

Impact of Covid-19 Pandemic and Lockdown on Complications Encountered by Pregnant Women in Akure, Nigeria

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Abstract - This study examined the impact of the Covid-19 pandemic and lockdown on the complications that were encountered among pregnant women. There were two categories of patients for this study: the pregnant women that visited the hospitals before the lockdown and those that visited the hospitals during or after the lockdown. From the total of 197 women surveyed, the first category consists of 98 respondents, and the second category consists of 99 respondents. In the first category, the percentage of Anemia was significantly lesser (63.5%) than in the second category (80.6%) and with a p-value of 0.01. Also, in the first category, epigastric pain was significantly lesser (15.6%) than the second category (68.3%) and with a p-value < 0.05. Hypotension and vomiting were significantly higher in the second category than in the first category. About 84% of women in the first category had flu-related symptoms such as dizziness and muscle ache compared to 43.9% and 45.9% in the second category with a p-value <0.05. In conclusion, the decision of forceful lockdown to curtail the spread of Covid-19 has a significant influence on the complications encountered during pregnancy, and as a result, many women have anxiety. The proper management of pregnancy and childbirth after lockdown is crucial to reduce the negative effects that may arise.

Keywords — COVID-19; Pandemic; Lockdown; Pregnancy Issues.

I. INTRODUCTION

The coronavirus disease (COVID-19) was confirmed by the World Health Organization (WHO) as a global health pandemic that requires international concern (Li *et al.*, 2020). The emergent of this disease has swiftly spread across the countries of the world, which have employed diverse measures to manage the spread of disease, for instance; traffic and mobility restrictions, social distancing, and closure of public spaces (Suda *et al.*, 2020). These measures were introduced by several countries, including Nigeria, for all citizens to fall the curve trend of disease outbreak.

It is important to note that while the lockdown was

effective in respect to the control of infection; however, studies revealed that the restrictions lead to a far-reaching change of human habits, spatial interaction, lifestyle, and social integration (Lau *et al.*, 2020; Nwafor *et al.*, 2020; Stampini *et al.*, 2020). They also adjust, re-adjust and re-adapt their culture, orientation, conduct, and behavior in a way that fits into the changing dynamics of health situation (Stampini *et al.*, 2020; Suda *et al.*, 2020) entire population are deeply aware and sensitized about the culture of proper healthcare.

The lockdown has a greater influence on maternal care, particularly on pregnant women, which comprises a crucial part of the population. Examples of such influence are difficulties in obtaining the essential supplies that will be needed for maternal care, uncertainty and difficulty in antenatal examinations, isolation from relatives, among all (Suda *et al.*, 2020). The pandemic has also changed the structure of healthcare in terms of physical infrastructure and human resources, thereby resulting in challenged maternal healthcare (Kumari *et al.*, 2020).

Many studies have explored the probable risks that are connected with Covid-19 based on the psychological and clinical characteristics of pregnant women. It was revealed that as a result of the pandemic and lockdown, the admission of pregnant women to the emergency ward was reduced, and there was a decreased preterm birth. Also, the fetal weight was revealed to increase (Grandi *et al.*, 2020; Li *et al.*, 2020; Philip *et al.*, 2020). As a result of the pandemic and lockdown, the women's medical counseling program was physically shut down, and the social support programs were negatively impacted. The level of anxiety and depression was increased (Ceulemenans *et al.*, 2020; Mappa *et al.*, 2020; Nwafor *et al.*, 2020; Stampini *et al.*, 2020; Suda *et al.*, 2020). All these penalties might have a disadvantageous effect on the women and the pregnancy or newly born (Nwafor *et al.*, 2020; Ceulemenans *et al.*, 2020).

Understanding the corollaries of the pandemic on maternal healthcare will significantly contribute to the reduction of adverse effects and will enhance the



advancement of antenatal healthcare in the process of subsequent waves (Li *et al.*, 2020; Suda *et al.*, 2020). Therefore, the aim of this study is to examine the impact of the Covid-19 pandemic and lockdown on complications encountered during pregnancy in Akure, Nigeria.

II. METHODOLOGY

A. Research design and population

The study employed a retrospective review of pregnant women that came for antenatal care in four selected private hospitals in Akure, Nigeria, before or during the Covid-19 lockdown that took place in March 2020. There were two categories of patients; the first category comprised of women that visited those hospitals before the lockdown between July 15, 2019, and March 15, 2020. The second category comprises pregnant women during or after the lockdown between April 15, 2020, and September 15, 2020.

From the total of 197 women surveyed, there were two groups. The first group consists of 98 respondents which were surveyed before the lockdown, and the second group consists of 99 respondents which were surveyed during or after lockdown.

B. Data Collection

Data collection was comprised of three segments. The first segment entailed the demographic characteristics of respondents such as education, age, economic status, employment, and weight during the beginning and the end of the trimesters. The second segment entailed the details about the obstetric attributes and hurdles. This entailed the regularity of visiting the obstetrician, maternal complications during pregnancy, visiting the emergency department (ED), hematocrit levels, anxiety, and hospitalization. The third segment entailed the details about neonatal and women's delivery attributes such as the mode of delivery, neonatal weight, indications for caesarean operation, and NICU admission.

C. Method of Data Analysis

The Statistical Package for Social Sciences (SPSS version 21) was employed for data coding and analysis. The comparisons of categorical variables were carried out by Fisher's exact or Chi-square test and were presented in both as to number and percentage. The comparisons of continuous variables were carried out using the t-test and were presented as mean \pm standard deviation. A statistical significance for p-value <0.05 was employed in the study.

III. RESULTS

A total of 197 women were surveyed for the study; they comprise two categories. The first category consists of 98 women (respondents) which were surveyed before the lockdown, and the second category consists of 99 women (respondents) which were surveyed during or after

lockdown. The socio-demographic characteristics of these respondents were shown and presented in Table 1.

From this table, the average ages between the two categories were not far from each other (34.89 ± 3.23 vs. 35.29 ± 4.13 years for the first category, which was surveyed before the lockdown, and the second category, which was surveyed during or after lockdown, respectively). The average changes in weight between the first and last trimesters were also analogous between the two categories. It was further revealed that about 57% of the women that were surveyed before the lockdown had tertiary education, and about 33% of the women that were surveyed during or after the lockdown had tertiary education. The majority of women who dwelled in urban areas were self-employed and had middle economic status, as shown in Table 1.

Concerning the obstetric characteristics, about 87% of the women (respondents) visited or consulted the obstetrician every month for antenatal care, and the remaining 13% visits between 15 days to 20 days every month because of some critical issues. The average level of hematocrit decreased from 35.65 ± 2.39 during the first trimester to 34.33 ± 2.89 during the second or third trimester in the category that was surveyed before the lockdown, while it decreased from 36.29 ± 2.36 to 35.79 ± 2.73 in the category that was surveyed during or after the lockdown.

Concerning the complications that do arise during pregnancy, in the first category, the percentage of Anemia was significantly lesser (63.5%) than the second category (80.6%) and with a p-value of 0.01. Also, in the first category, epigastric pain was significantly lesser (15.6%) than the second category (68.3%) and with a p-value < 0.05 . Hypotension and vomiting were significantly higher in the second category than in the first category. About 84% of women in the first category had flu-related symptoms such as dizziness and muscle ache compared to 43.9% and 45.9% in the second category with a p-value < 0.05 . It was revealed that there were no patients in the second category that were hospitalized or that visited the hospital emergency section during pregnancy. About 46% of patients in the second category had intense anxiety when compared to 17.6% in the first category with a p-value of 0.001.

From the analysis, more than 50% of the pregnant women delivered through the means of caesarean (CS) operation and 29.2% of women that belong to the category of respondents that are sampled before the lockdown had an abortion in the first trimester as a result of congenital anomaly (cystic hygroma, acrania, down syndrome, hydrocephalus) compared to 12.2% of women that belong to the category of respondents sampled during or after the lockdown. It is pertinent to note that for those that had CS, the sign was recurring CS for 43.7% of the pregnant women. The average neonatal weight was almost the same between the two categories. The percentage of pregnant

women that required NICU admission was significantly higher among the category of respondents that were sampled before the lockdown than those sampled during or after the lockdown (38.2% vs. 17.3% respectively, p-value = 0.01).

Pregnant women are known to be among the vulnerable category of people in the world. As a result of this, the

Sustainable Development Goals (SDGs) critically takes care of their need as their health condition is a major concern which affects the human capital sustainability. The emancipation of the deadly diseases Covid-19 which was declared a pandemic across the world, has a greater influence on pregnancy and the management of pregnant women and newborn babies.

Table 1: Women’s (respondent) socio-demographic characteristics

		Before the Lockdown (n = 98)	During or After the Lockdown (n = 99)	p-value
Age (Years)	Mean ± SD	34.89±3.23	35.29±4.13	0.37
Education	Middle School	10 (10.2%)	15 (15.15%)	0.47
	High School	32 (32.65%)	51 (51.52%)	
	Tertiary Education	56 (57.14%)	33 (33.33%)	
Trimester	First	14 (14.29%)	8 (4.04%)	0.002
	Third	0 (0%)	4 (4.04%)	
	First and Second	0 (0%)	12 (12.12%)	
	Second and Third	0 (0%)	12 (12.12%)	
	First, Second and Third	84 (85.71%)	63 (63.64%)	
Gravida	1	30 (30.61%)	26 (26.26%)	0.93
	2	24 (24.49%)	30 (30.3%)	
	3	12 (12.25%)	14 (14.14%)	
	≥4	32 (32.65%)	29 (29.29%)	
Weight at First (kg)	Mean ± SD	75.22±8.18	75.58±8.24	0.76
Last Weight (kg)	Mean ± SD	89.87±8.58	89.85±6.63	0.83
Weight Change (kg)	Mean ± SD	25.91±5.77	25.51±4.86	0.64
Residency	Urban Area	70 (71.43%)	72 (72.73%)	0.93
	Rural Area	28 (28.57%)	29 (29.29%)	
Economic Status	Low	12 (12.25%)	24 (24.24%)	0.21
	Middle	66 (67.35%)	64 (64.65%)	
	High	20 (20.41%)	11 (11.11%)	
Employment Status	Self Employed	68 (69.39%)	62 (62.63%)	0.42
	Government Employed	29 (29.59%)	37 (37.37%)	

Source: Author’s work (2020)

Many recent studies have been carried out on Covid-19 and pregnancy management, but few have delved into the effect of lockdown on the course of pregnancy and were not conducted in Nigeria. This present study revealed that the lockdown as a result of the Covid-19 pandemic had a huge impact on complications that arose during pregnancy. Among the complications are constipation, anaemia, anxiety,

urinary tract infection, which all increased during the lockdown period. Nevertheless, there are other health-related issues such as fetal complications, flu-like symptoms, e.t.c during the lockdown, which became worse because the patients reduced their frequency of visitors to the hospital as a result of Covid-19.

The studies of Mappa *et al.* (2020) and Stampini *et al.* (2020)

found that Covid-19 has a significant psychological impact on the mental balance and wellness of women during pregnancy. They also found that anxiety might affect the quality of life, which is in agreement with the findings of this present study. Nwafor *et al.* (2020) affirmed that about 10% of pregnant women are likely to suffer from mental issues such as anxiety.

The covid-19 pandemic has resulted in increased levels of stress among pregnant women; this is quite identified with the level of anxiety. Apart from anxiety, they have difficulties as a result of isolation, which hinders their economic buoyancy as the majority of them relies on day-to-day earnings. This is corroborated by the findings of Hedermann *et al.* (2020), Milne *et al.* (2020), Oskovi-Kaplan *et al.* (2020).

IV. CONCLUSIONS

This study examines the impact of the Covid-19 pandemic and lockdown on the complications that were encountered during pregnancy. A retrospective review of pregnant women that came for antenatal care in four selected private hospitals in Akure, Nigeria, before or during the Covid-19 lockdown that took place in March 2020.

There were two categories of patients; the first category comprised of women that visited those hospitals before the lockdown between July 15, 2019, and March 15, 2020. The second category comprises pregnant women during or after the lockdown between April 15, 2020, and September 15, 2020. From the total of 197 women surveyed, there were two categories. The first category consists of 98 respondents which were surveyed before the lockdown, and the second category consists of 99 respondents which were surveyed during or after lockdown.

In the first category, the percentage of Anemia was significantly lesser (63.5%) than in the second category (80.6%) and with a p-value of 0.01. Also, in the first category, epigastric pain was significantly lesser (15.6%) than the second category (68.3%) and with a p-value < 0.05. Hypotension and vomiting were significantly higher in the second category than in the first category. About 84% of women in the first category had flu-related symptoms such as dizziness and muscle ache compared to 43.9% and 45.9% in the second category with a p-value <0.05. It was revealed that there were no patients in the second category that were hospitalized or that visited the hospital emergency section during pregnancy. About 46% of patients in the second category had intense anxiety when compared to 17.6% in the first category with a p-value of 0.001.

Finally, the outbreak of Covid-19 and the aftermath of lockdown had a greater impact on various complications relating to maternal, most especially during pregnancy, and

this has resulted in anxiety for numerous pregnant women. The inculcation of management practices concerning pregnancy and childbirth after the lockdown period is crucial to reduce the connected negative consequences that may emanate.

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