Knowledge, Perception and Practices of Coronavirus amongst Female Farmers in Nigeria

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Authors' contributions

This work was carried out in collaboration between both authors. Author CO designed the study, performed the statistical analysis, wrote the protocol, and wrote the first draft of the manuscript. Author FA designed the study, managed the data collection and the literature searches. Both authors read and approved the final manuscript.

Original Research Article

ABSTRACT

Coronavirus disease 2019 [1] is an emerging public health problem threatening the life of millions of people. Farmers and cultivators in countries like Nigeria are rapidly starting to bear the impact of the pandemic. The study was conducted to assess the knowledge, perception and practices to COVID-19 among female farmers. A descriptive cross sectional design was used for this study, employing multistage sampling technique to recruit respondents. About (39%) of the respondents fell between 30-39 years with the median age of 35 years; majorities (56.9%) had attended secondary education and (49.2%) were married. More than half (56.4%) were into subsistence farming and they planted mostly tubers and vegetables. About (32.3%) of them did not believe in the existence of COVID-19. To (43.6%) of the farmersCOVID-19 was perceived as a virus, (32.3%) as a deadly disease, (12.8%) as political means of making money and (4.6%) as a high fever just like malaria and typhoid. Around (34.4%) reported the symptoms of COVID 19 as dry cough,

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(23.6%) as fever, (9%) as sneezing and (7.3%) as difficulty in breathing. Also, about (17.9%) reported that COVID 19 spreads through handshaking, (16.9%) through droplets (sneezing and coughing), (3.1%) through airborne and (20%) don't know how COVID 19 spreads. With regards to practice, (25.6%) wash their hands 4 to 6 times per day and 5(2.6%) rarely washed their hands, about (28.2%) always wore their facemask and (36.4%) always used alcohol based sanitizer. There was a statistical association between age, level of education and the perception of female farmers to COVID-19 (P < 0.005).Also, an association was found between perception of COVID-19 and practices (P < 0.005). The study revealed poor perception and knowledge to COVID-19, which affects their adherence to public health hygiene. Since majority (73.3%) of the female farmers sourced information from radios/televisions, more awareness should be made in these platforms especially using their local dialect.

1. INTRODUCTION

Coronavirus disease 2019 [1], first recognized in Wuhan China in December 2 2019, has speedily spread to almost every region of the world [2]. This disease is caused by a new and 3 severe type of Coronavirus known as severe acute respiratory syndrome coronavirus 2 (SARS-4 CoV-2 [3]. Coronavirus disease 2019 [1] is an emerging public health problem threatening the life of millions of people. Globally, on 5th of August, 2020, the total number of confirmed cases of COVID-19 was 18,354,342 affecting 214 countries with 696, 147 deaths. In Nigeria on same date the total number of confirmed cases of COVID-19 was 44,890 with Rivers state ranking 5th position with 1,894 total cases [4].

In order to prevent the spread of the virus, public health measures were established to include the following: the use face masks, covering of coughs and sneezes with tissues, washing hands regularly with soap or disinfection with hand sanitizer containing at least 60% alcohol, avoiding contact with infected people, maintaining an appropriate distance from people and refraining from touching eyes, nose, and mouth with unwashed hands [1,5]. The Implementation of personal hygiene and public health behaviors such as hand washing and social distancing are necessary to reduce the spread of coronavirus, but it will be challenging to practice these in many cities and rural areas in developing settings [6].

COVID-19 may have a widespread, profound, and prolonged impact on every sector and segment. Farmers and cultivators in countries like Nigeria are rapidly starting to bear the impact of the pandemic, even though restrictions and lockdowns have largely spared agriculture sectors [7]. According to the Food and Agricultural organization of the United Nations [8,9], the COVID-19 pandemic is affecting the agricultural sector both directly and indirectly [10,11]. Directly it affects food systems through impacts on food supply and demand, and indirectly through decreases in purchasing power, the capacity to produce and distribute food, which strongly affect the poor and vulnerable [12,13]. These disruptions have affected the long value chains between cultivators and consumers. Retail prices have shot-up, wholesale prices continue to fall, while producers struggle to find buyers for their produce. In many areas, farmers lack access to adequate labor or equipment to harvest standing crops [7]. This increase in prices would be felt most by vulnerable populations especially women who depend on markets for their food and those who depend on their produce as a source of livelihood [8,9].

Undocumented findings reports that poor knowledge and perception to any disease condition may lead to poor practice. It is of utmost important to assess the knowledge, perception and public health hygiene practices to COVID-19 among female farmers and to examine the relationship between perception of COVID-19 and public health practices to COVID-19.

1.1 Objectives

The objectives of this study is to

1. Assess the knowledge of COVID-19 among female farmers in Ikwerre LGA.
2. Assess the perception of COVID-19 among female farmers in Ikwerre LGA.
3. Determine the public health hygiene practices to COVID-19 among female farmers in Ikwerre LGA.

4. Examine the relationship between perceptions and practice to COVID-19 among female farmers in Ikwerre LGA.

2. METHODOLOGY

2.1 Study Area

Ikwerre Local government area is one of the 23 local governments in Rivers state. Ikwerre land lies roughly within the coordinates of 4°:50N 5°:15N, 6°:30E 7°:15E. The geology and geomorphology of the area are intimately associated with that of the Niger Delta. The Ikwerre inhabit the upland part of Rivers State. The Ikwerre cultural area is bordered by the Ohaji/Egbema of Imo State to the northeast, the Ogba to the northwest, the Ekpeye and Abua to the west, the Ijoid groups of Degema, the Kalabari and Okrika to the south, the Eleme and Oyigbo to the southeast and the Etche to the east. The Ikwerre tribe is made up of four main groups, namely the Elele group (Ishimbam), the Igwuruta-Aluu (Ishiali) group, the Rumuji-Emohua-Ogbakiri (REO) or Risimini group and the OPA group (Obio/Port Harcourt/Akpor).

Ikwerre people are found in the Niger Delta region of Nigeria. They are within the rainforest belt which receives high annual rainfall which predisposes them to farming. Some parts are blessed with creeks that crisscross -Rivers State. There is also abundant raffia forest. These features, coupled with adequate sunshine, have made the soil in Ikwerre adequate for the cultivation of palm produce, cassava, yams, vegetables and the distillation of palm wine into gin (kaikai, ogogoro, akamere, manyabeknu). The Riverine Ikwerre villagers engage in fishing in addition to the general occupations of farming and trading.

2.2 Study Design

This is a cross-sectional correlational study.

2.3 Study Participants

Information was collected from Female farmers in Ikwerre Local government area of Rivers State Nigeria.

2.4 Scope of Study

The study was carried out in Ikwerre local government area in Rivers state namely, and it was among female farmers only to assess their knowledge, perception and practices toCOVID-19 pandemic.

2.5 Sample Size Estimation

The sample size was determined using Cochran's formula

$$n = \frac{Z\alpha^2 pq}{d^2}$$

Where; $Z\alpha$ = a variable with a critical value of 1.96 at 95% confidence interval

P= 50%
q= 100 – p
100 - 50 = 50%,
d= precision = 5% n= 200

About 200 respondents were recruited for this study; only 195 completed the questionnaire giving a response rate of 97.5%.

2.6 Sampling Technique

A multi-stage sampling was used in this study.

The first stage: involves the selection of one local government (Ikwerre local government) from the 23 local governments in Rivers state.

The second stage: the random selection of two towns and villages from Ikwerre local government area (Aluu and Isi okpo) there are 34 towns/villages in Ikwerre LGA.

The third stage: the random selection of two communities from the two villages/town making it 4 communities.

The fourth stage: selection of female farmers this was done through snow balling technique.

2.7 Inclusion and Exclusion Criteria

2.7.1 Inclusion criteria

1. Those that are within the ages of 18 years and above who are farmers.
2. Those that consent to participate in the study.

2.7.2 Exclusion criteria

1. Those that are females and are not farmers.
2. Those with mental health disorders.

3. Those without reading and writing skills.

2.8 Data Collection Instrument

A self-administered questionnaire was used to elicit information from the respondents.

2.8.1 Data collection procedure

Permission was sought from the Community development chairman to enter the community after which consent was obtained from the participants after explaining the study to them. The questionnaires were distributed to them to fill and return afterwards. Trained research assistants who are members of the community were recruited to collect data from the respondents. To ensure adherence to COVID 19 safety precautions, trained research assistants maintained social distancing, wore face mask and had their hand sanitizers. The questionnaires were self-administered to limit all forms of physical contacts. Data collection was done between the months of August to September, 2020.

2.9 Validity and Reliability

To ensure validity the questionnaire was face validated by experts in the field of Public health and Agriculture. Also the questionnaire was pre-tested and validated.

2.10 Data Analysis and Management

SPSS software version 21 was used for the analysis of quantitative data. Descriptive and analytic statistics were conducted. The level of significance was set at p ≤ 0.05.Categorical data was presented in form of frequencies and percentages with results presented in tables. Chi-square (X^2) test analysis was used to test for association between perception and practice to COVID-19. An observation was said to be statistically significant if the p- value is less than or equal to 0.05 at 95% confidence interval.

2.11 Confidentiality

Information obtained from the respondents were kept private, andto ensure the confidentiality of the participants, serial numbers and not names were used for identification of respondents. The questionnaires were properly kept in a safe place and were accessible only to the research team and would be destroyed afterwards.

2.12 Voluntariness

Some of them received free hand washing practical sessions to compensate for their time.

2.13 Non- Maleficence to Participants

The study was relatively risk-free.

3. RESULTS

Table 1 shows the socio-demographic characteristics of the respondents. A total of two hundred questionnaires were distributed to female farmers about one hundred and ninety five questionnaires were completely filled giving a response rate of 97.5%. About seventy six (39%) respondents were between the ages of 30-39 years, 56 (28.7%) were between the ages of 19 -29 years and 12 (6.2%) between 60-69 years. The mean age was 36±1.39 and a median age of 35 years.

More than half about one hundred and eleven (56.9%) were in secondary, 60 (30.8%) attended tertiary and 2 (1%) had no formal education. About, ninety six (49.2%) were married, sixty eight (34.9%) and five (2.6%) were separated.

Table 2 shows the socio-economic status of female farmers in Ikwerre LGA, Rivers state. Majority, 181 (82.8%) were not members of any co-operative and 14 (7.2%) were members of a co-operative. About eight nine (45.6%) of the respondents had other means of income which was trading, forty three (22.1%) were artisans, 43(22.1) were teachers and 22(11.3%) had no other source of income. Among the female farmers, more than half (56.4%) were into subsistence farming and 85(43.6%) into commercial farming. About 85 (43.6%) specialized in tubers and vegetable while 14(7.2%) specialized in food supplement. About 73 (37.4%) of the respondents rented the land, 38(19.5%) bought the land and 24 (12.3%) were family land.

Table 3 shows the Knowledge and Perception of COVID 19 among female farmers in Ikwerre LGA, Rivers state. Majority 134(68.7%) did not believe in the existence of corona virus and 61(31.3%) believed that corona virus existed. About 94(48.2%) first heard of COVID-19 from the radio, 21(10.8%) from the neighours/word of mouth and 8(4.1%) from the hospital. About 85(43.6%) reported COVID 19 as a virus, 63(32.3%) as a deadly disease, 23(12.8%) as

political means of making money and 9(4.6%) as a high fever just like malaria and typhoid. About 145(34.4%) reported the symptoms of COVID 19 as dry cough, 100(23.6%) as fever, 38(9%) as sneezing, 31(7.3%) as difficulty in breathing and 6(1.4%) as body aches/weakness. About 35(17.9%) reported that COVID 19 spreads through handshaking, 33(16.9%) through droplets (sneezing and coughing), 26(13.3%) not maintaining social distance and being in crowded places, 6(3.1%) through airborne and 39(20%) don't know how COVID 19 spreads.

Table 1. Socio demographic characteristics of female farmers in Ikwerre LGA, Rivers state Nigeria

Characteristics	N=195	%
Age		
19 – 29 years	56	28.7
30 – 39 years	76	39.0
40 – 49 years	35	17.9
50 – 59 years	16	8.2
60 – 69 years	12	6.2
Level in education		
Never attended	3	1.5
No formal education	2	1.0
Primary	19	9.7
Secondary	111	56.9
Tertiary	60	30.8
Marital status		
Single	68	34.9
Married	96	49.2
Separated	5	2.6
Divorced	13	6.7
Widowed	13	6.7

Table 2. Socio-economic status of female farmers in Ikwerre LGA, Rivers state Nigeria

Characteristics	N=195	%
Members of cooperative		
Yes	14	7.2
No	181	82.8
Other means of income		
Trading	89	45.6
Handwork/artisan	43	22.1
Teaching	10	5.1
Civil servant	14	7.2
Contract staff	17	8.7
None, only family	22	11.3
Type of farming practice		
Subsistence	110	56.4
Commercial	85	43.6
Farm produce specialized on		
Food supplements (ginger, turmeric etc.)	14	7.2
Vegetables (pepper, waterleaf, pumpkin etc.)	51	26.2
Tubers and vegetables	85	43.6
Cassava only	45	23.1
Means of land acquisition		
Bought	38	19.5
Rented	73	37.4
Leased	31	15.9
Free	29	14.9
Family land	24	12.3

Table 3. Knowledge and perception of COVID 19 among female farmers in Ikwerre LGA, Rivers state Nigeria

Characteristics	N=195	%
Do you believe in existence of COVID 19		
Yes	134	68.7
No	61	31.3
First heard of COVID 19		
Radio	94	48.2
Television	49	25.1
Neighbour/word of mouth	21	10.8
Social media/Internet	9	4.6
Hospital	8	4.1
Market	14	7.2
What is COVID 19 to you		
A virus	85	43.6
Contagious disease	4	2.1
*Imported disease from China	9	4.6
Deadly disease	63	32.3
*Political means of making money	23	12.8
*High fever just like malaria and typhoid	9	4.6
Symptoms of COVID 19 (multiple response)		
Difficulty in breathing	31	7.3
Dry cough/dry throat	145	34.4
Fever	100	23.6
Loss of smell	23	5.4
*Cold	23	5.4
Sneezing	38	9.0
Catarrh	20	4.7
Headache	19	4.5
Body ache/weakness	6	1.4
*Red eyes	9	2.1
*Typhoid/malaria	9	2.2
Spread of COVID 19		
Contaminated surfaces	11	5.6
Touching of hands and eyes	14	7.2
Droplets; coughing, sneezing	33	16.9
Handshaking	35	17.9
Close contact with infected persons/hugging	31	15.9
*Air borne	6	3.1
*Not maintain social distance	26	13.3
*Don't know, don't believe in it	39	20.0

- *Wrong knowledge and perception*

Table 4 shows the Public Health Hygiene Practices to COVID 19 among female farmers in Ikwerre LGA, Rivers state. Majority of the respondents (63.1%) had access to portable water and 72(36.9%) had no access to portable water. About 66(33.8%) sources of portable water was borehole, 60(30.8%) from public tap, 15(7.7%) sachet water/ bottle water and 8(4.1%) from the well. About 50(25.6%) wash their hands 4 to 6 times per day, 45(23.1%) 7 to 10 times per day, 32 (16.4%) uncountable times and 5(2.6%) rarely washed their hands. About 56(28.7%) occasionally wear their mask, 55(28.2%) always wear their mask and 19(9.7%) rarely wear their mask. About 71(36.4%) always use alcohol based sanitizer, 43(22.1%) occasionally use alcohol based sanitizer and 32(16.4%) rarely use alcohol based sanitizer.

Table 5 shows the association between socio-demographic characteristics and perception of COVID 19 among female farmers in Ikwerre LGA. There was a statistical significant association between age and level of education

and the perception of female farmers to COVID-19 ($P < 0.005$).

Out of the seventy six respondents that age ranged 30-39 years about 69.7% believed in the existence of COVID-19, out of the sixteen respondents that age ranged 50-59 years all believed in the existence of COVID-19 and of the six respondents age ranged 60-69 years about 50% believed in the existence of COVID-19 ($P = 0.042$). Likewise, of the one hundred and eleven that the highest level of education were secondary more than half 60.4% believed in the existence of COVID-19, of the 60 respondents that their highest level of education was tertiary 80.7% believed in the existence of COVID-19 and of the two that had no formal education all didn't believe in the existence of COVID-19 ($P< 0.05$). The null hypothesis was therefore rejected.

There was no statistical significance between marital status and perception of respondents to COVID 19 ($P>0.05$).

Table 6 shows an association between perception of COVID 19 and public health hygiene practices to COVID 19 among female farmers in Ikwerre LGA. There was a statistical significant association between perception of COVID 19 and public health hygiene practices to COVID-19 ($P < 0.005$). Of the one hundred and thirty nine respondents that believed in the existence of COVID 19, 42(31.3%) washed their hands 4-6 times and 24(17.9%) uncountable times per day. Of the sixty one respondents that did not believe in the existence of COVID-1923(37.7%) washed their hands 1-3 times and 3(4.9%) washed their hands 11 times and above (P Value < 0.0001). Likewise, of the one hundred and thirty nine that believed in the existence,

Table 4. Public health hygiene practices to COVID 19 among female farmers in Ikwerre LGA, Rivers state Nigeria

Characteristics	N=195	%
Do you have access to portable water		
Yes	123	63.1
No	72	36.9
Sources of Portable water		
Borehole	66	33.8
Sachet water, Bottle water	15	7.7
Pipe borne water	32	16.4
Public tap	60	30.8
Bucket with tap	14	7.2
Well	8	4.1
Times hand washing per day		
Uncountable	32	16.4
11 times and above	25	12.8
7-10 times	45	23.1
4-6 times	50	25.6
1-3 times	38	19.5
Rarely	5	2.6
How often to wear face mask		
Always	55	28.2
Very often	36	18.5
Often	29	14.9
Occasionally	56	28.7
Rarely	19	9.7
How often use alcohol sanitizer		
Always	71	36.4
Very often	36	18.5
Often	13	6.7
Occasionally	43	22.1
Rarely	32	16.4

49(36.6%) wore nose mask always and 3(2.2%) rarely wore facemask. Of the sixty nine respondents that did not believe in the existence of COVID-1916(26.2%) rarely wore face mask and 6(9.8%) wore face mask always. Similarly, of the one hundred and thirty nine that believed in the existence, 62(46.3%) used alcohol based hand sanitizers always and 9(6.7%) often used alcohol based sanitizers (P Value < 0.0001). Of the sixty nine respondents that did not believe in the existence of COVID-1922(42.6%) occasionally used alcohol based sanitizers and 9(14.8%) always used alcohol based hand sanitizers (P Value < 0.0001).

4. DISCUSSION, CONCLUSION AND RECOMMENDATIONS

The study was conducted to determine the knowledge, perception and practice of COVID-19 among female farmers in Ikwerre LGA Rivers state Nigeria. From the present study about 39% of the respondents fell between 30-39 years with the median age of 35 years, more than half (56.9%) had at least secondary education and majorities(49.2%) were married. The current study revealed the socio-economic status of the farmers; majority of them had other sources of income outside farming and with many (45.6%) trading. More than half (56.4%) of the female

farmers were into subsistence farming and they planted mostly tubers and vegetables were most of the lands were rented.

This study found that some of the female farmers had a poor perception to COVID-19, about 32.3% of them did not believe in the existence of COVID-19. To them Coronavirus was perceived as a political means of making money, some viewed it as an imported disease from China, some as high fever just like malaria and typhoid. On the other hand, majority (68.7%) of the female farmers believed in the existence of COVID-19andperceived corona virus as a viral, deadly and contagious disease. A higher proportion was reported in a study among rural residents in China were more than 90% of the participants believed COVID-19 was serious and preventable, were concerned about the disease process, and actively engaged in learning related knowledge [14].

The major sources of information on COVID-19 were on radio (48.2%) followed by television (25.1%), social media/internet (4.6%) was the least source of information on COVID-19. This was in contrary with a study conducted among the medical and allied health science students in India that found the main sources of

Table 5. Association between socio-demographic characteristics and perception of COVID 19 among female farmers in Ikwerre LGA, Rivers state

Variable	Believe in Existence of Covid-19		
	Yes n (%)	No n (%)	Total N = 980
Age range			
19-29	36(64.3)	20(35.7)	56
30-39	53(69.7)	23(30.3)	76
40-49	23(65.7)	12(34.3)	35
50-59	16(100)	0(0)	16
60-69	6(50)	6(50)	12
	χ^2 = 9.935	P Value = 0.042	
Level of education			
Never attended	3(100)	0(0)	3
No formal education	0(0)	2(100)	2
Primary	15(78.9)	4(21.1)	19
Secondary	87(60.4)	44(39.6)	111
Tertiary	49(81.7)	11(18.3)	60
	χ^2 = 14.971	P Value =0.05	
Marital status			
Never married	47(69.1)	21(30.9)	68
Married	66(68.8)	30(31.3)	96
Separated	5(100)	0(0)	5
Divorced	6(46.1)	7(53.9)	13
Widowed	10(76.9)	3(23.1)	13
	χ^2 = 5.767	P Value = 0.217	

Table 6. Association perception of COVID 19 and public health hygiene practices to COVID 19 among female farmers in Ikwerre LGA, Rivers state

Variable	Believe in Existence of Covid-19		
	Yes n(%)	No n (%)	Total N = 980
Hand washing per day			
Uncountable	24(17.9)	8(13.1)	32
11 times and above	22(16.4)	3(4.9)	25
7-10 times	31(23.1)	14(23.0)	45
4-6 times	42(31.3)	8(13.1)	50
1-3 times	15(11.2)	23(37.7)	38
Rarely	0(134)	5(8.2)	5
	χ^2 = 36.446	P Value = 0.000	
Wearing of face mask			
Always	49(36.6)	6(9.8)	55
Very often	23(17.2)	13(21.3)	36
Often	18(13.4)	11(18.0)	29
Occasionally	41(30.6)	15(24.6)	56
Rarely	3(2.2)	16(26.2)	19
	χ^2 = 36.894	P Value =0.000	
Use of alcohol sanitizer			
Always	62(46.3)	9(14.8)	71
Very often	27(20.1)	9(14.8)	36
Often	9(6.7)	4(6.6)	13
Occasionally	17(12.7)	26(42.6)	43
Rarely	19(14.2)	13(23.1)	32
	χ^2 = 30.432	P Value < 0.0001	

information was social media (Facebook, WhatsApp, YouTube, Instagram) (65.17%) followed by news media (TV/video) (20.84%) [15]. The differences in the findings may be attributable to the fact that the former study was on university students who are more learned with advances in technology and internet enabled gadgets while the current study was on rural farmers who may have limited access to internet enabled gadgets.

Findings from the current study revealed that most of the female farmers had a fair knowledge of symptoms of COVID-19; the symptoms of COVID-19 majorly identified were dry throat (34.4%) and fever (23.6%). On the other hand, some had poor knowledge on the symptoms of COVID-19 they reported red eyes (2.1%), cold (5.4%), malaria and typhoid (2.2%)as symptoms of COVID-19. This was similar to a studies conducted among Jimma university medical center visitors, Southwest Ethiopia that revealed that >50% of JUMC visitors correctly responded to 10 of 14 knowledge items on symptoms. About (83.0%) of the visitors knew the main clinical symptoms of COVID-19 as fever, fatigue, dry cough, and myalgia. About (37.7%) of the respondents mentioned other symptoms such as the stuffy nose, runny nose, and sneezing [16].

This present study also discovered that more than half of the female farmers had good knowledge on the spread of COVID-19, about 16.9% reported COVID-19 was spread droplets (sneezing and coughing), 17.9% through hand shaking and 15.9% through physical contact with infected persons while a few reported it spreads through air borne and 20% don't know how COVID-19 spreads. This was in contrast with a study conducted among Jimma university medical center visitors, Southwest Ethiopia that reported a high proportion (95.1%) of the visitors knew that the COVID19 virus spreads via respiratory droplets of infected people and (31.2%) of the respondents reported that asymptomatic transmission was possible [16]. This may be attributable to the difference in the study population and study locale.

It is worth mentioning that more than half of the farmers (63.1%) had access to portable water and major sources of portable water were from borehole (33.8%) and public tap (30.8%).Public health hygiene practices were observed by majority of the female farmers. A higher proportion (98.4%) of the female farmers washed their hands at least once per day during the pandemic, about 16.4% washed their hands uncountable times during the COVID-19

pandemic. Majority(61.6%) of the female farmers at least used face mask at one point or the other during the pandemic but most did not wear face mask regularly when going out per day, only about 28.2% wore facemask regularly. Correspondingly, majority (61.6%) used alcohol based hand sanitizers at one point or the other during the pandemic only about 36.4% used alcohol based sanitizers regularly. This was similar with findings that reported among Jimma university medical center visitors, Southwest Ethiopia, it was observed that they predominantly engaged in frequent hand washing with water and soap (77.3%), stopped shaking hands while giving greeting (53.8%), avoiding physical proximity (33.6%) and going to crowed places (33.2%), to protect themselves from COVID-19 [16].

This study determined the association between socio-demographic characteristics and perception of COVID 19 among female farmers in Ikwerre LGA, Rivers state. There was a statistical significant association between age and level of education and the perception of female farmers to COVID-19 (P < 0.005). It was observed that female farmers with a form of education believed in the existence of COVID-19 but female farmers with no formal education did not believe in the existence of COVID-19. There was no statistical significance between marital status and perception of respondents to COVID 19 (P>0.005). A prior study reported that age, gender, education, and marital status were influencing factors of COVID-19 knowledge. Unmarried residents had a higher level of knowledge than married residents [17]. In the current study marital status was not associated with perception of COVID-19, the differences may be due to the study population and study locale.

Startling finding was unveiled in this study; there was a statistical significant association between perception of COVID-19 and practices to COVID-19 (P < 0.005). Majority (63.1%) of the female farmers that believed in the existence of COVID-19 adhered to the public health hygiene practices by predominately washing their hands, wearing their nose mask and using alcohol based sanitizer during the COVID-19 pandemic. This was similar to findings in Southwest Ethiopia that reported that visitors who belonged to the highest knowledge washed their hands frequently compared to those with low knowledge. The majority of specific knowledge and perceived efficacy items had a crude and positive effect on

the practice of washing hands [16]. Also in accordance with a study among rural residents in China that reported that COVID-19 knowledge was significantly associated with residents' attitude toward preventive measures that can prevent COVID-19 infection; [14]. This may be attributable to the fact knowledge precedes practice.

5. CONCLUSION

In conclusion, the study revealed that some of the female farmers didn't believe in the existence of COVID-19 thus affecting their adherence to public health hygiene practices to predominately wash their hands, wear their nose mask and use alcohol based sanitizer during the COVID-19 pandemic. Since majority of the female farmers sourced information from radios and televisions, more awareness should be made in these platforms especially using their local dialect. This study would help in enlightening rural farmers on symptoms, spread and public health hygiene practices to preventing getting infected with COVID-19.

However, this study is limited to female farmers and may not be generalizable to other farmers. Also this study used a small sample size and may not be a total representation of female farmers.

CONSENT AND ETHICAL APPROVAL

For those above 18 years informed consent and ethical approval was obtained from them.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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