

**Socio-economic and political trajectories of psychological distress among pregnant women in Uyo metropolis**

**<sup>1</sup>Clement O. Obadimu**

Institute For Health, Safety, Security and Environment (HSSE) Studies,  
University of Uyo, Uyo,  
Akwa Ibom State, Nigeria

**<sup>2</sup>David O. Iloma**

Department of Criminology and Security Studies, Topfaith University, Mkpatak, Akwa Ibom  
State, Nigeria;

**<sup>3</sup>Cynthia N. C. Udeze**

Department of Psychology, Nnamdi Azikiwe University, Awka

**<sup>4</sup>Michael Nwokedi**

Department of Political Science, University of Nigeria, Nsukka

**<sup>5</sup>Uzochukwu Chukwuka Chinweze**

Social Sciences Unit, School of General Studies, University of Nigeria, Nsukka,  
Country: Nigeria

**<sup>6\*</sup>Isife, Chima Theresa\***

Institute for Development Studies.  
University of Nigeria, Enugu Campus, Nigeria,

*Corresponding author*

**<sup>7</sup>Chizoba Iloma**

Department of Psychology,  
Faculty of the Social Sciences, University of Nigeria, Nsukka,

**ABSTRACT**

In contemporary Nigeria, most women coming for antenatal care and are usually guided on minor health issues related to pregnancy whereas other psychosocial factors appears unattended to. Being cognisant of this, the study examined socio-economic trajectories of psychological distress by purposively sampling thirty one (31) pregnant women recruited from Premier Hospital, Uyo. To investigate the variable of interest, the Kessler Psychological Distress Scale (K6) as developed by Dadfar, Lester, Momeni, and Roshanpajouh, (2018) was employed. Ethical requirements were met before participants consented to respond to the questionnaire. Thereafter, collected data were subjected to empirical software analysis using descriptive statistics and one-

way ANOVA to test the research hypothesis which returned statistically confirmed. A psychological distress prevalence of 29% was reported which should stimulate urgent proactive means within hospital managements to conscientiously address the situation. More so, understanding socio-economic trajectories of psychological distress in pregnancy will be useful in expanding interventions for tackling such symptoms, as well as averting potential post-partum crisis.

**Keywords:** Family monthly income; partner's employment status; pregnant women; psychological distress, Economic security.

## INTRODUCTION

Without doubt, pregnancy is a very crucial time in the life of every woman in which feelings of insecurity and vulnerability abounds. In this study, pregnancy is operationally seen as the period beginning with the onset of gestation and ends at child birth. This period has been found to funnel a woman's life to go through so many psychological and physiological suffering (Busari, 2018). However, healthy women often find pregnancy as a self-realization means and perceive it as a special and joyful period of life; while others negatively-view pregnancy to the extent that they are afraid of childbirth or feel inadequate about mothering.

Psychological distress is the unspecific psychological condition detected by feelings consistent with emotional suffering, emotional disturbance, anxiety or depressed mood, such as nervousness and feeling sad that may influence the social functioning and daily living of individuals (Kessler, Andrews, Colpe, Hiripi, Mroczek, & Normand et al., 2002; Cairney, Veldhuizen, & Wade, 2007; Mirowsky & Ross, 2002; Wheaton, 2007; Ajah et al., 2022). The inherent burden of psychological distress may be obtainable in low and middle-income countries (LMIC) when compared to high resource countries in which maternal competence in child care is likely to have more of an impact on the child's physical well-being and survival especially in the first year of life (Fisher, Mello, Patel, Rahman, Tran, Holton, & Holmes, 2012; Patel, Rahman, Jacob, & Hughes, 2004). Studies reveal that some notable psycho-social risk factors contributing to distress in pregnancy include past history of depression, domestic violence, stressful life events and poor social support (Satyanarayana, Lukose, & Srinivasan, 2011; McCormic, Brooks-Gunn, Shorter, Holmes, Wallace, & Heagarty, 1990). A World Health Organization (2017) estimate revealed that psychological distress affected 3.9% of the population, which translates to seven (7) million Nigerians (Kingston, McDonald, Austin, Hegadoren, Lasiuk, & Tough, 2014). The impact of psychological distress in a pregnant woman can be enormous and often predispose women to postnatal depression, some cases of premature delivery, behavioural problems, and delayed cognitive and linguistic development of the child (Hobel, 2004; Field, Diego, Dieter, Hernandez-Rief, Schanberg, & Kuhn, et al., 2004). Maternal psychological distress has been found to affect the mother's responsiveness to the child adequate immunization, breastfeeding and emotional support; even to the extent of affecting other members of the family (Spies, Stein, & Roos, 2009). At this point, it will be important to re-establish the fact that children are adorable and precious, but the psychological well-being of an infant may be affected when the mother is subjected to psychological distress during pregnancy. Similarly, a contemporary study has

confirmed that “mothers exposed to stressful conditions were prone to preterm birth than those without any stress” (Vijayaselvi, Beck, Abraham, Kurian, Regi, & Rebekah, 2015:7). “Poor marital adjustment is also known to predict higher degree of hassles during pregnancy: (Da Costa, Larouch, Drista, & Brender, 1999:5). “Socio-economic and cultural factors, such as male gender preference for the baby, lower income, adjustment problems with the spouse’s family and parents experiencing adverse life events in the previous year were found to be risk factors for postpartum depression” (Chandran, Tharyan, Muliyl, & Abraham, 2002:8).

To make matters worse, in various studies, depression and anxiety, being major components of psychological distress have been reported to be about 10% during pregnancy (Rasul, Bowen, & Muhajarine, 2017), which is considerable depending on the conditions and living environment (Vigod, Wilson, & Howard, 2016), especially in the second and third trimesters of pregnancy (Bennett, Einarson, Taddio, Koren, & Einarson, 2004; Urizar Jr., Yim, Kofman, Tilka, Miller, & Freche, et al., 2018; Li, Mao, Du, Morris, Gong, & Xiong, 2012).

For the present study, socio-economic trajectories is operationally defined as the progressive path of development in terms of family monthly income and partner’s employment status which were proposed to influence the level of psychological distress among pregnant women. Although, Nigeria is blessed with abundant human resources and rich in natural resources with crude oil as its mainstream income, majority of her citizens still live in abject poverty with a minimum monthly wage of N30,000 (approximately \$70 dollars a month). More disturbing is that, the country has been classified as a low-income country with persistent rise in unemployment as the core reason for worsened insecurity, kidnapping, banditry, terrorism, uprisings, elevated poverty levels, gender inequalities, and socio-political unrest (Nri-Ezedi, Nnamani, Ezeh, Okechukwu, Fasesan, & Ulasi, 2020). Painfully, the National Bureau of Statistics in Nigeria revealed that the unemployment rate in the country has risen to 33.3% in March 2021 from 27.1% in December 2020 (Olurounbi, 2021). A collective traumatic experience came to light in the wake of Transparency International’s rating in which it was stated that “Nigeria is now the 2<sup>nd</sup> most corrupt country in West Africa with Guinea-Bissau the only country more corrupt than Nigeria in the region” (Ajah & Onyejebu, 2019; Ajah et al., 2022). The Corruption Perception Index (CPI) 2020 report indicates that Nigeria occupies 149<sup>th</sup> position out of the 180 countries surveyed, seeing Nigeria’s ranking drop consistently in the last four (4) years (Uche, 2021). Based on these burgeoning socio-economic trajectories, this study decided to investigate its effect on psychological distress among pregnant women.

Numerous related studies have been carried with the two operationally defined dimensions of socio-economic trajectories: participant’s husband employment status and family monthly income. Orpana, Lemyre, and Gravel (2009:9) found that “low-income respondents were at a significantly higher risk of becoming psychologically distressed”. Sareen, Afifi, McMillan, and Asmundson (2011:11) later examined “the relationship between income, mental disorders, and suicide attempts in a national survey of 34, 653 non-institutionalized adults. The researchers showed that participants’ with household income of less than \$20, 000 per year were at increased risk of incident mood disorders during the 3-year follow-up period in comparison with those with income of \$70 000 or more per year”. Further, Roos, Faure, Lochner, Vythilingum, and Stein (2013:9) while recruiting 105 Pregnant women found that “predictors of distress and anxiety were lower self-directedness, higher harm avoidance, higher trait anxiety, lower resilience, and

lower social support, at each time point". In addition, Rezaee and Framarzi (2014) while determining the demographic predictors of anxiety and depressive symptoms among 142 pregnant women found a negative correlation between family income and maternal education level with anxiety symptom. While Vijayaselvi et al., (2015) found that pregnancy and husband's employment status were associated with high levels of perceived stress. Other extant contemporary studies such as that of Abrahams, Lund, Field, and Honikman (2018) which aimed at "assessing factors associated with food insecurity and depression in a sample of 376 pregnant South African women found that 42% of households were food insecure and that 21% of participants were depressed. Also, marital life satisfaction, high level of spouse's education and income has been implicated in reducing symptoms of stress, anxiety, and depression in pregnant women in critical situations" (Effati-Daryani, Zarei, Mohammadi, Hemmati, Yngykd, & Mirghafourvand, 2020:8). This correlates with a study conducted over two decades ago showing the two directions for the association between income and mental health to the extent that poorer mental health may lead to lower income and vice versa (Elstad, 2000). Clearly, extant studies show the shortage of literature on the prevalence of psychological distress, and their socio-economic trajectories in Akwa Ibom State. Though a few attempt has focused on women residing in South-West and South-East of Nigeria which is occupied predominantly by the Yoruba and Igbo women, a case then can be made for Akwa Ibom State which represents the South-South geo-political zone of the country (Odinka, Odinka, Ezeme, Ndukuba, Amadi, Muomah, & Nwoha, et al., 2019; Fatoye, Oladimeji, & Adeyemi, 2006; Adewuya & Afolabi, 2005; Odinka, Ndukuba, Muomah, Amadi, Osika, & Bakare, et al., 2015; Jegede, 2002). This study investigated economic trajectories of psychological distress among pregnant women in Premier Hospital, Uyo. In view of this, the study hypothesized that family monthly income will have a significant impact on psychological distress among pregnant women. Concomitantly, the second hypothesis states that participant husband's employment status will have a significant impact on their psychological distress.

## **METHODS**

### **Participants**

A cross-sectional survey design was utilized in the present study; while purposive sampling was employed in recruiting thirty one (31) pregnant women from Premier Hospital, Uyo. Out of the 31 participants sampled, 2 (6.4%) were aged between 15-19 years, while 14 (45.2%) were aged between 20-29 years, and 15 (48.4%) were aged 30 years and above. Educational status of participants indicated that majority 13 (41.9%) had tertiary education qualification. Husband's employment status showed that 3 (9.7%) were unemployed, 16 (51.6%) were employed, 9 (29.0%) were self-employed, and 3 (9.7%) did not respond to their husband's employment status. Similarly, family monthly income depicted that 4 (12.9%) reported to have earned less than or equal to N20, 000; 5 (16.1%) reported to have earned between N20, 000 to N49, 000; 17 (54.8%) reported to have earned N50, 000 and above; while 5 (16.1%) did not respond to how much their family's income in a month. Ethnic grouping of participants indicates that majority were Ibibio 15 (48.4%) while others were divided between Efik, Oro, Annang, and Igbo ethnic groups.

### **Inclusion and exclusion criteria**

All adult women (i.e., the ages of 15 to 40) who are pregnant, with gestational age of 18-24 weeks (i.e., 4-7 months, within their second or third trimester), and have registered for antenatal care, attending antenatal classes, were included in the study. This gestational age was chosen so that the discomforts of the first trimester had disappeared (nausea or vomiting) and those of late pregnancy had not yet appeared (backache, or breathing difficulties). Also, any pregnant woman with any severe medical challenge, history of psychological disorders (such as dissociation, psychosis, hallucination, or any other delusional component) and recent traumatic life events, were excluded from the study to reduce confounding factors.

### **Measures**

#### **Demographic variables and socio-economic trajectories**

The instruments employed in the present study for data collections are briefly described under Sections A and B. Section A comprises of demographic section comprising of age, educational status and ethnic group; while the socio-economic trajectories components were family monthly income categorized as: less than or equal to N20, 000, N20, 000-N49, 000, and N50, 000 and above; participants in the last category are said to have high family monthly income, while those in the first two categories are said to have low family monthly income. Second, was participant's husband employment status which was categorized into three: unemployed, employed, and self-employed.

Section B showcased Kessler Psychological Distress Scale (K6) as developed by Dadfar, Lester, Momeni, and Roshanpajouh, (2018). The K6 can predict mood and anxiety disorders and measures general distress in the preceding month (Dadfar, AtefVahid, Lester, Bahrami, 2016). The items measure whether the respondent feels nervous, hopeless, restless, jumpy, sad, and worthless. Each item of the K6 was answered on a 5-point Likert-type scale: None of the time (0); A little of the time (1); Some of the time (2); Most of the time (3), and All of the time (4). The total score ranges from 0-24 and the norm for K6 were 7.13 implying that scores between 7.13 and above can be said to be high in psychological distress. Cronbach alpha coefficient of .70 was obtained for K6 implying a good internal consistency.

#### **Ethical approval/procedure**

Women provided written/informed consent and the study was approved by the Ethical Committee, Ministry of Health, Akwa Ibom State, Idongesit Nkanga Secretariat, IBB Avenue, Uyo and the study was conducted in line with the research protocols, avoiding any invasive procedure. The researchers also approached the chief matron of the hospital to get support and cooperation to recruit 31 willing pregnant women within two antenatal days: Tuesday, 18<sup>th</sup> February and Friday, 21<sup>st</sup> February, 2020. Inclusion criteria consist of participants whose age ranges from 15 to 40 years old and gestational age of 18-24 weeks (i.e. 4-7 months or pregnant women within second or third trimester but not late third trimester). Data confidentiality and patients' privacy was also assured. At the end, participants were thanked verbally and given one (1) pen each for their willingness to participate.

#### **Statistical analyses**

Data was analyzed using IBM SPSS Statistics (version 25). To investigate the influence of socio-economic trajectories on psychological distress, one-way ANOVA and descriptive analyses were

used in consonance with the study hypothesis after sorting, cleansing and coding of collected data.

## RESULTS

**Table 1: Summary of one-way ANOVA showing the influence of socio-economic trajectories (family monthly income) on psychological distress among pregnant women in Uyo metropolis.**

Source	SS	Df	MS	F	Sig.
Between	180.97	2	90.48	8.29	.002
Within	251.04	23	10.92		
Total	432.01	25			

Family Monthly Income	N	Mean	SD
Less than/equal to 20k	4	13.01	3.74
20k to 49k	5	7.21	5.63
50K & above	17	5.53	2.27

The result of one-way ANOVA indicated family monthly income had a significant effect on psychological distress among pregnant women,  $F(2, 25) = 8.29$ ,  $P < 0.05$ . Further analysis revealed that participants whose family monthly income were less than N20,000.00 reported the highest level of psychological distress ( $N=4$ , Mean =13.01, SD= 3.74); subsequently, participants whose family monthly income were between N20,000.00 to N49,000.00 reported the second highest level of psychological distress ( $N=5$ , Mean =7.21, SD= 5.63); and lastly, participants whose family monthly income ranged from N50,000.00 and above reported the least level of psychological distress ( $N=17$ , Mean =5.53, SD= 2.27).

Graphical representation of one-way ANOVA showing the link between family monthly income and psychological distress.

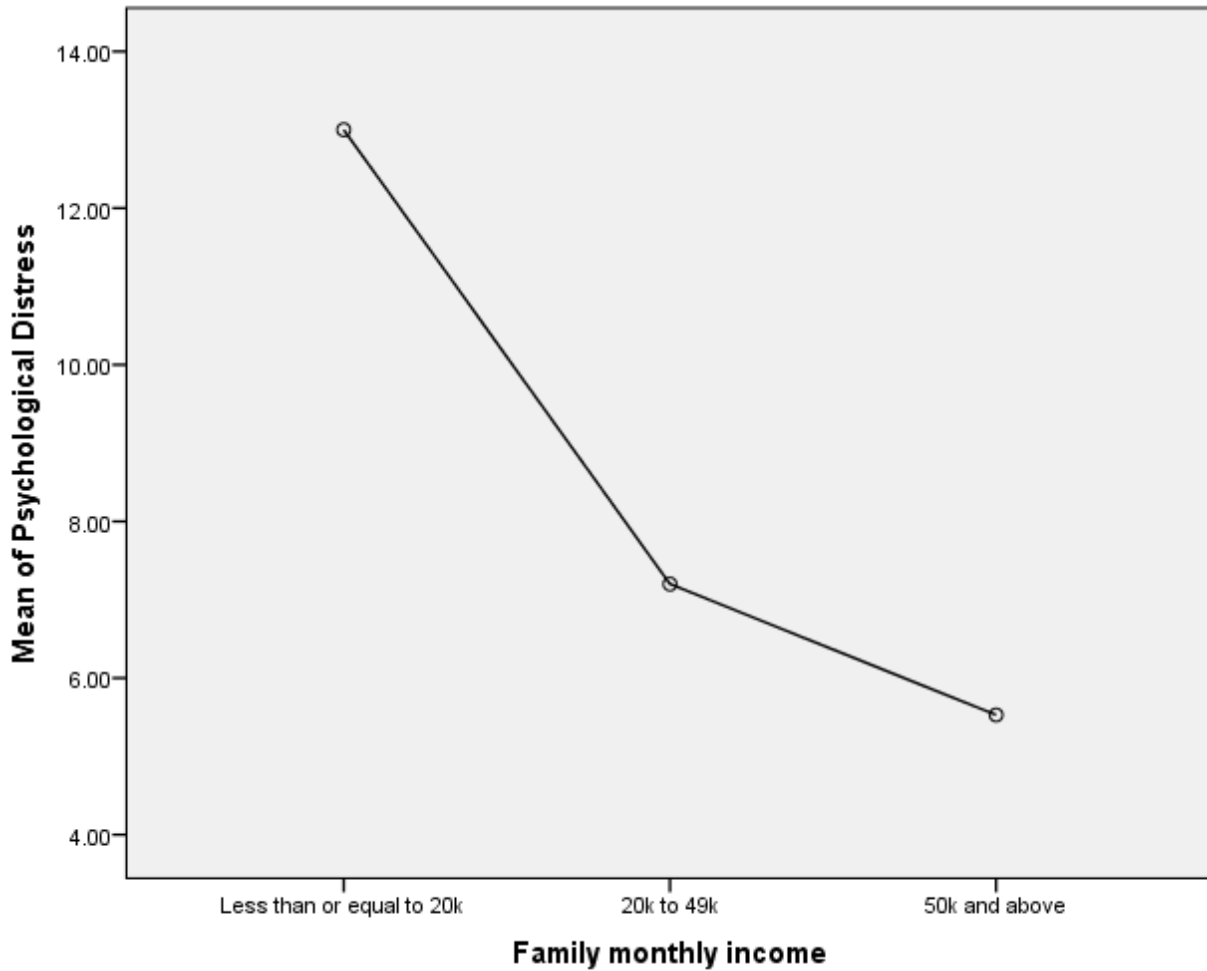


Table 2: Summary of one-way ANOVA showing the influence of socio-economic trajectories (participant’s husband employment status) on psychological distress among pregnant women in Uyo metropolis.

Source	SS	df	MS	F	Sig.
Between	58.78	2	29.39	1.85	.178
Within	397.33	25	15.89		
Total	456.11	27			



PHES	N	Mean	SD
Unemployed	3	10.01	5.19
Employed	16	7.19	3.94
Self-employed	9	5.11	3.72

**Note: PHES - Participant's husband employment status**

Results from Table 2 using the same one-way ANOVA clearly shows that participant's husband employment status did not significantly reflect on their psychological distress,  $F(2, 25) = 1.85$ ,  $P > 0.05$ . Despite the non-significance of results, results shows that participant's whose husband is unemployed reported more level of psychological distress ( $N = 3$ , Mean = 10.01,  $SD = 5.19$ ); in a sharp contrast which was quite surprising, participant's whose husband were self-employed reported the highest level of psychological distress ( $N = 9$ , Mean = 5.11,  $SD = 3.72$ ). In creating a balance, participant's whose husband are employed reported the moderate level of psychological distress ( $N = 16$ , Mean = 7.19,  $SD = 3.94$ ). Considering all these three cases and despite their mean differences, statistical significance was not within reach.

Finally, descriptive analysis revealed that out of the 31 respondents, 9 (29%) reported high levels of psychological distress, while 22 (71%) reported low levels of psychological distress. As small as 29% can appear relative to 71% of those with low distress, this statistics should give policy makers, health institutions and relevant government establishments cause for concern.

## DISCUSSION

This study investigated socio-economic trajectories of psychological distress among pregnant women in Uyo metropolis. Our study tables important evidence of the strong links between family monthly income and psychological distress among pregnant women in Uyo. Finding of the study revealed that participants whose family monthly income were less than N20, 000. 00 reported the highest level of psychological distress while participants whose family monthly income was the highest (i.e., from N50, 000. 00 and above) reported the least level of psychological distress. This finding overlaps the study of Orpana, Lemyre, and Gravel (2009) who found that low-income respondents were at a significantly higher risk of becoming psychologically distressed. Similarly, the finding mirrors Sareen, Afifi, McMillan, and Asmundson (2011) who "found that participants' with household income of less than \$20, 000 per year were at increased risk of mood disorders during the 3-year follow-up period in



comparison with those with income of \$70 000 or more per year. More interestingly, income has been implicated in reducing symptoms of stress, anxiety, and depression in pregnant women in critical situations “(Effati-Daryani, Zarei, Mohammadi, Hemmati, Yngyknd, & Mirghafourvand, 2020:8). An explanation to this finding can be predicated on the fact that mothers or a mother-to-be would not want to suffer lack or malnourished which in turn may affect the unborn child; and generally, it is a natural phenomenon for an individual to secure the welfare and provision of their loved one. This finding confirms the first hypothesis which states that family monthly income would influence the level of psychological distress among pregnant women.

On the other hand, statistical result indicates that participant’s husband employment status did not significantly influence psychological distress. However, the mean difference revealed a lot of interesting finding; such that participant’s whose husband was unemployed reported high levels of psychological distress; whereas participant’s whose husband were self-employed reported the least level of psychological distress; while the participants whose husband were employed reported a moderate level of psychological distress. Hence, the hypothesis stating that partner’s employment status were to influence the level of psychological distress among pregnant women was not retained. This finding disagrees with the study of Vijayaselvi et al., (2015) who found that pregnancy and husband’s employment status as associates of high levels of perceived stress.

This study observed something peculiar in the sense that employment status of participants had no impact on psychological distress. The implications can be explained in two main ways. First, it is either, unemployment rate has become so high (which inadvertently is the case in Nigeria) to the extent that people do no longer wait for jobs but do whatever is humanly possible to eke out a living. A second possibility could be that being employed is not a financial-proof especially when people are either not happy with their jobs or are under-paid. Further findings reveals psychological distress prevalence of 29% which if projected to the larger population could warrant a mental health state of emergency for pregnant women. Hence, this study confirms findings from other climes that socio-economic variables of pregnant women are empirically linked to high levels of psychological distress within Uyo metropolis.

However, the risk of being distressed psychologically is relatively accounted for by the higher prevalence of stressors in the lives of low-income earners. The study therefore supports the causation hypothesis of income gradient in mental health, because lower income accounted for development of higher levels of psychological distress.

### **Conclusion**

Given the impact of socio-economic trajectories on psychological distress, a worrying proportion of pregnant women reported high levels of psychological distress. To this end, an urgent attention should be paid to vulnerable populations, such as pregnant women, so as to prevent long term adverse psychological effect due to low family income cannot be over emphasized.

### **Limitations and Suggestions for Future Studies**

Some limitations should however be emphasized. First, measures of psychological distress were self-reported. Also, the small sample size relatively makes larger generalizations difficult; and further limitations which cannot be ruled out entirely points to the fact that unmeasured extraneous variables such as personality traits, locus of control and self-esteem may have contributed to our results. Despite these limitations, this is a study which reflects the psychological distress of pregnant women vis-à-vis socio-economic trajectories within Uyo metropolis. Further study of the relevant underlying construct is advised, and more research with large number of participants is needed to establish the effects of socio-economic trajectories on psychological distress.

### **Recommendations**

The findings in this study points to the potential value of screening for psychological distress during pregnancy especially when women register for antenatal care and the need to for hospitals to employ psychologists who should work hand-in-hand to provide a complete health for potential nursing mothers which is incomplete without mental health.

The study also recommends for a robust free health care package which should be spearheaded by the State government and supported by multinational companies operating in Akwa Ibom state which should be designed specifically for pregnant low income earners in Uyo metropolis.

Lastly, the advocacy for adequate social support from family and friends, as well as clear-cut waivers for government-owned hospital bills especially during delivery to aid in lessening the financial burden on families should be championed by all concerned stakeholders.

### **Contributors**

All authors contributed to this final manuscript.

### **Funding**

The authors received no funding for this study.

### **Declaration of Competing Interest**

None.

### **Acknowledgements**

We thank the staff of Premier Hospital, Uyo, Akwa Ibom State for their support in gathering data for this study in February 2020.

### **References**

Abrahams, Z., Lund, C., Field, S., & Honikman, S. (2018). Factors associated with household food insecurity and depression in pregnant South African women from a low socio-economic setting: A cross-sectional study. *Social Psychiatry and Psychiatric Epidemiology*, 53, 363-372.

Adewuya, A. O., & Afolabi, O. T. (2005). The course of anxiety and depressive symptoms in Nigerian postpartum women. *Archives of Women's Mental Health*, 11, 8(4), 257-269.

- Ajah, L.O., Ajah, M. I., Ajah, B.O., Onwe, E. O., Ozumba, B.C., Iyoke, C.A., & Nwankwo, T.C. (2022). A 20 Year Retrospective Review of Rape Pattern in Ebonyi State, South-East Nigeria. *Heliyon*, 8, e08894. <https://doi.org/10.1016/j.heliyon.2022.e08894>
- Bennett, H. A., Einarson, A., Taddio, A., Koren, G., & Einarson, T. R. (2004). Prevalence of depression during pregnancy: Systematic review. *Obstetrics Gynecology*, 103, 698-709.
- Busari, A. O. (2018). Prevalence and associated factors of anxiety and depression among pregnant women. *Open Access Journal of Neurology and Neurosurgery*, 9, 2, 1-11.
- Cairney, J., Veldhuizen, B., & Wade, T. J., (2007). Evaluation of 2 measures of psychological distress as screeners for depression in the general population. *Canadian Journal of Psychiatry*, 52, 111-120.
- Chandran, M., Tharyan, P., Muliyl, J., & Abraham, S. (2002). Postpartum depression in a cohort of women from a rural area of Tamilnadu, India: Incidence and risk factors. *Britain Journal of Psychiatry*, 181, 499-504.
- Da Costa, D., Larouch, J., Drista, M., & Brender, W. (1999). Variations in stress levels over the course of pregnancy: Factors associated with elevated hassles, state anxiety and pregnancy-specific stress. *Journal of Psychosomatic Research*, 47, 6, 609-621.
- Dadfar, M., AtefVahid, M. K., Lester, D., & Bahrami, F. (2016). Kessler Psychological Distress Scale (K6): Psychometric testing of the Farsi form in psychiatric outpatients. *Advances in Bioresearch*, 7, 105-108.
- Dadfar, M., Lester, D., Safarabad, M. N. & Roshanpajouh, M. (2018). The Kessler Psychological Distress Scale (K6) as a screening instrument: A study of Iranian university students. *Annals of Depression and Anxiety*, 5, 2, 1097-1001.
- Effati-Daryani, F., Zarei, S., Mohammadi, A., Hemmati, E., Yngyknd, S. G., & Mirghafourvand, M. (2020). Depression, stress, anxiety and their predictors in Iranian pregnant women during the outbreak of COVID-19. *BMC Psychology*, 8, 99, 1-10.
- Elstad, J. (2000). *Social Inequalities in Health and Their Explanations*. Oslo: NOVA.
- Fatoye, F. O., Oladimeji, B. Y., & Adeyemi, A. B. (2006). Difficult delivery and some selected factors as predictors of early postpartum psychological symptoms among Nigerian women. *Journal of Psychosomatic Research*, 31, 60, 3, 299-301.

- Field, T., Diego, M., Dieter, J., Hernandez-Reif, M., Schanberg, S., Kuhn, C., Yando, R., & Bendell, D. (2004). Prenatal Depression Effects on the Fetus and Newborn. *Infant Behaviour and Development*, 27, 216-229.
- Fisher, J., Mello, M. C., Patel, V., Rahman, A., Tran, T., Holton, S., & Holmes, W. (2012). Prevalence and determinants of common perinatal mental disorders in women in low- and lower-middle-income countries: A systematic review. *Bulletin of the World Health Organization*, 90, 2, 139-149.
- Hobel, C. (2004). Stress and preterm birth. *Clinical Obstetric Gynecology*, 47, 856-880.
- Jegede, A. S. (2002). The Yoruba cultural construction of health and illness. *Nordic Journal of African Studies*, 11, 3, 322-335.
- Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, R., Mroczek, D. K., & Normand, S-L. T., et al., (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological Medicine*, 32, 959-976.
- Kingston, D. E., McDonald, S., Austin, M. P., Hegadoren, K., Lasiuk, G., & Tough, S. (2014). The public's views of mental health in pregnant and postpartum women: A population-based study. *BMC Pregnancy Childbirth*, 14, 84-93.
- Li, J., Mao, J., Du, Y., Morris, J. L., Gong, G., & Xiong, X. (2012). Health-related quality of life among pregnant women with and without depression in Hubei, China. *Maternal Child Health Journal*, 16, 1355-1363.
- McCormic, M. C., Brooks-Gunn, J., Shorter, T., Holmes, J. H., Wallace, C. Y., & Heagarty, M. C. (1990). Factors associated with smoking in low-income pregnant women: Relationship to birth weight, stressful life events, social support, health behaviours and mental distress. *Journal of Clinical Epidemiology*, 43, 5, 441-448.
- Mirowsky, J., & Ross, C. E. (2002). Selecting outcomes for the sociology of mental health: Issues of measurement and dimensionality. *Journal of Health and Social Behavior*, 43, 152-170.
- Nri-Ezedi, C. A., Nnamani, C. P., Ezeh, N. I., Okechukwu, C., Fasesan, O., & Ulasi, T. O. (2020). Psychological distress among residents in Nigeria during the COVID-19 pandemic. *International Neuropsychiatric Disease Journal*, 14, 3, 8-21.
- Odinka, P. C., Ndukuba, A. C., Muomah, R. C., Amadi, A. U., Osika, M. U., & Bakare, M. O., et al., (2015). The relative contributions of clinical and socio-cultural factors to treatment

- delay among patients with schizophrenia in south-east Nigeria. *International Journal of Psychosocial Rehabilitation*, 1, 19, 2, 63-74.
- Odinka, P., Odinka, J., Ezeme, M., Ndukuba, P., Amadi, K., Muomah, R., Nwoha, S., & Nduanya, U. (2019). Socio-demographic correlates of postpartum psychological distress among apparently healthy mothers in two tertiary hospitals in Enugu, South-East Nigeria. *African Health Sciences*, 19, 3, 2515-2525.
- Orpana, H. M., Lemyre, L., & Gravel, R. (2009). Income and psychological distress: The role of the social environment. *Statistics Canada, Health Reports*, Vol. 20, No.1.
- Olurounbi, R. (2021, March 15). *Nigeria unemployment rate rises to 33%, second highest on global list*. <https://www.bloomberg.com/news/articles/2021-03-15/nigeria-unemployment-rate-rises-to-second-highest-on-global-list/>
- Patel, V., Rahman, A., Jacob, K. S., & Hughes, M. (2004). Effect of maternal mental health on infant growth in low income countries: New evidence from South Asia. *BMJ*, 328(7443):820-23.
- Rasul, S., Bowen, A., & Muhajarine, N. (2017). Factors that moderate or mediate pregnancy complications in women with anxiety and depression. *Journal of Pregnancy and Child Health*, 4, 360-366.
- Rezaee, R., & Framarzi, M. (2014). Predictors of mental health during pregnancy. *Iranian Journal of Nursing and Midwifery Research*, 19, 7, S45-S50.
- Roos, A., Faure, S., Lochner, C., Vythilingum, B., & Stein, D. J., (2013). Predictors of distress and anxiety during pregnancy. *African Journal of Psychiatry*, 16, 118-122.
- Sareen, J., Afifi, T. O., McMillan, K. A., & Asmundson, G. J. G. (2011). Relationship between household income and mental disorders: Findings from a population-based longitudinal study. *Arch General Psychiatry*, 68, 4, 419-427.
- Satyanarayana, V. A., Lukose, A., & Srinivasan, K. (2011). Maternal mental health in pregnancy and child behaviour. *Indian Journal Psychiatry*, 53, 4,351-361.
- Spies, G., Stein, D. J., & Roos, A., (2009). Validity of the Kessler 10 (K-10) in detecting DSM-IV defined mood and anxiety disorders among pregnant women. *Arch Women's Mental Health*, 12, 2, 69-74.
- Uche, J. (2021, January 28). *Nigeria, now 2<sup>nd</sup> most corrupt country in West Africa – Transparency International*. <https://nairametrics.com/2021/01/28/nigeria-now-2nd-most-corrupt-country-in-west-africa-transparency-international/>

- Urizar, Jr G. G., Yim, I. S., Kofman, Y. B., Tilka, N., Miller, K., & Freche, R., et al., (2018). Ethnic differences in stress-induced cortisol responses: increased risk for depression during pregnancy. *Biological Psychology*, 147, 107-186.
- Vigod, S. N., Wilson, C. A., & Howard. L. M. (2016). Depression in pregnancy. *BMJ*, 352, 1547. <https://doi.org/https://doi.org/10.1136/bmj.i1547>.
- Vijayaselvi, R., Beck, M. M., Abraham, A., Kurian, S., Regi, A., & Rebekah, G. (2015). Risk factors for stress during antenatal period among pregnant women in tertiary care hospital of Southern India. *Journal of Clinical and Diagnostic Research*, 9, 10, QC01-QC05.
- Wheaton, B. (2007). The twain meet: Distress, disorder and the continuing conundrum of categories (comment on Horwitz). *Health*, 11, 3, 303-319.
- WHO (2017). Depression and other common mental disorders. Geneva: Global Health Estimates.