

The Influence of Misinformation and Information on the Knowledge of Precautionary Measures Against Covid 19 in Delta State, Nigeria

Uzum, D. S^{1*}, Eberendu, I. F², Ozims, S. J³, Nwoke, B. E. B⁴

¹Department of Biological Sciences, Dennis Osadebay University, Asaba, Nigeria

^{2,3,4}Department of Public Health, Imo State University, Oweri, Nigeria

*Correspondence author

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ABSTRACT

The outbreak of COVID 19 pandemic in December 2019, from Wahum China had resulted to huge infection of the disease and death. The rate of infection and subsequent death rate had led to its declaration as pandemic. Many countries across the global community are facing unprecedented challenges as a result of the COVID 19 pandemic. Nigeria are not left out, there is urgent need to understand the public awareness of COVID19 at this critical moment. This study investigated the knowledge, attitude, behavior and practices towards COVID 19 precautionary measure in Delta State. The study adopted an online survey about information and misinformation of COVID19 pandemic. The study investigated all social media to understand the impact on information and misinformation of COVID 19. The data was collected using a structured questionnaire with a reliability coefficient of 0.70, the collected data was analysed using descriptive statistics of simple percentage, mean and standard deviation and inferential statistics of ANOVA was also used to test the hypothesis at a significance level of 0.05. The finding showed that less than 50% (average) of sample population had good knowledge of practice of COVID 19 prevention management practice. They are unaware about information of misinformation of COVID 19 pandemic. No significance difference was found between the population behaviour, attitude, knowledge and practice of COVID 19 prevention protocol, the level of information was low due to their belief in social demographic factor about the disease in Delta state. The acceptability of information was bugged down by misconception and social demographic belief, hence it was concluded that information knowledge about the pandemic was poor hence the high rate of the pandemic in the study area and it was recommended that COVID 19 education need to be enhanced to re-orient the respondents against the disease.

INTRODUCTION

The COVID 19 Pandemic has the potential to impact all facets of the society. Equally anyone who is irresponsible during and after COVID 19 outbreak would likely put others at risk. The outbreak of COVID 19 disease has been characterized by the world health organization (WHO) as a severe pandemic outbreak of present era. It was characterized by common cold, fever, dry cough, fatigue and occasional gastric intestinal syndromes. The COVID 19 pandemic is accompanied by various stressors that required adjustment in everyday life. While some individuals may cope well with COVID 19, others developed psychological distress, which include depressive symptoms, anxiety, or stress “Noemi, Julia, Thomas and Hansjorg (2021). The WHO declared COVID 19 a global health emergency, it introduced several health care protocols to investigate the potential impact. Seimeister (2019) maintained that the outbreak of COVID 19 in Nigeria was accompanied by online, local and foreign information. The COVID 19 is regarded as the first social media pandemic which have caused huge disaster in the 21st century due to misinformation about the disease. There were palpable fear and apprehension felt towards African countries by various world health agencies all because Africa was highly susceptible.

European commission for Africa (2020) argued that 56% of the urban population is concentrated in overcrowded slum dwelling, with only about 34% has basic access to personal hygiene. The health care management of Africa countries are considerably weaker than other part of the world (European commission for Africa, 2020). However, this palpable fear were allayed by (Gilbert, Palano, Pinott, Valdano, Poletto, Boelle and Yazdanpanati, 2020), who analysed and modeled the preparedness vulnerability of African country's response to COVID 19 and affirmed confidence in the manners which was used to strengthen their surveillance system and preparedness, through the introduction of investigation strategies. Nigeria government downplayed the emergence of COVID 19 in the country, hence delayed investigation measures that would safe guide its citizenry from the pandemic (Reuben, Danladi, Saleh and Ejembi, 2020). The response to the corona virus outbreak in Nigeria could be described as medio-centric and reactionary (Amsat, Kalo, Akiyele, Ogundairo and Danjibo, 2020). The size of fake news from individuals through social media created doubts and confusion in the mind of so many people in the irrespective countries. (Ladam, Haruna and madu, 2020), conspiracy theory, which were becoming widespread derailed the efforts to raise a good profiled information on COVID 19 (Ball and Maxman, 2020). Knowledge informs perception and these perceptions hold sway and invariably militate against government activities. To inform effective public health, this research investigated the information and misinformation of COVID19 pandemic with relative to knowledge, attitude, behavior and practices to COVID19 prevention of the general public of Delta State, Nigeria.

Objectives of the study

The broad objective of the study is to examine the influence of misinformation and information on the knowledge of precautionary measures against covid 19 in Delta State, Nigeria. The specific objective is to;

1. describe the socio-economic characteristics of the respondents; and
2. determine examine the influence of misinformation about covid-19 on the use of precautionary measures against covid-19 in the study area;

METHODOLOGY

Study area:

A survey was conducted in all the local government areas in Delta state from August 2021 to February 2022. Sample comprises of 1500 participants, random sampling was used to select individual for interviews. Informed consents was taken from the participants.

Research instrument:

A self-developed comprehensive and well-structured questionnaire which covered the domains of knowledge, behavior and practices related to COVID19 among common persons was used for the study. The questionnaire comprised of open ended and closed ended questions. The inclusive general criteria include the general public, adult of any gender in each local government area in the study area who are 18 years and above only. These participants were enrolled and interviewed after a written consent before participating in the study and fulfilled the criteria.

Measurement of variables:

The questionnaires were centered on knowledge about corona virus, knowledge on precautionary methods and practices of precautionary to avoid COVID 19 pandemic. Responses were recorded "Yes""No", and "Not sure" analyses were performed using frequency and percentages while the Chi-square was used to test the influence of misinformation and information on about covid-19 on the use of precautionary measures against covid-19

RESULTS

Table 1: Socio-Demographic Characteristics of Study Participants

Socio-demographic Factors	Frequency	Percent (%)
Sex		
Male	744	49.6
Female	756	50.4
Total	1500	100
Age (Years)		
18 -30	150	10
31-40	306	20.4
41- 50	378	25.2
51 – 60	303	20.2
61 – 70	288	19.2
71+	75	5
Total	1500	100
Marital Status		
Married	915	61
Single	339	22.6
Divorced/Separated	165	11
Widowed	81	5.4
Total	1500	100
Religion		
Christianity	1224	81.6
Muslim	168	11.2
Traditional Religion	108	7.2
Total	1500	100
Education		
Primary	195	13
Secondary	885	59
Tertiary	327	21.8
No formal education	93	6.2
Total	1500	100
Occupation		
Health care Personnel	282	18.8
Business /Trading	309	20.6
Public/ Civil Servants	375	25
Farmers	159	10.6
Artisans	273	18.2

Students	81	5.4
Others	21	1.4
Total	1500	100

Table 2: Influence of Misinformation about COVID-19 on the use of precautionary measures against COVID-19 in the study area

Precautionary measure Practices	Total	Not misinformed		Misinformed		OR	χ^2	P
		Freq	%	Freq	%			
Constant Hand washing								
Yes	402	254	63.2	148	36.8	Ref group		
No	442	204	46.2	238	53.8	2.00	24.60	0.000
Not sure	656	314	47.9	342	52.1	1.87	23.52	0.000
Total	1500	772	51.5	728	48.5		30.50	0.000
Use of facemask								
Yes	358	244	68.2	114	31.8	Ref group		
No	762	307	40.3	455	59.7	3.17	75.68	0.000
Not sure	380	221	58.2	159	41.8	1.54	7.91	0.005
Total	1500	772	51.5	728	48.5		84.85	0.000
Use of sanitizers								
Yes	340	265	77.9	75	22.1	Ref group		
No	624	241	38.6	383	61.4	5.62	136.44	0.0000
Not sure	536	266	49.6	270	50.4	3.59	69.86	0.0000
Total	1500	772	51.5	728	48.5		137.35	0.0000
Social distancing								
Yes	269	198	73.6	71	26.4	Ref group		
No	866	356	41.1	510	58.9	4.0	86.75	0.0000
Not sure	365	218	59.7	147	40.3	1.88	13.22	0.0003
Total	1500	772	51.5	728	48.5		99.95	0.0000
Staying at home								
Yes	208	127	61.1	81	38.9			
No	934	457	48.9	477	51.1	1.64	10.01	0.0016
Not sure	358	188	52.5	170	47.5	1.42	3.89	0.049
Total	1500	772	51.5	728	48.5		10.22	0.006
Avoiding touching, nose mouth, eye								
Yes	204	172	84.3	32	15.7	Ref group		
No	881	351	39.8	530	60.2	8.12	131.22	0.0000
Not sure	415	249	60.0	166	40.0	3.58	37.16	0.0000
Total	1500	772	51.5	728	48.5		147.88	0.0000

P: Probability value, χ^2 : Chi square, Ref group: Reference comparison group

Table 2 continued

Precautionary measure Practices	Total	Not misinformed		Misinformed		OR	χ^2	P
		Freq	%	Freq	%			
Avoiding hand shaking/ hugging								
Yes	416	274	65.9	142	34.1	Ref group		
No	645	302	46.8	343	53.2	2.19	36.96	0.000
Not sure	439	196	44.6	243	55.4	2.39	38.85	0.000
Total	1500	772	51.5	728	48.5		48.27	0.000
Avoiding crowded places								
Yes	268	158	59.0	110	41.0	Ref group		
No	851	413	48.5	438	51.5	1.52	8.86	0.0029
Not sure	381	201	52.8	180	47.2	1.29	2.45	0.1178
Total	1500	772	51.5	728	48.5		9.21	0.010
Engaging in Regular Exercise								
Yes	249	149	59.8	100	40.2	Ref group		
No	860	373	43.4	487	56.6	1.95	21.02	0.0000
Not sure	391	250	63.9	141	36.1	0.84	1.09	0.2967
Total	1500	772	51.5	728	48.5		53.90	00000
Health diet intake								
Yes	449	271	60.4	178	39.6	Ref group		
No	464	209	45.0	255	55.0	1.87	21.77	0.0000
Not sure	587	292	49.7	295	50.3	1.54	11.55	0.0007
Total	1500	772	51.5	728	48.5		22.83	0.0000
Vaccinated/ ready to be vaccinated								
Yes	224	203	90.6	21	9.4	Ref group		
No	899	348	38.7	551	61.3	15.31	193.39	0.0000
Not sure	377	221	58.6	156	41.4	6.82	69.27	0.0000
Total	1500	772	51.5	728	48.5		203.81	0.0000
Getting Covid-19 awareness Information								
Yes	762	492	64.6	270	35.4	Ref group		
No	258	73	28.3	185	71.7	4.63	102.94	0.0000
Not sure	480	207	43.1	273	56.9	2.41	55.3	0.0000
Total	1500	772	51.5	728	48.5		121.63	0.0000

P: Probability value, χ^2 : Chi square

A total of 1,500 adults participated in the study. The socio demographic characteristics of the study participants are presented in table 1. the table shows that the study group comprises of 744 (49.6%) male and 756 (50.4%) females, about one quarter of the group (378:25.2%) were between 41-50 years, 306 (20.4) were 31-40 years and 288 (19.5%) were between 61-70 years. The oldest age group was over 70's and they contained the lowest frequency of the participants (75.5%), followed by the youngest age group (18-30 years) with 150(10%) participants. Large number of the study group were married. The married were 913 (11%) respectively. The study group was predominantly Christian (1224:81.6%) which is obviously the dominant religion in the area. There were also 168(11.2%) from Muslim religion and 108(7.2%) from traditional religion group. Majority 1212:80.8%) had at least secondary school level of education with those that had secondary education being the largest among the group (88.5:59%). Those with primary level of education were 195(13%) but 93(6.2%) did not have any formal education. In terms of occupation, a quarter (375:25%) were public or civil servant, 309 (20.6%) were engaging in business or trading activities. 282(18.8%) were health care personnel and close to that (273:18.2%) were artisans. Those who were farmers were 159 (10.6%) while 81 (5.4%) were students. the role of information in relation to the usage of precautionary measures against COVID 19 among the study group is presented in table 2. the table clearly shows the significant relationship was established between the applications of different precautionary measures against Covid 19 with the status of misinformation.

Constant hand washing practices was found to be significantly associated with misinformation status in the study area ($p < 0.0001$, $\chi^2 = 30.50$). among those who are practicing constant hand wash, 65.2% were not misinformed about Covid 19, compared to 46.2% found among those not practicing it using those that practice constant hand washing as a reference group. The odds were found to be 2 times significantly higher on those that are not practicing constant hand washing (approximately 1.9 times more for the not sure group), compared to the group practicing constant hand washing (yes with No or = 2.0, $p < 0.0001$, $\chi^2 = 24.60$; yes with not sure or = 1.87, $p \leq 0.0001$, $\chi^2 = 23.52$)

Those that do not use facemask were more misinformed about COVID 19 (59.7%) compared to those that use facemask (31.8%) for those that do not use facemask. The risk (odds) for being misinformed was found to be significantly 3.2 times the odds among those that use facemask more (or = 3.17, $p < 0.0001$, $\chi^2 = 78.68$).

Similarly the use of sanitizer was significantly influenced by misinformation status among the study group ($p < 0.0001$, $\chi^2 = 137.35$) misinformation rate was found lower among those that use sanitizer (26.4%) and among those that do not use sanitizer, the odds is 5.6 times that of those that use sanitizer (or = 5.62, $p < 0.0001$, $\chi^2 = 136.44$)

At a significant association between social distancing and misinformation ($p < 0.0001$, $\chi^2 = 99.95$) majority of those who practices social distancing were not, misinformed about COVID 19 compared to those that did not apply it (73.6% against 41.1%). The odd of getting misinformed was found significantly higher among the group not doing social distancing by four folds compared to that or the group practicing social distancing ($p < 0.0001$, $\chi^2 = 86.75$).

There were 38.9% who were misinformed among those that stayed at home but more than half of those that do not stay at home were misinformed. The odd ratio indicates that greater odds of 1.64 folds was found for the non-stay at home group compared to that of the group staying at home which is significantly at 5% (or = 1.64, $p < 0.0001$, $\chi^2 = 10.01$). Only 15.7% of those who avoided touching of nose mouth and eye were classified as misinformed compared to whopping 60.2% among those that do touch the nose, mouth and eye. The odds ratio indicates that higher odd of more than 8 times were significantly attached among those that do not avoid touching their nose, mouth and eye. Compared to the odd among those that avoid such touching (or = 8.12, $p = 0.0001$, $\chi^2 = 131.22$).

The misinformation status was also found to be highly associated with other precautionary measures against COVID 19, such as avoidance of handshaking ($p < 0.0001$, $\chi^2 = 48.27$), avoiding of crowded place ($P < 0.001$, $\chi^2 = 9.21$) engagement in regular exercises ($P < 0.0001$, $\chi^2 = 53.99$), healthy diet intake ($p < 0.0001$, $\chi^2 = 22.83$). Getting vaccinated or being ready to be vaccinated ($p < 0.0001$, $\chi^2 = 203.81$) and getting COVID 19 awareness ($P < 0.001$, $\chi^2 = 121.63$) among those that avoided handshaking/hugging, 34.1% were misinformed compared to

highest rate of misinformation (53.2%) among those that do not avoid it. The difference is accompanied with a significant odd of over two folds higher in the group that do not avoid handshaking/hugging (OR=2.19, $P<0.0001$, $\chi^2=36.96$).

For Those That Avoided Crowded Place, misinformation was reduced (41%) compared to the rate found among people who reported that they do not avoid such crowded places, which has a higher odd of about one and half times more ($P<0.0001(29)$, $\chi^2=8.86$).

Not engaging in regular exercise, attracts more odds of 1.95 times more compared to having regular exercise ($P<0.0001$, $\chi^2=21.02$). Those not engaging in regular exercises seems to be more informed about COVID 19 (56.6%), that similarly those not taking, healthy diet was also more informed (55%) with significant odd of approximately 1.9 times more (OR=1.87, $P>0.0001$, $\chi^2=21.7$). the extent of vaccination was influenced by the rate of misinformation in such a way that 61.3% who are not vaccinated or ready to be vaccinated are believed to be misinformed of a significant higher odd of 15.3 times compared to 9.4% misinformation rate found among the vaccinated /ready to be vaccinated group ($P<0.001$, $\chi^2=193.39$). these who are getting COVID 19 awareness. Information was less misinformation about the disease (35.4%) among them compared to misinformation rate among those not getting the awareness (71.7). The odd for being misinformed was found to be over 4.6 times significantly higher among the non-awareness group (OR=4.65, $P<0.0001$, $\chi^2=102.94$).

DISCUSIONS

The practice of precautionary measure for COVID 19 prevention is quite poor in the in the study group. The majority of the respondents in this study are not taking adequate precautionary measures including use of facemask, social distancing, use of sanitizers, constant hand washing, improved diet and staying at home. This finding is consistent with some other studies (Ahmed and Msugher, 2022, Nowak, Miedziarck, Pekeznski and Rzynski, 2021) but it is in sharp disagreement with earlier finding in a Nigeria study (Reuben et .al.,2021) which generally indicates the willingness of the Nigerian population in effecting attitudinal and behavioural changes relevant in the fight against the COVID 19 pandemic. Possible reason for the difference in both studies is that the earlier study was during the high peak period of COVID 19 in Nigeria and people are scared that they may be infected. At this period in time, not many are worried about the disease any more in Nigeria. Significant relationship was established between the applications of different precautionary measure against COVID 19 with the factor's status of misinformation. Those who are practicing more of the precautionary measures were significantly less misinformed about COVID 19 compared to those not practicing it.

The result indicates that the adoption of precautionary measures was challenged with the availability of misinformation campaign to the general public during the early phase of the Covid 19 pandemic outbreak (Nowak et al., 2021).

CONCLUSION

COVID 19 safety guide involves behavioural change and misinformation in social life such as safe hand washing, use of facemask, social distancing use of sanitizer, avoidance of crowded area, where these behavioural changes adversely impact livelihood survival in Nigeria especially as the country is not adequately prepared to contain the disease. Therefore, quality information about COVID 19 is a powerful tool needed to tackle the pandemic and misinformation itself.

The study highlighted the importance of prevention, protocols of COVID 19 prevalence and it's important in curbing misinformation and misconceptions associated with the mitigation of the disease. The Crux of the study acknowledge the fact, that behavioural change, knowledge and practice about COVID 19 infection and mitigation are quite unsatisfactory and inadequate. Hence, there is urgent need to strengthen the study perception in terms of knowledge and adequate information.

RECOMMENDATION

It is necessary to minimize exposure to incorrect information and to deliver evidence health-based activities to the populace during COVID 19 era. To this end, risk communicators and government authorities should continuously monitor and clarify emerging misinformation in various platforms to prevent misconception and engagement in taking remedies, the researcher recommends improved global health care policies and strategies to counteract misinformation against the impact of misinformation and the spread of the disease.

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