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DETERMINANTS OF KNOWLEDGE OFDEPRESSION AND SUICIDAL IDEATION AMONG POSTPARTUM WOMEN IN BENIN CITY BENIN CITY, EDO STATE

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LARGE RIGHT SIDED CYSTIC BREAST MASSES

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ABSTRACT

Background: Postpartum depression is a global health challenge that negatively affects pregnancy outcomes. This study assessed the knowledge and determinants of depression and suicidal ideation among postpartum women.

Method: This is a questionnaire-based cross-sectional study which was carried out among 480 nursing mothers attending the postnatal clinics at the University of Benin Teaching Hospital selected by systematic random sampling technique. Pretested self-administered semi structured questionnaire was utilised for the study. Data was analysed using the Statistical Package for Social Sciences (SPSS) version 25.0

Result: The mean age of respondents studied was 31.3 ± 5.7 years. All respondent 480 (100.0%) and 354 (73.7) heard of the term depression and suicidal ideation respectively. Up to 313 (65.2%) respondents had good knowledge of postpartum depression and suicidal ideation while 167 (34.8%) had poor knowledge. It was further identified that religion ($p=0.005$), marriage type ($p < 0.001$), level of education ($p < 0.001$) and skill level ($p < 0.001$) were significant determinants of knowledge of postpartum depression and suicidal ideation among respondents studied.

Conclusion: An estimated two-third of respondents studied had good knowledge of PPD and suicidal ideation. There is need to include health education sessions on postpartum depression and suicidal ideation during antenatal and post-natal clinic sessions in health facilities.

Keywords: Postpartum depression, suicidal ideation, postnatal, knowledge.

INTRODUCTION

Depression is a major public health problem that is twice as common in women as men during their childbearing years.[1]According to the *Diagnostic and Statistical Manual of Mental Disorders,* fourth edition (DSM-IV), an episode of depression is considered to have

postpartum onset if it begins within four weeks after delivery.[2] **Postpartum depression (**PPD) affects about 11% – 42% of women following childbirth. In Africa, the prevalence of PPD is 10% – 32%.[3]PPDcan affect a woman's social adjustment after birth, her marriage, and her bonding with her child.[3]Although the cause of PPD is unknown, it has been linked to a variety of risk factors such as a prior history of depression, cigarette smoking, unplanned and unwanted pregnancy, low socio-economic status, marital status, maternity blues, poor marital relationship, and endocrine disorders such as postpartum thyroid dysfunction.[3,4]

Postpartum depression can evolve from pre-existing postpartum blues or may arise spontaneously. It usually becomes apparent after the first week of delivery and may last for up to fourteen months.[1-3] In PPD, women present with depressive symptoms in addition to feeling inadequate and frustrated with taking care of their babies.[3]PPD negatively affects children's development and maternal health. It has been linked to hostile mother-child communication, and may even lead to suicide or infanticide. If left untreated, it can evolve into recurrent depression in the mother, and emotional, cognitive, behavioural, and interpersonal problems in her child.[3]

Despite being a harmful condition, postpartum depression is not readily recognized in our society. This could be as a result of many factors such as negligence by physicians to look for tell-tale signs, poor knowledge of PPD in the mothers, lack of facilities to cater to needs of those suffering from PPD, and social and cultural stigma associated with seeking help.

This study assessed knowledge level of PPD and suicidal ideation and determinants of this knowledge among nursing mothers attending ante-natal clinic in a tertiary hospital in Nigeria. The outcome of this study will improve health outcomes by promoting early detection and initiation of treatment.

MATERIALS AND METHODS

The study was carried out in the postnatal clinic in the University of Benin Teaching Hospital (UBTH), Benin City, Edo state, Nigeria. Edo State is located in the South-south geopolitical zone. The state has a land mass of 19,743sq/km and lies between latitudes 6°23'55''N to 6°27'39''N and longitudes 5°36'18'E to 5°44'18''E. It is bounded by Kogi state to the northeast, Anambra state to the east, Delta state to the south-east, and Ondo

state to the west and the north-west. It is the hub of Nigeria's rubber industry. It is also the centre for palm oil production in the traditional industry. The projected population of Edo state as at 2021 is 4,847,769.[5]

The University of Benin Teaching Hospital (UBTH) is a tertiary health facility located in Egor Local Government Area along Benin-Ore Road. It has 33 departments one of which is the department of obstetrics and gynaecology.[6] The obstetrics and gynaecology department has 4 units. The antenatal and postnatal clinics are run four days in a week. The average number of women seen per day is 100.

This was a questionnaire-based cross-sectional study carried out among postpartum women receiving postnatal care in the University of Benin Teaching Hospital.Sample size of 480 was calculated using the Cochrane formula based on a prevalence of 52.3%[7-8] from a previous study with a non-response rate of 10%. Semi structured self-administered questionnaires adapted from previous studies [4,8] were used for data collection, who were selected using systematic random sampling technique based on daily average postnatal care clinic attendance (Monday- Friday) of 40 nursing mothers taken as the sampling frame, daily recruitment of respondents continued till sample size of study was actualized. Pretesting was conducted among 40 respondents at the obstetrics and gynaecology department in Central Hospital, Benin City. Data was collated and screened thoroughly for completeness and correctness, coded, and entered into the International Business Machines Corporation Social Science (IBM SPSS) version 25.0 software.

Knowledge was assessed with 22 questions with Cronbach's Alpha score of 0.750. A correct answer was given a score of one and an incorrect answer was given a score of zero. Scores were summed up to a total knowledge score of 11. Total score was converted to a percentage so that a score less than 50% was regarded as poor knowledge while scores of 50% and above was taken as good knowledge. Results was presented as prose, frequency and proportion for univariate analysis while bivariate analysis to test for association of outcome variables (knowledge of postpartum depression and suicidal ideation) was done using chi-square test with fisher's exact tests conducted when frequency in cells were less than 5 in about 20% of the cells of the contingency tables. Furthermore, multivariate analysis was conducted usinglogistic regression modeling to identify predictors of good

knowledge of postpartum depression (PPD) and suicidal ideation among study respondents with statistical significance was set at $p < 0.050$ at 95% confidence interval.

Ethical approval (ADM/E 22/A/VOL.VII/148301976) was obtained from the Ethical and Research committee, UBTH while Departmental approval was also obtained from the Head of Department of Obstetrics and Gynaecology University of Benin Teaching Hospital before commencement of the study. Furthermore, individual verbal consent was obtained from each respondent before actual administration of the questionnaire who were assured of anonymity and confidentiality of the information provided. At the end of the interview respondents were provided health information on the definition, risk factors, common presentation and where to seek care when affected.

RESULTS

The mean age of respondents studied was 31.3 ± 5.7 years. Four hundred and eight (85.0%) and 399 (83.1%) were Christians and married respectively. Among those married, 331 (83.0%) were monogamous. Two hundred and thirty-one (48.1%) respondents had tertiary level of education and 285 (59.4%) in skill level 2. The mean parity among respondents was 2.7 ± 1.1 children. In relation to household size, 255 (53.1%) were of 1 – 5 category with 306 (63.7%) of respondents studied having a monthly income of 30,000 – 100,000 naira The predominant ethnic group was 192 (40.0%) Benin

Table 1: Awareness of postpartum depression and suicidal ideation among respondents (n = 480)

Variable	Frequency (%)
Awareness of depression	
Yes	480 (100.0)
Source of information*	
Television	366 (76.3)
Internet	241 (50.2)
Radio	239 (49.8)
Social media	89 (18.5)
Books	41 (8.5)
School	32 (6.7)
Awareness of suicidal ideation	
Yes	354 (73.7)
No	126 (26.3)
Source of information*	
Internet	284 (80.2)
Television	274 (77.4)
Social media	165 (46.6)
Radio	51 (14.4)
Books	40 (11.3)
School	31 (8.8)
Depression	
Common mental disorder	206 (42.9)
Lack of esteem only	142 (29.6)
Physical illness caused by hard drug overdose	102 (21.3)
Feeling guilt after doing something wrong	5 (1.0)
I don't know	25 (5.2)
Symptoms of depression*	
Persistently low mood	369 (76.9)
Loss of interest in previously pleasurable activity	228 (47.5)
Reduced energy	75 (15.6)
Grief	56 (11.7)
Not having money	47 (9.8)
Risk factors for depression*	
Sickness	236 (49.2)
Being poor	227 (47.3)
Loss of a loved one	163 (34.0)
Illiteracy	148 (30.8)
Someone with depression should…	
See a psychologist	417 (86.9)
Talk to loved ones	45 (9.3)
See a pastor	9 (1.9)
Do nothing	9 (1.9)

Depression can be treated medically	
Yes	216 (45.0)
No	42 (8.8)
I don't know	222 (46.2)
Complications of depression*	
Inability to take care of their family	228 (47.5)
Can kill themselves	102 (21.3)
Inability to work and provide for themselves	98 (20.4)
Always look dirty	96 (20.0)
Suicidal ideation is… (n = 354)	
Deliberate attempt to take own life	155 (43.8)
Thoughts involving a desire, intention and method of committing suicide	124 (35.0)
Deliberate attempt to take own life but survives	39 (11.0)
Behaviour that results in death	17 (4.8)
I don't know	19 (5.4)
Risk factor for suicidal ideation* (n = 354)	
Emotional abuse	34 (9.6)
Loss of a loved one	16 (4.5)
Previous suicidal attempt	16 (4.5)
Financial indebtedness	8 (2.3)
All of the above	99 (28.0)

***= multiple response question**

All (100.0%) respondents were aware of depression. Their major sources of information were television (366, 76.3%), internet (241, 50.2%), and radio (239, 49.8%). Three hundred and fifty-four (73.7%) of the respondents were aware of suicidal ideation and the commonest sources of information on the subject were the internet (284, 80.2%) and television (274, 77.4%). Less than half of the respondents (206, 42.9%) knew the definition of depression. The most commonly recognized symptoms of depression were persistently low mood (369, 76.9%) and loss of interest in previously pleasurable activity (228, 47.5%). The most common risk factor for depression according to the respondents was the presence of a sickness (236, 49.2%).

Majority of the respondents (417, 86.9%) thought that a person with depression should see a psychologist. Less than half of the respondents (216, 45.0%) knew that depression can be treated medically. The most common identified complication of depression was inability to take care of one's family (228, 47.5%). Most respondents who were aware of suicidal ideation (55, 43.7%) thought it was a deliberate attempt to take one's own life. The most common recognized risk factor for suicidal ideation was emotional abuse (34, 9.6%).

Table 2: Knowledge of postpartum depression and suicidal ideation among respondents (n = 480)

Variable	Correct response Freq (%)	Incorrect response Freq (%)
Definition of Depression	206 (42.9)	274 (57.1)
Symptoms of depression*		
Persistently low mood	369 (76.9)	111 (23.1)
Loss of interest in previously pleasurable activity	228 (47.5)	252 (52.5)
Reduced energy	75 (15.6)	405 (84.4)
Grief	424 (88.3)	56 (11.7)
Not having money	433 (90.2)	47 (9.8)
Risk factors for depression*		
Sickness	236 (49.2)	244 (50.8)
Being poor	227 (47.3)	253 (52.7)
Loss of a loved one	163 (34.0)	317 (64.0)
Illiteracy	332 (69.2)	148 (30.8)
Someone with depression should seek care	417 (86.9)	53 (13.1)
Depression can be treated medically	216 (45.0)	264 (55.0)
Complications of depression*		
Inability to take care of their family	228 (47.5)	252 (52.5)
Suicide	102 (21.3)	378 (78.7)
Inability to work and provide for themselves	98 (20.4)	372 (79.6)
Always look dirty	96 (20.0)	374 (80.0)
Definition of suicidal ideation	124 (35.0)	230 (65.0)
Risk factor for suicidal ideation*		
Emotional abuse	34 (9.6)	320 (90.4)
Loss of a loved one	16 (4.5)	338 (95.5)
Previous suicidal attempt	16 (4.5)	338 (95.5)
Financial indebtedness	8 (2.3)	346 (97.7)
All of the above	99 (28.0)	255 (72.0)

*** Multiple response question**

Less than half of the respondents (206, 42.9%) knew the correct definition of depression. The most commonly recognized symptoms of depression were persistently low mood (369, 76.9%) and loss of interest in previously pleasurable activity (228, 47.5%). The most common risk

factor for depression according to the respondents was the presence of a sickness (236, 49.2%). Two hundred and sixteen respondents (45.0%) knew that depression can be treated medically. The most common complication of depression was inability to take care of one's family (228, 47.5%). One hundred and twenty-four (35.0%) of the respondents knew what suicidal ideation was and 99 (28.0%) knew that emotional abuse, loss of a loved one, previous suicidal attempt and financial indebtedness were all risk factors for suicidal ideation in the postpartum period.

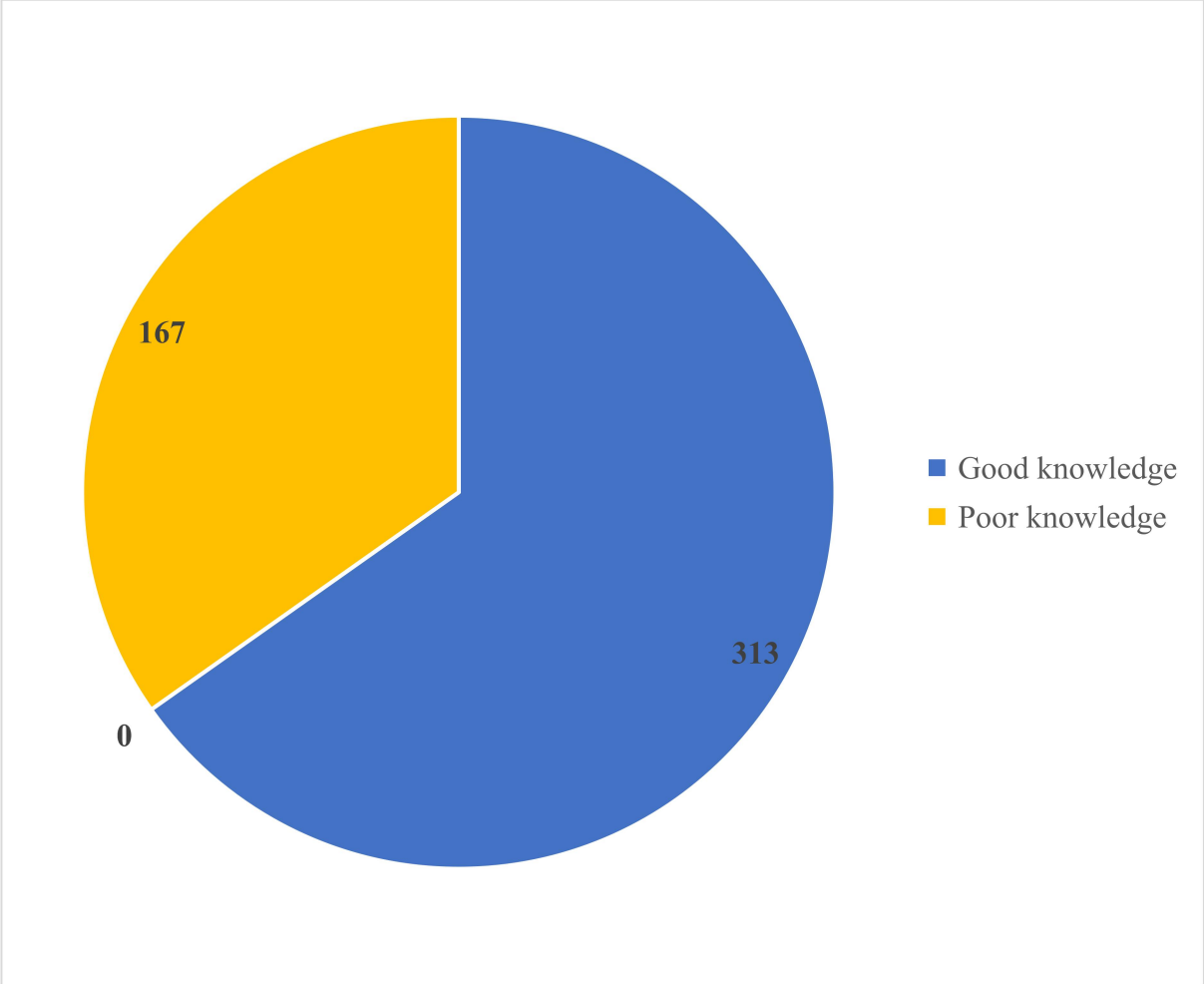

Figure 1: Overall knowledge of postpartum depression and suicidal ideation among respondents

Overall, 313 (65.2%) respondents had good knowledge of postpartum depression and suicidal ideation while 167 (34.8%) had poor knowledge.

Table 3: Factors associated with knowledge of postpartum depression and suicidal ideation

Variable	Knowledge		χ^2	p-value
	Good knowledge (n = 313) Freq (%)	Poor knowledge (n = 167) Freq (%)		
Age group (years)				
20 – 29	107 (61.1)	68 (38.9)	2.145	0.342
30 – 39	180 (67.2)	88 (32.8)		
≥ 40	26 (70.3)	11 (29.7)		
Parity				
1 – 4	293 (65.4)	155 (34.6)	0.111	0.848
> 4	20 (62.5)	12 (37.5)		
Religion				
Islam	51 (77.3)	15 (22.7)	10.270**	0.005*
Christianity	261 (64.0)	147 (36.0)		
ATR	1 (16.7)	5 (83.3)		
Marital status				
Ever married	293 (65.0)	158 (35.0)	0.192	0.695
Never married	20 (69.0)	9 (31.0)		
Marriage type	**n = 264**	**n = 135**		
Monogamous	203 (61.3)	128 (38.7)	20.290	<0.001*
Polygamous	61 (89.7)	7 (10.3)		
Level of education				
No formal education	13 (65.0)	7 (35.0)	29.398**	<0.001*
Primary	48 (64.0)	27 (36.0)		
Secondary	76 (46.4)	78 (50.6)		
Tertiary	176 (76.2)	55 (23.8)		
Skill level				
Skill level 0	10 (83.3)	2 (16.7)	40.417	<0.001*
Skill level 1	10 (71.4)	4 (28.6)		
Skill level 2	154 (54.0)	131 (46.0)		

Skill level 3	34 (89.5)	4 (10.5)		
Skill level 4	105 (80.2)	26 (19.8)		
Household size				
1 – 5	168 (65.9)	87 (34.1)	0.025	0.911
6 – 10	141 (64.1)	79 (35.9)		
11 – 15	4 (80.0)	1 (20.0)		
Household income				
< 30,0000 naira	27 (79.4)	7 (20.6)	3.254	0.092
30,000 – 100,000 naira	179 (58.5)	127 (41.5)		
> 100,000 naira	107 (76.4)	33 (23.6)		

* = statistically significant ** = Fisher's exact

Knowledge of depression and suicidal ideation was not significantly associated with age (p=0.342), parity (p=0.848), marital status (p=0.695), household income (p=0.092) and household size (p=0.911).

It was further identified that in relation to religion (p=0.005) respondents that practiced Islam were more knowledgeable compared to those that practiced Christianity and ATR. In relation to marriage type ($p < 0.001$) respondents who practiced polygamy were significantly more knowledgeable compared to monogamy. Furthermore, in relation to level of education ($p < 0.001$) the was a progressive increase in knowledge of depression and suicidal ideation with increasing level of education of respondents studied. Finally, with increasing skill level ($p < 0.001$) of respondents there was also a significant increase in good knowledge of postpartum depression and suicidal ideation among respondents studied.

Table 4: Determinants of Knowledge of Suicidal Ideation and Depression

Factors	B (Regression co-efficient)	Odds ratio	95% CI for OR		p-value
			Lower	Upper	
Marriage type					
Monogamous		1			
Polygamous	1.725	5.614	2.438	12.929	<0.001*
Level of education					
None, primary		1			
Secondary	0.277	1.319	0.692	2.512	0.400
Tertiary	0.847	2.332	1.387	3.291	0.001*
Skill level					
Skill level 0 and 1	-0.232	0.793	0.148	4.248	0.786
Skill level 2	0.687	1.987	0.422	9.355	0.385
Skill level 3	0.846	2.330	1.289	4.211	0.005*
Skill level 4		1			

R^2= 12.4 – 17.2%, **CI** = Confidence interval, **OR** = Odds Ratio *Statistically significant

Marriage type, level of education, and skill level were statistically significant determinants of knowledge. Respondents in a polygamous marriage were 5.6 times more likely to have good knowledge compared to those in a monogamous marriage (CI = 2.438 – 12.929, p <0.001). Respondents with skill level 3 were found to be 2.3 times more likely to have good knowledge of depression and suicidal ideation (CI = 1.289 – 4.211, p = 0.125) compared to those with skill level 4. Respondents with tertiary level of education were 2.3 times more likely to have good knowledge (I = 1.387 – 3.291, p = 0.001) compared to those with no-formal education and those with primary level of education.

DISCUSSION

The mean age of respondents studied is in keeping with females in their reproductive age group and the study population under study, this has similarly been reported in other studies [9-11]. Although there is a slight variation in the mean age reported among postpartum women in Enugu[10] and Lagos[11] where lower mean age was reported, generally speaking the study population is in keeping with the reproductive age group of women.

Most respondents in this study were married with secondary level of education. The high level of literacy can be linked to the study location. It has been reported that the South-South region of Nigeria have very high literacy rate and the second highest level of literacy after the Southwest region[12a-b].This finding was similarly reported in a previous study done in Lagos where most respondents had secondary level of education and were married.[11]

This study found that most of the respondents were aware of the term PPD and suicidal ideation with television, radio, social media and internet reported asthe most common sources of information. This is very worrisome as thesocial media mayprovide unreliable sources of information that may be detrimental to health and wellbeing when not properly reviewed and applied especially through qualified health care professionals.

Furthermore, an estimated two-third of respondents studied had good knowledge of postpartum depression and suicidal ideation. This finding is in contrast with those of a study done in Osun State which showed that respondents mostly had a fair knowledge of postpartum depression and suicidal ideation.[14] Another study in Lagos showed most had a moderate knowledge of postpartum depression and suicidal ideation.[12] Both studies, however, used a higher cut-off for good knowledge than was used in this study. This may be in keeping with study location and the findings that most of the respondents studied had at least secondary level of education, which was reflected also in the level of education, skill level and household monthly income being a significant determinant of knowledge of depression and suicidal ideation among study respondents. This finding reflects a high level of health literacy particularly about postpartum depression among study population which could be an indication that depression and suicidal ideation is increasingly becoming common in the study area. The more knowledgeable the general population, and people at risk of

postpartum depression and suicidal ideation have about this public health problem especially in relation to early identification and recognition of the warning signs and where to seek help for it, the less the likelihood of adverse outcomes from late identification and possible detrimental health and psychosocial implication to woman, child, spouse, family, community and society. Such knowledge can lead to early detection and appropriate response to the illness especially in seeking appropriate care, this finding has been reported in literature.[13]

Furthermore, this study identified that religion was a significant determinant of good knowledge of depression and suicidal ideation with respondents who practiced Islam being more knowledgeable compared to those who practiced Christianity and ATR respectively. Several studies have also identified Religion as a significant risk factor for depression and suicidal ideation[15-18]. However, in contrast another study[19] identified religion as a non-significant factor associated with depression and suicidal ideation.The role of religion has been shown to moderate health problems by way of protection and prevention. It is worthy of note to state that the study area is predominantly Christian and for respondents who practice Islam to be more knowledgeable is not only commendable but possibly and indication of increasingly liberalization and freedom among females to be increasingly better exposed to health matters affecting them and significant others in society. It was also noticed in this study that respondents in polygamous marriage were significantly more knowledgeable on depression and suicidal ideation compared to those in monogamous setting. It has been reported in literature that family interactions and societal relationships closeness, adjustment, cohesion, and family support can help influence and possibly reduces risk of depression andsuicidal ideation[20-22].It is worthy of note that in this study that respondents who practiced Islam and polygamy had better knowledge of depression and suicidal ideation compared to those who practiced Christianity and monogamy. This possibly reflects some form of complex societal interactions in relation to other environmental factors as relatives are closely connected to people's lives, and their behaviours, experiences, and emotions could affect an individuals' mental health especially post-delivery.

Notably, nearly half of the respondents did not know that postpartum depression and suicidal ideation could be treated medically and this was similarly reported in other studies.[14,23]Finally, despite a high awareness of the symptoms and signs of

postpartum depression and suicidal ideation, care and support may become faulty as many may seek help from places other than the hospital. This can negatively impact health outcomes of affected individuals especially women.[13] Health education and mental health awareness programs need to be designed to focus on and address this gap in knowledge in other to improve outcomes.

CONCLUSION

The knowledge of postpartum depression and suicidal ideation among postpartum women in Benin city was good but gaps still exist that must be bridged. There is need to include health education sessions on postpartum depression and suicidal ideation during antenatal and post-natal clinic sessions in health facilities

LIMITATIONS OF STUDY

Data collected from the respondents may be subject to recall bias due to self-reporting. This was reduced by using timelines to aid recall.

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