

Postpartum Depression in an Urban Setting in Thiès (Senegal)—Prevalence and Risk Factors

Momar Camara¹, Odette Emilie Monkam Tcheugneu², Sokhna Seck², Rokhaya Gueye¹, Ibra Diagne², Maïmouna Dieye¹, El Hadji Makhtar Ba³, Racky Wade Kane², Aïda Sylla²

¹Centre Hospitalier National Psychiatrique de Thiaroye, Dakar, Senegal

²Centre Hospitalier National Universitaire de Fann, Dakar, Senegal

³Hôpital D'Enfant Albert Royer, Dakar, Senegal

Email: *momarcamara@yahoo.fr

How to cite this paper: Camara, M., Tcheugneu, O.E.M., Seck, S., Gueye, R., Diagne, I., Dieye, M., Ba, E.H.M., Kane, R.W. and Sylla, A. (2025) Postpartum Depression in an Urban Setting in Thiès (Senegal)—Prevalence and Risk Factors. *Open Journal of Psychiatry*, 15, 365-374.
<https://doi.org/10.4236/ojpsych.2025.155028>

Received: June 19, 2025

Accepted: August 19, 2025

Published: August 22, 2025

Copyright © 2025 by author(s) and Scientific Research Publishing Inc. This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

Abstract

Introduction: Postpartum depression (PPD) is a common mood disorder affecting new mothers, with serious consequences for maternal and child health. Despite its high prevalence, especially in low- and middle-income countries, it often remains underdiagnosed, particularly in African contexts. **Objective:** To assess the prevalence of postpartum depression and identify its key associated risk factors in maternity facilities in Thiès, Senegal. **Methods:** A prospective longitudinal study was conducted from December 13, 2023, to January 19, 2024, in four public health facilities. Forty postpartum women (within six months after delivery) were recruited through simple random sampling during postnatal and vaccination visits. Data were collected using a structured questionnaire and the Edinburgh Postnatal Depression Scale (EPDS), with a cutoff score of ≥ 10 indicating probable depression. Statistical analysis included correlation tests and Fisher's exact tests. No multivariate regression was conducted due to the limited sample size. **Results:** The prevalence of probable postpartum depression was 25%. Two factors were significantly associated with an EPDS score ≥ 10 : younger maternal age ($p = 0.017$) and a history of psychological or physical violence ($p = 0.031$). Other variables such as marital status, socioeconomic level, prenatal consultations, or family support were not statistically associated with PPD. **Conclusion:** Postpartum depression is a frequent but underrecognized issue in Thiès. The identification of key risk factors such as age and exposure to violence highlights the need for systematic screening and multidisciplinary mental health support for postpartum women. Further research with larger samples is required to confirm these findings and evaluate protective factors such as social support.

Keywords

Postpartum Depression (PPD), Risk Factors, Edinburgh Postnatal Depression

1. Introduction

Postpartum depression (PPD) constitutes a major global public health issue, with an estimated prevalence ranging from 10% to 20% worldwide. However, this prevalence tends to be higher in low- and middle-income countries (LMICs), particularly in sub-Saharan Africa and Francophone nations, where rates have been reported between 15% and 25% [1] [2]. These figures reflect both socio-economic challenges and potential differences in healthcare access and social support systems.

Several well-established risk factors for PPD have been documented in diverse populations. Young maternal age is frequently identified as a significant predictor, often associated with limited social and financial resources, inadequate preparedness for motherhood, and increased vulnerability to stress [3]. Exposure to psychological and physical violence, including intimate partner violence, has also been strongly linked to higher PPD rates, as supported by systematic reviews and meta-analyses [4]. Conversely, the presence of robust social support, especially from partners and family networks, acts as a protective factor against postpartum mood disturbances [5].

Screening for PPD in LMICs has been facilitated by the widespread use of the Edinburgh Postnatal Depression Scale (EPDS), a validated self-report questionnaire initially developed in Western settings but successfully adapted for African populations [6] [7]. Validation studies conducted in Nigeria, Uganda, and Senegal have confirmed the cultural sensitivity and specificity of the EPDS, making it a valuable tool for early detection in resource-constrained environments.

Despite this, research on PPD in Francophone West Africa, and particularly in Senegal, remains limited. Most existing studies focus on urban centers such as Dakar, with little exploration of peri-urban or rural settings where healthcare infrastructures and socio-cultural dynamics differ considerably. Such contexts may influence both the prevalence and expression of PPD symptoms, as well as access to and utilization of mental health services.

Furthermore, the distinction between urban and rural maternal mental health profiles is an area of growing interest, given the contrasting environmental stressors, social norms, and economic factors involved. Addressing these knowledge gaps is essential for tailoring effective screening, prevention, and intervention strategies appropriate to the diverse settings across Francophone Africa [8].

This study, therefore, seeks to provide novel insights into the prevalence and risk factors of PPD in Thiès, a peri-urban city in Senegal, contributing to a more nuanced understanding of maternal mental health in this understudied region.

2. Methodology

2.1. Study Setting

The study was conducted in Thiès, the second largest urban area in Senegal, located approximately 70 km east of Dakar, with an estimated population of 2,340,869 in 2023 [9]. Four health facilities with high obstetric attendance were selected: two health centers (Dr Mamadou Bathily and El Hadj Mounirou Ndieguene) and two health posts (Grand Thiès and Sampathé). These facilities offer equipped maternity units, postnatal consultations, vaccination campaigns, and health screening services.

2.2. Study Design and Period

This was a prospective, longitudinal, descriptive, and analytical study carried out over 38 days, from December 13, 2023, to January 19, 2024. Data collection occurred Monday through Friday during routine postnatal consultation and vaccination hours.

2.3. Study Population and Sampling

The target population included mothers within six months postpartum. Participants were selected using simple random sampling, based on their order of arrival at postnatal and vaccination sessions, provided they gave free and informed consent.

While this method was operationally simple, it introduces clinic-attendance bias by excluding women who do not attend follow-up visits—often among the most vulnerable. This may limit the generalizability of the findings and lead to underestimation of the true prevalence of postpartum depression.

2.4. Inclusion and Exclusion Criteria

- **Inclusion:** Women within six months postpartum who provided informed consent.
- **Exclusion:** Women who declined participation, were beyond the six-month postpartum period, or were unable to participate due to cognitive limitations.

2.5. Data Collection Tools

Two face-to-face questionnaires were administered by trained interviewers:

- The first collected sociodemographic data (age, marital status, ethnicity, occupation, educational level, religion, income) and clinical data (medical, obstetrical history, psychosocial factors). Socioeconomic status was classified as low, medium, or high according to monthly income relative to the Senegalese minimum wage (SMIG) of 64,223 FCFA [10].
- The second questionnaire included the Edinburgh Postnatal Depression Scale (EPDS), which is validated for screening PPD, with a threshold score established at 10 [11]. The EPDS remains the most widely used tool worldwide, with recent validations affirming its usefulness and reliability in Francophone Africa [12] [13].

2.6. Ethical Considerations

The study protocol was approved by the Regional Health Directorate of Thiès. Participant anonymity was preserved using coded identifiers. Women with an EPDS score ≥ 10 were referred to a mental health facility for further evaluation. The lack of private spaces to complete questionnaires may have influenced disclosure of sensitive information.

2.7. Data Analysis

Data were entered using Excel 365 and analyzed with SPSS version 26. Quantitative variables were described using means, medians, standard deviations, and interquartile ranges. Qualitative variables were expressed as frequencies and percentages.

Statistical tests included:

- Pearson's correlation for continuous variables.
- Fisher's exact test and Pearson's Chi-square test for categorical variables.

No multivariate analysis (logistic regression) was performed due to the limited sample size ($n = 40$), which did not allow for reliable adjustment without overfitting. Therefore, results are based on univariate analyses and should be interpreted with caution.

3. Results

A total of 40 mothers meeting the inclusion criteria were recruited from the four health facilities in Thiès. The mean age of the participants was 27.15 ± 5.85 years, with a median age of 25 years and an interquartile range of 23 to 33 years. The age group most represented was 20 - 24 years (37.5%; $n = 15$) (see **Figure 1**).

Almost all mothers resided in urban or semi-urban areas. Regarding marital

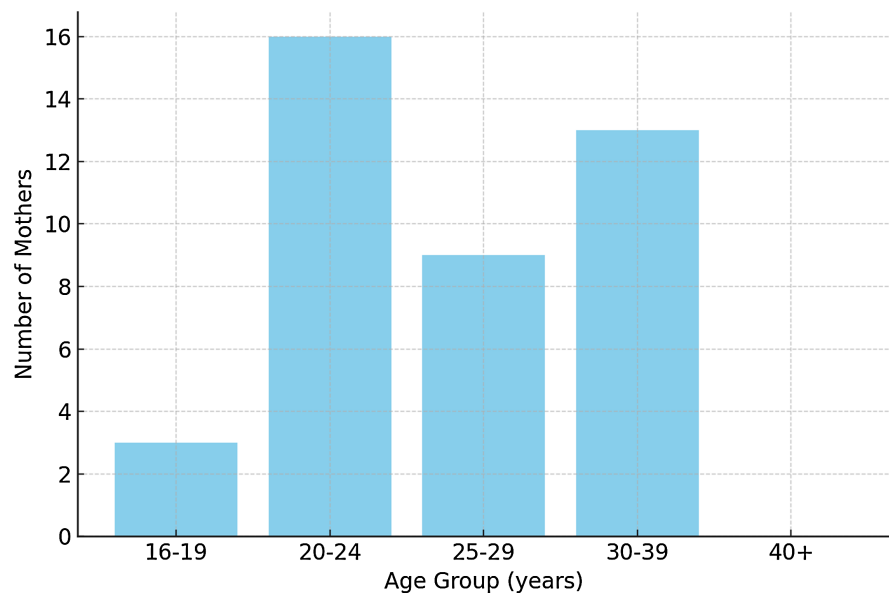


Figure 1. Age distribution of mothers.

status, 85% (n = 34) of the participants were married, and 47.5% (n = 19) were under a monogamous regime.

In terms of income, 60% (n = 24) of mothers had a low monthly income (<60,000 FCFA), while 32.5% (n = 12) of partners had a medium income between 60,000 and 100,000 FCFA.

Educationally, 35% of the mothers (n = 14) were uneducated, while the majority of the partners had primary (27.5%) or secondary education (25%).

The predominant religion was Islam, accounting for 95% of the participants (n = 38), with 5% identifying as Christians (see **Table 1**).

Table 1. Sociodemographic characteristics of mothers (N = 40)

Variable	Category	Count (n)	Percentage (%)
Age	Mean \pm SD	27.15 \pm 5.85	—
	Median (IQR)	25 (23 - 33)	—
	16 - 19 years	3	7.5
	20 - 24 years	15	37.5
	25 - 29 years	9	22.5
	30 - 39 years	10	25
	\geq 40 years	3	7.5
Place of residence	Urban/semi-urban	—	Majority
Marital status	Married	34	85
	Monogamous	19	47.5
Monthly income	Low (<60,000 FCFA)	24	60
	Medium (60,000 to 100,000 FCFA)	12	32.5
Educational level	No schooling	14	35
	Primary education of partners	11	27.5
	Secondary education of partners	10	25
Religion	Muslim	38	95
	Christian	2	5

Evaluation of postpartum depression using the Edinburgh Postnatal Depression Scale (EPDS) revealed that 25% of mothers (n = 10) had a score equal to or greater than 10, suggesting probable postpartum depression (see **Figure 2**).

The analysis showed a significant negative correlation between age and EPDS score (coefficient = -0.377 , $p = 0.017$), indicating that younger mothers were more likely to exhibit depressive symptoms (see **Figure 3**).

Regarding psychosocial factors, the experience of psychological or physical violence was significantly associated with an EPDS score ≥ 10 ($p = 0.031$). Among mothers who had experienced violence, 57.14% had a high score compared to 18.18% among others.

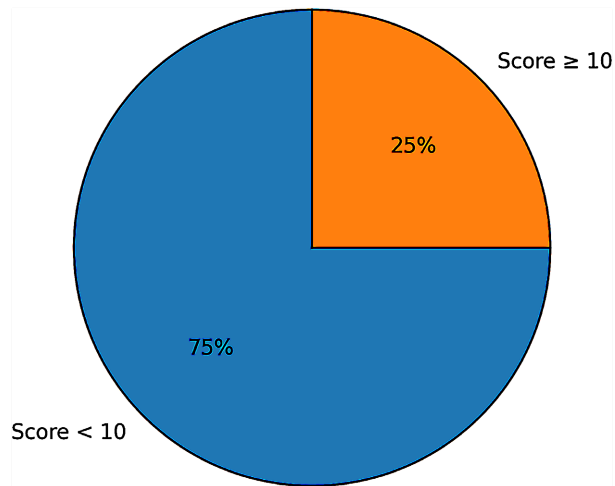


Figure 2. Distribution of EPDS scores.

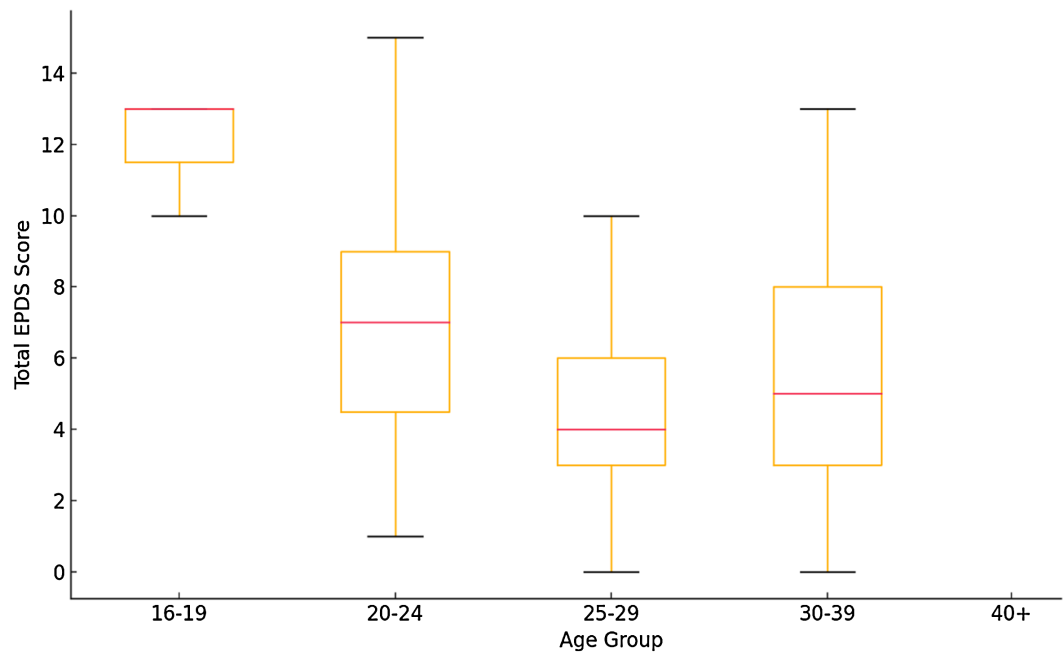


Figure 3. Total EPDS score by age group.

No significant association was found between postpartum depression and medical or surgical history, personal or family psychiatric history, number of pregnancies or abortions, mode of delivery, number of prenatal visits, occurrence of pregnancy complications, whether pregnancy or baby’s sex was desired, or support from partner or family.

The association between psychosocial factors and postpartum depression is summarized in **Table 2**.

4. Discussion

The prevalence of postpartum depression (PPD) observed in this study (25%) is consistent with data reported in several sub-Saharan African countries, including

Table 2. Association between psychosocial factors and postpartum depression.

Factor	Category	EPDS < 10 (n, %)	EPDS ≥ 10 (n, %)	Total (n)	p-value
Experience of violence	No	27 (81.82%)	6 (18.18%)	33	0.031*
	Yes	3 (42.86%)	4 (57.14%)	7	
Number of abortions	0	23 (79.31%)	6 (20.69%)	29	0.138
	1	4 (50.00%)	4 (50.00%)	8	
	2	3 (100.00%)	0 (0.00%)	3	
Chronic pathology	No	21 (72.41%)	8 (27.59%)	29	1.000
	Yes	8 (80.00%)	2 (20.00%)	10	
Number of pregnancies	≥5	5 (83.33%)	1 (16.67%)	6	0.842
	1	10 (71.43%)	4 (28.57%)	14	
	2 - 4	13 (72.22%)	5 (27.78%)	18	
Mode of delivery	Cesarean	3 (100.00%)	0 (0.00%)	3	0.556
	Vaginal	26 (72.22%)	10 (27.78%)	36	
Number of prenatal visits	<4	6 (66.67%)	3 (33.33%)	9	0.665
	≥4	24 (77.42%)	7 (22.58%)	31	
Pregnancy complications	No	26 (76.47%)	8 (23.53%)	34	0.629
	Yes	4 (66.67%)	2 (33.33%)	6	
Desired baby sex	Indifferent	19 (82.61%)	4 (17.39%)	23	0.435
	No	3 (60.00%)	2 (40.00%)	5	
	Yes	6 (66.67%)	3 (33.33%)	9	
Partner support	No	2 (66.67%)	1 (33.33%)	3	1.000
	Yes	28 (75.68%)	9 (24.32%)	37	
Family support	No	1 (33.33%)	2 (66.67%)	3	0.149
	Yes	29 (78.38%)	8 (21.62%)	37	
Stressful event during pregnancy	No	15 (83.33%)	3 (16.67%)	18	0.464
	Yes	15 (68.18%)	7 (31.82%)	22	
Family psychiatric history	No	28 (77.78%)	8 (22.22%)	36	0.256
	Yes	2 (50.00%)	2 (50.00%)	4	

Senegal, Nigeria, Ethiopia, and Cameroon [8] [14]. This similarity may be explained by the common use of the Edinburgh Postnatal Depression Scale (EPDS) and comparable socioeconomic contexts.

This prevalence exceeds that reported in countries with higher human development indices, such as the United States and Canada [3] [15]. These differences may reflect socioeconomic and cultural factors, as well as larger sample sizes in those countries.

Younger maternal age was identified as an important risk factor, with increased vulnerability among mothers under 25 years of age, corroborating studies conducted in Uganda and Ethiopia [7] [16].

Psychological and physical violence represents a significant risk factor, confirmed by international literature and the recommendations of the World Health Organisation (WHO) [3] [17]-[19].

Social support, particularly from partners and family, is recognized as an essential protective factor [8] [20]. However, in our study, this effect did not reach significance in multivariate analysis, possibly due to the limited sample size.

Stressful events during pregnancy are often reported as risk factors, although they did not show a significant association here [7] [8] [21].

5. Limitations

This study has several limitations. First, recall bias may have affected the accuracy of self-reported data, especially concerning experiences of violence or stressful events during pregnancy. Second, the short recruitment period of 38 days, limited to mothers attending postnatal consultations and vaccination sessions, likely reduced the representativeness of the sample. Third, the lack of private spaces for administering the questionnaires may have influenced participants' willingness to disclose sensitive information. Finally, no multivariate analysis was conducted due to the small sample size, limiting the ability to identify independent risk factors for postpartum depression.

6. Conclusions

Postpartum depression is a prevalent but underrecognised condition in Thiès. Key risk factors identified include the age of young mothers and exposure to psychological or physical violence.

Despite its serious consequences for mothers, children, and families, PPD is often undiagnosed, in part due to social perceptions that minimise or obscure symptoms. Early recognition and systematic screening are crucial for improving perinatal mental health outcomes.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- [1] Fisher, J., Cabral de Mello, M., Patel, V., Rahman, A., Tran, T., Holton, S., *et al.* (2011) Prevalence and Determinants of Common Perinatal Mental Disorders in Women in Low- and Lower-Middle-Income Countries: A Systematic Review. *Bulletin of the World Health Organization*, **90**, 139-149. <https://doi.org/10.2471/blt.11.091850>
- [2] Gelaye, B., Rondon, M.B., Araya, R. and Williams, M.A. (2016) Epidemiology of Maternal Depression, Risk Factors, and Child Outcomes in Low-Income and Middle-Income Countries. *The Lancet Psychiatry*, **3**, 973-982. [https://doi.org/10.1016/s2215-0366\(16\)30284-x](https://doi.org/10.1016/s2215-0366(16)30284-x)

- [3] O'hara, M.W. and Swain, A.M. (1996) Rates and Risk of Postpartum Depression—A Meta-Analysis. *International Review of Psychiatry*, **8**, 37-54. <https://doi.org/10.3109/09540269609037816>
- [4] Howard, L.M., Oram, S., Galley, H., Trevillion, K. and Feder, G. (2013) Domestic Violence and Perinatal Mental Disorders: A Systematic Review and Meta-Analysis. *PLOS Medicine*, **10**, e1001452. <https://doi.org/10.1371/journal.pmed.1001452>
- [5] McGrath, E., Keita, G.P., Strickland, B.R. and Russo, N.F. (1990) Women and depression: Risk Factors and Treatment Issues. American Psychological Association.
- [6] Adewuya, A.O., Ola, B.A., Dada, A.O. and Fasoto, O.O. (2006) Validation of the Edinburgh Postnatal Depression Scale as a Screening Tool for Depression in Late Pregnancy among Nigerian Women. *Journal of Psychosomatic Obstetrics & Gynecology*, **27**, 267-272. <https://doi.org/10.1080/01674820600915478>
- [7] Nakku, J., Nakasi, G. and Mirembe, F. (2006) Validation of the Edinburgh Postnatal Depression Scale among Postnatal Women in Uganda. *African Health Sciences*, **6**, 175-182.
- [8] Seck, S., Camara, M., Kane, R.W., Baldé, D.B., Bâ, E.H.M., Koundoul, A., et al. (2024) Prevalence and Associated Factors of Postpartum Depression: A Study Conducted in Health Centres in Dakar (Senegal). *Open Journal of Psychiatry*, **14**, 45-66. <https://doi.org/10.4236/ojpsych.2024.141004>
- [9] Agence Nationale de la Statistique et de la Démographie (ANSD) du Sénégal (2023) Recensement général de la population et de l'habitat. ANSD. <https://www.ansd.sn>
- [10] Republic of Senegal (2023) Decree No. 2023-1710 Setting the Guaranteed Interprofessional Minimum Wage (SMIG) and the Guaranteed Agricultural Minimum Wage (SMAG). *Official Journal of the Republic of Senegal*. <https://www.travail.gouv.sn/>
- [11] Cox, J.L., Holden, J.M. and Sagovsky, R. (1987) Detection of Postnatal Depression. *British Journal of Psychiatry*, **150**, 782-786. <https://doi.org/10.1192/bjp.150.6.782>
- [12] Owoeye, O., Aina, O. and Morakinyo, O. (2005) Postpartum Depression in a Maternity Hospital in Nigeria. *East African Medical Journal*, **81**, 616-619. <https://doi.org/10.4314/eamj.v81i12.9245>
- [13] Asaye, M.M., Muche, H.A. and Zelalem, E.D. (2020) Prevalence and Predictors of Postpartum Depression: Northwest Ethiopia. *Psychiatry Journal*, **2020**, Article ID: 9565678. <https://doi.org/10.1155/2020/9565678>
- [14] Adama, N.D., Foumane, P., Olen, J.P.K., Dohbit, J.S., Meka, E.N.U. and Mbou-dou, E. (2015) Prevalence and Risk Factors of Postpartum Depression in Yaounde, Cameroon. *Open Journal of Obstetrics and Gynecology*, **5**, 608-617.
- [15] Lanes, A., Kuk, J.L. and Tamim, H. (2011) Prevalence and Characteristics of Postpartum Depression Symptomatology among Canadian Women: A Cross-Sectional Study. *BMC Public Health*, **11**, Article No. 302. <https://doi.org/10.1186/1471-2458-11-302>
- [16] Toru, T., Chemir, F. and Anand, S. (2018) Magnitude of Postpartum Depression and Associated Factors among Women in Mizan Aman Town, Bench Maji Zone, Southwest Ethiopia. *BMC Pregnancy and Childbirth*, **18**, Article No. 442. <https://doi.org/10.1186/s12884-018-2072-y>
- [17] Khorramirad, A., Mousavi Lotfi, M. and Shoori Bidgoli, A. (2010) Prevalence of Postpartum Depression and Related Factors in Qom. *Pajoohandeh Journal*, **15**, 62-66.
- [18] Wissart, J., Parshad, O. and Kulkarni, S. (2005) Prevalence of Pre- and Postpartum Depression in Jamaican Women. *BMC Pregnancy and Childbirth*, **5**, Article No. 15. <https://doi.org/10.1186/1471-2393-5-15>

- [19] World Health Organization (2022) Violence against Women Prevalence Estimates. WHO. <https://www.who.int/publications/i/item/9789240022256>
- [20] Adeyemo, E.O., Oluwole, E.O., Kanma-Okafor, O.J., Izuka, O.M. and Odeyemi, K.A. (2020) Prevalence and Predictors of Postpartum Depression among Postnatal Women in Lagos, Nigeria. *African Health Sciences*, **20**, 1943-1954. <https://doi.org/10.4314/ahs.v20i4.53>
- [21] Al-abri, K., Edge, D. and Armitage, C.J. (2023) Prevalence and Correlates of Perinatal Depression. *Social Psychiatry and Psychiatric Epidemiology*, **58**, 1581-1590. <https://doi.org/10.1007/s00127-022-02386-9>