

Prevalence and correlates of postpartum depression in a teaching hospital in Nigeria

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Abstract

Background: Postpartum depression is a common and disabling disorder seen in new mothers having many deleterious effects on the new mother, the new infant, the father, the family and the society at large. This study determined the prevalence and socio-demographic correlates of postpartum depression among new mothers.

Method: This was a cross-sectional descriptive study involving 392 new mothers at the Postnatal Clinic of the department of Obstetrics and Gynecology and the Children Welfare clinic of the Jos University Teaching Hospital, Jos, Nigeria. These women were administered the Edinburgh Postnatal Depression Scale (EPDS) questionnaire alongside a modified socio-demographic questionnaire 6-8 weeks postpartum.

Result: The mean age of the women was 28.0 ±5.8 years. 385 (98.2%) were currently married, 169 (43.1%) were Muslims, 161 (41.1%) were of the Orthodox Christian denomination while 62 (15.8%) were Pentecostal Christians. 221 (56.3%) had a minimum of secondary education; 200

(51.3%) were employed; 40 (10.3%) were students while the remaining 152 (38.4%) were full-time housewives. The prevalence of Postpartum Depression was 44.5% using a cut-off of 7. No significant association was found with any of the psychosocial factors studied save with religion, birth weight of the baby and suicidality.

Conclusion Postpartum depression is a common disorder which has serious consequences. In a busy setting like the Obstetrics and Gynaecology units, where clinical diagnosis may be impossible, routine screening of new mothers for postpartum depression using EPDS will help in identifying possible cases who can then be sent to the Psychiatrists for clinical assessment and management.

Keywords: Depression; Low Birth Weight; Postpartum; Suicidality

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Introduction

Postpartum depression is a debilitating mental disorder with hydra-headed entangling impacts on the new mother, the infant, the new father as well as the society as a whole. Zuckerman and Beardslee¹ described postpartum depression as a morbid and persistent depressed mood noticeable within the first two months after delivery and lasting for many weeks with symptoms such as anhedonia, sleep difficulties not related to infant care, feelings of not coping and guilt.

Pitts² in 1968 described a threefold increase in the onset of depression within five weeks of childbirth when compared to non-pregnant controls with the level subsequently declining to the 'baseline' thereafter. Postpartum depression is seen as no distinct entity from the other affective disorders by the International Classification of Mental & Behavioural Disorders (ICD-10) while the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) included a course specifier in its section on affective disorders to denote postpartum onset.^{3,4} DSM-IV described postpartum depression (PPD) as a major depressive episode occurring within 4 weeks of childbirth.⁴ The Marce society, an international organization for the study of psychiatric illness related to childbearing, however, recognizes the time of vulnerability of postpartum depression as one year after delivery.⁵

The diagnosis of postpartum depression is often delayed and this is not without its attendant complications^{6,7,8}. It has been variously reported that despite increased contact with health care givers in the immediate postpartum period (e.g. immunization clinics for the new babies, the postnatal clinic visit by the new mother, or visits to the general practitioners

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over health concerns of their babies), identification of women with postpartum depression as well as the probable sufferers remains poor which often leads to avoidable short and long-term consequences such as continuing or recurrent depression in the new mother^{6,7,8}.

Studies have explored the factors that are likely to increase a woman's chance of developing PPD. Results have been inconsistent. However, four factors have been consistently found to relate to PPD and these include lack of social (especially spousal) support, prior history of depression and other emotional problems, obstetrics and infant problems and stressful life events.⁸⁻¹⁵ Some studies have also found that unemployment, unwanted pregnancy and poor marital relationship are associated with the risk of developing PPD.^{16,17} PPD in low- and middle-income countries have been linked to a variety of factors, including marital relations and discord, age of mother, birth of a child of the non-preferred sex and increased stressors in the environment (e.g. lack of food, inadequate income and housing conditions).^{6,12,18,19}

There have been scanty reports about the prevalence of postpartum depression in northern Nigeria. This study therefore aimed at determining the prevalence of postpartum depression and its psychosocial correlates in a teaching hospital in North Central region of Nigeria.

Materials and Methods

This was a descriptive cross-sectional study conducted at both the Obstetrics and Gynaecology (O & G) Department and the Children's Welfare Clinic of the Jos University Teaching Hospital (JUTH), Jos. The study was approved by Human Research Ethics committee of JUTH. Informed consents of the participating women were obtained after explaining the aims, the scope and the methodology of the study and their right to abstain from participation in the study without any reprisal.

Patients

Three hundred and ninety-two consenting new mothers who attended the Post-natal clinic of the O & G department of the hospital and those who came to the Child Welfare Clinic for the routine immunization of their new-babies between September and December 2006 were administered the Edinburgh Postnatal Depression Scale (EPDS) and a semi-structured socio-demographic questionnaire (SSQ).

Edinburgh Postnatal Depression Scale (EPDS)

The EPDS is an instrument developed by Cox et al¹⁹ in Livingston and Edinburgh in 1987. The instrument was developed for screening postpartum women in outpatient, home-visit setting or at the 6-8 week postpartum examination. It has been used extensively

among numerous populations including United States, United Kingdom, Spain and Nigeria.^{19,24}

The EPDS consists of 10 questions with each question having four responses scored according to their severity from 0 – 3. Questions 3, 5-10 have reverse-scores. The total score is determined by summing together the scores for each of the 10 items. The total score ranges from 0 – 30. Validation studies have suggested a cut-off range from 9 to 13. Though, Cox et al¹⁹ suggested a cut-off of 12 to err on safety's side. A woman scoring 9 or more points or a score of one or more in question 10 (Suicidality) of the instrument is suggestive of depression. Question 10 measures the presence of thought of harming oneself (Degree of Suicidality). In a validation study of the Edinburgh Postnatal Depression Scale (EPDS) in Jos, Nigeria in 2007, it was discovered that a lower figure of 7 is more likely to pick depression in this environment²². In that study, a score of seven (7) gave the best psychometric parameters in the population studied with sensitivity of 76%; specificity of 75% and positive predictive value of 91%. We therefore, used a cut-off of 7 as indicative of depression in the study population.

A Semi-structured Socio-demographic Questionnaire (SSQ) was used to obtain information regarding the new mothers' bio-data, relationship factors, obstetric factors, baby factors, past medical and psychiatric history and the family history. An initial pilot study was conducted and the findings were not incorporated into the definitive study. Excluded from the study were women with current or past history of mental illness. Three trained assistants were used in the administration of the questionnaires to the new mothers especially those who had difficulty with the reading of English language.

Data analysis

Data was analysed using Epi Info. Version 5. Comparisons of the data were done using chi-square or student t-test as appropriate and the statistical significance level was set at a p-value < 0.05.

Results

Socio-demographics

Three hundred and ninety-two women participated in the study. The mean age of the 392 women was 28 ±5.8 with an age-range of 17-45 years and modal age of 30 years. One hundred and sixty-nine (43.1%) women were Muslims, 161 (41.1%) were of the Orthodox Christian denomination while 62 (15.8%) were Pentecostal Christians. Among these women, 385 (98.2%) were currently married, 221 (56.3%) had a minimum of Secondary education, 200 (51.3%) were employed, 40 (10.3%) were students while the remaining 152 (38.4%) were full-time housewives as shown in Table 1.

Table 1: Social and clinical variables

Variable	Total Patients	Patients with Depression, N(%)	Patients without Depression, n(%)	Chi Square	p-value
Age group (n=387)					
<20 yrs	15	8 (4.7)	7 (3.3)	1.96	0.58
20-29 yrs	216	90 (52.3)	126 (58.6)		
30-39 yrs	143	67 (39)	76(35.3)		
40-49 yrs	13	7 (4.1)	6 (2.8)		
Religion (n=391)					
Islam	169	68 (40.2)	101 (59.8)	11.12	0.0039
Christian (Orthodox)	161	67 (41.6)	94 (58.4)		
Christian (Pentecostal)	61	39 (63.9)	22 (36.1)		
Parity (n=390)					
Primipara	109	51 (46.8)	58 (53.2)	0.58	0.75
Multipara	201	90 (44.8)	111 (55.2)		
Grandmultipara	80	33 (41.3)	47 (58.8)		
Feeling on Discovery of the Pregnancy (n=389)					
Very Happy	209	97 (46.4)	112 (53.6)	9.84	0.08
Happy	131	51 (38.9)	80 (61.1)		
Indifferent	20	13 (65.0)	7 (35.0)		
Upset	19	8 (42.1)	11 (57.9)		
Very Upset	7	2 (28.6)	5 (71.4)		
Cannot say	3	3 (100.0)	0 (0.0)		
Mode of Delivery (n=390)					
Normal Delivery	326	145 (44.48)	181 (55.52)	2.82	0.83
Assisted Delivery	9	5 (55.56)	4 (44.44)		
Caesarian Section	55	24 (43.63)	31 (56.36)		
Infant Feeding Method (n=391)					
Exclusive Breast feeding	337	147 (43.6)	190 (56.4)	4.16	0.24
Milk Formula only	4	1 (25.0)	3 (75.0)		
Breast milk and Milk Formula	45	25 (55.6)	20 (44.4)		
Others	5	1 (20.0)	4 (80.0)		
Family History in Female Relation (n=391)					
No Family History	317	141 (44.5)	176 (55.5)	4.52	0.21
Positive Family History	12	4 (33.3)	8 (66.7)		
Don't Know	58	29 (50.0)	29 (50.0)		
Not Applicable	4	0 (0.00)	4 (100.0)		
Birth Weight of baby (n=380)					
<2.5kg	19	12 (63.2)	7 (36.8)	8.76	0.03
2.5 - 3.5kg	203	94 (46.3)	109 (53.7)		
>3.5kg	81	26 (32.1)	55 (67.9)		
Don't know	77	38 (49.4)	39 (50.6)		
Suicidality (Question 10 on EPDS); n= 392					
Score 0	343	126 (36.7)	217 (63.3)	64.31	0.0001
Score 1	28	27 (96.4)	1 (3.6)		
Score 2	21	21 (100.0)	0 (0.0)		

Obstetric factors

Of the 391 women who gave their parity, 109 (27.9%) were Primipara, 202 (51.7%) were Multipara while 80 (20.5%) were Grandmultipara. Most deliveries were normal spontaneous vertex delivery (SVD) accounting for 327 (83.7%) while 55 (14.1%) of the deliveries were by Caesarean section while the rest were assisted

vaginal deliveries (Breech, Forceps and vacuum deliveries).

Out of the 390 women who stated the sex of their babies, 203 (52.1%) had male children while 187 (47.9%) had female babies. While 338 women (86.2%) exclusively breastfed their babies, 54 (13.8%) were either feeding the babies on formula feed alone or in combination with breast milk.

On discovery of the pregnancy, 210 women (53.8%) were very happy, 131 (33.6%) were just happy, 20 (5.1%) were indifferent, 19 (4.9%) were upset, 7 (1.8%) were very upset while 3 (0.8%) could not remember what their feeling was on discovering the pregnancy. These are shown in Table 1.

Prevalence of postpartum depression psycho-social correlates

One hundred and seventy-four of the 392 new mothers had a score of 7 and above giving a crude prevalence rate of 44.39%. Amongst the psychosocial factors studied, Religion (p-Value=0.031), Birth weight of the baby (p-value=0.0039) and Suicidality (p-value= 0.0001) showed significant association with depression while no significant association were found with other variables (See Table 1).

Discussion

The prevalence of postpartum depression in this study was 44.39%. This shows that postpartum depression is highly prevalent in the study population. The prevalence of postpartum depression vary widely in the developed and developing countries.²⁴ Though, the prevalence figure recorded in this study is higher than 34.7% found by Cooper et al²⁴ in 1999; 23.5% by Owioye and Aina²¹ in 2004 in Lagos, Nigeria and 25.7% recorded by Abasiubong et al²³ in 2008 in Uyo, Nigeria. The prevalence rate in this study, however, is relatively comparable to those reported in Bangladesh (50%), Pakistan (28-57%) and in Latin America (35-47%).^{25, 26, 27} A lower EPDS cut-off score of seven (7), used in this study, may have been responsible for the higher prevalence figure. Worthy of mentioning is that the cut-off score of 9 were used in the studies with lower figures such as Cooper et al²⁴, 1999 (34.7%); Abasiubong et al²³, 2008 (25.7%); Uwakwe and Okonkwo²⁰ (10.7%), 2003; Owioye et al¹⁷, 2006 (23%).

The use of a screening instrument may also have been responsible for the higher figure in this study. Screening instruments have been known to give higher prevalence when compared to the use of diagnostic instruments.^{11,20} The location of the study may have also contributed to the higher prevalence figure recorded in this study. While this study was based both at the

Postnatal and Children welfare clinics of a tertiary hospital setting, Owoeye and his colleagues in 2006 collected data at a Maternity center in Lagos (a primary health center)¹⁷ while Abasiubong et al²³ limited their data collection to the postnatal clinic and excluded those who delivered outside the hospital. The Children welfare clinic of JUTH sub-serves the dual purposes of immunization and attendance to sick children. Some of the women, with sick babies, may have been worried about the health of their children and this may have reflected in their responses. The postnatal clinic of a tertiary care centre is also known to receive a higher representation of complicated cases.^{22, 24, 25}

The period and the prevailing environment when this study was done may also have contributed to the higher prevalence figure. Ethno-religious crises were prevalent around the period of the study. This may have heightened the emotional responsiveness of the respondents.²⁹ This may explain the higher prevalence figures reported in Bangladesh, Pakistan and in Latin America.^{25, 26, 27} These countries are all associated with one form of crisis or the other.

Religion, the birth-weight of the baby and Suicidality (EPDS Question 10) were found to be associated with depression in the new mothers. Anecdotal evidence abounds to suggest that the degree of cohesion and involvement of members of the Islam and orthodox Christian denominations in religious activities is more than those in the Pentecostal Christian faith. The strength of the cohesion and the degree of involvement in activities is directly proportional to the stability of members: it acts as a buffer for faithful members. This may have been responsible for the lower percentage of the depressed in these groups.

Lower birth weights are associated with more neonatal complications and these have been linked with postpartum depression^{8, 9, 11, 15}. No significant association was found between postpartum depression and age, marital status, occupation, parity and previous history of depression in the new mother in this study though this have been documented in other studies.^{18, 24, 29, 30} Suicidality was found to be a good predictor of depression in the new mothers. This is in keeping with the recommendation of the developer of the instrument and the few who had studied the relationship between suicidality and postpartum depression^{19, 28}.

The limitations of the study include the small population size and the fact that the study was hospital based. Since most women still deliver at non-medical facilities, the hospital-based nature of the study excluded a huge number of women at risk. The small sample size resulted in a significant reduction in the power of observation, which limited correlation studies of the associated risk factors and reduced the ability to

generalize the result to the general population. Also, the inability of the researchers to carry out a clinical assessment to confirm diagnosis is a major limitation to the study.

Conclusion

Postpartum depression is relatively more prevalent in our environment and the index of suspicion of care givers should be higher. A simple screening instrument like the Edinburgh Postnatal Depression Scale (EPDS) can be used to screen new mothers. New mothers with low birth weight babies are more at risk of developing postpartum depression. In very busy clinics, Question 10 of the EPDS can also be a good predictor of postpartum depression in the new mothers. Routine screening of new mothers, especially those with low birth-weight babies, should be carried out at the postnatal clinics and the children welfare clinics to identify depressed new mothers, who can then be referred to the Psychiatrists for clinical assessment. This preventive measure will increase the identification of possible depressed women and thereby reduce the deleterious complications.

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