

EMOTIONAL WELLNESS AND POSTPARTUM DEPRESSION IN THE POST-PARTUM WOMEN WITHIN 48 HOURS OF CHILD BIRTH, IN A TERTIARY CARE HOSPITAL OF A SOUTH INDIAN STATE

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Abstract

Background: Many post-natal women world-wide are facing behavioural problems effecting their psychological health even leading to depression. There are not enough studies and data regarding post natal depression worldwide. Our study is an attempt to assess the problem at base level. **Materials and Methods:** In this cross-sectional study, a semi-structured questionnaire including Edinburgh Postnatal Depression Scale and emotional wellness assessment scale is administered on postnatal women within 48hours of delivery. Socio demographic factors and obstetric history is compared with postnatal depression and emotional wellness using chi-square test at 90% confidence level. **Result:** Out of the 60 postnatal women nine (15%) were with 'possible depression' and emotionally 'Not so well' were five (8%). Significantly more working women reported 'Not so well' (P 0.020). Significant association was found between social Caste and subjective feeling of emotional 'Not so well' (P 0.098). Social Caste (P 0.080) and Socio-economic class (P 0.075) are associate with postnatal depression. All the women who expressed that 'Not so well' got married before the age of 16 and are of Gravida two or more. **Conclusion:** Though there is wide difference in prevalence of postnatal depression among the world-wide studies, India needs many more studies and must increase addressing socio economic issues resulting in depression and behavioral changes in postnatal women.

INTRODUCTION

Post-partum is the time interval between the birth of the New-born and the return of the reproductive organs to their Normal Non-Pregnant State. First 48 hours are most crucial because most maternal and neonatal complications occur during this period.^[1] Many women have these symptoms following childbirth: Trouble sleeping, Appetite changes, severe fatigue, frequent mood changes etc. There's no one cause, but many physical and emotional issues like dramatic drop in estrogen and

progesterone after child birth, lack of sleep, anxiety etc. may contribute for these behaviors.^[2]

It may be essential to include emotional and well-being aspects and support in lifestyle interventions.^[3] Decreases in mood and physical quality of life may be natural occurrences as a result of the physical and physiological changes that occur during pregnancy³ and may also be related to changes in perceived physical quality of life.^[4] Pregnancy may cause women to encounter new stressors, and, therefore, the potential for anxiety, depression, and emotional eating behaviors may increase.^[5,6]

The prevalence and incidence of postpartum depression vary across culture, region and communities, with very few studies having addressed the issue, thereby making it difficult to estimate the actual burden of the disease. In a study,^[7] by Shreshta et al. in an Indian rural community, it is found that the prevalence of postpartum depression was 12% and incidence of postpartum depression was 4.4%. In a cross sectional study by Rathod et al. it is identified that perinatal women from a Community Study and a Facility Study, 8.8% and 18.5% screened positive for depression, respectively.^[8] Maria C et al. found Prevalence of mild postpartum anxiety was 88.17%, generalized anxiety was 10%, and severe anxiety was 1.3% in a south India based study.^[9] In a meta-analysis studied from Persian and English regions in post Covid period in post natal women showed prevalence of PPD in women is relatively high during COVID-19. It also suggests to perform interventions and physical and psychological support.^[10] In a cross sectional thematic analysis by Jackson et.al. has found that Social distancing restrictions associated with COVID-19 have had a cumulative, negative effect on postpartum mental health.^[11]

Socio demographic profile of the study population is the foundation for all studies. In an observational study in Tamilnadu state by Ashok VG et.al. it is revealed that there is a strong association between knowledge, attitude, practice of postpartum women and some demographic variables.^[12] In a cross sectional study by Ghirmay Ghebreigziabher Beraki et.al states that Special attention should be laid on, junior/below in educational level and 17 to 25 years old mothers.^[13] In a content analysis of popular press articles on postpartum depression identified that the authors generally assumed that their readers were heterosexual, married, and middle class.^[14] Rada K Dagher et.al. found that Significant depressive symptoms are common in women after giving birth and few sought any form of mental health consultation. Latinas and low-income women are less likely to seek postpartum mental health consultations.^[15]

A committee on obstetric practice by Meredith L Birsner et.al. opined that who exercise during pregnancy have shown benefits such as decreased gestational diabetes mellitus, cesarean birth and operative vaginal delivery, and postpartum recovery time. Physical activity also can be an essential factor in the prevention of depressive disorders of women in the postpartum period.^[16] A review of postpartum depression by Milap Kumar Patel et.al states that the greater risk of postpartum depression is a history of major depression and those who have experienced depression during past pregnancies.^[17] In a literature review of risk factors for postpartum depression by In Stewart D.E. et. al. found obstetric and pregnancy complications to be one of the Small predictors.^[18] Presidential task force, a committee by American college of obstetricians and others on

optimizing postpartum care had opined in 2021 that the comprehensive postpartum visit should include a full assessment of physical, social, and psychological well-being, including the domain: mood and emotional well-being.^[19] In a cohort study by Erika de sa viera et.al. it is found that postpartum who scored ≥ 10 on the Edinburgh Postnatal Depression Scale interrupt exclusive breastfeeding, on average, 10 days earlier than those with a score ≤ 9 .^[20]

Aims & Objectives

1. To study the demographic profile of Post-Partum Women with in 48 hrs of child birth, attending a tertiary care hospital of South Indian state.
2. To study the postpartum depression and emotional wellness in Post-Partum Women, with in 48 Hrs of child birth, in a tertiary care hospital of South Indian state

MATERIALS AND METHODS

Type of study: observational, cross-sectional study.

Place of study: A tertiary care hospital & medical college, in a city of southern state of India.

Duration: Two months

Tools: a semi structured questionnaire which includes Edinburgh Postnatal Depression Scale and emotional wellness assessment scale.

Edinburgh Postnatal Depression Scale: Depression, the most important debilitating behavioral change during the post natal period is studied using this scale. It is designed with maximum score of 30 with Possible depression of score 10 or above.

Emotional Wellness Assessment Scale: it includes several behavioral aspects like NOT maintaining close relationships, not able to accept responsibility to one's own actions, stress and anxiety, not able to enjoy the life etc. maximum score is 20, 0-8 is Not well demanding attention and 9-14 shows scope for improvement in specific behavioral aspects. Both these groups were included i.e., score of 14 or below are taken as "Not so well" in our study.

Inclusion Criteria

All women delivering babies in labor ward of place of study, during study period.

Exclusion Criteria

Following categories of women are excluded from the study.

- vitally unstable
- Not willing to participate.
- Other associated severe health problems like cardiac, renal issues.
- Known cases of psychiatric illness, well before pregnancy.

Sampling: All subjects satisfying inclusion criteria, presented to place of study, during study period are included.

Sample size: In a study,^[8] on prevalence of perinatal depression, Facility based cohort shows 18.5% positivity for depression. Sample size

calculated at 95% confidence level with a precision or confidence interval of 10.

=> p=0.185, => q=1-p=1- 0.185 = 0.815

Margin of error taken 10% => d is 0.1

Confidence level 95%. (z=1.96)

$N = z^2 p (1-p) / d^2 = (1.96)^2 (0.185 \times 0.815) / (0.1)^2 = 3.8416 \times 0.1508 / 0.01 = 58$

Hence our sample size is 58. It is rounded off to 60.

Method/procedure: A semi structured questionnaire is administered with postnatal women on daily basis after taking informed consent. Only women who has given birth, two days before the study day (with in 48 Hrs. of child birth) are interviewed. All the data is stored in excel sheets confidentially.

Study Variables: Socio demographic factors like age, education, profession, Social Caste, Socio economic Status using modified B.G.Prasad's Socio economic Scale May 2022 were identified. Obstetric history like age at marriage, past and present obstetrics complications, gestational age, birth weight and sex of the baby. Known medical history of diabetes mellitus, hypertension and hypothyroidism.

Statistical Analysis: Data is analyzed using Microsoft excel 2010 and Epi info 7 software. Distribution of variables in Percentages is presented as results. Chi square test was used to identify association of all the variables under study with "Possible depression" and "Emotional wellness" at 90% confidence level. Where ever possible graphical and tabular representation of data is done.

RESULTS

Nine (15%) of the 60 studied postnatal women are found to be Possibly Depressed as per the Edinburg Postnatal Depression Scale [Figure 1]. Out of the 60 post-natal studied, Five (8%) expressed "Not so well" as per the Emotional Wellness Scale. Majority (92%) expressed that they are emotionally well [Figure 2]

Socio demographic Factors: Majority (65%) of the pregnant woman studied are between the age 21 to 30 yrs. There are 16 women (26.67%) who are below age of 16yrs and 8.33% are above the age of 30yrs. Majority (80%) of the study subjects are home makers, remaining are doing some work other than home making. 25% of these working women reported feeling of "Not so well" against 4.2 % in home makers, which is statistically significant (P 0.020). Majority of the study participants (43.33%) are having education below or just 10th standard. 13.33% are illiterates where as 15% were graduated. In this study 60% were Hindus, 36.67% were Christians and only 3.33% were Muslims. Here in this study, Scheduled Castes (SC) and Scheduled Tribes (ST) population together contributed more than half of total subjects (51.67%). Other castes (OC) were only 11.67%. Surprisingly, there is statistical significant association between social

Caste and subjective feeling of emotional "Not so well"(P 0.098). There is also statistical significant association between social Caste and post-natal depression (P 0.080). Subjects are almost equal from Both joint and nuclear families with 45% and 55% distribution respectively. As per the modified B. G. Prasad's Socio-Economic Classification, May 2021, it is found that only 13.33% are from Upper Class, where as 11.67% are from Lower class. Majority belongs to middle class. However this social class is significantly associated with post natal depression (P 0.075). [Table 1]

Obstetrics and other Medical history: In this study, 22 (36.67%) out of 60 post natal women, got married well before attaining the age of 18 years. All the women who expressed that "Not so well" belong to this group. This finding is statistically significant (P 0.010). 55% of the subjects are Gravida 1. All the women feeling "Not so well" are Gravida 2 or more, which is significant (P 0.035). 55% of mothers delivered by caesarean section where as 45% have normal deliveries. 30.0% of the women had the experience of complications in the previous gestation. It shows absolute independence with emotional well ness with a p value of 1.000. 24.0 % of the women experienced complications in the present gestation. Almost all are around the term deliveries. 53.33% of the mothers delivered Female babies, remaining being male are 46.67%. Out of the 60 babies delivered, 21.67% were of birth weight less than 2.5kg. Out of 60 post-natal women studied, known diabetics are 3 (5%), Known hypertensive subjects are 5 (8.3%) and known hypothyroid patients are 6 (10%). [Table 2]

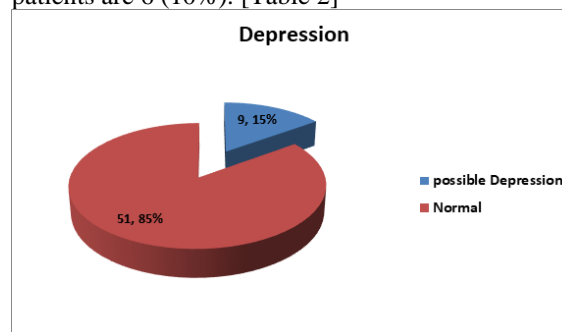


Figure 1: Prevalence of Depression in the Post-natal women as per the Edinburg Postnatal Depression Scale. (N=60)

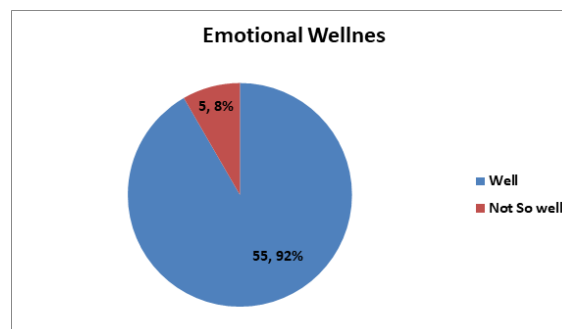


Figure 2: Prevalence of Subjective feeling of Emotional Wellness and "Not so well" in post-natal women. (N=60)

Table 1: Socio demographic factors Vs postnatal-depression and emotional wellness

Sl. No.	variable / factor	Distribution of the variable (%)	Emotionally "NOT So well" (%)	P value	Possible Depression (%)	P value	
1	Age	≤ 20	16 (26.7)	1(6.25)	0.606	3 (18.8)	0.191
		21-30	39 (65.0)	3 (7.69)		4 (10.3)	
		>30	5 (8.3)	1 (20.0)		2 (40.0)	
2	Profession	working women	12 (20.0)	3 (25.0)	0.020	8 (16.7)	0.470
		Home maker	48 (80.0)	2 (4.2)		1 (8.3)	
3	Education	Illiterate	8 (13.3)	1(12.5)	0.686	2 (25.0)	0.710
		≤ 10	26 (43.3)	3 (11.5)		3 (11.5)	
		Inter & Diploma	17 (28.3)	1 (5.9)		2 (11.8)	
		Graduate	9 (15.0)	0 (0.0)		2 (22.2)	
4	Religion	Christian	22 (36.7)	2 (9.1)	0.906	4 (18.2)	0.755
		Hindu	36 (60.0)	3 (8.3)		5 (13.9)	
		Muslim	2 (3.3)	0 (0.0)		0 (0.0)	
5	Caste	BC	22 (36.7)	0 (0.0)	0.098	3 (13.6)	0.080
		OC	7 (11.7)	2 (28.6)		1 (14.3)	
		SC	25 (41.7)	2 (8.0)		2 (8.0)	
		ST	6 (10)	1 (16.7)		3 (50.0)	
6	Type of family	Joint	27 (45.0)	1 (3.7)	0.241	6 (22.2)	0.156
		Nuclear	33 (55.0)	4 (12.1)		3 (9.1)	
7	Social class	I	8 (13.3)	0 (0.0)	0.395	0 (0.0)	0.075
		II	16 (26.7)	0 (0.0)		4 (25.0)	
		III	11 (18.3)	2 (18.2)		1 (9.1)	
		IV	18 (30.0)	2 (11.1)		1 (5.6)	
		V	7 (11.7)	1 (14.3)		3 (42.9)	

Table 2: Obstetrics & other Medical history Vs post-natal depression and Emotional wellness

Sl. No.	variable / factor	Distribution of the variable (%)	Emotionally "NOT So well" (%)	P value	Possible Depression (%)	P value	
1	Age at marriage	≤ 18 Years	22 (36.7)	5 (22.7)	0.010	4 (18.2)	0.599
		>18yrs	38 (63.3)	0 (0.0)		5 (13.2)	
2	Gravida	G1	33 (55.0)	0 (0.0)	0.035	5 (15.2)	0.971
		G2 or more	27 (45.0)	5 (18.5)		4 (14.8)	
3	Type of delivery	Caesarian section	33 (55.0)	4 (12.1)	0.241	7 (21.2)	0.136
		Normal	27 (45.0)	1 (3.7)		2 (7.4)	
4	Past pregnancy complications	NIL	42 (70.0)	2 (4.8)	0.126	5 (11.9)	0.305
		Yes	18 (30.0)	3 (16.7)		4 (22.2)	
5	Presnt pregnancy complications	NIL	36 (60.0)	3 (8.3)	1.000	5 (13.9)	0.768
		Yes	24 (40.0)	2 (8.3)		4 (16.7)	
6	Gestational period	32-36	17 (28.3)	1 (5.9)	0.666	4 (23.5)	0.245
		36-40	43 (71.7)	4 (9.3)		5 (11.6)	
7	Sex of the baby	Female	32 (53.3)	3 (9.4)	0.755	4 (12.5)	0.562
		Male	28 (46.7)	2 (7.1)		5 (17.9)	
8	weight of baby	≤ 2.5	13 (21.7)	2 (15.4)	0.290	3 (23.1)	0.652
		2.5-3.0	32 (53.3)	1 (3.1)		4 (12.5)	
		>3.0	15 (25.0)	2 (13.3)		2 (16.7)	
9	Diabetes	NO	57 (95.0)	4 (7.0)	0.108	8 (14.0)	0.362
		YES	3 (5.0)	1 (33.3)		1 (33.3)	
10	Hypertension	NO	55 (91.67)	4 (7.3)	0.324	9 (16.4)	0.327
		YES	5 (8.33)	1 (20.0)		0 (0.0)	
11	Hypo thyroid	NO	54 (90.0)	4 (7.4)	0.436	7 (13.0)	0.185
		YES	6 (10.0)	1 (16.7)		2 (33.3)	

DISCUSSION

Depression is the most important debilitating behavioural change during the post-natal period. In our study 15% of the postnatal women are found to be Possibly Depressed which is on par with the other studies world wide and 8% expressed "Not so well". Shitu et.al. in North West Ethiopia found that almost a quarter (23.7%) of women suffers from postpartum depression.^[21] In a multinational study by Helen Bradshaw A et al. it is found that endorsed

post-natal depression was 9.4%.^[22] Reindolf Anokye et.al. had found Postpartum depression was prevalent among 7% of all mothers selected.^[23] In a scientific report by Hahyeo Cho et.al. showed, among postpartum participants, 16.1% had postpartum depression.^[14] In a content analysis of popular press articles on postpartum depression identified that the results indicate a strong bias in favour of the medical model of postpartum affective disorders.^[15] In a scientific report by Hahyeo Cho et.al this postpartum depression was observed in

participants of employed women.^[14] In our study to significantly more women in working class expressed “Not so well”.

Here in this study, SC and ST population putting together contributed more than half of total subjects (51.67%). It is in contrast to composition of caste in this area. It may be due to government hospital is utilized by very low percentage of OCs in this area. There is statistical significant association between social Caste and emotional “Not so well” (P 0.098). There is also statistical significant association between social Caste and post-natal depression (P 0.080). Socio economic class is also significantly associated with post natal depression (P 0.075).

All the women who expressed that “Not so well” got married well before attaining the age of 18 years. This finding is statistically significant (P 0.010). Similar to other studies, Women feeling “Not so well” are significantly higher in ‘Gravida two’ or more (p 0.035). In a cross sectional study by Ghirmay Ghebregziabher Beraki et.al states that Special attention should be laid on, primigravida/para mothers.^[13] In a scientific report by Hahyeo Cho et.al This postpartum depression was observed in participants with multiparity.^[14] Shitu et.al. in North West Ethiopia found unwanted infant sex, is an independent predictor of postpartum depression.^[21] However in our study, having male and female babies has no association with depression. In this study, Demographic factors like age, education, type of family are Not significantly associated with either depression or emotional wellness. Similarly mode of delivery, past or present complications in pregnancy, weight of the baby, gestational period, history of diabetes, hypertension and hypothyroidism have no association with depression and wellness.

Limitations: As the Study limited to 48 hours postpartum, there could be few more subjects developing depression later.

Implications: This study explored presence of postnatal depression and behavioural changes in postpartum period of women’s life cycle. Interventions like Life style modifications, health education, counselling to relieve stress etc. can be planned to mitigate the effects. Socio economic problems can be addressed by providing incentives through government Schemes. By regular conduction of such studies will be useful in assessing impact of government policies.

CONCLUSION

Compared to foreign studies, Indian studies are showing lower prevalence of depression in postnatal women. However there is wide difference in the results of various studies. In this study, possible depression is on par with other studies. It may be due to more prevalence of low social classes. However it needs further studies to conclude that depression is more in these set ups. Behavioural

changes must be addressed in advance to prevent further worsening. It can be concluded in general over all postpartum depression and behavioural changes are not so high in our community, but needs continuous research and addressing.

REFERENCES

1. vikaspedia.in [Internet]. Ministry of electronics and information technology, Government of India. [cited 2022 Jun 16]. Available from: <https://vikaspedia.in/health/women-health/pregnancy-health-1/checklist-for-post-natal-check-up>
2. WebMD [Internet]. Debra F Bruce, writer, Traci C. Johnson, reviewer, Postpartum Depression [cited 2022 Jun 16]. Available from: <https://www.webmd.com/depression/guide/postpartum-depression>
3. Abby D. Altazan, Leanne M. Redman, Jeffrey H. Burton, Robbie A. Beyl, Loren E. Cain, Elizabeth F. Sutton et al. Martin Mood and quality of life changes in pregnancy and postpartum and the effect of a behavioral intervention targeting excess gestational weight gain in women with overweight and obesity: a parallel-arm randomized controlled pilot trial, *BMC Pregnancy and Childbirth* (2019) 19:50
4. Danielle Mourady, Sami Richa, Rita Karam, Tatiana Papazian, Fabienne H. Moussa, Nada E Osta et al. Associations between quality of life, physical activity, worry, depression and insomnia: a cross-sectional designed study in healthy pregnant women. *PLoS One*. 2017;12(5):e0178181.
5. Anne Christenson1, Eva Johansson, Signy Reynisdottir, Jarl Torgerson, Erik Hemmingsson. Women’s perceived reasons for their excessive postpartum weight retention: a qualitative interview study. *PLoS One*. 2016;11(12):e0167731.
6. Chang MW, Nitzke S, Buist D, Cain D, Horning S, Eghtedary K. I am pregnant and want to do better but I can’t: focus groups with low-income overweight and obese pregnant women. *Maternal Child Health J*. 2015;19(5):1060–70. [Epub] Available from: <https://link.springer.com/article/10.1007/s10995-014-1605-x> [cited 2022 Nov 30]
7. N Shrestha, P Hazrah, R Sagar, Incidence and prevalence of postpartum depression in a rural community of India. *Journal of Chitwan Medical College* 2015; 5(12): 11-19
8. Sujit D. Rathod, Simone Honikman, Charlotte Hanlon and Rahul Shidhaye, Characteristics of perinatal depression in rural central, India: a cross-sectional study. *Int J Ment Health Syst* (2018) 12:68
9. Christy Maria, Naveen Ramesh, Avita R Johnson, Priya M Prince, Aleena Rodrigues, Anu Lekha, et al. Prevalence and Determinants of Postpartum Anxiety among Women Availing Health Services at a Rural Maternity Hospital in South India. *J South Asian Feder Obst Gynae* 2021;13(1):1–5.
10. Meysam Safi-Keykaleh, Fatemeh Aliakbari, Hamid Safarpour, Mehdi Safari, Azadeh Tahernejad, Hojjat Sheikhbardsiri et al. Prevalence of postpartum depression in women amid the COVID-19 pandemic: A systematic review and meta-analysis. *Int J Gynecol Obstet*. 2022;157:240–247.
11. Leanne Jackson, Leonardo De Pascalis, Joanne A. Harrold, Victoria Fallon and Sergio A. Silverio. Postpartum women’s psychological experiences during the COVID-19 pandemic: a modified recurrent cross-sectional thematic analysis, *BMC Pregnancy and Childbirth* (2021) 21:625.
12. Vishnu G Ashok and Aazmi Mohamed. Knowledge, practice and attitude of postnatal mothers towards postnatal exercises in a rural area of Tamil Nadu. *Indian J Forensic Community Med* 2019;6(3):134-7.
13. Ghirmay G Beraki, Eyasu H. Tesfamariam, Amanuel Gebremichael, Berhanemeskel Yohannes, Kessete Haile, Shewit Tewelde et.al. Knowledge on postnatal care among postpartum mothers during discharge in maternity hospitals in Asmara: a cross-sectional study, *Amanuel Gebremichael et al. BMC Pregnancy and Childbirth* (2020) 20:17

14. Renee Martinez, Ingrid J Robledo, Heather M. Ulsh & Joan C. Chrisler. Singing "The Baby Blues": A Content Analysis of Popular Press Articles About Postpartum Affective Disturbances, *Women & Health*, (2001) 31:2-3, 37-56.
15. Rada K. Dagher, Eliseo J. Perez-Stable, Regina S. James. Socioeconomic and racial / ethnic disparities in postpartum consultation for mental health concerns among US mothers, *Archives of Women's Mental Health*. [Epub] Available from: <https://doi.org/10.1007/s00737-021-01132-5> [cited 2022 November 30]
16. Meredith L. Birsner, MD; and Cynthia Gyamfi-Bannerman, Physical Activity and Exercise During Pregnancy and the Postpartum Period, *American college of Obstetricians and Gynaecologists: Committee Opinion*, Number 804, April 2020. [Epub] Available from: <https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2020/04/physical-activity-and-exercise-during-pregnancy-and-the-postpartum-period> [cited 2022 November 30]
17. Milap Kumar Patel, Rahn K. Bailey, Shagufta Jabeen and Shahid Ali. Postpartum Depression: A Review, *Journal of Health Care for the Poor and Underserved*, Volume 23, Number 2, May 2012, pp. 534-542.
18. Donna E. Stewart, E. Robertson, Cindy-Lee Dennis, RN, Sherry L. Grace, Tamara Wallington, Postpartum Depression: Literature Review Of Risk Factors And Interventions (2003). [Epub] Available from: <https://poliklinika-harni.hr/images/uploads/380/who-postpartalna-depresija.pdf> [cited 2022 Nov 30]
19. Alison Stuebe, MD, MSc; Tamika Auguste, MD; and Martha Gulati, MD, MS. Optimizing Postpartum Care, *American college of Obstetricians and Gynaecologists: Committee Opinion*. Number 736, May 2018. [Epub] Available from: <https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2018/05/optimizing-postpartum-care> [cited 2022 November 30]
20. Erika de Sá Vieira, Nathalia T Caldeira, Daniella S Eugênio, Marina M Lucca, Isília A Silva, Breastfeeding self-efficacy and postpartum depression: a cohort study, *Rev. Latino-Am. Enfermagem* 2018;26:e3035.
21. Solomon Shitu, Biftu Geda and Merga Dheresa. Postpartum depression and associated factors among mothers who gave birth in the last twelve months in Ankesha district, Awi zone, North West Ethiopia, *BMC Pregnancy and Childbirth* (2019) 19:435.
22. Helen Bradshaw, Julia N. Riddle, Rodion Salimgaraev, Liudmila Zhaunova, Jennifer L. Payne. Risk factors associated with postpartum depressive symptoms: A multinational study. *Journal of Affective Disorders* 301 (2022) 345–351.
23. Reindolf Anokye, Enoch Acheampong, Amy Budu-Ainooson, Edmund I Obeng and Adjei G Akwasi. Prevalence of postpartum depression and interventions utilized for its management, *Ann Gen Psychiatry* (2018) 17:18