Research Article

Curbing Anxiety as Measures for Safety Precautions against Covid-19 Pandemic among Pregnant Farmers in Mbaise, Imo State, Nigeria

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Abstract

Coronavirus disease-2019 (COVID-19) pandemic is spreading widely throughout the world, causing global health crisis and one of the greatest challenges we have ever faced. Nigeria is one of the countries that have been severely affected by COVID-19. The COVID-19 pandemic has created some serious concerns including anxiety in pregnant women. However, due to mental and physical changes in pregnancy, pregnant women are likely to be affected by the virus. At present there is no evidence that pregnant women are at higher risk of severe illness from COVID-19 than the general population. Research is currently ongoing to understand the impacts of COVID-19 in pregnant women. This study aimed to assess the safety precautions against infectious diseases and associated factors during COVID-19 pandemic in pregnant farmers in Mbaise, Imo State, Nigeria. This study used cross-sectional design using primary data on July to August, 2020 at the sampled (Obstetrician and Gynecologist) outpatient clinics in Aboh Mbaise, Imo State, Nigeria. Based on defined criteria, 120 subjects were recruited in this study. Anxiety level assessed using Hamilton Anxiety Rating Scale (HAM-A). Demographic data collected using research questionnaire. Our results showed that majority of the pregnant women (71%) had no anxiety. The rest of these pregnant women (29%) showed mild anxiety level (23%) and moderate anxiety (6%). Multivariate data analysis showed that healthcare workers were associated to higher anxiety level, with OR 5.56 (95% CI .33 - 24.09). Informative and educative advices and suggestions of COVID-19 to pregnant women and their family, such as washing hands frequently, maintain social and physical distancing, using mask to cover the mouth and nose when around others, living healthy life and doing all the activities from home, can make pregnant farmers not worried about COVID-19 pandemic, which is supported by this study.

Keywords: Anxiety, Pregnant Farmers, COVID-19, HAM-A

Introduction

Coronaviruses are a large family of viruses that can be transmitted between animal and people, cause illnesses ranging widely in severity from common cold to more severe respiratory syndromes. The first known deleterious ailment caused by a coronavirus emerged with the 2003 SARS epidemic in Guangdong province of China. This virus was affirmed to be a member of the Beta-coronavirus subgroup and was given the nomenclature of SARS-CoV (Pyrc, 2007).

The first confirmed case of COVID-19 virus was detected on 27th February 2020, due to the return of a Lagos based Italian worker with the second case recorded on 9th March 2020 from a man who had contact with the Lagos based Italian worker (Maclean and Dahir, 2020). The increment of COVID-19 cases has been subject to different factors in the country and its prevalence is high in highly industrialized areas with an international airport as shown in table 1 than in areas without these infrastructures, which confirmed Lagos and Abuja as the states with high COVID-19 outbreak.

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Table 1: Demographic Distribution of Respondents.

Characteristics N (%)	Total 120 (100%)
Age (Mean ± SD)	29.2 ± 4.7
< 35 years 100	(83.3%)
≥ 35 years 20	(16.7%)
Occupation	
Healthcare workers 9	(7.5%)
Non-healthcare workers 111	(92.5%)
Educational Background	
Primary School 1	(0.8%)
Junior High School 5	(4.2%)
Senior High School 55	(45.8%)
College 59	(49.2%)
Income Level	
Low Income 17	(14.2%)
Middle Income 61	(50.8%)
High Income 42	(35%)
Parity Level	
Nulliparous 63	(52.5%)
Primiparous 31	(25.8%)
Multiparous 26	(21.7%)
Field Survey, 2020	

The outbreak of COVID-19 has adjusted the mindset of several Nigerians as the world's first pandemic; it is regarded as a threat to the country population and her economy which has to lead to the citizens to defend, and demand more than ever from her government to provide quality health care facilities. With this, the knowledge of an average Nigerian is enlightened through the media on COVID-19 pandemic, nature of the virus, how it can be transmitted and preventive measures to adopt in fighting against its spread. It has been understood that COVID-19 affects the respiratory airways through infected hands in contact with the eyes, nose and mouth (Osahon and Memudu, 2020). The outbreak of the COVID-19 has ignited the restructure of medical facilities in the country to help care for infected citizens while her citizens have adhered to preventive measures of constant washing of hands with running water and liquid soap as well as the use of alcohol-based hand sanitizers and staying at home.

Hussin and Siddappa, (2020) stated that a total of 1,844,863 COVID-19 confirmed cases globally spread in 213 countries with a total of 117,021 confirmed deaths. In Nigeria, confirmed cases rose to 41,804, 18,764 recovered while 858 patients died (Sokan-Adeaga *et al*., 2020). The main clinical symptoms are fever (>38°C), cough and shortness of breath. Moreover, it can be accompanied by fatigue, myalgia, gastrointestinal symptoms such as diarrhea, loss of smell and taste and other respiratory symptoms (Osahon and Memudu, 2020). Half of COVID-19 patients will develop shortness of breath in just one week. In severe cases progressively rapid deterioration, such as ARDS (Acute Respiratory Distress Syndrome), septic shock, metabolic acidosis and coagulation problem within a few days. Most of the patients have good prognosis, with low morbidity and mortality rate (Gibney, 2020). Due to mental and physical changes in pregnancy, pregnant women are likely to be affected by the virus. Research is currently ongoing to understand the impacts of COVID-19 in pregnant women. Emerging evidence suggests that transmission from a woman to the baby during pregnancy or birth (vertical transmission) is probable. Fetal distress and preterm labor are found in some cases.

Anxiety is the most common emotional and psychiatric problem in pregnancy. Anxiety in pregnancy can affect pregnancy such as preterm labor, fetal growth restriction and poor neuro-behavioral development (Li, 2020). Hamilton Anxiety Rating Scale (HAM-A) is one of the rating scales developed to measure anxiety level and is widely used both in clinical and research settings [8]. This study therefore assessed the safety precautions against infectious diseases and associated factors during COVID-19 pandemic in pregnant farmers in Mbaise, Imo State, Nigeria.

Materials and Methods

The study was carried out in Aboh Mbaise local government area of Imo State, Nigeria. It is among the 27 LGAs in the state. It has an area of 184 square kilometers and a population of 19,582 people (www.imostate.gov.ng). Aboh Mbaise is bounded in the North by Ahiazu Mbaise and Ikeduru LGAs, in the North-West and South –West by Ngor-Okpala and Owerri North LGAs, while in the North-East and South-East it is bounded by Ezinihitte

Mbaise LGA and Ngwa South LGA of Abia State (www.imostate. gov.ng). Farming is the major occupation of the people and the major crops grown include maize, cassava, cocoyam, yam and leafy vegetables while goats, sheep, and domestic fowls are the major livestock reared (Umunakwe, 2011).

This study used cross-sectional design using primary data obtained by analytical survey from July through August, 2020. The subjects were patients at randomized Health Centers from the sampled areas (Obstetrician and Gynecologist) outpatient clinic. Based on defined criteria, 120 participants were recruited in this study, using consecutive sampling. Pregnant farmers that have been diagnosed with infectious diseases before and incomplete questionnaire data were excluded from this study.

This study also used demographic questionnaire to obtain associated factors such as age, occupation, income level, education level and parity level. Descriptive analyses were conducted to describe demographic characteristics and the pregnant farmers' anxiety level. Chi-square test was used to compare the differences between groups. Multivariate logistic regression models were performed to explore potential associated factors for anxiety level in pregnant farmers. All data were analyzed using SPSS version 22.0. P-values of less than 0.05 were considered statistically significant. Figures 1, 2 and 3 indicated the sampled areas and the neighbouring Local Government Areas of Imo State, Nigeria. Figure 4 showed the map of Nigeria indicating where the first incident of Covid-19 pandemic emanated while Tables 5, 6, 7 and 8 gave a run-down of Covid – 19 situation reports from February to July, 2020.
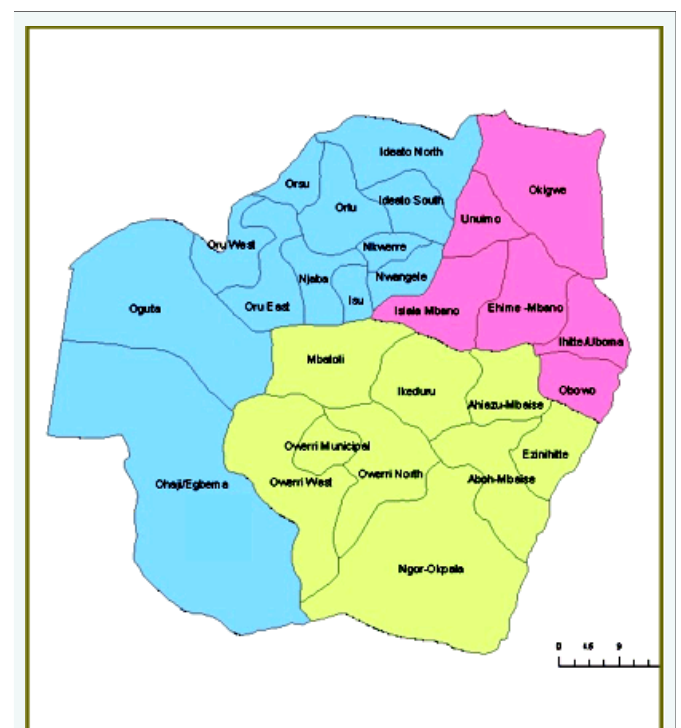

Figure 1 Map indicating Mbaise Community, Imo State, Nigeria.

Figure 2 Map indicating Mbaise Communities and its Entire Surroundings, Imo State, Nigeria.

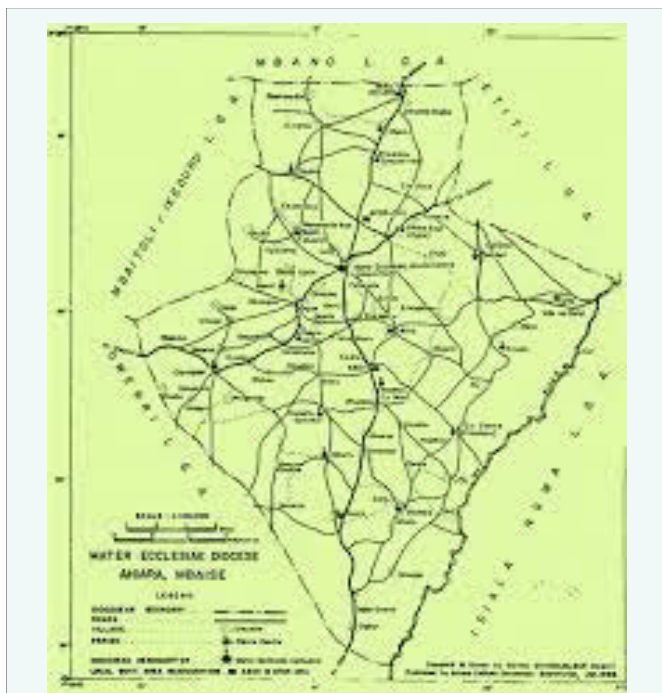**Figure 4** Map of Nigeria indicating where Covid – 19 Pandemic Emanated.

Figure 3 Map indicating Mbaise Communities and its Entire Surroundings, Imo State, Nigeria.

Results

The characteristics of respondents were shown in table 1. Of the 120 subjects, mean age of the respondents were 29.2 ± 4.7 years, 92.5% of respondents were non-healthcare workers, 49% of respondents had an undergraduate educational background, 50.8% had middle-class income and 52.5% of them were nulliparous.

The prevalence of anxiety level based on age, occupation, education background, income level, and parity level were shown in table 2. The overall prevalence of anxiety was 29%, consists of 23% of mild anxiety and 6% of moderate anxiety. There was no statistically significant correlation between age, education background, income level and parity level, meaning the anxiety level was not affected by these associated factors. But there was statistically significant correlation between occupation and anxiety level. Healthcare workers had higher prevalence of anxiety compared to non-healthcare workers (p = 0.01) as shown in table 2.

Table 3 shows that occupation may be a potential risk factor to the anxiety level. Healthcare workers had an odd ratio of 5.65 (95% CI 1.33 - 24.09), meaning that healthcare workers have 5.65 times risk to anxiety disorder compared to non-healthcare workers. Table 4 shows the observed diseases prevalent in the study area.

Discussion

This study showed that majority of pregnant farmers (72% of participants) had no anxiety during COVID-19 pandemic. Other infectious diseases observed were: Ebola virus disease, Hepatitis, Lassa fever, Measles, Meningococcal disease, Plague, Rift valley fever, Severe acute respiratory syndrome, Smallpox, Tularemia, Yellow fever and Zika virus respectively.

Healthcare workers had higher prevalence of infectious diseases compared to non-healthcare. Infectious diseases were independent of or were not affected by age, education background, income level and parity level. Based on the analysis, two of the most severe items were about anxious mood and fears.

In bivariate analysis, we found that occupation may be a potential risk factor to exposure to infectious diseases. Healthcare workers had an Odds Ratio of 5.65 (95% CI 1.33 - 24.09), meaning that healthcare workers have 5.65 times risk to anxiety disorder compared to non - healthcare workers. This result was similar to previous study in China during COVID-19 pandemic (Zhu, 2020), yellow fever of French Guiana, plague of Democratic Republic of the Congo and Ebola virus disease of Democratic Republic of the Congo showing that healthcare workers had 1.30 Odds Ratio (95% CI 0.83 - 2.04) compared to other occupations.

Table 2: Covid-19 Pandemic Level Based on Associated Factors.

Anxiety Level				p-value
Characteristics	Not Anxiety	Mild Anxiety	Moderate Anxiety	
Age (Mean ± SD)				0.098
< 35 years	73 (73%)	20 (20%)	7 (7%)	
≥ 35 years	12 (60%)	8 (40%)	0 (0%)	
Occupation				0.01
Healthcare workers	3 (33.4%)	4 (44.4%)	2 (22.2%)	
Non-healthcare				
Workers	82 (73.9%)	24 (21.6%)	5 (4.5%)	
Education Background				0.833
Primary School	1 (100%)	0 (0%)	0 (0%)	
Junior High School	3 (60%)	2 (40%)	0 (0%)	
Senior High School	41 (74.5%)	10 (18.2%)	4 (7.3%)	
Undergraduate	40 (67.8%)	16 (27.1%)	3 (5.1%)	
Income Level				0.964
Low Income	13 (76.5%)	3 (17.6%)	1 (5.9%)	
Middle Income	43 (70.5%)	15 (24.6%)	3 (4.9%)	
High Income	29 (69%)	10 (23.8%)	3 (7.1%)	
Parity Level				0.325
Nulliparous	47 (74.6%)	14 (22.2%)	2 (3.2%)	
Primiparous	23 (74.2%)	5 (16.1%)	3 (9.7%)	
Multiparous	15 (57.7%)	9 (34.6%)	2 (7.7%)	
Field Survey, 2020				

Table 3: Prevalence and Odds Ratio of Infectious Diseases Based on Occupation.

	Infectious Diseases		p-value	OR (95% CI)
Occupation	Affected	Not Affected		
Healthcare workers	6 (66.7%)	3 (33.3%)	0.01	5.65
Non-healthcare workers (26.1%)	29	82 (73.9%)		(1.33 - 24.09)
Field Survey, 2020				

Table 4: Infectious Diseases Assessed During the Study.

Ebola
Zika
Lassa fever
Yellow fever
Hepatitis
Measles
Meningococcal disease
Plague,
Rift valley fever,
Severe acute respiratory syndrome,
Smallpox
Field Survey, 2020

Infection with plague can cause severe disease resulting in high mortality in humans, particularly if not identified early. Plague can exhibit in three forms: bubonic, septicemic and pneumonic. If untreated, bubonic plague can evolve to pneumonic plague. Early diagnosis and treatment are essential for survival and reduction of complications.

Preventive measures include informing people when zoonotic plague is present in their environment and advising them to take precautions against flea bites and not to handle animal carcasses. People, especially health workers, should also avoid direct contact with infected tissues such as buboes or close exposure to patients with pneumonic plague.

The possible reason for this is during an outbreak, healthcare workers are expected to work overtime under significant pressure with often inadequate resources including limited personal protective equipment (PPE), while keep in close contact with confirmed or suspect patients. Healthcare workers like

Table 5: COVID-19 Situation Report February 28, 2020.

States	Total Cases	Lab Confirmed	Deaths	Contacts under-follow-up	HCW Contacts under follow-up	Total Contacts under follow-up
Ogun	1	1	0	19	5	24
Lagos	0	0	0	6	0	6
NCDC, 2020						

Table 6: GENERAL FACT SHEET – DATA AS AT 1ST JULY 2020.

STATES	CONFIRMED CASES		DISCHARGED CASES	DEATHS		TOTAL ACTIVE CASES	DAYS SINCE LAST REPORTED CASE	
CUMULATIVE	NEW		CUMULATIVE	NEW		CUMULATIVE	NEW	
Lagos	10,630	120	1,610	7	129	1	8,891	0
FCT	1,935	65	588	18	34	1	1,313	0
Oyo	1,391	11	703	7	12	0	676	0
Kano	1,257	41	958	27	52	0	247	0
Edo	1,165	60	418	130	40	1	707	0
Delta	1,131	166	190	0	23	0	918	0
Rivers	1,088	32	648	26	38	0	402	0
Ogun	869	43	609	38	19	0	241	0
Kaduna	805	39	552	20	12	0	241	0
Katsina	578	21	285	0	23	0	270	0
Gombe	507	4	363	11	19	0	125	0
Bauchi	505	2	461	12	12	0	32	0
Borno	493	0	432	10	32	0	29	1
Ebonyi	438	0	357	0	3	0	78	2
Plateau	382	0	197	0	10	0	175	1
Imo	352	20	50	10	6	0	296	0
Enugu	327	66	126	53	9	3	192	0
Ondo	325	33	110	8	19	0	196	0
Abia	320	10	207	0	3	0	110	0
Jigawa	318	0	308	1	9	3	1	1
Kwara	235	18	135	4	9	3	91	0
Bayelsa	234	29	105	5	15	1	114	0
Nasarawa	213	0	113	0	8	0	92	2
Sokoto	151	0	119	0	15	0	17	4
Osun	127	0	48	0	5	0	74	1
Niger	116	0	45	8	7	0	64	1
Akwa Ibom	86	0	54	0	2	0	30	3
Adamawa	84	0	47	0	6	0	31	3
Kebbi	81	2	58	0	7	0	16	0
Zamfara	76	0	71	0	5	0	0	44
Anambra	73	0	57	0	9	0	7	2
Benue	65	6	30	0	1	0	34	0
Yobe	61	2	48	0	8	0	5	0
Ekiti	43	0	40	11	2	0	1	4
Taraba	19	0	10	0	0	0	9	6
Kogi	4	0	0	0	0	0	4	3
Total	26,484	790	10,152	406	603	13	15,729	
covid19.ncdc.gov.ng, 2020								

Table 7: GENERAL FACT SHEET – DATA AS AT 31ST JULY 2020.

STATES	CONFIRMED CASES		DISCHARGED CASES		DEATHS		TOTAL ACTIVE CASES	DAYS SINCE LAST REPORTED CASE
	TOTAL	NEW	TOTAL	NEW	TOTAL	NEW	TOTAL	NEW
Lagos	15,121	78	2,148	3	192	0	12,781	0
FCT	3,803	93	1,122	4	42	0	2,639	0
Oyo	2,760	47	1,286	27	27	0	1,447	0
Edo	2,292	7	1,800	102	82	1	410	0
Rivers	1,791	9	1,438	15	52	0	301	0
Kano	1,597	6	1,258	0	53	0	286	0
Delta	1,510	9	1,359	0	43	0	108	0
Kaduna	1,457	54	1,176	35	12	0	269	0
Ogun	1,394	9	1,095	20	23	0	276	0
Plateau	1,188	64	519	50	19	0	650	0
Ondo	1,155	32	548	0	24	0	583	0
Enugu	807	6	425	0	18	0	364	0
Ebonyi	785	0	596	0	24	0	165	2
Kwara	753	0	213	0	19	0	521	2
Katsina	742	0	457	0	23	0	262	3
Borno	613	0	569	0	35	0	9	2
Gombe	607	0	524	0	23	0	60	3
Bauchi	560	19	520	2	13	0	27	0
Abia	545	0	426	0	5	0	114	6
Osun	524	1	266	35	12	0	246	0
Imo	468	0	119	0	9	0	340	2
Benue	346	0	58	0	6	0	282	4
Bayelsa	328	0	279	2	21	0	28	1
Jigawa	322	0	308	0	11	0	3	15
Nasarawa	317	5	223	0	8	0	86	0
Niger	223	0	133	0	12	0	78	3
Akwa Ibom	221	0	121	0	7	0	93	5
Adamawa	163	23	85	0	9	0	69	0
Sokoto	154	0	137	0	16	0	1	6
Anambra	135	0	75	0	12	0	48	2
Ekiti	132	0	55	0	2	0	75	2
Kebbi	90	0	79	0	7	0	4	10
Zamfara	77	0	71	0	5	0	1	13
Yobe	67	0	54	0	8	0	5	1
Taraba	54	0	11	0	0	0	43	10
Cross River	45	0	9	0	3	0	33	2
Kogi	5	0	3	0	2	0	0	28
Total	43,151	462	19,565	295	879	1	22,707	

covid19.ncdc.gov.ng, 2020

everyone else, are vulnerable to the disease itself, hence increase their anxiety levels. The other main concern among healthcare workers is the danger of contracting the disease, especially in Nigeria where health workers died of Ebola, Zika, Lassa fever and COVID-19 while hundreds others had tested positive for COVID-19 (Abdullahi *et al.,* 2020).

These results show pregnant farmers' anxiety level is relatively low, which was good news, despite public's levels of anxiety related symptoms increase. Based on in-depth interview, majority of the participants stated the common reasons, including the belief that maintaining a healthy lifestyle, washing hands frequently, maintaining social and physical distancing, using mask to cover the mouth and nose when around others, doing all the activities from home (including doing work and prayer), and timing to seek for medical help as early as possible if there's an emergency can protect themselves against COVID-19. Most of the pregnant farmers get the informative and educative suggestions about COVID-19 mostly from mass media such as news on television and online newspaper.

Conclusion and Recommendation

This study identified that occupational status on pregnant farmers may be a potential risk factor to the anxiety level during COVID-19 pandemic. Informative and educative advices and suggestions of COVID-19 to pregnant farmers and their family, such as maintaining a healthy lifestyle, washing hands frequently, maintaining social and physical distancing, using mask to cover the mouth and nose when around others, doing all the activities from home (including doing work and prayer), and timing to seek for medical help as early as possible if there's an emergency can protect themselves against COVID-19 and not worried about COVID-19 pandemic, which is supported by this study.

The Government should prepare many strategies and policies in short time to curb the spread of COVID-19 pandemic and to help the affected public sector. This could be achieved by regulations on large-scale social distancing to restrict the movement of people and goods. The other policies should be large-scale social restrictions, including closure of mass-gathering places like school and workplaces, restrictions on religious activities, restrictions on activities in public places, requiring healthy people to isolate them at home, asking everyone to wear masks into public places and a temporary ban on foreigners entering the sampled areas, state and country at large. To help the public sector and avoid people losing their incomes due to mass unemployment, the government however should issue regulations about state financial and financial stability. The regulations could consist of setting up funds mainly to meet the PPE, rapid test kits, ventilators requirements, exemption on electricity costs, giving incentives and to provide the food supplies.

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