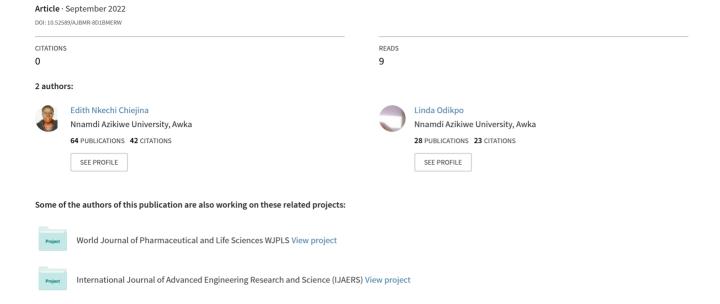# Pregnant Women's Awareness of Transmission Mode of Covid-19, and Interactions with the Victims of the Disease in South-South Nigeria

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PREGNANT WOMEN'S AWARENESS OF TRANSMISSION MODE OF COVID-19, AND INTERACTIONS WITH THE VICTIMS OF THE DISEASE IN SOUTH-SOUTH NIGERIA

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ABSTRACT: *COVID-19 is a communicable disease. Awareness of the mode of transmission by the masses could increase compliance with the precautionary measures by the masses. Hence, this study was carried out to determine pregnant women's awareness of the transmission mode of COVID-19 and interactions with the victims of the disease in South-South Nigeria. It was a cross-sectional research design. Out of the six States (Akwa-Ibom, Bayelsa, Cross-River, Delta, Edo and Rivers) that constitute South-South Nigeria, multistage sampling technique was used to select 144 pregnant women from the primary, secondary and tertiary health facilities in Edo State. The instrument used for data collection was Questionnaire on Pregnant Women's Perception of Coronavirus Pandemic (QPWPCP). The reliability of the instrument was conducted using an internal consistency test for reliability. The Cronbach Alpha yielded a coefficient of 0.711. Data collected were analyzed using frequencies, percentages, mean and Spearman Rank Order correlation. The result showed that 77.1% of the respondents indicated awareness of mode of transmission of COVID-19, 69.4% indicated that COVID-19 victims should not be stigmatized and 91% were of the opinion that COVID-19 victims will survive with treatment. Significant relationship was observed between awareness of transmission mode of COVID-19 among the pregnant women and interaction with people with COVID-19: rho = - 0.221; p-value = 0.008. Healthcare providers should intensify campaigns to create awareness about mode of transmission of Coronavirus infection and the need for the populace to sustain the preventive measures.*

KEYWORDS: Awareness, Transmission mode, Interaction, COVID-19, Pregnant women.

INTRODUCTION

Immunologic competency decreases during pregnancy (Gennaro & Fehder, 1996). Also the immunological changes that take place during pregnancy subject the expectant mother to the risk of infections (Pillitteri, 1999). Presence of any pandemic will further compromise this risk of infection among pregnant women. Coronavirus disease (COVID-19) has caused a series of havoc worldwide (Omer, Ali & Babar, 2020). As at 11th of June 2020, active cases were 3,270,599 out of 7,495,828 infected people globally (Covidvisualizer, 2020).

Pregnant women are at greater risk of getting sick from other respiratory viruses than people who are not pregnant, and sometimes this causes adverse outcomes for the mother (Center for Disease Control and Prevention CDC, 2019). Omer et al. (2020) indicated that pregnant women have a high propensity to acquire COVID-19 due to their altered physiological and immunological functions. COVID-19 causes extensive alveolar damage, which in turn, increases the risk of secondary bacterial infections (Liang & Acharya, 2020). Studies have indicated that severe acute respiratory syndrome (SARS) during pregnancy is linked with high risk of spontaneous miscarriage, preterm birth and intra-uterine growth restriction (Wong et al., 2020). Also, studies in pregnant women with COVID-19 have indicated maternal and neonatal complications (Zhu et al., 2020). WHO (2020) indicated that COVID-19 spread by person-to-person contact, and that the route of transmission is primarily via respiratory droplets from infected persons into the air which are then deposited onto nearby surfaces. Similarly, the virus could potentially transfer to individuals within a distance of <2m (6feet) of the infected person (MedlinePlus, 2020). It is important to note that the vaccine is now available to add to protection against the virus that causes COVID-19. It is against this background that the researchers conducted this study to determine pregnant women's awareness of the transmission mode of COVID-19 and Interactions with the victims of the disease in South-South Nigeria.

Research Questions

1. What is the opinion of pregnant women in South-South Nigeria about the outcome of the victims of COVID-19?

2. To what extent are pregnant women in South-South Nigeria aware of the mode of transmission of COVID-19?

Hypotheses

1. Opinion of pregnant women in South-South Nigeria about the outcome of people with COVID-19 is not significantly related to the women's perception about interaction with people with COVID-19

2. Awareness of mode of transmission of COVID-19 among pregnant women in South-South Nigeria has no significant relationship with the women's perception about interaction with people with COVID-19.

MATERIALS AND METHODS

Design and Sampling

The study was a cross-sectional research design. Multistage sampling technique was used for the study. Out of the six States (Akwa-Ibom, Bayelsa, Cross-River, Delta, Edo, Rivers) that constitute South-South Nigeria, simple random sampling technique was used to select Edo state for the study. Simple random sampling technique was used to select one tertiary, one secondary and one primary health facilities in Edo state. 50 pregnant women were selected from each of the primary and secondary health facilities while 44 pregnant women were selected from the tertiary health facility giving a sample size of 144 respondents that were used for the study.

Instrument

The instrument used for data collection was Questionnaire on Pregnant Women's Perception of Coronavirus Pandemic (QPWPCP). The questionnaire consisted of two (2) sections. Section A consisted of items on demographic characteristics (age, educational level, employment status, health facility and parity). Section B consisted of items used to elicit information on pregnant women's perception of COVID-19 pandemic (view and belief about existence of COVID-19, interaction with people with COVID-19, opinion about the outcome of the victim of COVID-19 disease and awareness of mode of transmission of COVID-19 disease). Section B of the instrument required "Yes" or "No" responses for the items. Response to either Yes or No option for each item = 1 point. The questionnaire was subjected to a reliability test using a split-half method to measure the reliability and internal consistency from 20 pregnant women who were selected from a health facility in Edo state which was not used for the study. The Cronbach Alpha yielded a coefficient of 0.711.

Method of Data Collection

Ethical approval was obtained for the study, and informed consent was obtained from the expectant mothers. Pregnant women who indicated not to participate were not used for the study. The researchers requested assistance of the midwife care providers in the health facilities during data collection. The pregnant women were approached at the time of their visits to the antenatal clinics. Interview method was adopted during the data collection; privacy and physical distancing were maintained during the period of data collection. Confidentiality was ensured by not including the names of the health facilities and the respondents in the data collection. 144 copies of the questionnaire were administered to the respondents.

Method of Data Analysis

Standard descriptive statistics was used to summarize the variables. Percentages were used to answer the research questions while Spearman Rank Order correlation test was adopted in testing the null hypothesis at <0.05 level of significance. Statistical Package for Social Sciences (SPSS) software version 20 was used in the data analysis.

RESULTS

Table 1. Socio-demographic profiles of the respondents (n =144)

Variable	Class	Frequency	Percentage(%)	
Educational Level	Tertiary	109	75.69	
	Secondary	27	18.75	
	Primary	4	2.78	
	No formal education	4	2.78	
Employment Status	Employed	79	54.9	
	Unemployed	65	45.1	
Health Facility	Primary	50	34.7	
	Secondary	50	34.7	
	Tertiary	44	30.6	
Parity	Primigravida	85	59.0	
	Multigravida	59	41.0	
Age	1 (Below 20 years)	1	0.69	Mean age=27.79± 5.31 years
	2 (20-29 years)	99	68.75	
	3 (30-39 years)	37	25.7	
	4 (40-48 years)	7	4.86	Range = 17.0-48.0 years

Table 1 shows that 109 (75.69%) of the respondents had tertiary education, 27 (18.75%) had secondary education, 4 (2.78%) had primary education, while 4 (2.78%) had no formal education. 79 (54.9%) were employed while 65 (45.1%) were unemployed. For the health facilities, primary and secondary levels constituted 50 (34.7%) each while the tertiary level constituted 44 (30.6%). Among the respondents, 85 (59.0%) were primigravidae while 59 (41%) were multigravidae. 99 (68.75%) were between 20-29years, 37 (25.7%) between 30-39 years, 7 (4.86%) were between 40-48years while 1 (0.69%) was below 20 years. Mean age of the respondents was 27.79±5.31 with a range of 17.0 – 48.0 years

Table 2: Awareness of mode of transmission, interaction with people with COVID-19 and opinion of outcome of COVID-19

Domain	Items	Responses (F/%)		Mean % scores of the Domains
		Yes	**No**	
Awareness of mode of transmission of COVID-19	COVID-19 is spread through breathing	111(77.1%)	33(22.9%)	81.43
	COVID-19 is spread through sneezing	128(88.9%)	16(11.1%)	
	COVID-19 is spread through embracing	104(72.2%)	40(27.8%)	
	COVID-19 is contained in overcrowded place	126(87.5%)	18(12.5%)	

Interaction with people with COVID-19	COVID-19 victims should be stigmatized	44(30.6%)	100(69.4%)	75.84
	Keep away from victims of COVID-19	98(68.1%)	46(31.9%)	
	Family should reject them	17(11.8%)	127(88.2%)	
	Family should abandon them	6(4.2%)	138(95.8%)	
	Family should be supportive	135(93.8%)	9(6.3%)	
Opinion about outcome	Victim of COVID-19 will not survive	23(16.0%)	121(84.0%)	82.48
	Victim of COVID-19 will surely die	17(11.8%)	127(88.2%)	
	Victim of COVID-19 will be healthy carrier for life	48(33.3%)	96(66.7%)	
	Victim of COVID-19 will survive with treatment	131(91.0%)	13(9.0%)	

KEY: Domain mean score of 50% and above = Positive score

Awareness of mode of transmission of COVID-19

Table 2 shows that the majority of the respondents were aware of the mode of transmission of COVID-19. 111 (77.1%) indicated that COVID-19 is spread through breathing, 128(88.9%) indicated that the disease is spread through sneezing, while 104 (72.2%) and 126 (87.5%) stated that the disease is spread through embracing and in overcrowded places respectively. The mean domain score for awareness of mode of transmission of COVID-19 was 81.43%.

Interaction with COVID-19 victims as perceived by pregnant women in South-South Nigeria

In Table 2, 100 (69.4%) of the respondents indicated that COVID-19 victims should not be stigmatized, and 98 (68.1%) indicated that people should keep away from the victims. Majority of the respondents indicated that family should not reject the victims, 127 (88.2%); family should not abandon the victim, 138 (95.8%); and that family should be supportive, 135 (93.8%). The mean domain score for interaction was 75.84%

Opinion of pregnant women in South-South Nigeria about the outcome of COVID-19

Table 2 shows that the majority of the respondents (91%) were of the opinion that victims of COVID-19 will survive with treatment. Few (11.8%) of the respondents indicated that the victims will surely die, and 33.3% indicated that the victim will be a healthy carrier for life. The mean domain score for opinion about outcome was 82.48%

Table 3. Spearman Rank Order correlation of the relationships between opinion about COVID-19 outcome, interactions with the victims and awareness of mode of transmission of COVID-19

Variable	Mean (%)	Rho	P-Value
Opinion about COVID-19 outcome interaction with the victims	82.48 75.84	0.112	0.180
Awareness of mode of transmission of COVID-19 among pregnant women interaction with people with Covid-19	81.43 75.84	-0.221	0.008*

*Significant at p<0.05

Hypothesis 1: Opinion of pregnant women in South-South Nigeria about the outcome of people with COVID-19 is not significantly related to the women's perception about interaction with people with COVID-19

Table 3 shows that rho = 0.112 and p-value 0.180. The null hypothesis was accepted. Significant relationship did not exist between pregnant women's opinion about the outcome of people with COVID-19 and interaction with COVID-19 victims.

Hypothesis 2: Awareness of mode of transmission of COVID-19 among pregnant women in South-South Nigeria has no significant relationship with the women's perception about interaction with people with COVID-19

Table 3 shows that rho = -0.221 and p-value = 0.008. The null hypothesis was rejected. There was significant relationship between awareness of transmission mode of Covid-19 among pregnant women in South-South Nigeria and the women's perception about interaction with victims of COVID-19

DISCUSSION OF FINDINGS

Pregnant women's awareness of mode of transmission of COVID-19 disease

Findings from the study revealed that the majority of the respondents were aware of how COVID-19 disease spread (table 2). 77.1% indicated that COVID-19 is spread through breathing, 88.9% indicated through sneezing while 72.2% and 87.5% said that COVID-19 is spread through embraces and in overcrowded places respectively. Lu et al. (2020) noted similar pathogenesis. Omer et al. (2020) and Rajeev et al. (2020) stated that the route of transmission is primarily via respiratory droplets from infected persons onto air which are deposited into nearby surfaces. Hence, Omer et al. (2020) cautioned that pregnant women should strictly refrain from excessive outdoor activities, avoid infected individuals, crowded places and public gatherings.

Interaction with victims of COVID-19

Majority of the respondents (69.4%) indicated that victims of COVID-19 should not be stigmatized, that people should keep away from the victims and that families should neither reject nor abandon the victims (table 2). Patients infected with COVID-19 experience physical discomfort and discriminations, and these negative feelings could lead to elevated risk of psychiatric problems, especially depressive symptoms (Ma et al., 2020). It is noteworthy that WHO has issued specific psychological considerations for abating the growing stigma of COVID-19 (Dubey et al., 2020; Priyanka et al., 2020). However, the respondents that indicated objection to interacting with COVID-19 victims (table 2) could have their reasons. Their objection could be due to fear. According to CDC (2019), fear and anxiety about a disease can be overwhelming and cause strong emotions in both adults and children.

Opinion of pregnant women about the outcome of victims of COVID-19 disease

Findings from the study revealed that the majority of the respondents (91%) were of the opinion that victims of COVID-19 will survive with treatment while few (9.0%) indicated that the victims will not survive (table 2). According to Priyanka et al. (2020), COVID-19 patients with underlying comorbidities like diabetes, cardiovascular diseases and obesity are at high risk of developing serious events like ICU admissions, mechanical intubation and even death. This implies that some people with COVID-19 may not survive. Studies have indicated that SARS, during pregnancy, is linked with high risk of spontaneous miscarriages, preterm birth and intrauterine growth restriction (Wong et al., 2020). Omer et al. (2020) have also noted that maternal and neonatal complications exist among pregnant women with COVID-19, and that the disease causes extensive alveolar damage which in turn increases the risk of secondary bacterial infections.

Relationship between pregnant women's awareness of transmission mode of COVID-19 and interaction with the victims

Findings from the study revealed a significant relationship between pregnant women's awareness of mode of transmission of COVID-19 and interaction with the victims. In the researchers' opinion, this result is evidence of the impact of awareness on health behavior. Pregnant women, being aware that COVID-19 is a communicable disease, should minimize interacting with the victims. Omer et al. (2020) warned that pregnant women should avoid infected individuals.

CONCLUSION

Most pregnant women in this study expressed awareness of the mode of transmission of COVID-19; they indicated that COVID-19 victims should not be stigmatised, and that the victims will survive with treatment. Campaigns should be intensified by healthcare providers to create awareness of the mode of transmission of coronavirus infection and the need to sustain the preventive measures.

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