

ASSESSMENT OF PREVALENCE AND ASSOCIATED FACTORS OF POSTPARTUM DEPRESSION AMONG POSTPARTUM MOTHERS IN EASTERN ZONE OF TIGRAY

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ABSTRACT

Background: postpartum depression is a clinical condition, in which women experience depressed mood, excessive anxiety, insomnia, and change in weight during the postpartum period. It affects up to 30 % of mothers who gave birth, which result in raised load of care givers, inability of mothers to care their child, incapability of children to learn new things and has an effect on over all development of a country. This study therefore is intended to determine the prevalence of postpartum depression and identifying its associated factors among mothers who gave birth in Eastern Zone of Tigray. **Method:** Sample size is 633 mothers. The study was done by using a multistage sampling technique. **Result:** Out of 633 mothers 616 were involved in the study of which 117(19%) were experienced postpartum depression. Fear of birth 3.689 (2.351, 5.790), the appearance of depressive like symptom in the first two weeks 2.728(1.737, 4.284) and having previous history of depression 5.94(2.944, 11.963) were found to be significantly associated with post partum depression. **Conclusion:** The current study point out that significant proportion of mothers (19%) who gave birth in eastern Tigray demonstrated depression during post partum period. Relatively, this indicates how high the prevalence of postpartum depression is. Being in fear of bearing a child, demonstrating depression like symptoms during the first two weeks of postpartum period and having previous history of depression are found to be strongly associated with post partum depression.

KEYWORDS: Prevalence, Postpartum, Depression.**INTRODUCTION**

About 14% of the worldwide burden of disease has been attributed to neuropsychiatric disorders, including those disorders that can occur during post partum period. Such estimates have drawn attention to the importance of mental disorders for public health^[1].

The postpartum period represents one of the most important life stages in which the proper revealing and treatment of psychological distress is indispensable. Including postpartum depression, the transition to new motherhood has been associated with emotional distress in up to 30% of women^[2, 3].

The incidence of depression during postpartum period, 4 to 6 weeks following delivery is known as postpartum depression, which characterized by a depressed mood, excessive anxiety, insomnia, and change in weight.

The cause of postpartum depression remains obscured, but several factors, including psychology-cal, biological, and social, are implicated. Among psychosocial risk factors, recent negative life events, lack of social support, and a history of depression have been strongly associated with postpartum depression^[4, 5]. Women who experienced depression during pregnancy were found to

have a five times higher risk of developing postpartum depression and women with anxiety during pregnancy were found to have a three times higher risk.^[6]

Maternal depressive disorders are the most significant source of impairment worldwide, predominantly among women in low-income countries^[7-9]. Of 4 million births that occur in the world annually, approximately 40 percent of new mothers are affected with different types of postpartum mood disorders including depression symptoms before and during pregnancy^[10]. Its societal load of extends beyond women to the next generation by raising the risk of problems related to growth and development among infants of depressed mothers. Infants are particularly vulnerable because they are completely dependent on their caregivers, and their nutritional demands are high to support their rapid growth and development.

Because of the peculiar nature of the disorder, the mother can't be paying due attention any more to support and to stimulate the infant. This will hinder infants' capability to acquire Variety of skills, which will foster their overall maturity. As a result, they can develop intellectual deficit that can affect largely development of a country

adversely. On the mothers side, it can enhance chronic disability including suicidal risk^[11,12].

Despite the fact that maternal mental health, particularly, postpartum depression is the health problem of the mothers, the studies which focuses on the area, in the developing country, including our country, Ethiopia are scare. So, this study is aimed to determine the prevalence and associated factors of postpartum depression among postpartum mothers in Eastern Zone of Tigray.

In order to address maternal mental health, which is greatly neglected part of maternal health it is mandatory to have evidence based data, which can tell us how the magnitude of the problem in our country, particularly in our locality is. So, this study is intended to fill the gaps that are observed in that perspective. Up on the completion, this study will serve policy maker, program planners and implementer for the success full accomplishment of maternal mental health problem prevention programs and integration of mental health service into health care delivery system. And also, it can be useful for the one who was interested to conduct further study on the topic.

METHODS

Study design

Community based cross-sectional study design was employed.

Population

Study population

The study populations are those mothers who gave birth two weeks prior to study period in the selected kebeles of respective Weredas'.

Inclusion & exclusion criteria

Inclusion criteria:

-All mothers who gave birth 2 weeks prior to interview and who are voluntary to be involved. **Exclusion**

criteria:

-Those mothers who are unable to respond due to different health problems and don't have a care giver who can be interviewed.

Sample size determination and sampling technique

Sample size is 633 mothers, who gave birth.

Sampling technique

The study was done by using a multistage sampling technique.

Measurements and variables

The Edinburgh postnatal depression scale: The EPDS is a 10-item self-report scale based on a 1-week recall, and is specifically designed to screen for postpartum depression in the community (38). The EPDS is a 10-item self-rating questionnaire developed to screen for depression in the postpartum period. It asks about symptoms present during the last 7 days. Each question

has 4 alternative answers, scored 0–3, giving a maximum score of 30. Item 7 on the scale asks whether the woman has been “so unhappy that I have had difficulty sleeping.” It is a well-validated and the most widely used screening measure of postpartum depression among women (38). In Ethiopia, the Amharic version of the EPDS has been validated as a screening tool to detect postnatal depression in Addis Ababa, and found to have a sensitivity of 78.9% and a specificity of 75.3%, at a cut-off score of 6/7 (39). For our study, a cut-off point ≥ 8 of EPDS was used to diagnose postpartum depression.

Variables

Dependent variable

Post partum depression

Independent variable

- A. Demographic factors: age, educational status and economical status
- B. Pregnancy and labor related factors: Cesarean section, Perinatal complication, Multiparty Unplanned pregnancy
- C. Early experience of breast feeding
- D. Social support
- E. Infant sex

Data collection and quality management

Data quality control

Eight data collectors were trained for one day on the details of the Questionnaire, purpose of the study, importance of privacy, and insuring confidentiality of the respondents. The questionnaire was prepared in Tigrigna then was translated back to English to see the consistency. After data collection started, daily close supervision was made. At the end of every data collection, the questionnaire was reviewed and checked for, accuracy and consistency by data collectors and supervisor to take immediate corrective measures.

Pre-test of the tool

Pre-testing was undertaken on 5% of the sample in Adigrat town. Principal investigator and supervisor assessed clarity, understandability, flow and completeness of questions and the time needed to fill them. This was useful in correcting systematic errors, ensuring consistency in flow of questions, and estimating time.

DATA COLLECTION

Data was collected with the help of EPDS which is standardized and structured interviewed questionnaire at second and six weeks of postpartum period.

Data Processing and Analysis

Data was entered using Epi-data version 3.1 programs. And it was exported to statistical analysis system program (SPSS) version 16. Descriptive analysis was made to assess inconsistencies, outliers and missing values and data is presented by tables. A variable with p

values below 0.25 in the bivariate analysis is considered as candidate variable for multivariate logistic regression. In the final model, variables having p -value <0.05 was considered as independently associated factors. Binary logistic regression analysis was used for both bivariate and multivariate analysis. Strength of association of the variable is described using odds ratio and 95% confidence level.

RESULT

Socio demographic factors

Out of 633 mothers 616 were involved in the study, which gives response rate of 97.3%. Among these partakers, the majority 185(30.5%) were reside in the age group of 25-29 years. pertaining to their religion, preponderance 574(93.2%) were orthodox followers. Hundred (16.2%) mothers and 345(56%) of their husbands were employed.

Table1:- Shows socio demographic distribution of labouring mothers Eastern Tigray, Ethiopia, 2015.

| Variables | Frequency | Percent (%) | |
|---------------------------|--------------------------|-------------|-------|
| Age | 15-19 | 38 | 6.3 |
| | 20-24 | 130 | 21.5 |
| | 25-29 | 185 | 30.5 |
| | 30-34 | 123 | 20.3 |
| | 35-50 | 130 | 21.5 |
| | Total | 606 | 100 |
| Level of education | unable to read and write | 178 | 29.0 |
| | 1-4 | 108 | 17.6 |
| | 5-8 | 131 | 21.3 |
| | 9-10 | 151 | 24.6 |
| | diploma | 19 | 3.1 |
| | >=degree | 27 | 4.4 |
| | total | 614 | 100% |
| Religion | orthodox | 574 | 93.2 |
| | muslim | 39 | 6.3 |
| | protestant | 2 | .3 |
| | catholic | 1 | .2 |
| | total | 616 | 100.0 |
| Employment | yes | 100 | 16.2 |
| | no | 516 | 83.8 |
| | total | 616 | 100.0 |
| Fathers employment | yes | 345 | 56.0 |
| | no | 271 | 44.0 |
| | total | 616 | 100.0 |

Pregnancy and Obstetrics factors

From the entire mothers who gave birth, 180(29.2%) were Para I and 514(83.4%) of pregnancies were planned. Likewise, out of total respondents, 603(97.9%),

139(22.6%) had antenatal follow up and one or more signs of complications of pregnancy, respectively. On the other hand, despite the fact that 209(33.9%) mothers had fear of birth, 558(90.6%) of deliveries were normal.

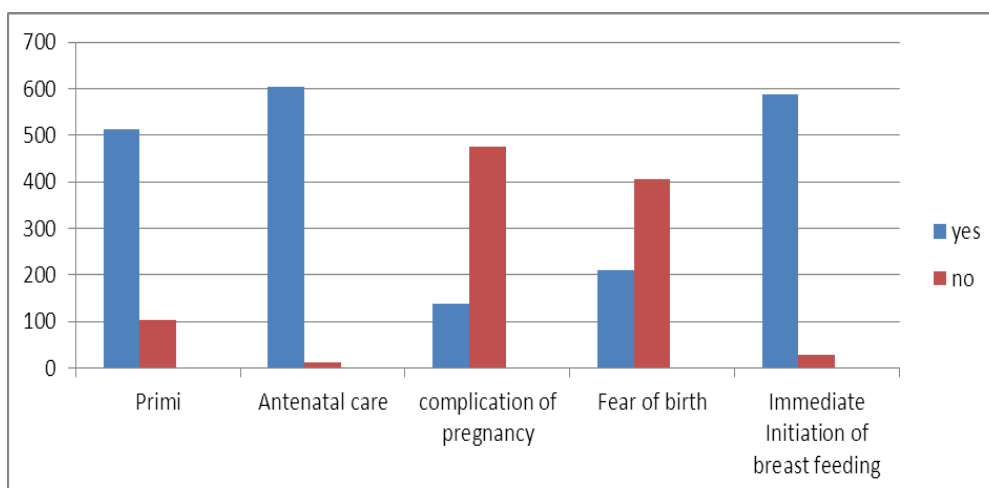


Figure 1: pregnancy and Obstetrics factors among mothers who gave birth in Eastern Tigray, Ethiopia, 2015.

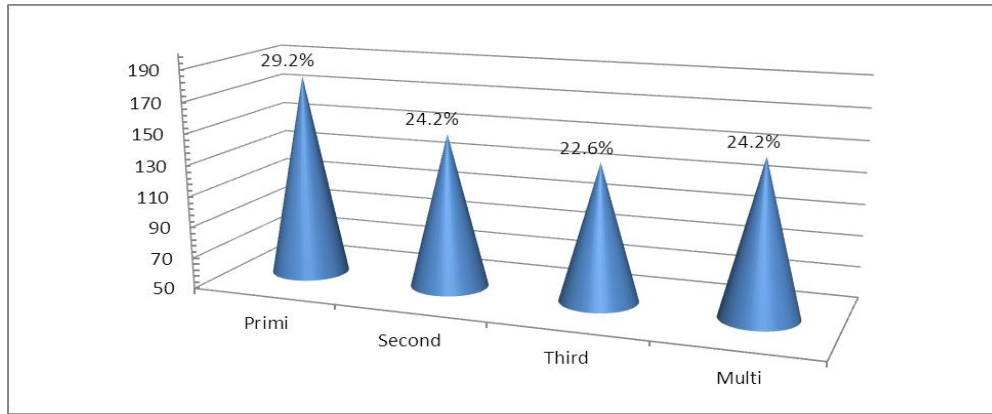


Figure 2: Number of Para among mothers in Eastern zone of Tigray, Ethiopia, 2015.

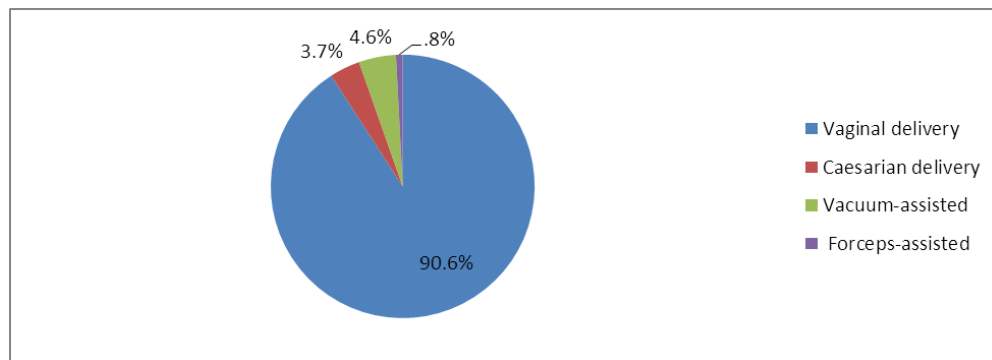


Figure3: Mode of delivery of mothers who gave birth in eastern Tigray, Ethiopia, 2015

Post partum depressive symptoms

All of the participants were assessed for post partum depression at second and sixth weeks after delivery,

consequently 257(41.7%) and 117(19%) had scored ≥ 8 of Edinburgh postnatal depression scale at second and sixth weeks, respectively.

Table2: EDPS score of mothers who gave birth in Eastern Tigray, Ethiopia, 2015

| S/no | EDPS | 0 | 1 | 2 | 3 | Total |
|------|--|-----|----|-----|-----|-------|
| 1 | I have been able to laugh and see the funny side of things | 483 | 40 | 13 | 80 | 616 |
| 2 | I have looked forward with enjoyment to things | 427 | 37 | 10 | 142 | 616 |
| 3 | I have blamed myself unnecessarily when things went wrong | 453 | 34 | 118 | 11 | 616 |
| 4 | I have been anxious or worried for no good reason | 500 | 22 | 82 | 12 | 616 |
| 5 | I have felt scared or panicky for no good reason | 505 | 28 | 53 | 30 | 616 |
| 6 | Things have been getting on top of me | 524 | 22 | 37 | 33 | 616 |
| 7 | I have been so unhappy that I have had difficulty sleeping | 457 | 45 | 75 | 39 | 616 |
| 8 | I have felt sad or miserable | 532 | 28 | 24 | 32 | 616 |
| 9 | I have been so unhappy that I have been crying | 544 | 20 | 14 | 38 | 616 |
| 10 | The thought of harming myself has occurred to me | 553 | 18 | 11 | 34 | 616 |

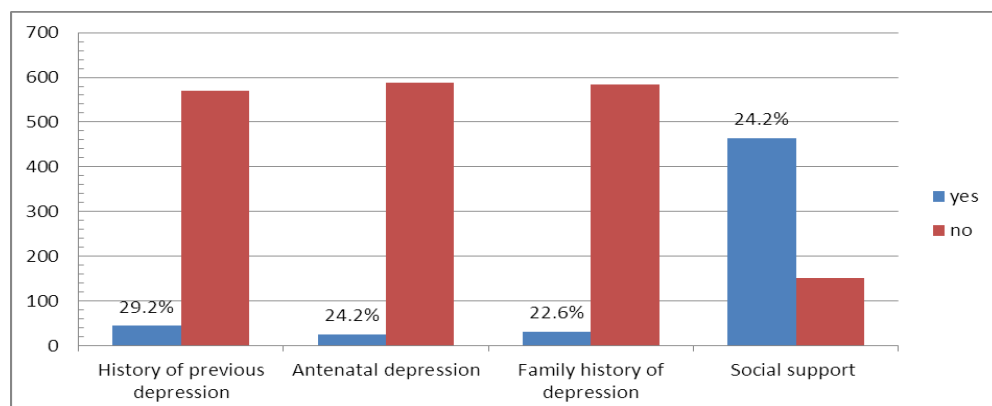


Figure4:- shows other psychiatric aspect of mothers who gave birth in Eastern Tigray, Ethiopia, 2015.

Associated factors

Each variable was assessed for the association with outcome variable in bivariate analysis. Therefore, number of Para, fear of birth, breastfeeding, previous

history of depression, depression in the first 2 weeks, and social support were found to be associated with post partum depression.

Table3: Factors associated with post partum depression Eastern Tigray, Ethiopia, 2015

| variables | | No(%) | COR,95%CI |
|---|--------|------------|-----------------------|
| Planned pregnancy | Yes | 514(83.4%) | 1.00 |
| | No | 102(16.6%) | 1.696(1.034, 2.783) |
| para | Primi | 180(29.2%) | 1.00 |
| | Second | 149(24.2%) | .539(.338, .860) |
| | Third | 138(22.4%) | .504(.307, .827) |
| | Multi | 149(24.2%) | .284(.187, .430) |
| Fear of birth | Yes | 209(33.9%) | 3.689(2.351, 5.790) |
| | No | 407(66.1%) | 1.00 |
| Breast feeding | Yes | 587(95.3%) | 1.00 |
| | No | 29(4.7%) | 2.347(1.109, 4.970) |
| Depression in The 1st 2 weeks | Yes | 257(41.7%) | 3.412(2.234, 5.210) |
| | No | 359(58.3%) | 1.00 |
| Previous history of depression | Yes | 44(7.2%) | 7.603 (4.003, 14.440) |
| | No | 570(92.8%) | 1.00 |
| Ante partum Depression | Yes | 25(4.1%) | 1.00 |
| | No | 589(95.9%) | .167(.074, .377) |

Final model

Those candidate variables for multivariate analysis were entered in to the final model. Consequently, fear of giving birth, having previous history of depression and having signs of depression during the first two weeks of delivery were significantly associated with post partum

depression. Therefore, those who didn't manifest signs of depression were. 125(.081, .194) times less likely to develop post partum at sixth weeks when compared with those who manifested. Likewise, those who don't have social support were 2.94(1.833, 4.714) times more likely than those who had social support.

Table3: Factors significantly associated with post partum depression Eastern Tigray, Ethiopia, 2015

| variables | | No(%) | COR,95%CI | AOR,95%CI |
|---|-----|------------|-----------------------|-----------------------|
| Fear of birth | Yes | 209(33.9%) | 3.524(2.325, 5.340) | 3.689 (2.351, 5.790)* |
| | No | 407(66.1%) | 1.00 | 1.00 |
| Depression in The 1st 2 weeks | Yes | 257(41.7%) | 3.412(2.234, 5.210) | 2.728(1.737, 4.284) * |
| | No | 359(58.3%) | 1.00 | 1.00 |
| Previous history of depression | Yes | 44(7.2%) | 7.603 (4.003, 14.440) | 5.94(2.944, 11.963)* |
| | No | 570(92.8%) | 1.00 | 1.00 |

*=Significantly associated

DISCUSSION

To the extent of our knowledge, this study is the first of its kind in Ethiopia conducted to assess magnitude of post partum depression and related factors. The current finding revealed that the prevalence of post partum depression was 19%. Our finding is nearly comparable with the study done in UK, which was 18.6 %^[17]. But it is a little bit higher when compared with the finding from India, witnessed that the incidence of pppd was 15.8%^[19]. This may attributed to the reason that the previous study was carried out at institution level so that mothers with sever pppd might not sought help, this could make the magnitude of pppd lesser. Furthermore, the current finding is lower in contrast with previous finding from different Asian counties indicated that magnitude of pppd was stretched to 63.3%^[18]. This might be due to cultural difference, since culture has a pivotal role in the occurrence post partum depression either negatively or

positively. Though eighty five percent of pregnancy was planned, high proportion of mothers were in fear of giving birth while they were pregnant. Being fearful of childbearing has strong association with post partum depression. Those mothers who were in this condition are 3.689 (2.351, 5.790) times more likely to be appeared depressed when compared with those who were not. This is comparable with the study which was conducted Finland with the odd ratio (AOR 2.71, 95% CI 1.98 to 3.71)^[21].

Previous mental health status of mothers; particularly, having previous history of depression has a correlation with experiencing of depression in post partum period. This study confirms that those mothers who had been depressed before they conceived are 5.94(2.944, 11.963) times more likely to be become depressed during post partum period when compared with those who were not.

This is comparable with the study which is conducted in Lebanon^[37].

The incidence of depression like symptoms during the first two weeks of post partum period is one of the factors which are strongly connected with depression that has post partum onset. Our study also found out that the occurrence of depression among those who experienced depression like symptoms during that specified period of time is more. According to this study, the Likelihood of developing depression during post partum period is 2.728(1.737, 4.284) more in comparison with those who didn't face such situation.

CONCLUSION

The current study indicates that significant proportion of mothers (19%) who gave birth in eastern Tigray demonstrated depression during post partum period. Relatively, this indicates how high the prevalence of postpartum depression is. Being in fear of bearing a child, demonstrating depression like symptoms during the first two weeks of postpartum period and having previous history of depression are found to be strongly associated with post partum depression.

Limitation of the study

- Because of stigma towards mental illness the respondents might not report what they feel his would decrease the prevalence of postpartum depression.

Strength

- Study was conducted at community based

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