ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

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ASSESSMENT OF POSTPARTUM DEPRESSION AND ITS ASSOCIATED FACTORS AMONG ADOLESCENT MOTHER IN BENCH MAJI ZONE, SOUTH WEST ETHIOPIA: FACILITY BASED CROSS-SECTIONAL STUDY.

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This is to certify that the Thesis prepared by Biruktawit Solomon, entitled: Magnitude of postpartum depression and its associated factors among adolescent mothers in Bench Maji Zone, south west, Ethiopia and submitted in partial fulfillment of the requirements for the Degree of master of public health degree in "Reproductive and family health" the regulations of the University and meets the accepted standards with respect to originality and quality.

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ACRONYMS

ACOG	American College of Obstetrics and Gynecology
CDC	Center of Disease Control and Prevention
DSM_IV	Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition
EPDS	Edinburgh Postnatal Depression Scale
HIC	High Income Country
HLE	Healthy life expectancy
ICD	International Classification of Disease
LMIC	Low and middle income country
PND	Postnatal depression
PPD	Postpartum depression
SPSS	Statistical Package for Social Science
SSA	Sub Saharan Africa
UHC	Universal Health Coverage
WHO	World Health Organization

ABSTRACT

Background: Globally depression among women is a public health problem. Postpartum depression is a depressive symptoms and syndromes that happen within the first year after birth. Postpartum depression is more commonly diagnosed among adolescents and it is risk factor for poor growth and development in children born to these mothers.

Objective: The study aims to assess the magnitude of postpartum depression and its associated factors among postpartum adolescent mothers attending at health facilities in Bench Maji Zone in Ethiopia.

Method: Facility based cross sectional study was deployed among postpartum adolescent mothers between February - April 2019. Multi-stage sampling technique was used to select 407 women and a structured questionnaire through face to face interview was used to collect the data. Postpartum depression was measured using the Edinburgh postnatal depression scale. Data were entered in to Epi-data 4.4.2.1 and analyzed using SPSS version software 23.Descriptive statistics were computed to reveal the magnitude. Variables which are associated significantly (P-value 0.05) in Binary logistic regression model were taken to the multivariable regression model. Strength association measured through OR and its 95% CI statistical significance was declared at P-value <0.05.

Result: Among the study participants, 80 (19.6%) of them had postpartum depression .Those respondents who had Low social support (AOR=4.7(95% C.I: 2.02-11.08), previous history of postpartum depression (AOR=3.7 (95% C.I: 1.7-7.9), who had low income (AOR=2.2 (95% C.I: 1.19, 4.2) and unplanned pregnancy(AOR=2 (95% C.I: 1.05-3.4) were found to significant increase odd of postpartum depression among adolescent. Those adolescent postpartum women's who had spontaneous delivery [AOR=0.37(95% C.I: 0.14-0.70) less likely to have postpartum depression.

Conclusion: The magnitude of postpartum depression was 19.6% among adolescent women. Furthermore, income, unplanned pregnancy, previous history of depression and social support were found to be independent predictors for the development of postpartum depression among adolescent women. Therefore, provide proper counseling and emotional support for vulnerable postpartum mothers; promote utilization of FP to reduce unwanted pregnancy.

1. INTRODUCTION

1.1. Background

Adolescence is a transitional phase occurring between the ages of 15-19 years. Postpartum depression is a depressive symptoms and syndromes that happen within the first year after birth (1). The World Health Organization's statistics indicate that there are approximately 350 million people worldwide affected by depression and this mood disorder is likely to be the second highest cause of mental disorders by 2030 (2).In general depression among adolescents population were reported about 7.5%(3). While the depressive symptoms among adolescent mothers found to be in range of 46% to 54%(4).Which is Avery significant public health problems.

Depression in adolescents may present irritability rather than sadness. Postpartum depression described by different sign and symptoms like changes in appetite or weight, sleep, and agitation, decreased energy, feelings of worthlessness or guilt, difficulty thinking, concentrating, or make decisions, or recurrent thoughts of death or suicide ideation, plans, or attempts (5). Thus, major depressive disorder interferes with an adolescent mother's ability to work, sleep, study, eat, and enjoy life(6).

Several risk factors for postpartum depression have been identified in high-income country settings: negative birth outcome (preterm or low birth weight), mode of delivery (cesarean section), lower parity, maternal and child illness, alcohol, substance use, gender-based violence, sexual assault, lack of social support, low educational level, lower maternal age, unemployment, marital status, like being single, separated and widowed, history of depression and anxiety during pregnancy as well as before pregnancy(7-9).

Depression negatively affects maternal role competence or self-efficacy. (10).And likely affects the emotional tone of infant care during the postpartum period. Depressive symptoms, including emotional liability, mental confusion, anxiety, and insecurity (11) can affect the adolescent mother ' s ability to care for her infant and, in particular, to deal with negative infant responses to her care such as crying and fussing that can contribute to depressive symptoms(12).

Adolescent mothers came across with many social, economic, and developmental challenges including financial constraints, unable to stay at school. Meeting these challenges is likely to be more difficult for the adolescent compared to more mature, and often more financially stable adults who already completed their education. Adolescents also face many developmental changes and emotional challenges as they grapple with being a mother(12).

The CDC 2016 stated that postpartum depressive symptoms were experienced by approximately 1 in 10 women. According to American College of Obstetrics and Gynecology (ACOG) 2013, all pregnant women are to be screened for depression during and after pregnancy. This implies stronger focus on mental health conditions in the integrated delivery of services for maternal and child health. The need is not just felt in high income countries. In fact, some academic and public health institutions in low and middle income countries have already initiated integrated maternal mental health programs. Several years of neglect adolescent's depression have caused devastating effects on their health and well-being(13).

1.2. Statement of the problem

National Survey conducted in America reported that depression among adolescents was reported about 11% and 7.5%, respectively in 2015(4). Postpartum depression among adolescent mothers is too high ranged from 46% to 54% (3). A study conducted on postpartum adolescents showed that a depression during this period is more common among adolescent(12). The major factors which contributed to the postpartum depression are the transition to motherhood, lack of knowledge about mental health issues, family history, lack of social support, repeat pregnancy, educational attainment, relationship with the father of the child, and health care barriers young mothers (teenagers), mothers having unplanned pregnancies while they were single parents, congenital abnormalities in the baby, not preferred sex of the child and negative life occurrences before child birth and mother's illness (7-9) .

Postpartum highest rates are among younger, economically disadvantaged adolescents. Depression in adolescent mothers has been associated with a variety of negative effect for the adolescent mother and her child. An increase in depressive symptoms has been associated with decreased maternal confidence and perceived feelings of social support. Maternal depression may also have a negative effect on children's development since children of mothers with higher levels of depressive symptoms display more emotional social problems and lower language skills compared with children of mothers with lower levels of depressive symptoms (11).

A review of the literature related to the postpartum period proposes a number of important areas of interest: body image and weight, depressive symptoms, maternal competency, and social isolation and restriction (11).

Most of the work on PPD is carried out in Western countries, with only few recent studies conducted in the developing world. It has been studied in more than 90% of high income countries (HICs) compared with just 10% of low and middle income countries(14). The lack of research on psychological morbidity, including puerperal psychosis. In developing countries has led to a gap in assessing the Global burden of disease. The social and Psychological needs of pregnant women as they experience biological, physical, and Physiological changes, and changes in social status, are rarely addressed. In addition few study are done on adult mothers postpartum depression while to the best of our knowledge, no study has been conducted on postpartum depression among adolescent women's in Ethiopia. This study is, therefore, intended

to address information gap by determining the magnitude of postpartum depression among adolescent women's and its associated factors in this Bench Maji zone.

1.3 Rationale and of the study

Early identification of mental health problem among adolescent mother and examine the potential factors that increased the risk of the problem is potentially an effective strategy to improve adolescent women's quality of life. It is believed that mental health problem is a proven strategies to plummet morbidity and mortality among postpartum adolescent women's (15). There are only few studies which have been conducted on developing countries to identify contributing factors for postpartum depression among adolescent mother.

This study provides for health programmers, it important to design evidence-based intervention strategies for the prevention of postpartum depression. Similarly, the finding is also key for health professionals to provide counseling and interventions related to risk factors are important to prevent postpartum depression. Since this will be conducted to assess the magnitude and its associated factors of postpartum depression among adolescent mothers in Ethiopia. This study will add knowledge to little available literature about various aspects of postpartum depression among Ethiopian adolescent woman.

2. LITERATURE REVIEW

2.1. Definition

Postpartum depression describes a heterogeneous group of depressive symptoms and syndromes that occurs during the first year following birth. The American Psychiatric Association Diagnostic and Statistical Manual of Mental Health Disorders-IV (DSM IV) uses the term "postpartum depression" more specifically to describe symptoms of major depressive disorder, bipolar disorder, or brief psychotic disorder beginning within 6 weeks of delivery(1).

Postpartum depression (PPD) is a national health priority. It affects nearly half of all adolescent mothers. Postpartum Depression can lead to developmental and psychological disabilities in both mother and child(12). It is believed to occur three times more commonly in developing countries than in the developed world and is more prevalent among women in the first six weeks after birth. Research suggests that postpartum depression is more commonly diagnosed among adolescents and may be a risk factor for poor growth and development in children born to these mothers. Therefore, adolescents are a special age group that requires specific health care maternal interventions in order to detect and treat post-partum depression (16).

2.2. Magnitude of postpartum depression

About 14% of the worldwide burden of disease has been attributed to neuropsychiatric disorders, including those disorders that can occur during post-partum period (17). Epidemiological studies have found higher rate of depression in low and middle –income countries, particularly among women facing socio-economic difficulties (25).

Regarding cross-sectional studies Depression during pregnancy and the postpartum period in adolescent and adult Portuguese mothers found the average of 9.5 points with a 25.9% of adolescents with depressive symptoms, in a total of 54 participants(18). Systematic review on the prevalence and incidence of prenatal depression done in USA indicates a prevalence rate of between 6.9% and 12.9 %(19). Study conducted in Durango City in Mexico among 181 pregnant adolescents found that the prevalence for minor and major depression was 18.8% and 17%, respectively(17).

Cross-sectional study conducted to postpartum depression among Canadian teen mothers and adult mothers in the maternity experiences survey was (14%)(8). Another Institution based cross sectional studies conducted in Kenya, south Africa and Zimbabwe to assess PPD among postnatal adolescent mothers showed that the Magnitude of PPD with the use of EPDS. Was 8.69%, 23.8%, and 14% respectively(19, 20).

2.3. Factor associated with postpartum depression

Factors associated with postpartum depression as outlined in literatures include certain Socio-demographic characteristics, Social support, Obstetrics factors, infant factors and previous psychiatric history which in most literatures considered as associated factors.

2.3.1. Socio-demographic characteristics

The incidence of postpartum depression is affected by different contributing factors. Among these socio-demographic characteristics Age is one of the leading factors for PPD. mental health scholars have found age and depression to be best represented as a curvilinear relationship, which suggests that the age range in which individuals hold a number of primary social roles (e.g., employed, parent, spouse) is associated with the least amount of distress (21).Additional research conducted in this area supports a significant association between age and maternal distress. A number of recent analyses have found younger age to be a significant risk factor for the development of Postpartum depression(8).

A cross sectional study which was conducted in South Africa the maternal age of participants indicated that 38 (23.9%) were teenagers, age 18–19 years, of which 19 (50%) had PND and study conducted in Ethiopia maternal age less than 20 or over 30 years associated with postpartum depression(7). In contrast, a cross sectional study which was conducted in Canada women revealed that the prevalence of PPD was higher in older women than younger(8).

Regarding socioeconomic status, high income was found to be protective against PPD. Meta-analytic studies suggest that low income is related to both the course and persistence of depression(22), and among adolescent women, there is evidence to suggest a causal link between depression and low Socio-economic status. Furthermore, for poor adolescents, high distress increased the probability of becoming an adolescent mother(23). Comparatively mothers who are unemployed are more at risk to develop PPD than employed Students and school drop-outs (Unemployed) were likely to develop depression more than the employed and self- employed

counterparts. On marital status, single and separated participants had higher scores for likelihood of depression respectively compared to the married participants with (6).

There is also evidence on the difference in the incidence of PPD between educated and non-educated mothers with the higher prevalence of PPD in uneducated (24). But this result is in opposite with other findings where educational status of the mother did not associate with PPD(25). Another cross sectional study in Qatar tells women who are educated are more vulnerable for the problem (26).

2.3.2. Social support

Lack of social support has been established as a risk factor for postpartum depression in multiple studies. Adolescent who have lack of support from family women were found to be at increased risk of postpartum depression(27). On the study which was conducted on 6421 women who Canada it has been mentioned that there was no association between the lack of social support and the incidence of postpartum depression(8).

Adolescent mothers who receive the support of their baby's father are less likely to use physical aggression toward their children(27). In addition, domestic violence tends to be particularly impactful on depression overall and often escalates around the time of pregnancy and birth(28). Also revealed that domestic violence was a contributing factor for postpartum depression in contrast in a prospective cohort study which were conducted in Nepal (29). It was mentioned that there were no association between domestic violence and postpartum depression. Marital problem was a contributing factor for maternal depression. Women's relationship with her husband or intimate partner is one of the most influential social determinants of postnatal depression. Mothers who have supportive, nurturing intimate relationships have lower rates of maternal mental disorder(30). Luck of familial support is a more influential predictor of postnatal depression than is luck of material support in many countries(30).

2.3.3. Obstetric and infant factors:

Study the relationship between unintended pregnancy and postpartum depression has generally found a higher likelihood of postpartum depression among mothers with unintended and unwanted births(31). In contrast to this, a study conducted in Nigeria indicated that unwanted pregnancy is not a risk factor for PPD. In this study, undesired gender of the child was identified

as a risk factor(32). Another study from Tigray has reported an association between fetal gender dissatisfaction and PPD(7). The studies give inconsistent findings regarding an association between the mode of delivery and the development of PPD. Among women in Lebanon, vaginal delivery was associated with a higher rate of PPD women who delivered by cesarean section expressed more negative feelings after delivery(33). Studies also identified giving birth to the first child as a risk factor for PPD as some new mothers entering new emotional and physical territory may find it difficult to prepare for the depth of change they will experience(34). This could equate to a time of higher depression as they struggle to adapt to motherhood. It is also found that multiple deliveries diminish the vulnerability to PPD, due to nonspecific decreases in stress associated with the Pregnancy and delivery(31).A study in Iran showed no significant relationship between these two variables reported only emergent cesarean as associated with PPD(35).The studied conducted Ethiopia did not find any relationship between not breastfeeding and postpartum depression(7). In another study Physical complications during delivery or difficulty breastfeeding were also associated with PPD(36).

2.3.4. Psychiatric history

Previous psychiatric history has been found to increase the risk of postpartum depression**.** In two meta-analyses found that a previous history of depression was a moderate to strong predictor of subsequent postpartum depression (20). Subsequent studies consistently report that women with a previous history of postpartum depression are at increased risk of developing postpartum depression(8). Another study in Iran also found 35.8% prevalence rate of severe depression in women with a past history of depression that is significantly greater than in women without such history. In addition in Nepal of the women with PPD had a past and/or family psychiatric history(29). Furthermore study in Zimbabwe (37) also revealed postpartum depression was not only related with personal history of mental health problem but also family history of depression.

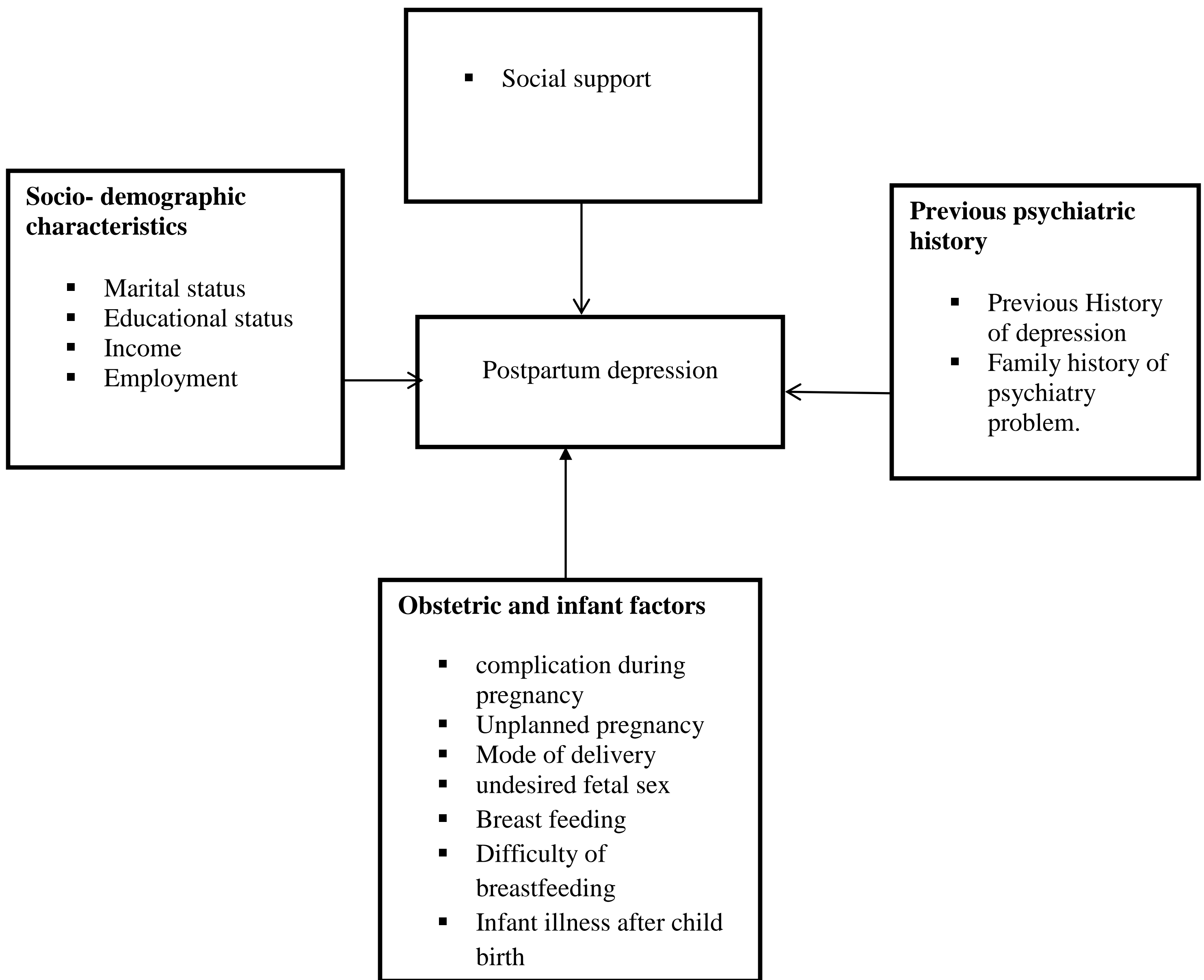

Figure 1; Conceptual frame work developed based on reviewing different literature's

3. OBJECTIVES

3.1. General objective

To assess the magnitude of postpartum depression and its associated factor among postnatal adolescent women attending health facilities in Bench Maji Zone, southwest Ethiopia from February -April 2019.

3.2. Specific Objectives

3.2.1 To determine the magnitude of postpartum depression among postnatal adolescent mothers attending health facilities, 2019.

3.2.2 To identify factors associated with postpartum depression among postnatal adolescent mothers attending health facilities, 2019.

4. METHOD AND MATERIALS

4.1. Study area and period

This study was conducted in Bench Maji zone which is located in southern nation nationalities and people of regional state of Ethiopia. Bench Maji zone located at about 580 km away from Addis Ababa, the capital city of Ethiopia, in the Southwest direction. In the Zone there are an estimated total population of 829,493 out of this 418, 213 are women according to 2007 Ethiopian census. The zone includes one city administration, 10 Woredas (districts) and 246 kebeles (229 rural and 17 urban). There are two Hospitals (Bachuma and Maji Primary) one under construction and one functional (Aman General) Hospital. The zone has about 40 functional health centers. Additionally, there are 182 functional health posts ,one University and one Health sciences college. (38). From February to April 2019

4.2. Study design

Facility based cross sectional study design was employed.

4.3. Population

4.3.1 Source population:

All postpartum women who attend MCH clinic in Bench Maji Zone health facilities

4.3.2 Study population:

All postpartum adolescent mothers who were attending the MCH clinics for their infant vaccinations service at the 6th, 10th 14th weeks and 9 month at Bench-Maji Zone in the selected health facilities.

4.4. Inclusion and exclusion criteria

4.4.1. Inclusion criteria

Postpartum adolescent women who were attending the MCH clinic for infant vaccinations for the first 6th weeks to 9 months of age at Bench Maji Zone in the selected health facility

4.4.2. Exclusion criteria

Adolescent mothers severely ill and unable to respond at the time of data collection.

4.5. Sample size determination

4.5.1 Sample size determination for objective one (Magnitude of postpartum depression)

To estimate the required sample size single population proportion formula is used by considering the following assumptions magnitude postpartum depression 11.6% from previous study(39) with 95% confidence interval and 4% margin of error

$$n = \frac{(Z\alpha/2)2\ (P)\ (1-P)}{d2}$$

$$N = \frac{(1.96)^2 x0.116\ (1-0.116)}{(0.04)^2}$$

The required sample size using single population proportion was 246. With a design effect of 1.5 and non-response rate of 10 %, the total final sample size was 407 postpartum adolescent women's.

4.5.2 Sample size determination for objective two (factors associated with postpartum depression)

To estimate the required sample size double population proportion formula and Epi-info software version 7 are used by considering unwanted pregnancy and Family history of depression as the two major determinant factors of postpartum depression in this age group. At 80% power, the sample size was calculated as follows:

Exposure variables	Confidence interval	P1	P2	OR	Ratio(unexposed: exposed)	Sample size
Family history	95%	50 %	76%	2.71	1	122
Unwanted pregnancy	95%	39%	60.4%	1.4	1	188

The sample size became 122 and 188 with Design effect of 1.5 considered and Non response rate of 10 % were considered it became 201(40)and 310.

Since the sample size for the first objective is higher the final sample size for this study will be 407.

4.6 Sampling Procedure

Multistage sampling technique was employed to select the respondents. In Bench Maji Zone, there are a total of ten districts and 1 city administration. In the first stage three district (namely South Bench, North Bench and Meanite) and one city administration (namely Mizan Aman city administration), was selected using simple random sampling method. In the second stage two health facilities were selected from each district randomly and a total of eight health facilities were included. According to the 2017/18 report, the total annual immunizations coverage of the selected eight health centers was reported to be 1341. At institution level, the annual number of immunization reported was 180, 210, 81, 165, 231, 210, 162 and 102 at Zozo Health Center (ZHC), Deberwork Health center (DWHC), Gechebe Health center (GHC), Mizan Health Center(MHC), Adeyi Ababa Health Center (AAHC), Gachite Health Center (GHC), Bear Health Center (BHC) and Dizu Health Center (DHC) respectively. Hence, the calculated sample 407 was proportionally allocated to the eight health centers based on the number of immunization reported at each facility by taking 1341 as denominator. Based on this calculation, the allocated sample was 54, 64, 25, 50, 70, 63, 50 and 31 for ZHC, DWHC, GHC, MHC, AAHC, GHC, BHC and DHC respectively.

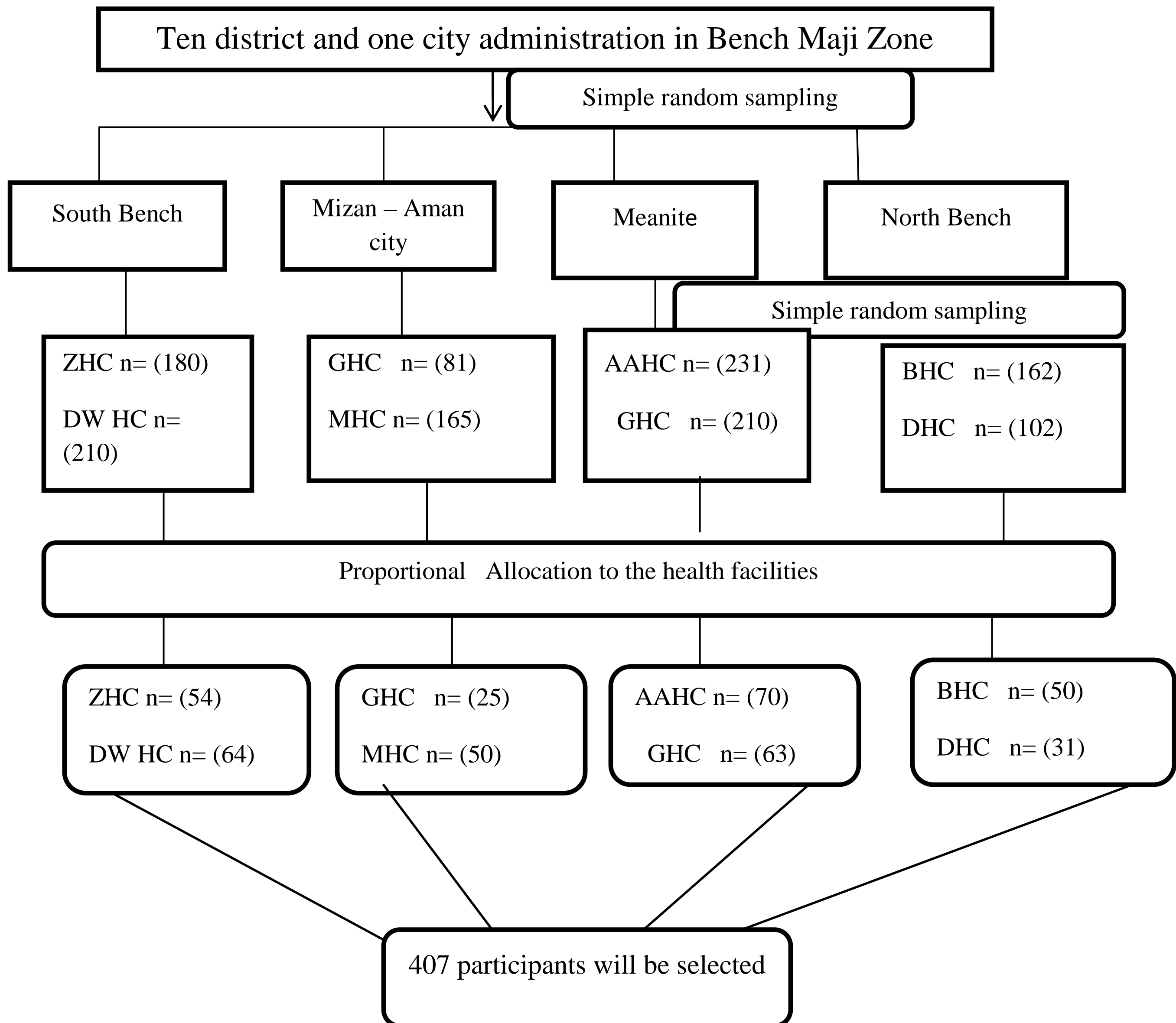

Figure 2: Schematic presentation of sampling technique

Note ZHC Zozo Health Center

DWHC Deberwork Health center

GHC Gechebe Health center

MHC Mizan Health Center

AAHC Adeyi Ababa Health Center

GHC Gachite Health Center

BHC Bear Health Center

DHC Dizu Health Center

4.7 Variables

4.7.1. Dependent variable

- Postpartum depression

4.7.2. Explanatory variable

- Socio-demographic characteristics (age, educational status, economic status, marital status, employment and undesired fetal sex)
- social support (family support, friends support, help husband, conflict with husband, feeling controlled by husband, and feeling loved husband)
- obstetrics and infant factors(, unplanned pregnancy, mode of delivery, pregnancy complication, infant illness after child birth, breastfeeding)
- previous psychiatric history (history of depression and family history of psychiatric problems)

4.8. Operational definitions

Postpartum period; it's a period beginning immediately after the birth of a child and extending for about one year.

Postpartum partum depression; according to Edinburgh postnatal depression scale (EPDS) Questions 1, 2, & 4 are scored 0, 1, 2 and 3 with first choice scored as 0 and the last choice scored as 3. Questions 3, 5-10 are reversely scored, with the first choice scored as 3and the last choice scored as 0.After adding up all the scores. In Ethiopia, the Amharic version of the EPDS has been validated as a screening tool to detect postnatal depression in Addis Ababa with sensitivity and specificity of 78.9 and 75.3 respectively. Those women who scored 8 and above were categorized as depressed women while women who scored below 8 were considered as non-depressed women. Which describes depression as cognitive and affective features that last for at least one week, including the inability to laugh, the inability to look forward to things with enjoyment, blaming oneself unnecessarily, anxiety or worry, being scared or panicky, the inability to cope, difficulty sleeping, feeling sad or miserable, crying, and thoughts of harming oneself.

Social support; will be measured using the Maternity Social Support Scale (MSSS) developed by Webster and colleagues(41). The scale contains six items and includes questions on family

support, friendship network, and help from spouse, conflict with spouse, feeling controlled by spouse, and feeling unloved by spouse. Each item was measured on a five-point Likert scale and a total score of 30 was possible. Classified social support in to three categories; high social support (for scores 24–30), medium social support (18–23) and low social support (below 18) categories. The internal consistency of the scale was tested using Cronbach's alpha and was found to be 0.74.

4.9. Data Collection Procedures and Tools

The data were collected through face to face interviews using structured questionnaire among adolescent postpartum mothers from selected health facility. The questionnaire contains socio-demographic characteristics, obstetric factors, past psychiatric history, social support and Edinburgh Postnatal Depression Screening was assessed to depression. The questionnaire was first prepared in English then translated to Amharic and back again to English to prevent possible misunderstanding and misinterpretation. Data collection was conducted by eight Diploma Nurses and supervision of data collection process was managed by two Health officers. The interview was done for consecutive days from February - April, 2019 by data collectors.

4.10. Data quality assurance

First questionnaire was prepared in English language and then translated in to Amharic by the investigator discussed with different language professional and back re-translated to English to check the consistency of the questioner. To ensure the data quality, training was given for the data collectors and supervisor about the objective of the study and the detailed contents of the tools. There was also a pre-test on 5% of the total sample size at a health facility that was not parts of the study in Bench Maji Zone. Accordingly to the pretest, a modification was made on the tools. The supervisors and principal investigator were closely supervised the performance of the data collection in the field on daily basis. In filled questionnaires were checked for consistencies and completeness daily by supervisors and principal investigator.

4.11 Data quality management

The data was manually edited, coded and entered in Epi-data software version 4.4.2.1 and then exported to SPSS version 23 and cleaned, the cleaning process was done by running simple frequency after data entry. Data which is not consistent was checked by referring the hard copy questionnaire.

4.12. Data analysis

Data was analysed using SPSS version 23. Descriptive statistics including percentage and frequency was used to characterize the study population for socio-demographic variables, obstetric variable and social support For objective one (prevalence of postpartum depression) percentage was used to look the prevalence of postpartum depression and for objective two (factors associated with postpartum depression) bivarate logistic regression was run to check whether predictor variable is associated with outcome variable. Variables which have an association with the outcome variables at $p \leq 0.05$ at bivarate were take into multivariable logistic regression to control for the possible effect of confounders.statistical significance was declared at $P\text{-value} < 0.05$. Also 95% confidence interval was computed around estimate of OR and showed significance when the interval do not include one.

4.13 Ethical consideration

The study was conducted after obtaining ethical clearance from Addis Ababa University, College of Health Science; School of Public Health research ethics committee. Also, permission was obtained from the district Health Office. Each study participant was asked to give verbal consent once the participant information was read to them. It was the right of the participants to decline at the very beginning or at any stage during the interview. They also informed that the services they get from the facility were not affected even if they decline to participate in this study. The information collected from respondents was kept confidential and it was used for the purpose of this study only. Privacy of respondents was kept during the interview by handling it in a single examination room.

4.14 Dissemination of result

Primarily, the result of this study will be submitted to Addis Ababa University Department of Reproductive Health and Health Service Management as partial fulfillment of the requirements for the degree of masters in the family and reproductive Health science. The result will be disseminated to the Bench Maji Zone health bureau and Federal Ministry of Health. Attempts will also being made to publish the results on local or international journal to reach the scientific work.

5. RESULT

5.1. Socio-demographic characteristics

In this study 407 study participants were selected. Of these 404 participated and produced a 99% response rate. As depicted in table 1, more than half of study participants 245 were urban dwellers. From the total respondents, most 389 (96.28%) and 379(93.81%) were married and attended formal education, respectively. When we see the occupation of the respondents, nearly half 182 (45.04%) of the respondents were housewives and large proportion of the household had below 1634 birr of an average monthly income.

Table 1.Socio-demographic characteristics of the respondent, Bench Maji Zone, Ethiopia, 2019.

Variables	Frequency	Percent (%)
Age		
15-17	24	5.9
18-19	380	94.05
Residence		
Urban	245	60.64
Rural	159	39.35
Marital status		
Married	389	96.28
Unmarried	15	3.71
Attended school		
Yes	379	93.81
No	28	6.93
Highest level of education		
Primary school	199	49.25
Secondary school	124	30.69
Higher	53	13.11

Occupational status		
House wife	182	45.04
Student	109	26.98
Maid servant	41	10.14
Merchant	33	8.16
Other	39	9.65
Monthly average income		
<500	20	4.95
500-1200	87	21.53
1201-2500	139	34.40
2501-3500	60	14.85
>3501	98	24.25

5.2. Social support among postpartum women

Figure 3 showed about the social support Women among the respondents, above one-third 58(38.9%), around 189(46.8%), and 157(38.9) of the respondent received high social support, an intermediate social support and low social support, respectively.

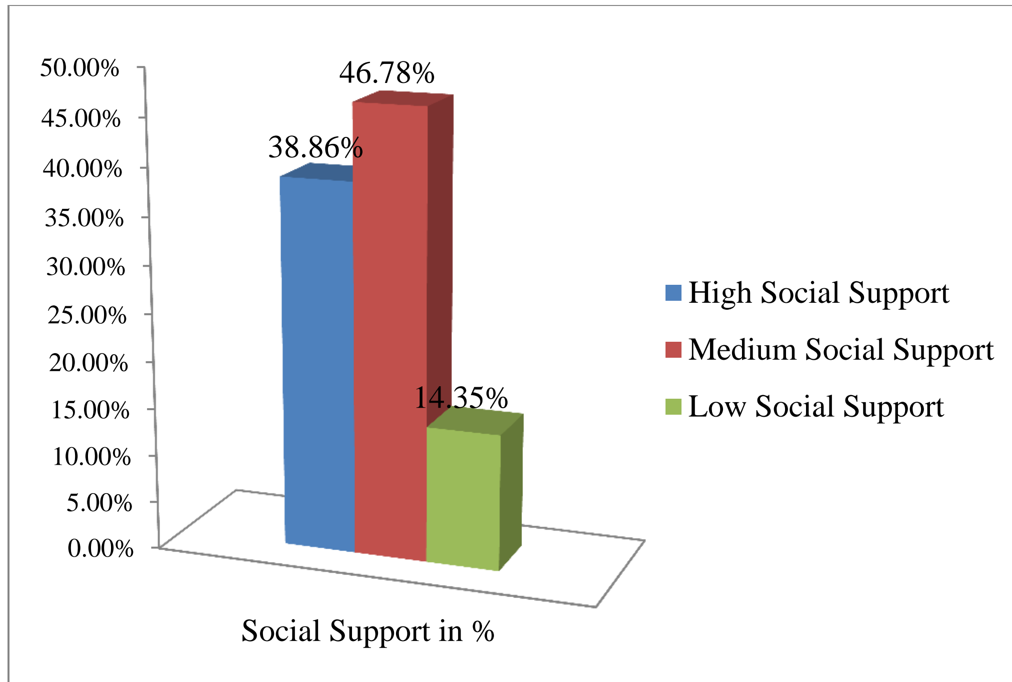

Figure 3 . Social support among postpartum adolescent women's, Bench Maji Zone, Ethiopia, 2019

5.3. Obstetric and infant clinical characteristics

From the postpartum adolescents who participated in the study, 237(58.6%) of them reported that their current pregnancy was wanted. Among the respondents, 55(13.6%) of the had a complication during their pregnancy period. In terms of the sex distribution of the last births, the male and female were 176(43.5%) and 228(56.4%), respectively. In addition, regarding the desire sex of the last baby 166 (41.08%) of the respondents were not satisfied with the sex of their infant and 59(14.6%) being delivered by caesarian section. Furthermore 345(85.39%) of the participants had spontaneous vaginal delivery and 57 (14.1%) of mothers mentioned that they experienced infant illness after childbirth and 124(30.9%) difficulty of feeding their baby.

Table 2. Participants Obstetrics and infant clinical characteristics in postpartum period, Bench Maji Zone, Ethiopia, 2019

Characteristics	Frequency	Percent (%)
Planned pregnancy		
Yes	237	58.66
No	167	41.33
Pregnancy complication		
Yes	55	13.61
No	349	86.38
Sex of last baby		
Male	176	43.56
Female	228	56.43
Desired sex of the baby		
By the mother		
Desired	190	47.02
Undesired	166	41.08
Unspecified	48	11.88
Mode of delivery		
SVD	345	85.39
Cesarean section	59	14.60
Difficult of feeding		
Yes	124	30.69
No	280	69.30
Infant illness after childbirth		
Yes	57	14.10
No	347	85.89

4.4. Pervious and family history of depression among postpartum women

Table 3 shows that 52(12.9%) had pervious history of depression from the total participants. In addition, 29 (7.2%) of the respondents had family history of depression.

Table 3. Personal and family history of depression among postpartum adolescent women's, from health centers of four District Bench Maji Zone, Ethiopia, (N= 404).

Characteristics	**Frequency**	**Percent (%)**
Family history of mental illness		
Yes	29	7.17
No	375	92.82
Previous history of depression		
Yes	52	12.87
No	352	87.12

5.5. Prevalence of postpartum depression

The 404 postpartum women were identified and screened for possible depression using the EPDS. Based on EPDS the prevalence of Postpartum depression among postpartum adolescent women was 19.6%.

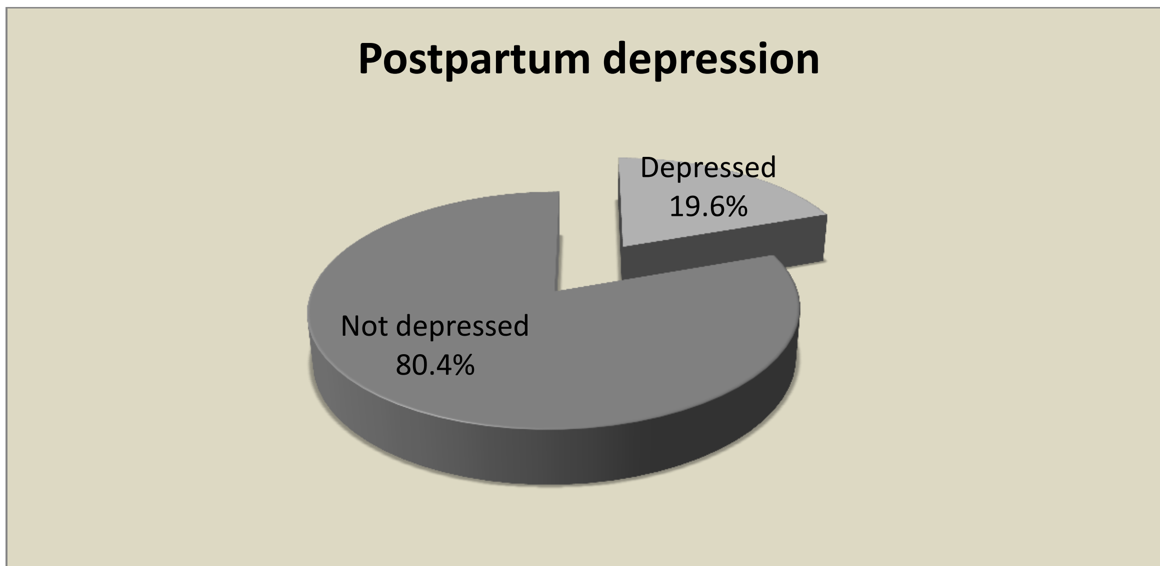

Figure 4: prevalence of postpartum depression among postpartum adolescent women's, from health centers of four District of Bench Maji Zone, Ethiopia (N= 404).

From all respondents 80(19.6%) had postpartum depression, postnatal depression score ranged from 1 to 28 in the overall sample, as listed in table 6. with the cutoff point > 13 a total of 80 (19.6%) scored above the cutoff point and hence considered to have postpartum depression (see figure 3).

5.6. EPDS (Edinburgh postnatal depression scale) responses among participants

From all the respondents 30(7.4%) reported that they were not able to laugh and see funny side of things. For forty eight (11.1%) of the participants it was so difficult to look forward with enjoyment to things. Most of the time 16(4%) were blaming themselves unnecessarily.44 (10.9%) of the study participants were anxious or worried for no good reason. In addition regarding scaring or panicking for no good reason 16(4%) of the participants reported that they faced it quite a lot .from all the respondents 23(5.7%) stated that they couldn't be able to cope up with things at all. Most of the time for 11 (2.7%) of the study participants it was difficult to sleep and 6(1.5) respondents reported that most of the time they felt sad or miserable. In addition 7(1.7%) were unhappy and have been crying most of the time and only two (0.5%) were had a thought of harming themselves

Table 4. EPDS (Edinburgh postnatal depression scale) responses among postpartum women's, from health centers of four District of Bench Maji Zone, Ethiopia, (N= 407).

Characteristics	**Frequency**	**Percent**
Experienced laugh and see funny side of things		
As much as always I could	177	43.8
Not quite so much now	108	26.7
Definitely not so much now	89	22
Not at all	30	7.4
Look forward with enjoyment to things		
As much as I ever did	158	39.1
Rather less than I used to	144	35.6
Definitely less than I used to	57	14.1
Hardly at all	45	11.1
Blamed yourself unnecessarily		
No never	171	42.3
Not very often	153	37.9
Yes some of the time	64	15.8
Yes most of the time	16	4
Been anxious or worried for no good reason		
No not at all	149	36.9
Hardly ever	130	32.2
Yes sometimes	80	19.8
Yes very often	44	10.9

Felt scared or panic for no good reason		
No not at all	211	52.2
No, not much	113	28
Yes, sometimes	64	15.8
Yes, quite a lot	16	4
Things have been on top of you		
No I have been coping	167	41.3
No most of the time	152	37.6
Yes sometimes I haven't been coping as well as usual	62	15.3
Yes most of the time I haven't been able to cope at all	23	5.7
Difficult to sleep		
No, not at all	174	43.1
Not, very often	157	38.9
Yes sometimes	62	15.3
Yes most of the time	11	2.7
Felt sad or miserable		
No, not at all	191	47.3
Not, very often	151	37.4
Yes, quite often	50	13.9
Yes, most of the time	6	1.5
So unhappy you have been crying		
No, never	213	82.7
Only occasionally	162	40.1
Yes quite often	22	5.4
Yes, most of the time	7	1.7
Thought of harming yourself		
Never	364	90.1
Hardly ever	27	6.7
Sometimes Yes,	11	2.7
quite often	2	0.5

5.7. Factors associated with postpartum depression.

Table 5 presents factors that can potentially affect postpartum depression based on bivariate analysis.

Income, desired sex, planned pregnancy, Mode of delivery, complication during pregnancy, infant illness after birth, difficult of breast feeding, family history, pervious history and social support were significantly associated with postpartum depression.

Mothers who were between 18-19 years were 62% less likely to compare to youngest mothers whose age is between 15-17 years (OR; 038(95% CI: 0.16, 0.91). Women who have low income two times increased odd of postpartum depression compared with that of high income (OR; 2.2(95%CI: 1.28, 3.82).women’s who had desired sex of their baby were 2.3 times to have postpartum depression than those with undesired sex of baby (OR=2.38 95% CI 1, 5.64). unwanted pregnancy three times increased odd to develop postpartum depression than planned pregnancy. Women who had spontaneous vaginal deliveries (OR; 0.37 (95 %CI: 0.20, 0.68) less likely to have postpartum depression. Complication during pregnancy was also 2.4 times at higher risk for postpartum depression than women who didn't have complication during pregnancy. The other variable that was found to have association infant illness after child birth. Women who experience their infant illness 2.3 times increased odd of postpartum depression. Those women with difficult of breast feeding their children 1.6 times to develop depression (OR; 1.68, (95% CI: 1, 2.79). The risk of postpartum depression was two times higher among women who have family history of depression than women who didn't have family history of depression (OR; 2.3, (95% CI: 1, 5.14). Women with previously history depression were 3.4 times to have postpartum depression than those who have not previously depressed (OR =3.4, (95% CI: 1.8, 6.2). In addition women who have low social support were 3.2 times depressed when compared to those who have high social support (OR ;3.2, (95% CI: 1.6, 6.2).

Table 5. Bivariate analysis responses among postpartum women's, from health centers of four District of Bench Maji Zone, Ethiopia, (N= 404).

Variables	Postpartum depression		COR	P-Value
	Yes(%)	No (%)		
Age				
15-17	9(2.22)	15(3.71)	1	
18-19	71(17.57)	309(76.48)	0.38(0.16,0.91)	0.030
Income				
Low	59(14.6)	181(44.80)	2.2(1.28,3.82)	0.004
High	21(5.19)	143(35.39)	1	
Occupation				
House wife	36(8.91)	146(36.13)	1.12(0.46,2.76)	0.79
Maid of servant	14(3.46)	27(6.68)	2.37(0.83,6.71)	0.10
Merchant	3(0.74)	30(7.42)	0.45(0.10,1.93)	0.28
Student	20(4.95)	89(22.02)	1.02(0.39,2.65	0.95
Other	7(1.73)	32(7.92)	1	
Desired sex				
Male	55(13.61)	135(33.41)	2.38(1,5.64)	0.048
Female	18(4.45)	148(36.63)	0.71(0.27,1.82)	
Unspecified	7(1.73)	41(10.14)	1	
Planned pregnancy				
Yes	50(12.37)	117(28.6)	1	
No	30(7.42)	207(51.23)	2.95(1.77,4.89)	< 0.001
Mode of deliver				
SVD	59(14.60)	286(70.79)	0.37(0.20,0.68)	0.001
Cesarean section	21(5.19)	38(9.40)	1	
Complication during pregnancy				
Yes	17(4.20)	21(5.19)	2.4(1.3,4.6)	0.004
No	63(15.59)	303(75.00)	1	
Infant illness after birth				
Yes	19(4.70)	38(9.40)	2.3(1.3,4.3)	0.005
No	61(15.09)	286 (70.79)	1	
Child hospitalization				
Yes	65(16.08)	65(16.08)	1.00(0.53,1.88)	0.98
No	15(3.71)	263(65.09)	1	
Difficult of feeding				
Yes	32(7.92)	92(22.77)	1.68(1,2.79)	0.045
No	48(11.88)	232(57.42)	1	

Family history				
Yes	10(2.47)	19(4.70)	2.3(1,5.14)	0.044
No	70(17.32)	305(75.49)	1	
Previous history of depression				
Yes	21(5.19)	59(14.60)	3.4(1.8,6.2)	< 0.001
No	31(7.67)	293(72.50)	1	
Social support				
High	17(4.20)	140(34.65)	1	
Medium	43(10.64)	146(36.13)	0.81(0.45,1.4)	
Low	20(4.95)	38(9.40)	3.2(1.6,6.2)	< 0.001

SVD Spontaneous vaginal delivery

5.8 Multivariable analysis of factors that determine postpartum depression.

The study showed that respondents who had low household incomes were two times more likely to develop depression during their first year after delivery than those respondents who had high household incomes (AOR; 2.2(95% CI: 1.19 - 4.2). The other statistically significant factors were whether the last pregnancy was planned or nor. A postpartum adolescent woman who did not want the last pregnancy were 2 times more likely to be depressed compared with those postpartum adolescent. Women who wanted the pregnancy (AOR; 2; 95%CI: 1.05, 3.9). The result also showed that women who had spontaneous deliveries were 68 % less likely to develop depressed as compared to those who had cesarean deliveries (AOR;0.32;95%CI:0.14,0.70).

The other variables that were found to have association with postpartum depression were previous history of postpartum depression. Respondents who had previous history of depression were nearly four times more likely to be depressed as compared to who had no history of depression(AOR;3.7(95% CI: 1.7,7.9).

The level of social support was strongly associated with depression during postpartum. Women with low social support 4.7 times more likely to experience depression during postpartum compared with those women who had high levels of social support (AOR; 4.7 (0. 95% CI 2.02, 11.08)

Table 6. Multivariable logistic regression analysis of responses among postpartum women's, from health centers of four District of Bench Maji Zone, Ethiopia, (N= 407).

Variables	Postpartum depression		COR	AOR
	Yes	No		
Age				
15-17	9(2.22)	15(3.71)	1	1
18-19	71(17.57)	309(76.48)	0.38(0.16,0.91)	0.49(0.17,1.41)
Income				
Low	59(14.6)	181(44.80)	2.2(1.28,3.82)	**2.2(1.19,4.2)**
High	21(5.19)	143(35.39)	1	
Desired sex				
Male	55(13.61)	135(0.33)	2.38(1,5.64)	1.8(0.68,4.8)
Female	18(0.04)	148(0.37)	0.71(0.27,1.82)	0.50(0.17,1.48)
Unspecified	7(0.017)	41(0.08)	1	1
Planned pregnancy				
Yes	50(0.12)	117(0.29)	1	1
No	30(0.074)	207(0.51)	2.95(1.77,4.89)	**2 (1.05,3.4)**
Mode of deliver				
SVD	59(0.15)	286(0.75)	0.37(0.20,0.68)	**0.32(0.14,0.70)**
Cesarean section	21(0.05)	38(0.09)	1	1
Complication during pregnancy				
Yes	17(0.42)	21(0.05)	2.4(1.3,4.6)	2.1(0.94,4.7)
No	63(0.16)	303(0.75)	1	1
Infant illness after birth				
Yes	19(0.05)	38(0.09)	2.3(1.3,4.3)	2.1(0.93,4.7)
No	61(0.15)	286 (0.70)	1	1
Difficult of feeding				
Yes	32(0.08)	92(0.23)	1.68(1,2.79)	1.9(0.98,3.77)
No	48(0.12)	232(0.57)	1	1
Family history				
Yes	10(0.03)	19(0.05)	2.3(1,5.14)	1.9(0.64,6)
No	70(0.17)	305(0.75)	1	1
Previous history of depression				
Yes	21(0.05)	59(0.15)	3.4(1.8,6.2)	**3.7(1.7,7.9)**
No	31(0.76)	293(0.73)	1	**1**
Social support				
High	17(0.04)	140(0.34)	1	**1**
Medium	43(0.1)	146(0.36)	0.81(0.45,1.4)	**0.55(0.25,1.2)**
Low	20(0.05)	38(0.09)	3.2(1.6,6.2)	**4.7(2.02,11.08)**

SVD spontanous vaginal deliver

6. DISCUSSION

This study was conducted to assess the prevalence and associated factors of postpartum depression among postnatal adolescent women who gave birth in different health centers in Bench Maji Zone, Ethiopia. The study found that income, unplanned pregnancy, Mode of delivery, pervious history of depression, low social support had significant association with postpartum depression.

The study showed that postpartum depression among adolescent mothers (19.6%) which is consistent with a study conducted in South Africa (19). On the other hand this figure was higher when compared to other studies done in Zimbabwe (37), Kenya and Canada(8). The variations among studies for the prevalence of postpartum depression may be due to cultural differences, assessment period and economic status determined in different studies may cause variations in prevalence values.

This study found that postpartum depression was significantly higher among low income than those who were high income. This result is consistent with the study conducted in South Africa (19) and Addis Ababa Ethiopia(28). This may partly be attributed to the increased amount of stress placed on a mother due to the availability of limited financial means necessary for raising an infant.

This study also identified an unplanned pregnancy or unwanted pregnancy as another risk factor of PPD. Adolescent Women who did not plan their pregnancy was two times more likely to experience PPD when compared with women who did plan their pregnancy. This finding is supported by cross sectional study done in Tigray (7) and Uganda (9). This might be explained as inadequate preparation for pregnancy, childbirth, and nursing, leading to mothers to feel anxious, helpless and have less (or no) ability to cope with all the changes and challenges babies bring Such as financial demands. On the contrary to our study a cross sectional study which were conducted in Canada unplanned pregnancy was not factor for postpartum depression. The difference might be due to economical variation between Ethiopian and Canada society.

Women who had spontaneous vaginal deliveries were 68 % times less likely to have depression compared to those women who had cesarean deliveries.

This in line with research from Iran (35). Some factors could be responsible for this finding. One of them is some women feel ill assisted by the health group, and some that might be during labor they feared the baby's death.

Women, who were previously diagnosed with PPD, were statistical significant risk factor for having postpartum depression. Women who have previously depressed were 3.7 times more likely to have postpartum depression than women who had not previously diagnosed with depression. This is in line with study done Canada(8) revealed that postpartum depression was related with the personal history of mental health problem this finding was again supported by another study which was conducted on postpartum women in south west, Ethiopia(6). Stressful moment of pregnancy and delivery could be the reason for relapse of depression among women who had previously diagnosed with PPD.

Low social support had significantly associated with a women having postpartum depression. Women who had low social support were 4.7 times more likely to have postpartum depression than women who had high social support. This finding is supported by cross sectional study in Canada (8) where postpartum depression significant association with in teen mothers with low social support. Another cross sectional study Iran reported that in mothers with higher levels of social support the risk of developing PPD would be less(36).

The potential explanation for this observation is being incorporated into social networks and receiving high levels of social support are important for mental health and well-being. Mothers with high social support tend to have the ability to use effective coping strategies to handle PPD. The most common support providers for pregnant teens were their mothers and their partners. Teen mothers with high stress and low social support during their postpartum period were at significant risk for depression.

7. LIMITATION AND STRENGTH OF THE STUDY

7.1 Strength

- A high response rate of respondent

7.2. Limitation

- The study was MCH clinic as our setting; the findings from this study might not be generalizable to the community
- Using a cross-sectional study design which hinders the researcher from establishing cause and effect relationship between the possible determinant of postpartum depression and the outcome of interest.
- Selection bias

8. CONCLUSION AND RECOMMENDATIONS

8.1 Conclusion

In this study the prevalence of postpartum depression was 19.6% among adolescent women. Furthermore, income, mode of delivery, unplanned pregnancy, previous history of depression and social support were found to be independent predictors for the development of postpartum depression among adolescent women.

8.2. Recommendations

The following recommendations are forwarded based on the finding of our study which provides an opportunity for prevention, early diagnosis, and management of postpartum depression.

- **Health care providers**; It's of great importance that healthcare professionals become aware of PPD and provide proper counseling and emotional support for those postpartum adolescent mothers especially mothers who had previous history of depression and unwanted pregnancy, promote utilization of family planning to reduce unwanted pregnancy and also routine screening for PPD in primary health care setting in order to get timely and appropriate management.
- **Communities**: support the postpartum adolescent mothers emotionally during the postpartum period.

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ANNEXES

Annex I: Information sheet

Research Title: The assessment postpartum depression and its associated factor among adolescent mothers in Bench Maji Zone. Cross sectional study.

Name of principal investigator: Biruktawit Solomon

Introduction: This information sheet and consent form will be prepared for Bench Maji Zone health facilities. The aim of the form will be to make the institution clear about the purpose of the research, data collection procedures and finally to get permission to conduct the research.

Purpose of the research project: Primarily, the result of the study will be submitted to Addis Ababa University School of Public Health for the requirements to get Masters of Public Health in Reproductive and Family Health.

Due to the fact that there are few studies conducted on the area of Postpartum depression in Ethiopia, Globally depression is the major cause of disease burden for women and the World Health Organization's encourage research as main strategy to reduce burden. Thus, the finding of this study will contribute its part in filing the information and knowledge gap regarding postpartum depression among adolescent.

Procedure: I am going to ask you some questions that are not difficult to answer. Participant name will not be written in this format and never be used in connection with any of the information they are going to tell me. Participant are not obliged to answer any question that they do not want to answer and they may quit the interview at any time they want to and do not affect the service that they want to get from the facilities.

Benefits: There will be no incentive or direct benefit to the study participant. Adolescent Women with Postpartum Depression will be counseled and will be linked to the nearest health facility for further closer follow up.

Risk/ discomfort: There will be no risk at all on study participant except consuming their time.

Right of the participants: participation is voluntary base and they are not obligated to answer any question they do not wish to answer. This interview will take about 15-20 minutes. If participant feel discomfort with the interview, they drop it any time they want.

ANNEX II PARTICPANTINFORMATION SHEET

Good Morning/ Good afternoon my name is ___________ I am working as data collector in a study conducted by Biruktawit Solomon, a postgraduate student at Addis Ababa University, College of Health Sciences, School of Public Health, reproductive and family health department. She is conducting research on postpartum depression and its associated factors among adolescent mothers in Bench Maji Zone in selected health facility. She has got permission to do this research from Addis Ababa University, SPH research ethics Committee and Bench Maji Zone Health Bureau as well as management bodies of the health sectors. If you are willing to participate, the interview will last no more than 20 minutes and your participation is voluntary. You can stop the participation, ask questions and skip questions at any time you want. Your participation in the study will not have any risk on you, other than your time. There will no financial benefits for you in participating in this research project. However, the information you provide will be very helpful for prevention of the depression in the future. The information you provided will be kept confidential and your name will not be revealed in the study. The collected data will not be used for other purposes other than the study.

Informed Consent

Informed consent I have read this form or it has been read to me in the language I understand all conditions stated above. Therefore**,**

1. I agree to participate 2. I do not agree to participate

Name of PI: Biruktawit Solomon Address: tell 0912460777

Email: birektisolomon@gmail.com

Signature---------------------

Date of interview-----------------------time started----------------------time completed----------------

Result of interview:

1. Complete 2. Respondent not available 3.Refused 4. Partially completed

1. Other___________________________

Checked by: Supervisor name ------------------signature-------------------date---------------------
-

ANNEX III: QUESTIONNAIRE FORM; ENGLISH VERSION

Questions related to Magnitude postpartum depression and its associated factors among adolescent women.

Date ___________________ Questioner code 001

Part 1 socio-demographic characteristics

Date of interview		____/_____/____________	
Phone number		_______________________	
Name of Data collector		_______________________	
	Part 1. Socio demographic characteristics		
101.	What is your age in completed years?	_____________ years 99= don't Know	
102	What is your marital status currently?	1.married 2. single 3. Widowed 4. Divorced	
103	Religion	1.Ortodox 2. Muslim 3. Protestant 4. Catholic 5. Other specify ________________	
104	Ethnicity	1. Bench 2. Amhara	

		3.Oromo 4. Kaffa 5.Gurage 6.Others _____________	
105	Have you ever attended school?	1.yes 2. No	
106	What is the highest level of school you attended?	1. Primary 2. Secondary 3.Technical/vocational 4. Higher	
107	What is your current Occupational status	1.Housewife 2.Maid servant 3.Civil servant 4.Merchant 5.Student 6. Other specify--------	
108	Has your husband ever attended school?	1.yes 2. No	
109	What is the highest level of schooling your husband attended?	1. Primary 2. Secondary 3.Technical/vocational 4. Higher	
110	What is your husband's occupation?	1.Farmer 2.Student 3.Civil servant 4. Merchant 5. Other specify	
111	What is the approximate monthly household income from all the sources?	———————birr	
112	Difficult to manage within income?	1.yes 2.No	

113	Sex of your baby	1.Male 2.Female	
114	Desired sex for the last baby?	1.Male 2.Female 3.Unspecified	

PART 2: OBSTETRICS FACTORS

201	Do you have children?	1.Yes 2. No	**If no to question no 201, skip to q 202**
202	How many children do you have?	---------	
204	When you got pregnant, did you want to get pregnant at that time?	1. Yes 2. NO	
205	Did you experience any complications during your last pregnancy?	1.Yes 2. No	If no to question no 205, skip to q 206
206	If your response is yes for Q207, What type of complication did you encountered?	1.Bleeding 2.Hypertension 3.malaria infection 4.others	
207	Where did you give your last birth?	**PUBLIC SECTOR** 1.government hospital 2.government health station/center 3.government health post 4. other public sector **NGO**	

		5.health facility 6.other NGO health facility **PRIVATE MEDICAL SECTOR** 7. private hospital 8.private clinic 9. OTHER PRIVATE MEDICAL SECTOR--------------------	
208	Who assisted with the delivery?	**HEALTH PERSONNEL** **1.**doctor **2.**nurse 3.midwife 4.health officer 5.health extension worker **other person** 6. traditional birth attendant 7.other	
209	What was the mode of your last delivery?	1.spontanoaus vaginal 2.cesserian section 3.others(specify)	
210	Did you experience any complication after childbirth?	1. Yes 2. No	
211	Did you experience any abortion previously?	1.yes 2.no	

212	If yes, how many times?	1. once 2. twice and above	
213	What did you start to feed your infant immediately after birth?	1.Breast feeding 2.Bottle feeding 3.Other (specify------------	
214	Did you experience difficulty to feed your baby?	1.yes 2.no	
215	Infant illness at any time after birth?	1.yes 2.no	

PART 3 QUESTIONS ON PREVIOUS PSYCHIATRIC HISTORIES

No	Questions	Coding category	Skip
301	Family history of mental illness?	1. Yes 2. No	
302	Previous history of depression?	1. Yes 2. No	

PART 4 QUESTIONS ON SOCIAL SUPPORT

MATERNITY SOCIAL SUPPORT SCALE (MSSS)

For each of the following statements, please *tick one box* which shows how you feel about the Support you have right now.

	Always	Most of the time	Some of the time	Rarely	Never
A. I have good friends who support me	☐	☐	☐	☐	☐
B. My family is always there for me	☐	☐	☐	☐	☐
C. My husband helps me a lot	☐	☐	☐	☐	☐
D. There is conflict with my husband	☐	☐	☐	☐	☐
E. I feel controlled by my Husband	☐	☐	☐	☐	☐
F. I feel loved by my husband	☐	☐	☐	☐	☐

PART 5 Edinburgh Postnatal Depression Scale (EPDS) In the past 7 days

No	Questions	Coding category	Skip
501	In the past seven days have you ever experienced laugh and see the funny side of things?	1. As much as I always could——1 2. Not quite so much now———2 3. Definitely not so much now—3 4. Not at all————————4	
502	In the past seven days have you ever looked forward with enjoyment to things?	1. As much as I ever did———1 2. Rather less than I used to——2 3. Definitely less than I used to–3 4. Hardly at all——————4	
503	In the past seven days have you blamed yourself unnecessarily when things went wrong?	1. Yes, most of the time———1 2. Yes, some of the time———2 3. Not very often————3 4. No, never—————— 4	
504	In the past seven days have you ever been anxious or worried for no good reason?	1. No, not at all—————1 2. Hardly ever——————2 3. Yes, sometimes—————3 4. Yes, very often————4	
505	In the past seven days have you felt scared or panicky for no very good reason?	1. Yes, quite a lot————1 2. Yes, sometimes————2 3. No, not much—————3 4. No, not at all—————4	
506	In the past seven days things have been getting on top of you?	1. Yes, most of the time I haven't been able to cope at all——-1 2. Yes, sometimes I haven't been coping as well as usual ——2 3. No, most of the time I have coped quite well ————3 4. No, I have been coping as well	

		as ever______________4	
507	In the past seven days have you been so unhappy that you have had difficulty sleeping?	1. Yes, most of the time———1 2. Yes, sometimes ————2 3. Not very often ————3 4. No, not at all——————4	
508	In the past seven days have you felt sad or miserable?	1. Yes, most of the time———1 2. Yes, quite often————2 3. Not very often—————3 4. No, not at all——————4	
509	In the past seven days have you been so unhappy that you have been crying?	1. Yes, most of the time———1 2. Yes, quite often————2 3. Only occasionally———3 4. No, never———————4	
510	In the past seven days did you have the thought of harming yourself?	1. Yes, quite often————1 2. Sometimes —————2 3. Hardly ever——————3 4.4.Never————————-4	

ANNEX IV: AMHARIC QUESTIONNAIRE

የቃለ መጠይቅ ፈቃደኝነት መጠየቂያ

በአዲስ አበባ ዩኒቨርስቲ ጤና ሳይንስ ኮሌጅ የማህረሰብ ጤና አጠባበቅ፤

ከወሉዴ በኋሊ ክትትል የሚያደርጉ እናቶች ሊይ ከድህረወሉዴ ጋር ተያይዞ የሚመጡ የድብርት ስሜቶች ምልክቶች ለማወቅ አሁን በክትባት ክትትል እያደረጉ ያሉ እናቶችን በጤና ተቋማት ላይ የሚደረግ ቃለ መጠይቅ የተሳታፊዎች መጠየቂያ ቅፅ።

የመረጃ ቅጽ

እንደምን አደሩ/ዋሉ፤ስሜ ………………እባላለሁ፤ የመጣሁት በዚህ የጤና ተቋም ብሩክታዊት ሰለሞን የተባሉት በአዲስ አበባ ዩኒቨርሲቲ፣ ጤና ሳይንስ ኮሌጅ፣የህብረተሰብ ጤና ትምህርት ቤት፣ የስነ ተዋልዶ ጤና የድህረ ምረቃ ተማሪ፤ ለሁለተኛ ድግሪ መመረቂያ በሚሰሩት ጥናትዊ ፅሁፍ መረጃ ለመሰብሰብ ነዉ። ጥናቱ የሚካሄደዉ በዚህ ጤና ተቋም ውስጥ ከወለዱ ከስድስተኛው እስከ ዘጠነኛው ወር በኋላ ለክትባት የመጡ እናቶችን የድብርት ስሜቶች ምልክቶች ለማወቅ ይረዳል ። ይህን መረጃ ለመሰብሰብ ከአዲስ አበባ ዩኒቨርሲቲ የህብረተሰብ ጤና ትምህርት ቤት፣ የጥናትና ምርምር ስነ ምግባር ኮሚቴ እና ከቤንች ማጅ ጤና ቢሮ፤ እንዲሁም ከጤና ተቋማትው ሃላፊዎች ፈቃድ አግኝተዋለች። ለመሳትፍ ፈቃደኛ ከሆኑ ከ20 ደቂቃ ያልበለጠ ጊዜ እጠይቀዎታለሁ። በዚህ ጥናት ላይ መሳተፍ፣ በፍቃደኝነት ላይ የተመሰረተ ስለሆነ፤ ስጠይቅዎት በመሃል ጥያቄ መጠየቅ፤ጥያቄ መዝለል፤ብሎም ማስቆም ይችላሉ። የእርስዎ ጥናቱ ላይ መሳተፍ አሁን ለግልዎ የገንዘብ ጥቅም ባይኖረውም፤ የሚሰጡት መረጃ ግን ወደፊት በእርግዝና እና ከወሉዴ በኋሊ የሚከሰት የዴብርት ስሜቶች ለመከላከል ትልቅ ጥቅም ይኖረዋል። እርስዎ በጥናቱ ላይ ስለተሳተፉ ከጊዜዎት በስተቀር የሚደርስብዎት ምንም ችግር የለም። የሚሰጡት መረጃ ለጥናቱ ብቻ የሚዉል ሲሆን፤ ሚስጥራዊነቱንም ለመጠበቅ ስምዎት ጥናቱ ላይ አይገለፅም።

ይሄንን ፎርም አንብቤዋለሁ / በማውቀው ቋንቋዋ ትነበልኛል፤ በመሆኑም የጥናቱን ሁኔታ ተረዴቻለሁ።

ሰለዚህ

1. ተሰማምቻለሁ 2. አልተስማማሁም

ዋና አጥኚ: ብሩክታዊት ሰለሞን

አዴራሻ: ስሌክ 0912460777

ኢሜሌ: birektisolomon@gmail.com

ፊረማ----------------------

ቃለ መጠይቁ የተደረገበት ቀን------------------------

የቃለ መጠይቁ ውጤት:

2. የተሙዋሊ 2. ተሳታፊው አልተገኘም 3. አልተስማማችም 4. በከፊሌ የተሙዋላ

የሱፐርቫየዘር ስም-------------------

ፊረማ --------------------- ቀን ---------------------------

ካልተስማማች ያልተስማማችበትን ምክንያት በመጻፍ ወይ ቀጣይዋ እለፍ/ፊ

ክፍል1 ማህበራዊና የሓላ ታሪክ ባህሪ ላይ የሚያጠነጥኑ ጥያቄዎች

ቃለ መጠይቅ የተካሄደበት ቀን ______/________/________________			
ስልክ ቁጥር ________________			
የጠያቂው ስም ________________			
101	እድሜሽ ስንት ነው (በአመት)	____________ አመት 99.አላዉቅም	
102	የጋብቻ ሁኔታ	1. ያገባች 2. ያላገባች 3. የሞተባት 4. የተፋታች	
103.	ሀይማኖት	1. ኦርቶዶክስ 2. ሙስሊም 3. ፕሮቴስታንት 4. ካቶሊክ 5. ሌላ ካለ ይጥቀሱ __________	
104.	ብሄር	1. ቤንች 2. አማራ 3. ኦሮሞ 4. ካፋ 5. ጉራጌ 6. ሌላካለይጥቀሱ________________	
105.	መደበኛ ትምህርት ተምረው ያውቃለ?	1. አውቃለሁ 2. አላውቅም	
106	ያጠናቀቁት ከፍተኛ የትምህርት ደረጃ?	1. የመጀመሪያ ደረጃ ትምህርት (1-8) 2. ሁለተኛ ደረጃ ትምህርት (9-12) 3. የቴክኒክና ሙያ ስልጠና 4. ዱፕሎማ 5. የመጀመሪያ ዱግሪና ከዛ በላይ______	
107	በአሁን ወቅት ስራው ምንድነው	1. የቤት እመቤት	

		2. የቤት ሰራተኛ 3. የመንግስት ሰራተኛ 4. ነጋዴ 5. ተማሪ 6. ሌላ ካለ ይጥቀሱ ________________	
108.	ባለቤቶዎ ተምሯል	1. አዎ 2. አይደለም	
109.	ባለቤቶዎ የትምህርት ደረጃ	1. የመጀመሪያ ደረጃ ትምህርት (1-8) 2. ሁለተኛ ደረጃ ትምህርት (9-12) 3. የቴክኒክና ሙያ ስልጠና 4. ዱፕሎማ 5. የመጀመሪያ ዱግሪና ከዛ በላይ———	
110.	የባለቤትሽ የስራ ዘርፍ	1. አርሶ አደር 2. ተማሪ 3. የመንግስት ሰራተኛ 4. ነጋዴ 5. ሌላ ካለ ይጥቀሱ ________________	
111.	የቤተሰቡ የወር ገቢ (በብር)	________________ብር	
112	ያሎት የገቢ መጠን ቤቶን ለመምራት አስችግሮታል?	1. አዎ 2. አይደለም	
113.	የልጁ /የልጅቷ ጾታ	1. ወንድ 2. ሴት	
114.	የልጅዎት ፆታ ምን እንዲሆን ይፈልጉ ነበር?	1. ወንድ 2. ሴት	

ክፍል 2 የወሊድ ሁኔታ ላይ የሚያጠነጥን መጠይቆች

201	ልጆች አሉሽ	**1.አዎ** **2. አይደለም**	
202	ስንት ልጆች አሉሽ	________________-	
204	የመጨረሻ ጊዜ እርግዝናውን አቅደው ነው ያረገዙት?	1.አዎ	

		2. አይደለም	
205	በመጨረሻ ርግዝና ወቅት ችግር አጋጥሞሽ ያዉቃል	1.አዎ 2. አይደለም	**2 እለፊ** **206**
206	የገጠመሽ ችግር ምን ነበር	1. የደም መፍሰስ 2. የደም ግፊት 3. የምጥ መዘገየት 4 .ሌላ ካለ ይጥቀሱ	
207	የመጨረሻ ጊዜ ልጆውን የወለደት የት ነበር?	**የመንግስት ተቋም** 1. የመንግስት ቤት ውስጥ 2. የመንግስት ጤና ጣቢያ 3. የመንግስት ጤና ኬላ 4. ሌላ የመንግስት ተቋም መንግ**ስትዊ ያልሆነ ድርጅት** 5. የጤና ተቋም 6. ሌላ መንግስትዊ ያልሆነ ተቋም የግል የጤና ተቋም 7. የግል ሆስፒታል 8. የግል ክሊኒክ 9. ሌላ የግል የጤና ተቋም	
208	ስትወልጅ ማን ነበር የረዳሽ?	**የጤና ባለሞያ** 1. ዶክተር 2. ነርስ 3. አዋላጅ ነርስ 4. የጤና መኮንን 5. የጤና ኤክስቴንሽ **ሌላ ሰው**	

		6. የልምድ አዋላጅ 7. ሌላ	
209	የመጨረሻ ጊዜ ልጀውን የወለደት እንዴት ነበር?	1. በመሃፀን 2. በኦፕሬሽን 3. ሌላ ካለ ይጥቀሱ)-----------	
210	ከዚህ ቀደም በነበረው ከወለድሽ በሀላ ችግር አጋጥሞሽ ያዉቃል	1. አዎ 2. አይደለም	
211	ከዚህ ቀደም ውርጃ አጋጥሞሽ ያውቃል?	1. .አዎ 2. አይደለም	
212	ውርጃ አጋጥሞሽ የሚያውቅ ከሆነ ለስንት ጊዜ?	1. አንዴ 2. ሁለቴ እና ከዚያ በላይ	
213	ከወለድሽ በሀላ ወዲያውኑ ጨቅላውን ምን መመገብ ጀመርሽ?	1. ጡት ማትባት 2. ጡጦ 3. ሌላ ካለ ይጥቀሱ)-----------	
214	ከዚህ ቀደም ልጅሽን ለመመገብ ተቸግረሽ ነበር?	1. አዎ 2. አይደለም	
215	ህጻኑ ከተወለደ በሃላ ያጋጠመው ህመም ነበር?	1. አዎ 2. አይደለም	

ክፍል 3 የቀድሞ የግልና የቤተሰብ የስነ አምሮ ጤና ሁኔታ

ተ.ቁ	**ጥያቄ**	**መለያ ቁጥር**	
301	በቤተሰቦ ውስጥ የአምሮ በሽታ ያጋጠመው ሰው ነበር?	**1.** አዎ **2.** አይደለም	
302	ከዚህ ቀደም የአምሮ በሽታ አጋጥሞት ያውቃል?	**1.** አዎ **2.** አይደለም	

ክፍል 4 የማሃበረሰብ እገዛ ላይ የሚያጠነጥኑ መጠይቆች

የማህበረሰብ ድጋፍን በተመለከተ የቀረበ መጠይቆች የእናቶች የማህበረሰብ ድጋፍ መለኪያ

ከዚህ በታች ለተዘረዘሩት መጠይቆች እገዛ በተመለከተ ያለ አስተያየት በመረጥውት በአንዱ ሳጥን ላይ ጭረት በማድረገ ያመለክታሉ

	ሁልጊዜ ጊዜ	አብዛኛውን ጊዜ	አንዳንድ	አልፎ አልፎ	በጭራሽ
ሀ/ የሚረዱኝ ጥሩ ጓገኞች አሉኝ	☐	☐	☐	☐	☐
ለ/ ቤተሰቦቼ ሁሌም እኔን ለመርዳት አጠገቤ ናቸው	☐	☐	☐	☐	☐
ሐ/ የትዳር አጋሬ ከሚገባው በላይ ይረዳኛል	☐	☐	☐	☐	☐
መ/ ከትዳር አጋሬ ጋር እንጋጫለን	☐	☐	☐	☐	☐
ሠ/ በትዳር አጋሬ ቁጥጥር ስር እንዳለሁ ይሰማኛል	☐	☐	☐	☐	☐
ረ/ የትዳር አጋሬ እንደሚያፈቅረኝ ይሰማኛል	☐	☐	☐	☐	☐

ክፍል 5 የአማርኛ ትርጉም ለ EPDS

ተ.ቁ	ጥያቄ	መለያ ቁጥር	እለፍ/ፊ
501	ባለፉት ሰባት ቀናቶች ውስጥ መሳቅና የነገሮችን አስደሳች ጎን ማይት ችለዋል?	ሀ. ሁሌ የምችለውን ያህል————1 ለ. አሁን በጣም ብዙም አይደለም——2 ሐ. በእርግጥ አሁን ብዙም አይደለም—3 መ. በጭራሽ አይደለም————4	
502	ባለፉት ሰባት ቀናቶች ውስጥ ነገሮቸችን ወደፊት በደስታ ያዩ ነበር?	ሀ. አዎ ሁሌም እንደማደርገው————1 ለ. በፊት ከማደርገው ያነሰ————2 ሐ. በእርግጥ በፊት ከማደርገው ያነሰ—3 መ. በአጠቃላይ ከባድ ነው————4	
503	ባለፉት ሰባት ቀናቶች ውስጥ ነገሮች ወደ አላስፈላጊ ሁኔታ ሲያመሩ ያለምክንያት እራስዎን ወቅሰዋል ?	ሀ. አዎ ብዙውን ————1 ለ. አዎ አንዳንዴ————2 ሐ. ብዙ ጊዜ አይደለም————3 መ. አይደለም መቼም ሆኖ አያውቅም–4	
504	ባለፉት ሰባት ቀናቶች ውስጥ ያለምንም በቂ ምክንያት ተሸብረው ወይም ተጨንቀው ያውቃሉ?	ሀ. አይደለም መቼም ሆኖ አያውቅም—1 ለ. እምብዛም————2 ሐ. አዎ አንዳንዴ————3 መ. አዎ በጣም ብዙ ጊዜ————4	
505	ባለፈት ሰባት ቀናቶች ውስጥ ያለምንም በቂ ምክንያት የፍርሀትና የድንጋጤ ስሜት ተሰምቶት ያውቃል?	ሀ. አዎ በጣም ብዙ ጊዜ————1 ለ. አዎ አንዳንዴ————2 ሐ. አይደለም ብዙ ጊዜ አይሰማኝም—3 መ. አይደለም በጭራሽ አይሰማኝም—4	
506		ሀ. አዎ ብዙ ጊዜ ነገሮችን በአጠቃላይ መቋቋም አልችልም————1 ለ. አዎ ልክ እንደ ብዙ ጊዜ አንንድ	

	ባለፉት ሰባት ቀናቶች ውስጥ ነገሮች ከቁጥጥርዎ ውጬ ሆነውቦት ያውቃሉ?	ነገሮችን መቋቋም አልችልም———2 ሐ. አይደለም ብዙ ጊዜ በጥሩ ሁኔታ ነገሮችን እቋቋማለሁ————3 መ. አይደለም ልክ እንደበፊቱ በጥሩ ሁኔታ ነገሮችን እቋቋማለሁ———4	
507	ባለፉት ሰባት ቀናቶች ውስጥ በጣም ደስተኛ ባለመሆንዎ እንቅልፍ እምቢ ብልዎት ያውቃል ?	ሀ. አዎ በጣም ብዙውን ጊዜ———1 ለ. አዎ ብዙውን ጊዜ————2 ሐ. በጣም ብዙ ጊዜ አይደለም———3 መ. በጭራሽ አይደለም————4	
508	ባለፉት ሰባት ቀናቶች ውስጥ የሀዘንና የብስጭት ስሜት ተሰምቶት ያውቃል?	ሀ. አዎ በጣም ብዙውን ጊዜ———1 ለ. ኦዎ ብዙውን ጊዜ————2 ሐ. በጣም ብዙ ጊዜ አይደለም———3 መ. በጭራሽ አይደለም————4	
509	ባለፉት ሰባት ቀናቶች ውስጥ በጣም ከማዘንዎት የተነሳ አልቅሰው ያውቃሉ?	ሀ. አዎ አብዛኛውን ጊዜ————1 ለ. አዎ ብዙ ጊዜ—————2 ሐ. አልፎ አልፎ ብቻ————3 መ. መቼም አይደለም————4	
510	ባለፉት ሰባት ቀናቶች ውስጥ እራስዎን ለመጉዳት አስበው ያውቃሉ?	ሀ. በጣም ብዙ ጊዜ————1 ለ. አንዳንዴ—————2 ሐ. እምብዛም—————3 መ. በጭራሽ መቼም————4	