

COVID-19 Spread Acceptability, Attitude and Information Accessibility amongst Rural community in Delta State, Nigeria

Vol. 6 No. 1

April 2021

Mercy Arodovwe Igere

Department of Library and Information Science, Delta State University
Abraka PMB 1 Delta State, Nigeria
mesonia1@yahoo.com

Igere, Bright Esegbuyota

Department of Microbiology and Biotechnology, Western Delta University
Oghara PMB 10 Delta State, Nigeria
ibe22002@yahoo.com

Abstract

Rationale of Study – There are several pieces of unreliable information on the spread of the virus COVID-19. This leads to misconception on the existence and spread of the virus. It also affects the attitude of people, most especially the rural dwellers. This study investigates COVID-19 spread acceptability, attitude and information accessibility in a rural community in Delta State, Nigeria.

Methodology – The study adopted a descriptive survey design. The population for the study was 145,045. A sample of 0.1% of the population was used for analysis. Data was collected using questionnaires. The questionnaires were purposively administered to the sampled respondents in the homes of the ten (10) villages in Uvwie local government area in Effurun, Delta State, Nigeria.

Findings – The study found that people no longer accept information on the existence and spread of the virus. This is because available information regarding the spread of the virus is either fake or unreliable. Consequently, individuals no longer see the need to adhere to the measures put in place to stop the spread of the virus.

Implications – The study recommends an awareness campaign to be conducted on the spread of the virus in the rural communities. It also emphasises an altruist verification of all information concerning the virus as it will help to change the attitude of the populace.

Originality – The manuscript is part of our recent study which was informed by the COVID-19 pandemic outbreak, and has not been submitted for evaluation on the purpose of publication in journal.

Keywords

COVID-19, acceptability, attitude, information, accessibility, rural community, Delta State, Nigeria

Citation: Igere, M.A. & Igere, B.E. (2021). COVID-19 Spread Acceptability, Attitude and Information Accessibility amongst Rural community in Delta State, Nigeria. *Regional Journal of Information and Knowledge Management*, 6 (1),27-41.



Published by the

**Regional Institute of
Information and Knowledge
Management**

P.O. Box 24358 – 00100 –
Nairobi, Kenya

1 Introduction

The recent outbreak of the contagious virus known as corona virus or COVID-19 which emerged in Wuhan, China, December 12th, 2019 has affected global resources, personalities and environment (Rahimin & Amin, 2020). In Europe, it had affected over 50% with a death rate of 60%. The USA has reported 22 million cases and deaths of above 372,000. African countries are described as the least affected countries with Uganda and Rwanda, for instance, confirming less than 500 deaths (Olum, Chekwech, Wekha, Dianah, Nassozi & Felix, 2020).

Al-Hanawi, Angawi, Alshareef, Qattan, Helmy, Abudawood and Alsharqi (2020) describe the virus 'COVID-19' as belonging to the *coronaviridae* family. It causes an excruciating respiratory impairment known as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV). It is listed as an emerging respiratory infectious disease which is part of the family of ribonucleic acid (RNA) viruses which results in infections ranging from the common cold to more serious diseases. Fever, dry cough, fatigue, myalgia, shortness of breath, and dyspnoea have been identified as the main symptoms of COVID-19. It is characterised by rapid transmission, which occurs through close contact with persons that are infected with the disease. Old age and patients with illnesses such as hypertension, cardiac disease, lung disease, cancer, or diabetes are at risk of the disease and exhibit high mortality (Al-Hanawi et al 2020).

The spread of the disease has claimed a lot of lives worldwide thereby causing panic to various countries. According to Ahmad, Ahmad, Ahmani, Rahimi, Ahmadi, Shahabzada and Raghvaan (2020), as of April 2020, the outbreak of the corona virus had an estimated result of 1,776,867 cases and 111,828 deaths globally. As of July 2020, corona virus cases has increased to 12,048,081 while death rate has increased to 584,754 and the recovered are 6,964,468 worldwide. Worldometer (2020) indicated that in the case of Nigeria, about 29,789 cases have been recorded, 669 total deaths and 12,108 has recovered (Worldometer, 2020). In Nigeria, a total of 30,249 cases have been confirmed while 684 were recorded death as of July 9th 2020 with Lagos state as the worst affected state with confirmed cases of 11760 and 133 deaths within July 2020 (UN Office for the Coordination of Humanitarian Affairs, 2020). As at 11th January 2021 the numbers of tested cases has increased to 1,025,560 with total confirmed cases of 100,087 and active cases number of 18,699, discharged cases are 80,030 and total deaths of 1,358 (Worldometer, 2021). In the United states, 22,918,711 total cases have been reported and

13,484,204 have recovered while 383,295 death cases have been reported at January 11th 2021. Globally the number continues to increase as 90,783,838 total cases were reported with more than 1,944,951 death cases. A total of 64,919,954 cases have recovered and discharged from admission with 23,918,933 active cases. Amongst the active cases, 23,810,392 (99.5%) are currently having mild condition whereas 108,541 of them are reported with severe conditions (Worldometer, 2021; CDC-COVID Data tracker, 2021).

There are lots of information on the existence and spread of the disease which may lead to misconception of the virus most especially in African countries. For instance, information that the virus cannot survive in a high-temperature environment in relation with the number of confirmed cases and deaths in Nigeria may lead to non-acceptance. According to Valdivia, Vilca and Guerrero (2020), lack of information or disinformation on the existence and spread of the virus would be a problem that may increase the disease as individuals may see the information as deceptive. In essence, disinformation may affect the attitude or behaviour of individuals as it may be difficult for them to comply with regulations on how to curtail the spread of the virus. Valdivia, Vilca, and Guerrero (2020) argue that low level of commitment to the measures to control result from the fact that the virus affected some geographical areas with the climatic conditions that favour those areas. Furthermore, the non-compliance of the population may be attributed to attitudinal factors. All of the disinformation and non-commitment to control measures may be as a result of inaccurate reports in the mass media.

2 Statement of the Problem

There are several news reports of deaths resulting from the spread of the virus. However, in rural communities in Nigeria, there is doubt on the actual existence of the virus. Observation has shown that most rural dwellers feel the virus is a scam. They complain of nonexistence of the virus believing with the temperature of the country, the virus cannot survive. To make the situation more complex, false information peddlers are having a free fare as they disseminate false details about the virus which are also received by the rural dwellers either through social media, friends or other means. This study was designed to ascertain if the rural communities in Nigeria accept the existence of the virus as well as their attitude toward its spread and how they access information on the spread of COVID-19.

3 Literature Review

Information about the spread of the virus resulting from contact with previously infected individuals or carriers of the viral agent has brought about a great panic since its outbreak thereby leading to lockdown measures to curb its spread. There are many misconceptions about the corona virus as most people do not accept or believe it exists. Others feel the disease is mild and is not as serious as it is projected to be (Carpani, 2020). There have been lots of information on the causative agents of the disease. According to Yohannes, Yimenu, Zewdie, Seblework and Argaw Ambelu (2020), the corona virus could spread through intermediate host such as bats to human. Reports from the Medical News Today (2020) show that the spread of the disease is faster than expected with seafood and animal market in Wuhan serving as the hot spot for transmission/spread. Other reports also indicated that close contact of persons in public environments as well as poor adherence to inter-personal hygiene is an agent of the spread.

Although there are lots of information on the spread of the virus, Zegarra-Valdivia, Vilca and Guerrero (2020) opine that the general public are not interested in the regulations given by their government and as such they do not adhere to the measures taken to curb the spread of the disease. The position of Zegarra-Valdivia, Vilca and Guerrero (2020) is arising from the belief of the populace on the existence of the virus which is also associated with the problem of accepting the truth on the existence of virus or the spread of the disease. Also, a study by the University of Oxford psychologists as reported by Bellefonds (2020), has revealed that some group of persons accepted a conspiracy theory that negates the existence and spread of the virus. These groups of persons are less likely to follow social distancing measures and may be less likely to get an eventual vaccine as a control strategy (Bellefonds, 2020). Others believe the disease is created in China as a bio-weapon to destroy the West or reduce population growth. Suffice it to say that in recent times, China has been reported to be increasing in population at a rate determined as high. Initiating a conspiracy theory in such region would aid control of population growth hence the proposition that the virus was created in China become a public viewpoint and concern.

An investigation by Carpani (2020) on acceptance of the information on whether corona virus is a bio-weapon developed by China to destroy the West and control population revealed that 55 per cent of study respondents accepted the assertion, 20.2 per cent partially accepted it while 5.5 per cent accepted it strongly or completely. The majority of adults in England accepted an opinion that their government was misleading the public

about the cause of the disease. In other words, a good number of adults in England do not agree with the scientific and governmental consensus on the COVID-19 pandemic (Carpani, 2020). Due to the above assertions, the public attitude and position on the nature of the virus is out of focus.

The attitude of the public towards the disease seems to be affecting and influencing the spread of the disease to a greater extent. According to Abdelhafiz, Mohammed, Ibrahim, Ziady, Alorabi, Ayyad, and Sultan (2020), behaviours like underestimation, stigmatisation, panic emotions, and false measures to avoid contracting infection affect the battle against the pandemic. Zegarra-Valdivia, Vilca, and Guerrero, (2020) noted that the non-acceptability of the existence of the virus leads individuals not to accept the precautions (social distancing, personal hygiene, wearing of nose mask) on the spread of the disease.

In order to create public awareness about the pandemic, governments use mass media, notably radio and television, as well as other information and communication technology tools particularly social media and mobile telephony platforms (Kimumwe, 2020). Following the study of Ahmad, Ahmad, Arman, Rahimi, Ahmadi, Shahabzada and Raghvaan (2020), it was revealed that the major sources of information on COVID-19 are through health workers (61%), mass media (47%), social media (45%), family sources (36%) and community elders (29%). Generally, it was found that the most trusted information relating to COVID-19 is received from health workers (75%), followed by social media platforms (52%), religious leaders (37%) and community elders (24%). The least trusted information related to COVID-19 are delivered by government officials (77%), friends (64%), posters used by non-governmental and NGOs (32%) and family members (13%).

Although there exist reports of diverse routine in the dissemination of information on COVID-19 amongst various population, the application of such strategies in our communities has received failure which may be associated with the increase in false information peddlers, belief system and socio-cultural orientation of the populace. This has influenced their attitude and has also affected the level of acceptability of COVID-19 updates via the various stipulated media. This study intends to investigate the acceptability, attitude of our communities with a view to bringing home the need for a re-orientation, awareness and acceptance of the stipulated media of information on COVID-19 in these local communities.

4 Methodology

The study adopted descriptive survey design. The design was perceived to be able to elicit information on the present condition of the study. The ten (10) villages in Uvwie local government area in Effurun, Delta State, Nigeria, with the population of 145,045 were used in this study. A sample of 0.1% of the population was used for this study. The actual sample was One hundred and forty-five (145), however one hundred (100) respondents were recruited for the study. Questionnaires were the instruments for data collection. The questionnaires were purposively administered to the respondents in the ten (10) villages based on those that were available and understood the concept of the study (Kenyan projects organisation, 2012). The data was analysed using descriptive statistics.

5 Results and Discussion

Results of the study show that 97 questionnaires were retrieved from the 100 questionnaire administered to the community members. All retrieved questionnaires were analysed. The results are presented and discussed in this section.

5.1 Bio data of the respondents

Table 1 presents information on the gender of the respondents. From the findings, the majority 51(52.6) of the respondents are female while 46(47.4%) are male. The high female respondents is associated with the recruiting strategy adopted, as the respondents who understood and are available at the time of the study were employed.

Table 1: Gender of respondents

Sex of Respondents	Frequency (Freq)	Percentage (%)
Male	46	47.4
Female	51	52.6

Table 2 presents the age of the respondents. The majority 38(39.2%) of the respondents are within the age range of 31-40, 20(20.6%) are within the age range of 41-50 while 18(18.6%) are within the age range of 21-30. This is an indication that majority of the respondents were within the age range of youth-hood (31-40) and adulthood (41 - 50). The age bracket was not defined by the purposive sampling applied.

Table 2: Age of Respondents

Age range of respondents	Numbers accessed(No)	Percentage of respondents (%)
21-30	18	18.6
31-40	38	39.2
41-50	20	20.6
51-60	17	17.5
61 and above	04	4.1

Table 3 shows the level of qualification of the respondents. The majority (41; 42.3%) of the respondents has secondary school level of qualifications, 32(33%) had primary school qualification levels while 24(24.7%) had tertiary level qualifications.

Table 3: Qualifications of Respondents

Respondents educational levels	Numbers documented (Nos)	Percentage of attested educational level (%)
Primary	32	33
Secondary	41	42.3
Tertiary	24	24.7

5.2 COVID-19 spread Acceptability amongst rural dwellers

Table 4 presents the findings in terms of COVID-19 spread acceptability amongst rural dwellers. It shows that the majority 52 (53.6%) of the respondents accepted that being in contact with travellers from high risk countries can lead to the spread of COVID-19; 49 (50.5%) accepted that the virus is more infectious/dangerous in patients with chronic, underlying and other debilitating diseases; 44(45.4%) accepted that COVID-19 is riskier for the old and aged; 43(44.3%) accepted that increased body temperature, amongst other unhealthy system symptoms, are symptoms of COVID-19 and observing them is a pointer to COVID-19 cases; 41(42.3%) accepted that surfaces touched by infected persons could encourage the spread; 39(40.2%) accepted that COVID-19 is just a flu; while 38(39.2%) accepted that COVID-19 is just a fever.

On the basis of non-acceptability, 49(50.5%) of the respondents do not accept that several persons have been positively tested to COVID-19; 47(48.5) do not accept that body ache is a symptom of COVID-19; while 38(39.2) do not accept that touching coins and naira notes may encourage the spread of COVID-19. Considering the respondents that were not sure about the spread of the virus, 53(54.6%), 48(49.5%), 46(47.4%), 44(45.4%), 43(44.3%), 39(40.2%), 38(39.3%) and 37(38.1%) of the respondents are not sure that the virus can infect every age, COVID-19 can lead to death, dry cough is a symptom of COVID-19, goods imported from China can be infectious, headache is a symptom of COVID-19, sore throat is a symptom of COVID-19, difficulty in breathing is a symptom of COVID-19, people infected with COVID-19 can transmit it to others, increased body temperature is a symptom of COVID-19, vomiting is a symptom of COVID-19 and COVID-19 does not exist respectively.

Table 4: COVID-19 spread Acceptability amongst rural dwellers

S/N	COVID-19 Spread Acceptability	Accepted	%	Not Accepted	%	Not Sure	%
1	COVid-19 does not exist	33	34.0	27	27.8	37	38.1
2	COVID-19 is just a flu	39	40.2	33	34.0	25	25.7
3	COVID-19 is a high fever	38	39.2	29	29.9	30	30.9
4	COVID-19 is for the Old	44	45.3	32	33	21	21.6
5	The virus can infect every age	25	25.7	19	19.6	53	54.6
6	COVID-19 can lead to death	27	27.8	22	22.7	48	49.5
7	People infected with COVID-19 can transmit it to others	30	30.9	29	29.9	38	39.2
8	Surfaces touched by infected people could encourage spread	41	42.2	20	20.6	36	37.1
9	The virus is more dangerous in patient with underlying diseases	49	50.5	24	24.7	24	24.7
10	Goods imported from China are infected and can infect human	28	28.9	25	25.8	44	45.4
11	Being in contact with travellers	52	53.6	26	26.8	19	19.6

	from high risk countries can encourage spread						
12	Touching coins and naira note can lead to spread	35	36.0	38	39.2	24	24.7
13	Increased body temperature is a symptom of COVID-19	43	44.3	16	16.5	38	39.2
14	Dry cough is a symptom of COVID-19	34	35.1	17	17.5	46	47.4
15	Vomiting is a symptom of COVID-19	28	28.9	31	32	38	39.2
16	Difficulty in breathing is a symptom of COVID-19	32	33	26	26.8	39	40.2
17	Body-ache is a symptom of COVID-19	23	23.7	47	48.5	27	27.8
18	Soar-throat is a symptom of COVID-19	29	29.9	25	25.8	43	44.3
19	Head-ache is a symptom of COVID-19	26	26.8	27	27.8	44	45.4
20	Many People have been positively tested for COVID-19	18	18.6	49	50.5	30	30.9
21	Nigeria environment does not favour the survival of the virus	39	40.2	28	28.9	30	30.9

The study therefore shows that a good number of respondents {37(38.1%)} are not sure if the virus exists; 48(49.5%) are not sure if the virus leads to death while 53(54.6%) are not sure if it could infect every age. The findings also revealed that most of the respondents were not sure if goods imported from China could infect people. The majority of the respondents were also not sure if dry cough, headache, sore throat, difficulty in breathing are symptoms of COVID-19. This is an indication that the respondents do not accept the existence of the virus and the infection of the virus does not lead to death. It also indicates that the symptoms of infection may not be severe in

any age range and that activities associated with travelling and purchase of commodities does not portend possibility for spread of virus.

5.3 Acceptability of Information on COVID-19

Results on the acceptability of information on COVID-19 show that a good number 49(50.5%) of the respondents did not accept that many people have been tested positively for COVID-19, 38(39.2) and that touching coins or naira notes can encourage its spread. Though most 52 (53.6%) of the respondents accepted that being in contact with travellers from high risk countries could encourage spread, they believed that Nigerian environment does not favour the survival of the virus. They also accepted that COVID-19 infection is associated with the aged and patients with chronic underlying diseases. They concluded that COVID-19 is just an increased body temperature, a flu or fever. Most of the facts concerning the spread and existence of the virus that the respondents did not accept or not sure of indicate triviality of individuals on the existence and spread of the virus. This is in line with the findings of Zegarra-Valdivia, Vilca, and Guerrero (2020) that there are so many misconceptions about the corona virus. For that reason, most people do not accept or believe in the existence of the virus while some feel the disease is not severe but mild. This misconception arises from the information they received from government and public media. This information is most times mixed up with unverified details. The situation is exacerbated with unfounded conspiracies peddled in social media platforms. The only way to convince the public is to ensure that every report given concerning the virus is genuine. This is most especially when there are lots of information on social media which confuse the public on the spread of the virus and how to prevent it. Also, those who propagate fake information on social media should be penalised by social media stipulated policy or enacting governmental instituted policy for such offenders to curb the spread of the fake information. Individuals can also be encouraged to verify information on social media before they pass it to others by a regulated information affirmation sector or designed software.

5.4 Attitude towards the spread of COVID-19

Table 5 presents findings on the attitude of respondents on the spread of COVID-19. There has been both positive and negative attitude of individuals towards the spread of COVID-19 since its emergence. However, 40(41.2%) of the respondents in this study strongly agreed they always wash their hands; 38(39.2%) agreed that they always wear face masks/shields but 36(37.1%) cannot observe social distancing. Some 35(36.1%) of the

respondents also agreed that they do not need to sanitise their hands and solid surfaces with alcohol-based sanitisers. On the other hand, 40(41.2%) of the respondents disagreed to always wash their hands with 37(38.1%), 36(37.1%) and 35(36.1%) of the respondents disagreeing with seeking medical care when sick during this period of COVID-19; believing in quarantine, lockdown, or closure of schools; and avoidance of crowds respectively. The positive attitude of those who agreed to washing of hands, wearing of face masks or shields, sanitising hands and solid surfaces with alcohol-based sanitisers could be as a result of the information they always receive from government, health officials or law enforcement agencies on precautions of COVID-19. The negative attitude of respondents such as not observing the stated personal hygienic practices (PHP) or use of personal protection equipment (PPE) could be attributed to their misconceptions on the existence of the virus.

Table 5: Attitude towards the spread of COVID-19

S/ N	Attitude on spread of COVID-19	Strongly Agree (SA)	%	Agree (A)	%	Disagree (D)	%	Strongly Disagree (SD)	%
1	I believe in Quarantine, Lockdown and closure of all Social activities	20	20.6	25	25.8	36	31.1	16	16.5
2	I cannot observe social and physical distancing	36	37.1	22	24.7	26	26.8	13	13.4
3	I always wash my hands	40	42.3	10	10.3	40	42.3	7	7.2
4	I always wear face mask and shield	38	39.2	36	37.1	21	21.6	2	2.1
5	I always avoid crowd	20	20.6	25	25.8	35	36.1	17	17.5
6	I seek medical care when I am sick during the COVID-19 pandemic	30	30.9	20	20.6	37	38.1	10	10.3
7	I don't need to sanitize my hands and solid surfaces with alcohol based sanitizer	9	9.28	35	36.1	35	36.1	18	18.6

These findings are similar to the report by Carpani (2020) that the majority of adults believe, to some extent, that the government is misleading the public about the virus and its spread. There is need for publicity or public awareness jingles on the existence of the virus and its infectivity in the rural communities. This will ensure that the right information on the spread of and precautions on COVID-19 spread is received. Ensuring that palliatives get to the individuals who live in the rural areas may also influence the communities positively to respond appropriately to the pandemic.

5.5 Accessibility of information on COVID-19

Table 6 presents findings on the accessibility of information on COVID-19 during the study period. It was observed that the majority 60(61.9%) of the respondents agreed they access information on COVID-19 through television. Other sources of information included religious and community leaders 60 (61.9%), family and friends 54(55.7%), radio 53(54.6%), social media 52(53.6%), government officials 52(53.6%) and posters 50(51.5%). Some of the respondents also stated that they did not access information through the library 87(89.7%), scientific journals/articles 84(86.6%), healthcare providers 72(74.2), newspaper 68(70.1) and magazines 67(69.1%). This study therefore revealed that television, radio and government officials are the reliable sources of information on the pandemic. This observation is similar to the findings of Ahmad, Ahmad, Ahmani, Rahimi, Ahmadi, Shahabzada and Raghvaan (2020) that the major sources of information on COVID-19 are through health workers, mass media, social media, family sources and community elders. However, this present study did not confirm social media and family information as reliable. This calls for individuals to neglect unreliable sources of information that may be misleading. The government should ensure that other means of providing information to the public are applied.

Other means of accessing information like the library, healthcare system/provider, which the respondents did not regard as means of accessing information in this study could be as a result of the ineffectiveness of those systems. This may be because these channels are limited in terms of technological application or organisational frameworks to make information available to the people.

Table 6: Accessibility of information on COVID-19

S/N	Accessibility of Information on COVID-19	Agree (A)	%	Disagree (D)	%
1	Social Media	52	53.6	45	46.4
2	Television	60	61.9	37	38.1
3	Magazines	30	30.9	67	69.1
4	Newspapers	31	32	68	70.1
5	Radio	53	54.6	44	45.4
6	Family and Friends	54	55.7	43	44.3
7	Scientific Journal and Articles	13	13.4	84	86.6
8	Health Care providers	25	25.8	72	74.2
9	Religious and Community leaders	60	61.9	37	38.1
10	Posters	50	51.5	47	48.5
11	Government Public health Officers	52	53.6	45	46.4
12	Library	10	10.3	87	89.7

6 Conclusion and recommendations

There are lots of news and information on the existence and spread of Corona virus or COVID-19. Most of this information is not reliable because it is not fact-checked thereby leading to misconception on the existence and spread of the virus. This study has confirmed that people do not accept information on the existence and spread of the virus as information pertaining to the spread of the virus is considered as either fake or unreliable. This has also affected the attitude of individuals who never see the need to adhere to the precautionary measures put in place to stop the spread of the virus. All of these misconceptions arise as a result of the means through which information on the spread of the virus is received. There is therefore a dire need to double-check the means of accessing information by the information analyst as well as government (ministry of information) before it is disseminated to the public. Those who propagate fake information should be penalised by the government (law enforcement) to curb the spread of fake information. Individuals can also be encouraged to fact-check information before they pass it to others. There is need for publicity or public awareness jingles on

the spread of the virus in the rural communities by community health workers, ministry of health, and other government agencies. Appropriate dissemination of palliatives in the rural areas may also contribute to way influencing rural communities to respond positively to the pandemic.

7 Acknowledgement

The authors appreciate the efforts of the various community heads and youth groups who assisted in the administration and retrieval of the questionnaire during the study. We also cannot fail to mention the relentless efforts of the students and research assistants who ensured that the study was carried out as designed. The study did not receive any type of funding from any sponsor or government organisations; all funds for the study were personal.

References

- Aaron, K. (2020). Corona virus cause: Origin and how it spread. Medical News Today. <https://www.medicalnewstoday.com/articles/coronavirus-causes>
- Abdelhafiz, A. S., Mohammed, Z., Ibrahim, M. E., Ziady, H. H., Alorabi, M., Ayyad, M., & Sultan, E. A. (2020). Knowledge, perceptions, and attitude of Egyptians towards the novel coronavirus disease (COVID-19). *Journal of Community Health*, 1-10. <https://link.springer.com/article/10.1007/s10900-020-00827-7>
- Ahmad, N. A., Ahmad, W., Arman, R., Rahimi, W., Ahmadi, A., Shahabzada S.M. and Raghvaan V. (2020). Community Perception Surey-Coid 19- Knowledge, Attitude and Practice Surey in Kabul, Kunduz and Khost Provinces. *The Johanniter Assistance*
- Al-Hanawi, M. K., Angawi, K., Alshareef, N., Qattan, A. M., Helmy, H. Z., Abudawood, Y. & Alsharqi, O. (2020). Knowledge, Attitude and Practice Toward COVID-19 Among the Public in the Kingdom of Saudi Arabia: A Cross-Sectional Study. *Frontiers in Public Health*, 8. <https://www.frontiersin.org/articles/10.3389/fpubh.2020.00217/full>
- Bellefonds, C. (2020). What to Say If People You Love Believe Coronavirus Conspiracy Theories. <https://www.self.com/story/coronavirus-conspiracy-theories>
- Carpani, J. (2020). Coronavirus conspiracy theories: More than a fifth of people believe the virus is a hoax. <https://www.telegraph.co.uk/news/2020/05/22/coronavirus-conspiracy-theories-fifth-people-believe-virus-hoax/>
- CDC COVID Data Tracker, (2021). <https://covid.cdc.gov/covid-data-tracker2021>
- Kenyan Projects Organisation (2012) Sample Size Determination Using Krejcie and Morgan Table. Kenya project organization. <http://www.kenpro.org/sample-size-determination-using-krejcie-and-morgan-table/>
- Kimumwe P. (2020). Why Access to Information on Covid-19 is Crucial to Persons with Disabilities in Africa. <https://cipesa.org/2020/04/why-access-to-information-on-covid-19-is-crucial-to-persons-with-disabilities-in-africa/>
- Olum, R., Chekwech, G., Wekha, G., Dianah, R.N. & Felix, B. (2020). Coronavirus Disease-2019: Knowledge, Attitude, and Practices of Health Care Workers at Makerere University Teaching Hospitals, Uganda. 8(181). doi: 10.3389/fpubh.2020.00181
- Rahimin, F. & Amin, T.B.A. (2020). Ethical and Sensible Dissemination of Information During the COVID-19 Pandemic. *The American Journal of Bioethics*, DOI: 10.1080/15265161.2020.1761200
- UN Office for the Coordination of Humanitarian Affairs (2020). Flash Update 9 July 2020 COVID-19 Nigeria: Cases surpass 30,000 as death toll reaches 684. <https://reliefweb.int/report/nigeria/>
- Valdivia, J. A., Vilca, B. N. & Guerrero, R. (2020). Knowledge, perception and attitudes in Regard to COVID-19 Pandemic in Peruvian Population. <https://www.researchgate.net/publication/340694053>

-
- Worldometer (2020). COVID -19 Corona virus Pandemic. Death Toll
https://www.worldometers.info/coronavirus/?utm_campaign=homeAdUOA?Si
- Worldometer (2021). COVID -19 Corona virus Pandemic. Death Toll
https://www.worldometers.info/coronavirus/?utm_campaign=homeAdUOA?Si
- Yohannes, K., Yimenu, Y., Zewdie, Seblework, B. & Argaw, A. (2020). Knowledge, perceptions and preventive practices towards COVID-19 early in the outbreak among Jimma university medical center visitors, Southwest Ethiopia. *Annals of internal medicine journal*.
<https://www.acpjournals.org/doi/pdf/10.7326/M20-0912>
- Zegarra-Valdivia, J., Vilca, B. N. C., & Guerrero, R. J. A. (2020). Knowledge, perception and attitudes in Regard to COVID-19 Pandemic in Peruvian Population. *psyarxiv.com*.
<https://psyarxiv.com/kr9ya/download?format=pdf>