



Exploring Suicidal Ideation among Pregnant Women in Nigeria: Impact of adverse childhood experiences and resilience

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Abstract

BACKGROUND

With sustained attention toward preventing suicide, there is an increased need for baseline data on the prevalence and risk factors for suicidal behaviours among the under-represented population in suicide literature – pregnant women. This study examined the prevalence and the relationship between adverse childhood experiences and resilience in suicidal ideation among pregnant women.

MATERIAL AND METHOD

This study employed a cross-sectional research design and was conducted between January and April 2022. A total of 412 pregnant women were recruited through accidental sampling from six selected hospitals in Lagos, Nigeria. Data were collected by using the Beck Suicide Scale (B.S.S.), Adverse Childhood Experience International Questionnaire (ACE-IQ), and Brief Resilience Scale (B.R.S.). The Statistical Product and Service Solution (SPSS) Version 24 was used to analyse the data.

RESULT

The prevalence of suicidal ideation among the study participants was 5.8% with older pregnant women (31-50 Years) reporting significantly higher scores on suicidal ideation [$t(410) = -2.23, p < .05$] compared to younger pregnant women (18-30 years). Among the pregnant women, the result revealed a significant positive relationship between adverse childhood experiences and Suicidal ideation ($r = .32, p < .01$), while Adverse childhood experience, resilience, and age jointly predicted Suicidal ideation ($R^2 = 0.11, F(3,408) = 15.91, p < .01$) with no statistically significant relationship between resilience and suicidal ideation.

CONCLUSION

We recommend incorporating suicidal ideation screening and psychoeducation into the ante-natal clinic programme for pregnant women as preventive measures against suicide.

Keywords: *Adverse Childhood Experiences, Resilience, Suicidal Ideation*

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Introduction

Suicide and suicidal behaviour are premeditated and intentional causes of death, self-inflicted injury, or disease. Suicide and attempted suicide are distinct. Conversely, most suicide deaths involve older and elderly males and those with a psychiatric disorder, while most suicide attempts are primarily among young people, notably among otherwise healthy ladies [1,2,3].

Suicide has been reported as the second leading cause of death among 15 to 29-year-olds. It claims about 800,000 people worldwide annually [4]. The prevalence rate of suicide increased significantly from 4.3 in 2012 to an estimated 9.5 per 100,000 suicide rates in Nigeria in 2017 [5]. However, due to underreporting and stigma associated with suicide, this figure is a fraction of the yearly estimate of people who attempt suicide in Nigeria annually. Research investigating the prevalence of suicide is quite limited in developing countries, including



Nigeria [6], especially among pregnant women [7,8].

There is mounting evidence that pregnant women are prone to suicidal ideation [9,10]. According to an epidemiological review, the prevalence of suicidal ideation during pregnancy ranges between 3% and 33% [11,12,13], and the prenatal period is critical for suicide risk reduction and prevention, as prenatal suicidal ideation is a predictor of postpartum suicide [14]. Additionally, suicidal thoughts during pregnancy are associated with several negative mother and baby outcomes, including psychiatric disorders such as depression, preterm birth, low infant birth weight and impaired cognitive development [15,14,16]. Although suicide is preventable, the ambiguity in determining the specific causes of suicide makes it quite difficult to predict. Thus, suicide prevention rests heavily on identifying risk factors including social, economic, and psychological influences.

Pregnancy is a challenging and delicate period in the life of a woman, with its attendant barrage of fluctuating physical and emotional balance, it is a uniquely risky period identified by previous studies that have explored its impact on motivation, demographic traits, mortality, and incidence among pregnant women [17,18,19,20,21,22,23].

Additionally, several studies have established a negative association between childhood abuse and the mental health of pregnant women in disorders such as perinatal depression and posttraumatic stress disorder [24,25,26,27]. One possibility is that the specific stress experienced during pregnancy may exacerbate or precipitate anxiety and depression, as the stress sensitization hypothesis explains [28,29]. Another possibility is that early traumatic experiences will haunt individuals during this motherhood transition, causing them to feel emotions linked to their childhood experiences [30,31].

Conversely, some studies have found social support, life satisfaction, self-efficacy, psychosocial stress resistance, and positive

mental health as resilience buffering the association between depression and suicide ideation [32]. Additionally, [33] previous study found resilience as a protective factor against suicide risk. Thus, resilience is conceptualized as the capacity and dynamic process of adaptively overcoming stress and adversity while maintaining normal psychological and physical functioning.

Despite several studies investigating suicide in pregnancy, little attention has been paid to the influence of adverse childhood experiences (A.C.E.s) in the epidemiology of suicide or suicidal behaviour among pregnant women in Nigeria. The lack of attention to this issue is worsening abuse and mortality in pregnancy. there is a need to urgently intervene and address the situation as the consequences stemming from adverse childhood experiences, not only affect the mother but also the fetus, child, family, and society. Compared to other causes of suicide, adverse childhood experience is a silent, passive, but potent risk factor. Furthermore, in countries with no baseline data on the incidence of adverse childhood experiences, like Nigeria, most deaths associated with suicide or consequences of suicidal behaviour are likely attributed to factors other than adverse childhood experiences [34,35,36].

Therefore, a study of the prevalence and association between adverse childhood experiences, resilience, and suicidal ideation among pregnant women will be an excellent starting point. A study in this direction will offer an essential first step towards getting baseline data on the prevalence and association between the variables. This data is essential for developing prevention programmes and interventions aimed at reducing suicide ideation among pregnant women and addressing the effects of adverse childhood experiences during pregnancy. Consequently, the study aimed to establish the prevalence of suicidal ideation and the roles of adverse childhood experiences on suicidal ideation among pregnant women in Nigeria as well as to examine the relationship between



resilience, role of age and suicidal ideation among pregnant women in Nigeria and lastly, to examine the joint influence of adverse childhood experience, resilience, and age on suicidal ideation among pregnant women Nigeria. Based on the reviewed pieces of literature, five hypotheses were formulated to guide the study as follows:

Among pregnant women in Lagos, Nigeria, there will be notably high prevalence of suicidal ideation, a significant positive relationship between adverse childhood experiences and suicidal ideation, as well as between resilience and suicidal ideation, with younger women achieving lower scores compared to older counterparts, and adverse childhood experiences, resilience, and age serving as joint and independent predictors of suicidal ideation.

Methodology

Study design

This study adopted a descriptive cross-sectional survey collecting data through questionnaires, describing adverse childhood experiences, resilience, and suicidal ideation among pregnant women. The study was conducted in selected hospitals from six local government areas in Lagos State. Lagos is Nigeria's commercial and economic capital and home to the largest population in Nigeria, with the current metro area population of Lagos in 2022 put at 15,388,000 [37]. The state has 20 local governments, of which six are selected for the study- one Local government each from the original five divisions of Lagos and one from the state capital. The demographic properties show that 33(8%) of the respondents are 18-30 years old, while 379 (92%) belong to the age bracket of 30-50 years. For religion, 275 (66.7%) of the respondents were Christian, while 137 (33.3) were Muslim. More so, 59(14.3) Igbo, 13(3.2%) were Hausa, 326(79.1%) were Yoruba, and 14(3.4%) represented other ethnic groups.

The study employed a non-probabilistic purposive accidental sampling technique. The authors approached the pregnant women in the

hospital during the anti-natal clinic and all those who volunteered, after the researcher explained the nature and purpose of the study were allowed to participate in the study by issuing them a copy of the questionnaire.

Psychometric measures were used for data collection to give more credibility to the findings and ease comparison with similar studies. The measuring instrument was divided into four sections. Section A contained bio-data such as age, year of marriage, religion, and ethnic group respondents. Section B collected data on adverse childhood experiences using the Adverse Childhood Experiences International Questionnaire (A.C.E. – I.Q) [38]. ACE-IQ is 43 items, a seven-section scale with different response formats ranging from Yes or No to Likert. Several studies have confirmed the good validity of the content of the ACE-IQ, reliable internal consistency of $\alpha = .81$ [39], and satisfactory test-retest reliability since all the key elements of the questionnaire ensure that the information collected is independent [40]. Convergent validity evidence was observed in a sample of 253 Nigerian prisoners and reported a correlation between ACE-IQ and the C.T.Q. ranging from = .49 to .72. Resilience was measured Using the Brief Resilience Scale (B.R.S.) [41]. The B.R.S. consists of six items with a Likert response format with 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. Each sample revealed a one-factor solution accounting for 55–67% of the variance (Samples 1–4 = 61%, 61%, 57%, 67%, respectively). The loadings ranged from .68 to .91. Internal consistency was good, with Cronbach's alpha ranging from .80–.91 (Samples 1–4 = .84, .87, .80, .91, respectively). While suicidal ideation is measured using Becks' Scale for Suicidal (B.S.S.) [42]. B.S.S. consists of 21 groups of statements and a 4-point response format ranging from 0-3. The first 19 items evaluate the severity of suicidal wishes, attitudes, and plans, including; Wish to live, wish to die, Reason for living or dying, Active suicide attempt, and Passive suicide attempt. At the same



time, the two remaining items ask about the History of previous attempts. The scale scores from 0-2 depending on the severity of the ideation. The scale was found to have high consistency with a reliability coefficient of 0.89 [42].

Ethical consideration

The ethical clearance was granted by the Psychology Research and Ethics Committee (PREC) of the Department of Psychology, University of Lagos, Nigeria. Informed consent was obtained from the respondents for voluntary participation.

Data analysis

All analyses were done using SPSS 24 [43]. Pearson product-moment correlation analysis was used to determine if there is a significant relationship between the variables on the psychometric measures; Multiple regression analysis was used to assess the predictive relationship among the variables on the psychometric measures, while the t-test was used to measure the age-related relationship between the participant on the psychometric measures.

Results

Table 1, the descriptive statistics show that 33 (8%) of the respondents were 18-30 years, and 379 (92%) were between 30-50 years. Additionally, 275 (66.7%) of the respondents were Christian, and 137 (33.3) were Muslims. More so, 59 (14.3) were Igbo, 13(3.2%) were Hausa, 326 (79.1%) were Yoruba, and 14 (3.4%) represented other ethnic groups.

Test of hypotheses

Hypothesis one states that there will be a high prevalence rate of suicidal ideation among pregnant women. Table 2 revealed that the prevalence rate of suicidal ideation among pregnant women sampled was 5.8%, with 43.2%, 37.4%, and 13.6% at low, mild-moderate, and severe levels, respectively.

Hypothesis two states that adverse childhood experiences will have a significant positive relationship with suicidal ideation among pregnant women. The hypothesis was tested using Pearson r correlational analysis. The result is presented in Table 3.

Table 1:

Descriptive Statistic Showing the Demographic Distribution of Study Respondents

| Variables | Options | Frequency | Percentage |
|-----------|-----------------|-----------|------------|
| Age | 18-30 years | 33 | 8.0 |
| | 31 and 50 years | 379 | 92.0 |
| | Total | 412 | 100.0 |
| Religion | Christian | 275 | 66.7 |
| | Muslim | 137 | 33.3 |
| | Total | 412 | 100.0 |
| Ethnicity | Igbo | 59 | 14.3 |
| | Hausa | 13 | 3.2 |
| | Yoruba | 326 | 79.1 |
| | others | 14 | 3.4 |
| | Total | 412 | 100.0 |

Table 2:

Descriptive Statistic Showing the Prevalence Rate of Suicidal Ideation among Pregnant Women

| Options | Percentage | |
|-------------------|---------------|------|
| Suicidal ideation | Prevalence | 5.8 |
| | Low | 43.2 |
| | Mild-Moderate | 37.4 |
| | Severe | 13.6 |



Table 3 shows a significant positive relationship between adverse childhood experiences and Suicidal ideation ($r = .32, p < .01$). The result implies that pregnant women with high adverse childhood experiences significantly report high Suicidal ideation. The hypothesis is thus accepted.

Hypothesis three states that resilience will have a significant and negative relationship with suicidal ideation among pregnant women. The hypothesis was tested using Pearson r correlational analysis. The result is presented in Table 4. Table 4 shows no significant relationship between Resilience and Suicidal ideation ($r = -.01, p > .05$).

The result indicates that resilience did not significantly relate to an increase or decrease in

Suicidal ideation among pregnant women. Hypothesis four states that younger pregnant women (18-30 years) will significantly report a lower score on suicidal ideation than older pregnant women (30-50 years). This hypothesis was tested using the t-test for independence, and the result is presented in Table 5. Table 5 shows that younger pregnant women (18-30 years) ($M = 9.06, S.D = 8.77$) significantly reported lower scores on suicidal ideation to compare older pregnant women (30-50 years) ($M = 13.00, S.D = 9.82$). While older pregnant women (30-50 years) significantly reported higher levels of suicidal ideation ($t(410) = -2.23, p < .05$) than the younger pregnant women (18-30 years). The result implies that age significantly influences suicidal ideation.

Table 3:

Pearson Product Moment correlation showing the relationship between adverse childhood experience and suicidal ideation

| Variables | Mean | S.D | r | P |
|------------------------------|--------|-------|-------|------|
| Suicidal ideation | 12.68 | 9.79 | .32** | <.01 |
| Adverse childhood experience | 180.65 | 36.87 | | |

** . Correlation is significant at the 0.01 level (2-tailed).

Table 4:

Pearson Product Moment correlation showing the relationship between Resilience and Suicidal ideation

| Variables | Mean | S D | r | P |
|-------------------|-------|------|------|------|
| Suicidal ideation | 12.68 | 9.79 | -.01 | >.05 |
| Resilience | 12.87 | 6.73 | | |

Table 5:

t-test summary table showing the difference between younger pregnant women (18-30 years) and older pregnant women (30-50 years) on Suicidal ideation.

| | Age | N | \bar{X} | Std | df | t | p |
|-------------------|-------------|-----|-----------|------|-----|-------|-------|
| Suicidal ideation | 18-30 years | 33 | 9.06 | 8.77 | | | |
| | 30-50 years | 379 | 13.00 | 9.82 | 410 | -2.23 | <0.05 |

Table 6:

Relative Contribution of Adverse Childhood Experience, Resilience, and Age to the Prediction of Suicidal Ideation among Pregnant Women

| Predictors | β | t | P | R | R ² | F | P |
|------------------------------|---------|------|------|------|----------------|-------|------|
| Adverse childhood experience | .32 | 6.76 | <.05 | | | | |
| Resilience | -.02 | -.50 | >.05 | 0.32 | 0.11 | 15.91 | <.01 |
| Age | .06 | 1.19 | >.05 | | | | |



Hypothesis five states that adverse childhood experience, resilience, and age will jointly and independently predict suicidal ideation among pregnant women. The hypothesis was tested using multiple regression analysis. The results are presented in Table 6. Table 6 revealed that adverse childhood experience, resilience, and age jointly predicted Suicidal ideation ($R^2 = 0.11$, $F(3,408) = 15.91$, $p < .01$). When combined with the adverse childhood experience, resilience, and age accounted for 11% of the change observed in the suicidal ideation among pregnant women.

This revealed that the collective presence of adverse childhood experiences, resilience, and age significantly influence suicidal ideation. The result further revealed that independently, only adverse childhood experience ($\beta = .32$, $p < .05$) significantly predicted suicidal ideation, while resilience ($\beta = -.02$, $p > .05$) and age ($\beta = .06$, $p > .05$) were found to have no significant independent prediction on the suicidal ideation among pregnant women. The result demonstrates that pregnant women with a high adverse childhood experience reported high Suicidal ideation. The hypothesis was supported.

Discussion

We found that suicidal ideation is commoner than expected, with 5.8% of the participating pregnant women reporting experiencing suicidal ideation. However, previous studies have reported conflicting prevalence, with some as low as 2.6% [11] among pregnant women in Spain and 11.74% [12] among pregnant women in China. However, the present study's result of 5.8% prevalence is similar to the findings of [44], who reported a 6.71% prevalence rate of suicidal ideation among pregnant women in their third trimester, though slightly higher than our finding but within the range of our result. The findings from our study may be attributed to the fact that our participants were recruited from antenatal clinics and outpatient visits at the hospital. These pregnant women face various challenges, including family conflicts, self-care responsibilities, and exposure

to societal stressors. In contrast, hospitalized patients experience a supportive environment that shields them from external worries, coupled with the hope and encouragement of witnessing newborns. Furthermore, the study's location in Lagos, a densely populated and fast-paced metropolitan city, likely influenced the results. The city's intense competition for resources puts pregnant women at a disadvantage, affecting their ability to care for themselves and their families. Given that over 70% of healthcare in Nigeria is paid for out-of-pocket, this financial strain may indirectly contribute to suicidal ideation among pregnant women. Consequently, health workers should remain vigilant and screen for suicidal ideation during routine antenatal care to address this pressing issue.

In this study, pregnant women who were exposed to adverse childhood experiences in their early years of life were more likely to experience and report suicidal ideation because we found a significant positive relationship between adverse childhood experiences and suicidal ideation, which was similar to a previous study [9]. They found that women who had experienced childhood abuse were found to have reported a high risk of suicide ideation. Also, Childhood adversity, such as abuse, has been found to bring about sustained hyperactivity of the adrenocorticotropin-releasing hormone cycle, hypothalamic-pituitary-adrenal axis dysfunction, and reduced neurotrophic factors [45,46], which may also trigger suicidal ideation among the pregnant women.

In this study, we found that resilience as a personality attribute has little or no effect on the experience of suicidal ideation among pregnant women because our result found no significant relationship between resilience and suicidal ideation. This finding was similar to some previous studies [47,48,49], which found no association between staying strong and suicide ideation during pregnancy or the postpartum period. Thus, resilience had no significant relationship to an increase or decrease in Suicidal ideation among pregnant women.



In addition, the current study found that the report of suicidal ideation is significantly higher among older pregnant women aged (31-50) than among those in another age group under 31 years. Ages in the current study ranged from 18 to 50. These findings concur with a study by [48], who found that pregnant women between the age bracket of 15- 29 years reported reduced suicide ideation rates. The finding thus implies that age significantly influences the experience of suicidal ideation among pregnant women.

Furthermore, the current study revealed that adverse childhood experience, resilience, and age jointly predict suicidal ideation among pregnant women. However, only adverse childhood experiences independently predicted suicidal ideation, while resilience and age were not significant independent predictors of suicidal ideation among pregnant women. The results demonstrate that pregnant women with high levels of adverse childhood experience significantly reported high Suicidal ideation. We couldn't find a comparable study, but the reasons behind our findings might be attributed to the often overlooked impact of adverse childhood experiences on individual self-esteem and subsequent personality development. Furthermore, the current study revealed that adverse childhood experience, resilience, and age jointly predict suicidal ideation among pregnant women. However, only adverse childhood experiences independently predicted suicidal ideation, while resilience and age were found not to be significant independent predictors of suicidal ideation among pregnant women. The result demonstrates that pregnant women with high levels of adverse childhood experience significantly high Suicidal ideation.

Conclusion

Suicide ideation is common among pregnant women who have adverse childhood experiences. Childhood trauma and adverse experiences often lead to the development of negative emotions, increasing the risk of mental health challenges such as suicidal ideation, particularly among pregnant women. This study

found a significant positive relationship between adverse childhood experiences and suicidal ideation, with older pregnant women reporting higher levels of suicidal thoughts compared to younger women. Adverse childhood experiences, resilience, and age collectively predicted suicidal ideation among pregnant women, with adverse childhood experiences being the sole independent predictor. Therefore, the health system should factor this into the routine screening, programme, and activities for pregnant women during the antenatal period. Despite these valid conclusions, it is essential to exercise caution in generalizing the results of this study because there was no baseline data with which to compare the findings. Furthermore, participants for this study were recruited from 6 out of 774 local governments in Nigeria. The study is cross-sectional, and most of the literature used to discuss the findings is foreign.

Recommendations

We recommended that pregnant women be screened routinely for suicidal ideation during ante-natal and that psychoeducation aimed at understanding and eliminating suicidal ideation be incorporated into the ante-natal clinic programme for pregnant women as preventive measures against suicide. Finally, future researchers are encouraged to move this research further by expanding the scope of this study in terms of participants by comparing pregnant women in the first, second, and third trimesters based on suicidal ideation. It could also be done via educational level, personality traits, and duration of marriage. Additionally, different research settings, such as pregnant women on hospital admission, can be compared with those in the general population. Lastly, making it a longitudinal study where the pregnant women will be studied throughout the gestational period is encouraged to generalize the result.

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