ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

CAFFEINE, ALCOHOL, KHAT, AND TOBACCO USE DURING PREGNANCY IN BUTAJIRA, SOUTH CENTRAL ETHIOPIA

BY: ALEHEGN ADERAW (BSc)

A THESIS SUBMITTED TO GRADUATE STUDIES OF ADDIS ABABA UNIVERSITY, SCHOOL OF PUBLIC HEALTH FOR PARTIAL FULFILMENT OF THE REQUIREMENTS OF DEGREE OF MASTER IN PUBLIC HEALTH NUTRITION

OCTOBER, 2018

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APPROVAL BY THE BOARD OF EXAMINATION

The thesis by **Alehegn Aderaw Alamneh,** entitled "**Caffeine, Alcohol, Khat, and Tobacco Use during Pregnancy in Butajira, South Central Ethiopia"** is accepted in its present form by the board of examiners as fulfillinging thesis requirement for the degree of master's in **Public Health Nutrition**.

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STATEMENT OF DECLARATION

By my signature below, I declare and affirm that this thesis entitled "**Caffeine, Alcohol, Khat, and Tobacco Use during Pregnancy in Butajira, South Central Ethiopia"** is my own work. I have followed all ethical principles of scholarship in the preparation, data collection, data analysis and completion of this thesis. All scholarly matter that is included in the thesis has been given recognition through citation. I affirm that I have cited and referenced all sources used in this document. Every effort has been made to avoid plagiarism in the preparation of this thesis.

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ACKNOWLEDGEMENTS

First, I would like to acknowledge SPH, CHS of AAU for giving me an ethical clearance and writing a support letter to the study area. Second, I would like to acknowledge my advisors Dr. Bilal Shikur and Dr. Seifu Hagos for their guidance and valuable advice. Thirdly, my acknowledgment goes to Butajira Rural Health Program Staffs for providing me all the necessary information about the study area. Fourth, I am grateful to all respondents for their voluntariness and participation. At last but not least, I am thankful to my families for their financial support and friends who helped me in different aspects.

ACRONYMS

AAU	Addis Ababa University
AUDIT	Alcohol Use Disorder Identification Test
BRHP	Butajira Rural Health Program
DSS	Demographic Surveillance System
HDSS	Health Demographic Surveillance System
IQR	Inter-Quartile Range
LBWGA	Low Birth Weight for Gestational Age
SGA	Small for Gestational Age
WHO	World Health Organization

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ABSTRACT

Background: The use of substances such as caffeine, alcohol, cigarette, and khat during pregnancy can results in adverse health effects on the fetus. The World Health Organization (WHO) recommends a daily caffeine intake should not exceed 300 mg. Likewise, pregnant woman should avoid alcohol, khat and tobacco use. However, the magnitude of these substances use among pregnant women is not studied in developing countries such as Ethiopia.

Objectives: The study aimed to determine the prevalence of excess daily caffeine consumption and its associated factors, prevalence of alcohol consumption, khat chewing, and tobacco use during pregnancy.

Methods: A community based cross-sectional study was conducted from April 12-May 15, 2018 among 352 pregnant women. Stratified sampling technique was used to select pregnant women. Two days non-consecutive 24-hour recall was used to assess the self-reported daily caffeine intake. The collected data were compiled, checked, coded and entered using Epi-data version 3.1 software package and exported into Stata 14 for data management and analysis. Central tendency (median) and dispersion (range) were estimated for caffeine data. Prevalence were estimated for excess caffeine intake per day, alcohol consumption, khat chewing, passive tobacco smoking and overall substances use during pregnancy. Multivariate binary logistic regression was run to identify associated factors for excess caffeine intake among pregnant women.

Results: A total of 341 pregnant women were interviewed. The median age of pregnant women was 28 (IQR=6). The median daily caffeine intake among pregnant women was 170.5 mg (IQR=135.1) and ranged from 0.0 to 548.9mg per day. About 17.6% (95% CI: 13.9%, 22.0%) of the pregnant women consumed 300 mg and above caffeine per day. About 10.0% (95% CI: 7.2%, 13.7%) of the pregnant women consumed alcohol during current pregnancy. About 35.8% (95% CI: 30.8, 41.0%) of the pregnant women chewed khat during current pregnancy. None of the pregnant women were active tobacco smoker. However, 23.2 % (95%

CI: 19.0, 28.0%) of pregnant women were passive smokers. The prevalence of at least one substance use among pregnant women was 60.1 % (95% CI: 54.8%, 65.2%). The richest wealth status (AOR=3.66; 95% CI: 1.13, 11.88), and first trimester of pregnancy (AOR=4.04; 95% CI: 1.26, 13.05) were significantly associated factors for increased excessive caffeine consumption per day among pregnant women.

Conclusions and Recommendation: In conclusion, the magnitude of substances use such as excess caffeine, khat chewing and passive tobacco smoking were high among pregnant women in Butajira, South Central Ethiopia. Therefore, interventional programs that address caffeine and alcohol consumption, khat chewing and tobacco smoke exposure among pregnant women is wanted.

Key words: *Substance use, Caffeine consumption, Alcohol consumption, Cigarette smoking, Khat chewing, Pregnancy*

1. INTRODUCTION

1.1. Background

Substance use is defined as the inappropriate consumption of medicines, drugs, or other materials including prescription drugs, over-the-counter drugs, street drugs, alcohol and tobacco (1).

Caffeine is a stimulant substance found in coffee, tea, cocoa (chocolate), and kola nuts (cola), soft drinks, energy drinks, and some over-the-counter medications (2). Coffee is one of the most popular consumed beverages in the world and the most common sources of high caffeine (2, 3).

Even though caffeine contains several chemical components that may provide health benefit in reducing dementia (4), insulin resistance, type 2 diabetes mellitus (5, 6), Parkinson disease (6), cirrhosis and advanced hepatic fibrosis (7-12), excess intake is not recommended; specially during pregnancy. This is for the fact that caffeine can cross the placenta into the amniotic fluid and fetus and results in adverse pregnancy outcomes. Due to this, the American Pregnancy Association and March of Dimes which is a United States nonprofit organization that works to improve the health of mothers and babies by preventing birth defects, premature birth and infant mortality recommend that a pregnant woman should not take more than 200mg caffeine per day. This is equal to 355 milliliters coffee (13). In 2003, Experts in Canada did a systematic review to evaluate the effects of caffeine on human health. Based on the available evidence, they recommend that a reproductive age woman should not take 300mg and above caffeine per day. Similarly, the World Health Organization (WHO) recommends as it should not exceed 300 mg per day (3, 14).

Alcoholic beverages are drinks containing ethyl alcohol or ethanol which is an intoxicating ingredient. Alcohol is a central nervous system depressant and can cross the placenta. Therefore, since there is no safe amount of alcohol, a pregnant woman is advised to avoid

drinking alcohol during pregnancy (15).Similarly, different chemicals from cigarette smoking impairs the structure and function of the placenta (16).

Khat refers to the leaves and the young shoots of the plant Catha edulis Forsk, a species belonging to the plant family Celastraceae. khat contains many different compounds such as cathionine (17). As a result, khat chewing during pregnancy may reduce placental blood flow (18).

According to WHO recommendation, health-care providers should ask all pregnant women about their use of past and present alcohol, tobacco smoking and other substances as early as possible in the pregnancy and at every antenatal care visit (3).

1.2. Statement of the Problem

Substances use such as excess caffeine, alcohol consumption, tobacco use and khat chewing during pregnancy has an effect on the developing fetus.

High levels of caffeine intake can result in miscarriage, low birth weight, growth restriction, stillbirth, and increases the risk of health problems in later life (19-24). In addition, drinking tea or coffee immediately after meal inhibits iron absorption (25).

Globally, 9.8% of women consume alcohol while they are pregnant (26). In Eastern Africa WHO region, 2016, the estimated prevalence of alcohol consumption during pregnancy among the general population ranged from 3.4% in Seychelles to 20.5% in Uganda. In Ethiopia, the magnitude of alcohol consumption during pregnancy was 7.9 % based on regression model estimation (27) and in Bahirdar City (2014), it was 34% (28).

Alcohol consumed during pregnancy is the leading preventable cause of developmental disabilities and birth defects. According to the World Health Organization report, 1 in 100 babies is estimated to be born with alcohol-related damage (29). One of the problems is Fetal Alcohol Spectrum Disorder (FASD), which is an umbrella term that covers all alcohol-related diagnoses (30). FASD is associated with a wide range of physical, behavioral and learning problems including growth impairments, facial abnormalities, problems with brain function

and developmental delays. In addition, heavy alcohol consumption during pregnancy increases the risks of low birthweight, preterm birth (31), small for gestational age (32) and childhood leukemia in young children (33).

Globally, the estimated prevalence of tobacco smoker in 2013 among the world's adult population aged 15 years and above was 22% including 36% of men and 8% of women. The tobacco epidemics continue to shift from high-income countries to low- and middle-income countries, with a recent increase in the prevalence of tobacco smoking among women, which is expected to rise to 20% by 2025 (34). Based on 2011 Ethiopian Demographic Health Survey (EDHS) data analysis, the overall prevalence of tobacco use was 4.1 %,8.1 % and 0.8 % among adults, adult males and females respectively (35).

Smoking during pregnancy has been associated with preterm birth, restricted fetal growth and low birth weight (36, 37), and this leads to a higher risk of childhood obesity and non-communicable diseases in later life (38, 39). Similarly, grandmothers' smoking during pregnancy was associated with higher birth weight, higher risk of overweight, and higher body mass index through adolescence and young adulthood (40). This showed that smoking during pregnancy has also a transgenerational effect on health.

Based on the further analysis study of 2011 EDHS in 2015, khat chewing prevalence among the adult Ethiopian population was 15.3% (41). In 1999, the prevalence of current khat use among adult populations in Butajira was 50% (42). The WHO Expert Committee on Drug Dependence (ECDD) critical review result showed that khat chewing during pregnancy may have different obstetric effects like low birth weight, stillbirths, and impaired lactation (17).

Different factors were identified as an associated factor for substances use during pregnancy. Younger age, white ethnicity, not being religious, low socio-economic status, being nonimmigrant, performing less frequent antenatal consultation, null parity, husband alcohol consumption, previous history of alcohol and other illicit drugs use, unplanned pregnancy, lack of awareness about the harmful effects of alcohol on the fetus and peer pressure were the identified factors associated with alcohol consumption (43-46).

Being divorced, unemployed, younger age, low educational level and low socio-economic status, living with smoker, criminal history, working in receipt of social services, alcohol and illicit drug use, being fair to poor in perceived health, being previous heavy smoker, having at least one chronic disease and mental illness, and not having a regular medical doctor are the identified factors associated with cigarette smoking during pregnancy (43, 47-50).

Old age, living in mountainous region, being Islamic follower, being smoker and child death are identified as a risk factor for khat chewing during pregnancy (41, 42, 51).

However, there is no study conducted to assess risk factors for excess caffeine consumption during pregnancy among pregnant women.

Moreover, although substances use during pregnancy resulted in adverse pregnancy outcomes, the magnitude of substances use among pregnant women is not well known in developing countries such as Ethiopia where there is no recommendation regarding safe level of caffeine and alcohol consumption during pregnancy.

Substances use related birth defects and developmental disabilities are completely preventable when pregnant women abstain from consuming it. Knowing the current magnitude of caffeine and alcohol consumption, cigarette smoking and khat chewing during pregnancy is the first step to intervene it. To the best of the researcher, the prevalence of substances such as caffeine, alcohol, cigarette, and khat use during pregnancy was not well studied in Ethiopia. Therefore, this study was aimed to fill this gap by assessing the prevalence of substances use during pregnancy.

1.3. Significance of the Study

Pregnant women should be advised of the potential health risks to themselves and to their babies posed by alcohol and other substances use (3). Therefore, this study provided baseline information on the current prevalence of caffeine intake more than 300mg per day, alcohol consumption, cigarette smoking, and khat chewing among pregnant women. This might be useful to develop evidence-based healthy dietary guideline and to draw the attention of policy makers, government officials, public health authorities, program managers and health care

practitioners to the problem of excess substances use in order to prevent it. It might be also used as a base line for further study on caffeine use during pregnancy.

2. LITERATURE REVIEW

2.1. Substance Use during Pregnancy

The use of substances during pregnancy, which includes consumption of caffeine, alcohol, and cigarettes smoking and khat chewing are summarized as follows.

2.1.1. Caffeine Intake during Pregnancy

In Norway,2013, a population based cohort study among 59,123 women with uncomplicated pregnancies giving birth to a live singleton showed that the median pre-pregnancy caffeine intake was 126 mg per day (IQR 40 to 254). The intake was 44 mg per day (IQR 13 to 104) at gestational week 17 and 62 mg/day (IQR 21 to 130) at gestational week 30 (22). This implies that caffeine consumption is higher during pre-pregnancy and decrease during second trimester. Then the consumption increases at third trimester.

A facility-based study in Massachusetts between September 1996 and January 2000 showed that 57% of women consumed some caffeine during the first trimester of pregnancy. Among caffeine consumer pregnant women, 12% consumed 150 mg and above caffeine per day. Caffeine consumption decreased during the third trimester in which 49 % pregnant women consume some caffeine per day, 42% consumed 1 – 149 mg caffeine per day, 7% consumed 150 mg and above caffeine per day, and 1.6% consumed 300 mg and above caffeine per day. Among consumers, the daily mean reported caffeine intake during the first trimester was 98 mg per day (SD = 140) and the median intake was 49 mg per day (IQR = 103). The caffeine intake among pregnant women during third trimester become decreased to an average of 75 mg per day (SD = 104) and a median of 38 mg per day (IQR = 85) (52).

Regarding caffeine assessment, the reviewed articles used semi-quantitative food frequency questionnaire (22), and 24-hour recall (52) to assess caffeine intake from different caffeinated beverages. Though semi-quantitative food frequency questionnaire used to assess the habitual

caffeine intake of an individual, it has a limitation in assessing caffeine intake in terms of accuracy compared to weighed record, repeated 24-hour recall and 24-hour record (53).

2.1.2. Alcohol Consumption during Pregnancy

Globally, 9.8% of women consume alcohol while pregnant in 2017. It was estimated that the prevalence of alcohol use during pregnancy is the highest in the World Health Organization European Region at 25.2% and the lowest in the Eastern-Mediterranean Region at 0.2% (26).

Globally, five countries namely Ireland (60%), Belarus (47%), Denmark (46%), United Kingdom (41%) and Russian Federation (37%) were with the highest estimated percentage of women consuming alcohol during pregnancy (30).

The WHO region systematic review and meta-analysis in 2017 showed that the five countries with the highest estimated prevalence of binge drinking during pregnancy were Paraguay (13.9%), Moldova (10.6%), Ireland (10.5%), Lithuania (10.5%) and Czech Republic (9.4%). However, the five countries with the lowest estimated prevalence of binge drinking were Brunei Darussalam (0.2%), Singapore (0.2%), Luxembourg, Italy (0.7%) and the Republic of Korea (0.8%) (54).

Regarding binge drinking, the five countries namely Paraguay (77.7%), Benin (77.2%), Seychelles (77.2%), Austria (59.5%) and Zimbabwe (52.5%) were with the highest estimated proportion of pregnant women that binge drink during pregnancy out of all women who consumed any amount of alcohol during pregnancy in 2017. While in 2017, the five countries with the lowest estimated proportion of pregnant women that binge drink during pregnancy were Italy (2.1%), New Zealand (3.0%), Germany (3.5%), Republic of Korea (3.7%) and Slovenia (4.1%) (54).

In Italy, the proportion of alcohol consumption during pregnancy was reported at 17.7%. Of which, 59.6% consumed weekly (<1 drink per day or 4 drinks per month), 24.5% drank alcohol daily, 15.7% drank less than 4 drinks per month and a severe addiction (more than six drinks per day) was observed in only 2 cases (0.4%) (55).

In Denmark, 2015, alcohol consumption during pregnancy was 3 %. Thirty five percent of the alcohol consumers were binge drinkers (56). In Canada, 2011, 10.8% and 1.7 % of pregnant women were binge drinkers and heavy drinkers (>1 drink per day), respectively (57). In Brazil 2013, 32.4% consumed alcohol during pregnancy. Of these, 36.1% were binge drinkers (five or more drinks in one session (44). Based on a population-based cross-sectional study in Geneva in 2013, 36.3% of the women drank at least one glass of alcohol during pregnancy (43).

An institutional based descriptive cross-sectional study in South West of England in 2014, showed that the proportion of current drinkers in the past 3 months of the study was 26% (n=106). About 18% reported drinking monthly or less,7.8% reported more frequent drinking, 2.3% reported drinking six or more units on a single occasion (heavy episodic or binge drinking) at least monthly or weekly in the past three months, 2.2% reported exceeding the recommended drinking limits of one to two units once or twice a week,5.4% of respondents had an AUDIT-C score of 3 or more, and 22.2% a T-ACE score of 2 or more, indicating risk drinking in the peri-conception period. No one met the criteria for hazardous drinking (AUDIT score of at least 16) and alcohol dependency (AUDIT score at least 20) (45).

In 2013, a prospective cohort study on 5,628 nulliparous women in United Kingdom showed that 1,090 (19%) reported occasional alcohol consumption (1–2 units per week), 1,383 (25%) low alcohol consumption low (3–7 units per week), 625 (11%) moderate alcohol consumption (8–14 units per week), and 300 (5%) heavy alcohol consumption (greater than 14 units per week). Overall, 1,288 (23%) of these participants reported binge alcohol consumption (taking 6 or more alcohol units in one session) during the first 15 weeks of pregnancy (58).

A population based cross-sectional study in Nepal, 2016, conducted on 778 pregnant and breastfeeding women who had less than 1-year child showed that one-third of women drank alcohol during pregnancy and one-fifth of women who had drunk at that time drank 5 and more standard drinks on average per day in the last 30 days of data collection period (59).

Globally, though the overall prevalence of binge drinking (four or more standard drinks per occasion) during pregnancy appears to have decreased over the past three decades, its

estimated prevalence was highest in Africa Region (3.1%) ranged from 11.7% in Uganda to 77.2% in Benin in 2017 (54).

In Tanzania , a ten year registry based study (from 2000 to 2010) showed that 34.1 % of mothers reported alcohol consumption during pregnancy, 19.2 % drank occasionally, 3.9 % drank once a week, 10.1 % drank more than once a week and 1.0 % drank alcohol daily (60) . In South Eastern Nigeria, 2016, the magnitude of alcohol consumption among pregnant women was 22.6 % (n=86) and 35.5% (n=135) of the respondents were aware that alcohol is harmful to the fetus (46).

In Eastern Africa, 2016, the estimated prevalence of alcohol consumption during pregnancy among the general population ranged from 3.4% (Seychelles) to 20.5% (Uganda). In Ethiopia, it was 7.9 % (95% CI: 6.0- 9.7%) (27).

Regarding alcohol consumption assessment, one of the reviewed literature (45) used Alcohol Use Disorder Identification Test (AUDIT-C) which was validated by WHO to screen alcohol drinkers (61).

2.1.3. Cigarette Smoking During Pregnancy

Globally, the estimated prevalence of tobacco smoking in 2013 among the world's adult population aged 15 years and above was 22%. The global tobacco prevalence was 36% among men and it was 8% among women. The tobacco epidemics continue to shift from high-income countries to low- and middle-income countries, with a recent increase in the prevalence of tobacco smoking among women, which is expected to rise to 20% by 2025 (34).

In Italy, 2011, the proportion of smoking during pregnancy among women calling to teratology service was 22.7% (55). According to a population based cross-sectional study, the estimated prevalence was ranged from 0·6% (0·3–0·8) in the African region to 3·5% (1·5–12·1) in the Western Pacific region. In Ethiopia, the estimated prevalence of smoking was 0·8% (0·4–1·9) between Jan 1, 2001, and Dec 1, 2012 (62).

In Geneva, the prevalence of smoking during pregnancy was 21.7% in 2013 (43). In Romania, the prevalence of smoking among pregnant women was 15% in 2014 (37); and in China, smoking prevalence among pregnant women was 3.8% in 2015 (63) .

Another population-based study in Poland showed that prevalence of smoking in the beginning of pregnancy was 34.6% in 2016. Of which, only 14.7% declared quitting smoking (47). In Eastern Nepal 2017, it was 17.2% and one-fifth of the research participants were asked to quit tobacco by health workers during last pregnancy (64) .

In 2013, the overall estimated prevalence of tobacco smoking among the adult population and adult women in WHO Africa Region were 10 % and 3% respectively (34).

According to a facility based cross-sectional study in Shanghai, China (2016), the prevalence of passive smoking during pregnancy was 34.81% (65).

2.1.4. Khat Chewing During Pregnancy

In 2008, a community-based cross-sectional study in Yemen showed that about 40.7% of women reported chewing khat while pregnant during the 5 years before the survey (51). Based on the further analysis study of 2011 EDHS, khat chewing prevalence among the adult Ethiopian population was 15.3%. The prevalence of khat chewing ranged from the highest in Harari (53.2%) to the lowest in Tigray regional state (1.1%) (41).

A community-based cross-sectional study in Butajira, 1999, showed that 55.7% of the adult populations reported lifetime khat chewing experience and the prevalence of current khat use at that time was 50%. Among current chewers, 17.40% reported taking khat on a daily basis; 16.1% of these were male and 3.4% were female. Regarding the reason for chewing: about 80% of the chewers used it to gain a good level of concentration for praying (42).

2.2. Recommendation on Substances Use during Pregnancy

2.2.1. The Recommended Level of Caffeine Intake during Pregnancy

Experts have stated that moderate level of caffeine have not been found to have a negative effect on pregnancy. The definition of moderate varies from 150 mg to 300 mg a day (13). Due to conflicting conclusions from numerous studies, the March of Dimes, American Association of pregnancy and others states that until more conclusive studies will be done, pregnant women should limit caffeine intake to less than 200 mg per day. This is equal to about one 12 oz. cup of coffee (13, 66). According to WHO recommendation, it should not exceed 300 mg (3).

2.2.2. Safe Level of Alcohol drinking during pregnancy

According to the American Academy of Pediatrics, 'There is no safe amount of alcohol intake during pregnancy, no safe trimester to drink alcohol, all forms of alcohol, such as beer, wine, and liquor, pose a similar risk and binge drinking poses a dose-related risk to the developing fetus'(67).

2.3. Effects of Substance Use during Pregnancy

2.3.1. Effects of Caffeine Intake during Pregnancy

Coffee consumption has both positive and negative health outcomes. According to 2017 annual review of nutrition, an umbrella review of the evidence from meta-analyses of observational studies and randomized controlled trials showed that, of the 59 unique outcomes examined in the selected 112 observational studies, coffee was associated with a probable decreased risk of breast, colorectal, colon, endometrial, and prostate cancers, cardiovascular disease and mortality, Parkinson's disease, and type-2 diabetes. Of the 14 unique outcomes examined in the 20 selected observational studies, caffeine was associated with a probable decreased risk of Parkinson's disease and type 2 diabetes and an increased risk of pregnancy loss (6). Chronic consumption of caffeine during pregnancy is one of the risk factor of adverse pregnancy outcomes. It associated with an increased risk of low birth weight infants. According to a meta-

analysis study finding, higher maternal caffeine intake during pregnancy was associated with a higher risk of delivering low birth weight infants (22, 24). This risk appears to increase linearly as caffeine intake increases (36, 68). To the contrary, a systematic review on randomized controlled trials in 2015 found that reducing the caffeine intake of regular coffee drinkers greater than 3 cups per day during the second and third trimester by an average of 182 mg/day did not affect birth weight (69).

Likewise, caffeine consumption during pregnancy may increase the risk of spontaneous abortion, subsequent fetal loss and still birth. A case-control study in Denmark found that consumption of 375 mg or more caffeine per day during pregnancy may increase the risk of spontaneous abortion (70). Another case-control study in Northern Italy showed that coffee drinking in early pregnancy was associated with an increased risk of abortion (71).The Journal of Obstetrics and Gynecology reported that pregnant women who consumed more than 200 mg of caffeine daily (2 cups of coffee), had twice the risk of miscarriage compared to women who had no caffeine. Even, the risk of miscarriage increased by more than 40% for women who consumed less than 200 mg of caffeine daily (72).

According to a systematic review and meta-analysis study in 2014, heavy maternal preconception caffeine intake (more than 300mg) per day significantly increases the risk of a subsequent fetal loss by 31% (73).

A prospective cohort study in Denmark showed that pregnant women who drank eight or more cups of coffee daily had more than twice the risk of stillbirth compared with women who did not drink coffee during pregnancy but not with infant death (20). Caffeine intake is also associated with prolonged gestation, increased risk of childhood brain tumor and childhood acute leukemia. Coffee caffeine but not caffeine from other sources was associated with prolonged gestation (22).

2.3.2. Effects of Alcohol drinking during pregnancy

Alcohol consumption during pregnancy is related to various risks to the fetus. Detrimental effects are seen at low levels of alcohol consumption, beginning at 10g per day. As the average volume of alcohol consumption increases, the lifetime risk of alcohol-related disease increases.

These include several types of cancer (e.g., breast, lip, oral, pharyngeal, esophageal, and liver), hypertensive disease, and hemorrhagic stroke (74). FASD, spontaneous abortion, low birth weight, prematurity, intra-uterine growth retardation, congenital hydrocephalus, clubfoot and stillbirth (75-80).

2.3.3. Effects of Cigarette Smoking During Pregnancy

Cigarette smoking during pregnancy has adverse health effects on the fetus, as well as the mother. These includes, an increased risk of strabismus in the offspring (81), clubfoot (80), LBWGA, low birth weight, preterm births (36, 37), increased odds of elevated levels of antisocial behaviours during adolescence and adulthood, as well as violent and nonviolent outcomes (82), an increased risk of wheeze in children (83), almost 3 times increased risk of congenital heart defects (73) and increased prevalence of depressive symptoms during pregnancy (84).

2.3.4. Effects of Chat Chewing During Pregnancy

Khat chewing during pregnancy may reduce placental blood flow and impair fetal growth. According to a study on Pregnant Pigs in 1988, placental blood flow was reduced by 10% in 75 minutes and by 24% in 180 minutes after khat feeding (18).

Khat chewing during pregnancy may have different obstetric effects like low birth weight, stillbirths, impaired lactation, and embryo toxic as well as teratogenic properties. A study on rats in 1994 revealed that khat had retarded fetal growth and teratogenic effect and this developmental toxicity of khat is dose-related (85). The WHO Expert Committee on Drug Dependence (ECDD) critical review report showed that khat contains many different chemical compounds .Therefore, khat chewing during pregnancy may have different obstetric effects like low birth weight, stillbirths, impaired lactation (17).

A case-control study conducted in 2015 at Bale Hospital of South East Ethiopia showed that maternal history of khat chewing was associated with low birth weight (86). Another case-control study in 2017 obtained similar finding (87).

In addition, chat chewing during pregnancy associated with restrictive dietary behavior and this results in Anemia. According to a study in 2013, the risk of anemia was 29% higher in the women who chewed khat daily than those who chewed sometimes or never did so (88).

2.4. Associated Factors of Substance use during Pregnancy

2.4.1. Socio-demographic and Economic Factors

Maternal age 30 or less (46), white ethnicity (45), not being religious, living on less than 1 minimum wage (44), and being nonimmigrant (57) were significantly associated with alcohol consumption during pregnancy. However, there were discrepant study findings regarding educational level and having partner as a determinant factor of alcohol consumption during pregnancy. A cross-sectional study in Bahirdar (89) showed that mothers who had accomplished high school were three times more likely to drink alcohol during pregnancy as compared to mothers who cannot read and write (28). However, a cross-sectional study in Nigeria showed that mothers attended secondary education or less were two times more likely to consume alcohol as compared to mothers who accomplished tertiary education (46). Regarding having partner, a cross-sectional study in Teresina and Italy showed that not having partner is a risk factor for alcohol consumption during pregnancy (44, 55). To the contrary, a cross-sectional study in Canada showed that women who have partner were significantly more likely to drink alcohol as compared to those living alone (57).

Regarding smoking; younger age (48-50), lower education (48, 49, 64), divorced or not living with a partner (43, 47), unemployment (49), and low socioeconomic status (50) were factors associated with the increased risk of tobacco use during pregnancy.

However, the finding regarding migration as a determinant factor of smoking is not conclusive. A cross-sectional study in Turkey showed that migrants were more likely to smoke tobacco as compared to non-migrants (48). While another cross-sectional study in France showed that migrant women were less likely to use tobacco during pregnancy as compared to non-migrants (90).

Regarding Khat chewing; old age, rural residence (41, 51), formerly married, living in regions of Oromia, SNNP, Gambella, Harari and Dire Dawa (41), being Islamic followers (41, 42), and living in mountainous regions (51) were significant risk factors for chewing khat. Those individuals working in sales, agriculture, service sector, and skilled and unskilled manual workers were more likely to chew khat compared to those who have no occupation (41).

However, there were inconclusive findings regarding educational level and wealth status as a risk factor for chewing khat. In 2008, a community-based cross-sectional study in Yemen showed that no education and low wealth were significant risk factors for chewing khat (51). However, based on the further analysis study of 2011 EDHS in 2015, those with the highest wealth quintiles had a statistically significant association with khat chewing and educational status (41) and employment status (51) were not associated with khat chewing practice.

2.4.2. Pregnancy-related Factors

Performing 3 times or less prenatal consultations (44) was significantly associated with alcohol consumption during pregnancy as compared to those getting 4 and more antenatal consultations. Null parity and lower parity were identified as a risk factor for alcohol consumption during pregnancy as compared to multiparous women (46, 55).

The population based cross-sectional study in eastern Nepal showed that parity of more than two is significantly associated with tobacco use as compared to being para one or two (64).

According to a community based cross-sectional study in Yemen, ante natal care practice was not associated with khat chewing during pregnancy (51).

2.4.3. Behavioral Factors

Alcohol consumption of the husband/partner (43), and alcohol use in previous pregnancies, previous illicit drug abuse (55), not being happy when pregnancy discovered, and smoking during pregnancy (57) were significantly associated with alcohol consumption during pregnancy.

Living with a smoker and tobacco consumption of the husband/partner in the presence of the pregnant woman (43), criminal history, receipt of social services, illicit drug use (49) and alcohol consumption during previous pregnancy (49, 64), being fair to poor in self-perceived health, being previous heavy smokers, and being regular alcohol drinkers (50) were major factors significantly associated with increased risk of tobacco use.

Regarding chewing, smoking (42) was identified as a risk factor for Khat chewing during pregnancy.

2.4.4. Medical, Awareness Related and Other Factors

Lack of awareness of the harmful effect of alcohol on the fetus (46, 59), invitations to drink from other people (43), and having suffered violence (44) were significantly associated with alcohol consumption during pregnancy.

Not having a regular medical doctor, having at least one chronic disease, and having at least one mental illness (50) were factors associated with increased risk of tobacco use.

Child death (41) was identified as a significant risk factor for Khat chewing among the general adult population. However there was no significant difference in khat chewing practice between individuals with high and low scores of mental distress as it was measured by the SRQ Mental Distress Scale (42).

In summary, though peer pressure identified as a risk factor for substances use, pregnant women are less likely to be influenced by peer. Additionally, abortion, having chronic diseases, intimate partner violence, stressful life events and mental illnesses were identified as a risk factor for substances use. However, the chronic diseases, abortion, intimate partner violence, stressful life events and mental illness might be caused by substances use. Therefore, peer pressure, chronic diseases, mental illness, intimate partner violence, stressful life events and abortion were less likely to be a risk factor for substances use.

2.5. Conceptual Framework of the Study

The conceptual framework was developed based on the reviewed literature and showed the association between the dependent and independent variables of the study. The broken line shows the assumption that one independent variable may affect the other independent variable of the study.

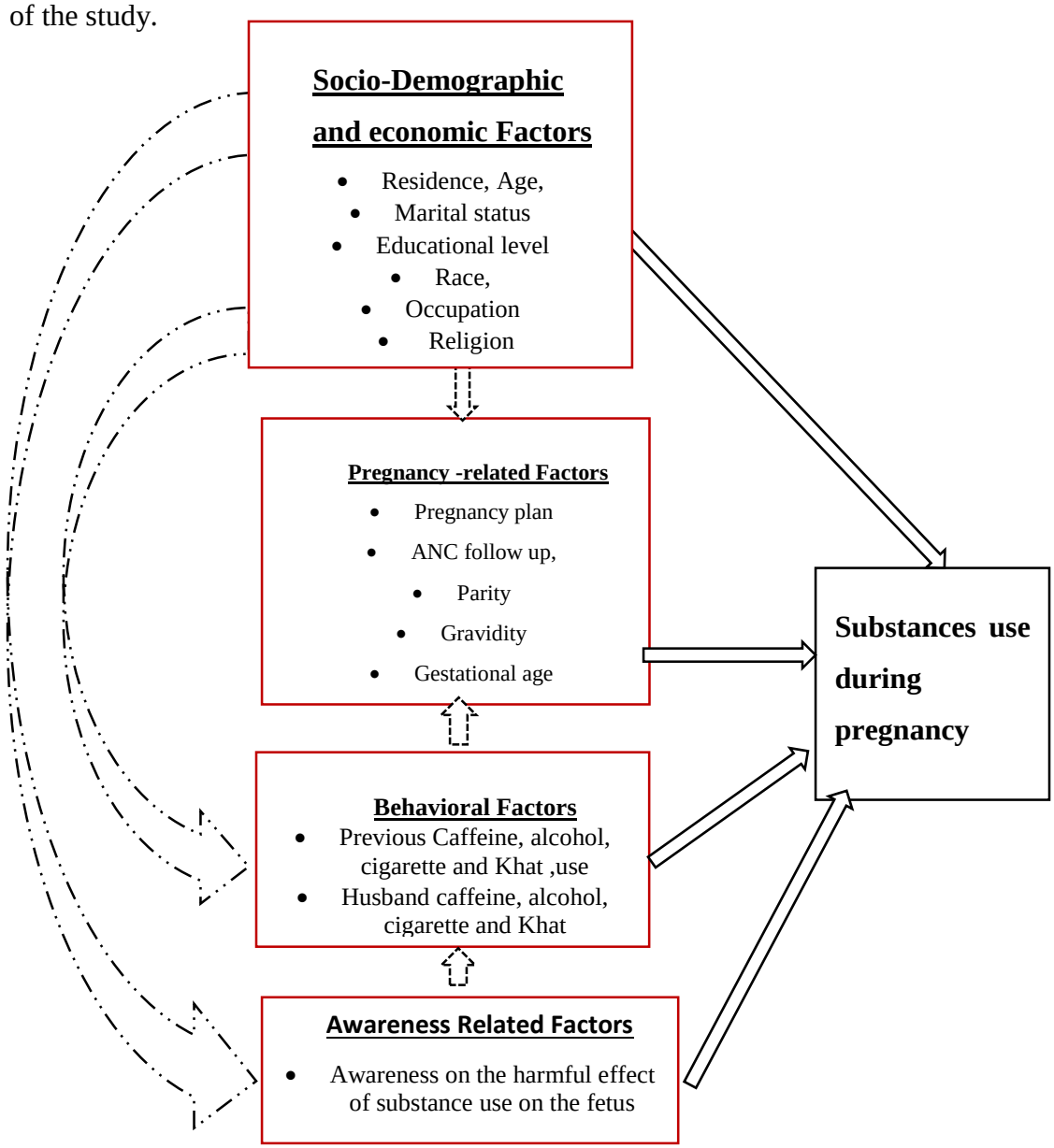

Figure 1: Conceptual framework which shows substances use during pregnancy and its associated factors as developed based on the reviewed literature (41-51, 55, 57, 90)

2.6. Research Questions

In summary, based on the reviewed literature the following research questions were identified.

Research Questions

1. What is the prevalence of excess caffeine intake per day (≥300 mg caffeine per day) among pregnant women?
2. What is the prevalence of alcohol intake among pregnant women?
3. What is the prevalence of cigarette smoking among pregnant women (Both active and passive)?
4. What is the prevalence of khat chewing among pregnant women?
5. What is the prevalence of at least one substance use among pregnant women?
6. What is the prevalence of all the four substances use among pregnant women?
7. What are the associated factors for excess caffeine consumption among pregnant women?

3. OBJECTIVES

3.1. General Objective

The general objective of this study was to determine the prevalence of substances use and associated factors for excess caffeine consumption among pregnant women in Butajira, South Central Ethiopia, April 12- May 15, 2018.

3.2. Specific Objectives

1. To determine the prevalence of excess caffeine intake per day (≥300mg) among pregnant women
2. To determine the prevalence of alcohol consumption among pregnant women
3. To determine the prevalence of khat chewing among pregnant women
4. To determine the prevalence of tobacco use among pregnant women
5. To identify the associated factors for excess caffeine consumption among pregnant women

4. MATERIALS AND METHODS

4.1. Study Area

The study was conducted at Butajira Rural Health Program (BRHP) Site which is found in Meskan and Mareko districts of Gurage Zone, SNNP region, South Central Ethiopia. BRHP is located 130 km South of Addis Ababa which is the capital city of Ethiopia with an altitude of 1,500m-3500m above sea level. Butajira Rural Health Program is a Health Demographic Surveillance System (HDSS) Site for Addis Ababa University. The BRHP has the total population of 80,369. Of which, around 39, 717 are females. The urban population is comprising of 29, 874 and the remaining (50,495) lives in rural kebeles. The reproductive age women (15-49 years) are around 18,429. Of which, around 1441 are expected to be pregnant in 2017/2018. Around 535 of the expected pregnancies are living in urban kebele and the rest 906 are living in rural kebeles. Of those women living in rural kebeles, 436,161 and 309 are expected to live in lowland, midland and highland kebeles respectively. The total number of pregnant women during the data collection period were 466 as obtained from the BRHP data base. Based on 2007 Central Statistical Agency census result, the majority of the inhabitants were Muslim, followed by Orthodox Christianity and Protestant in religion and Gurage in Ethnicity. Guragigna and Amharic are the local and national working languages respectively.

4.2. Study Design and Period

A community based cross-sectional study was employed from April 12- May 15, 2018.

4.3. Populations

4.3.1. Source Population

The source population of the study were all pregnant women living at BRHP.

4.3.2. Study Population

The study population were all pregnant women at BRHP site during the data collection period

4.3.3. Eligibility Criteria

4.3.3.1. Inclusion Criteria

Pregnant women living in the study area were included in the study. The list of pregnant women was obtained from BRHP data base and from an ongoing maternal and child birth cohort study in BRHP.

4.3.3.2. Exclusion Criteria

None of the pregnant women were excluded.

4.4. Sample Size Determination and Sampling Procedure

4.4.1. Sample Size Determination

Sample size was determined by using single population proportion formula based on the assumptions of 95% CI, 5% of margin error (except for alcohol use where d=4.5%, and tobacco use where d=1.6%) and with 57 % estimated prevalence of caffeine intake during pregnancy in Massachusetts between September 1996 and January 2000 (52), 34% prevalence of alcohol consumption during pregnancy at least per week from a study at Bahirdar City, Ethiopia in 2014 (28), 3 % estimated prevalence of cigarette smoking among adult women in WHO African region in 2013 (34) and 40.7% prevalence of khat chewing among pregnant women in Yemen (2008) based on Community based study (51).

$$\mathrm{ni} = \frac{(z\alpha/2)^2 * \mathrm{p}(1-\mathrm{p})}{\mathrm{d}^2}$$

Where ni =sample size from infinite population

$Z\alpha/2$ = critical value =1.96 for 95% confidence interval

P = prevalence of 57%, 34 %, 3 % and 40.7% for caffeine, alcohol, cigarette use and khat chewing during pregnancy respectively

d = Margin of error (5% = 0.05 for caffeine and khat use, 4.5%=0.045 for alcohol use, and 1.6%=0.016 for tobacco use assessment)

The initial sample sizes were 376 for caffeine assessment, 424 for alcohol consumption assessment, 436 for cigarette smoking assessment and 371 for khat chewing assessment.

Since the expected number of pregnant women (around 1,441) is less than 10,000, sample size reduction formula was used as follow:

$$nf = \frac{ni}{[1+(\frac{ni}{N})]}$$

Where: nf= sample size from finite population

ni= sample size from infinite population

N=Total pregnant women

The final sample sizes after using the sample size reduction correction formula and adding 5% non-response rate were 314 for caffeine assessment, 345 for alcohol assessment, 352 for cigarette smoking assessment and 310 for khat chewing assessment.

From all the determined sample sizes, the largest was the sample size determined for cigarette smoking assessment which was 352. Therefore, 352 was taken as the final sample size for this study. The assumptions used were summarized in table 2 bellow.

Table 1: Summary of Sample size determination and assumptions used, 2018

Variables	Assumption	ni	nf	None response rate (5 %)	Final sample size
Caffeine intake assessment	P=57%, 95%CI & d=5%	376	299	15	314
Alcohol intake assessment	P=34%, 95%CI & d=4.5%	424	329	16	345
Cigarette smoking assessment	P=3%, 95%CI & d=1.6%	436	335	17	**352**
Khat chewing assessment	40.7%, 95%CI & d=5%	371	295	15	310

Key: *P=prevalence of substance use* *CI: Confidence interval* *d= Margin of error*

ni= sample size from infinite population *nf= sample size from finite population*

4.1.1. Sampling Procedure

Figure 1 shows the sampling procedure employed to recruit pregnant women. Stratified sampling technique was used to select pregnant women. The assumption for selecting stratified sampling technique was the accessibility of substances might vary based on residence and agro-ecological zones. Butajira Demographic Surveillance System (DSS) site has a total of 10 kebeles. Of which one is urban Kebele and nine are rural kebeles. First, these kebeles were stratified as urban and rural. Then, rural kebeles were stratified as lowland, midland and highland. The urban kebele is found in the midland agro ecological zone. The total number of pregnant women during the data collection period were 466 as obtained from the BRHP data base. Sampling frame was prepared for each stratum and the samples were assigned for each stratum proportional to the number of pregnant women. Then, study subjects were selected from each stratum by using simple random sampling (SRS) technique.

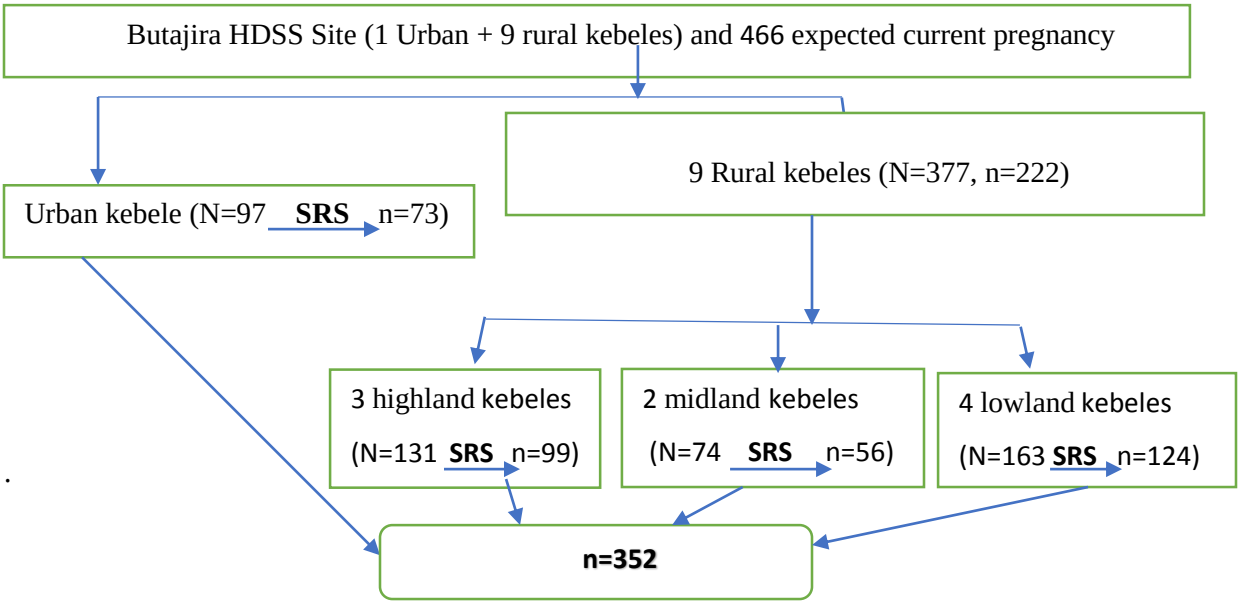

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Figure 2: Schematic diagram which shows the sample selection procedure, 2018.

N=Total number of pregnant women during the data collection period

n= allocated samples for each stratum

4.5. Data Collection Tool and Data Collection Procedure

4.5.1. Data Collection Tool

We developed a questionnaire adapted from Caffeine Consumption Questionnaire-Revised (CCQ-R) (91) for caffeine consumption assessment, Alcohol Use Disorder Identification Test (AUDIT) (61) and EDHS 2016 (89) for alcohol consumption assessment, Global Adult Tobacco Survey (GATS) (92) and EDHS 2016 (89) for tobacco use assessment and from previous literature (42) and EDHS 2016 (89) for khat chewing assessment.

The questionnaire has seven sections. These are socio-demographic questions (Section-I), Caffeine consumption assessment questions (Section-II), Alcohol consumption assessment questions (section-III), Khat chewing assessment questions (Section-IV), Cigarette smoking assessment questions (Section-V), Maternal and Pregnancy related questions (Section-VI), and Awareness on the harm of substances use during pregnancy (Section-VI).

4.5.2. Data Collection Procedure

Interviewer-administered face to face data collection method was employed to collect data from each pregnant woman. We found the pregnant woman using household identification number and the interview conducted at the respondent's house.

4.5.3. Data Collectors

The data were collected by seven Butajira rural health program staffs who can speak both Amharic and the local language. The overall data collection process was supervised by the two coordinators of Butajira rural health program and the researcher on daily bases.

4.6. Measurement of Study Variables

4.6.1. Caffeine Measurement

Many participants may not consume coffee on daily bases. Therefore, the 24-hour recall was repeated to assess the habitual intake of caffeine. To control days of the week's variation, data was collected on 2 non-consecutive days of the week. One from week days and one from weekend days. All days of the week were considered in the sample to make the selection representative. Participants were asked to report their last 24-h consumption of caffeine from different caffeinated beverages (e.g., coffee, tea, coca cola, pepsi cola, and energy drinks), caffeinated foods (e.g., chocolate, candy bars, and baked goods) but not from medicines. The data collectors asked respondents to show the serving size for each caffeinated item. If the material was not available at home, the picture of calibrated serving size was shown to the mother to estimate the amount consumed. Then, the participant was asked to indicate how many of each size of the beverages consumed in the last 24-h. The daily 24-h recall consumption data were transformed in to a standard unit (ml). The data were multiplied by the content of caffeine per unit of each caffeine source. The amount of caffeine from coffee (0.5309 mg/ml) was obtained from a study conducted in Ethiopia (93). The caffeine concentration for tea (0.359 mg/ml) and coca cola (0.113mg/ml) was obtained from the International Food Information Council Foundation (IFICF) critical review on clarifying the controversies of caffeine and health (94). To obtain the caffeine amount from coffee with milk,

the portion of coffee in coffee with milk was estimated. The estimated proportion of coffee in coffee served with milk was 0.7365. Then the caffeine level was calculated based on the caffeine level in coffee as shown above. The caffeine intake from each source was added to obtain daily caffeine intake. Finally, the total level of caffeine consumption for two days was obtained by adding caffeine intake from each 24-h recall. The two days' consumption was divided by 2 to obtain the average caffeine intake of an individual per day.

4.6.2. Alcohol Consumption Measurement

The participants were asked to report their alcohol consumption during pregnancy using the 3 consumption questions from Alcohol Use Disorder Identification Test (AUDIT).

4.6.3. Cigarettes Smoking Assessment

The pregnant woman was asked to respond close-ended questions concerning cigarette smoking. First, the woman was asked a question to assess whether or not she smoked cigarette during the current pregnancy. If she responded "yes", the woman was taken as a smoker and number of cigarettes smoked per day, awareness and source of information about the effects of cigarette on the fetus, and secondary exposure at home, work places and public places were asked.

4.6.4. Khat Chewing Assessment

The pregnant woman was asked to respond close-ended questions concerning khat chewing. First, the woman was asked a question to assess whether or not she chewed khat during the current pregnancy. If the women responded "yes", she was taken as a consumer and frequency of chewing, awareness and source of information about the effects of khat chewing on the fetus were asked.

4.7. Data Quality Assurance

The quality of the data was assured before, during and after the data collection period.

Before data collection: To assure the quality of data, questionnaire was developed in English version and translated to Amharic version. To assure the quality of caffeine data, the locally available serving sizes of caffeinated products were calibrated and standardized before the actual data collection period. In addition, 2 days training was given to the data collectors and supervisors to minimize an introduction of information bias occurred during data collection. Then, a pretest was conducted at neighboring kebele on 6% of the samples (21 pregnant women) before the actual data collection to check the consistency, any ambiguity in the language and to evaluate the interviewing skill of data collectors. During pretest, new locally available serving sizes of caffeinated beverages were found and calibrated. Moreover, the questionnaire was modified based on an inputs from the pretest.

During Data Collection: The respondents were selected randomly to minimize selection bias. One data collector restricted not to interview more than 15 respondents per day. The purpose and objective of the study was explained to each respondent at the beginning of the interview to minimize an introduction of social desirability bias. In addition, the consistency, completeness, and clarity of the data was checked by the data collectors before leaving the respondent and also checked by the supervisor and investigator on daily bases.

After Data Collection: The collected data were entered using Epi-data version 3.1 software to avoid an introduction of error during data entry. In addition, data cleaning and management was done before the actual analysis.

4.8. Variable of the Study

4.8.1. Dependent Variables of the study

The dependent variables of the study were prevalence of excess caffeine intake per day (≥300mg/day), prevalence of alcohol consumption (yes/no), prevalence of khat chewing (yes/no) and prevalence of tobacco use (yes/no) during pregnancy among pregnant women.

4.8.2. Independent Variables of the study

The independent variables of the study were sociodemographic and economic variables (residence, age, educational status, religion, marital status, occupation, and wealth index), maternal and pregnancy related variables (gestational age, gravidity, parity, pregnancy plan, and ANC follow up) and awareness on harmful effects of substances use on the fetus.

4.9. Operational Definitions

Substance: Although the term substance refers to any physical matter, 'substance' in this study is limited to caffeine, alcohol, cigarette and khat

Black Coffee: Coffee served as a beverage without cream or milk (95).

Caffeine consumers: anyone who reported consuming caffeine from coffee, coffee with milk tea, chocolate food/beverage, caffeinated sodas on either survey day.

Excesses caffeine consumption: If the daily caffeine consumption was greater than or equal to 300mg.

A unit of alcohol: It is equivalent to 12.5 ml or 10 g of pure strength alcohol

Alcohol consumers: anyone who reported consuming at least one unit of alcohol from any sources (Tella, Teje, Areqe, Beer, Wine, and Distilled sprites) during pregnancy.

Binge alcohol consumption was defined as consumption of 5 or more alcohol units in one session (one sit) during pregnancy.

Passive tobacco smoker: If the pregnant women exposed to tobacco at home during current pregnancy or work place in the last one month of the interview or public places in the last 7 days, she was considered as passive tobacco smoker.

At least one substances use was defined as using at least one of the four substances from caffeine more than or equal to 300 mg, alcohol, khat, or tobacco smoke exposure (both active and passive) during current pregnancy.

Awareness on the harmful effects of excess caffeine use during pregnancy on the fetus: If a pregnant woman heard/informed about the harmful effects of excess coffee/tea/coca cola use during pregnancy, she was taken as she had awareness about the harmful effects of caffeine on the fetus.

Awareness on the harmful effects of alcohol consumption during pregnancy on the fetus: If a pregnant woman heard/informed about the harmful effects of alcohol consumption during pregnancy, she was taken as she had awareness about the harmful effects of alcohol on the fetus.

Awareness on the harmful effects of khat chewing during pregnancy on the fetus: If a pregnant woman heard/informed about the harmful effects of khat chewing during pregnancy, she was taken as she had awareness about the harmful effects of khat on the fetus.

Awareness on the harmful effects of tobacco use on the fetus: If a pregnant woman heard/informed about the harmful effects of tobacco use/tobacco smoke exposure during pregnancy, she was taken as she had awareness about the harmful effects of tobacco use on the fetus.

4.10. Data Management, Analysis and Presentation

The collected data was compiled, checked for any inconsistency and missed value, coded, and entered using Epi-data version 3.1 software and exported into Stata 14 for data management and analysis. The data were cleaned for missing values by running frequencies and crosstabs.

Principal Component Analysis was done to construct wealth index based on household data such as ownership of household including household fixed assets, type of house and its building materials, agricultural land ownership, animal ownership, source of drinking water, ownership and type of toilet facility, having domestic servant, and saving account. Assets owned by less than 5% or more than 95% of households were excluded from wealth index construction.

Descriptive analysis was performed to describe the study variables. Frequency analysis was run for socio-demographic, maternal and pregnancy related variables, awareness on the effects of substance use and for each dependent variables.

The normality of age and caffeine data were checked using histogram with normal curve, and Shapiro Wilk test P value. For caffeine data, the minimum and maximum, and median with interquartile range were analyzed. Prevalence's were estimated for excess caffeine intake per day, alcohol consumption, khat chewing, passive smoking and overall substances use during pregnancy. Chi-square test statistics was done to test whether the proportion of excess caffeine consumption significantly differ across trimesters or not.

Bivariate and multivariate binary logistic regression were done to identify the associated factors for excess daily caffeine intake among pregnant women. Those variables with p value of less than 0.25 in bivariate logistic regression were entered in to the multivariate logistic regression model. Statistically significant association was declared at p value of less than 0.05.

Finally, the findings were described in text, percent, odds ratio (OR) and presented using frequency tables, and charts.

4.11. Ethical Consideration

An official approval and ethical clearance as well as support letter obtained from Research Ethics Committee of School of Public Health (SPH), College of Health Sciences (CHS) of Addis Ababa University. The support letter submitted to BRHP Site. Then, the BRHP Site Coordinator communicated with the respective selected Kebeles which is the smallest administrative unit in the woreda. An informed verbal consent obtained from each respondent after explaining the information sheet of the study. The respondents informed that they have the right to refuse an interview at any time if they were not happy to continue. The study didn't have any harm on study subjects. The questionnaire was totally anonymous to decrease the risk of respondents feeling that their privacy was being violated. The obtained information from each respondent kept confidential. At the end of second day interview, key messages regarding safety issues told to the respondents.

5. RESULTS

5.1. Socio-demographic and Economic Characteristics of the Respondents

Out of the 352 pregnant women approached, 341 of them interviewed. The response rate was 96.9%.

Table 2 shows the socio-demographic and economic characteristics of respondents. The majority of the respondents (79.2%) were rural residents. Regarding the distribution of respondents by climatic zones, nearly equal proportion of respondents were included from each climatic zone. The median age of respondents was 28 (IQR=6). The majority of respondents (61.9%) were within the age group of 25-34. Regarding the religion of respondents, the majority (83.9%) were Islam religion followers. Almost all (99.1%) of the respondents were married. Approximately half of the respondents (44.1%) attended primary education. The majority (80.9%) of the respondents were housewives.

Table 2: Socio-demographic and economic characteristics of the sampled pregnant women who lived at BRHP, Gurage zone, SNNPR, Ethiopia, 2018.

Variables	Frequency (n)	Percent (%)
Residence		
Rural	270	79.2
Urban	71	20.8
Climatic Zone		
Highland	98	28.7
Midland	124	36.4
Lowland	119	34.9
Age		
15-24	96	28.2
25-34	211	61.9
35 and above	34	10.0
Religion		
Muslim	286	83.9
Orthodox Christian	42	12.3
Protestant	13	3.8
Educational status		
No formal education	148	43.4
Primary Level	150	44.0
Secondary level and above	43	12.6
Marital status		
Married	338	99.1
Separated/widowed	3	0.9
Occupation		
House wife	276	80.9
Government Employee	7	2.1
Merchant	45	13.2
Others*	13	3.8
Wealth status		
Poorest	77	22.6
Poor	76	22.3
Middle	63	18.5
Rich	63	18.5
Richest	62	18.2

Includes (farmer, daily laborer, tea/coffee sellers, free service, lumbering & hair making)

5.2. Maternal and Pregnancy Related Characteristics of the Respondents

Table 3 shows maternal and pregnancy related characteristics of pregnant women. Most of the pregnant women (55.1%) were at third trimester of pregnancy. About 83. 9% pregnant women were multigravida. Regarding parity, 67.7% of pregnant women were multiparous. The

majority of them (82.7%) wanted the current pregnancy. Regarding ante natal care, 301 (88.6%) of pregnant women visited a doctor or health professional for ante natal care services.

Table 3: Maternal and pregnancy related characteristics of the sampled pregnant women who lived at BRHP, Gurage zone, SNNPR, Ethiopia, 2018.

Variables	Frequency	Percent (%)
Trimester		
1st	20	5.9
2nd	133	39.0
3rd	188	55.1
Gravidity		
Prim gravida	55	16.1
Multigravida	286	83.9
Parity		
Null parity	57	16.7
Para I	53	15.5
Multiparous	231	67.7
Pregnancy Plan		
Planned	282	82.7
Unplanned	59	17.3
ANC Follow up		
Yes	301	88.3
No	40	11.7

5.2.1. Advice on Substances during ANC Visit and Awareness on Substances Use

Figure 3 shows the proportion of women who were advised on substances use during ANC Visit. A total of 301 (88.3%) pregnant women visited health facility for ANC services. Of which, 83 (27.6%) advised to limit coffee/tea intake, 82 (27.2%) advised not to drink alcohol, 106 (35.2%) advised not to use tobacco, and 85 (28.2%) advised not to chew khat. Only 72 (21.1%) of the pregnant women advised to limit coffee/tea intake, and not to use alcohol, khat and tobacco during ANC visit.

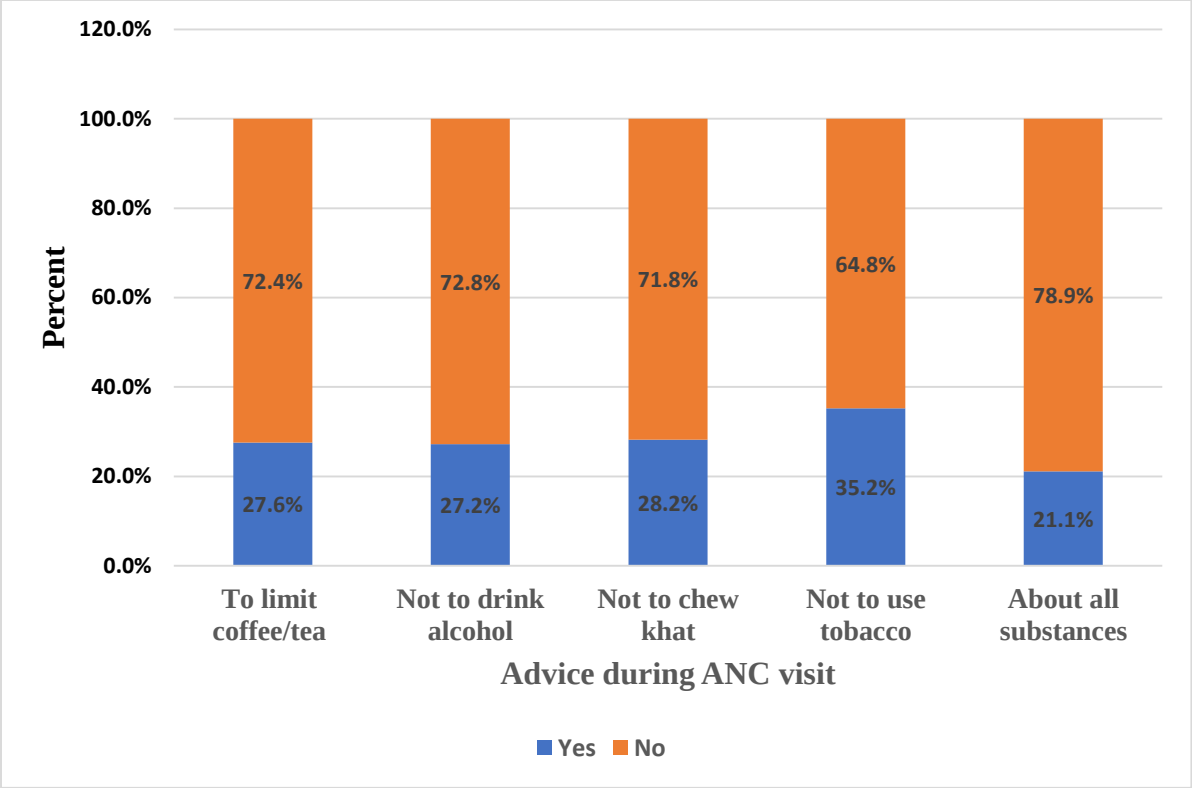

Figure 3: The proportion of women who advised on substance use during ANC Visit at Butajira Rural Health Program, Gurage zone, SNNPRs, Ethiopia, 2018.

Figure 4 shows the proportion of pregnant women who are aware about the harmful effects of substances use during pregnancy. A total of 341 pregnant women interviewed to assess their awareness on the harmful effects of substance use on the fetus. Of which, 77 (22.6%) were knew about the harmful effects of excess coffee or tea intake during pregnancy on the fetus.

Out of 341 pregnant women, 113 (33.1%) of them were aware about the harmful effects of alcohol intake during pregnancy on the fetus. About 158 (46.3%) pregnant women were aware about the harmful effects of tobacco use during pregnancy on the fetus. In addition, 108 (31.7%) pregnant women were aware about the harmful effects of tobacco use during pregnancy on the fetus. Only 56 (16.4%) of pregnant women were aware about the harmful effects of excess caffeine, alcohol intake, khat chewing and tobacco use on fetal health (Figure 4).

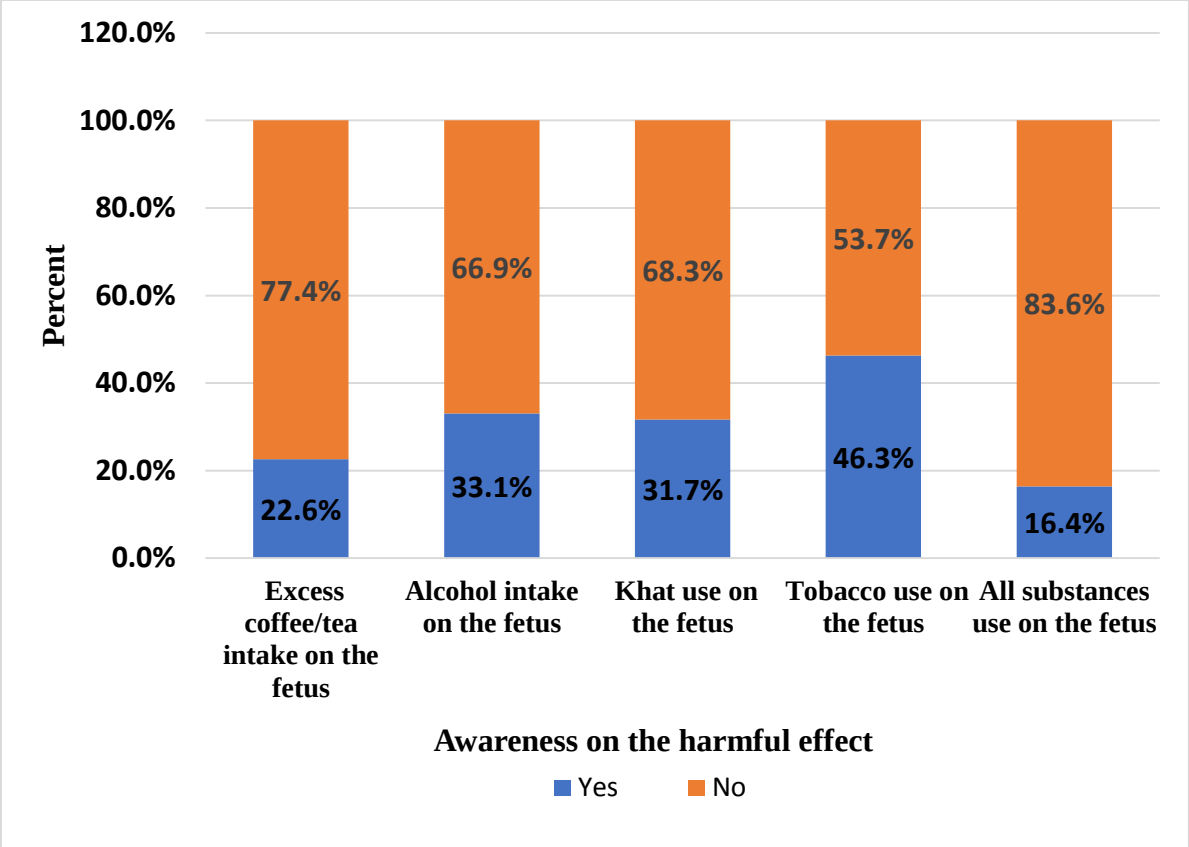

Figure 4: The proportion of women who aware the harmful effects of substances use during pregnancy on the fetus Butajira Rural Health Program, Gurage zone, SNNPRs, Ethiopia, 2018.

5.3. Prevalence of Substances Use During Pregnancy

5.3.1. Prevalence of Caffeine Consumption

5.3.1.1.Sources of Caffeine

Figure 5 shows the proportion of women who consumed caffeinated beverages. The majority of pregnant women (88.9%; 95% CI: 85.0, 91.8%) consumed coffee during current pregnancy. One third of pregnant women (35.8 %; 95% CI: 30.8, 41.0%) consumed coffee with milk. About one fourth of pregnant women (24.9%; 95% CI: 20.6, 29.8%) consumed tea. Coca-Cola was consumed by 0.6% (95% CI: 0.1, 2.3%) of pregnant women. However, Pepsi cola, energy drinks and chocolates were not consumed by pregnant women during pregnancy. Coffee was the most consumed caffeine source followed by coffee with milk and tea.

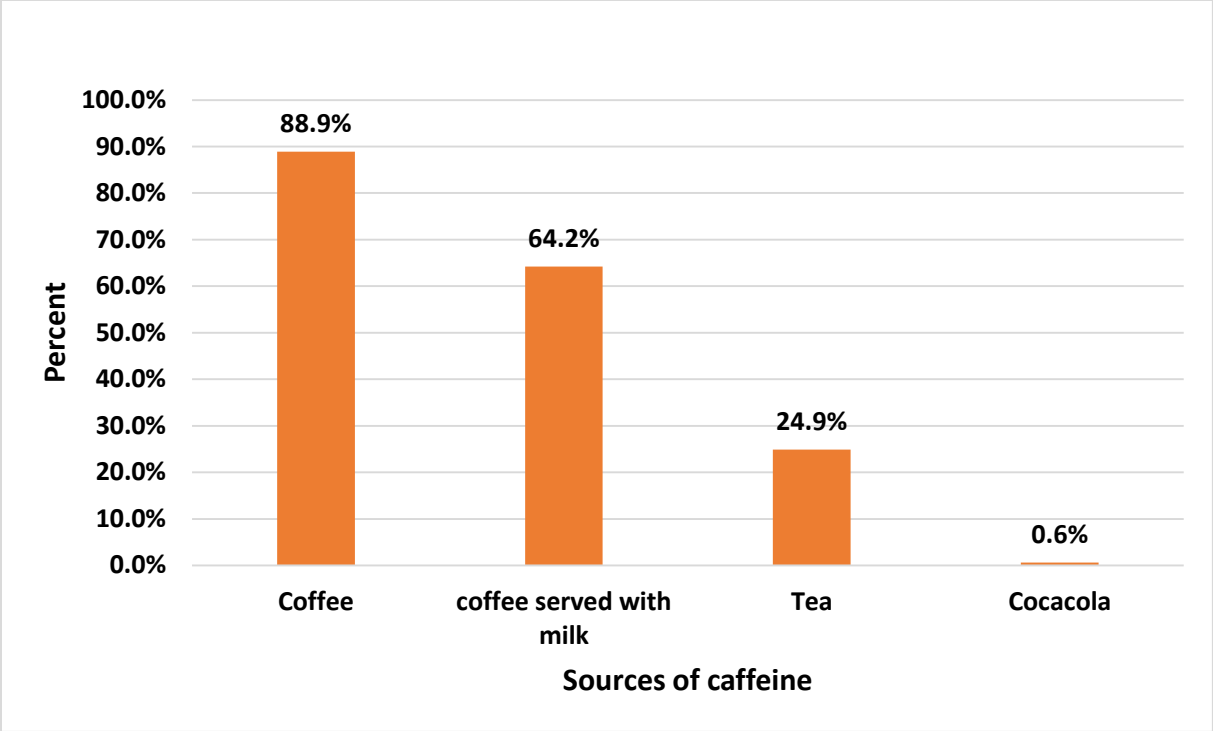

Figure 5: Caffeine sources which were consumed by pregnant women living at BRHP, Gurage zone, SNNPR, Ethiopia, 2018.

5.3.1.2. Median Caffeine Consumption and Prevalence of Excess Caffeine Consumption

Almost all pregnant women (98.2%; 95% CI: 96.1 %, 99.2 %) consumed caffeine as estimated using the 2 days 24-hour recall average.

Table 4 shows the median, range and prevalence of excess caffeine intake among pregnant women by trimester of pregnancy. The daily caffeine intake among pregnant women ranges from 0.00-549.8 mg per day. The median caffeine intake during pregnancy was 170.5 mg (IQR=135.1) per day.

Regarding the prevalence of excess caffeine intake, 17.6% (95% CI: 13.9%, 22.0%) of the pregnant women consumed 300 mg and above caffeine per day. The proportion of excess caffeine consumption was significantly different across the trimesters of pregnancy ($p<0.001$). The highest proportion of excess caffeine consumption observed at first trimester of pregnancy (50%).

Table 4: The estimated caffeine intake among pregnant women based on the non-consecutive repeated 24 hours recall average, by trimester of pregnancy, 2018.

Trimester of pregnancy	Frequency	Median Caffeine intake (IQR)	Range of caffeine intake	Prevalence excessive caffeine intake (≥300mg/day*)	
		mg/day	mg/day	Percent (95% CI)	
1st Trimester	20	298.5 (199.1)	39.5-549.8	50.0	
2nd Trimester	133	169.9 (133.4)	0.0-525.0	15.8	P<0.001
3rd Trimester	188	165.6 (125.0)	0.0-505.4	15.4	
Thought pregnancy	341	170.5(135.1)	0.0-549.8	17.6 (13.9, 22.0)	

IQR=Inter Quartile range; CI=Confidence Interval *300mg/day the maximum daily caffeine intake limit for pregnant women

Out of 83 pregnant women who were advised to limit coffee and tea intake during ANC visit, 15.7% of them consumed excess caffeine per day.

Table 5 shows the contribution of caffeinated beverages on the estimated excess caffeine consumption per day among pregnant women. About 12.6% (95% CI: 9.5%, 16.6%) of the pregnant women consumed excess caffeine from coffee. About 0.3% (95% CI: 0.0%, 2.1%) of the pregnant women consumed excess caffeine from coffee served with milk. However, they did not take excess caffeine from tea and coca cola drinks.

Table 5: Excess caffeine consumption (≥300mg) from each caffeinated source among pregnant women living at BRHP, Gurage zone, SNNPR, Ethiopia, 2018.

Variables	Frequency	Percent (95%CI)
Coffee	43	12.6 (9.5, 16.6)
Coffee served with milk	1	0.3 (0.0, 2.1)

5.3.2. Prevalence of Alcohol Consumption During Pregnancy

Table 6 shows the prevalence of alcohol consumption among pregnant women. From a total of 341 pregnant women, 13.2% (95% CI: 10.0 %, 17.2%) consumed alcohol during their life time. About 11.1% (95% CI: 8.2 %, 15.0 %) of the pregnant women consumed alcohol in the last 3 months before current pregnancy and 10.0% (95% CI: 7.2 %, 13.7 %) pregnant women consumed alcohol during current pregnancy.

From 34 pregnant women who consumed alcohol during current pregnancy, the majority (76.8%) consumed alcohol with a frequency of monthly or less than monthly. Among pregnant women who consumed alcohol during pregnancy, almost all (94.1%) of them consumed 1-2 drinks on a typical day when they drink. Among the total pregnant women, 4.4% (2.7, 7.2%) were binge drinkers (consumed five or more drinks at a single occasion).

Tella (94.1%) (a traditional beer prepared from different grains and shiny-leaf buckthorn leaves in which locally called gesho), areqe (14.7%) (a locally distilled beverage prepared from gesho, water and different cereals), teji (5.9%) (a traditional alcoholic drink which is a mixture of honey and water flavored with gesho plant twigs and leaves), wine (2.9%), beer (8.8%), draft (5.5%) and distilled spirits (2.9%) were the type of alcoholic drinks which consumed by the pregnant women. Regarding the information to stop drinking alcohol, only 5 (11.7%) of the alcohol drinkers got information from professionals, friends or family members**.**

Table 6: The prevalence and frequency and amount of alcohol consumption among pregnant women living at BRHP, Gurage zone, SNNPR, Ethiopia, 2018.

Variables		Frequency	Percent
Woman ever consumed alcohol			
	Yes	45	13.2 (10.0, 17.2)
	No	296	86.8 (82.8, 90.0)
Woman consumed alcohol 3 months before pregnancy	Yes	38	11.1 (8.2, 15.0)
	No	303	88.9 (85.0, 91.8)
Alcohol Intake during current pregnancy	Yes	34	10.0 (7.2, 13.7)
	No	307	90.0 (86.3, 92.8)
Frequency of alcohol consumption (n=34)	Monthly or less	26	76.8
	Two to four times a month	7	20.6
	Two to three times a week	1	2.9
Number of drinks on a typical day (n=34)	1 – 2	32	94.1
	3 – 4	2	5.9
Frequency of drinking five or more drinks in one occasion (n=34)	Never	19	55.9
	Monthly	3	8.8
	Less than monthly	11	32.4
	Weekly	1	2.9
Binge drinking (n=341)			
	Yes	15	4.4 (2.7, 7.2)
	No	326	95.6 (92.8, 97.3)
Getting information to stop drinking alcohol yes/no (n=34)	Yes	5	14.7
	No	29	85.3

5.3.3. Prevalence of Khat Chewing During Pregnancy

Table 7 shows the prevalence, frequency and amount of khat chewing among pregnant women. From a total of 341 respondents, 52.2% (95% CI: 46.9, 57.5%) of pregnant women chewed khat during their life time. About 43.1% (95% CI: 37.9, 48.4%) of pregnant women chewed khat in the last 3 months before current pregnancy and 35.8% (95% CI: 30.8, 41.0%) chewed khat during current pregnancy. From 122 pregnant women who chewed khat during current pregnancy, 47 (38.5%) chewed khat with a frequency of monthly or less than monthly. Among a total of 341 pregnant women, 115 (33.7%) chewed khat in the last one month of the interview. Out of 122 respondents, 11 (14.5%) of them chewed greater than one fist (zurba) on a typical

day when they chewed. Regarding the information to stop chewing khat, only 6 (4.9%) of the khat chewers informed by health professionals, friends or family members to stop khat chewing**.**

Table 7: The prevalence, frequency and amount of khat chewing among pregnant women living at BRHP, Gurage zone, SNNPR, Ethiopia, 2018.

Variables		Frequency	Percent (95%CI)
Woman ever chewed khat	Yes	178	52.2 (46.9, 57.5)
	No	163	47.8 (42.5, 53.1)
Woman chewed khat 3 months before current pregnancy	Yes	147	43.1 (37.9, 48.4)
	No	194	56.9 (51.6, 62.1)
Woman ever chewed khat during current pregnancy	Yes	122	35.8 (30.8, 41.0)
	No	219	64.2 (59.0, 69.2)
Frequency of khat chewing by the mother (n=122)	Monthly or less	47	38.5
	Two to four times a month	30	24.6
	Two to three times a week	36	29.5
	Four or more times a week	8	6.6
	Daily	1	0.8
woman chewed khat in the last 30 days of interview (n=341)	Yes	115	33.7 (28.9, 38.9)
	No	226	66.3 (61.1, 71.1)
Amount of khat that chewed by the woman per day (n=122)	<=1 fist	108	88.5
	>1 fist	14	11.5
Informed to stop chewing (n=122)	Yes	6	4.9
	No	116	95.1

5.3.4. Prevalence of Active and Passive Tobacco Smoking During Pregnancy

Table 8 shows the proportion of pregnant women exposed to tobacco smoke at home, work and public places. None of the pregnant women were active tobacco smoker. However, 9.7%

(95% CI: 6.9, 13.3%) of pregnant women exposed to tobacco smoke at home. Of which, the majority (75.8%) of pregnant women exposed to tobacco smoke daily. About 0.6% (95% CI: 0.1, 2.3%) of pregnant women exposed to tobacco smoke at work places in the last 30 days of the interview. About 15.2% (95% CI: 11.8, 19.5%) of pregnant women exposed to tobacco smoke at public places in the last 7 days of the interview. Overall, 23.2 % (95% CI: 19.0, 28.0) of the pregnant women were passive smokers.

Table 8: The prevalence of passive smoking among pregnant women living at BRHP, Gurage zone, SNNPR, Ethiopia, 2018.

Variables	Frequency	Percent (95% CI)
Exposure to smoking at home		
Yes	33	9.7 (6.9, 13.3)
No	308	90.3 (86.7, 93.1)
Frequency of another person smoked at home (n=33)		
Daily	25	75.8
Weekly	4	12.1
Monthly	2	6.1
Less than monthly	2	6.1
Exposure to smoking at work places in the last 30 days		
Yes	2	0.6 (0.1, 2.3)
No	339	99.4 (97.7, 99.9)
Exposure to smoking at Public places in the last 7 days		
Yes	52	15.2% (11.8, 19.5)
No	289	84.8% (80.5, 88.2)
Overall passive smoking		
Yes	79	23.2 (19.0, 28.0)
No	262	76.8 (72.0, 81.0)

5.3.5. Overall Prevalence of Substances Use During Pregnancy

Table 9 shows the summary of substances use during pregnancy. The prevalence of at least one substances use during pregnancy, as defined by exposure at least to one of the four substances from caffeine more than or equal to 300 mg, alcohol, khat, or tobacco smoke during current pregnancy, was 60.1 % (95% CI: 54.8%,65.2%). No pregnant woman consumed all the four substances during pregnancy.

Table 9: The summary of substances use among pregnant women in BRHP, Gurage zone, SNNPR, Ethiopia, 2018.

Variables	Affirmative response	Frequency	Percent (95% CI)
Excess caffeine intake	Yes	60	17.6 (13.9, 22.0)
Alcohol intake	Yes	34	10.0 (7.2, 13.7)
Khat chewing	Yes	122	35.8 (30.8, 41.0)
Passive smokers	Yes	79	23.2 (19.0, 28.0)
At least one substances use	Yes	205	60.1 (54.8, 65.2)

5.4. Associated Factors for Excess Caffeine Consumption

Table 10 shows the multivariate logistic regression analysis fitted to identify the associated factors for excess caffeine consumption. After adjustment for possible confounders, we found that richest wealth status, and first trimester pregnancy were significantly associated with excess caffeine consumption among pregnant women.

The odd of excessive caffeine consumption is approximately four times higher among pregnant women at richest wealth status compared to the odd among the pregnant women at the poorest wealth status (AOR=3.66; 95% CI: 1.13, 11.88).

In addition, the odd of excessive caffeine consumptions is four times higher among pregnant women at the first trimester of pregnancy compared to the odd among the pregnant women at third trimester (AOR=4.04; 95% CI: 1.26, 13.05).

Table 10: The multivariable logistic regression analysis to identify factors associated with excess caffeine consumption among pregnant women in BRHP, SNNPR, Ethiopia, 2018

Variables	Excess Caffeine Intake		COR (95% CI)	+AOR (95% CI)
	No	Yes		
	Count (%)	Count (%)		
Age				
15-24	85 (88.5)	11 (11.5)	1.00	1.00
25-34	177 (83.9)	34 (16.1)	1.48 (0.72, 15.36)	0.88 (0.38, 2.04)
35 and above	19 (55.9)	15 (44.1)	6.10 (2.42, 15.36) ***	2.98 (0.97, 9.14)
Educational status				
No formal education	111 (75.00)	37 (25.00)	2.06 (0.80, 5.26)	0.85 (0.29, 2.48)
Primary	133 (88.70)	17 (11.30)	0.79 (0.29, 2.14)	0.39 (0.13, 1.16)
Secondary and above	37 (86.00)	6 (14.00)	1.00	1.00
Wealth status				
Poorest	72 (93.5)	5 (6.5)	1.00	1.00
Poor	62 (81.6)	14 (18.4)	3.25 (1.11, 9.54)*	3.63 (1.16, 11.32)*
Middle	50 (79.4)	13 (20.6)	3.74 (1.26, 11.17)*	2.35 (0.72, 7.69)
Rich	49 (77.8))	14 (22.2)	4.11 (1.39, 12.16)*	3.74 (1.17, 11.88)*
Richest	48 (77.4)	14 (22.6)	4.20 (1.42, 12.42) **	3.66 (1.13, 11.88)*
Trimester				
1st	10 (50.0)	10 (50.0)	5.48 (2.10, 14.34)**	4.54 (1.38, 15.00)*
2nd	112 (84.2)	21 (15.8)	1.03 (0.56, 1.89)	0.82 (0.41, 1.64)
3rd	159 (84.6)	29 (15.4)	1.00	1.00
ANC Follow up				
Yes	256 (85.0)	45 (15.0)	1.00	1.00
No	25 (62.5)	15 (37.5)	3.41 (1.67, 6.97) ***	2.25 (0.94, 5.36)
Awareness on excess caffeine effect				
Yes	71 (92.2)	6 (7.8)	1.00	1.00
No	210 (79.5)	54 (20.5)	3.04 (1.26, 7.38) *	2.36 (0.92, 6.05)
Khat chewing				
Yes	91 (74.6)	31 (25.4)	2.23 (1.27, 3.93)**	1.71 (0.90, 3.25
No	190 (86.8)	29 (13.2)	1.00	1.00

***p value <0.05** ***** p value <0.01** ****** p value <0.001**

***COR:** Confidence Interval, **COR**: Crude Odds ratio, **AOR**: Adjusted odds ratio*

+Adjusted for maternal age, educational status, wealth status, gestational age, ANC, awareness about the effects of coffee/tea consumption on the fetus and khat chewing during pregnancy.

6. DISCUSSIONS

A community based cross sectional study was conducted to determine the prevalence of excess daily caffeine consumption and its risk factors, prevalence of alcohol consumption, khat chewing and tobacco use during pregnancy among pregnant women. Two-days non-consecutive 24-hour recall was done to collect data related with caffeine. The study found that 17.6% of pregnant women had a daily caffeine consumption more than or equal to 300 mg. In addition, the prevalence of alcohol consumption and khat chew during pregnancy was 10.0% and 35.8% respectively. The prevalence of passive tobacco smoking during pregnancy was 23.2 %. After adjustment for possible confounders, richest wealth status, and first trimester pregnancy were significant associated factors for excess caffeine consumption among pregnant women.

The current study showed that the prevalence of excessive caffeine consumption (more than or equal to 300 mg per day) among pregnant women was 17.6%. The prevalence of caffeine consumption more than or equal to 200 mg per day among pregnant women was 41.9% (un reported finding). This prevalence is about twice of the prevalence of excess caffeine consumption based on more than or equal to 300mg per day. A great proportion (50.0%) of pregnant women at first trimester of pregnancy consumed excessive caffeine compared to the pregnant women at second and third trimester of pregnancy. The possible reason for this high prevalence of excess caffeine intake during first trimester of pregnancy needs further investigation.

Based on literatures, high levels of caffeine intake during pregnancy can result in miscarriage, low birth weight, growth restriction, stillbirth, and increases the risk of health problems in later life (19-24). According to a report from a meta-analysis, a higher maternal caffeine intake (more than 50 mg per day) during pregnancy was associated with a higher risk of delivering low birth weight infants compared to no intake or very low intake (22, 24). This risk appears to increase linearly as caffeine intake increases (36, 68).

Likewise, caffeine consumption during pregnancy may increase the risk of spontaneous abortion, subsequent fetal loss and still birth. A case-control study in Denmark found that consumption of 375 mg or more caffeine per day during pregnancy may increase the risk of spontaneous abortion (70). Another case-control study in Northern Italy showed that coffee drinking in early pregnancy was associated with an increased risk of abortion (71).The Journal of Obstetrics and Gynecology reported that pregnant women who consumed more than 200 mg of caffeine daily (2 cups of coffee), had twice the risk of miscarriage compared to women who had no caffeine intake. Even the risk of miscarriage increased by more than 40% among women who consumed less than 200 mg of caffeine daily compared to those not consumed (72).

A prospective cohort study in Denmark showed that pregnant women who drank eight or more cups of coffee daily had more than twice the risk of stillbirth compared with women who did not drink coffee during pregnancy (20). This implies that pregnant women at the current study area were at risk of experiencing spontaneous abortion, still birth and low birth weight baby, which need an intervention.

This study found that 10.0% of pregnant women consumed alcohol during the current pregnancy. This figure is comparable to the global (9.8%) (26) and national (7.9%) prevalence of alcohol consumption among pregnant women (27). However, this finding was lower compared to a study from Ireland (60%), Belarus (47%), Denmark (46%), United Kingdom (41%), Russian Federation (37%) (30), South Eastern Nigeria (22.6%) (46), and Ethiopia at Bahirdar (34%) (28).

Though the prevalence of alcohol consumption in the current study was comparable to the global and national prevalence, maternal alcohol intake during pregnancy results in direct and indirect consequences on fetal development. Directly, alcohol readily crosses the placenta and blood-brain barriers and rapidly diffuses into any aqueous compartment of the body, such as the neurons or lipid membranes (96). Exposure to alcohol during fetal development has been reported to reduce up to 12% of total brain weight, defined as microcephaly, due to decreased protein synthesis, which leads to decreased DNA translation (97). Indirectly, alcohol induces

maternal hypoxia, oxidative stress, and altered metabolism, affecting the growth and development of the fetus (98).

In addition, many alcoholics do not consume a balanced diet considering alcoholic beverages as part of their normal diet and acquire a certain number of calories from alcohol in substitution of calories from other nutrients. Moreover, alcohol consumption can interfere with the absorption of nutrients, impairing the quality and quantity of proper nutrient and energy intake, resulting in malnutrition especially of micronutrients such as vitamins, omega–3, folic acid, zinc, choline, iron, copper, and selenium (99). When maternal nutritional status is compromised by alcohol the supply of essential nutrients are not available for the fetus; this can result in fetal abnormalities like Intrauterine Growth Restriction, Fetal Alcohol Spectrum Disorder (100), low birthweight (31), and small for gestational age (32). This indicated the need of alcohol consumption intervention among pregnant women to prevent these adverse pregnancy outcomes.

In the current study, the prevalence of khat chewing during current pregnancy was 35.8%. This figure is lower compared to a community based study finding in Yemen (51) .This might be due to the fact that khat chewing is considered as a culture in Yemen and pregnant women chew khat. However, it is higher compared to the national khat chewing prevalence among the general population in Ethiopia (15.3%) (41). This difference might be due to the accessibility of khat in the current study area. Moreover, low awareness on the harmful effects of substances use on the fetus as evidenced by this study might be the other possible reason.

Khat chewing during pregnancy may have different obstetric effects like low birth weight, stillbirths, impaired lactation, and embryo toxic as well as teratogenic properties. A study on rats in 1994 revealed that khat had retarded fetal growth and teratogenic effect and this developmental toxicity of khat is dose-related (85). A case-control study conducted in 2015 at Bale Hospital of South East Ethiopia showed that maternal history of khat chewing was associated with low birth weight (86). Another case-control study in 2017 obtained similar finding (87).

In addition, khat chewing during pregnancy associated with restrictive dietary behavior and this results in Anemia. According to a study in 2013, the risk of anemia was 29% higher in the women who chewed khat daily than those who chewed sometimes or never did so (88). These indicated that the need of khat chewing intervention to prevent maternal anemia and adverse pregnancy outcomes.

In the current study, none of the pregnant women were active tobacco smoker. However, the prevalence of passive smoking was 23.2 %. This figure is lower as compared to the findings of a study conducted in Shanghai, China (2016) where it was 34.8% (65). Though the figure was lower, active or passive tobacco smoke exposure during pregnancy has an adverse health effects on the fetus, as well as the mother. The adverse health effect of cigarette smoke on the fetus includes, an increased risk of strabismus in the offspring (81), clubfoot (80), LBWGA, low birth weight, preterm births (36, 37), increased odds of elevated levels of antisocial behaviours during adolescence and adulthood, as well as violent and nonviolent outcomes (82), an increased risk of wheeze in children (83), and almost 3 times increased risk of congenital heart defects (73). Moreover, tobacco smoke during pregnancy increases the prevalence of depressive symptoms during pregnancy (84).This indicated the need of tobacco smoking intervention at home, work and public places to improve fetal, maternal and societal health.

The current study showed that the odds of excessive caffeine consumptions is approximately four times higher among pregnant women at richest wealth status compared to the odds among the pregnant women at the poorest wealth status. Likewise, the odd of excessive caffeine consumptions is four times higher among pregnant women at first trimester of pregnancy compared to the odds among the pregnant women at third trimester of pregnancy. As woman wealth status increases, the chance of buying coffee and consuming caffeinated beverages might increase. Due to this woman at older age might consume excess caffeine compared to younger aged woman. The reason why pregnant women at first trimester of pregnancy consumed excess caffeine needs an investigation.

Regarding the overall implications of the study, excessive caffeine (≥300mg per day), alcohol consumption, khat chewing, and passive tobacco smoking during pregnancy may associate with low birth weight. In Ethiopia child death associated with low birth weight is high (3.63%

of all deaths) (101). Therefore, these substances should be addressed in order to prevent child death associated with low birth weight.

7. STRENGTHS AND LIMITATIONS OF THE STUDY

7.1. Strengths

As a strength, since it was a community-based survey, the findings of the study could be generalizable to all pregnant women living in the study area. All days of the week were considered in order to control days of the week effect. In addition, non-consecutive 2 days repeated 24-hour recall which is the recommended method for the assessment of exposure within risk assessment processes was done to control with in person variation of caffeine intake.

7.2. Limitations

The study findings should be interpreted and utilized by considering the following limitations. First, the level of caffeine concentration was obtained from previously done researches. However, the concentration of caffeine may vary based on the roasting and brewing process. Due to these reasons it might not give a perfect estimation of daily caffeine intake. Second, the study was conducted during the non-fasting season. This might also overestimate the prevalence of excess caffeine consumption. Third, substances use such as alcohol and tobacco use are considered as taboo in the study area. As a result, the respondent might not report their consumption and this might introduce social desirability bias and underestimate the prevalence of alcohol and tobacco use among pregnant women. To overcome this challenge, the aim and benefit of the study was explained for each respondent.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1. Conclusions

In conclusion, the prevalence of excess caffeine consumption, kaht chewing and passive smoking were high. However, the prevalence of alcohol consumption was comparable to the global and national prevalence. The awareness of pregnant women on the harmful effects of substances use during pregnancy on the fetus was low. Richest wealth status, and first trimester pregnancy were significantly identified associated factors for excess caffeine consumption among pregnant women.

8.2. Recommendations

Based on the study findings; the following recommendations were drawn:

The Federal Ministry of Health (FMOH) should give emphasis in screening of pregnant women for substances use such as excess caffeine, alcohol, khat chewing and exposure to passive tobacco smoke. In addition, the FMOH should enforce to realize the banning of tobacco use at home, public and work places in all areas of the country. Moreover, the FMOH shall consider guideline development on caffeine consumption and decaffeination of caffeinated beverages to prevent pregnant women from excess caffeine exposure.

Health professionals should screen and counsel all pregnant women for substances use during ANC visit. Additionally, they should provide health education about the risk of substances use on the fetus.

Programmers working at maternal and child health shall plan an intervention program which aimed to increase the awareness of pregnant women about the harmful effects of substance use during pregnancy with the ultimate goal of preventing adverse pregnancy outcomes related to substances use during pregnancy.

Interested researchers shall determine the level of caffeine concentration from each caffeinated beverage for the accurate estimation of daily caffeine intake among pregnant woman. Moreover, researchers shall conduct a qualitative research to explore the possible reasons for excessive caffeine consumption at first trimester of pregnancy.

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10. ANNEXES

Annex-I: Study Information Sheet in English

Good morning/Good afternoon. First, thank you for your interest to talk with me.

I am _____and coming here to collect data for Mr. Alehegn Aderaw Alamneh who is MPH Human Nutrition student at Addis Ababa University. He is conducting a study on the title entitled with "Caffeine, Alcohol, Khat, and Tobacco Use During Pregnancy in Butajira Rural Health Program, South Central Ethiopia". He got Permission to conduct the research from SPH, AAU and BRHP coordinator. The aim of the study is to assess the level of caffeine, alcohol consumption, cigarette smoking, and khat chewing during pregnancy. The study subjects are pregnant women living in this Program. You are selected among all pregnant mothers in this woreda by lottery method. Participation in this study is based on your willingness. Therefore, you have the right to refuse, not to answer any question that you are not comfortable with, and even you can stop at any time if you feel any discomfort. Involving in this study does not has any risk to you and your fetus, and you will not experience any discomfort at all except devoting your time for me. Personally, you will not get any direct benefit such as payment by involving in the study. But the information you will provide helps to prevent adverse health effects on the fetus as well as mother related to caffeine, alcohol, cigarette smoking and khat chewing during pregnancy. If you are willing to participate in the study, I will ask you few questions for about 20 minutes. Your name will not be written on this form and will never be used in connection with any of your information. Therefore, no one will know who gave the information. Any information that you gave will be kept in secrecy to be used by researchers to organize the study result. Hence, I greatly appreciate your participation in the study. If you have any questions regarding my explanation, I am ready to respond.

Do you have any questions about the study?

If you want additional information, you can get the principal investigator using the following addresses: Investigator: Alehegn Aderaw Alamneh Phone: 0921641950

Annex-II: Informed Consent form in English

I the participant have been informed that Alehegn Aderaw is conducting a study on the title entitled with "Caffeine, Alcohol, Khat, and Tobacco Use During Pregnancy in Butajira Rural Health Program, South Central Ethiopia" by getting permission from School of Public Health of Addis Ababa University, and Butajira Rural Health Program. The purpose, possible benefit and risk, participation in the study and withdrawal from the study at any time and confidentiality of the information was explained for me and understanding that the information I will provide may be important to prevent adverse health effects on the fetus as well as mother related to caffeine, alcohol, cigarette smoking, and khat chewing during pregnancy, I decided to participate in the study.

Are you volunteer to participate in the study?

a) Yes ☐ Say thank you and continue the interview

b) No ☐ Go to the next respondent

Interviewer name: _____ Date: _____

Annex-III: English Version Questionnaire

Day-1 Questionnaire

Addis Ababa University, College of Health Science, School of Public Health

A Questionnaire Prepared to Assess Substance Use among Pregnant Women living at BRHP, SNNPR, Ethiopia, 2018.

Interviewer Name: _____ Signature: _____ Date: _____

Starting time: _____ Ending Time: _____

Supervisor Name: _____ Signature: _____ Date: _____

Interview Result (Tick in the box):

Completed	
Partially completed	
Respondent not available	
Refused	

Identification

1. Code: _____
2. Name of Kebele: _____
3. Day of the week (e.g. Monday): _____

Section-I: Socio-demographic & Household Conditions Information

Instruction: Now I am going to ask you questions about your socio-demographic information and household conditions.

Ask the following questions carefully and circle the response unless there is no specific instruction.

Question Number	Questions	Alternatives	Skip
101.	In what month and year were you born?	Month……. ☐☐ Don't know month……99 Year……. ☐☐☐☐ Don't know year……9999	
102.	How old were you at your last birthday? **(Compare and correct 101 and/or 102 if inconsistent)**	Age in completed years…… ☐☐	
103.	What is your religion?	Muslim ……1 Orthodox Christianity …….2 Protestant…….3 Other (specify): _____4	
104.	What is the highest level of school you attended?	Unable to read and write……...……1 Able to read and write.……...2 Primary level (1-8) …….3 Secondary level (9-12) ……4 Technical/Vocational……. .5 Higher (University) ….……..…… ..6	
105.	What is your marital status?	Single……...1 Married ……2 Separated…….3 Divorced …….4 Widowed…….5	
106.	What is your Occupation?	House wife……...1 Farmer ……...2 Civil Servant ……...3 Merchant…..……4 Daily Laborer……...5 Student…….…….....6 Other (specify)_____7	
107.	Do your household have its own dwelling house?	Yes …….1 No …….2	
108.	Observe the main materials of the floor of the dwelling?	<u>Natural floor</u> Earth/sand……1	

	(Record the observation)	Dung……2 Rudimentary floor Wood planks……. ….3 Palm/bamboo……...4 Finished floor parquet or polished wood…….5 vinyl or asphalt strips/plastic tile…….6 Ceramic Tiles……...7 Cement……..……8 Carpet…….…….…….……9 Other(specify): _____10	
109.	Observe the main materials of the roof of the dwelling? (Record the observation)	Natural roof Thatch/mud..……..……1 Rudimentary roof Rustic mat/ plastic sheet…….…….2 Reed/bamboo ...……..…….……3 Wood planks..…….4 Cardboard ...…….……..….5 Finished roof Metal/corrugated iron...…….…….….6 Wood ...…….…….....7 Cement ...…….……....8 Ceramic tiles ...……9 Other(specify): _____10	
110.	Observe the main materials of the exterior wall of the dwelling? (Record the observation)	Natural walls No walls ..... 1 Cane/Trunks/Bamboo/Reed ..... 2 Rudimentary walls Wood with Mud ..... 3 Stone with mud ..... 4 Finished walls Cement…….…….5 Stone with lime/cement ..... 6 Bricks ..... 7 Cement blocks……8 Wood planks/shingles ..... .9 Other (specify):_____10	
111.	Do you have a separate house which used as a kitchen?	Yes ……...1 No ……2 Yes, common……..……..3	
112.	What type of toilet facility does your household have?	Pour flush toilet…….....……...1 Ventilated improved pit latrine.... ……2 Pit latrine with slab…….……..…...3 Pit latrine without slab…….……4 No latrine……...5	

		Other (specify): ________________6	
113.	Does the household have its own water source within the compound? **(Multiple Response is possible)**	Yes, unprotected well……….....……1 Yes, protected well…………………..2 Yes, pipe water ………………….….3 No ………………………………….4	
114.	What is the **main source** of drinking water for members of your household? **(Do not read the options, just ask and circle what they told you)**	Piped water... 1 Protected well...................................... 2 Unprotected well .... 3 Protected spring.................................. 4 Unprotected spring .... 5 Surface water (River/stream/ Pond/lake//Dam) .... 6 Tanker .... 7 Bottled water .... 8 Other (specify) __________________9	
115.	Does your house hold own any livestock, herds, other farm animal or poultry?	Yes …………………………………1 No ………………………………...2	→ 117
116.	How many of the following animals does your household own? **If none, record '00'. If 95 or more, record '95'. If unknown, record '99'.** a. Milk cows, oxen or bulls? b. Other cattle? c. Horses, donkeys, or mules? d. Goats? e. Sheep? f. Chickens or other poultry? g. Beehives?	Yes No a. Cows, oxen or bulls ……… 1 2 b. Other cattle……………… 1 2 c. Horses, donkeys, or mules. 1 2 d. Goats…………………... 1 2 e. Sheep…………………... 1 2 f. Chickens or other poultry… 1 2 g. Beehives? ……………….. 1 2	
117.	Does any member of this house hold own any agricultural land?	Yes …………………………………...1 No……………………………………..2	→ 119
118.	How many **Timads** of agricultural land do members of this household own?	Timad……………… [ ][ ]	
119.	Does your house hold have? **a.** Electricity? **b.** A radio? **c.** A television? **d.** A non-mobile telephone? **e.** A computer? **f.** A refrigerator? **g.** A table? **h.** A chair?	**Yes** **No** **a.** Electricity? 1 2 **b.** A radio? 1 2 **c.** A television? 1 2 **d.** A non-mobile telephone? 1 2 **e.** A computer? 1 2 **f.** A refrigerator? 1 2 **g.** A table? 1 2 **h.** A chair? 1 2	

	i. A bed with cotton/ Sponge/ spring mattress? **j.** An electric mitad? **k.** A kerosene lamp/pressure lamp? **l.** Solar? **m.** Sofa?	**i.** A bed with cotton/ sponge/ spring mattress? 1 2 **j.** An electric mitad? 1 2 **k.** A kerosene lamp/ pressure lamp? 1 2 l. Solar? 1 2 **m.** Sofa? 1 2	
120.	Do any members of this household own? a. A watch? b. A mobile phone? c. A bicycle? d. A motorcycle? e. An animal-drawn cart? f. A car or truck? g. A Bajaj?	**Yes No** a. A watch? 1 2 b. A mobile phone? 1 2 c. A bicycle? 1 2 d. A motorcycle? 1 2 e. An animal-drawn cart? 1 2 f. A car or truck? 1 2 g. A Bajaj? 1 2	
121.	What type of fuel does your household **mainly use** for cooking? **(Multiple Response is possible)**	Electricity…….……1 Biogas……2 Kerosene……3 Wood…….4 Charcoal…….5 Straw/shrubs/grass…….6 Animal Dung……7 Agricultural crop……8 Other (specify): _____9	
122.	Does any members of this household have a bank/microfinance account?	Yes ……1 No……...2	
123.	Does the household have domestic servant?	Yes ……1 No……...2	

Section II: Questions Prepared to Assess Caffeine Consumption during Pregnancy

Instruction: Now I am going to ask you questions about your consumption of coffee, tea, chocolate and soft drinks during the last 24 hours. (**Notice: Tell to her the time range carefully. Example, if the interview takes place at 8 am, ask her what she drunk/ate from yesterday 8 am up to today 8 am)**

Question No.	Type of beverages and foods	Have you drank /ate____ **(name)** in the last 24-hours? **Yes……1 No…….2 (write only the code as 1 or 2)**	Where you drank it? **At home.....1 Outside .....2 Machine prepared....3 (write only the code as 1,2 or 3)**	During the last 24 hours, how many times did you prepared _____ **(Name)**? **(write the number)**	Which serving size you used? **(show the picture and circle the corresponding code)**	How many serving sizes did you have in the last 24 hours from the 1st, 2nd, 3rd, 4th.etc. round? **(Add all serving sizes from each round and write the number under the corresponding round)**					
						1st	2nd	3rd	4th	5th	6th
	Coffee										
201.	Black coffee **(show the picture on page 99& 100)**				Code:1						
					Code:2						
					Code:3						
					Code:4						
					Code:5						
					Code:6						
					Code:7						
					Code:8						
					Code:9						
					Code:10						
202.	Speris (coffee with tea) **(show the picture on page 101)**				Code:1						
					Code:2						
203.	Coffee with milk **(show the picture on page 101)**				Code: 1						
					Code: 2						
					Code: 3						
					Code: 4						
					Code: 5						
	Tea										
204.	Black tea **(show the picture on page 102)**				Code:1						
					Code:2						
					Code:3						
					Code:4						
205.	Tea with lemon **(boiled together)**				Code:1						
					Code:2						
					Code:3						
					Code:4						

	(show the picture on page 103)				Code:5						
	Chocolate										
206.	Chocolate bars food **(show the picture on page 104 &105)**				Code: 1						
					Code: 2						
					Code: 3						
					Code: 4						
					Code: 5						
207.	chocolate Candy bars **(show the picture on page 105 & 106)**				Code: [_____]						
					Code: [_____]						
208.	Yogurt with chocolate **(show the picture on page 106)**				288 ml cup						
209.	Biscuits/cookies **(show the picture on page 107)**				Code: 1						
					Code: 2						
					Code: 3						
210.	Candy containing coffee **(show the picture on page 108)**				Pieces						
	Soft Drinks										
211.	Coca-Cola (**show the picture on page 108)**				Code:1						
					Code:2						
					Code:3						
					Code:4						
212.	Pepsi **(show the picture on page 108)**				Code:1						
					Code:2						
					Code:3						
					Code:4						
	Energy Drinks										
213.	Red Bull **(show the**				250 ml Can						

	picture on page 109)										
214.	Royce Black/Gold **(show the picture on page 109)**				250 ml Can						
215.	OTOP **(show the picture on page 109)**				250 ml Can						

Section-III: Questions Prepared to Assess Alcohol Consumption during Pregnancy

Instruction: Now I am going to ask you questions about Alcohol consumption ever and during current pregnancy.

Question Number	Question	Alternatives	Skip
301.	Have you ever consumed a drink that contains alcohol (such as tela, Areqe, Teji, Beer, wine and distilled spirits) at least once?	Yes ……1 No ……..2 →	**End Section**
302.	During 3 months before you got pregnant, were you use a drink of any form of alcoholic beverage (such as tela, Areqe, Teji, Beer, wine and distilled spirits) at least once**?**	Yes ……1 No ……..2	
303.	Have you ever consumed a drink that contains alcohol (such as tela, Areqe, Teji, Beer, wine and distilled spirits) during current pregnancy at least once?	Yes ……1 No ……..2 →	**End Section**
304.	During the last 30 days, how many days did you have a drink that contains alcohol?	Days……. ☐☐ **(If none, Record '00')**	
305.	How often do you drink alcohol?	Monthly or less……1 Two to four times a month……2 Two to three times a week…….3	

		Four or more times a week……4	
306.	How many drinks of alcohol do you have on a typical day? (Count Alcohol drinks based on the serving size of each alcoholic beverage. e.g. If she drinks one glass of tella, record as one drink. If she drinks 2 glass tella, record as 2 drinks of alcohol…etc.)	1 - 2 ……1 3 – 4……2 5 – 6…….3 7 – 9…….4 10 or more……5	
307.	How often do you have 5 or more units of alcohol on one occasion?	Never……1 Monthly…….2 Less than monthly……....3 Weekly……4 Daily or almost daily…….5	
308.	Have you ever received help or advice to help you stop drinking alcohol?	Yes, from program/professionals…1 Yes, from a friend……2 Yes, from a family member…….....3 Yes, from a religious leader…….4 No…….5	

Instruction: Ask whether or not she drank the following alcoholic drinks during the current pregnancy.

Question No.	Type of alcoholic drinks		Have you ever drunk ____ during the current pregnancy? **Yes…1 No….2** **(write only the code as 1 or 2)**
309.	Tela		
310.	Local areki		
311.	Teji		
312.	Wine		
313.	Beer	Walya	
		St. George	
		Dashen	
		Habesha	
		Bedele	
		Bedele Special	
		Meta	
		Meta Premium	
		Castel	
		Harar	
		Zebidar	
		Raya	

		Balageru	
		Amber	
		Heineken	
		Panach	
314.	Draft	St. George	
		Walya	
		Dashen	
		Harer	
		Meta	
		Azemera	
315.	Distilled spirits		
	Type	Lomé Areki	
		Gin (Dry)	
		Ouzo	
		Super Mint	
		Vodka	
		Whisky	
		Marathon	

THANK YOU FOR YOUR CO-OPERATION!

Day -2 Questionnaire

Addis Ababa University, College of Health Science, School of Public Health

A Questionnaire Prepared to Assess Substance Use among Pregnant Women living at BRHP, SNNPR, Ethiopia, 2018.

Interviewer Name: _____ Signature: _____ Date: _____

Starting time: _____ Ending Time: _____

Supervisor Name: _____ Signature: _____ Date: _____

Interview Result (Tick in the box):

Completed	
Partially completed	
Respondent not available	
Refused	

Identification

1. Code: _____
2. Name of Kebele: _____
3. Day of the week: _____

Section II: Questions Prepared to Assess Caffeine Consumption during Pregnancy

Instruction: Now I am going to ask you questions about your consumption of coffee, tea, chocolate and soft drinks during the last 24 hours. (**Notice: Tell to her the time range carefully. Example, if the interview takes place at 8 am, ask her what she drunk/ate from yesterday 8 am up to today 8 am)**

Question No.	Type of beverages and foods	Have you drank /ate____ **(name)** in the last 24-hours? **Yes……1 No…….2 (write only the code as 1 or 2)**	Where you drank it? **At home.....1 Outside .....2 Machine prepared....3 (write only the code as 1,2 or 3)**	During the last 24 hours, how many times did you prepared _____ **(Name)**? **(write the number)**	Which serving size you used? **(show the picture and circle the corresponding code)**	How many serving sizes did you have in the last 24 hours in the 1st, 2nd, 3rd, 4th.etc. round? **(Add all serving sizes from each round and write the number under the corresponding round)**					
						1st	2nd	3rd	4th	5th	6th
	Coffee										
201.	Black coffee **(show the picture on page 99 & 100)**				Code:1						
					Code:2						
					Code:3						
					Code:4						
					Code:5						
					Code:6						
					Code:7						
					Code:8						
					Code:9						
					Code:10						
202.	Speris (coffee with tea) **(show the picture on page 101)**				Code:1						
					Code:2						
203.	Coffee with milk **(show the picture on page 101)**				Code: 1						
					Code: 2						
					Code: 3						
					Code: 4						
					Code: 5						
	Tea										
204.	Black tea **(show the picture on page 102)**				Code:1						
					Code:2						
					Code:3						
					Code:4						
205.	Tea with lemon **(boiled together)**				Code:1						
					Code:2						
					Code:3						
					Code:4						

	(show the picture on page 103)				Code:5						
	Chocolate										
206.	Chocolate bars food **(show the picture on page 104 & 105)**				Code: 1						
					Code: 2						
					Code: 3						
					Code: 4						
					Code: 5						
207.	chocolate Candy bars **(show the picture on page 105 & 106)**				Code: [_____]						
					Code: [_____]						
208.	Yogurt with chocolate **(show the picture on page 106)**				288 ml cup						
209.	Biscuits/cookies **(show the picture on page 107)**				Code: 1						
					Code: 2						
					Code: 3						
210.	Candy containing coffee **(show the picture on page 108)**				Pieces						
	Soft Drinks										
211.	Coca-Cola (**show the picture on page 108)**				Code:1						
					Code:2						
					Code:3						
					Code:4						
212.	Pepsi **(show the picture on page 108)**				Code:1						
					Code:2						
					Code:3						
					Code:4						
	Energy Drinks										
213.	Red Bull **(show the**				250 ml Can						

	picture on page 109)										
214.	Royce Black/Gold **(show the picture on page 109)**				250 ml Can						
215.	OTOP **(show the picture on page 109)**				250 ml Can						

Section-IV: Questions Prepared to Assess Khat Chewing During Pregnancy

Instruction: Now I am going to ask you about Khat chewing ever and during current pregnancy

Dear interviewer please ask the following questions carefully and circle the response

Question Number	Questions	Alternatives	Skip
401.	Have you ever chewed khat?	Yes ……1 No …….....2	→ **End Section**
402.	During 3 months before you got pregnant, were you chew khat**?**	Yes ……1 No …….....2	
403.	Have you ever chewed Khat during current pregnancy?	Yes ……1 No …….....2	→ **End Section**
404.	How often do you chew?	Monthly or less……1 Two to four times a month…….2 Two to three times a week……...3 Four or more times a week…….……4 Daily……...…….5	
405.	During the last 30 days, on how many days did you chew Chat?	Day…… **(If none, Record '00')** ☐☐	
406.	How much khat you chew per day when you chewed usually?	Amount of khat in local unit: _____**Zurba (Fist)**	
407.	How do you get the khat?	Own farm……1 Buy it……...2	

		Own farm and buying…….……...3 Other, specify: _____4	
408.	Have you ever received help or advice to help you stop chewing?	Yes, from program/professionals……1 Yes, from a friend……2 Yes, from a family member……..…3 Yes, from a religious leader……...4 No……...……5	
409.	Is there anyone who chew khat in your family?	Yes, husband……1 Yes, other family members…..…….2 No …….....3	

Section-V: Questions Prepared to assess Tobacco Use during pregnancy

Instruction: Now I am going to ask you questions about tobacco use ever and during current pregnancy.

Question Number	Questions	Alternatives	Skip
501.	Have you ever used any form of tobacco (cigarettes, pipes, cigars, and smokeless tobacco), **even one or two puffs?**	Yes ……1 No …….....2	→ 511
502.	During 3 months before you got pregnant, were you use any form of tobacco (cigarettes, pipes, cigars, and smokeless tobacco), **even one or two puffs?**	Yes ……1 No …….....2	
503.	Have you ever smoked a cigarette during current pregnancy, **even one or two puffs**??	Yes ……1 No …….....2	→508
504.	How often do you smoke cigarette?	Everyday……1 Some days……...2	
505.	During the past 30 days, on how many days did you smoke cigarette?	Days…… ☐☐ **(If none, Record '00')**	
506.	On average, how many cigarettes do you smoke per day?	Cigarettes smoked /day……. ☐☐	
507.	Have you ever received help or advice to help you stop smoking?	Yes, from program/professionals……1 Yes, from a friend……2 Yes, from a family member……..…3 Yes, from a religious leader……...4 No……...…5	

508.	Have you ever used any other type of tobacco during current pregnancy?	Yes ……1 No …….....2 →	511
509.	How often do you use other types of tobacco?	Everyday……1 Some days……...2	
510.	What other types of tobacco do you use during current pregnancy? **(More than one answer is possible)**	Pipe……1 Chewing Tobacco ……2 Snuff/Suret ……...…….3 Shisha …….……...4 Gaya……5 Other (specify): _____6	
511.	Is there another person who smokes cigarette in your family?	Yes, husband……1 Yes, other family members…….2 No …….....3 →	**513**
512.	How often anyone smoke inside your home? Would you say daily, weekly, monthly, less than monthly or never?	Daily…….……1 Weekly…….…2 Monthly…….3 less than monthly…….4 never…….5	
513.	Do you currently work outside of your home?	Yes ……1 No/Don't work …….....2 →	**516**
514.	Do you usually work indoors or outdoors?	Indoors…….…….……1 Outdoors…….…….…….2 Both…….…….3	
515.	During the past 30 days, did any one smoke in indoor areas where you work?	Yes……1 No/ don't know …….…….2	
516.	During the past 7 days, how many days has any one smoked in your presence, inside any public places (public transportation, vehicles, such as buss, or taxicabs or restaurants, bars and cafeterias)?	Days…… ☐☐ **(If no anyone smoked, enter "00")**	

Section VI: Maternal and Pregnancy Related Conditions

Instruction: Now I am going to ask you questions about your maternity and Pregnancy conditions.

Question Number	Questions	Alternatives	Skip
601.	When was your last menstrual period start?	LNMP Started …. ___/____/____E.C Day/ Month/ Year Don't know……...99 / 99 / 99	
602.	How many months pregnant are you? **(Record number of completed months)**	Months . . . . . ……. ☐☐ Don't know……99	
603.	When you got pregnant, did you want to get pregnant at that time?	Yes ……...…….1 No.……..……2	
604.	During your life, how many times have you became pregnant including the current pregnancy **(Including a pregnancy that miscarried, was aborted, or ended in a still birth)?**	Total number of pregnancies……☐☐	If "01" go to 610
605.	During your life, how many times have you given live birth? **(I mean, to a child who ever breathed or cried or showed other signs of life-even if he or she lived only a few minutes or hours)**	[_____] times	
606.	Have you ever had a pregnancy that miscarried, was aborted, or ended in a stillbirth?	Yes …….1 No …….....2 →	610
607.	During your life, how many times have you had a pregnancy that miscarried, was aborted, or ended in a still birth?	[_____] times	
608.	During your life, how many times have you had an abortion or a pregnancy terminated before 28 weeks of gestation?	Number of abortions…… ☐☐ Times **(If none, record "00")**	
609.	How many times did you give birth that occurred after 7 months of gestation? **(including those births ended in still birth)**	Number of deliveries that occurred after 7-month gestation…..…… ☐☐	

610.	Did you see a doctor or health care provider for antenatal care during this pregnancy?	Yes ……...…….1 No.……..……2 →	Section-VII
611.	During antenatal care visit, were you advised: a. To limit coffee and tea intake? b. To avoid or limit alcohol intake? c. To quit/not to use tobacco? d. To quit/not to chew khat?	Yes NO a. To avoid or limit coffee and tea intake?.....1 2 b. To avoid or limit alcohol intake……1 2 c. To quit/not to use tobacco? ….1 2 d. To quit/not to chew khat?.....1 2	

Section-VII: Questions about Awareness

Instruction: Now I am going to ask you questions about your awareness on the risk of substance use, medical conditions and conditions.

Question Number	Questions	Alternatives/response	Skip
701.	Have you ever heard/informed about the risks of excess coffee/tea/coca cola consumption during pregnancy on your fetus?	Yes …….1 No …….....2	
702.	Have you ever heard/informed about the harmful health effect of excess alcohol consumption on your fetus?	Yes …….1 No …….....2	
703.	Have you ever heard/informed about that cigarette smoking has a harmful health effect on your fetus?	Yes …….1 No …….....2	
704.	Have you ever heard/informed that Khat chewing has a harmful health effect on your fetus?	Yes …….1 No …….....2	

THANK YOU FOR YOUR CO-OPERATION!

Annex-IV: Study Information Sheet in Amharic

ተቀጽላ1፡ የጥናት መረጃ ቅፅ

እንደምን አደሩ/እንደምን ዋሉ?

እኔ _____እባላለሁ፡፡እዚህ የመጣሁት በአዲስ አበባ ዩኒቨርሲቲ የህብረተሰብ ስነ-ምግብ ጤና የሁለተኛ ዲግሪ ተማሪ ለሆኑት አለኸኝ አደራዉ መረጃ ለመሰብሰብ ነዉ፡፡ አቶ አለኸኝ **‹‹በቡታጅራ የገጠር ጤና ፕሮግራም በ 2010 ዓ.ም የሚኖሩ ነፍሰ-ጡር እናቶች በርግዝና ወቅት የሚጠቀሟቸዉን ንጥረ ነገሮች ማጥናት››** በሚል ርዕስ ጥናት እያካሄዱ ነዉ፡፡ ጥናቱን ለማካሄድ ከአዲስ አበባ ዩኒቨርሲቲ፣ ጤና ሳይንስ ኮሌጅ፣የህብረሰብ ጤና ትምህርት ቤት እና የቡታጅራ የገጠር ጤና ፕሮግራም አስተባባሪ ፍቃድ ተሰጥቷቸዋል፡፡የጥናቱ ዋና ዓላማ ነፍሰ-ጡር እናቶች በርግዝና ወቅት የሚጠቀሙትን አነቃቂ ንጥረ ነገር፣የአልኮል መጠጥ፣ ሲጃራ ማጨስ እና ጫት መቃም መጠን ማጥናት ነዉ:: የጥናቱ ተሳታፊዎች በቡታጅራ የገጠር ጤና ፕሮግራም ስር የሚኖሩ ነፍሰ-ጡር እናቶች ሲሆኑ እርስዎም ነፍሰጡር በመሆንዎ ከነዚህ እናቶች መካከል በእጣ ነዉ የተመረጡት፡፡በዚህ ጥናት መሳተፍ **በፈቃደኝነት ለይ የተመሰረተ ነዉ**፡፡ስለዚህ ያለመሳተፍ፣ያልተመቸዎትን ጥያቄ ያለመመለስ እንዲሁም ያለመመቸት ስሜት ከተሰማዎት በማንኛዉም ሰዓት የማቋረጥ መብት አለዎት፡፡በጥናቱ በመሳተፍዎ ጊዜዎትን ለኔ ከማዋል ዉጭ በርስዎም ይሁነ በፅንሱ ላይ የሚያመጣዉ ጉዳት የለም::በጥናቱ በመሳተፍዎ እርስዎ በቀጥታ የሚያገኙት ጥቅም አይኖርም፡፡ ነገር ግን የሚሰጡኝ መረጃ የእናቶችና ህፃናትን ጤና ለመጠበቅ ከፍተኛ አስተዋፅኦ ይኖረዋል፡፡በጥናቱ ለመሳተፍ ፈቃደኛ የሚሆኑ ከሆነ ለ 20 ደቂቃ የተወሰኑ ጥያዌዎችን እጠይቅዎታለሁ፡፡**ስምዎ** በዚህ ቅፅ ላይ ስለማይፃፍ እርስዎ ከሚሰጡት መረጃ ጋር ተያይዞ አንጠቀመዉም፡፡ስለዚህ ማንም ሰዉ መረጃዉን ማን እንደሰጠዉ ሊያዉቅ አይችልም፡፡የሚሰጡት ማንኛዉም መረጃ በሚስጢር የሚጠበቅና አጥኚዉ የጥናቱን ዉጤት ለማደራጀት የሚጠቀመዉ ይሆናል፡፡ስለዚህ በዚህ ጥናት የርስዎን ተሳትፎ አበረታታለሁ፡፡በእኔ ገለፃ ላይ ጥያቄ ካለዎት ለመመለስ ዝግጁ ነኝ፡፡

ስለ ጥናቱ ጥያቄ አለዎት?

ተጨማሪ መረጃ ከፈለጉ ዋና አጥኚዉን ከታች ባለዉ አድራሻ ተጠቅመዉ ማግኘት ይችላሉ፡፡

አጥኚ: አለኸኝ አደራዉ **ስልክ**: 0921641950

Annex-V: Informed Consent form in Amharic

ተቀጽላ2፡ የስምምነት ማረጋገጫ ቅፅ

ከላይ በተደረገልዎት ገለፃ መሠረት በጥናቱ ለመሳተፍ ፈቃደኛ ነዎት?

ሀ. አዎ ☐ አመስግንና መጠይቁን ቀጥል

ለ. አይደለሁም ☐ ወደ ቀጣዩ ተጠያቂ ሂድ

የጠያቂ ስም: _____ ቀን: _____

Annex-VI: Amharic Version Questionnaire

ተቀጽላ3፡- የአማርኛ መጠይቅ

<u>ቀን አንድ</u>

በአዲስ አበባ ዩኒቨርሲቲ፣ ጤና ሳይንስ ኮሌጅ፣የህብረሰብ ጤና ትምህርት ቤት በቡታጅራ የገጠር ጤና ፕሮግራም ስር በ 2010 ዓ.ም የሚኖሩ ነፍሰ-ጡር እናቶች በርግዝና ወቅት የሚጠቀሟቸውን ንጥረ ነገሮች ለማጥናት የተዘጋጀ መጠይቅ፤

የቃለ መጠይቅ አቅራቢ ስም: _____ፊርማ: _____ቀን: _____

የተጀመረበት ሰዓት: _____ ያለቀበት ሰዓት: _____

የተቆጣጣሪ ስም: _____ ፊርማ: _____ቀን: _____

የመጠይቅ ውጤት (በሳጥኑ ውስጥ ምልክት አድርግ):

ሙሉ በሙሉ የተሟላ	
በከፊል የተሟላ	
ተጠያቂዉ አልነበሩም	
እምቢ አሉ	

1. የመጠይቅ መለያ፡-_____
2. የሚኖሩበት ቀበሌ፡-_____
3. የሳምንቱ ቀን፡-_____

ክፍል አንድ: የስነ-ህዝብ እና የቤቱን ሁኔታ መረጃዎች

አሁን የርስዎን የስነ-ህዝብ መረጃዎች እና የቤቱን ሁኔታ የተመለከቱ ጥያቄዎችን እጠይቅዎታለሁ፡፡

የሚከተሉትን ጥያቄዎች በጥንቃቄ በመጠየቅ ምርጫ ከሆነ **መልሱን ያክብቡ፤ነፃ ጥያቄ ከሆነ የመላሹን መልስ ይፃፉ፡፡**

የጥያቄ ቁጥር	**ጥያቄ**	**አማራጮች**	**ይዝለሉ**
101.	በየትኛዉ ወር እና ዓመተ ምህረት ተወለዱ?	**ወር**.....☐☐ **ወሩን አላዉቀዉም**.....99 **ዓመት**.....☐☐☐☐ **ዓመቱን አላዉቀዉም**.....99	
102.	እድሜዎ በሙሉ ዓመት ስንት ነዉ? (101 እና 102 ን አወዳድርና የተለያዩ	እድሜ በሙሉ ዓመት.....☐☐	

	ከሆነ የተሳሳተዉን አስተካክል)		
103.	ሀይማኖትዎ ምንድን ነዉ?	እስልምና……1 ፕሮቴስታንት……3 ኦርቶዶክስ ክርስትና……2 ሌላ (ይገለፅ): _____4	
104.	ከፍተኛዉ የትምህርት ደረጃዎ ስንት ነዉ?	ማንበብና መፃፍ የማይችል……1 ሁለተኛ ደረጃ (9-12) …….4 ማንበብና መፃፍ የሚችል……2 ኮሌጅ/ቴክኒክ……5 አንደኛ ደረጃ (1-8) ……3 ዩኒቨርስቲ……..6	
105.	የጋብቻ ሁኔታዎ ምንድን ነዉ?	ያገባች……..1 የሞተባት……4 ተጋብተዉ በተለያየ ቦታ የሚኖሩ….2 ያላገባች……5 የተፋታች ……..……3	
106.	ስራዎ ምንድን ነዉ?	የቤት እመቤት…… ….1 የቀን ሰራተኛ……5 ገበሬ……2 ተማሪ……..……6 የመንግስት ሰራተኛ……3 ሌላ (ይገለፅ)፡_____7 ነጋዴ……4	
107.	የቤተሰቡ የግል ንብረት የሆነ መኖሪ ቤት አለዉ?	አዎ……1 የለም…….....2	
108.	**የቤቱ ወለል** ከምን እንደተሰራ **ይመልከቱ**?	**<u>የተፈጥሮ ወለል</u>** **<u>የተጠናቀቀ ወለል</u>** አፈር/አሸዋ……1 የተጠላለፈ ዉብ የወለል ጣዉላ…5 ፍግ……...2 ፕላስቲክ ንጣፍ…… 6 **<u>በቅሙ ያልተጠናቀቀ ወለል</u>** ሴራሚክ ንጣፍ ……7 የእንጨት ሳንቃ/ጣዉላ….3 ሲሚንቶ……..……8 ሸምበቆ ……..……4 ስጋጃ ምንጣፍ……..……9 ሌላ (ይገለፅ)፡_____10	
109.	የቤቱ ጣሪያ ከምን እንደተሰራ ይመልከቱ?	**<u>የተፈጥሮ ጣሪያ</u>** **<u>የተጠናቀቀ ጣሪያ</u>** ሳር/ጭቃ……...1 ቆርቆሮ……..6 የተጠላለፈ ዉብ የጣሪያ ጣዉላ….7 **<u>በቅሙ ያልተጠናቀቀ ጣሪያ</u>** ሲሚንቶ……..…8 ፕላስቲክ/ሸራ ……..2 ሴራሚክ ጣሪያ ……..9 ቀርቀሃ/ሸምበቆ……..3 ሌላ (ይገለፅ)፡_____10 የእንጨት ሳንቃ/ጣዉላ……4 ካርቶን……...5	
110.	የቤቱ የዉጨኛዉ ግድግዳ በዋነኛነት ከምን እንደተሰራ ይመልከቱ?	**<u>የተፈጥሮ ግድግዳ</u>** **<u>የተጠናቀቀ ግድግዳ</u>** የሌለዉ……1 ሲሚንቶ……...5 አገዳ/ግንድ/ሸምበቆ……..2 ድንጋይና ሲሚንቶ……...6 **<u>በቅሙ ያልተጠናቀቀ ግድግዳ</u>** የሸክላ ጡብ……7 እንጨትና ጭቃ……...3 ብሎኬት……...8 ድንጋይና ጭቃ…….....4 የእንጨት ሳንቃ/ጣዉላ…….9 ሌላ (ይገለፅ)፡_____10	
111.	ከዋናዉ ቤት የተለየ ማፅድ ቤት አላችሁ?	አዎ……..……1 የለም……...3 አዎ፣የጋራ……...2	

112.	ቤቱ ምን ዓይነት የመፀዳጃ ቤት አለዉ?	በዉሀ የሚወርድ ሽንት ቤት……1 የአየር ማስወጫ ቱቦ ያለዉ ሽንት ቤት….2 ርብራብ ያለዉ ሽንት ቤት……3 ርብራብ የሌለዉ ሽንት ቤት….4 መፀዳጃ ቤት የለዉም……..5 ሌላ (ይገለፅ)፡_____6	
113.	በግቢያችሁ ዉስጥ የራሳችሁ የመጠጥ ዉሃ አለ? (ከአንድ በላይ መመለስ ይቻላል)	አዎ፤ያልተጠበቀ የጉድጓድ……1 አዎ፤የተጠበቀ የጉድጓድ……..2 አዎ፤የቧንቧ ዉሃ……..3 የለም…….....4	
114.	ቤተሰቡ በዋነኛነት የመጠጥ ዉሃ የሚያገኘዉ ከምንድን ነዉ?	የቧንቧ ዉሃ…….....1 የተጠበቀ ጉድጓድ…....2 ያልተጠበቀ ጉድጓድ….3 ምንጭ የተጠበቀ……4 ምንጭ ያልተጠበቀ…..5 የከርሰምድር ዉሃ (ወንዝ፣ኩሬ፣ሃይቅ, ግድብ) ….....6 ታንከር……7 የታሸገ ዉሃ……8 ለላ(ይገለፅ): _____9	
115.	ቤተሰቡ የቀንድ ከብት፣ሌላ የእርሻ እንስሳ ፣በግ ፣ ፍየል ፣ ወይም ዶሮ አለዉ?	አዎ……1 የለም…….....2 →	117
116.	ቤተሰቡ ከሚከተሉት የቤት እንስሳት ዉስጥ ምን ያህል አለዉ? **ከሌለ '00' ይሞላ** **ካልታወቀ '99' ይሞላ**	የወተት ላም፣በሬ፣ወይፈን.. ሌላ የቀንድ ከብት…… አህያ/ፈረስ/በቅሎ…… ፍየል…… በግ…… ዶሮ…… የንብ ቀፎ …	
117.	ከቤተሰቡ አባላት ዉስጥ ሊለማ የሚችል መሬት ያለዉ አለ?	አዎ……1 የለም…….....2 →	119
118.	በአጠቃላይ ምን ያህል ጥማድ መሬት አላችሁ?	የመሬት ብዛት በጥማድ …….	
119.	ቤተሰቡ የሚከተሉት ቁሳቁሶች አሉት?	**አዎ የለም** ሀ. የኤሌክትሪክ መብራት.1…….2 ለ. ሬድዮ ……1…….2 ሐ. ቴሌቪዝን……..1…….2 መ. የቤት ስልክ… ……..1…….2 ሠ. ኮምፒዉተር……1……2 ረ. ፈሪጅ……...1…….2 ሰ. ጠረንፔዛ……1…….2 **አዎ የለም** ሸ. ወንበር……1…….2 ቀ. አልጋ ከነፍራሹ…....1…….2 በ. የኤሌክትሪክ ምጣድ..1…….2 ተ. የኩራዝ መብራት……1……..2 ቸ. ሶላር……1……2 ኃ. ሶፋ……....1……2	

120.	**ከቤተሰቡ አባላት ዉስጥ** የሚከተሉት ቁሳቁሶች ያለዉ አለ?	**አዎ የለም** ሀ. ሰዓት……1…….2 ለ. የስልክ ቀፎ….1…….2 ሐ. ብስክሌት…….1…….2 መ. ሞተር…….1…….2	**አዎ የለም** ሠ. ጋሪ……1…….2 ረ. መኪና……1…….2 ሰ. ባጃጅ……1…….2	
121.	ቤቱ **ባብዛኛዉ ለምግብ ማብሰያነት** የሚጠቀመዉ ምንድን ነዉ?	የኤሌክትሪክ ኃይል……1 ባዮጋዝ……2 ናፍታ……..3 እንጨት……...4 ከሰል……5	ሳር……6 የከብት ተረፈ ምርት (ኩበት)…….7 የሰብል ተረፈ ምርት (ገለባ)……..8 ሌላ (ይገለፅ)፡_____9	
122.	ከቤተሰቡ አባላት ዉስጥ **የቁጠባ ደብተር** (የባንክ ወ.ዘ.ተ) ያለዉ አለ?	አዎ……1	የለም……..2	
123.	ተቀጣሪ የቤት ሰራተኛ አላችሁ?	አዎ……1	የለም……..2	

ክፍል ሁለት: በርግዝና ጊዜ የሚወሰድን አነቃቂ ንጥረ-ነገር ለማጥናት የተዘጋጁ ጥያቄዎች

መመሪያ፡ አሁን ባለፉት 24 ሰዓታት ውስጥ የቡና፣ሻይ፣ቸኮላታ እንዲሁም ለስላሳ መጠጦች አጠቃቀምን የተመለከቱ ጥያቄዎችን እጠይቅዎታለሁ፡፡ **(ትኩረት፡-ሰዓቱ በደንብ ተለይቶ ይነገራቸው: ፡ ለምሳሌ፡- መጠይቁ ሁለት ሰዓት ላይ ከሆነ ከትናነት 2 ሰዓት እስካሁን ድረስ የተጠቀሙትን በደንብ በመጠየቅ ይሞላ) ::**

ጥያቄ ቁጥር	መጠጥ/የ ምግብ አይነት	ባለፉት 24-ሰዓታት --------- ጠጥተዉ/ተ መግበዉ ያዉቃሉ? አዎ….1 የለም…2 **(ኮዱን ብቻ 1 ወይም2 እያሉ ይጻፉ)**	ከየት ነበር የጠጡት? ከቤት…….1 ከቤት ዉጭ…2 የማሽን ቡና….3 **(ኮዱን ብቻ 1፣2 ወይም 3 እያሉ ይጻፉ)**	ባለፉት 24 ሰዓታት ውስጥ ስንት ጊዜ____ __ **(ቡና/ሻ ይ/ቡና በወተት)** ተፈላ? **(በቁጥር ይጻፉ)**	በየትናዉ መጠጫ/መ መገቢያ ነበር_____ **(ስም)** የተጠቀሙ ት? **(ፎቶ ያሳዩ እና የሚጠቀሙ ትን ኮድያክብቡ)**	ባለፉት 24 ሰዓታት ውስጥ ከ1ኛዉ፣ከ2ኛዉ፣ከ3ኛዉ፣ከ4ኛዉ ወ.ዘ.ተ ምን ያህል _____ **(ስም ይጠራ)** ጠጥተዋል/ተመግበዋል **(በአንድ ጊዜ ሲፈላ የጠጡት ተደምሮ በቁጥር ይጻፉ)**					
						ከ1ኛ ዉ	**ከ2ኛ ዉ**	**ከ3ኛ ዉ**	**ከ4ኛ ዉ**	**ከ5ኛ ዉ**	**ከ6ኛ ዉ**
	ቡና										
201.	ጥቁር ቡና (ስዕላዊ መግለጫ				ኮድ 1						
					ኮድ 2						
					ኮድ 3						
					ኮድ 4						

	ከገፅ 99-100 ይመልከቱ)				ኮድ 5						
					ኮድ 6						
					ኮድ 7						
					ኮድ 8						
					ኮድ 9						
					ኮድ 10						
202.	ቡና ስፕሪስ (ስዕላዊ መግለጫ **ገፅ 101** ይመልከቱ)				ኮድ 1						
					ኮድ 2						
203.	ቡና በወተት (ስዕላዊ መግለጫ **ገፅ 101** ይመልከቱ)				ኮድ 1						
					ኮድ 2						
					ኮድ 3						
					ኮድ 4						
					ኮድ 5						
	ሻይ										
204.	ጥቁር ሻይ **(በሻይ ቅጠል ብቻ የተፈላ) (ስዕላዊ መግለጫ ገፅ 102 ይመልከቱ)**				ኮድ 1						
					ኮድ 2						
					ኮድ 3						
					ኮድ 4						
205.	ሻይ በሎሚ **(በማሽን አብሮ የፈላ) (ስዕላዊ መግለጫ ገፅ 103 ይመልከቱ)**				ኮድ 1						
					ኮድ 2						
					ኮድ 3						
					ኮድ 4						
					ኮድ 5						
	ቸኮላታ										
206.	የቸኮላታ ዘንግ ምግብ **(ስዕላዊ መግለጫ ገፅ 104-105**				ኮድ 1						
					ኮድ 2						
					ኮድ 3						
					ኮድ 4						
					ኮድ 5						

	በማሳየት ይሞላ)										
207.	የቸኮላታ ከረሜላ ዘንግ **(ስዕላዊ መግለጫ ገፅ 105-106 በማሳየት ይሞላ))**				ኮድ _____						
					ኮድ _____						
208.	እርጎ በቸኮላታ **(ገፅ 106 ይመልከቱ)**				288 ሚ.ሊ. ስኒ						
209.	ቸኮላታ ያለዉ ብስኩት/ ኩኪስ **((ገፅ 107 ፎቶ በማሳየት ይሞላ)**				ኮድ 1						
					ኮድ 2						
					ኮድ 3						
210.	ቡና ያለዉ ከረሜላ **(ገፅ 108 ፎቶ በማሳየት ይሞላ)**				በቁጥር						
ለስላሳ መጠጦች											
211.	ኮካ ኮላ (ስዕላዊ መግለጫ **ገፅ 108** ይመልከቱ)				ኮድ 1						
					ኮድ 2						
					ኮድ 3						
					ኮድ 4						
212.	ፔፕሲ (ስዕላዊ መግለጫ **ገፅ 108** ይመልከቱ)				ኮድ 1						
					ኮድ 2						
					ኮድ 3						
					ኮድ 4						
ሀይል ሰጭ መጠጦች											
213.	ሬድ ቡል (Red Bull)				250 ሚ.ሊ. ቆርቆሮ						

	(ስዕላዊ መግለጫ ገፅ 109 ይመልከቱ)										
214.	ሮይሲ (Royce Black/Gold) (ስዕላዊ መግለጫ ገፅ 109 ይመልከቱ)				250 ሚ.ሊ ቆርቆሮ						
215.	ኦቶፕ (OTOP) (ስዕላዊ መግለጫ ገፅ 109 ይመልከቱ)				250 ሚ.ሊ ቆርቆሮ						

ክፍል ሶስት: በርግዝና ጊዜ የሚወሰድን የአልኮል መጠጥ ለማጥናት የተዘጋጁ ጥያቄዎች

መመሪያ፡ አሁን እስከዛሬ ድረስ እና በአሁኑ የእርግዝና ጊዜ ያለዎትን የአልኮል አጠቃቀምን የተመለከቱ ጥያቄዎችን እጠይቅዎታለሁ፡፡

የጥያቄ ቁጥር	ጥያቄዎች	አማራጮች	ይዝለሉ/ይሂዱ
301.	እስከዛሬ ድረስ የትኛውንም አይነት አልኮል መጠጥ (ጠላ/አረቂ/ጠጅ/ቢራ/ወይን/በፋብሪካ የተመረቱ) ቢያንስ አንድ የአልኮል መጠጥ ለአንድ ጊዜም ቢሆን ጠጥተዉ ያዉቃሉ?	አዎ.....1 የለም.....2	→ ጨርስ/ሺ
302.	ከእርግዝና በፊት ባሉት ሶስት ወራት ጊዜ የትኛውንም አይነት የአልኮል መጠጥ (ጠላ/አረቂ/ጠጅ/ቢራ/ወይን/በፋብሪካ የተመረቱ) ቢያንስ አንድ የአልኮል መጠጥ ለአንድ ጊዜም ቢሆን ጠጥተዉ ያዉቃሉ?	አዎ.....1 የለም..... 2	
303.	በአሁኑ የእርግዝና ጊዜ የትኛውንም አይነት አልኮል መጠጥ (ጠላ/አረቂ/ጠጅ/ቢራ/ወይን/በፋብሪካ የተመረቱ) ቢያንስ አንድ የአልኮል መጠጥ ለአንድ ጊዜም ቢሆን ጠጥተዉ ያዉቃሉ?	አዎ.....1 የለም.....2 →	ጨርስ/ሺ

304.	ባለፉት 30 ቀናት ዉስጥ ስንት ቀን የአልኮል መጠጥ ጠጥተዉ ያዉቃሉ?	ቀን..... ☐☐ **(ካልጠጡ 00 ይሞላ)**	
305.	የአልኮል መጠጦችን ምን ያህል ገዜ ይጠጣሉ?	በየወሩ ወይም ከወር ያነሰ ጊዜ.....1 በወር ከሁለት እስከ አራት ጊዜ.....2 በሳምንት ከሁለት እስከ ሦስት ጊዜ.....3 በሳምንት አራት ጊዜ እና ከዚ በላይ....4	
306.	በተለመደዉ ቀን በሚጠጡበት ጊዜ ምን ያህል የአልኮል መጠጥ ይጠጣሉ? (የአልኮል መጠጥ የአልኮል መጠጦችን በሚጠጡበት እቃ ይቆጠር፣ለምሳሌ አንድ ብርጭቆ ጠላ ከጠጣች አንድ የአልኮል መጠጥ ይባላል፣ሁለት ብርጭቆ ጠላ ከጠጣች ሁለት የአልኮል መጠጥ ይባላል)	አንድ ወይም ሁለት.....1 ሦስት ወይም አራት.....2 አምስት ወይም ስድስት.....3 ሰባት ወይም ዘጠኝ.....4 አስርና ከዚያ በላይ.....5	
307.	**በአንድ ጊዜ ቁጭ ብለዉ** ምን ያህል ገዜ **አምስትና ከዚያ በላይ** የአልኮል መለኪያዎች ይጠጣሉ?	ፈፅሞ/መቸም ቢሆን.....1 በየወሩ.....2 ከወር ያነሰ ጊዜ.....3 በየሳምንቱ.....4 በየቀኑ ወይም ትንሽ የቀረዉ 5	
308.	እስከዛሬ ድረስ የአልኮል መጠጥ እንዲያቆሙ የምክር አገልግሎት እርዳታ ተሰጥቶዎት ያዉቃል? **አዎ ካሉ ከማን ነዉ?**	አወ፣ከጤና ባለሙያ/ከድርጅቶች.....1 አወ፣ከጓደኛ.....2 አወ፣ከዘመድ.....3 አወ፣ከሀይማኖት አባቶች.....4 የለም.....5	

መመሪያ: **ከዚህ ከታች የተዘረዘሩትን የመጠጥ አይነቶች በአሁኑ የእርግዝና ጊዜ መጠጣታቸዉን ይጠይቁ::**

የጥያቄ ቁጥር	የመጠጥ አይነት		በአሁኑ እርግዝናዎ ጊዜ ---------ጠጥተዉ ያዉቃሉ አዎ.....1 የለም.....2 **(1 ወይም 2 እያሉ ኮዱን ብቻ ይፃፉ)**
309.	ጠላ		
310.	አረቂ		
311.	ጠጅ		
312.	ወይን		
313.	ቢራ	ዋልያ	
		ቅ/ጊወርጊስ	
		ዳሸን	
		ሐበሻ	
		በደሌ	
		በደሌ ስፔሻል	
		ሜታ	
		ሜታ ፕሪሚየም	
		ካስትል	
		ሐረር	

		ዘቢዳር	
		ራያ	
		ባላግሩ	
		አምበር	
		ሄይንከን	
		ፓናሽ	
314.	ድራፍት	ቅ/ጊወርጊስ	
		ዋልያ	
		ዳሸን	
		ሐረር	
		ሜታ	
		አዝመራ	
315.	በፋብሪካ የተጣራ አልኮል		
	አይነት	ሎሚ አረቂ	
		ጅን	
		ኡዞ	
		ሱፐር ሚንት	
		ቮድካ	
		ዊስኪ	
		ማራቶን	

ስለ ትብብርዎ እናመሰግናለን!

<u>የቀን ሁለት መጠይቅ</u>

በአዲስ አበባ ዩኒቨርሲቲ፣ ጤና ሳይንስ ኮሌጅ፣የህብረሰብ ጤና ትምህርት ቤት፣ በቡታጅራ የገጠር ጤና ፕሮግራም ስር በ 2010 ዓ.ም የሚኖሩ ነፍሰ-ጡር እናቶች በርግዝና ወቅት የሚጠቀሟቸዉን ንጥረ ነገሮች ለማጥናት የተዘጋጀ መጠይቅ፤

የቃለ መጠይቅ አቅራቢ ስም: _____ፊርማ: _____ቀን: _____

የተጀመረበት ሰዓት: _____ ያለቀበት ሰዓት: _____

የተቆጣጣሪ ስም: _____ ፊርማ: _____ቀን: _____

የመጠይቅ ዉጤት (በሳጥኑ ዉስጥ ምልክት አድርግ):

ሙሉ በሙሉ የተሟላ	
በከፊል የተሟላ	
ተጠያቂዉ አልነበሩም	
እምቢ አሉ	

1. የመጠይቅ መለያ፡-_____
2. የሚኖሩበት ቀበሌ፡-_____
3. የሳምንቱ ቀን፡-_____

<u>ክፍል ሁለት: በርግዝና ጊዜ የሚወሰድን አነቃቂ ንጥረ-ነገር ለማጥናት የተዘጋጁ ጥያቄዎች</u>

መመሪያ፡ አሁን ባለፉት 24 ሰዓታት ውስጥ የቡና፣ሻይ፣ቸኮላታ እንዲሁም ለስላሳ መጠጦች አጠቃቀምን የተመለከቱ ጥያቄዎችን እጠይቅዎታለሁ፡፡ **(ትኩረት፡-ሰዓቱ በደንብ ተለይቶ ይነገራቸው: : ለምሳሌ፡-**

መጠይቁ ሁለት ሰዓት ላይ ከሆነ ከትናነት 2 ሰዓት እስካሁን ድረስ የተጠቀሙትን በደንብ በመጠየቅ ይሞላ) ::

ጥያቄ ቁጥር	መጠጥ/የ ምግብ አይነት	ባለፉት 24-ሰዓታት --------- ጠጥተዉ/ተ መግበዉ ያዉቃሉ? አዎ....1 የለም...2 **(ኮዱን ብቻ 1 ወይም2 እያሉ ይጻፉ)**	ከየት ነበር የጠጡት? ከቤት… .....1 ከቤት ዉጭ...2 የማሽን ቡና....3 **(ኮዱን ብቻ 1፣2 ወይም 3 እያሉ ይጻፉ)**	ባለፉት 24 ሰዓታት ውስጥ ስንት ጊዜ____ **(ቡና/ሻ ይ/ቡና በወተት)** ተፈላ? **(በቁጥር ይጻፉ)**	በየትናዉ መጠጫ/መ መገቢያ ነበር____ **(ስም)** የተጠቀሙ ት? **(ፎቶ ያሳዩ እና የሚጠቀሙ ትን ኮድያክብቡ)**	ባለፉት 24 ሰዓታት ውስጥ ከ1ኛዉ፣ከ2ኛዉ፣ከ3ኛዉ፣ከ4ኛዉ ወ.ዘ.ተ ምን ያህል _____ **(ስም ይጠራ)** ጠጥተዋል/ተመግበዋል **(በአንድ ጊዜ ሲፈላ የጠጡት ተደምሮ በቁጥር ይጻፉ)**					
						ከ1ኛ ዉ	**ከ2ኛ ዉ**	**ከ3ኛ ዉ**	**ከ4ኛ ዉ**	**ከ5ኛ ዉ**	**ከ6ኛ ዉ**
	ቡና										
216.	ጥቁር ቡና (ስዕላዊ መግለጫ **ከገፅ 99-100** ይመልከቱ)				ኮድ 1						
					ኮድ 2						
					ኮድ 3						
					ኮድ 4						
					ኮድ 5						
					ኮድ 6						
					ኮድ 7						
					ኮድ 8						
					ኮድ 9						
					ኮድ 10						
217.	ቡና ስፕሪስ (ስዕላዊ መግለጫ **ገፅ 101** ይመልከቱ)				ኮድ 1						
					ኮድ 2						
218.	ቡና በወተት (ስዕላዊ መግለጫ **ገፅ 101** ይመልከቱ)				ኮድ 1						
					ኮድ 2						
					ኮድ 3						
					ኮድ 4						
					ኮድ 5						
	ሻይ										
219.	ጥቁር ሻይ **(በሻይ ቅጠል**				ኮድ 1						
					ኮድ 2						
					ኮድ 3						
					ኮድ 4						

	ብቻ የተፈላ) (ስዕላዊ መግለጫ ገፅ 102 ይመልከቱ)										
220.	ሻይ በሎሚ **(በማሽን አብሮ የፈላ) (ስዕላዊ መግለጫ ገፅ 103 ይመልከቱ)**				ኮድ 1						
					ኮድ 2						
					ኮድ 3						
					ኮድ 4						
					ኮድ 5						
	ቸኮላታ										
221.	የቸኮላታ ዘንግ ምግብ **(ስዕላዊ መግለጫ ገፅ 104-105 በማሳየት ይሞላ)**				ኮድ 1						
					ኮድ 2						
					ኮድ 3						
					ኮድ 4						
					ኮድ 5						
222.	የቸኮላታ ከረሜላ ዘንግ **(ስዕላዊ መግለጫ ገፅ 105-106 በማሳየት ይሞላ))**				ኮድ ____						
					ኮድ ____						
223.	እርጎ በቸኮላታ **(ገፅ 106 ይመልከቱ)**				288 ሚሊ ስኒ						
224.	ቸኮላታ ያለዉ ብስኩት/ ኩኪስ ((**ገፅ 107** ፎቶ በማሳየት ይሞላ)				ኮድ 1						
					ኮድ 2						
					ኮድ 3						

225.	ቡና ያለዉ ከረሜላ (ገፅ 108 ፎቶ በማሳየት ይሞላ)				በቁጥር						
ለስላሳ መጠጦች											
226.	ኮካ ኮላ (ስዕላዊ መግለጫ ገፅ 108 ይመልከቱ)				ኮድ 1						
					ኮድ 2						
					ኮድ 3						
					ኮድ 4						
227.	ፔፕሲ (ስዕላዊ መግለጫ ገፅ 108 ይመልከቱ)				ኮድ 1						
					ኮድ 2						
					ኮድ 3						
					ኮድ 4						
ሀይል ሰጭ መጠጦች											
228.	ሬድ ቡል (Red Bull) (ስዕላዊ መግለጫ ገፅ 109 ይመልከቱ)				250 ሚ.ሊ ቆርቆሮ						
229.	ሮይሲ (Royce Black/Gold) (ስዕላዊ መግለጫ ገፅ 109 ይመልከቱ)				250 ሚ.ሊ ቆርቆሮ						
230.	ኦቶፕ (OTOP) (ስዕላዊ መግለጫ ገፅ 109 ይመልከቱ)				250 ሚ.ሊ ቆርቆሮ						

ክፍል አራት: በርግዝና ጊዜ የጫት መቃምን ለማጥናት የተዘጋጁ ጥያቄዎች

መመሪያ: አሁን እስከዛሬ ድረስ እና በአሁኑ የእርግዝና ጊዜ ጫት መቃምን የተመለከቱ ጥያቄዎችን እጠይቅሞታለሁ::

የጥያቄ ቁጥር	ጥያቄዎች	አማራጮች	ይዝለሉ/ይሂዱ
401.	እስከዛሬ ድረስ ጫት ቅመዉ ያዉቃሉ?	አዎ.....1 የለም.....2	⟶ ክፍል 5
402.	**ከእርግዝና በፊት ባሉት ሶስት ወራት** ጊዜ ጫት ቅመዉ ያዉቃሉ?	አዎ.....1 የለም.....2	
403.	**በአሁኑ የእርግዝና** ጊዜ ጫት ቅመዉ ያዉቃሉ?	አዎ.....1 የለም.....2	⟶ ክፍል 5
404.	ጫት **ምን ያህል ገዜ** ይቅማሉ?	በየወሩ ወይም ከወር ያነሰ ጊዜ.....1 በወር ከሁለት እስከ አራት ጊዜ.....2 በሳምንት ከሁለት እስከ ሦስት ጊዜ...3 በሳምንት አራት ጊዜ እና ከዚያ በላይ.4 በየቀኑ.....1	
405.	**ባለፉት 30 ቀናት** ዉስጥ **ስንት ቀን** ጫት ቅመዋል?	ቀን..... ☐☐ **(ካልቃሙ 00 ይሞላ)**	
406.	በአብዛኛዉ በቀን **ምን ያህል ጫት** ይቅማሉ?	በአካባቢዉ መለኪያ ይጻፍ: _____	
407.	ጫቱን እንዴት ነዉ የሚያገኙት?	ከራሴ እርሻ/ማሳ.....1 በመግዛት.....2 ከራሴ የእርሻ/ማሳ እና በመግዛት.....3 ሌላ (ይጠቀስ): _____4	
408.	እስከዛሬ ድረስ ጫት መቃም እንዲያቆሙ የምክር አገልግሎት እርዳታ ተሰጥቶዎት ያዉቃል? (**አዎ ካሉ ከእነማን ነዉ?**) **(ከአንድ በላይ መመለስ ይቻላል)**	አወ፣ከጤና ባለሙያ/ከድርጅቶች.....1 አወ፣ከጓደኛ.....2 አወ፣ከቤተሰብ/ከዘመድ.....3 አወ፣ከሀይማኖት አባቶች.....4 የለም.....5	
409.	በቤት ዉስጥ ሌላ ጫት የሚቅም ሰዉ አለ/ሉ?	አዎ (ባል/የትዳር ጓደኛ) .....1 አዎ (ሌላ የቤተሰብ አባል) .....2 የለም.....3	

ክፍል አምስት: በርግዝና ጊዜ የትምባሆ አጠቃቀምን ለማጥናት የተዘጋጁ ጥያቄዎች

መመሪያ: አሁን በርግዝና ጊዜ ሲጋራ ማጨስን/ትምባሆ አጠቃቀምን_የተመለከቱ ጥያቄዎችን እጠይቅሞታለሁ::

የጥያቄ ቁጥር	ጥያቄዎች	አማራጮች	ይዝለሉ/ይሂዱ

501.	**እስከዛሬ ድረስ የትኛዉንም** የትምባሆ/ሲጋራ አይነት ተጠቅመዉ/አጭሰዉ ያዉቃሉ (አንድ ጊዜም ቢሆን ጭስ ቡልቅ ማድረግ)?	አዎ……1 የለም……2 →	511
502.	**ከእርግዝና በፊት ባሉት ሶስት ወራት ጊዜ** የትኛዉንም የትምባሆ/ሲጋራ አይነት ተጠቅመዉ/አጭሰዉ ያዉቃሉ (አንድ ጊዜም ቢሆን ጭስ ቡልቅ ማድረግ)?	አዎ……1 የለም……2	
503.	**በአሁኑ የእርግዝና ጊዜ** ሲጋራ አጭሰዉ ያዉቃሉ (አንድ ጊዜም ቢሆን ጭስ ቡልቅ ማድረግ)?	አዎ……1 የለም……2 →	508
504.	ምን ያህል ጊዜ ሲጋራ ያጨሳሉ?	በየቀኑ……1 በተወሰኑ ቀናት/አልፎአልፎ ……2	
505.	**ባለፉት 30 ቀናት** ምን ያህል **ቀናት** ሲጋራ አጭሰዋል?	ቀናት…… **(ካላጨሱ 00 ይሞላ)** ☐☐	
506.	ባለፉት 30 ቀናት ሲያጨሱ **በአማካይ በቀን** ምን ያህል ሲጋራዎች አጭሰዋል? **አንድ ፓኬት =20 ሲጃራዎች**	**ሲጃራዎች በቀን……** ☐☐	
507.	እስከዛሬ ድረስ ሲጋራ ማጨስ እንዲያቆሙ የምክር አገልግሎት እርዳታ ተሰጥቶዎት ያዉቃል? **አዎ ካሉ ከእነማን ነዉ?** **(ከአንድ በላይ መመለስ ይቻላል)**	አወ፣ከጤና ባለሙያ/ከድርጅቶች….1 አወ፣ከጓደኛ……2 አወ፣ከቤተሰብ/ከዘመድ……3 አወ፣ከሀይማኖት አባቶች……4 የለም……5	
508.	በአሁኑ የእርግዝና ጊዜ ሌላ የትምባሆ አይነት ተጠቅመዉ ያዉቃሉ?	አዎ……1 የለም……2 →	511
509.	ሌላ የትምባሆ አይነት ምን ያህል ጊዜ ይጠቀማሉ?	በየቀኑ……1 በተወሰኑ ቀናት……2	
510.	የትኞቹን የትምባሆ አይነቶች በአሁኑ የእርግዝና ጊዜ ተጠቅመዋል? **(ከአንድ በላይ መመለስ ይቻላል)**	በቱቦ የሚያሰድ……1 የሚቃም ትምባሆ……2 በአፍንጫ የሚያሰድ……3 ሺሻ……4 ጋያ (Gaya)……5 ሌላ (ይጠቀስ)፡_____6	
511.	በቤት ዉስጥ ሌላ ሲጋራ የሚያጨስ ሰዉ አለ?	አዎ (ባል/የትዳርጓደኛ) ……1 አዎ (ሌላ የቤተሰብ አባል) ……2 የለም……3 →	513
512.	ሌላ ሰዉ እርስዎ እያሉ በቤት ዉስጥ ምን ያህል ጊዜ አጨሰ/ሰች?	በየቀኑ……1 በየሳምንቱ……2 በየወሩ……3 ከወር ያነሰ ጊዜ……4	

		ከቤት ዉስጥ የሚያጨስ የለም....5	
513.	በአሁኑ ሰዓት ከዚህ ቤት ዉጭ የሚሰራ ስራ ይሰራሉ?	አዎ .....1 አልሰራም.....2 → 516	
514.	በአብዛኛዉ ከቤት ዉስጥ ነዉ ወይስ ከቤት ዉጭ የሚሰሩት?	ከቤት ዉስጥ.....1 ከቤት ዉጭ.....2 → 516 ከሁለቱም.....3	
515.	**ባለፉት 30 ቀናት ዉስጥ** እርስዎ በሚሰሩበት ቤት ዉስጥ ሲጋራ ያጨሰ ሰዉ ነበር?	አዎ.....1 የለም/አላዉቅም.....2	
516.	**ባለፉት 7 ቀናት ዉስጥ** እርስዎ እያሉ በህዝብ መገልገያ ቦታዎች (ሆቴሎች፣ካፌ ወ.ዘ.ተ) ወይም እየሄዱበት ባሉበት የህዝብ ማመላለሻ መኪና ወይም ታክሲ ስንት ቀን ሌላ ሰዉ ሲጋራ አጨሰ/ሰች?	የቀናት ብዛት..... (ያጨሰ ሰዉ ከሌለ "00" ይሞላ)	

ክፍል ስድስት: የእናታዊ እና እርግዝና ሁኔታ መረጃዎች

መመሪያ: አሁን የእናታዊ እና እርግዝና ሁኔታ የተመለከቱ ጥያቄዎችን እጠይቅዎታለሁ::

የጥያቄ ቁጥር	ጥያቄ	አማራጮች	ይዝለሉ
601.	ከአሁኑ የእርግዝና በፊት ለመጨረሻ ጊዜ የወር አበባ ሲያዩ መፍሰስ የጀመረ መቼ ነበር? (አላዉቀዉም ካሉ 99/99/9999 ይሞላ)	____/_____/_____ ቀን/ ወር/ ዓመት (ዓ.ም)	
602.	አሁን የስንት ወር ነፍሰ-ጡር ነዎት? **(በሙሉ ወር ይመዝገብ)**	ወር..... አላዉቀዉም.....99	
603.	እርግዝናዉን አስበዉበት/ፈልገዉት ነበር ያረገዙት?	አዎ.....1 የለም.....2	
604.	የአሁኑ **ስንተኛ እርግዝናዎ** ነዉ? (ዉርጃ እና ሞቶ የተወለደበት እርግዝናም ካለ ይቆጠር)	አጠቃላይ የእርግዝና →	'01' **ከሆነ ወደ 610 ይሂዱ**
605.	በአጠቃላ ስንት ጊዜ ልጅ **በህይወት** ወልደዋል? **(በህይወት የተወለደ ልጅ የሚባለዉ እንደተወለደ ከተነፈሰ፣ካለቀሰ፣ከተንቀሳቀሰ ወይም ሌላ በህይወት የመኖር ምልክት ካሳየ ከተወሰኑ ደቂቃዎች በኃላ ቢሞትም በህይወት የተወለደ ይባላል)**	ህይወት ያለዉ ልጅ የተወለደበት እርግዝና ቁጥር.....	
606.	እስከዛሬ ድረስ **ዉርጃ ወይም ሞቶ የተወለደበት** እርግዝና አጋጥሞዎት ያዉቃል?	አዎ.....1 የለም.....2 → **610**	
607.	በህይወት ዘመንዎ ስንት ጊዜ **ዉርጃ ወይም ሞቶ የተወለደ እርግዝና** አጋጥሞዎት ያዉቃል?	ዉርጃ ወይም ሞቶ የተወለደበት እርግዝና ቁጥር.....	

608.	እስከዛሬ ድረስ ስንት ጊዜ ወርጃ (ከ**7 ወር በፊት** የተቋረጠ እርግዝና) አጋጥሞዎት ያውቃል?	የወርጃ ቁጥር..... ☐☐ **(ከሌለ 00 ይሞላ)**	
609.	የእርግዝና ጊዜዎ 7 ወር ከሞላው በኃላ ስንት ጊዜ ወልደዋል? **(7 ወር ከሞላዉ ሞቶ የተወለደበት ወሊድም ይቆጠር)**	7 ወር ከሞላዉ በኃላ የወሊድ ቁጥር..... ☐☐	
610.	በአሁኑ እርግዝናዎ የቅድመ ወሊድ ክትትል አድርገዋል?	አዎ.....1 የለም.....2 ⟶	**ክፍል 7**
611.	በቅድመ ወሊድ ክትትል ጊዜ የሚከተሉትን የምክር አገልግሎቶች ተሰጥቶዎት ያውቃል? ሀ. ቡና ወይም ሻይ በብዛት አለመጠጣት? ለ. አልኮል አለመጠጣት፣ከጠጡም በመጠኑ መጠጣት? ሐ. ትምባሆ/ሲጋራ ፈፅሞ አለማጨስ/አለመጠቀም? መ. ጫት ፈፅሞ አለመቃም?	<u>አዎ</u> <u>የለም</u> ሀ. ቡና ወይም ሻይ **በብዛት** አለመጠጣት?.....1.....2 ለ. አልኮል **አለመጠጣት**፣ ከጠጡም **በመጠኑ መጠጣት**?.....1.....2 ሐ. ትምባሆ/ሲጋራ **ፈፅሞ. አለማጨስ/አለመጠቀም**?.....1.....2 መ. ጫት **ፈፅሞ** አለመቃም....1.....2	

ክፍል ሰባት: በንጥረ-ነገሮች አጠቃቀም ላይ ያለዎትን ግንዛቤ ሁኔታ ለማጥናት የተዘጋጁ ጥያቄዎች

መመሪያ፡ አሁን በንጥረ-ነገሮች አጠቃቀም ላይ ያለዎትን ግንዛቤ ፣የጤና ሁኔታ እና የተያያዙ ጥያቄዎችን እጠይቀዎታለሁ። **(የተጠያቂዉን መልስ ያክብቡ።)**

የጥያቄ ቁጥር	ጥያቄዎች	አማራጮች	ይዝለሉ
701.	ከቡና፣ሻይ፣ቾኮላታ እንዲሁም ለስላሳ መጠጦች የሚገኘዉን **ካፌይን** የሚባል አነቃቂ ንጥረ-ነገር በብዛት መጠቀም በፅንስ ለይ የጤና ችግር እንደሚያመጣ ሰምተዉ ያዉቃሉ?	አዎ.....1 የለም.....2	
702.	በእርግዝና ጊዜ አልኮል **በብዛት** መጠጣት በፅንሱ ላይ የጤና ችግር እንደሚያመጣ ሰምተዉ ያዉቃሉ?	አዎ.....1 የለም.... 2	
703.	ሲጃራ ማጨስ በፅንሱ ላይ የጤና ችግር እንደሚያመጣ ሰምተዉ ያዉቃሉ?	አዎ.....1 የለም.....2	
704.	ጫት መቃም በፅንሱ ላይ የጤና ችግር እንደሚያመጣ ሰምተዉ ያዉቃሉ?	አዎ.....1 የለም.....2	

ስለ ትብብርዎ እናመሰግናለን!

Annex VII: Localy Available Serving Sizes for Different Caffeine Sources

የካፌይን አጠቃቀምን ለማጥናት የተለኩ የመጠጫ መጠኖች

ጥያቄ ቁጥር 201 (ቡና)

ኮድ: 1

ኮድ: 2

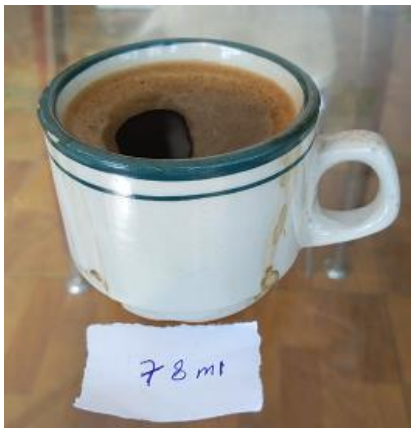
ኮድ: 3

ኮድ: 4

ኮድ: 5

ኮድ: 6

ኮድ: 7



ኮድ: 8

ኮድ: 9

ኮድ: 10

ጥያቄ ቁጥር 202 (ቡና ስፕሪስ)

ኮድ: 1

98 ሚ. ሊ

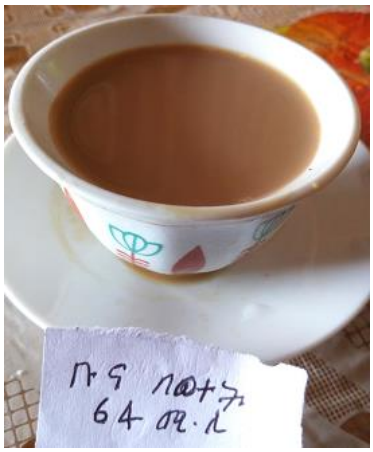
ኮድ: 2

110 ሚ. ሊ

ጥያቄ ቁጥር 203 (በና በወተት)

ኮድ: 1

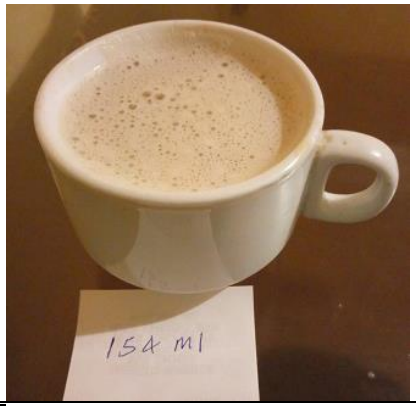
ኮድ: 2



ኮድ: 3

ኮድ:4

ኮድ: 5

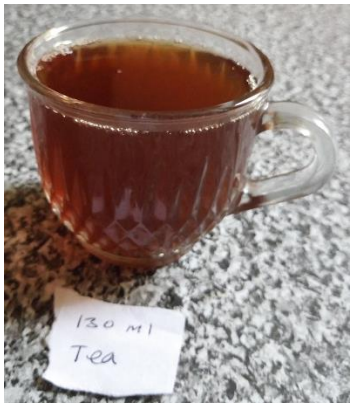


ጥያቄ ቁጥር 204 (ጥቁር ሻይ)

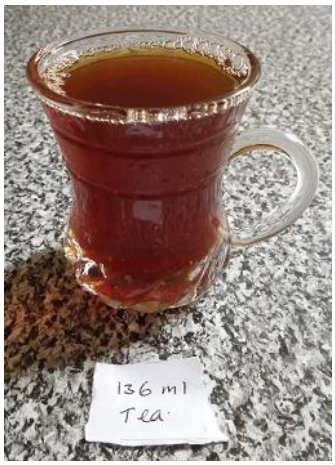
ኮድ: 1

ኮድ፡2

ኮድ: 3



ኮድ: 4



ጥያቄ ቁጥር 205 (ሻይ በሎሚ፣አብሮ የተፈላ)

ኮድ: 1

100 ሚ. ሊ

ኮድ፡2

110 ሚ. ሊ

ኮድ: 3

130 ሚ.ሊ

ኮድ: 4

136 ሚ.ሊ

ኮድ: 5

ጥያቄ ቁጥር 206 (የቸኮላታ ዘንግ_ምግብ)

Dark Chocolate (Bitter sweet chocolate)

ኮድ: 1

100 ግ

ኮድ: 2

250ግ

Milk chocolate

ኮድ: 3

85 ግ

ኮድ: 4

175 ግ

ኮድ: 5

100 ግ

100 ግ

100ግ

ጥያቄ ቁጥር 207 (የቸኮላታ ከረሜላ ዘንግ)

ኮድ: 1

23.5 ግ

ኮድ: 2

30 ግ

ኮድ: 3

31 ግ

ኮድ: 4

40 ግ

ኮድ: 5

51 ግ

ኮድ: 6

ኮድ: 7


ኮድ: 8





5 ግ

<u>ጥያቄ ቁጥር 208 (እርጎ በቸኮላታ)</u>

ኮድ: <u>1</u>

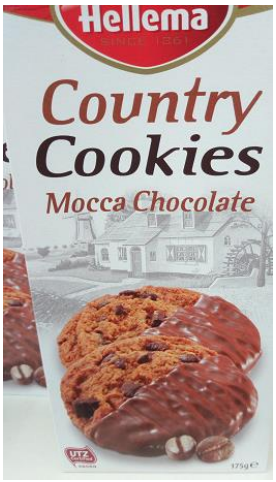
288 ሚ.ሊ

ጥያቄ ቁጥር 209 (ቸኮላታ ያለዉ ብስኩት/ኩኪስ)

ኮድ-1

150 ግ

ኮድ: 2



175 ግ

ኮድ: 3

300 ግ

ጥያቄ ቁጥር 210 (ቡና ከረሜላ)

ለስላሳ መጠጦች

ጥያቄ ቁጥር 211 (ኮካ ኮላ)

ኮድ: 1 **ኮድ: 2** **ኮድ: 3** **ኮድ: 4**

ጥያቄ ቁጥር 212 (ፔፕሲ)

ኮድ: 1 **ኮድ: 2** **ኮድ: 3** **ኮድ: 4**

ሀይል ሰጭ መጠጦች መጠጫ መጠን

ጥያቄ ቁጥር 213 (ሬድ ቡል)

250 ሚ.ሊ

ጥያቄ ቁጥር 214 (ሮይሲ)

ጥያቄ ቁጥር 215 (ኦቶፕ)