International Journal of Nursing, Midwife and Health Related Cases
Vol.6, No.2, pp.29-45, December 2020
Published by ECRTD- UK
Print ISSN: 2397-0758, Online ISSN: 2397-0766

KNOWLEDGE, ATTITUDE AND PRACTICE OF PREVENTIVE MEASURES TOWARDS COVID-19 AMONG PREGNANT WOMEN ATTENDING SELECTED PRIMARY HEALTH CENTRE'S IN OSOGBO, OSUN STATE

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ABSTRACT: *Background: COVID-19 is a new viral disease, and health researchers are currently evaluating its effects on pregnant women and their unborn children. There is dearth of research available to support the argument that pregnant women are at greater risk of COVID-19 disease.Methods: This study used an exploratory research design to examine the knowledge, attitude and practice of preventive measures towards COVID-19 among pregnant women in Osogbo, Osun state. 382 subjects were selected using a simple random technique. Self-developed questionnaire was the instrument used to collect data. The data collected were analyzed using statistical package for social sciences (SPSS) and the results were presented using tables and percentages. Six null hypotheses were tested using chi-square at 0.05 level of significance. Results: Result of this study shows that nearly half of the respondents are within 18-25 (45.0%) years of age, 79(63.6%) are Muslims and 358(93.7%) are from the Yoruba tribe. This study also reveals that the respondents do have significant knowledge on the novel Coronavirus disease and a good attitude towards the prevention of COVID-19 as they practice frequent hand washing, sanitizer use and maintenance of social distancing. From the hypothesis tested, there is significant association between the education level of the respondents and their knowledge and attitude of preventive measures towards COVID-19 and no association between the age of the pregnant women and practice of preventive measures towards COVID-19. Conclusion: From the study, there seems to be a moderate level of awareness on the preventive measures towards COVID-19 among pregnant women in Osogbo but increase in the level of awareness and educational program can be done by the government and health workers in order have a very good attitude and awareness which will eventually improve the rate of adherence and compliance towards COVID-19 preventive measures.*

KEYWORDS*:* pregnancy, COVID-19, knowledge, preventive, attitude.

INTRODUCTION

Coronaviruses are a huge family of viruses that cause diseases such as Middle East Respiratory Syndrome (MERS) and Extreme Acute Respiratory Syndrome (SARS) ranging from the common cold to severe diseases (Yin &Wunderink, 2018; WHO, 2019). In December 2019, it was first reported in Wuhan City, Hubel Province, China (Huang *et al.,* 2019). The first cases of patients attending the wet market who also had wildlife species were found. Since then, in other Chinese regions and several neighbouring countries, there has been a massive outbreak and now, it is a pandemic (Alahdal *et al.,* 2020).

The virus spreads between humans and the common symptoms of COVID-19 include fever, fatigue, cough, shortness of breath, and breathing difficulties. COVID-19 outbreak has caused a global crisis at various levels leading to extreme prevention methods such as self-isolation, quarantine the entire country, prevention of public gathering, schools and universities closure, closing borders and even lockdown in cities. Different government and organizations groups were keen to improve awareness of preventions and control through hand washing and usage of masks and gloves (Alahdal*et al.,* 2020). Due to its increasing spread to other countries in the world, World Health Organization declared COVID-19 as a Pandemic on 11th of March, 2020. (WHO, 2020). WHO (2020) has hence stated some basic guidelines to be followed to prevent the spread of these virus which include frequent washing of hands with soap and water, maintaining social distancing (at least 3 feet), avoiding touching eyes, nose and mouth , following respiratory hygiene, seeking early medical care, and staying informed. Better awareness of these diseases along with positive attitudes and practices towards them have shown to help contain the spread of the causative viruses (Alahdal *et al.,* 2020).

Pregnant women constitute a highly sensitive group due to altered physiology and immune functions, and thus altered susceptibility to infection (Gujski*et al.,* 2020). Although there is limited evidence to support the claim that pregnant women are at a greater risk of contracting severe COVID-19, hence the need for continuous exploratory studies to access the level of knowledge, attitude and practice of preventive measures towards COVID-19 to ensure a healthy pregnancy period, a healthy child and mother at the end of pregnancy.

AIM AND OBJECTIVES

The researcher aims to understand the knowledge, attitude and practice of preventive measures towards COVID-19 among pregnant women attending selected Primary Health Centers in Osogbo, Osun state.

LITERATURE REVIEW

COVID-19 means Coronavirus disease with the figure "19" referring to the year 2019, the novel virus was discovered (WHO, 2020). Coronaviruses belong to the *Coronaviridae* family in the *Nidovirales* order. They are minute in size (65-125 nm in diameter) and contain, as a nucleic content, a single-stranded RNA, varying in length from 26 to 32 kbs (Fig. 1) (Shereen *et al.,* 2020).

The alpha (a), beta (b), gamma(c), and delta (d) coronaviruses are subgroups of the coronavirus family. Acute lung injury (ALI) and acute respiratory distress syndrome (ARDS) are caused by extreme acute respiratory syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome coronavirus (MERS-CoV), which leads to pulmonary failure and leads to death. Before the world witnessed an extreme acute respiratory syndrome (SARS) outbreak triggered by SARS-CoV, 2002, in Guangdong, China, these viruses were believed to affect only animals (Zhong *et al.,* 2003).
Wuhan, an emerging market center in China, recently experienced an outbreak of a new coronavirus at the end of 2019, killing more than eighteen hundred and infecting over seventy thousand people in the first fifty days of the epidemic (Shereen *et al.,* 2020).

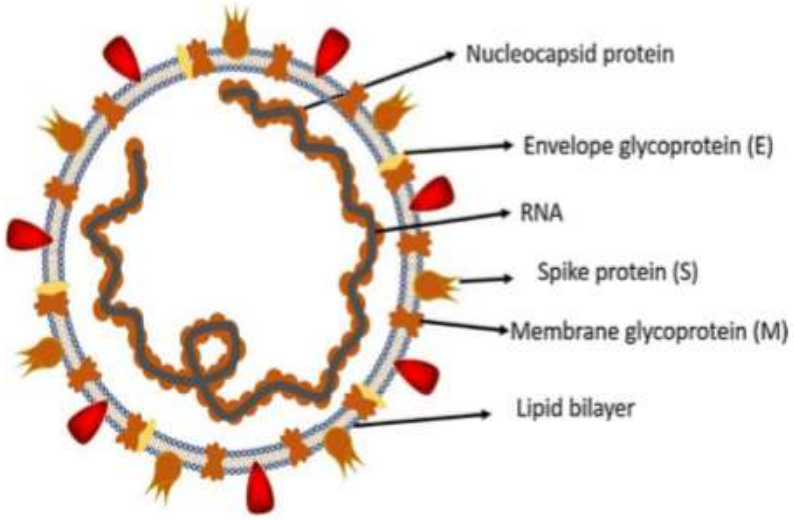

Fig 1: Structure of Respiratory Syndrome causing Human Coronavirus.
Source: Shereen *et al.,* 2020).

Most patients have mild symptoms and a strong prognosis, but pneumonia, serious acute respiratory distress syndrome (ARDS), multi-organ failure, and even death are present in extreme cases. Via cough discharge that contaminates the surfaces, the virus spreads between humans. During the time of virus incubation, it can also be highly transmitted by asymptomatic individuals (Lai *et al.,* 2020). Depending on the type of surface, the virus can last up to 5 days on surfaces (Wang *et al.,* 2020; Phan *et al.,* 2020). While infected individuals may be asymptomatic, flu-like symptoms such as fever and cough may occur in other patients, which may worsen in some cases (Riou&Althaus, 2020).

As a result of pneumonia, cytokine storm and multi-organ failure, the severity of symptoms has been found to be greater in older people, along with those with underlying chronic health problems (Parry, 2020). Moreover, infected pregnant women, despite no evidence of greater vulnerability relative to other adults, were more likely to develop COVID-19 pneumonia (Li *et al.,* 2020).Compared to non-pregnant women, pregnant people may be at an elevated risk for serious COVID-19 disease (Centers for Disease Control and Prevention [CDC], 2020). The risk of adverse

pregnancy outcomes such as preterm birth from pregnant women with COVID-19 may also be high, hence the advice to uphold the guidelines laid down (CDC, 2020).

The Royal College of Obstetricians and Gynecologists [RCOG] (2020) reported that there is no proof that pregnant women are more likely to get seriously ill from coronavirus, but pregnant women have been included as a precaution in the list of people at moderate risk (clinically vulnerable). In their third trimester (more than 28 weeks pregnant), pregnant women should be especially interested in adopting the new government recommendations on keeping healthy (RCOG, 2020).
The guidance for pregnant women on staying safe during this period as stated by RCOG (2020) includes the following:

1. Maintaining social distancing and limiting interaction with other people as much as possible.
2. The appropriate use of facemask and hand sanitizer with at least 60% of alcohol.
3. Staying mobile and hydrated to reduce the risk of blood clots in pregnancy.
4. Staying active with regular exercise.
5. Eating balanced diet, folic acid and vitamin D supplement to help support a healthy pregnancy.
6. Attending to all pregnancy scans and antenatal appointments unless advised not to
7. Contacting the maternity provided there is any unusual sign or feelings.

It is very necessary for pregnant women to receive their routine vaccine during pregnancy such as the influenza (flu) and Tdap vaccines as there is no vaccine for Coronavirus yet (CDC, 2020).

METHODOLOGY

An exploratory research design was used in this study because there was an insufficient literature review on pregnancy and COVID-19. This research study was carried out in the city of Osogbo, Osun state in the South Western part of Nigeria. The research population was pregnant women attending the 10 selected primary health centers in the city of Osogbo, Osun State. The researcher therefore used Thumb's rule of 30% in determining the sample size, which was calculated using Leslie Kish formula:

n= $\frac{z^2pq}{d^2}$ where n= sample size
Z= preferential initial value =1.96
p= proportion of population =30% =0.30
d= level of precision =0.05
q= 1-p = 1-0.30 = 0.70

Hence, $n = \frac{(1.96)^2 \times 0.30 \times 0.70}{(0.05)^2}$

$$n = \frac{0.806736}{0.0025} = 322.6944, = 323$$

Since the researcher was dealing with human beings, there was a tendency for some of the respondents not to return or fill the questionnaires or the instrument would have been filled wrongly. The researcher now selected 10% attrition rate. Hence,

$$attrition = \frac{Previoussamplesize \times Attritionrate}{Attritionrate - 1}$$

$$attrition = \frac{323 \times 10}{10 - 1}$$

$$attrition = \frac{3230}{9} = 358.89, = 359$$

Therefore, the attrition rate added to the previous sample size would be $359 - 323 = 36$
The attrition is 36 and the sample size is 359. The sample size was however increased to 400 to increase the power of tests. Hence, the Sample size is 400. Data collected was analyzed using simple tabulated frequency count, percentages and chi square.

RESULT AND DISCUSSIONS

Respondent's socio-demographic data

Nearly half of the respondents (45.0%) were between 18-25 years, 109 (28.5%) were between 26-30, 70 (18.3%) were aged 31-36 years and only 31 (8.1%) were aged years and above, the respondents were found to be predominantly Yoruba (93.7%), other ethnic groups found In the study includes Igbo (2.6%), Hausa (1.3%) and others (2.4%). Marital status shows that 9 (2.4%) of the respondents were divorced, 61 (16.0%) were single and the majority were married, religion of the respondents shows that 79 (63.6%) practiced Islam, 113 (31.7%) were Christians, 13 (3.4%) indicated traditional while 5 (1.3%) practiced other forms of religion. The education level of the respondents shows that 163 (42.7%) of the respondents had tertiary level of education, 145 (37.9%) had secondary level, 51 (13.5%) had primary level of education and 23 (6.0%) of the respondents had no formal education while the occupation status shows that the majority (70.1%) were self-employed, 22 (18.3%) of the respondents were unemployed, 48 (12.6%) were students, 46 (12.0%) were Civil servants and 20 (5.2%) were unemployed.

Table 1: Respondents socio-demographic data

Variables		Frequency	Percentage
Age (Years)	18-25	172	45.0
	26-30	109	28.5
	31-36	70	18.3
	36 & above	31	8.1
Marital Status	Single	61	16.0
	Married	312	81.7
	Divorced	9	2.4
Religion	Christianity	118	31.7
	Islam	243	63.6
	Traditional	13	3.4
	Others	5	1.3
Ethnic Group	Yoruba	358	93.7
	Igbo	10	2.6
	Hausa	5	1.3
	Others	9	2.4
Education Level	Primary	51	13.5
	Secondary	145	37.9
	Tertiary	163	42.7
	None	23	6.0
Occupation	Student	48	12.6
	Civil-servant	46	12.0
	Self-employed	268	70.1
	Unemployed	20	5.2
Total		382	100.0

Respondent's level of knowledge and awareness of the respondents about COVID-19

Almost all of the respondents 357(95%) agreed that COVID-19 is transmitted by coughing and/or sneezing while just very few 13(3%) do not agree and 5(1%) do not know. Majority 253(70) also believe COVID-19 is similar to influenza or flu while 42(12%) do not agree and 65(18%) do not know. Nearly half 171(47.1%) of the respondent agreed that pregnant women are more vulnerable to contacting the Coronavirus disease while one-third 137(37.7) disagreed and 55(15.2%) do not know. Almost half of the respondents do not agree that daily intake of antibiotics can kill or prevent the Virus and few 106(29.3%), 97(26.8%) agreed and do not know respectively.

Table 2: Showing the level of knowledge and awareness of the respondents about COVID-19

Knowledge about COVID-19	Agree	Disagree	I don't know
COVID-19 is transmitted by coughing and/or sneezing	357 (95)	13 (3)	5 (1)
The disease is similar to influenza or flu	253 (70)	42 (12)	65 (18)
Pregnant women are more vulnerable to get Coronavirus disease	171 (47.1)	137 (37.7)	55 (15.2)
Taking antibiotics everyday/every time can kill the virus or prevent infection	106 (29.3)	159 (43.9)	97 (26.8)

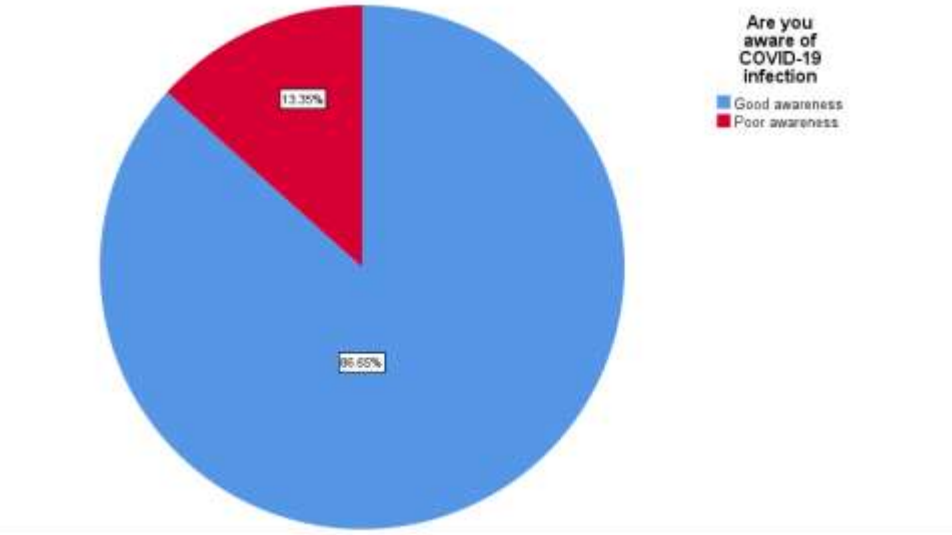

Figure 2: Showing respondents' knowledge and awareness of COVID-19 infection

From fig 2 above, majority (86.65%) has good knowledge and awareness of COVID-19 infection while (13.35%) had a poor knowledge.

Attitude of respondents towards COVID-19 infection

The study revealed that majority 299(82%) of the respondents agreed that isolating infected people can help contain the spread of the virus, 47 (13%) do not agree whereas 20 (5%) do not know. Also, almost two-third of the respondents agreed that land, seas and border closure/restrictions can help reduce the spread of the virus whereas 90 (25%) do not agree and 25(7%) do not know. Majority 288(79%) of the respondents also believes that lockdown, curfew and staying at home can reduce the spread of the virus, 55(15%) do not agreed and 20(6%) do not know. As regards if schools and universities closure can help control the spread of the virus, 279(77%) agreed, 71(20%) disagreed and 12(3%) do not know.

Table 3: Showing the attitude of the people towards COVID-19

Attitude towards COVID-19	Agree	Disagree	I don't know
Isolating infected people can help contain the spread of the virus	299 (82)	47 (13)	20 (5)
Land, seas and border closure/restrictions can help reduce the spread of the virus	250 (68)	90 (25)	25 (7)
Lockdown, curfew and staying at home can reduce the spread of the virus	288 (79)	55 (15)	20 (6)
Schools and universities closure can help control the spread	279 (77)	71 (20)	12 (3)

Table 4: Showing the respondents' practice of preventive measures for COVID-19 infection.

Preventive measures towards COVID-19	Agree	Disagree	I don't know
Wearing face mask when going out can protect from infection with the virus	351 (91.9)	14 (3.7)	7 (1.8)
Covering mouth with elbow when coughing or sneezing can reduce the spread	326 (85.3)	35 (9.2)	9 (2.4)
Drinking water is a good practice to help contain the spread of the virus	221 (57.9)	89 (23.3)	52 (13.6)
Using hand sanitizer and washing hand frequently can help to reduce the risk of infection	344 (90.1)	19 (5)	5 (1.3)
Cleaning and sanitizing surfaces is a good habit to help limit the spread	323 (84.6)	33 (8.6)	13 (3.4)
Frequently taking ginger and garlic can help prevent infection with the virus	173 (45.3)	88 (23)	103 (27)
increase in body salt intake can limit the risk of infection	82 (21.5)	166 (43.5)	119 (31.2)
Touching eyes, nose and mouth can reduce the spread of the virus	115 (30.1)	208 (54.5)	46 (12)
Taking very hot water bath will prevent from being infected	192 (50.3)	120 (31.4)	61 (16)
Wearing of hand gloves will protect from infection with the virus	306 (80.1)	42 (11)	22 (5.8)

From the table 4 above, almost all of the respondents 351(91.9%) agreed that wearing face mask when going out can protect from infection with the virus, while just very few 14(3.7%), 7(1.8%) disagreed and don't know respectively. A very large number of the respondents 326 (85.3%) also agreed that covering mouth with elbow when coughing or sneezing can reduce the spread of the virus while few 35(9.2%) disagreed and very few 9(2.4%) don't know. More than half of the respondents 221(57.9%) believed that drinking water is a good practice to help contain the spread of the infection while 89(23.3%) do not agree and very few 52 (13.6%) do not know. Also, a larger percentage 344(90.1%) of the respondents agreed that using hand sanitizer and frequent hand

washing can help to reduce the risk of infection whereas very few disagreed and do not know, 19(5%) and 5(1.3%) respectively. More than half of the respondent 208(54.5%) disagreed that touching eyes, nose and mouth can reduce the spread of the virus and a little more than one-third 115(30.1%) agreed whereas few 46 (12%) do not know.

Table 5: Hypothesis 1 Showing association between Education level and the knowledge and awareness of COVID-19 infection

Education level	**Good awareness**	**Poor awareness**	**Total**	***Pearson Chi-Square (χ^2)***	***p-value***
None	11 (3.0)	2 (0.5)	13 (3.5)	8.142	0.043
Primary	38 (10.3)	8 (2.2)	46 (12.5)		
Secondary	123 (33.3)	24 (6.5)	147 (39.8)		
Tertiary	152 (41.2)	11 (3.0)	163(44.2)		
Total	324 (87.8)	45 (12.2)	369 (100)		

Inference: The null hypothesis is rejected, a statistically significant association was found at (χ^2=8.142 p=0.043). Awareness was higher among respondents who attended secondary (33.3%) and tertiary institution (42.2%).

Table 6: Hypothesis 2 Showing association between the Religion of the respondents and their attitude towards COVID-19

Religion	**Good attitude**	**Poor attitude**	**Total**	***Pearson Chi-Square (χ^2)***	***p-value***
Christianity	111 (29.5)	7 (1.9)	118 (31.4)	0.597	0.897
Islam	228 (60.6)	15 (4)	243 (64.6)		
Traditional	9 (2.4)	1 (0.3)	10 (2.7)		
Others	5 (1.3)	0 (0)	5 (1.3)		
Total	353 (93.9)	23 (6.1)	376 (100)		

Inference: The null hypothesis was accepted, the association was found to be non-significant at (χ^2=0.597, p>0.05)

Table 7: Hypothesis 3 Showing association between the Education level of the respondents and their attitude towards COVID-19

Education level	**Good attitude**	**Poor attitude**	**Total**	***Pearson Chi-Square (χ^2)***	***p-value***
None	10 (2.7)	3 (0.8)	13 (3.5)	12.046	0.007
Primary	41 (11.1)	5 (1.4)	46 (12.5)		
Secondary	141 (38.2)	6 (1.6)	147 (39.8)		
Tertiary	157 (42.5)	6 (1.6)	163 (44.2)		
Total	349 (94.6)	20 (5.4)	369 (100)		

Inference: The null hypothesis was rejected since p-value 0.007 is less than 0.05, hence there is significant association between education level of the pregnant women and attitude towards COVID-19, a statistically significant association was found at (χ^2=12.046, p=0.007)

Table 8: Hypothesis 4 Showing association between Religion and practice of preventive measure towards COVID-19

Religion	**Good Practice**	**Poor practice**	**Total**	***Pearson Chi-Square (χ^2)***	***p-value***
Christianity	105 (27.9)	13 (3.5)	118 (31.4)	100.634	0.001
Islam	221 (58.8)	22 (5.9)	243 (64.6)		
Traditional	10 (2.7)	0 (0.0)	10 (2.7)		
Others	3 (0.8)	2 (0.5)	5 (1.3)		
Total	339 (90.2)	37 (9.8)	376 (100.0)		

Inference: The null hypothesis rejected since there is significant association between the religion of the pregnant women and practice of preventive measures towards COVID-19, a statistically significant association was found at (χ^2=100.634, p=0.001)

Table 9: Hypothesis 5 Showing association between Age and practice of preventive measure towards COVID-19

Age	Good Practice	Poor practice	Total	*Pearson Chi-Square (χ^2)*	*p-value*
18-25	157 (41.5)	15 (4.0)	172 (45.5)	1.716	0.633
26-30	99 (26.2)	10 (2.6)	109 (28.8)		
31-36	61 (16.1)	9 (2.4)	70 (18.5)		
36 & above	23 (6.1)	4 (1.1)	27 (7.1)		
Total	340 (89.9)	38 (10.1)	378 (100)		

Inference: The null hypothesis was accepted since there is no association between the age of the pregnant women and practice of preventive measures towards COVID-19, non-significant association was found at (χ^2=1.716, p>0.05)

Hypothesis Six

H_o- There is no significant relationship between the practices of preventive measures towards COVID-19 and the educational level of the respondents.

Table 4.4.6: Showing association between education level and practice of preventive measure towards COVID-19

Education level	Good Practice	Poor practice	Total	*Pearson Chi-Square (χ^2)*	*p-value*
None	9 (2.4)	4 (1.1)	13 (3.5)	11.873	0.008
Primary	38 (10.3)	8 (2.2)	46 (12.5)		
Secondary	137 (37.1)	10 (2.7)	147 (39.8)		
Tertiary	150 (40.7)	13 (3.5)	163 (44.2)		
Total	334 (90.5)	35 (9.5)	369 00)		

Inference: The null hypothesis was rejected since there is the association between education level of the pregnant women and practice of preventive measures towards COVID-19, a statistically significant association was found at (χ^2=11.873, p=0.008)

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

Discussion

The study revealed that most (86.65%) of the respondents has good knowledge and awareness of COVID-19 infection as majority agreed that COVID-19 can be transmitted through coughing and/or sneezing (95%), COVID-19 is similar to influenza or flu (70%). This is similar to the study conducted in Abakaliki by Nwafor et al. (2020), where over half (60.9%) of the participants had adequate knowledge of preventive measures, while 39.1% of the women were identified as having insufficient knowledge of COVID-19 preventive measures. These results are also comparable to the outcome of the survey conducted by Lee et al. in Nanjing, China in 2020, where the awareness of participants on COVID-19 was high (76.4 percent). This is also a bit different from the study conducted by Alemu *et al*., in Debre Tabor Town, Northwest Ethiopia in 2020, where only 48.6% had adequate COVID-19 information.The high level of knowledge among the pregnant women in Osogbo was attributed to the aggressive awareness via social media, mass communication and health workers since the inception of the novel virus.

Findings from the attitude of pregnant women towards COVID-19revealed that the respondent have a very good attitude towards COVID-19. The respondent exhibited a positive attitude towards the preventive measures of COVID-19 as regards isolation of infected people, lockdown of land, seas and borders, curfew, staying at home and schools and universities closure. This is in contrast with the study conducted by Alemu *et al.*, (2020) in Debre Tabor Town, Northwest Ethiopia where (23.7%) of participants showed a poor attitude towards COVID-19 as they never practiced any of preventive measures against COVID-19, 41.7% also believed that only God can help to resolve the pandemic, and 35.4% were negligent.The variation in this study may be as a result of the massive awareness done by the media which have positive influence on the attitude of the respondents.

Findings from the practice of preventive measures towards COVID-19 among pregnant women.

The study revealed that most of the respondents have good practices of preventive measures towards COVID-19. Majority 351(91.9%) agreed that wearing face mask when going out can protect from infection with the virus, a very large number of the respondents 326 (85.3%) also agreed that covering mouth with elbow when coughing or sneezing can reduce the spread of the virus, more than half of the respondents 221(57.9%) believed that drinking water is a good practice to help contain the spread of the infection.This is similar with the study conducted by Alemu*et al.*, (2020) in Debre Tabor Town, Northwest Ethiopia where majority of the participants (76.3%) practiced at least on preventive measure towards COVID-19, (87.7%) practiced washing hand with water and soap and (77%) cover mouth and nose during coughing or sneezing.

The positive attitude towards COVID-19 was related to the effort of both WHO and the NCDC as there was continuous update as regards the pandemic infection.In this study, a statistically significant association was found between the awareness of the respondents towards COVID-19 and their educational level as $p<0.05$. Therefore, the null hypothesis is rejected significantly

increased awareness was seen as education level increases from primary to tertiary education level. The highest level of awareness (41.2%) was seen among pregnant women who had tertiary level of education.

No significant association was found between the attitude of respondents towards COVID-19 and their Religion as $p>0.05$, hence the null hypothesis is accepted. This is possibly attributable to the skew of the population distribution of the participants as majority of the participants identified Islam as their religion.A statistically significant association was found between association between education level of the pregnant women and attitude towards COVID-19, as $p<0.05$. Therefore, the null hypothesis is rejected.

A statistically significant association was found between association between the practices of preventive measures towards COVID-19 of the pregnant women and religion, as $p<0.05$. therefore, the null hypothesis is rejected.No significant association was found between the attitude of respondents towards COVID-19 and their Religion as $p>0.05$, hence the null hypothesis is accepted. This shows a consistent trend of prevention practices across the ages of the pregnant women.

A statistically significant association was established between education level of the pregnant women and practice of preventive measures towards COVID-19, as $p<0.05$. Therefore, the null hypothesis is rejected.This study provides the lacking evidence on the magnitude of awareness of pregnant women in Nigeria. It also serves as a model for future assessment of KAP of COVID-19 and other respiratory tract infection among pregnant women. it was discovered that, the general awareness of compliance was good but the compliance was poor.

CONCLUSION

There appears to be a moderate level of awareness of the preventive measures of COVID-19 among pregnant women in Nigeria, there is a need to strengthen the awareness programs and for the government and the relevant stake holders to intensify public education as well as integration of prevention measures as part of regular antenatal education. This study also found that radio and television was the most effective source of awareness by the participants and that information from family and friends were the least effective means of awareness.

RECOMMENDATIONS

Further research is recommended for the general knowledge, attitude and Practice of women in remote/rural communities towards COVID-19 prevention. Further studies is also needed to be conducted in other parts of Nigeria to obtain national survey. There is a need to effect policies that encourages interpersonal discussion of COVID-19 preventive measures to improve accuracy of knowledge and enhance a further reach of information to those who may not have access to radio and television in remote communities.

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