ASSESSING SOCIOE-CONOMIC AND CULTURAL FACTORS AFFECTING MATERNAL OUTCOME OF PREGNANCY IN THE SAMARU COMMUNITY, ZARIA: IMPLICATIONS FOR MATERNAL HEALTH POLICIES AND INTERVENTIONS

ADENIYI Y. E., OYELEYE, D. I., FATUKASI, A. O., LONGE, O. O., AYANBEKU, J. K., THOMAS, M. O., AYANDOKUN, A. T., DERE B. N.

ABSTRACT

Maternal health is one of the major concerns of the global health community. Pregnancy may be accompanied by complications of fatal consequences, and pregnant women are thus prone to risk. This study aimed to explore the complications experienced by women in the Samaru Community of Zaria during pregnancy and childbirth and the influence of socioeconomic status and cultural factors on maternal pregnancy outcomes. Using the survey approach research design, targeting women between the ages of 15 and 49 residing in the Samaru Community three hundred fifty questionnaires were completed and analysed, providing valuable insights into the subject matter. The socio- demographic characteristics of respondents indicate that majority are within the ages of 20-24 years (54.4%) from Hausa tribe (45.1%), married (77.14%), with tertiary education (56%). Findings further indicate that the respondents' occupation is civil servant (30.86%) with Undisclosed Income. The study indicates that the socio-economic factors affecting the maternal outcome of pregnancy in the Samaru community, Zaria are educational disparities ($\overline{X}$=3.01), poverty and stress ($\overline{X}$=3.18). Also, the cultural factors affecting the maternal outcome of pregnancy in the Samaru community, Zaria are nutrition ($\overline{X}$=3.07), maternal age ($\overline{X}$=2.78), harmful traditional practices ($\overline{X}$=2.94) and gender disparities ($\overline{X}$=2.94). Lastly, this study observed that majority of the respondents have given birth (87.43%), have complications during pregnancy (47.71%) such as miscarriage (10.57%), bleeding (11.3%) and pre term labour (5.7%). In conclusion, this findings underscore the importance of addressing malnutrition challenging harmful cultural practices and implementing targeted interventions to improve maternal health outcome.

Keywords: Socio-Economic Factors; Cultural Factors; Maternal Outcome; Pregnancy; Maternal Health Policies.

INTRODUCTION

The outcomes of pregnancies are of utmost importance in the field of reproductive health worldwide (Chandra-Mouli et al., 2019). Various social, familial, and cultural factors can positively or negatively influence a woman's health during pregnancy. Cultural beliefs and practices related to pregnancy can significantly impact a woman's access to necessary nutrients and care (Ramulondi et al., 2021). Additionally, Kabir (2022) stated that a family's socioeconomic status plays a crucial role in determining their ability to meet the needs of a pregnant woman, including nutrition, housing, and medical care. Cultural values and socioeconomic backgrounds shape individuals' perceptions and preparations for parenthood, significantly impacting their responses to pregnancy and healthcare-seeking behaviours. Low socioeconomic status often challenges a person's health, including pregnancy outcomes, as families may struggle to afford adequate housing, nutritious meals, and healthcare (Reiss et al., 2019). Poverty and sociocultural factors contribute to the significant problems faced by women in developing nations, limiting their opportunities for health and well-being (Carmel, 2019). Reducing maternal mortality and morbidity requires a comprehensive approach addressing social and medical risk factors contributing to women's vulnerability. Pregnancy complications are often preventable through appropriate pre-pregnancy and antenatal care (Ramulondi et al., 2021). While access to medical services is crucial, addressing additional variables hindering a healthy pregnancy is equally important (Hamal

et al., 2020). Both medical and societal factors contribute to maternal mortality in Nigeria, emphasising the need to address these issues simultaneously (Sufiyan et al., 2016; Yaya et al., 2019).

Maternal mortality is a global concern, but its impact is particularly severe in underdeveloped nations (Hamal et al., 2020). Developing countries account for 99 percent of the estimated global rate of maternal deaths, with sub-Saharan Africa alone experiencing around 265,000 deaths annually (Zhang et al., 2021). In Nigeria, certain women face a higher risk of maternal mortality, influenced by medical factors such as diabetes, haemorrhage, infection, and unsafe abortion, as well as sociocultural factors, including gender disparities, poverty, harmful traditional practices, and limited access to healthcare (Olonade et al., 2019). As the focus on improving reproductive health in the developing world intensifies (Daher-Nashif and Bawadi, 2020; Ali et al., 2020), there is an increasing need for research, particularly in the field of maternal health. According to Olonade et al. (2019), Nigeria faces significant challenges, with an estimated 40,000 maternal deaths and 1 to 1.6 million women experiencing disabilities yearly due to pregnancy and childbirth. The lifetime risk of maternal mortality for Nigerian women is considerably higher than the global average, particularly in underdeveloped regions of the country (Yaya et al., 2019).

This study aims to evaluate the socioeconomic and cultural factors that influence pregnancy outcomes in Nigeria. By understanding these factors, appropriate interventions and strategies can be developed to improve maternal health and reduce the burden of maternal mortality and morbidity. By examining the socioeconomic and cultural context surrounding pregnancy, this study seeks to shed light on the challenges pregnant women face in Nigeria. These challenges may include limited access to healthcare services, inadequate nutrition, poverty, harmful traditional practices, and educational disparities. Understanding these factors is crucial for developing targeted interventions that address the root causes of poor pregnancy outcomes. Hence, this study assesses socioeconomic and cultural factors affecting maternal outcomes of pregnancy in the Samaru community, Zaria and the implications for maternal health policies and interventions.

OBJECTIVES

This study considered the following objectives:

1. To assess the socio-economic factor affecting maternal outcome of pregnancy in the Samaru community, Zaria
2. To determine the socio-cultural factor affecting the maternal outcome of pregnancy in the Samaru community, Zaria
3. To identify the complications experience during pregnancy in the Samaru community, Zaria

RESEARCH METHODOLOGY

Research Design: The survey approach of research design was used in this study to examine a portion of the population and determine the relative distribution and relationship between its characteristics (Ponto, 2015).

Setting: The study was conducted in the Samaru Community in Sabon Gari Local Government Area, Kaduna State. The community comprises several sub-villages and is characterised by a diverse population engaged in various professions. A significant proportion of the community comprises faculty, staff, and students from Ahmadu Bello University (ABU), the Nigerian Institute of Leather and Science Technology, and their families.

Target Population: The study population consisted of women between the ages of 15 and 49 residing in the Samaru Community. This age range corresponds to the reproductive years of women in this community, based on the findings of Sufiyan et al. (2016). The National Population Commission in Zaria estimated the population of women of reproductive age in the neighbourhood to be approximately 5,320.

Sample Size determination: The sampling size (n) from the population was chosen based on Yamane (1973), as given in Equation (1).

$$n = \frac{N}{1+N(e)^2}$$

N is the total population (target population), and e is the precision at 5% (Montenegro, 2001). Applying Equation (1), the sample size was calculated to be approximately 372.

Sampling Technique: multi-stage sampling procedure was employed to select a representative sample from the research population.

First Stage: The Samaru Community was divided into eight groups using the cluster sampling approach: Samaru Central, Ganga Uku, Hayin-Dogo, Hayin-Danyaro, Angwa Dakarkari, Pensioners' quarters, Danraka, and New Extension.

Second Stage: Four clusters were selected using a random sampling procedure: New Extension, Hayin-Danyaro, Samaru Central, and Danraka.

Third Stage: Each cluster comprised 93 samples, with respondents distributed equally and proportionately.

Instrument: Structured questionnaires were utilised as the research tool for data collection in this study. The questionnaire consisted of four sections, focusing on socio-demographic information, reproductive history, socio-economic factors, and cultural factors influencing maternal pregnancy outcomes. The last two sections of the questionnaire employed a Likert-type scale, ranging from 1 to 4, to capture respondents' perceptions and opinions.

Validity: Instrument was validated by experts in the field.

Reliability: Split-half reliability test was carried out and the score derived was 0.78.

Data Collection: The researcher and research assistants visited women within the selected clusters and the reproductive age range. The purpose and significance of the study were explained to the respondents, and their consent was obtained before administering the questionnaires. The research assistants received training on questionnaire distribution and retrieval. Efforts were made to ensure that all eligible respondents had an opportunity to participate and provide thoughtful and honest responses.

Method of Data Analysis: The collected data were analysed using SPSS (Statistical Package for the Social Sciences) version 21. Descriptive statistics such as tables, frequency, mean, and standard deviation were employed in the study, ensuring accuracy and reducing computation errors.

Ethical Consideration: The researchers adhered to ethical guidelines throughout the study. Permission to conduct the study was obtained from the district head of Samaru through a letter of introduction from the conducting institution. Prior informed consent was obtained from the respondents, and they were assured that participation was voluntary. No coercion or force was exerted on any respondent to complete the questionnaires.

RESULTS

The questionnaire results were compiled, and the different replies were examined and evaluated. The respondents were given a total of 372 questionnaires to complete. Three hundred fifty (350) of the questionnaires from this group were returned and studied.

Table 1 shows that the majority of respondents, 53.43%, got married between the ages of 20-24 years, followed by 20.57% who married between 15-19 years. A smaller portion, 12.00%, married between 25-29 years, while 6.29% married between 30-34 years. Only 0.29% married between 35-39 years and 40-44 years each, and none married between 45-49 years. Furthermore, Hausa respondents constitute the largest tribal group at 45.14%, followed by Yoruba at 24.29%, and Igbo at 22.00%. Other

tribes make up 8.57% of the respondents, reflecting the diverse ethnic composition of the study population. In addition, Table 1 shows that a significant majority, 77.14%, are married. Single respondents account for 7.14%, while 7.43% are divorced and 6.29% are widowed. A small percentage, 2.00%, are cohabiting. More than half of the respondents, 56.00%, have tertiary education. Those with secondary education account for 20.29%, primary education for 11.71%, and 12.00% have no formal education. In addition, civil servants represent the largest occupational group at 30.86%, followed by self-employed individuals at 23.43%. Housewives account for 21.14%, petty traders for 18.57%, and farmers for 6.00%. The income distribution among respondents' shows that 16.00% earn between 40,001-60,000 Naira, 15.14% earn between 20,001-40,000 Naira, and 12.86% earn between 60,001-80,000 Naira. A smaller group, 11.71%, earn less than 20,001 Naira, while 6.57% earn between 80,001-100,000 Naira and only 2.57% earn more than 100,000 Naira. The socio-demographic characteristics of respondents indicate that the age 20-24 years (54.4%) from Hausa tribe (45.1%), married (77.14%), with tertiary education (56%). Findings further indicate that the respondents' occupation is civil servant (30.86%) with Undisclosed Income

Table 1: Distribution of The Samples According To Their Socio -Demographic Data

Variables	Frequency	Percentage
Age at Marriage		
15-19 years	72	20.57
20-24 years	187	53.43
25-29 years	42	12.00
30-34 years	22	6.29
35-39 years	1	0.29
40-44 years	1	0.29
45-49 years	0	0.00
No response	25	7.14
Tribe		
Hausa	158	45.14
Igbo	77	22.00
Yoruba	85	24.29
Others	30	8.57
Marital Status		
Single	25	7.14
Married	270	77.14
Divorced	26	7.43
Widowed	22	6.29
Cohabiting	7	2.00
Educational Status		
No formal education	42	12.00
Primary education	41	11.71
Secondary education	71	20.29
Tertiary education	196	56.00
Occupation		
Housewife	74	21.14
Petty trading	65	18.57
Farming	21	6.00
Civil servant	108	30.86
Self-employed	82	23.43
Income		
Less than 20,001 Naira	41	11.71
20,001-40,000 naira	53	15.14
40,001-60,000 naira	56	16.00
60,001-80,000 naira	45	12.86
80,001-100,000 naira	23	6.57
More than 100,000 naira	9	2.57
Undisclosed Income	123	35.14

In addition, according to the responses in Table 2, respondents agreed on the influence of occupation and working conditions on maternal pregnancy outcomes, as the aggregate mean score suggests agreement. Respondents acknowledged that unemployed women were likelier to use maternal health care services and have uncomplicated deliveries. They also recognised that poor working conditions could lead to adverse pregnancy outcomes. Additionally, the impact of jobs requiring prolonged standing or bending over was noted. Regarding the impact of stress on maternal pregnancy outcomes, the mean scores exceeded the decision mean, signifying that the respondents recognised that stressful events during the prenatal period were major contributors to miscarriage and pre-term birth. They also acknowledged that women experiencing minimal stress had fewer complications during pregnancy and delivery, whereas those exposed to repeated stressful events were more likely to face complications. The study indicates that educational disparities ($\bar{\chi}$=3.01), poverty (mean response of 3.0), and stress ($\bar{\chi}$=3.18), are the socioeconomic factors affecting the maternal outcome of pregnancy in the Samaru community, Zaria.

Table 2: The Socio-Economic Factor Affecting Maternal Pregnancy Outcomes

Variable	Mean	SD
Educational Disparities		
Inadequate maternal education results in poor deliveries	2.98	0.869
Education is not a factor in the safe delivery	3.04	0.821
A mother's level of education contributes positively to the outcome of pregnancy	2.99	0.902
Lack of education limits women's knowledge about nutrition, birth spacing and contraception	3.01	0.926
Aggregate mean	***3.01***	***0.880***
Poverty		
Poverty is one of the major causes of maternal mortality	3.14	0.860
Income has a great influence on the outcome of pregnancy	3.08	0.906
The level of the mother's income determines the quality of health care given	3.11	0.862
Complications in pregnancy are more common among low-income earners	2.93	0.961
Unemployed women are more likely to use maternal health care services than earning mothers	2.93	0.943
Unemployed women have higher chances of delivery without complications	2.96	0.929
Poor working conditions result in adverse outcomes of pregnancy	3.07	0.833
A job that requires standing/bending for a very long time may cause pre-term labour and or miscarriage	3.11	0.807
Aggregate mean	***3.00***	***1.431***
Stress		
Stressful events during the prenatal period are one of the major causes of miscarriage and pre-term birth	3.19	0.807
Women who undergo little or no stress rarely have complications in pregnancy and during delivery	3.16	0.817
Women with repeated severe life stress are at higher risk of negative pregnancy outcomes,e.g., hypertension in pregnancy	3.18	0.814
Stress can alter immune functions, and this may lead to an increased risk of infection	3.18	0.814
Aggregate mean	***3.18***	***0.813***

In addition, Table 3 indicates respondents agree that nutrition, maternal age, harmful traditional practices and gender disparities are the cultural factors affecting the maternal outcome of pregnancy regarding the influence of maternal age as a cultural factor on maternal outcomes. The aggregate mean is above the decision mean, indicating issues with cultural beliefs supporting early marriage and delivery and pregnancies at younger and older ages are perceived to impact maternal outcomes significantly. Furthermore, the respondents express concerns about the susceptibility of underaged women to maternal morbidity, highlighting the need to address this issue through appropriate interventions. Similarly, according to the result, respondents agree that cultural practices and beliefs significantly affect maternal pregnancy outcomes. The aggregate mean of 2.94 falls above the decision mean, supporting the perspective that eating forbidden foods like snails, keeping pregnancy a secret, and female genital mutilation are considered to have substantial negative effects on pregnancy outcomes. These findings emphasise the importance of understanding and challenging harmful cultural practices, particularly those related to female genital mutilation, which may lead to postpartum bleeding. Table 3 indicates that nutrition ($\bar{\chi}$ =3.07), maternal age ($\bar{\chi}$ =2.78), harmful traditional practices ($\bar{\chi}$ =2.94) and gender disparities ($\bar{\chi}$ =2.94) are the cultural factors affecting the maternal outcome of pregnancy in the Samaru community, Zaria.

Table 3: The Cultural Factors Affecting The Maternal Pregnancy Outcomes

Variable	Mean	SD
Nutrition		
Cultural beliefs can expose pregnant women to malnutrition	3.02	0.925
Abortion and premature delivery can occur as a result of inadequate nutrition	3.08	0.902
Alcohol consumption leads to reduced birth size of the baby	3.03	0.969
Malnutrition in pregnancy results in babies with low birth weight and a high risk of prenatal death	3.15	0.868
Aggregate mean	***3.07***	***0.916***
Maternal Age		
Most cultures believe in early marriage (15-18 years) and delivery	2.84	1.015
Pregnancy at a younger age than 15 years often results in a child's developmental disability	2.82	0.930
Pregnancy at an age above 35 years results in giving birth to a baby with developmental disabilities	2.68	1.014
Under-aged women are more susceptible to maternal morbidity	2.78	0.986
Aggregate mean	*2.78*	*0.986*
Harmful Traditional Practices		
Consuming forbidden foods like snails does not have any negative effect on the outcome of pregnancy	2.82	0.978
Keeping pregnancy secret has a negative effect on the outcome of pregnancy	2.91	0.875
Female genital mutilation may cause postpartum bleeding and increase the risk of having an infection	3.11	0.895

Female genital mutilation may cause postpartum bleeding and increase the risk of having an infection	3.11	0.895
Complications like miscarriage and stillbirth are normal during pregnancy and delivery	2.90	0.925
Aggregate mean	*2.94*	*0.918*
Gender Disparities		
Differences in men's and women's access to resources and well-being	2.93	0.943
There is an increase in the gender pay gap when women are between age ages 35 to 44years	2.96	0.929
There is gender discrimination in favour of men	2.78	0.986
Women are at a disadvantage in several important ways	2.68	1.014
Education is not equally attained by women	*3.02*	*0.878*
Aggregate mean	*2.88*	*0.95*

Table 4 shows that the majority of respondents, 87.43%, have been pregnant or given birth, while 12.57% have not. This indicates that a significant portion of the population has experienced pregnancy or childbirth. Of those who responded, 47.71.% have experienced complications during pregnancy or child delivery, while 35.43% have not, while 16.86% did not respond to this question. This highlights that a considerable number of respondents have faced challenges during pregnancy or childbirth. The most commonly reported complication is bleeding, experienced by 11.43% of respondents. Miscarriage is also a significant issue, affecting 10.57% of respondents. Other complications include pre-term labour (5.71%), stillbirth (3.43%), and infection (3.43%). Less common complications include eclampsia (2.29%), pre-eclampsia (0.29%), and other unspecified complications (0.57%). A notable 9.71% of respondents reported experiencing more than one complication during pregnancy. However, 52.86% did not respond to this question, indicating a large proportion of missing data. This study observed that majority of the respondents have given birth (87.43%), have complications during pregnancy (47.71%) such as miscarriage (10.57%), bleeding (11.3%) and pre term labour (5.7%)

Table 4: **Complications Experienced During Pregnancy**

Variable	Frequency	Percentage
I have been pregnant or given birth.		
Yes	306	87.43
No	44	12.57
I have complications during pregnancy.		
Yes	167	47.71
No	124	35.43
No response	59	16.86
What major complication have you experienced during pregnancy?		
Pre-eclampsia	1	0.29
Eclampsia	8	2.29
Miscarriage	37	10.57
Bleeding	40	11.43
Pre-term labour	20	5.71
Stillbirth	12	3.43
Infection	12	3.43
Others	2	0.57
Women who suffer more than 1 complication during pregnancy	34	9.71
No response	185	52.86

DISCUSSION

This study aims to evaluate the socio-economic and cultural factors that influence pregnancy outcomes in Nigeria. The socio-demographic characteristics of respondents indicate that the age 20-24 years from Hausa tribe, married, with tertiary education. Findings further indicate that the respondents' occupation is civil servant with Undisclosed Income.

The study indicates that the socio-economic factors affecting the maternal outcome of pregnancy in the Samaru community, Zaria are educational disparities, poverty and stress. This finding aligns with Kabir (2022), who emphasised that a family's socio-economic status significantly influences their capacity to provide adequate nutrition, housing, and medical care for a pregnant woman, thereby impacting pregnancy outcomes. Similarly, Reiss et al. (2019) observed that low socio-economic status can hinder families from affording nutritious meals, adequate housing, and healthcare, which in turn affects maternal health. In the same vein, Carmel (2019) highlighted that poverty and sociocultural factors limit women's opportunities for health and well-being, ultimately influencing pregnancy outcomes.

The study found that cultural factors influencing the maternal outcome of pregnancy in the Samaru community, Zaria are nutrition, maternal age, harmful traditional practices, and gender disparities. This finding is supported by Ramulondi et al. (2021), who stated that cultural beliefs and practices related to pregnancy can significantly influence a woman's access to necessary nutrients and care. Olonade et al. (2019) further identified gender disparities and harmful traditional practices among the sociocultural factors contributing to maternal mortality in Nigeria. In addition, Yaya et al. (2019) noted that women in underdeveloped regions of Nigeria face a higher lifetime risk of maternal

mortality, partly due to cultural and societal factors such as gender inequality and limited healthcare access.

This study observed that majority of the respondents have given birth, have complications during pregnancy such as miscarriage, bleeding and pre term labour.

CONCLUSION

In conclusion, these results emphasised the need for comprehensive healthcare services and interventions to address these challenges. Furthermore, the study highlighted the influence of socio-economic circumstances and cultural factors affecting maternal pregnancy outcomes. These findings underscore the importance of addressing malnutrition, challenging harmful cultural practices, and implementing targeted interventions to improve maternal health outcomes.

RECOMMENDATION

Based on the findings of this study, the researcher recommends the following:

1. To Government and Policymakers:
   - Strengthen maternal healthcare services at the primary and secondary levels to provide timely interventions for complications such as bleeding and miscarriage.
   - Reduce poverty-related barriers by implementing financial and social support systems (e.g., maternal health insurance, subsidies for antenatal care, and maternity leave benefits).
2. To Healthcare Institutions and Professionals
   - Promote women's education and awareness by integrating maternal health literacy programmes into routine antenatal and postnatal care.
   - Promote adequate maternal nutrition by providing culturally appropriate dietary counselling and ensuring access to affordable nutrition programmes.
3. To Community Leaders and Faith-Based Organisations
   - Implement community-based sensitisation programmes to challenge harmful cultural practices, including early marriage and female genital mutilation, that negatively affect maternal outcomes.
   - Address gender disparities by advocating for women's equal access to healthcare, education, and household decision-making resources.
4. To Non-Governmental Organisations (NGOs)
   - Collaborate with local health authorities to fund and implement maternal health projects targeting nutrition, reproductive health rights, and safe cultural practices.
   - Support research and continuous monitoring of maternal health indicators in rural communities to inform evidence-based intervention.

REFERENCES

Ali, B., Dhillon, P., & Mohanty, S. K. (2020). Inequalities in the utilisation of maternal health care in the pre-and post-National Health Mission periods in India. Journal of Biosocial Science, 52(2), 198-212.

Bain, L. E., Muftugil-Yalcin, S., Amoakoh-Coleman, M., Zweekhorst, M., Becquet, R., & de Cock Buning, T. (2020). Decision-making preferences and risk factors regarding early adolescent pregnancy in Ghana: stakeholders' and adolescents' perspectives from a vignette-based qualitative study. Reproductive Health, 17(1), 1-12.

Carmel, S. (2019). Health and well-being in late life: Gender differences worldwide. Frontiers in Medicine, 6, 218.

Chandra-Mouli, V., Ferguson, B. J., Plesons, M., Paul, M., Chalasani, S., Amin, A., ... & Engel, D. M. C. (2019). The political, research, programmatic, and social responses to adolescent sexual and reproductive health and rights in the 25 years since the International Conference on Population and Development. Journal of Adolescent Health, 65(6), S16-S40.

Daher-Nashif, S., & Bawadi, H. (2020). Women's health and well-being in the united nations sustainable development goals: A narrative review of achievements and gaps in the gulf states. International Journal of Environmental Research and Public Health, 17(3), 1059.

Emond, T., de Montigny, F., & Guillaumie, L. (2019). Exploring the needs of parents who experience miscarriage in the emergency department: A qualitative study with parents and nurses. Journal of Clinical Nursing, 28(9-10), 1952-1965.

Hamal, M., Dieleman, M., De Brouwere, V., & de Cock Buning, T. (2020). Social determinants of maternal health: a scoping review of factors influencing maternal mortality and maternal health service use in India. Public Health Reviews, 41(1), 1-24.

Kabir, M. R. (2022). How do traditional media access and mobile phone use affect maternal healthcare service use in Bangladesh? Moderated mediation effects of socioeconomic factors. Plos one, 17(4), e0266631.

Kramer, Karen L., Joe Hackman, Ryan Schacht, and Helen E. Davis. "Effects of family planning on fertility behaviour across the demographic transition." Scientific Reports 11, no. 1 (2021): 1-12.

Lallukka, T., Pietiläinen, O., Jäppinen, S., Laaksonen, M., Lahti, J., & Rahkonen, O. (2020). Factors associated with health survey response among young employees: a register-based study using online, mailed and telephone interview data collection methods. BMC Public Health, 20(1), 1-13.

Montenegro, A. (2001). On sample size and precision in ordinary least squares. Journal of Applied Statistics, 28(5), 603-605.

Obst, K. L., Due, C., Oxlad, M., & Middleton, P. (2020). Men's grief following pregnancy loss and neonatal loss: a systematic review and emerging theoretical model. BMC Pregnancy and Childbirth, 20(1), 1-17.

Olonade, O., Olawande, T. I., Alabi, O. J., & Imhonopi, D. (2019). Maternal mortality and maternal health care in Nigeria: Implications for socioeconomic development. Open Access Macedonian Journal of medical sciences, 7(5), 849.

Pal, K., Sadanandan, D. M., Gupta, A., Nayak, D., Pyakurel, M., Keepanasseril, A., ... & Keepanasseril, A. (2023). Maternal and perinatal outcome in pregnancies complicated with portal hypertension: A systematic review and meta-analysis. Hepatology International, 17(1), 170-179.

Pontius, E., & Vieth, J. T. (2019). Complications in early pregnancy. Emergency Medicine Clinics, 37(2), 219-237.

Ponto, J. (2015). Understanding and evaluating survey research. Journal of the Advanced Practitioner in Oncology, 6(2), 168.

Ramulondi, M., de Wet, H., & Ntuli, N. R. (2021). Traditional food taboos and practices during pregnancy, postpartum recovery, and infant care of Zulu women in northern KwaZulu-Natal. Journal of Ethnobiology and Ethnomedicine, 17(1), 1-19.

Reiss, F., Meyrose, A. K., Otto, C., Lampert, T., Klasen, F., & Ravens-Sieberer, U. (2019). Socioeconomic status, stressful life situations and mental health problems in children and adolescents: Results of the German BELLA cohort-study. PloS one, 14(3), e0213700.

Sufiyan, M. B., Adam, N., Umar, A. A., Ibrahim, J. M., Bashir, S. S., & Birukila, G. (2016). Knowledge, attitude and perception of pregnancy danger signs among women of childbearing age in Samaru community Northwestern Nigeria: Results from a cross-sectional survey. Archives of Medicine and Surgery, 1(2), 24.

Sullivan, G. M., & Artino Jr, A. R. (2013). Analysing and interpreting data from Likert-type scales. Journal of Graduate Medical Education, 5(4), 541-542.

Yamane, T. (1973). Statistics: an introductory analysis-3.

Yaya, S., Okonofua, F., Ntoimo, L., Udenige, O., & Bishwajit, G. (2019). Gender inequity as a barrier to women's access to skilled pregnancy care in rural Nigeria: a qualitative study. International Health, 11(6), 551-560.

Zhang, T., Qi, X., He, Q., Hee, J., Takesue, R., Yan, Y., & Tang, K. (2021). The effects of conflicts and self-reported insecurity on maternal healthcare utilisation and children health outcomes in the democratic republic of Congo (DRC). In Healthcare (Vol. 9, No. 7, p. 842). MDPI.