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# INTER-RELATIONSHIPS OF PREGNANT WOMEN'S VIEWS, BELIEFS AND OPINIONS ABOUT COVID-19 AND THEIR SELF-MANAGEMENT STRATEGIES FOR THE PANDEMIC IN SOUTH-SOUTH NIGERIA

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**Keywords**: Pregnant women, Views, Beliefs, Opinions, Covid-19 vaccination, Self-Management strategies, Inter-relationships.

**Abstract:** Self-management strategies targeted toward Covid-19 pandemic are dependent on one's perception and convinction about existence of the disease. The study explored the inter-relationships of pregnant women's views, beliefs and opinions about COVID-19 and their self-management strategies for the pandemic in South-South Nigeria. The Cross-Sectional research design study adopted multistage sampling technique in selecting sample size of 144 pregnant women from the primary, secondary and tertiary health facilities in Edo State, South-South Nigeria. The instrument used for data collection was questionnaire on Pregnant Women's perception and the precautionary measures they Adopt for corona-virus pandemic (QPWPPMCP). Validity and reliability of the instrument were established, and the cronbach alpha yielded coefficient of 0.711. Data collected were analysed using frequencies, percentages, mean and Spearman Rank Order correlation. The result showed significant relationships between View about Covid-19 and Vaccination (rho = 0.253, p-value = 0.002), belief about the cause of Covid-19 and hygienic measures (rho = 0.207, p-value = 0.013), Opinion about outcome of Covid-19 and practice of social distancing (rho = -0.176, p-value = 0.034), restriction of movement and social distancing (rho = 0.262, p-value = 0.002). Pregnant women should be advised to comply with all the preventive measures for COVID-19 because the measures are inter-related to each other.

## Introduction:

Immunologic competency decreases during pregnancy (Gennaro and 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 played havoc worldwide (Omer, Ali & Babar, 2020). As at 11th June 2020, active cases were 3,270,599 out of 7,495,828 infected people globally (Covidvisualizer.com).

Pregnant women are at greater risk of getting sick from other respiratory viruses than people who are not pregnant, and sometimes this causes adverse outcome 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 alveola damage, which in turn, increases the risk of secondary bacterial infections (Liang and 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, Chow, Leung et al, 2020). Also, studies in pregnant women with COVID-19 have indicated maternal and neonatal complications (Zhu, Wang, Fang et al, 2020). WHO (2020) have indicated that COVID-19 is spread by person-to-person contact, and that the route of transmission is primarily via respiratory droplets from infected person into the air which are then deposited onto nearby surfaces. Also the virus could potentially transfer to individuals within a distance of <2m (6feet) of the infected person (Medline Plus, 2020). It is important to note that vaccine is now available to add to protection against the virus that causes COVID-19. It is against this background that the researcher conducted this study to determine the inter-relationships of pregnant women's views, beliefs and opinions about COVID-19 and their self-management strategies for the pandemic in South-South Nigeria.

**Hypotheses**

1. Pregnant Women's view about existence of Covid-19 in South-South Nigeria is not significantly related to their responses to COVID-19 vaccination.
2. There is no significant relationship between pregnant Women's belief about the cause of Covid-19 disease and the hygienic measures they practice.
3. Opinion of pregnant women in South-South Nigeria about the outcome of COVID-19 is not significantly related to their practicing of physical / social distancing.
4. There is no significant relationship between restriction of movement and practice of physical/social distancing among pregnant women in South-South Nigeria as a protective measure against Covid-19 disease.

**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 facility 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 and the Precautionary Measures they Adopt for Corona-virus Pandemic (QPWPPMCP). The questionnaire consisted of three (3) 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 (eg 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 C of the instrument was made up of items used to elicit information from the respondents on the precautionary measures adopted by pregnant mothers for Covid-19 disease (eg compliance with wearing of face

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mask, maintenance of physical distancing, hygienic measures practiced in Covid-19 pandemic, etc).

Sections B and C 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 reliability test using 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 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 researcher 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. Spearman Rank Order correlation test was adopted in testing the null hypotheses 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. Range = 17.0-48.0 years |
| | 2 (20-29 years) | 99 | 68.75 | |
| | 3 (30-39 years) | 37 | 25.7 | |
| | 4 (40-48 years) | 7 | 4.86 | |

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

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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 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 – 48 years while 1 (0.69%) was below 20years. Mean age of the respondents was 27.79±5.31 with a range of 17.0 – 48.0 years

**Table 2. Spearman Rank Order correlation showing relationships of Pregnant women's views, Beliefs, opinions and their self-management strategies for Covid-19 pandemic.**

| Variable | Mean(%) | Rho | p-value |
|---|---|---|---|
| View about Covid-19 | 86.80 | 0.253 | 0.002* |
| Responses to Covid-19 Vaccination | 39.16 | | |
| Belief about cause of Covid-19 | 75.53 | 0.207 | 0.013* |
| Hygienic measures | 73.00 | | |
| Opinion about outcome of Covid-19 | 82.48 | -0.176 | 0.034* |
| Practice of physical/social distancing | 70.37 | | |
| Restriction of Movement | 76.73 | 0.262 | 0.002* |
| Physical/Social distancing | 70.37 | | |

*** = Significant at P<0.05**

**Hypothesis 1:** Pregnant women's view about existence of COVID-19 in South-South Nigeria is not significantly related to their responses to Covid-19 vaccination.

Table 2 shows that rho = 0.253, p-value = 0.002. The null hypothesis was rejected. Significant relationship existed between pregnant women's view about existence of COVID-19 and their responses to Covid-19 vaccination.

**Hypothesis 2:** There is no significant relationship between pregnant women's belief about the cause of Covid-19 disease and the hygienic measures they practice.

In table 2, rho = 0.207, p-value = 0.013. The null hypothesis was rejected. There was significant relationship between pregnant women's belief about the cause of COVID-19 and the hygienic measures they practice.

**Hypothesis 3:** Opinion of pregnant women in South-South Nigeria about the outcome of COVID-19 is not significantly related to their practicing of physical/social distancing.

Table 2 shows that rho = -0.176 p-value = 0.034. The null hypothesis was rejected. Pregnant women's opinion about the outcome of Covid-19 was significantly related to their practicing of physical/social distancing.

**Hypothesis 4:** There is no significant relationship between restriction of movement and practice of physical/social distancing among pregnant women in South-South Nigeria as protective measures against Covid-19 disease.

Table 2 shows that rho = 0.262, p-value = 0.002. The null hypothesis was rejected. Significant relationship existed between restriction of movement by pregnant women in South-South Nigeria and their practice of physical/social distancing.

**Discussion**

Findings from the study indicate significant relationship between pregnant women's views

about existence of COVID-19 and their responses to Covid-19 vaccination (table 2). This significant relationship could be linked to culture of the pregnant women in South-South Nigeria. Chiejina (2010) pointed out that culture affects how an individual view health and illness, and that one's cultural background influences health-related behaviour and choice of treatment.

The significant relationship between pregnant women's belief about the cause of COVID-19 and the hygienic measures they practice (table 2) is in the opinion of the researcher evidence of behvaioural response to perception. Iyanam et al (2022), in their study of antenatal attendees in a sub-Urban Health facility in Southern Nigeria, noted that majority (91%) of the respondents were aware of the cause of Covid-19 and the mode of transmission, and also in a similar manner that majority of same pregnant women (92.8%) were practicing preventive measures.

The significant relationship between pregnant women's opinion about the outcome of COVID-19 and practicing of social/physical distancing (table 2) is a proof of the link between the characteristics and mode of transmission of COVID-19. Liang and Acharya (2020) observed that the disease causes damage to the vital organs (lungs, kidney, heart, liver) and could cause death of the Victim while Omer et al, (2020) noted that the virus could potentially transfer to individuals within a distance of <2meters (6feet) of the infected person. Hence, practice of social distancing is important so as to avoid the morbidity and mortality associated with Covid-19 disease.

Findings from the study showed that there was significant relationship between restriction of movement by the pregnant women and their practice of physical/social distancing (table 2). Restriction of movement and physical/social distancing are measures used to reduce closeness to individuals with COVID-19 so as to prevent droplet transmission. Droplet transmission occurs when respiratory droplets are ingested or inhaled by individuals nearby in close proximity to people with COVID-19 (Adhikari et al, 2020; Priyanka et al, 2020)

## Conclusions

This study showed significant relationships between pregnant women's views about existence of COVID-19 and their responses to vaccination, beliefs about the causes of COVID-19 and the hygienic measures they practice, opinion about the outcome of COVID-19 and practicing of physical/social distancing, as well as restriction of movements and practicing of social distancing.

Healthcare providers should advise pregnant women not to skip any of the preventive measures against Covid-19 disease because all the precautionary measures have specific functions, and are inter-related to each other.

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