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Prevalence and Coping Mechanisms of Postpartum Depression among Mothers of Infants in Ibadan North-East Local Government Area, Ibadan, Oyo State, Nigeria

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Abstract:
Postpartum depression (PPD) is associated with child birth; affecting both the mother and the child severely. PPD is one of the least addressed type of depression among mothers of in. This study was designed to assess the prevalence and coping mechanisms of PPD among mothers of infants in Ibadan North-East Local Government Area, Oyo State, Nigeria. This study was a descriptive cross-sectional study utilizing multi-stage sampling technique using a pre-tested semi-structured interviewer-administered questionnaire on three hundred and twenty respondents. The mean age of respondents was 30.9±6.5years, 91.6% were married and the highest educational level was Secondary school, 83.3% were in a monogamous marriage. Prevalence of PPD among the study participants was 33.7% out of which 90.8% of them used religion 29.6% adopted substances as coping mechanism. Marital status, education, type of marriage and religion were significantly associated with PPD with P<0.001. There is a high prevalence of postpartum depression in the study area. Hence, Psycho-social interventions such as home visitation by health care givers should be initiated for mothers who screened positive under maternal welfare programme.

Keywords: Postpartum depression, prevalence, coping mechanism, Nigeria

1. Introduction

Postpartum depression (PPD) is an important public health issue, affecting both the mother's health and the child's development (Gomes et al, 2006).It is a mood disorder that affects approximately 10–15% of adult mothers yearly with depressive symptoms lasting more than 6 months among 25–50% of those affected (Anokye et al, 2018).The prevalence of PPD appears to be at least as high in low and middle-income countries (LMICs), affecting an estimated 19.8%, although estimates range from zero to 73.7% (Azale et al, 2016).It is more frequent in women than thought otherwise. Unfortunately, little attention has been paid to this condition in terms of identification, diagnosis, and treatment (Nakku et al, 2006).

In the United States, PPD occurs in about 8 per 100,000 births. It has also been seen as a temporary depression that afflicts about 15 percent of women following childbirth (DjodaAdama et al, 2015). In sub-Saharan Africa, studies have reported a prevalence of 6.6% in Uganda, 14.6% in Nigeria, 34.7% in South Africa, and up to 50.8% in the Democratic Republic of Congo (Nakku et al, 2006; Adewuya et al, 2005; Cooper et al, 1999;ImbulaEssam et al, 2012).In Brazil, in a study conducted in the District of Anaia, in São Gonçalo, in the state of Rio de Janeiro,Da-Silva et al,(1998) observed a prevalence of 12% of depression during the third month of the postpartum period among 33 mothers (Gomez et al, 2006). Variations in the rates of prevalence are probably due to the use of diverse diagnostic methods and criteria, as well as economic and cultural differences among the groups studied (Gomez et al, 2006).

PPD has a significant impact on the mother and long-term consequences on the cognitive and emotional development of children (Tammentie et al, 2002). It undermines a mother's confidence, estranges spouses, and impairs social functioning and quality of life (Adewuya et al, 2005), and studies conducted in India also show PPD as a cause of significant psychiatric morbidity in mothers and malnutrition in infants (Desai et al, 2012). Despite its deleterious effects on the health of both the mother and her child, screening for PPD has not been given importance in maternal health programs (Djoda-Adama et al, 2015). Its symptoms include; fatigue, loss of energy, poor concentration, feelings of worthlessness and guilt (Ugarriza, 2002). Its cause is not well understood, however hormonal changes, genetics, major negative life event have been hypothesized as potential causes (Marques et al, 2011). The major predisposing factors for

developing PPD are stressful life events, childcare stress, prenatal anxiety, and history of previous episode of PPD (Anokye et al, 2018).

The concept of coping was first adopted by psychologists in the 1960s and 1970s and was applied to refer to the struggle of overcoming and managing the stresses of living and adapting (Lazarus and Lazarus 2006). Subjects respond to stress through complex cognitive, behavioral, emotional, and biological processes (Compas et al, 2001; Compas 2006; McEwen1998). The process of selecting these strategies implies an evaluation of personal competencies to confront problems. Variability in the style and specific coping behaviour that a mother has towards her baby contributes to her adjustment to this new role (Lazarus et al, 1984; 2006).Coping strategies are considered relevant for infant developmental outcomes (Levy-Shiff et al, 1998; 2002) and postpartum depression (Terry et al, 1996; Honey et al, 2003; De-Tychey et al, 2005).Major use of emotional coping during pregnancy has been found to be a significant predictor of higher levels of depression during pregnancy (Da Costa et al, 2000),whereas distancing strategies have been linked to depressive symptom scores at ten days postpartum (Faisal-Curry et al, 2004).The aim of the study is to determine the prevalence of PPD and identify and estimate the frequencies of the coping mechanism used for PPD.

2. Methods

2.1. Study Design
The Study was a community-based descriptive cross-sectional study.

2.1.1. Study Location
The study was carried out in communities under Ibadan North East Local Government Area of Ibadan, Oyo state. Oyo state is located in the South West region of Nigeria and Ibadan is the capital as well as the most populous city of Oyo state.

2.1.2. The Study Population
Consisted of mothers of infants in the communities under Ibadan Northeast Local Government Area and a total of 320 respondents were enrolled in the study.

2.1.3. Inclusion/ Exclusion Criteria
Mothers with children between 0-12 months old who resided in the area as at the time the study was conducted were included in the study area while eligible mothers who were mentally ill were excluded from the study.

2.1.4. Sampling Technique
The eligible participants were selected by multistage systematic sampling techniques, in each of the houses selected, eligible participant was interviewed and in cases where more than one eligible participant was met, balloting was used to select whom to participate.

2.1.5. Tool
Quantitative method was used for data collection. A semi-structured interviewer-administered questionnaire was developed to elicit information on socio-demographic characteristics. The adapted Edinburgh Postnatal depression Scale (EPDS) for postpartum depression and a Brief COPE scale to measure the coping mechanisms used by mothers with PPD symptoms. The EPDS is a Screening tool for postpartum depression; the questionnaire contains 10 items with each item bearing 4 sub-questions. These questions were graded. Response categories were scored 0, 1, 2, and 3 according to increased severity of the symptom. The total score was calculated by adding the scores for each of the 10 items. The EPDS in English and Yoruba translation is a valid instrument for screening for PPD (Adewuya et al, 2005). EPDS has good psychometric properties and was validated in a number of studies in Nigeria. Adewuya et al, (2005) validated it in South-west, Nigeria and found a sensitivity of 0.87 and a specificity of 0.92 at a cutoff point of 10. Similarly, Uwakwe and Okonkwo (2003) reported a specificity of 0.97 and sensitivity of 0.75 at a cutoff point of 9 in South-East, Nigeria. Score between 10 and 30 suggested depression symptoms. The Brief COPE is the abridged version of the original COPE inventory and assesses 14 coping types with 28 questions.

2.2. Data Collection Method and Procedure
Official approval was obtained prior to the study from the Oyo State Research Ethics Review Committee, Oyo State Ministry of Health. Two research assistants who are women were recruited and trained for data collection. They moved from house to house in the community to identify eligible participants and were supervised by the researchers.

2.2.1. Data Analysis
Questionnaires were reviewed to ensure consistency and completeness. Cleaning and coding of data for analysis was also done, the data collected was carefully entered into the Statistical Package for Social Science (SPSS IBM version 20) statistical software. The score on the EPDS was summed up to determine the total score for each participant using a score of 10 and above to identify PPD symptoms. Differences and associations yielding p values ≤ 0.05 were considered statistically significant.

3. Results

3.1. Respondents' Socio-Demographics Information

There were 320 respondents recruited for this study. The mean age was 30.9±6.5 and the range was 18 – 43 years, the majority of the respondents 91.6%, were married. A total of 53.1% identified as Muslims (Table 1). The largest portion of the sample 88.4% belonged to the Yoruba ethnic group. Half of the respondents 52.8% had secondary school education as their highest level of education. Majority of the respondents' husband 40.0% also had secondary education as the highest level of education and a larger proportion, 83.3%, were in a monogamous marriage (Table 2).

3.2. Prevalence of PPD

Their response rate in the women screened for PPD symptoms was 100%. In the EPDS, (45.0%) of the respondents chose 'as much as I always could' to the question; have you been able to laugh in the last seven days. The question, have you looked forward with enjoyment had (44.4%) of respondents with the response of 'as much as I ever did'. And the question, have you blamed yourself when things went wrong had the response of 'yes, most of the time' by (13.1%) of the respondents. Being anxious for no good reason had (31.6%) with 'no, not at all, and felt scared for no good reason had (14.7%) answered as 'yes, sometimes', while respondents responded to things getting on top of you with (15.9%) choosing 'yes, sometimes I haven't been coping as well as usual. And (27.5%) of the respondents chose 'yes, sometimes' to the question; have you been so unhappy that you've had sleeping difficulty. More than half (57.5%) of the respondents chose 'no, not at all' to the question; have you felt sad or miserable, with more than half (58.1%) of them choosing 'no, never' to the question; have been unhappy and be crying. And (78.4%) of them chose 'never' to; have you ever thought of harming yourself. A total of Ninety-eight (98) mothers out of three hundred and twenty mothers scored ≥10. This gives a prevalence of 30.6%.

3.3. Coping Strategies Used by Participant with Depressive Symptoms

More than one-third (37.8%) of the respondents said they have been turning to work or other activities a lot, While another (41.8%) of them chose 'I have been doing this a lot' for concentrating your efforts on doing something about it, And (8.2%) also chose 'I have been doing this a lot' for saying this is not real. Also (10.2%) of them chose 'I have been doing this a lot' to using alcohol or other drugs to feel better. Respondents who chose 'I have been doing this a lot' for getting emotional support from someone were (30.6%), with a (29.6%) of respondents that also chose 'I have been doing this a lot' for giving up trying to deal with it. While, 'I have been doing this a lot' was chosen by (29.6%) of the respondents for taking actions to make situation better, and (22.4%) of them also chose 'I have been doing this a lot' for refusing to believe it has happened. Respondents that chose 'I have been doing this a lot' for thinking about steps to take were 40.8%. One-fifth (20.4%) of the respondents selected 'I have been doing this a lot' for blaming yourself for things that happened, while more than half (59.2%) of them chose 'I have been doing this a lot' for praying or meditating. And a small proportion of them (9.2%) selected 'I have been doing this a lot' for making fun of the situation.

Religious coping was the most frequently used strategy. The two items: ''I have been praying or meditating'' and ''I have been trying to find comfort in my religion or spiritual beliefs'' were reported to be used 'a lot' by 59.2% (n=58) and 43.9% (n=43) respondents, respectively. A significant (89.8%) of them who used instrumental support, while another (89.8%) of them used Planning coping style. The least frequently used coping strategies were Substance use 29.6% (n=29) and Humor 23.5% (n=23) (Table 3).

3.4. Association Between Socio-Demographic Variables And PPD

Table 4 shows the relationship between some socio-demographic variables and PPD. There was a significant association between Marital status (X^2 =32.82, P <0.001), Level of education (X^2 =32.69, P <0.001), Religion (X^2 = 17.09, P <0.001) and type of marriage (X^2 =13.64, P <0.001) were statistically significant with the PPD symptoms (Table 4).

3.5. Discussion

The age of respondents in the study ranged from 18–47years with a mean age of 30.9±6.5years. Majority of the respondents were within the age range 26–30 years, this range fell within the reproductive age group of women and is comparable to the mean age of 28.37±12.09 obtained by Adewuya et al, (2005) in their study to determine the prevalence of postnatal depression in western Nigerian women. This implies that majority of the women are in the middle of their reproductive years and this relative young age represents the peak age of reproduction in women. Majority of the respondents were married, which was expected as the study was carried out among mothers, this is similar to the finding of Nakku et al, (2006) where more than half of the respondents were married. More than half of the respondents were Yoruba ethnic group predominant.

This was not surprising since the study was conducted in Ibadan northeast local government of Oyo state, a south-western part of Nigeria. The proportion of the respondents who practiced Islam was higher compared to those who practiced Christianity and traditional religion. The educational status of mothers of infants in the community can be considered to be on the average since a little more than half 52.8% of them and their husbands' below average (40.0%) had secondary education as the highest level of education attained by them respectively. Respondents with secondary education were the highest followed by tertiary education likewise their husbands'. This can be attributed to the fact that the study was carried out in the community where all categories of people can be found. The proportion of the respondents who were in a monogamous marriage was higher compared to those who were in a polygamous marriage.

The overall prevalence of PPD symptoms among the respondents was 30.6%. This can be compared with the prevalence in other studies. Obindo et al. in 2013 got a higher prevalence of 39.9%, 21.8% by Tungchama et al, (2018), and 22.9% by Chinawa et al, (2016). However, some studies have found relatively lower prevalence rates of PPD like 14.6% by Adewuya et al, (2005), 13% by Madeghe et al, (2016), 6.1% by Nakku et al, (2006). Other studies found relatively higher prevalence than this study include; Kasi et al, (2007)who reported prevalence range of 28% and 57.0% for PPD in Pakistan.

The discrepancy in the prevalence rates in this study and the other studies could be methodological differences, the location where the studies were being carried out, the method of data collection, the time of postpartum screening, the instrument used for data collection and the cut off score for classifying mothers with depressed symptoms. As in this study, the postpartum screening period was between 1-12months, the reason for this is the fact that PPD usually begins within 1-12months (Stewart et al., 2013). Also this study was conducted in the community and included those who do not attend postnatal clinic.

A significant proportion of the respondents found comfort and relief in religious practices. Religious coping had the highest percentage of utilisation. The probable explanation for high score on religion is that, people in this part of the world have so much belief in religion and would probably seek help through religious means first, before seeking for alternative care. Instrumental support and planning coping styles were similarly utilised with 89.8% of the respondents adopting them as types of coping. While, active coping and acceptance were also used at the same level by the respondents, however, substance use as a coping style was minimally used by the respondents.

A probable explanation for the lowest score on the questions of substance abuse, that is, ''use of alcohol or other drugs to feel better'' is that, the study was conducted among women. Women are less likely to be involved in substance abuse, Islam also prohibits alcohol and more than half of the respondents (53.1%) were Muslims. And also the society largely favors the use of alcohol products among men, a woman that drinks is mostly seen as unruly even though this impression is becoming less communal. This is supported by what Kasi et al, (2007) found in Pakistan among patients with anxiety and depression.

3.6. Conclusion and Recommendations

The study showed that, the prevalence of PPD among mothers of infants in the study area is relatively high compared to the prevalence from another study carried out in Ile-Ife, south-western part of the country. Level of education, religion, marital status and type of marriage were also found to be associated with PPD among the socio-demographic factors. Majority of the participants used religion coping style by finding solace and relief in prayer. Therefore, periodic suitable information and education should be provided for women before child bearing about PPD for identification of the early warning signs and risks of PPD even among counterparts, as well as the importance of help seeking. Based on the findings from the study, we recommend that the religious houses as a health promoting setting should be involved in providing education and support for mothers during perinatal period as majority of the participants made use of religion coping style.Psycho-social interventions such as home visitation by health care givers should be initiated for mothers who screened positive under maternal welfare programme.

Demographics Characteristics	Freq.	Percent (%)
Age		
18 – 20	16	5.0
21 – 25	56	17.5
26 – 30	98	30.6
31 – 35	69	21.6
36 – 40	59	18.4
≥41	22	6.9
Marital Status		
Single	13	4.1
Married	293	91.6
Divorced	1	0.3
Widowed	10	3.1
Separated	3	0.9
Religion		
Islam	170	53.1
Christianity	142	44.4
Traditional	8	2.5
Ethnicity		
Yoruba	283	88.4
Igbo	37	11.6

Table 1: Respondents' Demographics Characteristics
Mean Age Is 30.9±6.5 and Range Is 18-43years

Highest Level of Education	Freq. (%)	Percent (%)
No formal education	29	9.0
Primary education	52	16.3
Secondary education	169	52.8
Vocational	4	1.3
Tertiary	66	20.6
Husbands' Level of Education		
No formal education	24	7.5
Primary education	43	13.4
Secondary education	128	40.0
Tertiary education	111	34.7
Vocational	14	4.4
Type of marriage		
Polygyny	49	16.7
Monogamy	245	83.3

Table 2: Respondents' Socio-Demographics Continued

Coping Styles/ Mechanisms	Freq. (%)	Percent (%)
Religion	89	90.8
Instrumental support	88	89.8
Planning	88	89.8
Active coping	87	88.8
Acceptance	87	88.8
Positive reframing	84	85.7
Self-distraction	84	85.7
Emotional support	80	81.6
Venting	68	69.4
Behavioral disengagement	59	60.2
Self-blame	59	60.2
Denial	44	44.9
Substance use	29	29.6
Humor	23	23.5

Table 3:Respondents' Coping Mechanisms (N=98)
*Multiple Responses Included

Socio Demographics	Depressed		X^2	p-value
	Yes (%)	No (%)		
Marital Status				
Single	11(11.2)	2(0.9)	38.219*	< 0.001
Married	75(76.5)	218 (98.2)		
Divorced	1 (1.5)	0		
Widowed	9 (9.2)	1(0.5)		
Separated	2 (2.0)	1(0.5)		
Highest Level of Education				
No formal education	13 (13.3)	11 (5.0)	32.697*	< 0.001
Primary education	23 (23.5)	20 (9.0)		
Secondary education	36 (36.7)	92 (41.4)		
Vocational education	8 (8.2)	6 (2.7)		
Tertiary education	18 (18.4)	93 (41.9)		
Religion				
Islam	67 (68.4)	103 (46.4)	17.087*	< 0.001
Christianity	27 (27.6)	115 (51.8)		
Traditional	4 (4.1)	4 (1.8)		
Type of Marriage				
Polygyny	23 (30.3)	26 (11.9)	13.642*	< 0.001
Monogamy	53 (69.7)	191 (88.1)		

Table 4: Association between Respondents' Socio-Demographics andPPD Symptoms

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