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Use of the Edinburgh Postnatal Depression Scale to identify postpartum depression and its risk factors in Southeastern Nigeria

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Abstract

Objectives: To determine the prevalence of postpartum depression and the demographic and clinical characteristics associated with a positive screen.
Subjects and methods: Five hundred and fifty consecutive and consenting postnatal women at five postnatal clinics in Aba, Southeastern Nigeria over the period 1 June – 1 November, 2010. Using the 10-question Edinburgh Postnatal Depression Scale (EPDS), the postnatal women were screened for postpartum depression during postnatal and childhood immunization visits at six weeks postpartum. Consenting clients self-completed the questionnaire or were assisted to do so by research assistants.
Results: The prevalence of women with a positive screen for postpartum depression was 23.5%. Women who had a positive screen were more likely to have attained primary education (OR 0.19; CI 0.70-1.34; p<0.001) and tertiary education (OR 1.59; CI 1.07-2.36; p<0.05), be unpartnered (OR 0.20; CI 0.05-0.83; p<0.05), had caesarean delivery (OR 0.58; CI 0.35-0.97; p<0.05), have a history of depression (OR 0.16; CI 0.07-0.36; p<0.001) and belong to ethnic minorities in Nigeria (OR 0.20; CI 0.08-0.46; p<0.001).
Conclusion: Postpartum depression is as prevalent in this African culture as in Western and Asian cultures. Women should be screened for depressive symptoms during pregnancy and postpartum periods so that timely and appropriate follow-up evaluation and treatment may be initiated.

Key words: Postpartum, Depression, Southeastern, Nigeria.

Introduction

Postpartum Depression (PPD) is a common complication of childbearing (1). There has been a growing international recognition of PPD as a major public health concern since many women experience short or long term mood disturbances postpartum (2,3). Postpartum psychosis and postpartum depression can transform the postpartum period into a nightmare. In addition to directly influencing the emotional wellbeing of mothers, PPD has been shown to affect marital relationships, mother to infant bonding, and infant behaviour (4).

Women often suffer in silence from PPD and are reluctant to ask for help because of the shame of not meeting the cultural expectation of the "happiest time of their lives" or because of the belief that their feelings are within the realm of normal reactions to having a baby (5). Further, obstetricians and other healthcare providers do not screen for PPD because of the lack of training in the recognition and treatment of depression, the lack of convenient and reliable screening tool and the stigma of mental illness (6).

Relatively little is known about PPD and only recently has research been instituted about women's experiences when suffering from the illness. There is a paucity of data on PPD in African women as most of research into PPD has been conducted in Western, developed countries. Hence, the need for this study.

Materials and methods

This was a descriptive cross-sectional study involving 550 consecutive and consenting postnatal women at

five postnatal clinics in Aba, Southeastern Nigeria over the period 1 June- 1 November, 2010. Using the Edinburgh Postnatal Depression Scale (EPDS) (7), the postnatal women were screened for postpartum depression during postnatal and childhood immunization visits at six weeks postpartum. A postpartum clinic attendee that missed the six weeks or any of the subsequent postpartum visits was to be screened at her first postnatal clinic visit at ten, fourteen or thirty weeks postpartum. However, all the women studied were screened at six weeks postpartum as none missed the six weeks immunization visit. Consenting clients self-completed the questionnaire or were assisted to do so by research assistants if the client had limited English, had difficulty with reading or needed translation in the vernacular.

Over the past two decades, the instrument most frequently used internationally for research into postnatal depression has been the EPDS. The EPDS was chosen for this study because it is easy to administer and has proven to be an effective screening tool(see overleaf). The EPDS consists of 10 questions. Questions 1, 2 and 4 are scored 0, 1, 2 or 3 with top box scored as 0 and the bottom scored as 3. Questions 3, 5-10 are reverse scored, with the top box scored as a 3 and the bottom box scored as 0. Maximum score is 30. A score of 10 or greater is suggestive of possible depression. Positive responses by the client to question 10 are indicative of suicidal thoughts.

Since the EPDS score should not override clinical judgment, a careful clinical assessment was carried out to confirm the diagnosis in the women who scored 10 or greater. These women were referred to a mental health professional for further evaluation and treatment at the mental health outpatient clinic of the Abia State University Teaching Hospital, Aba. The mental health outpatient clinic is in session a day following the postnatal clinic.

One hundred and thirteen women out of the 129 that were referred to the mental health professional were found to be suffering from various degrees of "perinatal depression" and were offered counseling and medications. Sixteen of the referred women were offered counseling only and given appointments for re-evaluation after one month.

Data analysis included descriptive statistics for demographic data and Chi-squared test to assess differences in proportions for category of maternal characteristics by EPDS score. All statistical analyses were performed using Epi-info version 6 statistical package. $P<0.05$ was considered significant. Ethical approval was obtained from the research and ethical committee of Abia State University Teaching Hospital, Aba.

Results

A total of 550 postnatal attendees took part in this study. Table 1 describes the socio-demographic characteristics of the study participants. The Table shows the socio-demographic characteristics of the study participants. The modal age of the women was 30 years and the average age 32.5 years while the age range was 18-42 years. Majority of the women were multiparous and of the Igbo ethnic group

Table 1: Demographic characteristics of participants (n=550)

Demographic characteristics	NO.	(%)
Maternal age		
≤ 19	12	2.2
20-29	300	54.5
≥ 30	238	43.3
Parity		
Primipara	192	34.9
Multipara	358	65.1
Ethnicity		
Igbo	521	94.7
Others	29	5.2
Maternal education		
Primary	18	3.3
Secondary	260	47.2
Tertiary	272	49.5
Marital status		
Married	540	98.2
Single/ Divorced/ Widowed	10	1.8
Infant feeding method		
Exclusive breastfeeding	294	53.5
Mixed feeding	256	46.5
Type of birth		
Vaginal	463	84.2
Caeserean	87	15.8
History of depression		
Yes	32	5.8
No	518	94.2

Table 2 shows the relationship between the maternal variables and EPDS screening results. One hundred and twenty-nine of the 550 study participants had a positive screen for PPD. The prevalence of a positive screen for PPD was 23.5%. Maternal age, parity and infant feeding method had no significant relationship with a positive screen for PPD. Women who had a positive screen (score >10) for PPD using the EPDS were significantly more likely to have attained primary and tertiary education, be unpartnered, had caesarean delivery, belonged to ethnic minorities in Nigeria and had a history of depression (all $p<0.05$) Women who had a positive screen were more likely to be unpartnered, $p<0.01$, belonged to ethnic minorities in Nigeria, $p<0.001$, had a history of depression, $p<0.001$ and had a caesarean delivery, $p<0.05$.

Table 2: Relationship between maternal variables and EPDS screening results

Variables	**<10 Negative n=421 No. (%)**	**>10 Symptoms Present (Positive) n=129 No. (%)**	**OR**	**CI**	**P-value**
Maternal age					
<19	6 (50)	6 (50)	0.31	0.09-1.09	0.04
20-29	235 (78.3)	65 (21.7)	1.11	0.78-1.58	0.6
≥ 30	180 (75.6)	58 (24.4)	0.95	0.66-1.38	0.85
Parity					
Primipara	149 (77.6)	43 (22.4)	1.06	0.70-1.60	0.84
Multipara	272 (76)	86 (24)	0.97	0.70-1.34	0.90
Ethnicity					
Igbo	410 (78.7)	111 (21.3)	1.13	0.84-1.53	0.44
Others	11(39.3)	17 (60.7)	0.20	0.08-0.46	<0.001*
Maternal Education					
Primary	7 (38.9)	11 (61.1)	0.19	0.07-0.56	<0.001*
Secondary	186 (71.5)	74 (28.5)	0.77	0.54-1.09	0.14
Tertiary	228 (83.8)	44 (16.2)	1.59	1.07-2.36	0.02*
Marital status					
Married	417 (77.2)	123 (22.8)	1.04	0.78-1.39	0.84
Single/Divorced/Widowed	4 (40)	6 (60)	0.20	0.05-0.83	0.01*
Infant feeding method					
Exclusive breastfeeding	240 (81.6)	54 (18.4)	1.36	0.94-1.97	0.10
Mixed feeding	179 (71.3)	72 (28.7)	0.76	0.54-1.08	0.13
Type of birth					
Vaginal	364 (78.6)	99 (21.4)	1.13	0.83-1.53	0.47
Caeserean	57 (65.5)	30 (34.5)	0.58	0.35-0.97	0.03*
History of depression					
Yes	11 (34.4)	21 (65.6)	0.16	0.07-0.36	<0.001*
No	410 (79.2)	108 (20.8)	1.16	0.86-1.57	0.34

EPDS = Edinburgh Postnatal Depression Scale

* *= Statistically significant at $p < 0.05$*

Discussion

The prevalence of women who had a positive screen for PPD was 23.5% in this study. This rate is higher than a prevalence of 16% in other prevalence studies in the industrialized Western world (8,9) but falls within the range of 3.5% to 63.3% found in Asian countries where Malaysia and Pakistan had the lowest and highest respectively (10). Thus, the phenomenon of PPD is as prevalent in this African culture as in European and Asian cultures. Our findings do not support the idea that postnatal depression is a western phenomenon as described by Kelly (11) in his descriptive accounts of motherhood in Nigeria. Postnatal depression appears therefore to be a universal experience not confined to the developed countries.

Our study also provides needed insight into clinically relevant, identifiable factors significantly associated with PPD. The risk factors found in this study could help clinicians target depression screening to high risk populations of pregnant and postnatal women. The finding in our study that women who had a positive screening for PPD were more likely to have had previous personal history of depression prior to pregnancy and living without a partner confirmed findings of other studies (8,11). A personal history of depression (prior to pregnancy or postpartum) has been found to be the major risk for PPD; one half of women with PPD have onset of symptoms before or during their pregnancies (12). Studies elsewhere found no strong association between PPD and any mode of delivery (13) but this study found women who had a positive screen for PPD were more likely to have had caesarean delivery. This may be due to the fact women from Southeastern Nigeria are particularly averse to caesarean delivery (13).

Non-breastfeeding in the postnatal period has been identified as a risk factor for PPD with women who breastfed approximately half as likely to screen positively for PPD as women who bottle-fed their infants (8,14,15). Other research has pointed to evidence that breastfeeding can positively impact women's moods, enhance the actions of the parasympathetic nervous system, and decrease the stress response in new mothers (16). The majority of the women (95%) in our study breastfed their babies. Women from the ethnic minorities in Nigeria in this study were found to be more likely to have a positive screen for PPD. This finding may be due to inadequate social support from their extended families whose members were fewer or unavailable in the locality of the study.

Certain limitations should be noted when interpreting our study results and include possible selection bias, as the clients were volunteers and were not selected randomly. Screening tools such as the EPDS produced a higher prevalence of PPD than actual diagnostic interviews (8). However, because PPD is dangerous to the wellbeing and health of the baby and mother, false positive results are less worrisome than false negative results. Screening for depression has the potential to benefit a woman and her family and should be strongly considered. Pregnancy and the postpartum period represent an ideal time during which consistent contact with the healthcare delivery system will allow women at risk for PPD to be identified and treated. Medical practices should have a referral process for identified cases.

In conclusion, PPD is as prevalent in this African culture as in Western and Asian cultures. Women should be screened for depressive symptoms during pregnancy and postpartum periods so that timely and appropriate follow-up evaluation and treatment may be initiated.

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