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■ Original Article

Perceptions on the Covid-19 Pandemic by Pregnant Women in South Eastern Nigeria

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ABSTRACT

Background: The ravaging covid-19 pandemic has constituted a major contemporary global health challenge. Pregnant women are believed to be at risk due to immunological changes associated with pregnancy. Assessment of the pregnant women's perception on covid-19 is necessary to provide a more holistic approach to their care during such pandemics. ***Objective:*** To determine the perception on covid-19 by pregnant women attending antenatal care in southeastern Nigeria. **Subjects and Method:** A cross-sectional questionnaire-based study conducted among 370 pregnant antenatal care clinic attendees in health facilities in Anambra state, southeastern Nigeria. Data was analyzed with SPSS version 26; and the results presented in tables and charts. **Result:** Of the 370 pregnant women studied, majority (49.2%) were of 25-29 years age range. The predominant gestational age was <28 weeks (44.1%); while majority were of 1-4 parity group (89.5%), and of social classes 5 (29.2%), 4 (28.1%), and 3 (27.6%). Two hundred and twenty (59.0%) women perceived the covid-19 to be real; (27.0%) perceived it to be a ploy to steal money; while (18.9%) believed it to be a scam. Most common symptoms and signs of covid-19 perceived by the women include cough and catarrh (89.7%); fever (69.7%); headache (63.2%). Three hundred and twenty (86.5%) of the women perceived that covid 19 is a serious disease and their major reason was that covi-19 is lethal (66.6%); (29.2%) perceived that covid-19 is likely to affect pregnant women than none and their reason was mainly due to reduced immunity during pregnancy; (58.9%) thought that covid-19 can harm pregnancy and that it has the ability to kill the baby in the womb (63.3%); (41.6%) believed it can affect pregnancy and childbirth; more than half (51.4%) thought lockdown is not necessary because of having the tendency to increase hunger (83.2%). The women's major source of

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information on covid-19 was electronic media (82.7%) followed by social media (62.7%). **Conclusion:** This study shows that majority of pregnant women perceived covid-19 to be real, lethal and with deleterious consequences to pregnancy. Covid-19 therefore constitute a source of anxiety to them. Effective counseling will reduce anxiety and optimize pregnancy outcomes.

Keywords: Perceptions; Covid-19; pregnant women; Southeastern; Nigeria

Introduction

Since the report of the outbreak of Covid-19 in Wuhan City, China in December, 2019 and subsequent declaration of the disease as a pandemic by the WHO in January 30, 2020; the virus which causes SARS-Cov-2 has spread to almost all the countries of the world, Nigeria inclusive. The infection has not only disrupted economic activities but also has caused significant morbidity and mortality across the globe.[2] Presently, there is no cure for the virus, but frantic efforts are being made by scientists all over the world to get a vaccine for it. Consequently, WHO has recommended a series of preventive measures to reduce the spread of the infection such as social distancing, use of face mask, regular washing of hands, etc. As the disease is in its evolutionary stage, the impact of Covid -19 on pregnant women is not clear yet. However, there are speculations that it may have some untoward effects on maternal and prenatal outcomes due to some immunologic changes that accompany pregnancy; and superimposed outpouring of cytokines that accompany the infection.

The disease is at community transmission level since the compulsory lockdown of the countries air space and immigration. In effort to fight the spread of this disease, better understanding of the people's perception of the disease especially among the pregnant women who are classified as vulnerable group cannot be overemphasized.

This study aims to assess the perception of covid-19 among pregnant women in south east Nigeria. The finding will help to modify policies and guidelines towards prevention of this current pandemic among obstetric population and indeed other members of the society.

Study Area

This study was carried out in Anambra state, one of the five states of the southeastern geopolitical zone of Nigeria. The state has a population of approximately 5 million people of Igbo-speaking ethnic group.

Methodology

This is a cross-sectional questionnaire-based study conducted on 370 pregnant women in Anambra state of southeastern Nigeria, during the one month period from 25th March - 22ndApril 2020 (corresponding to the period of the lockdown measure in response to the containment of spread of the covid-19 pandemic). The study facilities included Nnamdi Azikiwe University teaching Hospital, Nnewi (Anambra south senatorial district); Chukwuemeka Odumegwu Ojukwu University Teaching Hospital and Regina Caeli mission hospital (both in Awka) Anambra Central senatorial district; and St. Patrick Hospital (private hospital) and Holy Rosary Maternity hospital (both in Onitsha), Anambra North senatorial district. The questionnaire was designed following a focus group discussion with some pregnant women from some of the facilities of study and was shared out to a few reproductive health practitioners to ascertain content validity. Ethical clearance was duly obtained from the study facilities. The questionnaire were administered to the pregnant women following due explanation of the study. Only those who voluntarily consented were administered the questionnaire for completion, and those who could neither read nor write were assisted to complete the questionnaires by trained aids employing face-to-face interview. The study was conducted with due observation of the recommended safety

precautionary measures under the covid-19 protocol. The questionnaire schedule contained information with respect to the biosocial characteristics of the patient: age, gestational age, parity, and social class; general perception about covid-19; perceptions on the symptoms and signs on covid-19, seriousness of covid-19, the likelihood of covid-19 affecting pregnant women than non-pregnant, and whether or not it has any effect on pregnancy. The social class of the women was obtained from Olusanya's13 classification making use of the educational status of the pregnant woman and her husband's occupation. The completed questionnaires were screened, coded and subsequently entered into the system for analysis. Data obtained were analyzed in respect of the pregnant women and the variables related to their bio-data, and perceptions on the covid-19 pandemic using SPSS IBM windows version 26.

Results

A total of 415 pregnant women participated in the study. However, only 370 questionnaires were fully completed and were therefore duly coded and analyzed. Table 1 shows the distribution by the biosocial characteristics of the pregnant women. Up to 182 (49.2%) of the 370 pregnant women studied were of 25-29 years age range. The predominant gestational age was <28 weeks, 162 (44.1%); while the predominant parity group was 1-4, 331 (89.5%). Women with tertiary educational qualification were in the majority 200 (54.1%). Most of the respondents were married 358(96.8%), were predominantly of social classes 3, 4, and 5: 102(27.6%), 104 (28.1%), and 108 (29.2%) respectively, and of Igbo ethnic group 366 (98.9%).

Table 2 shows the distribution by place of domicile and type of health facilities patronized by the women. Majority of the respondents were of urban residence 334 (80%) and patronage to private hospital accounted for 296 (90.3%) of all the respondents.

The predominant social class of the women was social class 5 (108, 29.2%); followed by social class 4 (28.1%) and social class 3 (102, 27.6%).

The distribution by the general perception about covid-19 amongst the pregnant women as shown in table 3 indicates that 220 (59.5%) of the women perceived Covid -19 to be real, 100 (27.0%) that it's a ploy to steal money while only 12 (3.2%) believed that it has come to stay.

The distribution by women's perception on symptoms and signs of covid-19 is shown in table 4. Most of the respondents (332, 89.7%) perceived cough and catarrh as symptoms of covid-19. Other major symptoms identified by the respondents include fever, 289 (69.7%); headache 234 (63.2%); and sore throat (182, 49.2%).

The distribution by the perception on the seriousness of Covid-19 as a disease by the pregnant women is shown in table 5. Majority 320 (86.5%) of the women perceived the disease as serious. The major reasons given as to the seriousness of covid-19 include it being lethal 213 (66.6%); not having any known vaccine 46 (14.4%), and that it being a global pandemic 22 (6.9%). Fourteen (3.8%) of the women did not perceived covid 19 as being a serious disease, citing the following as the most common reasons Covid-19 not being real 4 (28.6%), not as serious as Malaria, and its relatively lower death rate compared to other infectious diseases in the country, haven't seen evidence, don't believe it exist - 2 (14.3%). Four (28.6%) of the respondents gave no reason.

Table 6 shows the distribution by the women's perception on the likelihood of covid-19 affecting pregnant women than non-pregnant. A hundred and eight (29.2%) women believed that Covid-19 may affect pregnant women than none; while 113 (30.5%) did not believe such. Up to 149 (40.3%) of the women had no idea whether or not covid-19 affect pregnant women.

The distribution by the women's perception on whether covid-19 can affect pregnancy or not is shown in table 7a. More than half of the women 218(58.9%) thought that covid-19 can affect pregnancy. Of the 218 (58.9%) women who accepted that covid-19 can harm pregnancy, 138 (63.3%) attributed their reasons to covid-19 killing the baby in the womb; 126 (57.8%), to baby

delivered with covid-19.

The distribution by the perceptions on whether covid-19 affects pregnancy and childbirth as shown in table 7b indicates that up to 154 (41.6%) of the respondents believed that covid-19 can affect pregnancy and childbirth. Reasons given being the belief that Covid-19 is associated with frequent birth complications 82(53.2%); with less frequent ANC visits 78 (50.6%); and with reduction in visits for immunization 62 (40.3%). Eighty-two (22.2%) women did not belief covid-19 can affect pregnancy and childbirth. However, a substantial number of the respondents 134 (36.2%) did not know whether or not covid-19 affects pregnancy and childbirth.

Up to 190 (51.4%) of the women maintained that lockdown is not necessary; while 180 (48.6%) believed it is necessary and their major reasons given included - to prevent community spread 170 (94.4%), to enable families stay together 62 (34.4%), and to enable people rest at home 38 (21.1%). On the other hand, the main reasons given by the women for lockdown not being necessary included "increase in hunger" 158 (83.2%); "paralyzing the economy" 88 (46.3%); and "engendering vices in the community". Twelve women (6.3%) had no reason, however figures 1 and 2.

The distribution by the sources of information on Covid-19 amongst the pregnant women studied is shown in table 9. Electronic media (radio and television) accounted for the most common source of information, 306 (82.7%); followed by social media, 232 (62.7%). None of the women 0(0.0%) had obtained information on covid-19 from their peers or friends.

Table 1: Distribution by biosocial characteristics of the respondents (N=370)

Characteristics	Number	Percent
Age		
<20 years	2	0.5
20-24 years	46	12.4
25-29 years	182	49.2
30-34 years	96	25.9
35-39 years	32	8.6
40 and above	12	3.2
Parity		
0	27	7.3
1-4	331	89.5
5 and above	10	2.7
NR	2	0.5
Gestational age		
<28	163	44.1
28-36	130	35.1
37-42	65	17.6
>42	12	3.2
Educational level		
Primary/No-education	12	3.2
Secondary Education	158	42.7
Tertiary Education	200	54.1

Characteristics	Number	Percent
Marital Status		
Single	12	3.2
Married	358	96.8
Social class		
Social class 1	12	3.2
Social class 2	16	4.3
Social class 3	102	27.6
Social class 4	104	28.1
Social class 5	108	29.2
Unclassified	28	7.6
Ethnic group		
Igbo	366	98.9
Yoruba	4	1.1
Religion		
Christianity	370	100

Table 2: Distribution by place of domicile of the respondents and type of health facilities studied

Characteristics	Number	Percent
Place of domicile		
Urban	334	90.3
Rural	28	7.6
NR	8	2.2
Type of health facility		
Private	296	80.0
Public	74	20.0

Table 3: Distribution by the general perception about covid-19 amongst pregnant women (N =370)

Characteristics	Number	Percent
It is real	220	59.5%
It is a scam	70	18.9%
It is a ploy to steal money	100	27.0%
It is for rich and politicians in the office	48	13.0%
It has come to stay	12	3.2%
It is not for the child of God	88	23.8%
No answer on perception	36	9.7%

Table 4: Women's perception on symptoms and signs of covid-19

Characteristics	Yes (%)	No (%)
Headache	234(63.2)	136 (36.8)
Cough and Catarrh	332(89.7)	38(10.3)
Sore throat	182(49.2)	188(50.8)
loss of appetite	132(35.7)	238(64.3)
Loss of sensation of smell and taste	130(35.1)	240(64.9)
Diarrhea	60(16.2)	310(83.8)
Fever	258(69.7)	112(30.3)
Body ache	82(22.2)	288(77.8)
Body rashes	24(6.5)	346(93.5)
Swelling of the legs	16(4.3)	354(95.7)
Yellowness of the eyes	28(7.6)	342(92.4)
Other symptoms	**Number**	**Percent**
Body weakness	8	2.2
Dryness of throat	4	1.1
Malaria	2	0.5
Shortness of/difficulty of breath	14	3.8
Sneezing	4	1.1

Table 4: Women's perception on symptoms and signs of covid-19

Characteristics	Number	Percent
No	14	3.8
Yes	320	86.5
Don't know	36	9.7
Total	370	100.0
Reasons for saying yes (N= 320)		
It is contagious/infectious	43	13.4%
It is symptomless	6	1.9%
It is lethal (kill, endanger)	213	66.6%
Global pandemic	22	6.9%
No known vaccine, drug and medication	46	14.4%
It ties people down at home	6	1.9%
Because of its mode of spray	19	5.9%
undue stress from non-pharmaceutical measures	18	5.6%
Due to Lockdown	22	6.9%
WHO said its serious disease	4	1.2%
No end yet	2	0.6%
Respiratory system damage/difficulty in breathing	9	2.8%

Characteristics	Number	Percent
Others (not viral infection, lack of physical contact, its real etc.)	5	1.6%
No reason	30	9.4%
Reasons for answering No (N =14)		
It is not real	4	28.6%
Not as serious as Malaria	2	14.3%
Death rate not much compared to other infections	2	14.3%
Haven't seen evidence	2	14.3%
Don't believe it	2	14.3%
No reason	4	28.6%

Table 6: Women's perception on the likelihood of covid-19 affecting pregnant women than non-pregnant (N= 370)

Characteristics	Number	Percent
Covid-19 is likely to affect pregnant women than non-pregnant (N =370)		
Yes	108	29.2%
No	113	30.5%
Don't know	149	40.3%
Reasons for answering yes that covid-19 can affect pregnant than non-pregnant (N =108)		
Vulnerability to low immunity because of pregnancy and open body	74	68.5%
Covid-19 is contagious/infectious	14	13.0%
Women are humans and as such undergo body changes	14	13.0%
Mother and child are connected through intestine and breastfeeding	8	7.4%
Increased mortality/kills	4	3.7%
Covid-19 affects all people	2	1.9%
Frequent ANC to hospital	6	5.6%
Other reasons (unborn baby can contact, miscarriage, indirect contact, and not properly protected)	2	1.9%
No reason	4	3.7%

Table 7[a]: Perception on whether Covid-19 can affect pregnancy or not by the pregnant women (N = 370)

Characteristics	Number	Percent
Do you think Covid-19 harm pregnancy?		
Yes	218	58.9
No	62	16.8
Don't know	90	24.3
Reasons for answering yes (N =218)		
Kill the baby in the womb	138	63.3%
Baby delivered with Covid-19	126	57.8%
No reason	14	6.4%
Other reasons		
Affect the growth of the baby	6	2.8%
Possible death of both the mother and child	12	5.5%
Likelihood of loosing placental oxygen	2	0.9%
Baby may react to Covid-19 medications	2	0.9%
Preterm delivery, aborted pregnancy or still birth	2	0.9%
Weak/Unhealthy child/malaria	4	1.8%

Table 7[b]: Perceptions on whether covid-19 affects pregnancy and childbirth amongst pregnant women

Characteristics	Number	Percent
Do you think Covid-19 has affected pregnancy and childbirth?		
No	82	22.2
Yes	154	41.6
don't know	134	36.2
Total	370	100.0
Perceived reasons why covid-19 affects pregnancy and childbirth (N =154)		
Less frequent ANC Visits	78	50.6%
More frequent birth complications	82	53.2%
Reduction in visits for immunization	62	40.3%
Reduction in visits for postnatal care	58	37.7%
Increased maternal mortality	24	15.6%

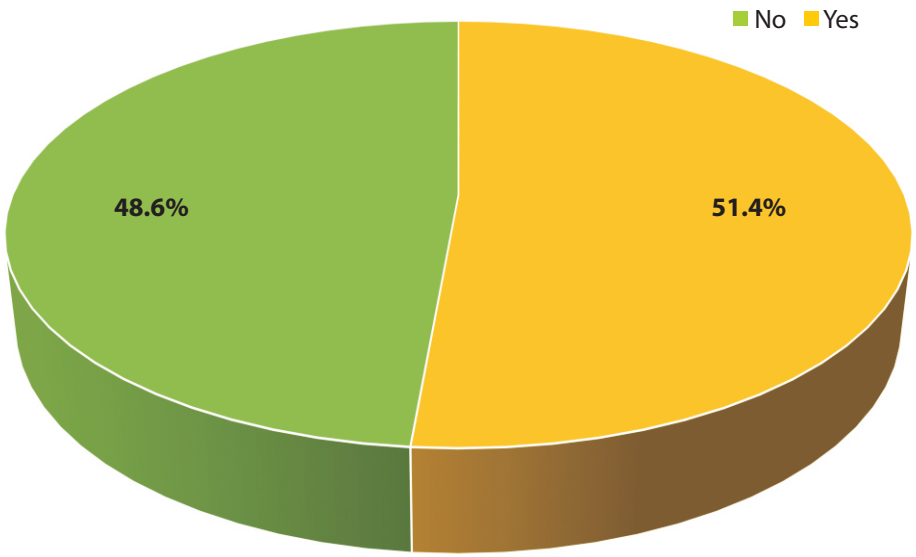

Figure 1: Distribution by the necessity of lockdown - Is lockdown necessary?

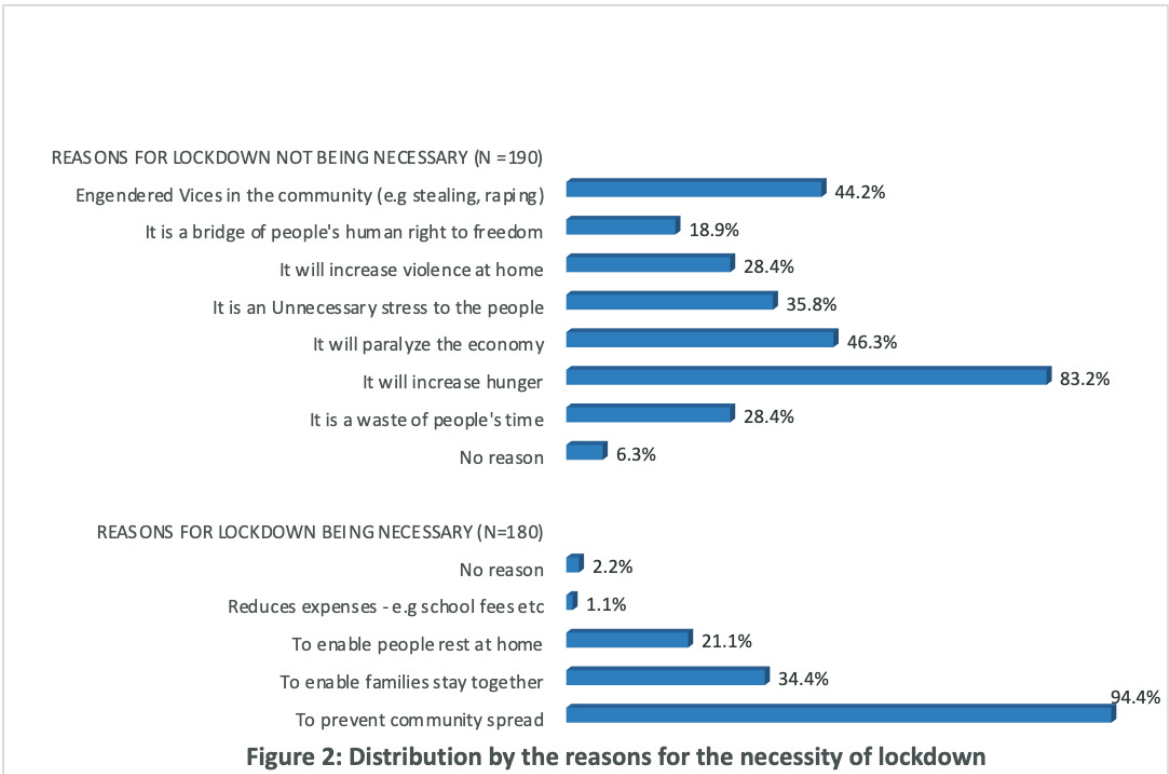

Figure 2: Distribution by the reasons for the necessity of lockdown

Table 8: Distribution by the sources of information on Covid-19 amongst the pregnant women (N =370)

Characteristics	Yes (%)	Percent
Peers	0(0)	0(0)
Public talks (church, townhall meetings)	192(51.9)	178(48.1)
Print media (newspaper, bulletin)	176(47.6)	194(52.4)
Electronic media (radio, television)	306(82.7)	64(17.3)
Social Media (facebook, whatsapp, internet, instagram)	232(62.7)	138(37.3)
NR	26(7.0)	0(0)

Discussion

The perception of the reality of existence of Covid-19 among pregnant women in this study was 59.5%; and 66.6% of the participants believed that it is serious enough to cause death, and can be transmitted to the unborn child. This finding agrees with the report by Anikwe et al at Abakaliki that revealed adequate knowledge about covid-19. It also corroborated reports by Zhong et al, Zhou et al both in china, as well as that by Ranjan et al in India. In the same vein, a study by Hossain et al in Karachi, Pakistan, which showed that 8 in 10 pregnant women perceived that if the mother has infection, it can similarly be transmitted from her to her infant.

This perception that covid-19 can affect pregnancy is accompanied with fear and anxiety as to the possibility of an untoward consequence on the pregnancy outcome. A systematic review and meta-analysis involving 17000 pregnant women reported a significant increase in preterm birth among women with anxiety disorder leading to low birth weight. It is also known to affect the fetal neurological development .

In spite of the high level of perception as to the reality of Covid-19 amongst the study group, an appreciable number of participants were still in doubt as to the truth about the existence of such infection, since as high as 27% of the women studied believed that it was a ploy to still money, while up to 18.9% actually perceived covid-19 to be an outright scam. Put together, this perception is actually worse than the observation by Anikwe et al13 in Abakiliki who reported that 24% of the women studied perceived Covid -19 to be a scam. The negative perceptions displayed by these relatively high number of respondents is likely to have the effect of undermining the efforts of the government and other stakeholders towards curbing the spread of this virus. This situation calls for restrategization to improve the effectiveness of public enlightenment measures against the spread of covid-19 so as to dispel their ignorance.

As high as 51.4% of the respondents in this study opined that the "lock-down" measure towards the containment of covid-19 was not necessary, citing as major reasons that continued lock-down will affect the national economy and that the covid-19 pandemic was a scam. This perception on face value may seem unreasonable considering the fact that most countries affected by Covid-19 introduced and enforced some form of lockdown in order to curtail the spread of the disease. Incidentally, some countries that enforced total lockdown recorded more cases and deaths than those that did not such as South Korea, Taiwan, etc. This apparent paradoxical relationship between "lock-down" and containment of covid-19 virus has elicited a lot of debate as to the necessity or not of employing lock-down measures in the management of covid-19. So far, the answer to this debate is not clear. It is however expected that in

the near future and with unfolding facts in the management of the covid-19 pandemic, the world over, a clearer and more universally acceptable management protocol may emerge.

The majority (82.7%) of the participants got the information about Covid-19 through the mass media. A similar finding was reported by Anikwe et al where 61% of pregnant women obtained information on covid-19 from mass media. This emphasizes the importance of mass media in creating awareness towards the fight of the pandemic especially during the lockdown.

The participants in this study showed a fair knowledge of the signs and symptoms of covid-19 recognizing symptoms such as cough and catarrh; fever; headache; sore throat; loss of appetite; loss of sensation; body ache; and diarrhea as the commonest signs and symptoms of covid-19. Incidentally, only 4(3.8%) identified shortness of breath to be a major symptom of covid-19 infection. This is not surprising, considering the fact that rarely do ordinary people encounter covid-19 patients manifesting with this symptom which occurs in the later part of the illness. In fact many patients known to have tested positive to covid-19 are either symptomless or manifest mild symptoms recovering with or without treatment. This fair attempt in recognizing symptoms of the disease was similar to the finding in Abakaliki by Anikwe et al.[13]

The findings in this study suggest that a very good proportion of women have strong belief that Covid-19 is real, lethal and can affect pregnancy and its outcome. In as much as presently, there is paucity of evidence to support vertical transmission of the infection, it is obvious however, that the pandemic constitute a worry to pregnant women. Therefore, counselling of these pregnant women is advocated as well as increasing advocacy to help address their worries so as to reduce anxiety and optimize pregnancy outcomes.

Declarations of interest: None

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