DEPRESSION IN PREGNANCY AND THE PUERPERIUM IN A TERTIARY HEALTH FACILITY IN NIGERIA. A NEGLECTED AREA OF PRACTICE

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ABSTRACT

BACKGROUND: Depression is common in pregnancy in high-income-countries but rarely spoken about in Nigerian Tertiary Obstetric Centres.

OBJECTIVES: This study was conducted to ascertain the prevalence and risk factors for major depression in pregnancy and puerperium at the University of Port Harcourt Teaching Hospital and determine awareness of it among obstetricians.

METHODS: This was a cross-sectional study. Two hundred and five women from the obstetric and paediatric wards and clinics were interviewed in two stages. In the first stage, data on their socio-demographic characteristics, obstetric and medical history was collected while in the second, which followed immediately after the first, the MINI international neuropsychiatric questionnaire was used to collect data which was analysed on SPSS-19 software.

RESULTS: The prevalence of major depression in pregnancy and the puerperium was 9.76% but there was variation in the antenatal and postnatal periods of 9.57% and 16.98% respectively. The factors that were independently associated with major depression in pregnancy were domestic violence (P=0.008), single mothers (P=0.038) and past episode of major depression (P= 0.001).

CONCLUSION: Irrespective of the high prevalence of major depression in the pregnant population at the UPTH, obstetric practitioners are not aware of it. There is therefore the need for continuous medical and health education in mental health problem in pregnancy.

KEYWORDS: Depression, Pregnancy, Puerperium, Health, Nigeria, Neglect

NigerJMed2017: 146-155

INTRODUCTION

Depression refers to a wide range of mental health problems characterised by the absence of a positive affect (loss of interest and enjoyment in everyday life, low mood and a range of associated emotional, cognitive, physical and behavioural symptoms lasting for one week or more.[1] Behavioural and physical symptoms typically include tearfulness, irritability, social withdrawal, an exacerbation of pre-existing pains, pain secondary to increased muscle tension,[2] a lack of libido, fatigue and diminished activity.

Typically there is reduced sleep and lowered appetite (sometimes leading to significant weight loss), but for some people reverse may be the case. Feelings of guilt, worthlessness and that one deserves punishment, are common, as well as lowered self-esteem, loss of confidence, feelings of helplessness, suicidal ideation and attempts at self-harm or suicide. Cognitive changes include poor concentration and reduced attention, pessimistic and recurrently negative thoughts about oneself, one's past and the future, mental slowing and rumination. Depression is a common mental illness, which is ranked the third most prevalent moderate and severe disabling condition globally by the World Health Organization.

Women during pregnancy and the puerperium are known to be at risk of developing depression. The risk factors for depression in pregnancy and the puerperium could be mood or anxiety disorders, previous history of postnatal depression, history of postmenstrual dysphoric disorder, family history of perinatal psychiatric illness, history of childhood abuse, low income, poor social support, unplanned pregnancy, single motherhood, large number of existing children, domestic violence or relationship conflicts, and young age.[3]

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Pregnancy and depression are synergistic to each other. With an excess of chronic life stressors, women may find themselves unable to cope with the additional demands of pregnancy. Many women, particularly those living in poverty or already with dependent children, may view pregnancy with negative feelings. Issues or memories surrounding poor parenting or abuse women have suffered may reassert themselves and cause distress. Relationships are often under pressure because domestic violence increases during pregnancy.[1] We therefore hypothesised that the prevalence of depression in pregnancy in Nigeria could be high.

Antenatal depression has been implicated in nutritional deprivation and poor maternal weight gain during pregnancy. These are associated with intrauterine growth restriction (IUGR) and low neonatal birthweight.[4] It has been associated with prolonged labour, peripartum complications, postpartum complications, and nonvaginal delivery.[5] Some may manifest with suicidal tendencies in pregnancy.[6]

The prevalence of antepartum depression ranges from 7 to 15% in high-income countries[7] and 19 to 25% in low-and middle-income countries.[8] Notably, the prevalence of postpartum depression among women residing in high income countries is reported to be approximately 10% [9] and 20% for women in low-and middle-income countries.[10] In Nigeria, two studies gave a wide prevalence range of 8.3% and 24.5% respectively[11,12]. The first focused on antenatal depression among pregnant women in their third trimester while the second, on all the trimesters. Both studies were carried out in Western Nigeria. There has been no such study carried out in the core Niger Delta region of Nigeria where this present study was conducted.

The difference in the prevalence of major depression between those that had domestic violence and those that did not have it was statistically significant (P = 0.008); the same was applicable to married and single mothers (P = 0.038). and past episode of major depression (P = 0.001). All other variables, namely age group, educational qualification, work, drinking status, parity (P=0.733) and stages of pregnancy had no correlation with the incidence of current depression.

OBJECTIVES

The objectives of this study were to ascertain the prevalence of major depression, risk factors for it and determine the awareness of health professionals about it in pregnancy and the puerperium at the University of Port Harcourt Teaching Hospital (UPTH).

ETHICAL CONSIDERATIONS

This study proposal was presented before the University of Port Harcourt ethical committee and was approved in June 2016. Participants were given the right to accept or decline participation and they were reassured that their decision would not affect their care. Written informed consent was obtained from each participant and her confidentiality was preserved.

MATERIALS AND METHODS.

Design

This was a prospective descriptive longitudinal cross-sectional study that was carried out at the University of Port Harcourt Teaching Hospital from November 2016 to February 2017.

Sample size determination

Nigerian prevalence of major depression of 8.3% as was shown in 2007 by Adewuga et al.[11] In the calculation of sample size in this study. In that study, patients were screened using the EPDS and those that screened positive were offered a diagnostic test. The sample size for this study was calculated using the formula for the descriptive cross-sectional study by Wingo et al.

$$n = Z^2 \times PQ / d^2$$

Where n = sample size

Z = the proportion of normal distribution corresponding to the required significance level (5%) which is 1.96

P = the prevalence of depression in pregnancy in Nigeria in 2007.[11]

$Q = (1.00 - P) = 1.00 - 8.3\% = 1 - 0.083 = 0.917$

D = How close to the previous reported prevalence, the prevalence for the current study is desired to be (0.05).

Therefore $n = 1.96^2 \times 0.083 \times 0.917 / 0.05^2$

$= 3.8416 \times 0.083 \times 0.917 / 0.0025$

$= 116.955$

$= 117$

If the attrition rate is considered to be 10%, the study sample size of 129 was calculated using sample size formula for cross-sectional study with a prevalence of 8.3%, precision of 5%, and standard normal deviate of 1.96 at 95% confidence intervals. We collected data from more patients, in total 205 given the peculiarities and the difficulties of collecting complete data in sub-Sahara Africa.

Study Population.

This included all pregnant women attending antenatal clinics, those that were admitted to the antenatal and postnatal wards and puerperal patients presenting with their children to the paediatric clinics. Pregnant women with physical disabilities such as deafness and dumbness, critically ill patients, as well as those with a

history of or ongoing mental illness / retardation were excluded. Maternities that do not fully understand English language were provided with interpreters.

Sampling Technique

A multistage cluster sampling technique was used because of the different sections of the hospital that were used for the study. In the antenatal clinic, each morning, patients were educated on the study and its aim. Each section for the data collection, namely the antenatal clinic, wards and the paediatric clinics were manned by only one Research Fellow. Data was collected from only 5-6 new patients in each section daily. When new patients were 6 or less, they were all interviewed but when they were more, a simple random sampling technique (balloting) was used to select the required number of participants. The same sampling technique was applied to the wards and the paediatric clinic. There were very few patients who declined consent.

Data Collection

Data was collected using a specially designed pro forma containing three sections. The first section focused on socio-demographic characteristics such as age, marital status, ethnicity, occupation, level of education, height, weight, BMI, while the second section was on the risk factors for depression; smoking, drinking, domestic violence, medical and obstetric history. The last section was on the application of the MINI International Neuropsychiatric Questionnaire for diagnosis of depression in pregnancy and the puerperium.

The MINI was designed as a brief structured interview for diagnosis of major depression. It had been validated as a diagnostic tool for depression.11 The questionnaire was made up of 5 questions and subsections: A1 (a and b), A2 (a and b), A3 (a-g), question 4 and 5. The answer to each question is either "Yes" or "No." and A3 (a-g) and A4 were divided into "Past 2 weeks" and "Past episode."(Table 1). If A1b or A2b is coded 'Yes," the interviewer must assess both current and past episodes of depression, i.e. both columns in questions A3 and A4' if A1b or A2b is coded 'No,' then further questioning will concentrate on past depression. If five questions in A1-A3 were coded 'Yes' and A4 was also coded 'Yes,' a major depression was diagnosed which could either be current or past episode; some patients may have both. If A5 was coded 'Yes,' then the major depression was recurrent.

Three employed research fellows collected the data, one on the antenatal clinic, another for the wards and the last for the postnatal patients in paediatric clinics. The first and the second sections of the data were collected directly onto the excel while the MINI questionnaires were handed over to patients and later answers were copied onto the excel file. In some cases, patients were so tired that they could not complete the questionnaires; in such cases the.

A. MAJOR DEPRESSIVE EPISODE

(\ MEANS : GO TO THE DIAGNOSTIC BOXES, CIRCLE NO IN ALL DIAGNOSTIC BOXES, AND MOVE TO THE NEXT MODULE)

A1	a	Were you ever depressed or down, most of the day, nearly every day, for two weeks?	NO	YES
		IF NO, CODE NO TO **A1b**: IF YES ASK:		
	b	For the past two weeks, were you depressed or down, most of the day, nearly every day?	NO	YES
A2	a	Were you ever much less interested in most things or much less able to enjoy the things you used to enjoy most of the time, for two weeks?	NO	YES
		IF NO, CODE NO TO **A2b**: IF YES ASK:		
	b	In the past two weeks, were you much less interested in most things or much less able to enjoy the things you used to enjoy, most of the time?	NO	YES
		IS **A1a** OR **A2a** CODED YES?	\ NO	YES

			Past 2 Weeks		Past Episode	
A3		IF **A1b** OR **A2b** = YES: EXPLORE THE CURRENT AND THE MOST SYMPTOMATIC PAST EPISODE, OTHERWISE IF **A1b** AND **A2b** = NO: EXPLORE ONLY THE MOST SYMPTOMATIC PAST EPISODE **Over that two week period, when you felt depressed or uninterested:**				
	a	Was your appetite decreased or increased nearly every day? Did your weight decrease or increase without trying intentionally (i.e., by ±5% of body weight or ±8 lb or ± 3.5 kg, for a 160 lb/70 kg person in a month)? IF YES TO EITHER, CODE YES.	NO	YES	NO	YES

b	Did you have trouble sleeping nearly every night (difficulty falling asleep, waking up in the middle of the night, early morning wakening or sleeping excessively)?	NO	YES	NO	YES
c	Did you talk or move more slowly than normal or were you fidgety, restless or having trouble sitting still almost every day?	NO	YES	NO	YES
d	Did you feel tired or without energy almost every day?	NO	YES	NO	YES
e	Did you feel worthless or guilty almost every day?	NO	YES	NO	YES
	IF YES, ASK FOR EXAMPLES. THE EXAMPLES ARE CONSISTENT WITH A DELUSIONAL IDEA. Current Episode ⓪ No ⓪ Yes Past Episode ⓪ No ⓪ Yes				
f	Did you have difficulty concentrating or making decisions almost every day?	NO	YES	NO	YES
g	Did you repeatedly consider hurting yourself, feel suicidal, or wish that you were dead? Did you attempt suicide or plan a suicide? IF YES TO EITHER, CODE YES.	NO	YES	NO	YES
A4	Did these symptoms cause significant problems at home, at work, socially, at school or in some other important way?	NO	YES	NO	YES
A5	In between 2 episodes of depression, did you ever have an interval of at least 2 months, without any significant depression or any significant loss of interest?			NO	YES

M.I.N.I. 6.0.0 (January 1, 2010) 4

Table 1. MINI neuropsychiatric interview for major depression[13]

interview was compelled to complete the interview on phone after the patients had already left the hospital and resting at home.

Data Analysis.

The collected data was entered and stored in a password-protected computer and analysed with the SPSS-19 software. Data was collected on excel spread sheet, coded and then uploaded unto the SPSS-19 for analysis. Simple proportions were used in the descriptive analysis. Bivariate analysis was also carried out. Comparison of related variables was conducted, using the Chi-square X^2 and P-value of less than 0.05 was considered statistically significant. When an expected count was less than 5 in a cell, Fisher Exact test was used.

RESULTS

Data on the demographic, social and obstetric characteristics of the patients were shown in table 2. Out of the 205 patients that were assessed using the MINI neuropsychiatric interview for major depression,[13] data on age distribution was available for 168 patients. The mean age of the patients was 31.60 ± 4.82. There were 3 women aged less than 20 years (1.79%), 54 (32.14%) between 20 and 29 years of age, 105 (62.5%) from 30-39 years and 6 patients (3.57%) at 40 years and above. Data on educational characteristics was available for 131 patients; 83 (63.36%) had tertiary education, 45 (34.35%) – secondary while 3(2.29%) had primary education.

Demographic Social and Obstetric characteristics		Frequency	Percentage %
	<20	3	1.79
	20-29	54	32.34
Age group	30-39	105	62.87
	40 and above	6	3.59
	Total	168	100.00
	Primary	3	2.29
	Secondary	45	34.35
Educational level	Tertiary	83	63.36
	Total	131	100.00
Occupation	Employed	95	68.35
	Unemployed	44	31.65
	Total	139	100.00
Smoking		0	0
	Total	141	100
Drinking	No	114	79.17
	Yes	30	20.83
	Total	144	100
Domestic Violence	No	34	75.56
	Yes	11	24.44
	Total	45	100
Marital Status	MARRIED	54	84.38
	Single	10	15.63
	Total	64	100.00
Parity	0	32	24.62
	1	22	16.92
	2	34	26.15
	3	24	18.46
	4	11	8.46
	5	6	4.62
	6	1	0.77
	Total	130	100.00
Gestational Age	First 13 weeks	9	5.38
	13 +1 - 26 weeks	38	22.62
	26+1 - 42 weeks	68	40.48
	Postnatal	53	31.55
	Total	168	

Table 2. Demographic, social and obstetric characteristics of patients

95 patients (68.35%) were employed while 44(31.65%) were unemployed. Regarding smoking, out of 140 women that were assessed, none smoked cigarette. 30 (20.83%) out of 144 patients drink alcohol while 114 (79.17%) do not drink. Out of the 45 women who answered the question on domestic violence, 11 (24.44%) screened positive while the rest 34(75.56%) screened negative. 10 (15.63%) women were single while 54 (84.38%) were married. Regarding parity of the patients, 32 (24.62%) were nullipara, 80 (61.54%) were Para 1 to 3

Types of depression	No Frequency	No Percentage %	Yes Frequency	Yes Percentage %	Frequency
Major Depression	178	86.83	27	13.17	205
Past Episode of depression	199	97.07	6	2.93	205
Current Episode of Depression	199	97.07	6	2.93	205
Total past major Depression	185	90.24	6+14 = 20	9.76	205
Current episode with background past Depression	191	93.17	14	6.83	205
Total Current episode of Depression	185	90.24	20	9.76	205
Recurrent Depression	204	99.51%	1	0.49	205

Table 3. Frequency distribution of depression in pregnancy and the puerperium at the UPTH, Port Harcourt

while 17 (13.08%) were Para 4 and above. Regarding the stage of pregnancy when data was collected, 9 (5.38%) were in the first trimester, 38 (22.62%) between 13+1 and 26 weeks, 68 (40.48%) from 27 to delivery and 53 (31.55%) were postnatal

Out of the 205 patients that were assessed with the MINI international neuropsychiatric pro forma, 27 (13.17%) were diagnosed with major depression, 6 patients (2.93%) had only current episode of depression without background past depression while 14 patients (6.83%) had current major depression with background past episode of the problem, giving a total for

Parameters		Major Depression				X^2	P-value
		Yes		No			
		Frequency	Percentage %	Frequency	Percentage %		
Age Group	<20	0	0	3	100		< 0.523
	20-29	10	18.52	44	81.48		
	30-39	12	11.43	93	88.57		
	40 and above	0	0	6	100		
	Total	22		145			
Education	Primary	0	0	3	100		< 0.770
	Secondary	5	11.11	40	88.89		
	Tertiary	14	16.87	69	83.13		
	Total	19		112			
Occupation	Employed	14	14.74	81	85.26	0.071	< 0.789
	Unemployed	8	18.18	36	81.82		
Drinking	Yes	8	26.67	22	73.33	2.767	< 0.096
	No	14	12.28	100	87.72		
Domestic violence	Yes	6	54.55	5	45.45	8.189	<0.004
	No	3	8.82	31	91.18		
	Total	9		36			
Marital Status	Married	7	12.96	47	87.04	2.642	< 0.104
	Single	4	40.00	6	60.00		
Parity	0	3	15.00	29	26.36		< 0.733
	1	4	18.18	18	81.82		
	2	7	20.59	27	79.41		
	3	5	20.83	19	79.17		
	4	1	9.09	10	90.91		
	5	0	0	0	100		
	6	0	0	1	100		
	Total	20		110			
Gestational Age	First 13 weeks	1	0	8	100		< 0.867
	13 +1 - 26 weeks	6	15.79%	32	84.21%		
	26+1 - 42 weeks	9	13.24	59	86.76		
	Postnatal	10	18.87%	43	81.13%		

Table 4. Relationship between maternal characteristics, social and obstetric history and major depression current depression of 20, which is 9.76% of the study population (Table 3). Recurrent depression was diagnosed in only one patient (0.49%).

Table 4 above shows that among all the demographic, social and obstetric factors in our data, it was domestic violence that had statistical significance with the incidence of major depression. (X^2 = 8.189, P = 0.004.) The factors or variables that did not have statistical significance with major depression were as following: age group (P = 0.52). educational qualification (P = 0.770), work (X^2 = 0.071, P = 0.79). drinking status (X^2 = 2.767, P = 0.096, marital status (X2 = 2.642. P = 0.104), parity (P = 0.733) and stages of pregnancy (P = 0.592).

When the pregnant women were dichotomised into those that had current episode of major depression and those that did not have it, 3 factors (domestic violence, marital status and past episode of major depression significantly correlate with its prevalence (Table 5). The difference in the prevalence of major depression between those that had domestic violence and those that did not have it was statistically significant (X^2 = 7.124, P = 0.008); the same was applicable to unmarried and single mothers (X^2 = 4.399, P = 0.038). and past episode of major depression (X^2 = 60.135, P = 0.001). All other factors or variables, namely age group, educational qualification, work, drinking status, parity (P = 0.733) and stages of pregnancy had no correlation with the incidence of current depression.

Parameters		Total Current Depression				X^2	P-Value
		Yes		No			
		Frequency (%)	Percentage %	Frequency	Percentage %		
Age Group	<20	0	0	2	100		
	20-29	7	12.96	47	87.04%		
	30-39	10	9.52	95	90.48%		< 0.83
	40 and above	0	0	6	100		
	Total	17		150			< 0.51
Education	Primary	0	0	3	100		
	Secondary	3	6.67	42	93.33%		
	Tertiary	11	13.25	72	86.75%		< 0.51
	Total	14		117			
Occupation	Employed	9	9.47	86	90.53%	0.673	<0.412
	Unemployed	7	15.91	37	84.09%		
		16		123			
Drinking	Yes	5	16.67	25	83.33%	0.580	< 0.446
	No	11	9.65	103	90.35%		
Domestic violence	Yes	5	45.45	6	54.55%	7.124	< 0.008
	No	2	5.88	32	94.12%		
	Total	7		38			
Marital Status	Married	5	9.26%	49	90.74%	4.399	< 0.038
	Single	4	40.00%	6	60.00%		
Parity	P0	2	6.25%	30	93.75%		
	P1	3	13.64%	19	86.36%		
	P2	5	14.71%	29	85.29%		< 0.512
	P3	5	20.83%	19	79.17%		
	P4	0	0	11	100		
	P5	0	0	6	100		
	P6	0	0	1	100		
	total	15		115			
Stage of pregnancy	First 13 weeks	1	11.11	8	88.89		
	13 +1 – 26 weeks	2	5.26	36	94.74		< 0.364
	27 - delivery	8	11.76	60	88.24		
	Postnatal	9	16.98	44	83.02		
	Antenatal	11	9.57	104	90.43		
Presence of previous major depression	Yes	14	70	6	30	60.135	>0. 001
	No	12	6.48	173	93.51		

Table 5. Relationship between maternal characteristics and others and current depression

Major depression as a neglected area of obstetric practice in Nigeria.
This assertion was assessed by reviewing the annual report for the University of Port Harcourt teaching Hospital for the last five years 2012 – 2016. Diagnosis of patients who attended the antenatal clinics, the antenatal, labour and postnatal wards and clinics were reviewed. The shocking finding was that there was no diagnosis of mental health problem in pregnancy. This is also applicable to depression in pregnancy and in the puerperium.

DISCUSSION

The perinatal mental health of women living in low- and lower-middle- income countries has only recently become the subject of research [14] in part because greater priority has been assigned to preventing pregnancy-related deaths. In addition, some have argued that in resource-constrained countries women are protected from experiencing perinatal mental problems through the influence of social and traditional cultural practices during pregnancy and in the postpartum period. [15, 16] however, the findings in the present study and the past ones do not confirm such assertion.

This is the first time in Nigeria that the prevalence of major depression was assessed simultaneously in the antenatal and the postnatal periods. Earlier studies concentrated on late pregnancy and the prevalence of major depression in pregnancy was 8.3%.[11] The most recent study that was published in 2016 gave a prevalence of 24.5% but unfortunately, the Edinburgh postnatal depression scale EPDS which is not a diagnostic but a screening tool was used in that study. [10] Both studies were conducted in Western Nigeria but not in the Niger Delta, which is known for significant environmental pollution, intertribal conflicts and problem of militancy..

In the present study, the prevalence of current major depression in pregnancy was 9.76%. This finding was in contrast to the two prevalent studies that were carried out in the Western Nigeria, which showed the prevalence of major depression in late depression to be 8.3 and 24.5% respectively. [11,12]

The nature, prevalence and determinants of mental health problems in women during pregnancy and in the year after giving birth have been thoroughly investigated in high-income countries.[14] Systematic reviews have shown that in those settings, about 7 to 15% of pregnant women [7] and 10% of those who have given birth [9] experience some type of mental disorder, most commonly depression or anxiety.

The prevalence of major depression of 9.76% in our study is comparable with those in high-income countries; this is suggestive of the fact that the emotional response of women to pregnancy may not be different across cultures. However, caution is necessary in making these comparisons, because most rates in Western cultures used the percentage of high EPDS scorers, which is a screening but not a diagnostic tool. The high prevalence of major depression as reported in our study underscores the need to create awareness among women, both pregnant and non-pregnant on the importance of registering early in the first trimester so that early diagnosis can be made and adequate prompt treatment can be offered.

An outstanding finding in our study is the variation of the prevalence of current major depression at different stages of pregnancy. The prevalence was 9.57% in the antenatal period generally, 11% in the first trimester of pregnancy, 5.26% at 13+1 – 26 weeks, 11.76% at the time interval between 27 weeks and delivery and 16.98 % postpartum (Table 5). The 11.76% that was obtained for late prevalence in our study is more than the 8.3% that was found in the previous study by A. O. Adewuya et al. [11] This may be a chance finding or may be due to certain risk factors which we do not know about.

The prevalence of 16.98% in the postnatal period in the present study is almost similar to that in the report of the meta-analyses carried out by Jane Fisher et al on behalf of the WHO and published in 2011. [17] That study revealed no differences in the pooled mean estimated prevalence of postnatal major depression derived from self-reported symptom measures (18.59%; 95% CI: 17.9–19.2) and diagnostic assessments (18.63%; 95% CI: 17.4–19.8). Our postnatal value is greater than the value of 10% that was given for high-income countries. [16]

Another important aspect of the study is the assessment for the risk factors of perinatal major depression. There was no statistical significant difference in the rates of major depression among different age groups. This finding is in agreement with the findings in other studies. [18,19] This is contrary to the recent study in Nigeria where young age (15–20 years which was not considered in our study) was identified as a risk factor for antenatal depression. [12]

Another important factor that was considered in our study was drinking in pregnancy because it is a known depressant and a teratogen. Contrary to the findings from other studies, [12, 31] we did not find statistically significant association of alcohol consumption in pregnancy with development of major depression

There was positive correlation between unmarried or single maternities and current major depression (Table

5). Depression was significantly higher among women who were single, divorced, or separated. This is in agreement with other studies that found significant association between antenatal depression and being single.[20] The absence of a partner to provide both moral and social support may be the factor responsible for this association. In a traditional African setting, it is a taboo to become pregnant when unmarried; in that situation a woman is viewed as been promiscuous. Single parenting is socially unacceptable. The stigma associated with this may lead to major depression. Other studies however did not find any association between marital status and major depression.[21,22,23]

Domestic violence is another determinant of major depression as shown in our study. The same finding was achieved in other studies.[24, 25] but in others, no association was found.[26, 27] In Nigeria, domestic violence cut across all socio-economic and cultural backgrounds. 28 per cent of all women, almost a third of all women in Nigeria, have experienced it.[28] In our study out of the total number of patients who answered questions on domestic violence, 24.44% of them experience different forms of domestic violence. Sadly, violence against women has been part of the fabric of African societies. The worst forms of it are battering, trafficking, rape and homicide.

One of the major findings in our study as in other studies,[29, 30] was the positive correlation between history of past episode of major depression and depression in the index pregnancy. The finding was statistically significant. In the contrary, other studies did not find such association.[31]

Limitation and strength of the study

One of the main limitations of the study is the sample size, which was based on the previous work that was carried out in the Western part of Nigeria.[9] The prevalence of depression in late pregnancy in that study was 8.3, this was used to determine the prevalence of the disease not only in late pregnancy but also in all stages of pregnancy. It would have been appropriate to calculate the sample size for different stages of pregnancy.

Furthermore it was not possible to determine causal relationships between depression and risk factors but we were able to determine associations. This is due to the fact that the research was a cross-sectional study. Another drawback of this study was that we did not study other comorbidities, such as anxiety disorders, dysthymia, HIV and other medical conditions, the status of which could affect antenatal psychological wellbeing. We did not also study the obstetric risk factors for major depressive illness in pregnancy, like caesarean section, preterm labour, hypertensive diseases in pregnancy, stillbirth.

Another important limitation is the fact that the tertiary centre where the present work was carried out is inaccessible to the majority who live in rural areas and to those who cannot pay for antenatal care services in the institution. So the study may over-represent relatively advantaged women. The gravity of this limitation is however reduced by the fact that the hospital is a referral centre where women were referred by obstetric practitioners (skilled and unskilled) from remote communities in Rivers state, Nigeria.

The strength of our study lies in the fact that it was prospective and the first study in perinatal neuropsychiatry that was conducted by an obstetrician in Nigeria. This study therefore has the potential of immediately impacting on the services that obstetricians could offer to their clients. The study also offers the opportunity of introducing a diagnostic tool for affective disorders in perinatal medicine – the MINI international neuropsychiatric questionnaire. Furthermore, the study also strengthens the need to identify perinatal neuropsychiatric medicine as a branch of maternal medicine that deserves adequate attention.

CONCLUSION

This study has shown that depression is quite prevalent in all stages of pregnancy, including all the trimesters and the puerperium, with the prevalence in the puerperium dominating. We have also shown that there is positive correlation between the prevalence of major perinatal major depression and previous depressive illness, being single and also domestic violence. Furthermore, we have established that although other factors like age group, level of education, employment status, drinking of alcohol, parity and stages of pregnancy may be associated with the prevalence of major depressive illness in pregnancy, those associations are not statistically significant.

RECOMMENDATIONS

The result of the study which shows high rates of major depressive illness at different stages of pregnancy and low awareness of obstetricians about the disease underscores the urgent need for introduction of affective disorders in pregnancy as one of the topics for antenatal classes in Nigerian obstetric practice. It also underlines the need for establishment of interval joint workshops on maternal neuropsychiatric health that should be attended by both obstetricians and psychiatrics.

Women should be screened for depression at booking, possibly in the first trimester, in the second, third trimesters and in the puerperium

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