagenic constituents of the tobacco found in the blood of active smokers readily cross the placenta to foetal circulation (21). The obstetric and fetal complications associated with maternal substance abuse include placenta previa, abruptio placenta, premature rupture of membranes, spontaneous abortion, intrauterine growth retardation, premature delivery, birth defects, and neonatal and long-term developmental effects (15).

One study also stated that neonatal effects of substance abuse, generally include congenital anomalies, neonatal medical complications, and neurobehavioral changes. Specific neonatal medical complications of maternal substance abuse include sudden infant death syndrome (SIDS), neonatal abstinence syndrome (NAS), and respiratory distress syndrome (22).

Cocaine exposure has been the primary focus of the large majority of research studies Cocaine freely crosses the placenta and its vasoconstrictive effects decrease uterine blood flow causing fetal hypoxemia, thus affecting fetal growth (23). Fetal growth, especially intrauterine brain growth retardation, can reflect altered central nervous system development, and provide evidence for neurotoxic and neuroteratogenic effects of cocaine exposure(24).

Tobacco use has also been linked to low birth weight and pregnancy complications, including prematurity, placental abruption, and intrauterine death. Low birth weight suggests that the fetus has not obtained important nutrients and oxygen, which are important for optimal brain growth and neuronal development (25). Some evidence indicates that maternal tobacco use during pregnancy doubles the likelihood of sudden infant death syndrome

Some evidence suggests that alcohol impairs the placental transfer of essential amino acids and zinc, thus increasing the risk for intrauterine growth retardation by inhibiting protein synthesis

(26). Day and coworkers performed a prospective study of 650 women and their newborns that showed that low birth weight, decreased head circumference and length, and an increased rate of fetal alcohol effects were correlated with exposure to alcohol during the first 2 months of pregnancy (27).The use of alcohol and drugs by pregnant women can result in significant maternal, fetal, and neonatal morbidity. In general, pregnant women with substance use disorders are less likely to seek prenatal care, and they have higher rates of infectious diseases such as HIV, hepatitis, and other sexually transmitted infections (28, 29).

The other very crucial point that many studies have given emphasis is the risk factors which are associated with substance abuse. In adequate prenatal care utilization is the main risk factor (19). In addition to inadequate prenatal care utilization and the frequent concomitant use of tobacco and alcohol, illicit drug use is also associated with multiple social, psychosocial, behavioral, and biomedical risk factors including poverty, stress, depression, lack of social support, physical abuse, sexually transmitted infections, and poor nutrition (30).

3. Objectives

3.1. General Objective

To assess the effect of maternal substance abuse and other factors associated with neonatal birth weight in selected health facilities of Addis Ababa, Ethiopia

3.2. Specific Objectives

- To assess the relationship between substance abuse and low birth weight among women attending delivery service in public health institutions of Addis Ababa City

- To assess factors associated with low birth weight among women attending delivery service in public health institutions of Addis Ababa City

4. Methods and materials

4.1. Study area

Addis Ababa lies at an altitude of 2,300 meters and is a grassland biome, located at 9° 1′ 48″ North38° 44′ 24″ East. The city lies at the foot of Mount Entoto. From its lowest point, around Bole International Airport, at 2,326 meters above sea level in the Southern periphery, the city rises to over 3,000 meters in the Entoto Mountains to the North. Addis Ababa has a Subtropical highland climate. The city has a complex mix of highland climate zones, with temperature differences of up to 10°C, depending on elevation and prevailing wind patterns.

Based on the 2000 EC figures from the Central Statistical Agency (CSA) of Ethiopia, Addis Ababa has an estimated total population of 3,147,000 consisting of 1,511,000 men and 1,636,000 women. The city is divided into 10 administrative sub cities and 99 districts. With an estimated area of 530.14 square kilometer, this chartered city has a density of 5,607.96 people per square kilometer According to the 2000 (EFY) Health and Health Related Indicators publication by FMoH. Addis Ababa has 33 Hospitals, 52 Health Centers and 35 Health Posts (21).Delivery service and midwives are available in most of health facilities. Delivery service and midwifes are available in most of the health facilities (9)

4.2. Study design

The study used analytic study method in the form of facility based unmatched case control study which compares substance abuse of women during pregnancy between women who gave normal and below-normal birth weight of newborns in selected hospitals of Addis Ababa in March 2013 by using structured and pre-tested interviewer administered questionnaire.

4.3 Source population

The source population for this study was pregnant women attending delivery service at public health facilities of Addis Ababa

4.4. Study population

The study population for this study will be pregnant women who delivered their newborn in selected hospitals of Addis Ababa. In this study, the cases was pregnant women who delivered a term alive singleton newborn baby with birth weight < 2500 grams, while pregnant women who delivered a term alive singleton newborn with a birth weight >= 2500grams baby who just delivered immediately after the case were the controls.

4.5 Inclusion and exclusion criteria

4.5.1 Inclusion criteria:

All pregnant women who delivered in selected Hospitals and who were willing to participate in the study

4.5.2 Exclusion criteria:

- Pregnant women with disability of hearing or listening or unable to give verbal consent.
- Pregnant women who have a comorbid illness (DM, Cardiac illness, HTN).
- Pregnant women who delivered with caesarian section, and other assisted deliveries
- Pregnant women who delivered twin, triple or more newborns.
- Pregnant women who delivered still birth.

4.6. Sample size and sampling technique

The sample size was calculated using a formula to determine two proportion of population, with an assumption of prevalence of substance abuse among general pregnant women of 4.3%. Taking 10 % difference between cases and controls of having substance abuse, with 1:3 ratio between cases and controls, at 95% confidence level, and 80% power will be considered. Additional 10% was added to compensate non-response and incompleteness of data, and the sample size was determined by epi-info version 3.5.3. Therefore, the total sample size was 74 cases and 220 controls, (ie $\alpha = 0.05$, $\beta=80\%$, $\mathbf{p_1 - p_2}= 10\%$, and $\mathbf{r} = 1:3$).

- Prevalence of substance abuse among the general pregnant women of 4.3 % (4)Probability that if the two samples differ this reflects a true difference in the two populations (confidence level or 1-alpha) = 95%
- Probability that if the two populations differ, the two samples will show a "significant" difference (Power or 1-beta) = 80%
- The ratio of case to control (case: control) = 1: 3
- Expected frequency of exposure to substances in controls (Mother who delivered term with birth weight, 2500 gram) =4.3%
- Percent exposure to substances among cases (mother who delivered term with birth weight=>2500) =10%

$$n = \frac{[Z_{\alpha/2}\sqrt{(1 + 1/r)(p)(1-p)} + Z_{\beta}*\sqrt{p_1(1-p_1) + p_2(1-p_2)}]}{(p_1 - p_2)^2}$$

Where: $P = \frac{P1 + rP2}{1 + r}$

$Z_{\alpha/2}$ = the percentile of standard normal distribution corresponding to the level of significance

Z_{β}= the percentile of standard normal distribution corresponding the power of the study

r = ratio of cases to controls

p_1 = the proportion of exposure to substances among the controls

p_2 = the proportion of exposure to substances among the cases

n = the minimum sample size required for the study

Accordingly, the sample size was calculated to be about 67 cases and 200 controls are planned to be interviewed. Total sample size calculated is 267. Additional 10% was added to compensate non-response and incompleteness of data, Therefore, the total sample size will be 74 cases and 220 controls.

4.7 Sampling procedures

Every pregnant woman who delivered a term newborn baby in one of the selected three Hospitals were eligible for an interview. Three hospitals were included in the study that is going to be selected using purposive sampling. The sample size assigned to the hospitals was distributed based on proportionate to size considering their patient load. From each selected health facility, allocated sample size of pregnant mother who delivered (who full fill the operational definition of this study), visiting the respective health institutions was recruited until the quota of sample size is filled.

Hospitals

- ✓ Zewditu memorial hospital
- ✓ Yekatit 12 hospital
- ✓ Mahatma Ghandi Memorial hospital

4.8 Data collection

Data was collected through a face to face maternal interview using structured questionnaire, medical records review of the mother & her newborn. Birth weight of every child was measured in gram using pretested and pre-calibrated weight scale within one hour of delivery. Five nurses of qualification diploma and above was recruited as data collectors and two supervisors BSC holders were also be recruited to assist the data collection process with main responsibility of checking the completeness of the questionnaire; the principal investigator was responsible for overall supervision. Training was given to the supervisors and data collectors on the objective of the study, the questions and extent of explanations, and the way to keep privacy and confidentiality. The data was collected from March1 to June/ 2013. Data was collected by 2 BSc Nurses who were given two days training on the study instrument and the data collection procedure. The questionnaire was prepared in English at first and translated to Amharic then back to English to check consistency of the questions. The questionnaire was be pre-tested in one health facility in Addis Ababa which is not included in the study to identify the clarity of their sensitiveness as well as gap on data collectors, and based on the result of the pre-test

corrections were made. All the data was checked for completeness, accuracy, clarity and consistency by the principal investigator immediately after data was collected.

4.9 Measurement

A. Dependent/ Outcome Variable

Low birth weight newborn

B. Independent

Socio demographic characteristics (Age, educational status, residence, marital status and occupation, Religion)

Substance use (different forms, duration of use, frequency of use)

Maternal obstetric history (Parity, Birth or pregnancy intervals, History of abortion ANC visit)

4.10 Data quality assurance

Pretesting was done before the actual data collection and modification was accordingly. The overall activity and data quality was controlled by principal investigator of the study through continuous supervision. All completed data was examined for their completeness and consistency during data management, storage, cleaning and analysis.

4.11. Data cleaning and analysis

After data collection, the data was coded on pre-arranged coding sheet by the investigator and the corresponding code number was written at each questionnaire margin and data entry was done using Epidata version 3.1Template scheme for data entry was developed and pre tested for ranges, skipping patterns and allowed legal values. Any error was identified before analysis by

revising entered data and original data's code number and statistical commands. SPSS version 21 for data analysis was used and EndNote X6 for reference citation.

In the analysis process, frequency distribution of variables was worked out in order to describe them in relation with the study population. The presence and degree of association between dependent and independent variables was measured by bivariate analysis using odds ratio for which 95% confidence interval will be calculated. To control possible confounding effects and to assess separate effects of variables, multivariate analysis using adjusted odds ratio was employed. Statistically significant association ($p<0.05$) will be analyzed by means of logistic regression

4.12 Operational definitions

- **Substance abuse** is a maladaptive pattern of use that results in clinically significant functional impairment without satisfying the criteria for substance dependence. Abuse is indicated by any one of the following: failure to fulfill reasonable obligations, drug use in dangerous situations, and continued use despite recurrent legal, social, and psychological problems associated with the substance.
- **Substance abuse**: the use of any of these substances by study subjects at any time without medical prescription

- **Khat (Catha Edulis):** A central nervous system stimulating substance with alkaloid active ingredient, Cathinone, and with biologic effect similar to that of amphetamine

- **Substance:** Any non-medical drugs used by study subjects such as alcohol, khat, Cannabis, heroin, cocaine, marijuana

- **Substance user**. A woman was considered a drug user if she had self-reported use of methadone, heroin, cocaine or any other drug of addiction at any time during pregnancy

- **Preterm:** It is when an infant is born before 37 completed weeks of gestational age.

- **Term**: It is when an infant is born in between 37-42 completed weeks of gestational age
- **Low birth weight**: It is a weight of a new born baby measured within one hour of delivery and is less 2500 grams.
- **Gestational age**: Gestational age of the fetus is the elapsed time since conception and is measured from the first day of the last menstrual period.
- **Parity:** The number of full term children previously borne by a woman, excluding miscarriages or abortions in early pregnancy, but including still births.
- **Gravidity**: The number of pregnancies (completed or incomplete) experience by a woman.

4.13. Ethical Consideration

Ethical approval was sought from Research and Ethics Committee (REC) of School of Public Health, Addis Ababa University for appropriateness and scientific content. The study was conducted in the selected health facilities after permission is obtained from the relevant body. Participants was asked for informed verbal consent before participating in the study. They will be provided with the information regarding the purpose, objective, procedures, potential risks and benefits of the study; they was also assured of strict confidentiality with regard to any information obtained from them. No personal identifiers was used and data will be analyzed in aggregates. Verbal consent was taken after explaining the stated risk. For each study participant explanation about the purpose and importance of the study was given. There was no denial of health service for refusal. Each participant told it is strictly confidential and privacy during interview will be maintained. Each participant told the right to refuse, ask any question that is not clear and to discontinue Interview any time in between for any inconveniences.

4.14. Dissemination of results

The result of this study will primarily be submitted to the SPH, AAU as partial fulfillment of the degree of master's in Public Health**.** The findings of the study will be distributed to the participating health facilities and different stakeholders through the appropriate channel. Action points will be developed together with responsible parties to make use of the conclusion & recommendation of the result Publication in a scientific journal shall also be considered.

6. Results

6.1Socio-demographic characteristics of the respondent

The total number of cases and controls were 112 and 235 respectively. Majority of the respondent 276 (79.8%) were between the age group of 15-29 years while the remaining 71 (20.5%) were 29 years or more age group. Educationally, cases with low birth weight have mothers with less education, and maternal education was significantly associated with low birth weight (X^2=28.614; df = 3; P < 0.001). Both cases and controls had higher proportion of Orthodox Church believers, and there was no significant difference was observed between religion of the mothers and giving low birth weight. Majority of the study participants (89.3 %, cases and 86.0% of controls) were married, and marital status was not associated with giving low birth weight. In both cases and controls almost half of the mothers of cases and controls were housewives followed by private sector employees, government employees and others, however, there was no association between mother's occupation and giving to a lower birth weight. Similarly, there was no statistical difference between the occupation of the father and low birth weight. In this study, women who gave low birth weight do not know income of the family compared to their controls (29.5% of cases and 17.9% controls). Similarly, (23.2% cases and 34.9% of controls) received a monthly income above Eth. Birr 3000. Overall, family monthly income is associated with gestational low birth weight, (X^2=8.257; df=3; P <0.05), (Table 1).

Table 1: Socio demographic characteristics of mothers who gave birth in Addis Ababa Hospitals, Mar 2014

Characteristics	Case (n=112)%	Control (n=235)	Statistics
Age			
15-24	46 (41.1%)	95 (40.4%)	X^2=3.261
25-29	49 (43.8)	86 (36.6%	df=2
30+	17 (15.2)	54 (54%)	P>0.05
Education			
Never educated	22 (19.6%)	8 (3.4%)	X^2=28.614
Elementary(1-8)	41 (36.6%	87 (37.0%)	df=3
Secondary(9-12)	46 (41.1%)	120 (51.1%)	P < 0.001
Tertiary(13+)	3 (2.7%)	20 (8.5%)	
Religion			
Orthodox	82 (73.9%)	171 (73.4%)	X^2=0.56
Muslim	18 (16.2%)	37 (15.9%)	df=2
Protestant	11 (9.9%)	25 (10.7%)	P>0.05
Marital status			
Married/living together	100 (89.3%)	202 (86%)	X^2=1.077
Single/never married	8 (7.1%)	25 (10.6%)	df=2
Divorced/Separated/Widowed	4 (3.6%)	8 (3.4%)	P>0.05
Occupation of the mother			
House wife	51 (48.5%)	101 (43%)	X^2=3.187
Government employee	10 (8.9%)	37 (15.7%)	df=4
Private sector employee	27 (24.1%)	53 (22.6%)	P>0.05
Merchant	16 (14.3%)	31 (13.2%)	
Other	8 (7.1%)	13 (5.5%)	
Occupation of the husband			
Government employee	19(17.9%)	50(22.8%	X^2 =2.123
Private sector employee	47(44.3%)	95(43.4%)	df=3
Merchant	31(29.2%)	51(23.3%)	P>0.05
Other	9(8.5%)	23(10.5%)	
Income			
Unknown	33 (29.5%)	42 (17.9%)	
<1500 birr	24 (21.4%)	46 (19.6%)	X^2=8.257
1500-2999 birr	29 (25.9%)	65 (27.8%)	df=3
> 3000birr	26 (23.2%)	82 (34.9%)	P<0.04

6.2 Obstetric history of the respondent

In table2, of all the respondent, 93(83%) of cases and 179(76.2%) of controls were pregnant for less than 3 times. Similarly, among those who were pregnant 102(91%) of cases and 204(86.8%) of controls had less than 3 children. Both gravidity and parity were associated with giving low birth weight.

History of abortion was reported by 22 (19.6%) of cases and 46(19.6%) of controls while 205 (87.2%) of cases and 93 (83%) of the controls were given iron supplement during their last pregnancy. Similarly, in this study, 85 (75.9%) of cases and 205 (87.2%) of controls had visited ANC clinic about or more times. Similarly, 87 (79.8%) of cases and 174 (78.4%) of the controls visited antenatal care service for the first time at a gestational age during 16 weeks of the fetus.

In this study, 24 (52.2%)of cases and 21 (22.6%) of controls had history of birth interval less than two years, and having history of birth interval less than two months was associated with low birth weight (X^2 =12.3; df=1; P < 0.001). Similarly, 19 (17.9%) of cases and 13 (6.2%) of controls reported to have history of underweight in their previous delivery., thus history of giving underweight in previous delivery is associated with current low birth weight (X^2 =10.557; df=1; P < 0.0001). Moreover, 12 (10.8) of cases and 89 (37.9%) of controls got weight gain of 10 Kgms or more during the pregnancy time, and lesser weight gain during pregnancy was associated with low birth weight, (X^2 =26.7; df=1; P < 0.0001).

Table 2: Obstetric history of mothers who gave birth in Addis Ababa Hospitals, Mar 2014

Variable	Case(n=112)	Control(n=235)	Statistics
Gravidity			
<3 pregnancy	93 (83%)	179 (76.2%)	$X^2 = 2.11$
≥ 3pregnancy	19 (17%)	56 (23.8%)	df=1; P>0.05
Parity			
<3 children	102 (91.1%)	204 (86.8%)	$X^2 = 1.323$
≥ 3 children	10 (8.9%)	31 (13.2%)	df=1; P>0.05
History of underweight birth			
Yes	19 (17.9%)	13 (6.2%)	$X^2 = 10.557$
No	87 (82.1%)	196 (93.8%)	df=1; P< 0.001
History of abortion			
Yes	22 (19.6%)	46 (19.6%)	$X^2 = 0.00$
No	90 (80.4%)	189 (80.4%)	df=1; P<0.05
Presence of symptoms			
Yes	37 (33%)	52 (22.1%)	$X^2 = 4.733$
No	75 (67%)	183 (77.9%)	df=1; P>0.05
Iron supplement			
Yes	205 (87.2%)	93 (83%)	$X^2 = 1.102$.
No	30 (12.8%)	19 (17%)	df=1; P>0.05
Weight gain during pregnancy			
<10KG	99 (89.2%)	29 (62.1)	$X^2 = 26.7$
≥10Kg	12 (10.8%)	89 (37.9%)	df=1; P<0.0001
Gestational age			
Below37weeks	23 (20.5%)	29 (12.3%)	$X^2 = 4.019$
37-42weeks	80 (71.4%)	184 (78.3%)	df=2; P>0.05
Above 42 weeks	9 (8%)	22 (9.4%)	
Inter pregnancy interval			
<2 years	24 (52.2%)	21 (22.6%)	$X^2 = 12.3$
≥ years	22 (47.8.2%)	72(77.46%)	df=1; P<0.001
Number of ANC visit			
≥4	85 (75.9%)	205 (87.2%)	$X^2 = 7.107$
<4	27 (24.1%)	30 (12.8%)	df=1; P=0.08
Gestational age at first visit			
Before16weeks	87 (79.8%)	174 (78.4%)	$X^2 = 0.091$.
During 16weeks and later	22 (20.2%)	48 (21.6%)	df=1; P>0.05

6.3 Experience of violence during pregnancy among respondent

Out of the total 347 women who have participated in this study (46.6%) of cases and 97(41.3%) of controls experienced emotional violence, and statistically it was not associated with giving low birth weight. In this study, 38 (33.9%) of the cases and 41(17.4%) of the controls experienced any form of physical violence, while 46 (41.1%) of the cases and 44 (18.7%) of the controls have experienced sexual violence during their last pregnancy. In this study, sexual and physical violence during pregnancy was statically significant with having low birth neonate, (Table 3).

Table 3: Violence during Pregnancy among mothers who gave birth in Addis Ababa Hospitals, Mar 2014

Type of violence	Case	Control	P value
Emotional	52 (46.6%)	97 (41.3%)	P>0.05
Physical	38 (33.9%)	41 (17.4%)	P<0.001
Sexual	46 (41.1%)	44 (18.7%)	P<0.001

6.4 Behavioral factors (substance use) among study subjects

Out of 346 study subjects 32 (28.6%) of the cases and 23 (9.8%) of the controls were using Khat during last pregnancy. Moreover, 61 (54.4%) of the cases and 105 (44.5%) controls reported to drink alcohol in the last pregnancy while 17 (15.2%) cases and 1 (4%) of the controls reported to smoke tobacco during the last pregnancy. Twenty (17.9%) of the cases and 3 (1.3%) of the controls had practiced smoking Shisha during the pregnancy. Similarly, among the respondents, 15 (13.4%) of the cases and 14 (6%) of the controls reported their partners to smoke cigarette during their last pregnancy. In this study, no study participant reported to use other illicit drugs during the last pregnancy.

Statistically, khat chewing, cigarette and shisha smoking and having a partner smoking during pregnancy were statistically significant with lower birth weight. However, history of alcohol drinking during pregnancy was not associated with lower birth weight, (table 4).

Table 4: Life style/personal habit during pregnancy of mothers who gave birth in Addis Ababa Hospitals, Mar 2014

Type of substance	Case	Control	P value
Khat	32 (28.6%)	23 (9.8%)	P=0.0001
Alcohol	61 (54.5%)	105 (44.5%)	P>0.05
Cigarette	17 (15.2%)	1 (4.0%)	P=0.0001
Shisha	20 (17.9%)	3 (1.3%)	P=0.0001
Illicit substance	0 (0%)	235 (100%)	= == ==
Partner smoking	15 (13.4%)	14 (6%)	P=0.019

6.5 Factors associated with low birth weight

6.5.1 Selected socio-demographic and obstetric history and low birth weight

In this study, women's educational level was associated to a significant level with Low birth weight. Women who were on primary school were 83 % less likely to give low birth weight than women who never attended formal education (AOR = 0.07; 95% CI; 0.01, 0.39). Similarly, secondary school class attendees (AOR = 0.05; 95% CI; 0.01, 028) and tertiary school attendees (AOR = 0.11; 95% CI; 0.01, 1.76) were 86% and 94% less likely to give birth to low birth weight neonate compared to women who never attended formal education, and it was still statistically significant after it was adjusted for weight gain, history of underweight, education, income of the mother, inter pregnancy spacing.

The likelihood of giving low birth weight was about 3 time higher among women having history of underweight compared to women having no history low birth weight, and was still significant after it was adjusted for weight gain, history of underweight, education, income of the mother, inter pregnancy spacing, (AOR=3.49; 95% CI; 1.44,8.44). The chance of giving low birth weight was more than three times higher among women having history less than 10 Kg weight gain during pregnancy compared to women having high weight gain, and was still significant after it was adjusted for weight gain, History of underweight, Education, Income of the mother. Inter pregnancy spacing, (AOR=3.49; 95% CI; 1.44, 8.44). The likelihood of giving low birth weight was 74% less likely among women who had less than two years of interval in last birth compared to women who had birth interval of 2 years and more, and was still significant after it was adjusted for weight gain, history of underweight, education, income of the mother, (AOR=0.14; 95% CI; 0.05, 0.42).

Monthly income which was associated with low birth weight when income was categorized at four levels (when unknown mothers were included) was not associated with low birth weight after it was reduced to three categories, and after it was adjusted for others.

Table5: Selected socio-demographic and obstetric history correlates of low birth weight among mothers who gave birth in Addis Ababa Hospitals, Mar 2014

Variable	Crude OR (95%CI)	Adjusted* OR(95%CI)
Education		
Never educated	1.0	1.0
Primary	0.17 (0.07, 0.42)	0.07 (0.01, 0.39)
Secondary	0.14 (0.06, 0.34)	0.05 (0.01, 0.28)
Tertiary	0.06 (0.01, 0.24)	0.11 (0.01, 1.76)
Income		
<1500 birr	1.0	1.0
1500-2999 birr	0.86 (0.40, 1.65)	1.22 (0.54, 2.76)
≥ 3000birr	0.61 (0.31, 1.18)	1.12 (0.49, 2.55)
Inter pregnancy spacing		
Less than 2 years	1.0	1.0
Two or more years	0.27 (0.13, 0.57)	0.14(0.05, 0.42)
Weight gain		
<10Kg	1.0	1.0
≥10Kg	0.20 (0.10, 0.38)	0.23 (0.11, 0.48)
History of underweight		
No	1.0	1.0
Yes	3.29 (1.56, 6.97)	3.49 (1.44,8.44)

*Adjusted for weight gain, History of underweight, Education, Income of the mother, inter pregnancy spacing

6.5.2: Experience of violence during pregnancy and low birth weight neonate

Low birth weight was associated to a significant level with women who experienced physical violence and sexual violence. Women who had experienced physical violence have more than 2 times higher chance of having lower birth weight than those who didn't experience violence during the last pregnancy, however, its significance was refuted after it was adjusted for weight gain, history of underweight, education, income of the mother and inter pregnancy spacing (AOR = 1.32 ; 95% CI; 0.56, 3.1). Similarly, women who had experienced sexual violence were 3 times higher than those who didn't experience sexual violence during last pregnancy and it was still statistically significant even after it was adjusted for weight gain, history of underweight, education, income of the mother and inter pregnancy spacing (AOR = 3.41 ; 95% CI; 1.54, 7.32)

Table 5: Experience of violence during pregnancy and having low birth weight neonate among mothers who gave birth in Addis Ababa Hospitals, Mar 2014

Variable	Crude OR (95%CI)	Adjusted* OR(95%CI)
Physical Violence		
No	1.0	1.0
Yes	2.43 (1.45,4.07)	1.32 (0.56,3.1)
Sexual Violence		
No	1.0	1.0
Yes	3.03 (1.84,4.98)	3.41 (1.54,7.32)

*Adjusted for weight gain, History of underweight, Education, Income of the mother, inter pregnancy spacing

6.5.3 Association between substance use and having lower birth weight

Low birth weight was associated to a significant level with women who were abusing substance like khat, cigarette, shisha and women having smoking partner. The chance of giving low birth weight was among women who chew khat during the last pregnancy was more than four times higher compared to those women who don't chew khat, and it was still statistically significant after it was adjusted for weight gain, history of underweight, education, income of the mother, inter pregnancy spacing, physical and sexual violence, (AOR = 2.83; 95% CI; 1.35, 5.93)

The chance of giving low birth weight, among women who were smoking shisha during last pregnancy, was more than 17 times higher compared to mothers who didn't smoke, and smoking shisha was still statistically significant after it was adjusted for weight gain, history of underweight, education, income of the mother, inter pregnancy spacing, physical and sexual violence, (AOR= 20.10; 95% CI; 3.94, 102.56)

The likelihood of giving low birth weight, among women who were smokers during the last pregnancy, was more than 37 fold higher than non-smoke mothers, and after it was adjusted for weight gain, history of underweight, education, income of the mother, inter pregnancy spacing, physical and sexual violence, (AOR = 24.24 ; 95% CI; 2.79, 210.2). Similarly, mothers, whose partners were smoking during the last pregnancy, had about twice higher chance of giving to a low birth child compared to mothers whose partners didn't smoke. However, having a smoker partner was not significantly associated with low birth weight after it was adjusted for weight gain, history of underweight, education, income of the mother, inter pregnancy spacing, physical and sexual violence, (AOR=0.38;95% CI; 0.38,2.9).

Table 6: **Association between substance use and having lower birth weight among mothers who gave birth in Addis Ababa Hospitals, Mar 2014**

Variable	Crude OR (95% CI)	Adjusted* OR (95% CI)
Alcohol		
No	1.0	1.0
Yes	1.45 (0.91,2.33)	1.45 (0.84,2.49)
Khat		
No	1.0	1.0
Yes	3.82 (2.02,7.21)	2.83 (1.35,5.93)
Cigarette		
No	1.0	1.0
Yes	37.4 (4.88,286.3)	24.24 (2.79,210.2)
Shisha		
No	1.0	1.0
Yes	16.8 (4.88,57.9)	20.10 (3.94,102.56)
Partner Smoking		
No	1.0	1.0
Yes	2.44(1.14,5.25)	1.06 (0.38,2.9)

*Adjusted for weight gain, History of underweight, Education, Income of the mother, inter birth spacing, physical and sexual violence

7. Discussion

In recent years, increasing emphasis has been held on substance abuse. Many studies have been conducted to assess the effect of substance abuse during pregnancy. The finding in this study also achieved the same or even higher, indicative of the previous researches. Comparison between cases having low birth and their controls was made for difference substance use, violence, reproductive health history and some socio-demographic characteristics, crudely and after adjusting for some factors associated or borderline association with low birth weight, and there was statistically significant association between low birth weight and educational status, monthly income maternal substance use such as Khat chewing, cigarette and Shisha smoking and partner smoking and experience of maternal physical and sexual violence were found to be statistically significant with neonatal low birth weight.

The association between not attending primary education and low birth weight was having odds of 14 times higher than those who had attended same level of education which was a finding not supported by other studies despite the wide confidence interval the association could be explained by how we are still dealing with lack of primary education for women in urban areas and we might also expect higher rate of association in rural part of Ethiopia more over the association is not significant in those cases who attended secondary and tertiary school.

The association between level of income less than 1500 birr and low birth weight was having odds of 5 times higher than those with income above 1500 birr and this finding was not supported by other studies possibly due to low level of education and employment status, food insecurity at household level with maternal malnutrition the above finding in this study is supported by a finding which had odds of 3 times higher association for normal birth weight when there was maternal weight gain by less than 10 kg than those who gained more than 10 kgs, there was enough supportive literature which substantiates this finding (31).

Respondents who reported previous delivery of low birth weight had report of low birth weight in this study with odds of association 3 times higher than those with no previous history of low

birth weight report on previous deliveries a finding which is consistent with result from study in Tanzania who reported low birth weight in previous deliveries to be strongly associated with current low birth wt. delivery than those with no previous deliveries of low birth wt. which could be explained by same socio-demograghy status between both study subjects and possible recurring risk factors in successive pregnancies such as low level of education, food insecurity, vicious cycle of malnutrition, poverty and access to better health care(31).

The odds of physical violence associated with low birth weight was 1.8 times higher than those with normal birth weight, other studies didn't show association which could because of the social and educational background of respondents and higher number of alcohol and khat use so that their partners might be angry at their behaviors and potential fear to the health of fetus also might be their husbands had similar behavior regarding alcohol and chat use with potential aggression after toxicity(32). But there is difference between the educational level and the Household income of the mother and the low birth of the new born. This reflects the fact that most of them are urban residents and have more access to education. This observation needs to be confirmed in other studies. The difference could be explained by the lack of awareness from legal support on sexual violence by their husbands moreover in this study since we didn't assess paternal behaviors than smoking which might have contributed to the lower odds of association (33).

The odds of maternal smoking was 37 times higher than those who had no history of smoking during pregnancy which is a similar finding with a study done in Botswana having a strength of odd of 46 times higher chance of low birth weight(34) The odds of maternal shisha smoking for low birth wt. was 17 times higher than those without shisha smoking which has similar finding from a study done in Oman with 14 times higher odds of low birth weight the association in our study could be supported by the higher rate of chat use which is common behavior for both to be practiced at the same time. The odds of partner smoking and low birth wt. was 2.4 times higher than those who didn't report partner smoking which was not found to be associated from other studies and the reason could be the mothers who reported partner smoking might had physical and sexual abuse or they might be divorced or separated social desire bias.

Review of the literatures done so far on the research topic show that, the studies have included different set of factors for study, showing that some factors studied in one are not included in other studies and even more some factors that aren't included in one study were found as important ones in other studies. In this study, it has been tried to include all the relevant factors identified by the literature done so far.

The use of other substance during pregnancy is likely underestimated because respondent often falsely deny substance abuse for fear of judgment or because of feeling shame and guilt. Previous studies have shown that 18-34% of participant who tested positive through toxicological screening were missed when a questionnaire was used.

The analysis presented appear to show significant difference to some variables though the magnitude of the effect differ. This may be partly attributable to sample size. The confidence interval of OR are narrow making a definitive answer to question of pregnant mother 's substance abuse specific risk clear.

Strength and limitation of the study

Strength of the study

The study design of using case control may be appropriate to assess for different forms of maternal substance abuse on the neonatal birth weight. Although case controls would not show temporal relationship, this study could show this limitation other studies fail to show, that substance abuse was done during pregnancy and the birth weight immediately after birth. Selection bias which is feared in most of case controls has been minimized through sticking to protocol in selection of study subjects after clinical examination is made, and the absence of association between most of the socio-demographic characteristics between cases and controls depicts that selection bias less likely to occur in this study, therefore, this study paves a way and expected to generate valid baseline information

Limitation of the study

Lack of supplement by qualitative approach, qualitative way of data collection was also not used and this might have enabled the study to exhaust all possible responses. The other limitation most likely on information bias might appear from the self-report of substances which might introduce social desirability response. Since the study deals with a very personal and sensitive behaviors like abuse of substance obtaining an honest response among mothers, especially the married ones in such face-to-face interview may be difficult, and may have resulted on the underestimation of the finding. Since the limitation is non-differential, the observed result may be obscured to the null, so the true finding may be higher than what it is found in this study. Sample size was not large enough to clearly assess individual substance abuse, as it has included other determinants to suppress for confounding or mediating effect.

8. Conclusion

Based on the study's finding the following are concluded

- The association of low birth weight among mothers who had substance abuse was strong for particularly khat, cigarette and shisha smoking during pregnancy.

- Partner's smoking which may contribute to passive smoking is also associated with low birth weight

- Factors associated with low birth weight were strongly associated for mothers who had sexual violence during pregnancy and those who did not attend primary school.

9. Recommendation

- Promotion of interventions that lowers substance abuse during pregnancy should be encouraged (policy level).

- Health professionals working in antenatal care service should be given training on counseling of mothers for banning or lowering use of substance abuse (policy, health professionals).
- Intervention aiming at providing educational opportunity for girls and mothers, (community members, policy).
- Violence against women, particularly sexual and physical violence should be addressed and should be well studied, as this study could give evidence for researchers (Scientific population).

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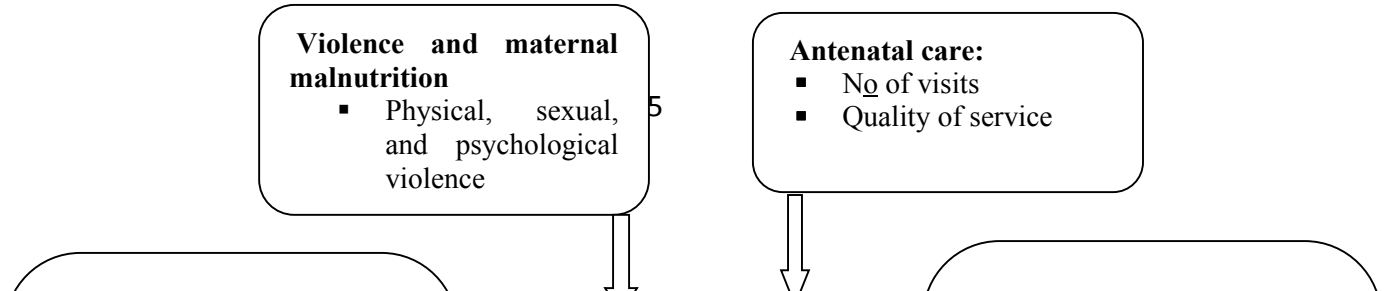
Annexes:

Annex I. Conceptual framework



Annex II: Information Sheet and Consent Form for assessment.

A: Information Sheet

Addis Ababa University College of Health Science School of Public Health

Name of the Principal Investigator: Emebet Dendir

Name of the organization: Addis Ababa University College of Science School of Public Health

Name of the Sponsor: Principal investigator

Introduction

This information sheet and consent form is prepared by the investigator whose main aim is to study the assessment of the effect of substance abuse on birth weight of newborn in Addis Ababa, Ethiopia. The investigator is a Masters student from Addis Ababa University College of Science School of Public Health

Purpose: The purpose of this research is to assess the effect of substance abuse on birth weight of newborns in relation to different individual factors (like educational level, knowledge and age), socio-economic factors (like employment, disclosure status, involvement of spouse), knowledge related and health service associated factors in Addis Ababa, Ethiopia.

Procedure: In order to assess the **effect of substance abuse on birth weight of newborn in Addis Ababa, Ethiopia,** we invite you to take part in our project. If you are willing to participate in our project, you need to understand and sign the consent form. Then, you will be asked to give your response by the data collectors. For this questionnaire based study, participants are mothers who delivered at selected health facilities during the study period. All the responses given by the participants and the results obtained will be kept anonymous and confidential using coding system whereby no one will have access to your responses.

Risks and/or Discomfort: By participating in this research project you may feel that it has some discomfort specially on wasting your time (**about 30-40 minutes**) but this may not be too much as you are going to health institutions for you, your child and your family care and comparing its

potential benefits it contributes to the overall improvement of the health status of the community. There is no risk in participating in this research project.

Benefits: If you participate in this research project, you may not get direct benefit but your Participation is likely to help us in assessing the effect of substance abuse on birth weight of newborn in Addis Ababa, Ethiopia. it will give an insight for planning of effective interventions based on the findings of the study for improving the health status of children who are born from mother who abuse substance and the community as a whole.

Incentives: You will not be provided any incentives to take part in this project.

Confidentiality and Anonymity: The information that we will collect from this research project will be kept confidential. Information about you that will be collected from the study will be stored in a file, which will not have your name on it, but a code number assigned to it.

Right to Refuse or Withdraw: You have the full right to refuse from participating in this research (you can choose not to respond some or all of the questions) if you do not wish to participate; and this will not affect the health service you get from any health facility. You have also the full rights to withdraw from this study at any time you wish to, without losing any of your rights as a client of this health facility.

Persons to contact: If you have any questions, you can contact the principal investigator and you may ask at any time you want.

Emebet Dendir: Addis Ababa University College of Science School of Public Health

Tel: +251 113471084 / +251 911480709

E-mail:Dendiremebet@gmail.com

B. CONSENT FORM (English version)

Based on the purpose and objectives of the study, therefore, you are rightfully eligible for the interview. It is an interview I would like to ask you set of specific questions. I will be grateful if you can spend some time talking with me. The interview is consent-based voluntary, confidential, private and of approximately half an hour's duration. Other than a general serial

code, your name and other identification aspects are not going to be recorded on the interview sheet.

Everything you are going to tell will get kept strictly confidential and private. You will not get obliged to respond to one or more of the specific questions that you do not want to respond to. But so long as you find it reasonably convincing, it undoubtedly is going to be more helpful when all of the questions of the interview set will get completed. Now, I can only start asking you the set of specific questions after I have confirmed your willingness. I kindly ask you to take active part and contribute to the study.

Are you willing to participate in the study?

A.( ) Yes…….B. ( ) No Thank you!!

If the study subject agrees to participate in the study, start the interview.

01.) Interviewer signature certifying that the informed consent has been given verbally.

a. Name---------- signature----------
b. Code----------
c. Date----------month----------2013

Yes---------Continue interviewing

No---------Give thanks to the participant and go to the next participant.

If you have any questions regarding the study you can contact the principal investigator by the following address.

Emebet Dendir, Tel: +251 -11-3471084/ +251 -911-480709

Maternal risk factors associated with low birth weight babies

Note the inclusion criteria from clinical records:

- Is the child born single 1: YES 2: NO
- Is the child born at term 1: YES 2: NO

If "No" to any of the inclusion criteria, thank the mother and stop the interview.

Health institution/facility type/ interviewee codes		_____/_____/_____		
S.No	**Coding categories**	**Questions and filter**	**Skip**	**Code**
Section I. New borne characteristics				
101	Birth weight of the baby in grams?	Birth weight in gm: _____		
102	What is the sex of the newborn?	Male _____ 1		
		Female _____2		
Section II. Characteristics of mother				
201	How old were you at your last birth day?	Age in completed years: _____		
202	Have you ever attended school?	Yes-------1		
		No--------2 (if no skip)	204	
203	What is the highest grade you completed? Elementary school: Grade 1-8 Secondary school: Grade 9-12/10^{+2} Collage & above: Vocational and above	Primary school: 1		
		Secondary school: 2		
		College and above: 3		
204	What is your religion?	Orthodox ----------1		
		Catholic ----------2		
		Protestant ----------3		
		Muslim ----------4		
		Others (Specify) _____		
205	What is your occupation? That is, what kind of work you mainly do?	Farmer ----------1		
		Student ----------2		
		Merchant ----------3		
		Housewife ----------4		
		Government employee-----5		
		Private sector employee----6		
		Others (Specify) _____		

206	What is your current marital status?	Single/never married-------- 1	208	
		Married/living together----- 2		
		Divorced/separated--------- 3	208	
		Widowed ---------- 4	208	
207	What is your husband's/partner's occupation? That is, what kind of work does he mainly do?	Farmer ----------1		
		Student ----------2		
		Trader ----------3		
		Housewife ----------4		
		Government employee-----5		
		Private sector employee----6		
		Others (Specify) _____		
208	How much is your average family income per month.	Monthly income in birr: _____		
		I do not know ----------98		
209	What type of latrine do you use?	Modern flash toilet---------- 1		
		Ventilated improved pit latrine-------2		
		Pit latrine----------3		
		Public latrine----------4		
		Use bushes, fields----------5		
210	Where do you use to live?	YES NO		
		Private house---------- 1 2	213	
		Rented house---------- 1 2		
		With family---------- 1 2	213	
211	If rented how much do you pay per month?	_____Birr		
212	Number of members per sleeping rooms?	One per sleeping room----------1		
		Two per sleeping room ----------2		
		Three per sleeping room----------3		
		Four per sleeping room----------4		
		Five and more per sleeping room----5		
Section III. Obstetric history				
S.No	**Coding categories**	**Questions and filter**	**Skip**	**Code**
301	What is your gravidity? That is any pregnancy occurred.	Gravidity: _____		
302	What is parity of the mother? That is any delivery that passed 28 weeks of gestation.	Parity: _____	If she was Gravida -I skip to 401	

303	Have you ever had given birth to a live singleton baby with birth weight less than 2500 g.	Yes---------- 1		
		No ---------- 2		
		I don't remember --------- 98		
304	Have you ever had an abortion?	Yes ----------1		
		No ----------2	306	
305	How many abortions did you have?	Number of abortions: _____		
306	What is the inter-pregnancy interval of the last pregnancy with the current pregnancy? Please calculate in months?	Inter-pregnancy interval in months: _____		
Section IV. Current pregnancy history **If the mother had ANC follow-up, fill the required data from the ANC card when available.**				
401	What was the gestational age at delivery, in weeks? Please calculate from the last menstrual period of the mother or record from ultrasound reading if available.	Gestational age at delivery in weeks: _____		
402	What is the your weight gain in kilogram?	Weight gain in Kilogram-------		
403	Have you visit any health institution for ANC services for the current pregnancy?	Yes ---------- 1		
		No ---------- 2	413	
404	How many months pregnant were you when you first received antenatal care services for this pregnancy?	Months: _____		
		Do not know----------98		
405	How many times did you receive antenatal care during your current pregnancy?	Number of visits: _____		
406	By whom were you getting those ANC services?	Medical doctor----------1		
		Health officer----------2		
		Nurse or midwife----------3		
		More than one health professionals- 4		
		Other (Specify): _____		
		Do not remember ---------98		
407	As part of your antenatal care during this pregnancy, were any			

	of the following done at least once? Was your weight measured? Was your BP measured? Did you give a urine sample? Did you give a blood sample?		YES	NO		
		Weight	1	2		
		BP	1	2		
		URINE	1	2		
		BLOOD	1	2		
408	Which signs of pregnancy complications did you have?			YES NO		
		Vaginal bleeding		1 2		
		Vaginal gush of Fluid. .		1 2		
		Severe head ache		1 2		
		Blurred vision		1 2		
		Fever		1 2		
		Abdominal pain. .		1 2		
		Other (specify)		_____		
409	During this pregnancy, were you given or did you buy any iron tablets?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . . . …98			416 416	
Ask question number 425 for women married or living in union only by checking question number 206.						
409	While you were pregnant did your partner ever do the following:-		Often:----3	Sometimes:----4		
	a).physically acted on you? e.g. slap/beat/kick you pull your hair, twist arms, threaten or attack with knife etc.	Yes	3	4		
		No	2			
	b) Physically force you to have sexual intercourse with him even when you did not want to?	Yes	3	4		
		No	2			
	c) Force you to perform any sexual acts you did not want to?	Yes	3	4		
		No	2			
	d) Say or do something to humiliate you in front of others?	Yes	3	4		
		No	2			
	e) Insult you or makes you feel bad about yourself.	Yes	3	4		
		No	2			
Section V. Life-style/personal habits during pregnancy						
501	During your pregnancy, did you take drinks containing alcohol?	Yes ---------- 1				
		No ---------- 2			503	

		Do not remember ---------98	503	
502	How often were you taking alcohol drinks?	Daily----------1		
		3 times per week----------2		
		1 times per week---------- 4		
		Once a month----------5		
S.No	**Coding categories**	**Questions and filter**	**Skip**	**Code**
503	During your pregnancy, did you ever chew Khat?	Yes ---------- yes		
		No ---------- no	507	
		Do not remember ---------98	507	
504	How often were you chewing khat?	Daily----------1		
		3 times per week----------2		
		1 times per week---------- 4		
		Once a month----------5		
504	During your pregnancy, did you ever Shisha?	Yes ---------- yes		
		No ---------- no		
		Do not remember ---------98		
506	How often were you using Shisha	Daily----------1		
		3 times per week----------2		
		1 times per week---------- 4		
		Once a month----------5		
507	Some people have tried a range of illegal/non-medical/addictive drugs. Have you tried one?	Yes ---------- yes		
		No ---------- no		
		Do not remember ---------98		
508	Which of the following, if any, have you tried? Circle all answers	Yes No Cocaine 1 2 Heroin 1 2 Cannabis 1 2 Marijuana 1 2		
509	How long have you been using these illegal/nonmedical/ addictive drugs?	Number of months [---/---]		
510	During your pregnancy, did you ever smoke?	Yes ---------- yes		
		No ---------- no	507	
		Do not remember ---------98	507	
511	How often were you smoking?	Daily----------1		
		3 times per week----------2		
		1 times per week---------- 4		
		Once a month----------5		
Ask the question number 512 & 513 only for women who are married/living together by checking question number 206.				
512	Does your husband/partner	Yes ---------- yes		

	smoke cigarettes while you were pregnant?	No ---------- no	511	
		Do not remember ---------98	511	
513	How often was he smoking?	Daily----------1		
		3 times per week----------2		
		1 times per week---------- 3		
		Once a month----------4		
514	Is there any other person at home who smokes cigarette while you were pregnant?	Yes ---------- yes		
		No ---------- no	601	
		Do not remember ---------98	601	
515	How often was he or she smoking?	Daily----------1		
		3 times per week----------2		
		1 times per week---------- 3		
		Once a month----------4		

Annex III: Amharic version consent form and questionnaire

G. ¾S[Í pê

የምርምር ፕሮጀክቱ ርእስ: **በአዲስ አበባ ከ**T>Öuk¬ ¾¡wÅƒ SÖ” u• ‹ KT>¨KÆ Ié“ƒ ¾• “„‹ ›ÒLß U¡”Á„‹ • “ u• `Ó´“ ¨pƒ ¾T>ÖkV†¬ ›ÅÑ— °ï‹ ¾T>¨MÇ‹¬ MÐ‹ c=¨KÆ ¾T>•^†¬ ¾c¬’ƒ ¡wÅƒ LÃ ÁK¬ }î•

የዋና ተመራማሪ ስም: እመቤት ደንድር

የድርጅቱ ስም: አዲስ አበባ ዩኒቨርሲቲ ጤና ሳይንስ ኮሌጅ የህበረተሰብ ጤና ት/ቤት

የስፖንሰሩ ድርጅት ስም: ዋና ተመራማሪው

ይህ ማብራሪያና የስምምነት መግለጫ ቅጽ የተዘጋጀው በአዲስ አበባ ዩኒቨርሲቲ ጤና ሳይንስ ኮሌጅ የህበረተሰብ ጤና ት/ቤት የድህረ ምረቃ (ማስተርስ) ተማሪና በበአዲስ አበባ ዩኒቨርሲ ጤና ሳይንስ ኮሌጅ የህበረተሰብ ጤና ት/ቤት አማካሪ ነዉ::

መግቢያ

የዚህ የምርምር ማብራሪያና የስምምነት ቅጽ ዓላማ አሁን እርስዎ እንዲሳተፉበት የምንጠይቀዎትን የምርምር_ጥናት ምንነት ማብራራት ነው:: በዚህ የምርምር ፕሮጀክት ለመሳተፍ ከመወሰንዎ በፊት ይህንን የማብራሪያ ቅጽ በጥንቃቄ በማንበብ ጥያቄዎች ካሉዎት ይጠይቁ:: በተጨማሪም በጥናቱ መሳተፍ ከጀመሩ በኃላ በማንኛውም ጊዜ ጥያቄዎች ካሉዎት መጠየቅ ይችላሉ::

የምርምር ፕሮጀክቱ ዓላማ

የዚህ ጥናት አላማ በአዲስ አበባ ያሉ ከT>Öuk¬ ¾¡wÅƒ SÖ” u• ‹ KT>¨KÆ Ié“ƒ ¾□“„‹ ›ÒLß U¡”Á„‹ • “ u• `Ó´“ ¨pƒ ¾T>ÖkV†¬ ›ÅÑ— °ï‹ ¾T>¨MÇ‹¬ MÐ‹ c=¨KÆ ¾T>•^†¬ ¾c¬’ƒ ¡wÅƒ LÃ ÁK¬ }î• ¾T>ÁÖ“ **ከሌሎች ተያያዥነት ካላቸዉ ነገሮች ጋር አጣምሮ መዳሰስ ሲሆን**

ከነዚህ ተያያዥ ጉዳዮች መካከል ግለሰባዊ (ለምሳሌ እንደ የትምህርት ደረጃ ፣እዉቀት እና እድሜ)፣ማህበረሰባዊና ኢኮኖሚያዊ ሁኔታዎች

የአሰራር ሂደት

በአዲስ አበባ ከT>Öuk¬ ¾¡wÅƒ SÖ” u• ‹ KT>¨KÆ Ié“ƒ ¾□“„‹ ›ÒLß U¡”Á„‹ ¾T>ÁÖ“ • “ ’õcÖ<` • “„‹ u• `Ó´“ ¨pƒ ¾T>ÖkV†¬ ›ÅÑ— °ï‹ ¾T>¨MÇ‹¬ MÐ‹ c=¨KÆ ¾T>•^†¬ ¾c¬’ƒ ¡wÅƒ LÃ ÁK¬ }î• **እና ተያያዥነት ያላቸዉን ነገሮች ለመዳሰስ_እርሰዎ እንዲሳተፉ ጋብዘንዎታል፡፡ በዚህ ጥናት ውስጥ ለመሳተፍ ከተስማሙ ስምምነቱን በደንብ መረዳት እንዲሁም የስምምነት ቅጹ ላይ መፈረም ይገባዎታል፡፡ ከዚያ በመቀጠል በጥናቱ መረጃ ሰብሳቢዎች ለሚጠየቁት ጥያቄ መልስ እንዲሰጡ ፈቃደኝነትዎ ይጠየቃል፡፡ በዚህ በቃል መጠይቅ ለተመሰረተ ጥናት ተሳታፊዎች የሚሆኑት በጥናቱ ወቅት በተጠቀሱት ጤና ማእከላት ዉስጥ የሚወልዱ እናቶች ናቸዉ፡፡ከተሳታፊዎች የሚሰጡ መልሶችም ሆኑ የሚገኙ ውጤቶች ሚስጥራዊነታቸዉ የተጠበቀ ሲሆን ማንም በማይደርስባቸዉ የምስጢር ቁጥሮች ይጠበቃሉ፡፡**

ሊከሰቱ የሚችሉ ስጋቶችና ምቾት መጓደሎች

በዚህ ጥናት መሳተፍዎ ምናልባት ጊዜዎን ሊሻማብዎ ይችል ይሆናል (ከ 30-40 ደቂቃ)፡፡ ነገር ግን ዘወትር ወደ ጤና አገልግሎት ሰጪ ድርጅትዎች ከመመላለስዎና የጥናቱ ውጤት ወደፊት ለማህበረሰቡ ከሚሠጠው ጥቅም አንጻር ይህን ያህል አይደለም፡፡

በዚህ ጥናት በመሳተፍዎ ምንም ዓይነት ስጋት (ችግር) አያጋጥምዎትም፡፡

ጥቅሞች

በዚህ ጥናት በመሳተፍዎ የተለየ ጥቅም አያገኙም፡፡ ነገር ግን የእርሰዎ በጥናቱ ላይ መሳተፍ ከT>Öuk¬ ¾¡wÅƒ SÖ” u• ‹ KT>¨KÆ Ié“ƒ ¾• “„‹ ›ÒLß U¡”Á„‹ • “ ’õcÖ<` • “„‹ u• `Ó´“ ¨pƒ ¾T>ÖkV†¬ ›ÅÑ— °ï‹ ¾T>¨MÇ‹¬ MÐ‹ c=¨KÆ ¾T>•^†¬ ¾c¬’ƒ ¡wÅƒ LÃ ÁK¬ }î• **እና**

ተያያዥነት ያላቸዉን ነገሮች ለመዳሰስ ይረዳናል፡፡ባጠቃላይ ከጥናቱ የሚገኘዉ መረጃ የተሻሉና ዉጤታማ መከላከያ ዘዴዎችን ለማቀድና እናቶች የሚወለዱትን ሕጻናት ለመጠበቅ እንዲሁም የህብረተሰቡን ጤና ለማሻሻል ይረዳል፡፡

ማካካሻ

በዚህ ጥናት በመሳተፍዎ ምንም ዓይነት ማካካሻ አይሠጥዎትም፡፡ ነገር ግን በጥናቱ በመሳተፍዎ ምስጋናችን ከፍተኛ ነው፡፡

ምስጢር ስለመጠበቅ

ከዚህ ጥናት የሚገኝ መረጃ በሙሉ በምስጢራዊነት ይጠበቃል፡፡. ለዚህ ጥናት የሚሠበሰበው እርሰዎን የሚመለከት መረጃ በማህደር የሚቀመጥ ሲሆን ማህደሩም በስምዎ ሳይሆን በተለየ ኮድ ሲቀመጥ ኮዱ ከዋናው ተመራማሪ ውጭ ለማንም አይገለጽም፡፡

በጥናቱ ያለመሳተፍ ወይም ራስን የማግለል መብት

በጥናቱ ላለመሳተፍ ከፈለጉ በዚህ ጥናት ያለመሳተፍ ወይም ያልፈለጉትን አንድም ሆነ ከዛ በላይ ወይም ሁሉንም ጥያቄዎች አለመመለስ ይችላሉ፡፡ በዚህ ጥናት ባለመሳተፍዎ ወይም በከፊልም ሆነ በሙሉ ጥያቄዎቹን ባለመመለስዎ ከማንኛዉም የጤና አገልግሎት ድርጅት የሚያጡት አገልግሎት አይኖርም፡፡ከዚህ ጥናት ማቋዋረጥ በፈለጉበት ሰአት ማቋዋረጥ ይችላሉ፡፡በማቋዋረጥዎም እንደ አንድ የጤና ድርጅቱ ደንበኛ ከሚያገኙት ግልጋሎት የሚያጡት ምንም መብት አይኖርም፡፡

የሚገናኟቸው ሠዎች

ይህ ጥናት የጥናቱ ተሳታፊዎች ከጉዳት መጠበቃቸውን በሚያረጋግጠው ›Ç=e›uv ዩኒቨርሲቲ የማህበረሰብ ጤና አጠባበቅ ተቋም በሚገኘው ኮሚቴ ታይቶ ድጋፍ አግኝቷል፡፡ በጥናቱ ዙሪያ

ማንኛውም ጥያቄ ካለዎት የሚከተለዉን ሠው (ዋናዉን ተመራማሪ) በሚፈለጉት ጊዜ ማነጋገር ይችላሉ፡፡

እመቤት ደንድር

አዲስ አበባ ዩኒቨርሲቲ የማህበረሰብ ጤና አጠባበቅ ተቋም

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ይህንን ቅጽ አንብበውት ከሆነና አሁንም ሆነ በሌላ ጊዜ ጥያቄ የመጠየቅ እድል ተሠጥተዎ ከሆነ ወይም ይህ ቅጽ ተነቦና ተብራርቶለዎት ከሆነና ለመሳተፍ ከተስማሙ እባክዎ ስምዎንና ፊርማዎን ከዚህ በታች ያስቀምጡ፡፡

የተሳታፊ ፊርማ _____ ቀን _____

የስምምነት ተቀባይ ፊርማ _____ ቀን _____

ተሳታፊው ማንበብና መጻፍ የማይችል ከሆነ

የምስክር ፊርማ _____ ቀን _____

የስምምነት መግለጫ pê

uØ“~ ¾T>c^u*ƒ* U¡”Á*ƒ* • “ ¯LT Sc[*ƒ* • [e- KSÖÃlSMe• ”Ç=cÖ< }S`Öª M&&Ø“~ nK SØÃp ’¬&&²`²` ¾K< • “ u¡õM ¾}"óðK< ØÁo-‹” MÖÃp-*ƒ*• ¨ÇKG<:: nK-SÖÃl KTÅ[Ó Ø m*ƒ* Ñ>²-*ƒ*” K=cÖ<˜ u=‹K< UeÒ“¾ ¾Lk ’¬::

SÖÃl eUU’*ƒ*“ õnÉ˜’*ƒ*” Sc[*ƒ* ÁÅ[Ñ፣**ሚስጥራዊነቱ የተጠበቀ እና ለእርስዎ ለግለዎት ብቻ የሚደረግ ሲሆን በግምት ግማሽ ሰዓት ይወስዳል።ከመለያ ቁጥር ኮዶች በሰተቀር ስምዎ ወይም የእርስዎ ማናነት ሊገልጹ** ¾T>‹K< ’Ña‹ ::uSÖÃl pê LÃ ›ÃS²Ñu<U::**መመለስ የማይፈልገዋቸዉ ጥያቄዎች መልስ እንዲሰጡ አይገደዱም።ይሁን እንጂ አሳማኝ ሆኖ እስ**"Ñ–<*ƒ* É[e G<K<U ¾SÖÃp ¡õKA‹ }TM}¬ u=SKc< ¾uKÖ ÖnT> • ”ÅT>J” ›ÁÖ^Ø`U::

›G<” ¨Å SÖÃl MÑv ¾U‹K¬ • `e- õnÅ— SJ”-*ƒ*” "[ÒÑØŸ< u• L w‰ ’¬:: **በጥናቱ ንቁ ተሳትፎ በማድረግ አስተዋጸኦ እንድያደርጉ በትህትና እጠይቀዎታለሉ።**

በጥናቱ ላይ ለመሳተፍ ይፈልጋሉን?

A. ( ) **አዎ** B. ( ) **የለም አመሰግናለሁ!!**

በጥናቱ ላይ ለመሳተፍ ዝግጁ ከሆኑ ቃለ መጠይቁን ጀምራለሁ።።

የቃለ መጠይይ አድራጊው ፊርማ የሚያረጋግጥልን በተጠኝው የተሰጠው መረጃ በቃል መሆኑን ነው።።.

ስም ---------- **ፊርማ**----------

መለያ----------

ቀን----------**ወር**----------2005

.እባክዎን በጥናቱ ለመሣተፍ ፈቃደኛ ያልሆኑትን ግለሰቦች እድሜና ጾታ ይመዝግቡ ማንኛውንም አይነት ጥያቄ ቢኖርዎት እባክዎ በሚከተለው አድራሻ ሊያገኙን ይችላሉ

እመቤት ደንድር

ስልክ ቁጥር +251-911480709

Annex VI. **Amharic Questionnaire (አማርኛ መ□□ቅ)**

ህፃኑ/ዋ ብቻዉን/ዋን ነዉ የተወለደዉ/ችዉ? **1.አዎ** **2.አይደለም**
ህፃኑ/ዋ መወለድ ባለበት/በት ቀን ነዉ የተወለድዉ/ችዉ? **1.አዎ** **2.አይደለም**
ለአንዱም የመልመላ መለኪያውችን አይደለም የሚል መልስ ካለ እናትየዋን አመስግነህ ቃለ-መ□□ቁን ጸቁሙ

ጤና ተቋም/የተቋም ዓይነት/የተጠያቀዉኮድ		/ /		
ተ.ቁ	**ጥያቄዎችና ማብራራያዎች**	**መልሶች**	**□ዚ 0**	**□መል ስ ኮት**
□ክ ል ፤.የህጻኑ መለያ ባህርያቶች የሚዳሰስ				
101	**የህጻኑ/ዋ □ታ ምንድን ነዉ**	**ወንድ ------- 1** **ሴት---------- 2**		
□ክ ል ፤፤. □እናትየዋ መለጸ ባህርየቶቸ □ሚዟስ				
201	**ዕድሜሽ ስንት ነዉ?**	**በሙሉ ዓመት:-------**		
202	**ያጠናቀቅሽዉ የመጨረሻ መደበኛ ትምህርት ደረጃ ስንት ነዉ?**	____ **ዓመት** **ካልተማሩ 00**		

203	የምትከተይዉ ሀይማኖት ምንድን ነዉ	ኦርቶዶክስ---------- 1 ሙስሊም---------- 2 □ሮቴስታንት--------- 4 ካቶሊክ---------- 5 ሌላ(□ብለ□)----------77		
204	አዘዉትረሽ የምትሰሪዉ ስራ ምንድን ነዉ?	የቤት □መቤት----------1 የመንግስት ተቀጣሪ--- 2 □□ል ተቀ□ሪ----------3 ዝርፊ----------4 ተማሪ---------- 5 ነጋዴ----------6 ሌላ(□ብለ□)----------77		
205	የትዳር ሁኔታሽ አሁን ምን □መሰላል?	ያገባች/አብረዉ የሚነሩ---1 ላጤ/ፍቱም ያላገባች---- 2 □ተኛ□ች/□ተለያየች-----3 ባልዋ የሞተባት----------4		
206	ባልሽ አዘዉትሮ የሚሰራዉ ስራ ምንድን ነዉ	የቤት □መቤት----------1 የመንግስት ተቀጣሪ-----2 □□ል ተቀ□ሪ----------3 ዝርፊ----------4 ተማሪ----------5 ነጋዴ----------6 ሌላ(□ብለ□)----------77		
207	በወር ዉስጣ □ሚጸፉት አማካይ ገቢ ምን ያህል ነው	አማካይ የወር ገበ መጠን በብር----- አላውቅም		
208	ምን ዐይነት መጸዳጃ ነዉ የምትጠቀሙት	ዘመናዊ የዉሀ ማፍሰሻ ጸለ□ -----1 □ሽታ ማ□ □ ጸለ□ ሽንት ቤት---2 □ሽታ ማ□ □ □ሌለዉ ሽንት ቤ--3 የህዝብ ሽንት ቤት----------4 ሜዳ/□ ካ ላ□----------5		
210	የምትኖሪበት ቤት የማን ነዉ	የራሴ/የቤት------1 ተከራይቼ---------2 የቤተሰቦቼ--------3		
211	በአንድ መኝታ ቤት ስንት □ቤተሰብ አባላት ትተኛላቹ?	□□		
□አል III. የስነ-ወሊት ሪከርድና ሁኔታ □ሚቼክስ				
301	እስካሁን ያረገዝርዉ ብዛት ስንት ነዉ? ይሄ ማለት ሁሉም ያረገዘችዉ ብዛት ያካትታል::	□□ርግዝና ብዛት:--------		
302	እስካሁን የወለድሽሁ ብዛት ስንት ነዉ? ይሄ ማለት ሁሉም ከ28 □አርግዝና ሳምንታት በላ□ □ተወለዱትን ብዛትያጠቃልላል::	□ወሊት ብዛት:--------	□አር□□ ና ብዛት አንድ ከሆነ ዉ □	

			401□ሂ 0	
303	ከዚህ በፊት ከ2500 ግራም በታች □ሚመዝን ህጻን ወል□ሽ ታ□ ቂጸለሽ?	አዎ ----------1		
		አይደለም --------2		
		አላስ□□ ስም -----98		
304	□ርጽ አጋጥሞሽ /አስወርዶሽ ያዉቃል?	አዎ ----------1		
		አይደለም ---------2	306	
		አላስ□□ ስም ----98	306	
305	ጠቅላላ ስንት ግዜ/ አስወርደሽ?	የዉርጃ ብዛት፡--------		
306	የአሁኑ ጽንስ እና ከዚህ በፊት ጸረ□ሽ□ ጽንስ የግዜ ልዩናታቸዉ በወራት ስንት □ሆናል?	----------(በወራት)		
□አል IV. የአሁን እርግዝና ሪከርድና ሁኔታ □ሚቋስ እናትየዋ የእርግዝና ከትትል ታ□ር□ ከነበረ አንድ አንድ ጥያቄዎች ከክትትል ካርድ ይሙሉ፡፡				
401	□እርግዝና ክትትል አገልግሎት በብዛት ይሰጥሽ የነበረ ባለሞያ የስራ ማዕረግ ምን ነበር?	ሐኪም/ዶክተር----------1		
		ጤና መኮንን----------2		
		ኘርስ/አዋላጅኘርስ---------3		
		አላስታ□ ስም፡----------98		
		ሌላ(□ዘለ□:----------77		
402	በአሁኑ እርግዝናሽ አንድ አንድ □እርግዝና ክትትል አገልግሎት ቢያንስ አንዴ፡ ከብደትሽ ተለክቶ ነበር? የደም ግፊት መጠንሽ ተለክቶ ነበር? የሽንት ናሙና ሰጥተሽ ነበር? የደም ናሙና ሰጥተሽ ነበር?		አዎ	አይደለም
		ከብደት	1	2
		የደም ግፊት	1	2
		የሽንት ናሙና	1	2
		የደም ናሙና	1	2
403	በእርግዝና ወቅት ጸ□□ሙሽ አደገኛ ምልክቶች የትኞቹ/ምን ነበሩ		አዎ	አይደለም
		በማህጸን □ምመአስስ	1	2
		የወሃ ሽንት ቀትሞ መአስስ	1	2
		ከባድ የራስ ምታት	1	2
		የዓይን ብዥ□	1	2
		ትኩሳት	1	2
		ከባድ የሆድ ቁረጠት	1	2
		ሌላ(□ዘለ□:----------		
404	በ□ህኛ□ □እርግዝና ወቅት የአይረን እንክብል ተሰጥቶሽ ወ□ም ገዝትሽ ታ□ ቂጸለሽ?	አዎ		
		አይደለም		
		አላስ□□ ስም፡---------98		

ማስታወሻ፡ ጥያቄ 410 ለበለትዳሮች ብቻ የሚጠየቅ ሰለሆነ ከመጠየቀዎ በፊት ጥያቄ ቁጥር 206 በማየት የትዳር ሁኔታዋን ጸረ□□□።።						
410	**በእረግዝና ወቅትሽ ባለቤት/አብሮሽ የሚኖር የሚከተሉትን አድረጎሽ ያዉቃል?**		**አዘውትሮ፡ -3**	**አንድ አን ጸ ፡-4**		
	ሀ. በሰዎች ፊት ክብርሽን የሚነኩ ንግግር ወይም ድርጊት አድርጎዋል?	**አዎ**	**3**	**4**		
		አይደለም	**2**			
	ለ. ስድቦሽ ወይም ስለራስሽ መጥፎ ስሜት እንዲሰማሽ አድረ□ሸል	**አዎ**	**3**	**4**		
		አይደለም	**2**			
	ሐ. ?የአካል ጉዳት/ድብደባ አድረሶብሽ ያዉቃል? ማለት በጥፊ፣በካልች፣ ጸገ ሩርሽን በመጎተት፣□አፀ ሽን በመ□ም□□፣ በፋ ቤ አስ□ራርቶሽ ወ□ም ወግቶሽ ጸ□ ቃል?	**አዎ**	**3**	**4**		
		አይደለም	**2**			
	መ.አንቺ ሳትፈልጊ ጉልበቱን በመ□ቀም ወ□ም በማስቱ□ት □□በረ-ስ□ ግነኝነት አድር.ጋችሁል?	**አዎ**	**3**	**4**		
		አይደለም	**2**			
		አይደለም	**2**			
□ሉ V. የአነኗኗር ዘይቤና የግልዊ ልማዶች የሚዳስስ						
501	**በእርግዝናሽ ወቅት አልኮልነት ያላቸዉ መጠጦች(ቢራ፣ጠላ፣አረቄ ወዘተ) ጠጥተሽ ታ□ ቂጸለሽ?**	**አዎ----------1**				
		አይደለም ----------2				
		አላስ□□ ስም----------98				
502	**በምን ያህል ግዜ ትጠጪ ነበር?**	**ሁሉ □□----------1**				
		በሳምንት ሦሥቴ----------2				
		በሳምንት አንዴ----------3				
		በወር አንዴ----------4				
503	**በእርግዝናሽ ወቅት ጫት ቅመሽ ታ□ ቂጸለሽ?**	**አዎ----------1**				
		አይደለም ----------2				
		አላስታ□ ስም----------98				
504	**በምን ያህል ግዜ ትቅሚ ነበር?**	**ሁሉ □□----------1**				
		በሳምንት ሦሥቴ----------2				
		በሳምንት አንዴ----------3				
		በወር አንዴ----------4				
505	**በእርግዝናሽ ወቅት ሺሻ አጭሰሽ ታ□ ቂጸለሽ?**	**አዎ----------1**				
		አይደለም ----------2				
		አላስ□□ ስም----------98				
506	**በምን ያህል ግዜ ታፊ ሺ ነበር?**	**ሁሉ □□----------1**				
		በሳምንት ሦሥቴ----------2				
		በሳምንት አንዴ----------3				
		በወር አንዴ----------4				
507	**በእርግዝናሽ ወቅት ሲ□ራ አጭሰሽ**	**አዎ----------1**				

	ታ¬ ቂጸለሸ?	አይደለም ----------2		
508	በምን ያህል ግዜ ታፊ ሺ ነበር?	ሁሉ Ó² ----------1		
		በሳምንት ሦሥቴ----------2		
		በሳምንት አንዴ----------3		
		በወር አንዴ----------4		
509	በእርግዝናሽ ወቅት ሱስ የሚያስዙ መዳህኒቶች ተጠቅመሻል?	አዎ----------1		5
		አይደለም ----------2		0
		አላስ • ¬ ስም----------98		9
510	በእርግዝናሽ ወቅት ከሚከተሉት ወስጥ የትኛዉን ተ□ቅመሻል?	አዎ / አይደለም		
		ኮኬይን		
		ሄሮይን		
		አፀ ፈሪስ		
		ማሪዋና		
		አይደለም ----------2		
		አላስታ¬ ስም----------98		
511	በምን ያህል ግዜ ታፊ ሺ(ትወስጂ) ነበር?	ሁሉ Ó² ----------1		
		በሳምንት ሦሥቴ----------2		
		በሳምንት አንዴ----------3		
		በወር አንዴ----------4		
ማስ• ወሻ፡ ጥያቄ 511 ለበለትዳሮች ብቻ የሚጠየቅ ሰለሆነ ከመጠየቀዎ በፊት ጥያቄ ቁጥ 206 በማየት የትዳር ሁኔ• ዋን ጸረÒÓÖ¬::				
512	ባለቤትሽ ወይም አብሮሽ የሚኖር ከሆነ እርቶ´ እጸለሽ ሲ□ራ ጸፊ ሳል?	አዎ----------1		
		አይደለም ----------2		
		አላስታ¬ ስም----------98		
513	በምን ያህል ግዜ ያጨሲ/ታፊ ሺ ነበር?	ሁል Ó² ----------1		
		በሳምንት ሦሥቴ----------2		
		በሳምንት አንዴ----------3		
		በወር አንዴ----------4		

ከካረድ የሚሞላ

ተ.ቁ	ጥያቄዎችና ማብራራያዎች	መልሶች	□ሚ 0	¾መል ስ ኮት
¡ አል I.የህጻኑ መለያ ባህርያቶች የሚዳሰስ				
601	ህጻኑ/ዋ ሲወለድ/ስትወለድ ክብደቱ/ትዋ በግራም ስንት ነዉ?	ክብደቱ/ትዋ በግራም፡----		
¡ አል IV. የአሁን እርግዝና ሪከርድና ሁኔታ ¾ሚቋስ እናትየዋ የእርግዝና ከትትል ታÅርÓ ከነበረ አንድ አንድ ጥያቄዎች ከክትትል ካርድ ይሙሉ::				
602	ህጻኑ/ዋ በስንተኛ¬ ¾ኣርግዝና ሳምንታት ተወለ□/ች? እባክዎት " ከ LMP" ያስሉት ወይም የአልትራ ሳዉንድ ንባብ ካለ ከንባቡ ይሙሉት	የተወለደበት/ችበት ¾ኣርግዝና ሳምንታት		
		" ከ LMP" ¾ተሰላ፡---------- ሳምንታት		

		ከአልትራ ሳዉንድን □ተሰላ፡-------- ሳምንታት
603	በእርግዝና ወቅት የጨመርሽ□ የክበደት መጠን ስንት ኪሎ□ራም ነበር?	የክበደት መጠን በኪ.ግ፡------- አላስታ□ ስም፡----98
604	በአሀኑ የእርግዝናሽ ወቅት □እርግዝና ክትትል ለማድረግ ወደ ጤና ተቋም ሂደሽ □□ ቂጸለሽ?	አዎ----------1 አይደለም----------2
605	የመጀመሪያዉ ክትትል ስታ□ርቱ □ንት ወር እርቶ□ ነበርሽ?	ሳምንታት፡-------- አላስታ□ ስም፡---------98
606	በአሁኑ እርግዝናሽ ወደ ጤና የእርግዝና ክትትል ለማድረግ የሄድሽበት ጠቅላላ ብዛት በቁጥር ስንት ነበር?	የክትትል ብዛት፡-------- አላስ□□ ስም፡----------98

Declaration

I the undersigned, declare that this thesis is my original work, has never been presented in this or any other university, and that all resources and materials used herein, have been duly acknowledge.

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Place: Addis Ababa University, Ethiopia Date of submission: March 2014

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

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