Postpartum depression: The burden and determinants in resource constrained environments

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Abstract

Background: Depression occurring after delivery of a baby can be missed especially in resource constrained environments. Constraint in personnel and a low diagnostic index are probable reasons. A low diagnostic index or delay in diagnosis and treatment of postpartum depression (PPD) has adverse consequences on the family dynamics**.**

Objective: The study aimed at determining the burden of postpartum depression that was missed after the first postnatal follow up visit at a tertiary hospital in Makurdi, Nigeria.

Methods: A cross-sectional study of postpartum women at the immunization clinic at the Federal Medical Centre, Makurdi using the a semi-structured questionnaire containing the Edinburgh postnatal depression scale (EPDS) to assess for depression with a diagnostic cut off of 10 was done.

Results: Three hundred and thirty postpartum women were assessed and the burden of PPD that was missed during a postnatal visit was 27.6%. No correlation was found between any social or economic demographics and PPD.

Conclusion: The prevalence of missed PPD in Makurdi is high (27.6%), hence the need for high diagnostic index of suspicion and routine screening by the primary care physicians. Social or economic demographics alone should not be criteria for its suspicion.

Key words: missed postpartum depression, determinants, prevalence

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Introduction:

Postpartum depression (PPD) is a disease often neglected in the provision of maternal health care.[1] It is sandwiched between maternal and neonatal physical well being and the diagnosis often missed.[1,2] The spectrum of health care provision in the postpartum period is majorly aimed at the child and the mother's physical health with considerable neglect on the psychological health of the mother.[2] This neglect is more pronounced in resource constrained environments where there is constrain in personnel and materials.[3] The effect of such neglect on the family dynamics is usually profound, with adverse effects on the health of the child, care of other siblings and mental health of other family members.[4] An alarm needs to be raised over the burden and neglect of PPD so that primary care doctors in resource constrained environs can rise to the task of early diagnosis.

Methods:

Study Area: Federal Medical Centre (FMC) Makurdi is one of the two tertiary hospitals in Makurdi the Benue State capital. It is a 400 bed capacity hospital spread across 4 service sites within Makurdi town.[5] The immunization clinic in FMC Makurdi caters for the immunization needs of the children brought by their mothers (postpartum women).

Study Population: Postpartum women who had at least one postnatal visit were recruited at the immunization clinic of FMC Makurdi.

Study design:

This was a descriptive cross sectional study which lasted for 3 months in 2013. It was set to determine the prevalence and socio-demographic correlates of missed PPD. Postpartum women who were between 1-9months postpartum and had consented to the study were recruited.

Sample Size Determination: Using the Leslie & Kish formula for descriptive studies with a preferred precision of 0.05 and a previous prevalence of postpartum depression of 27.2%[6] a minimum sample size of 330 was obtained (including 10% attrition rate).

Sampling Technique: A systematic random sampling technique was used to select the women from a sampling frame of 3000 women over a 3month period. The sampling interval was nine.

Ethical considerations: Informed consent was obtained from each of the participants. They were assured of confidentiality and anonymity. Ethical clearance was obtained from The Committee on Health Research Ethics of FMC Makurdi.

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Exclusion criteria: Women taking antidepressants or undergoing therapy for any mental disorder were excluded. Women in the first 4weeks postpartum were also excluded (postpartum blues)

A semi structured questionnaire consisting of two sections was used. Section A received socio-demographic data while Section B was the EPDS consisted of 10 stem questions to which scores of 0 to 3 could be obtained respectively. A total score of 10 was considered diagnostic of depression.

Data Analysis:

Data analysis was done using the Statistical Package for Social Science 20. Social demographics were analyzed using simple proportions and binary logistic regression was used in determining the relationship between postpartum depression and social demographic characteristics.

Results:

Three hundred and thirty postpartum women were recruited. Their mean age was 27.6 ± 5 years. Two hundred and three (61.5%) were in the active reproductive age group of 25-34years (Table 1).

Table 1: A frequency table showing the social demographic characteristics of participants

Variable	Frequency	Percentage (%)
Age (years)		
15-24	92	27.9
25-34	203	61.5
35-44	35	10.6
Educational Status		
Tertiary	178	53.9
Secondary	116	35.2
Primary	30	9.1
No Formal Education	6	1.8
Marital Status		
Married	312	94.5
Separated/divorced	10	3
Widowed	6	1.8
Co-habiting	2	0.6
Employment Status		
Employed	139	42.1
Unemployed	191	57.9
Income (× ₦1000)		
<10	208	63.0
11-20	38	11.5
21-30	25	7.5
31-40	17	5.2
41-50	17	5.2
51-60	5	1.5
>60	20	6.1

Table 2. A frequency table showing the prevalence of undiagnosed (missed) postpartum depression

	Frequency	Percentage (%)
No Depression	239	72.4
Depression	91	27.6
Total	330	100

Prevalence 27.6%, p =0.001, 95% CI =22.85-32.76

Table 3. A table showing the binary logistic regression analysis of the impact of the socio-economic characteristic on the occurrence of postpartum depression

Variables	No Depression (%)	Depression (%)	OR[95% CI]	P-Value
Marital status				
Married	231(74)	81(26)	0.485(0.026, 8.899)	
Separated	6(60)	4(40)	1.324(0.051, 34.54)	
Widowed	1(16.7)	5(83.3)	5.662(0.149,214.804)	
Cohabiting	1(50)	1(50)	1.00	
Education				
Tertiary	127(71.3)	51(28.7)	1.806(0.134, 24.310)	
Secondary	83(71.3)	33(28.7)	2.105(0.156, 28.333)	
Primary	24(80)	6(20)	1.228(0.83, 18.192)	
No Formal	5(83.3)	1(16.7)	1.00	
Age (years)				
15-24	72(78)	20(22)	0.652(0.206, 2.065)	
25-34	140(69)	63(31)	1.155(0.444, 3.006)	
35-44	27(77.1)	8(22.9)	1.00	
Occupation				
Employed	103(74.1)	36(25.9)	1.048(0.569, 1.929)	
Unemployed	136(71.1)	55(28.9)	1.00	
Income				
Below 10000	137(65.9)	71(34.1)	3.438(0.886, 13.339)	0.074
11,000-20,000	34(89.5)	4(10.5)	0.694(0.133, 3.634)	0.666
21,000-30,000	20(80)	5(20)	1.673(0.316, 8.867)	0.545
31,000-40,000	13(76.5)	4(23.5)	1.993(0.351, 11.320)	0.437
41,000-50,000	13(76.5)	4(23.5)	1.825(0.322, 10.337)	0.497
51,000-60,000	5(100)	0(0)	1.234(0.235, 9.342)	0.999
Above 60,000	17(85)	3(15)	1.00	1.00

Over 94% (312) were married and over 57% (191) were unemployed. More than halve of them had tertiary education- 178 (53.9%). Two hundred and eight (63%) of them earned less than ten thousand Nigerian Naira (₦10,000) per month (Table 1). Binary logistic regression revealed no association between PPD and demographics of age, marital status, educational status and level of income (Table 3). The prevalence of PPD that was missed during a postnatal visit was high (27.6%)-Table 2.

Discussion

The study found the prevalence of postpartum depression to be 27.6% in FMC Makurdi. This result

showed that for every four postpartum women one is suffering from some degree of depression that was possibly missed during the postnatal visit. The results also showed that 53% of the women had tertiary education. However, this conferred no protection against PPD as more than 70% of women with tertiary education had PPD. It was also seen that 89.4% of participants were less than 35 years (i.e. within the reproductive years) and 50% of participants were primigravida. Furthermore, over 57% of these women were unemployed and over 60% earned less than ten thousand naira per month. However none of these demographic figures showed any statistical predisposition to PPD.

It is worthy of note that high burden of PPD as seen in this study have also been reported in other countries like, Lebanon, Pakistan and Brazil where studies showed a prevalence of 21, 20.7 and 23% respectively.[7,8,9] These studies similarly were sited in urban areas and used the EPDS as used in this work, hence the similarities in the results. Furthermore, Nigeria and these countries are low and middle income countries (LAMIC) and resource constrained environments.[10] They are characterized by increased family stressors, shortage of health personnel and physician burnout.[3] These factors militates against early diagnosis and possible treatment of one of the commonest mental health problems affecting the captain of the family unit i.e. mothers. It is worthy of note that the mothers mental health directly affects that of her children and the society at large because maternal mental health correlates child's behavior and over all health.[11]

On the contrary to the high prevalence of PPD in this study, the burden of PPD is lower in developed nations like Canada as shown by Lanes *et al* who reported a prevalence of 8.7%. [12] Similarly the EPDS was used as in this study. In Ireland, a prevalence of 13.2% was reported . High standards of health care provision and social support were the evident factors contributing to lower prevalence in Ireland and that found in this study and in other developing nations[13]

This study did not demonstrate any relationship between PPD and socio-demographics factors. Revealing that PPD has no social predilection in this environment, hence screening for PPD must not be reduced to a woman matching any sets of social or economic determinants. Contrary however, other studies have shown correlations between socio-demographics and/or economic determinants and PPD. The determinants fingered in such studies include: low maternal age, unemployment, intimate partner violence and poor family support.[7,14] The difference in study population, cultures, family stressors and the site of these studies could account for the disparities.

The consequences of untreated PPD are profound, affecting the family dynamics and by extension the health of communities. The high prevalence is hence a call to routine screening by primary care physicians despite the constraint in personnel and resources.

The prevalence reported in this study could be affected by the site of the study as women with PPD that presented at the general outpatient and psychiatric clinics were not included in the study. This study reported a high prevalence of PPD with no associated between the studied variables and PPD. However social behaviours, cultural factors and marital determinants were not studied. Further studies including these mentioned factors could be desirable in improving the knowledge need for screening and advocacy in this environment.

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