

Original Article

Postpartum Depression among Women using Edinburgh Postnatal Depression Scale at Maternity Hospital in Omdurman Locality

Ebtehag Adam Abdo Hamid ^{1*}, Faiza Taha ², Ihsan Alyamni Abdallah ³

¹PhD in Obstetrics and Gynecology Nursing - Al-Neelain University, 2024

²Associate Professor in Obstetrics and Gynecological Nursing Department- Faculty of Nursing Sciences – University of Khartoum – Khartoum Sudan

³Assistant Professor of Obstetrics and Gynecological Nursing Department –Faculty of Nursing Sciences –Alneelain University –Khartoum –Sudan

***Corresponding author:** Ebtehag Adam Abdo Hamid, PhD in Nursing Science candidate- Al-Neelain University, **E mail:** ebthajadam13@gmail.com

Received: 25/11/2024

Accepted: 23/12/2024

Abstract

Background: Postpartum Depression is a serious public health problem that leads to high maternal morbidity and mortality, enormously affecting the infant, family and society. **Aim:** The study aimed to assess postnatal women with Edinburgh Postnatal Depression Scale, to identify postpartum depression among women. **Methods:** This was a hospital –based cross-sectional which was carried out in two maternity hospitals in Omdurman locality. It included (142) participants, selected through systematic sampling method. The data was collected by interviews questionnaire focus on Edinburgh Postnatal Depression Scale (the maximum attainable score was 30. Scoring of < 8- not likely, 9-11 - possible, 12-13-Fairly high possibility, 14 or higher probable depression), and data were analyzed by the Statistical Package of Social Sciences, version 25, descriptive and inferential statistics used and a significance test was checked by chi-square test and p –value 0.05 accepted and data were presented in form of tables and figure. **Results:** The majority of the participants were between 20-24 years of age, 58.5 % had insufficient income, more than half of participants their current pregnancy wanted and unplanned 54% and 57 % not received support from their husband, 49% of participants had probable depression and experiences depressive symptoms. In our study there was statistically significant association

between current pregnancy wanted and unplanned (p-value 0.042), monthly income of family (p-value = 0.079), and not received support from their husband (p-value 0.048) and Postnatal Depression status. **Conclusion:** Based on this study postpartum depression was highly probable among women and this indicates that a significant proportion of postpartum women experience depressive symptoms.

Keywords: Edinburgh Postnatal Depression Scale, Postpartum Depression, Women.

Introduction:

Postpartum Depression (PPD) is a non-psychotic depressive disorder classified by the *Diagnostic and Statistical Manual of Mental Disorders* as an episode of Major Depressive Disorder that begins within four weeks of childbirth (1). A study indicated that there was no increased risk of adverse maternal and infant outcomes in postpartum women who received adequate screening to identify pregnant and postpartum women with depressive symptoms (2). Another study recommended adequate screening to identify pregnant and postpartum women with depressive symptoms to facilitate diagnosis, treatment, and follow-up care, thereby reducing poor outcomes (2).

The prevalence of postnatal depression is particularly high in developing countries, where psychological issues are often overlooked. There is a lack of proper information exchange between healthcare providers and mothers regarding pregnancy and the postpartum period, especially among mothers with physical disabilities (3). The high prevalence of PPD may hinder progress toward Millennium

Development Goal 4, which aims to reduce child mortality, as well as Millennium Development Goal 5, which focuses on improving maternal reproductive health. Therefore, planned interventions are necessary (4).

The *Edinburgh Postnatal Depression Scale* (EPDS) is a widely used tool for screening postnatal depression. The scale consists of 10 questions, each with four response options. Scoring is based on the participants' selected responses over a seven-day recall period. Questions 1, 2, and 4 are scored 0, 1, 2, or 3, with the top box scored as 0 and the bottom box scored as 3. In contrast, questions 3, 5–10 are reverse scored, with the top box (option) scored as 3 and the bottom box scored as 0. The maximum attainable score is 30. Scoring interpretation is as follows:

- <8 – Not likely
- 9–11 – Possible
- 12–13 – Fairly high possibility
- ≥14 – Probable depression

In this study, a score of ≥14 was considered indicative of probable postnatal depression (5).

Methods

This study was a descriptive cross-sectional hospital-based study conducted in two maternity hospitals: *Omdurman Maternity Hospital* and *Omdurman New Saudi Hospital*, both of which provide maternity healthcare services to women from various states across the country.

The target population consisted of all women in the postnatal ward at the selected hospitals who were six weeks postpartum and aged 15–49 years. Maternity hospitals in Omdurman locality serve a diverse population, with variations in economic status, traditions, tribes, habits, and educational levels.

A total of 142 postnatal women were enrolled in this study. Participants were selected from each hospital using a systematic random sampling technique.

Data were collected through interviews using a structured

questionnaire, focusing on the *Edinburgh Postnatal Depression Scale* (EPDS). The maximum attainable score on the EPDS is 30, with the following scoring interpretation:

- <8 – Not likely
- 9–11 – Possible
- 12–13 – Fairly high possibility
- ≥ 14 – Probable depression

Data were analyzed using the Statistical Package for the Social Sciences (SPSS), version 25. Both descriptive and inferential statistics were used, and significance was tested using the chi-square test, with a p-value of 0.05 or less considered statistically significant. The results were presented in tables and figures.

Ethical approval was obtained from the Institutional Review Board at Alneelain University and the Khartoum State Ministry of Health. Additionally, permissions were secured from hospital authorities, and informed consent was obtained from each participant before the interview.

Results:**Table (1):** Demographic characteristic of study participants n=142

Variable	Frequency	Percentage%
Age		
15-19	11	7.7
20-24	48	33.8
25 -29	33	23.2
30-34	30	21.1
≥35	20	14.1
Total	142	100.0
Marital status		
Married	138	97.2
Divorced	1	.7
Widow	0	0.0
Separated	3	2.1
Total	142	100.0
Level of education		
Illiterate	15	10.6
Primary	35	24.6
Secondary	43	30.3
University	49	34.5
Post graduate	0	0.0
Total	142	100.0
Monthly income of family		
Sufficient	59	41.5
Insufficient	83	58.5
Total	142	100.0

Most of the participants' married

Table (2): distributions of study participant according to symptoms of postpartum depression means values n =142

Number	Items	Mean
1	I have been able to laugh and see the funny side of things	1.32
2	I have looked forward with enjoyment to things	1.52
3	I have blamed myself unnecessarily when things went wrong	1.32
4	I have been anxious or worried for no good reason	1.63

5	I have felt scared or panicky for no very good reason	1.38
6	Things have been getting on top of me	1.68
7	I have been so unhappy that I have had difficulty sleeping	2.52
8	I have felt sad or miserable	1.11
9	I have been so unhappy that I have been crying	3.35
10	The thought of harming myself has occurred to me	1.29

Means values of postpartum depressive symptoms = 1.71 and common symptoms of postpartum depression (un happy and crying, difficulty sleeping and harming myself)

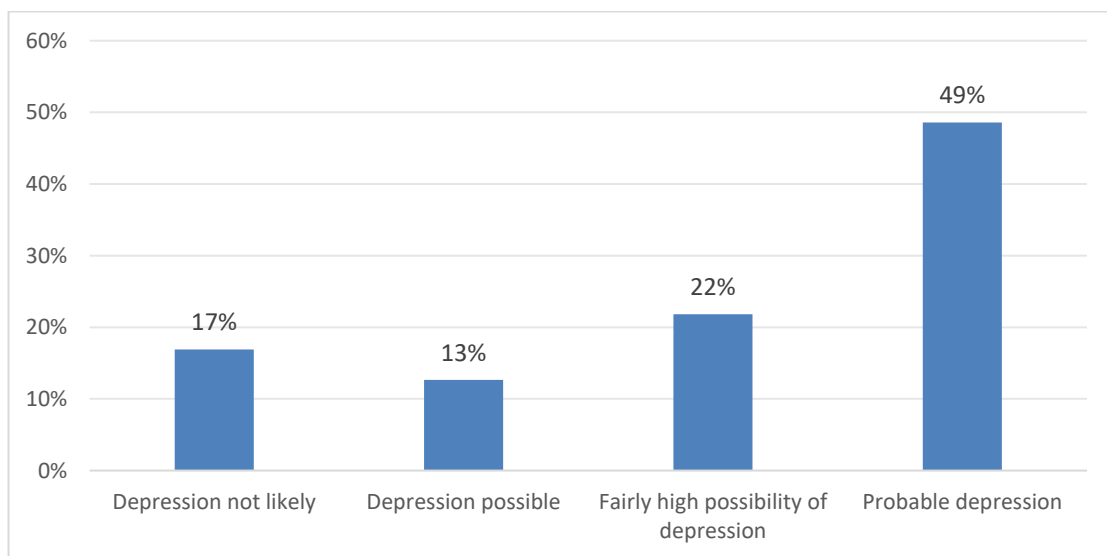


Figure (I): level of Edinburgh Postnatal Depression Scale (EPDS) n=142

The maximum attainable score was 30. Scoring of < 8- not likely, 9-11 – possible, 12-13- fairly high possibility, 14 or higher- probable depression. (5)

According to the findings, 49% had an EPDS score of 14 or higher, indicating probable depression

Table (3): Association between monthly income of family and Edinburgh Postnatal Depression Scale (EPDS) n=142

monthly income of family						Chi-Square Tests P-value
		Depression not likely Scoring of <8-.not likely	Depression possible 9-11	Fairly high possibility of depression 12-13	Probable depression at 14 or higher	
Sufficient	N		12	14	26	0.079
	%	12%	20%	24%	44%	
Insufficient	N	17	6	17	43	
	%	20%	7%	20%	52%	

More than half of participants 52% had in sufficient income P-value = 0.079 less than 0.10 there's an association between Monthly income and Edinburgh Postnatal Depression Scale (EPDS) with a 90% confidence level.

Table (4): Association between condition of current pregnancy and Edinburgh Postnatal Depression Scale (EPDS) n=142

condition of current pregnancy						Chi-Square Tests P-value
		Depression not likely Scoring of <8-.not likely	Depression possible 9-11	Fairly high possibility of depression 12-13	Probable depression at 14 or higher	
Wanted and planned	N	17	10	13	32	0.042
	%	24%	14%	18%	44%	
Wanted and unplanned	N	4	6	18	33	
	%	7%	10%	30%	54%	
Unwanted and unplanned	N	3	2	0	4	
	%	33%	22%	0%	44%	

More than half of participants 54 % had Wanted and unplanned pregnancy P-value = 0.042 less than 0.05 there's an association between Condition of current pregnancy and Edinburgh Postnatal Depression Scale (EPDS) with a 95% confidence level

Table (5): Association between not received support from their husband and Edinburgh Postnatal Depression Scale (EPDS) n=142

Not received support from their husband						Chi-Square Tests P-value
		Depression not likely Scoring of <8-.not likely	Depression possible 9-11	Fairly high possibility of depression 12-13	Probable depression at 14 or higher	
Never	N	5	1	1	3	0.048
	%	50%	10%	10%	30%	
Some time	N	10	7	14	20	
	%	20%	14%	27%	39%	
Always	N	9	10	16	46	
	%	11%	12%	20%	57%	

More than half of participants 57 % not received support from their husband P-value = 0.048 less than 0.05 there's an association between not received support from their husband and Edinburgh Postnatal Depression Scale (EPDS) with a 95% confidence level

Discussion:

The findings revealed that 49% of participants scored 14 or higher on the *Edinburgh Postnatal Depression Scale (EPDS)*—indicating probable depression (5), which meets the threshold for clinically significant depressive symptoms.

- Crying frequently (*mean value: 3.35*)
- Difficulty sleeping (*mean value: 2.52*)
- Feeling anxious or worried for no good reason (*mean value: 1.63*)
- Thoughts of self-harm (*mean value: 1.29*)

The most commonly reported symptoms included:

Notably, insufficient income, unplanned pregnancy, and lack of spousal support were significantly associated with higher EPDS scores, suggesting they may be potential risk factors for postpartum depression.

These results align with previous studies that reported a high prevalence of postpartum depression, particularly in Guyana (53%) and India (59%) (8). The findings are also consistent with global research indicating that postpartum depression remains a significant concern, with a prevalence rate ranging from 0.05% to 60% worldwide and from 3.5% to 63% in Asian countries (9).

This study found that postpartum depression (PPD) was significantly higher among women with unplanned pregnancies (54%, $p\text{-value} = 0.042$, 95% confidence level). This finding aligns with a study conducted by Wulan Rahmad Hani et al. in Indonesia (2022), $p\text{-value} = 0.02$ (7).

Furthermore, PPD was significantly higher among participants with low income, which is consistent with other studies, including research conducted by Ruba Abdullah et al. in Saudi Arabia (2022), $p\text{-value} = 0.003$ (10). This may be due to financial stress, as mothers face challenges in providing for their children despite economic constraints.

The study also found that the presence of relatives, especially husbands,

during labor and delivery provided crucial emotional and social support. Unfortunately, more than half of the study participants did not receive support from their husbands ($p\text{-value} = 0.048$, Table 5). This finding is consistent with the study conducted by Wulan Rahmad Hani et al. in Indonesia (2022) (7). It further supports the idea that socioeconomic status has both a direct and indirect relationship with postpartum depression ($p\text{-value} = 0.001$) (7).

Conclusion

This study aimed to assess postpartum women using the Edinburgh Postnatal Depression Scale (EPDS) and to identify the prevalence of postpartum depression.

The findings indicate that a significant proportion of postpartum women experience depressive symptoms, with EPDS serving as an effective screening tool for identifying those at risk. Early detection using EPDS can play a crucial role in facilitating timely intervention and support for affected individuals.

Acknowledgement

I would like to express my deepest gratitude to my supervisor, Associate Professor Faiza Ali Nasar, for her invaluable guidance, encouragement, and unwavering support throughout the course of this research. Her insightful feedback and constructive criticism challenged me to think critically and strive for excellence in my work.

I would also like to extend my sincere appreciation to my co-supervisor, Dr. Ihsan Alyamni Abdallah, for her constant support and valuable advice. I am especially grateful for her patience, availability, and willingness to share her expertise, which greatly contributed to my academic and personal growth.

Additionally, I would like to acknowledge the Center for Statistical Analysis, the trained research team, and the participants at the Specialty Maternity Hospital for their contributions to this study. Their support played a crucial role in the completion of this research.

This thesis would not have been possible without the mentorship of my supervisors, and I am truly fortunate to have had the opportunity to learn under their guidance.

Conflict of interest

No conflicts of interest to disclose. All authors declare that they had no conflicts of interest.

Reference:

- 1- Roumieh et al. Prevalence and risk factors for postpartum depression among women seen at primary health care centers in Damascus, BMC Pregnancy and Childbirth (2019) 19:519 <https://doi.org/10.1186/s12884-019-2685-9> (accessed 24 October 2024).
- 2- Bauman BL, Ko JY, Cox S, D'Angelo, MPH DV, Warner L, Folger S, et al. Vital Signs: Postpartum Depressive Symptoms and Provider Discussions About Perinatal Depression — United States, 2018. MMWR Morbidity and Mortality Weekly Report. 2020 May 15; 69 (19):575–81. Available from: <https://www.cdc.gov/mmwr/volumes/69/wr/mm6919a2.htm>(accessed 22september 2024 .6:50pm).
- 3- Mariya C& et al Factors Associated with Postnatal Depression among Mothers Attending at Bhagalpur Hospital, Chitwan. *Depression Research and Treatment* 2020;

2020():file:///C:/Users/Zainb/Downloads/FactorsAssociatedwithPostnatalDepression.PDF (accessed 22 September 2024).

4- Mabyoue MOE. Prevalence of Post-partum Depression among Sudanese Women Using Edinburgh Postnatal Depression Scale (EPDS) in Two Major Delivery Hospitals in Khartoum State .Sudan Journal of Medical Sciences. 2020 Dec 31; available at <https://www.readcube.com/articles/10.18502/sjms.v15i4.8158> accessed 22 September 2024 .7:38pm.

5- Mishra K, Mohapatra I, Rout R N. An epidemiological study on depression among women during postpartum period in an urban slum of Bhubaneswar. *Family Med Prim Care* 2020; 9(9):<https://www.jfmprc.com/article.asp?issn=2249-4863;year=2020;volume=9;issue=9;spage=4736;epage=4740;aulast=Mishra> (accessed 24 October 2024).

6- .Elawad.M.O.Prevalence of Post-partum Depression among Sudanese Women Using Edinburgh Postnatal Depression Scale (EPDS) in Two Major Delivery Hospitals in Khartoum

State. *Sudan journal of medical science* 2020; 15(4): <https://knepublishing.com/index.php/SJMS/article/view/8158/> (accessed 25 September 2024) at 2am

7- Fantahun A, Cherie A, Deribe L. Prevalence and Factors Associated with Postpartum Depression Among Mothers Attending Public Health Centers of Addis Ababa, Ethiopia, 2016. *Clinical Practice and Epidemiology in Mental Health: CP & EMH* [Internet]. 2018 Aug 31; 14:196–206. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6131316/> (accessed 10 October 2024 .2:56pm

8-Valdes V, Berens AE, Nelson CA. Socioeconomic and psychological correlates of postpartum depression at 6 months in Dhaka, Bangladesh. *International Journal of Psychology*. 2020 Dec 16; Available from: <https://pubmed.ncbi.nlm.nih.gov/33331021/> (accessed 28 October 2024 .3:00pm).

9-Chalise M, Karmacharya I, Kaphle M, Wagle A, Chand N, Adhikari L. Factors Associated with Postnatal Depression among Mothers Attending at Bharatpur Hospital, Chitwan. *Depression Research and Treatment*. 2020 Sep 22; 2020:1–7. Available at:

<https://pubmed.ncbi.nlm.nih.gov/33029398/> (accessed 5 October 2024 .2:56pm).

10-Ruba Abdulqader Alrehaili, Reema Albelowi. The Prevalence of Postpartum the Depression and Related Risk Factors in Primary Health Care, Al-Madinah, Saudi Arabia Family/General Practice, Epidemiology/Public Health 2022february 28;Available from : [https://www.areus.com. /user/337512-reema Albelowi](https://www.areus.com/user/337512-reema%20Albelowi) (accessed 28.november2024 at 7:00pm).