A CROSS-SECTIONAL STUDY OF COVID-19: KNOWLEDGE, ATTITUDES AND PRACTICES AMONG MOTHERS IN OWERRI, SOUTH-EAST NIGERIA

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ABSTRACT

Background

The COVID-19 pandemic has become a major public health emergency of international concern with various countries of the world implementing unprecedented measures to curb the rapid spread of the COVID-19 virus. The knowledge, attitudes and practices of the people toward COVID-19 is important for successful implementation of measures that will halt the spread of the disease. This study sought to determine the levels of knowledge, attitude and practice toward COVID-19 among mothers in Owerri, South East Nigeria during the COVID-19 pandemic

Methodology

A cross-sectional, descriptive study was conducted using convenience sampling technique. Data were collected from mothers who presented with their children to the children outpatient unit of Paediatrics Department of Federal Medical Centre Owerri Imo State with the aid of pre-tested, semi structured, self-administered questionnaire and analyzed using SPSS version 20.

Results

Three hundred and thirty nine (339) respondents completed and returned the questionnaire. Majority of the mothers 149 (44%) were within the age bracket of 30-39 years. All (100%) of the mothers were aware of covid-19 pandemic. Majority 215 (63.4%) of the respondents did not know the cause of Covid-19 while (11.2%), and (5.0%), attributed it to wrath of God and 5G network respectively. One hundred and sixty three (48.3%) of the respondents would receive or allow their children receive covid-19 vaccine. Age (p = 0.46, χ = 1.74), educational status (p =0.72, χ = 0.68) and marital status (p 0.64, χ = 7.88) do not significantly affect the decision to be vaccinated. Most of the respondents (80.8%) know that appropriate wearing of masks can protect from covid-19. However, only 56.0% of them mothers wear the masks. Neither age nor acquisition of tertiary education influenced this practice.(χ = 0.97, p = 0.62, χ = 0.84, p = 0.66)

Conclusion

Despite a good knowledge of COVID 19 by mothers in Owerri, Imo state Nigeria, there is poor attitude and practice towards the application of the non-pharmacological means of controlling the disease spread, especially the use of face masks and social distancing. Additionally, mothers in Owerri will be unwilling to give COVID-19 vaccines to their children if made available to them.

Key words : **Awareness, Covid 19, Pandemic, Practices**

Introduction

Coronavirus disease (COVID-19) is an infectious disease caused by a novel coronavirus; SARS-CoV 2. The virus began its ravaging effect in December 2019 from Wuhan Province in China and has spread to involve other countries and continents on a large scale. Because of the disease's rapid spread across continents, the World Health Organization (WHO) declared it a public health emergency of international significance on January 30, 2020, and a pandemic on March 11, 2021 The WHO recommended that there be concerted efforts by all countries to curb its rapid spread.[1]

A presidential task force (PTF) on COVID-19 was established in Nigeria on 17th March 2020 to coordinate the country's prevention, containment and treatment measures through a multi sectoral and intergovernmental approach.

With the detection of the first case of COVID-19 in February 28, 2020 , the Government of Nigeria shut its airspace to international flights entering and leaving Nigeria on March 2020, closed schools , restricted inter-state movement, banned large social gatherings including large weddings, indoor and outdoor celebrations, worship centres, market places and funerals. All these were geared towards curbing the rapid spread of the virus.

Other preventive measures instituted by PTF to mitigate the spread of the virus were advice to residents to stay at home, compulsory wearing of face masks in public, frequent hand washing and use of hand sanitizers as well as social distancing.[2] However, in spite of these precautionary measures adopted, the incidence of COVID-19 has continued to increase at an alarming rate.

This is because the implementation of these measures are challenging especially in low-income settings.[3] In successfully halting and reversing the spread of a disease, the knowledge and awareness of the mode of disease transmission, basic hygienic principles and measures are important.[4]

In order to curtail the rapid spread and ensure effective control of COVID-19 within this region, there is need for epidemiological data to be generated from the populace and the information obtained will guide policy makers and health authorities to design interventions and policies that are relevant to the control of the disease. This study sought to determine the levels of knowledge, attitudes, and practices (KAP) toward COVID-19 among mothers in Owerri, South East Nigeria during the pandemic since COVID 19 is an emerging disease.

Materials and Methods

Study site

The study was carried out at the children outpatient clinic of Federal Medical Centre Owerri Imo State from 1st of August 2020 to 30thNovember 2020. The hospital is a tertiary health facility which caters for the health needs of people living in the state as well as neighboring states. The Centre is also one of the designated hospitals equipped with a molecular laboratory to diagnose COVID 19; it also has an isolated area/ward where symptomatic COVID 19 positive patients are treated.

Study design

This study was designed as a cross-sectional survey.

Questionnaire preparation

For the purpose of this study, a questionnaire from an earlier KAP study in China[5] was modified by the researcher to enable participants understand and fill the questionnaire since there is yet no validated scale to carry out KAP study on COVID -19 as it is still an emerging disease . The questionnaire was pre-tested on 20 participants to ensure participants understood contents of the questionnaire. The participants used for the pilot study were excluded from the study.

A 29- item well-structured,self-designed,and self-administered questionnaireafter pre-testing was administered to mothers who presented to the children outpatient clinic of Federal Medical Centre Owerri Imo State. Mothers who gave consent were given the questionnaire to fill. Convenience sampling technique was used and study participants were consecutively recruited.[6] COVID-19 protocol was observed throughout the data collection

The questionnaire had two sections. The first section contained information on participants' demographic variables such as age, marital status, educational attainment, religion and number of children. While the second section contained questions assessing participants knowledge , attitudes and practices.

Ethical Consideration

Approval to conduct the study was obtained from Research and Ethics Committee of the Federal Medical Centre Owerri prior to the commencement of the study. Verbal informed consent was also obtained from the study participants before administering the questionnaires.

Statistical analysis

The data obtained were analyzed using Statistical Package for social Sciences version 20.0 (SPSS, Chicago, Ill, USA). Frequencies of qualitative variables were summarized using tables and percentages were calculated. The statistical significance of **differences in the proportions of** categorical variables was tested using chi square. The acceptable level of statistical significance was set at $p < 0.05$ and 95% confidence interval .Results were reported as prose and tables.

RESULTS

A total of 360 questionnaires were distributed, but only 339 respondents completed and returned the questionnaire giving a response rate of 94.2%. The age distribution, highest level of education, marital status and number of children are as shown in table 1.

Knowledge: All (100%) of the mothers were aware of covid-19 pandemic. A total of 129 (38.1%) learnt about it from the main stream media, 24 (7.1%) from social media, while a greater number 186 (54.9%) learnt about it from a combination of both. A total of 312 (92.0%) believed that anyone could be affected by the disease, 9 (2.7%) adults only, 8 (2.4%) only people who returned from abroad could be affected, while 5 (1.5%) believed that only those with underlying medical condition were affected. Symptoms identified as manifestation of Covid-19 are shown in table 2. Cough, fever and sneezing were the symptoms identified by most of the mothers.

Table 1:Demographic characteristics of the mothers

Parameter	Frequency n = 339	Percentage
Age (years)		
< 20	24	7.1
20 – 29	82	24.2
30 – 39	149	44.0
40 – 49	54	15.9
= 50	30	8.8
Marital Status		
Married	300	88.5
Single	33	9.7
Separated/ Divorced	5	1.5
Widowed	1	0.3
Educational Attainment		
No Formal Education	4	1.2
Primary	6	1.8
Secondary	75	22.1
Tertiary	254	74.9
Religion		
Christianity	334	98.5
Islam	3	0.9
Traditional	1	0.3
Others	1	0.3
Number of Children		
One	80	23.6

Table 2: Symptoms identified as manifestations of Covid-19

Symptom	Frequency n=339	Percentage
Fever	290	85.5
Cough	303	89.4
Sneezing	282	83.2
Sore throat	213	62.8
Loss of taste	149	44.0
Loss of smell	144	42.5
Fast breathing	196	57.8
Difficulty in breathing	266	78.5
Headache	169	49.9
Weakness	200	59.0
Diarrhoea	82	24.2

A total of 215 (63.4%) of the respondents did not know the cause of Covid-19. Some of the factors attributed as cause include: wrath of God (11.2%), 5G network (5.0%), wild animals (8.6%). The rest simply said they didn't know. About 75% (254) were able to enumerate ways of contracting the disease to include physical contact with infected person and contaminated surfaces and staying close to infected persons. Some of the responses are shown on table 3.

Table 3: Some responses showing knowledge of the mothers on COVID -19

Cause of Covid-19 pandemic	Frequency	Percentage
Corona Virus	127	37.4
Wrath of God	38	11.2
5G network	17	5.0
Consumption of wild animals	29	8.6
Don't know	120	35.4
Others	8	2.4
Total	339	100%
Ways of contracting covid-19		
Physical contact with infected person	36	10.6
Staying close to an infected person	37	10.9
Contact with contaminated surface	12	3.5
All of the above	254	74.9
Total	339	100%
Ways of preventing covid-19	N=339	
Hand washing with soap and water	277	81.7
Use of hand sanitizer	276	81.4
Appropriate wearing of face mask	274	80.8
Avoidance of crowded places	272	80.2
Maintenance of social distance	289	85.3
Consumption of chloroquine	210	61.9

Attitude and practice: Over sixty percent (61.7%) of the respondents believed that covid-19 exists in Nigeria, whereas 13% said it didn't exist. The rest were indifferent. More than half (53.4%) of the mothers agree to being scared about the pandemic, whereas 12.4% admitted not to be afraid. Fifty-five percent strongly believe everyone should be worried about getting infected with corona virus while 201 (59.3%) strongly believe that people should be willing to modify their usual daily activities to prevent the spread of corona virus infection.

Majority (80.2%) of the respondents were still ready to continue attending churches despite the pandemic and 85.5% would still allow their children continue schooling. About 40% (139) have fears going to the hospitals. One hundred and sixty –three (48.3%) of the respondents would receive or allow their children receive covid-19 vaccine. Age (P = 0.46, χ = 1.74), educational status (p =0.72, χ = 0.68) and marital status (p 0.64, χ = 7.88) do not significantly affect the decision to be vaccinated. Among the practices by the mothers to protect themselves and their families include: use of sanitizers (47.5%), regular hand washing with soap and water (59.9%), wearing facemask (56.0%), maintenance of social distances (42.8%) and taking immune boosting medications such as zinc and vitamin C (8.6%).

On the type of masks worn by the 190 (56.0%) mothers who use face masks, 74.7% use fabric masks, 20.5% use surgical masks, 4.7% use N-95 face masks. However, only 66.8% of these mothers wear the mask every time they leave their houses .Neither age nor acquisition of tertiary education influenced this practice.(χ = 0.97, p = 0.62, χ = 0.84, p = 0.66)

Discussion

This study assessed the level of knowledge as well as the attitude and practices of Nigerian mothers in Imo State during the COVID-19 pandemic. This study showed that the mothers had a high level of awareness and knowledge eabout COVID-19. This is not surprising giving the worldwide attention and fear generated by the disease. This is similar to the findings of other authors who also observed high level of awareness and knowledge among their respondents.[5,7,8] The reason for this is that there has been concerted effort by various government agents through various media to educate the Nigerian populace on continual basis. Majority of the responders were able to recognize fever, cough, sneezing and breathing difficulty as common symptom of COVID 19. However, not up to a half of them recognized loss of taste and loss of smell as symptoms of COVID-19 which have been reported as strong indicators of the disease.[9-11]

Majority of the mothers know how COVID-19 is transmitted and ways of preventing the infection.. What is lacking is the willingness to put the knowledge into practice. Mothers are very influential in the family as well as the society and such will influence the practice of non-pharmacologic measures to prevent COVID-19 in the families and societies.

It is unfortunate that some mothers believed that the pandemic was caused by the wrath of God and 5G network. This is no doubt due to some of the bad effects of social media. This underlines the need to continually educate Nigerians about COVID 19 to avoid misconceptions that can arise from misinformation and disinformation. Onyeniyi et al in Nigeria,[12] documented that there is no link between 5G network and COVID 19. It is noteworthy that COVID-19 is a biological pathogen transmitted through physical contact, while 5G network is a radio wave radiation which is non-ionizing and does not spread or transmit the novel coronavirus.[12] Thus, COVID 19 cannot be spread by technological advancement.

Majority of the participants expressed their fears about the disease and it reflected in their willingness to modify their usual daily activities to prevent the spread of corona virus infection. Unfortunately, a good number of the responders admitted to not wearing face mask whenever it was appropriate to do so. This potentially harmful practice was seen across all ages and educational background.

Studieshave shown that wearing of masks in public is one of the most effective ways of controlling the spread of corona virus as it minimizes the transmission of infective droplets from one person to another.[13-15]Fabric masks were the most frequently worn masks, followed by surgical mask and N95 mask. The reason is because Fabric masks are readily available, affordable, reusable and easy to maintain. However, the lack of standardization of these masks may make them potentially ineffective. The World health Organization had advised that a standard fabric mask should have minimum of three layers and should be made of a material that will allow good breathability.[15]In view of the fact that documentedevidence suggests COVID-19 can be transmitted before symptom onset, community transmission might be reduced if everyone, including people who have been infected but are asymptomatic and contagious, wear face masks.[16] If everyone routinely wears a face mask it will prevent stigmatization of individuals who wear masks when they have respiratory symptoms or any pesky facial lesion.

Despite the fears expressed by many of the mothers, majority were willing to continue attending the places of worship despite the risks posed and to allow their children continue schooling during the pandemic. This shows their strong belief in religion and their appreciation of the importance of education. Unfortunately, majority of the mothers would be unwilling to allow their children receive COVID-19 vaccines if made available to them. This is similar to the findings reported by Reuben et al[8] in North-Central Nigeria that documented 29 % of responders were willing to receive COVID 19 vaccine when available. However, this is contrary to the findings of Harapan et al[17] in south east Asia and Wang et al[18] in China who observed that 93.3 % and 91.3% of the responders respectively would like to be vaccinated with an effective COVID 19 vaccine. The reason for this difference could be due to the ravaging effects of COVID 19 in Asia and in European countries than in African countries especially Nigeria. This is a rather worrisome attitude as it portends a perceived setback in the fight against COVID- 19 progression. It thus, calls for a massive campaign by government and non-government agencies as well as health care providers to address the fears and encourage everyone to accept the vaccine when available.

Conclusion: In spite of good knowledge of COVID- 19 by mothers in Owerri, Imo state Nigeria, there is poor attitude and practice towards the application of the non-pharmacological means of controlling the disease spread, especially the use of face masks and social distancing. There is thus, an urgent need to enlighten the public in general on the benefits of these measures.

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Authors' contributions

OK, EB,NC,OC,NE and AI participated in the conception and design of this paper, OK and NC participated in the acquisition and interpretation of data. EB and OC carried out the statistical analysis.All the authors participated in the drafting of the manuscript and reviewed the paper critically for important intellectual content and final approval of the version to be published.

Conflict of Interest

The authors declare they have no competing interest regarding the publication of this paper