

KNOWLEDGE, ATTITUDE AND PRACTICE OF SOCIAL MEDIA USERS IN ILORIN TOWARDS MONKEY POX PREVENTION

BY

Salamat Abdulrazaq Oloyin, Dr Bashir Amoda Ajijola & Tope Joseph Olorunmola
Department of Mass Communication, Faculty of Humanities and Social Sciences, Al-Hikmah University,
Ilorin
Email: temitopeolorunmola@gmail.com

Abstract

The rise of monkey pox has become an issue of concern globally. Social media continues to serve as a veritable platform for the dissemination of information on monkey pox. However, public awareness on the disease seems to be low. To this end, this study sought to find out the role social media played in preventing the spread of monkey pox in Ilorin, Nigeria. This study adopted the health belief model. A sample size of 399 was derived from the estimated population of 700,000 social media users using the Cochran formular. The simple random sampling procedure was used in the selection of respondents. The findings of this study disclosed that social media users in Ilorin Nigeria are highly aware of monkey pox viral infection alongside the awareness campaigns on social media. Twitter among other social media platform emerged as the major source of information on monkey pox closely followed by Facebook. The respondents thus showed a wide knowledge and positive attitude and practice towards its detection, prevention and treatment. The researcher thus recommended that health agencies should use all social media platforms to create awareness of monkey pox and other health related matters. Social media users should also endeavour to go for monkey pox screening test as well as other health related tests even when they do not feel sick.

Keywords: Monkey Pox Virus, Social Media Users, Knowledge, Attitude, Practice

Introduction

Social media platforms have proven over the years to be a veritable means of disseminating health-oriented matter (campaigns and messages). This was supported by Oyebanji (2019) who opined that the media plays a very important role in the dissemination of health-related information and enhances the speed at which communication is sent and received during outbreaks. Health agencies and individuals now use the internet and social media platforms like blogs, emails, Facebook, Twitter, WhatsApp, Instagram, TikTok and LinkedIn among others to share pictures, videos and messages on health issues, especially campaigns on disease outbreak or spread. Monkey pox, according to WHO (2022), is a zoonotic disease caused by monkey pox virus (MPXV). It was first detected in monkeys in 1958 and was later identified in a 9-monthold boy in 1970 at the Democratic Republic of the Congo. It has thus been reported in 17 countries, Nigeria inclusive. *Pulse Nigeria* (2022) on their Facebook page stated that monkey pox is caused by a virus of the same name that is closely related to smallpox, which can be spread to humans through an infected animal bite, direct contact with the body fluids of an infected person and with virus-contaminated objects. The symptoms were noted to be fever, headache, muscle ache, backache, swollen lymph nodes, chills and exhaustion.

On 26 September 2017, WHO was alerted to a suspected outbreak of monkey pox in Yenagoa Local Government Area (LGA) in Bayelsa State, Nigeria. The index cluster was reported in a family. All of whom developed similar symptoms of fever and generalized skin rash over a period of four weeks. Epidemiological investigations into the cluster show that all infected cases had a contact with monkey about a month prior to onset. From the onset of the outbreak in September 2017 through 15 September 2018, a total of 269 suspected cases across 25 states and one territory, including 115 confirmed cases across 16 states and one territory, have been reported. Seven deaths were recorded, four of which were in patients with a pre-existing immuno compromised condition. Two health care

workers were among the confirmed cases. The most affected age group is 21–40 years and 79% of the confirmed cases are males. In 2018, a total of 76 cases have been reported, 37 are confirmed, one probable and two deaths. These cases were reported in 14 states and one territory (Abia, Akwa-Ibom, Anambra, Bayelsa, Cross River, Delta, Edo, Enugu, Imo, Lagos, Nasarawa, Oyo, Plateau and Rivers and the Federal Capital Territory (FCT)) (WHO 2018).

The Guardian (2022) noted that 42 countries across five regions of the world have reported a cumulative total of 3,413 confirmed cases in non-endemic countries. The breakdown of this cumulative indicated that the World Health Organization European Region topped the infection list with 2,933 cases. This is followed by the Region of the Americas with 381 cases, and the African Region with 73 cases. In Africa, Nigeria topped the list followed by the Democratic Republic of Congo. Moving further as disclosed by *Punch* (2022), Nigeria ranked highest in monkey pox death toll and confirmed cases in Africa with 530 suspected cases, 220 confirmed cases and 6 deaths. To *Vanguard* (2022), Nigeria recorded 88 cases of infected persons in 2017, 49 in 2018, 47 in 2019, 8 in 2020 and 34 in 2021. As reported by Nigeria Centre for Disease Control (NCDC) on Facebook, Twitter and Instagram, Nigeria, between January and June 2022 recorded 204 cases out of which 62 cases were confirmed to be positive. Since the beginning of monkey pox monitoring in 2022 and until 31st July 2024, 102977 confirmed cases of monkey pox including 219 deaths have been reported in Nigeria (NCDC 2024). Although monkey pox has been endemic in parts of Africa for decades, before 2022, there had been relatively limited research on the topic compared to other infectious diseases, such as COVID-19. The 2022 and 2024 outbreak, however, ignited a flurry of research. As at August 2024, 2024, 48 cases were discovered in Abuja and 20 other states (Kwara excluded) with no death recorded. This is to show that Nigerians are more informed about the virus and therefore imbibing health practices to prevent the spread of monkey pox virus.

Government parastatals have continued to disseminate information on social media about monkey pox virus. Nigerian government has also encouraged the campaign by supporting different health agencies to inform the public on monkey pox using various media outlets, including social media. To this end, WHO (2024) noted that Twitter generated over 100 top tweets containing information regarding epidemiology, forms of transmission, symptoms, diagnostic testing, treatment, and prognosis of monkey pox. The topic of monkey pox has received considerable attention on social media platforms. The COVID-19 pandemic, which preceded the global monkey pox outbreak, was the first pandemic of its scale in the social media era, and it helped bring to light the power of social media at times of public health crises. For example, studies have shown that social media data could be leveraged to detect COVID-19 outbreaks in close to real time, detect symptoms, conduct geolocation-specific syndromic surveillance, and study public perceptions and mental health statuses. At the same time, social media has emerged as a platform that is exploited to spread misinformation and market fraudulent products. Although social media plays both positive and negative roles at the time of pandemics and disease outbreaks in the modern world, what is important is that the knowledge generated on such platforms is studied to better understand how exposure to contents on these platforms have helped to mitigate the spread of these viruses. In the context of monkey pox, it is of importance to understand people's knowledge of and attitude towards the topic, as well as the effectiveness of social media campaigns in mitigating effects and role of social media in prevention and control.

The dissemination of information on health matters, behaviour and outcomes via social media can be effective in meeting individual and population health needs. For instance, information concerning monkey pox can be gotten either from the websites, blogs, Facebook, Twitter, WhatsApp, Instagram, TikTok and LinkedIn among others. Most times, post on social media platforms especially Facebook and X (twitter) are uploaded to keep people informed and knowledgeable about the existence of health-related issues such as monkey pox. The level of awareness and knowledge among social media users on monkey pox is necessary to ensure a change in attitude and practice. The researcher, therefore, sought to examine and ascertain the role social media played in mitigating the spread of monkey pox in Ilorin.

Objectives of the Study

The following research questions were designed to guide the study:

1. What is the level of awareness about monkey pox among social media users in Ilorin?
2. What is the level of knowledge about monkey pox among social media users in Ilorin?
3. What is the attitude of social media users on monkey pox in Ilorin?
4. What is the health practice of social media users in Ilorin towards the monkey pox?

The Health Belief Model

This study adopted the Health Belief Model (HBM) which was developed by a social psychologist in U.S Public Health Service, Godfrey Hochbaum in 1958 and later modified by Irwin Rosenstock and Becker in 1966 and 1974 respectively. Sharma and Romas (2012) opined that the tents of the model hold that the more an individual believes that a particular situation or behaviour would affect his or her health; they would likely adjust their subsequent action for the purpose of their wellbeing. Wogu et al. (2019) noted that creating media awareness and providing people with programs that will educate them about the nature and consequences of health issues could determine how they are able to react and contain the breakout of any disease. Thus, the media can serve as a vital tool for changing people's health behavior to engage in practices that will prevent and curb the growing incidences of any disease. Odoh, Onwukwalonye and Onyebuchi (2018) noted that an individual's perception of media health messages contributes to the attitude and practice towards health-related issues. This means that they are likely going to adjust their lifestyle and take precautionary measures if they find out how dangerous the disease or virus is to their health. With regards to this study, the model will help social media users to understand the dangers associated with monkey pox and through the awareness campaign created on social media platforms. They will be educated and enlightened on the mode of transmission, signs/symptoms, preventive and treatment of monkey pox through social media campaigns. Adequate knowledge of monkey pox will help people take health-related actions seriously if and when they discover that negative health conditions can endanger their lives.

An Overview and Epidemiology of Monkey Pox Outbreaks

Monkey pox is a viral zoonotic disease (a virus transmitted to humans from animals) with symptoms in humans similar (but less severe) to those seen in the past in smallpox patients. Although smallpox was declared eradicated by the WHO in 1980, monkey pox however continues to occur sporadically in Central and West Africa. The monkey pox virus, was first isolated in 1958 at the State Serum Institute in Copenhagen (Denmark) during an investigation into a pox-like disease among colonies of monkeys kept for research. The virus, being given its name from the species it was initially isolated from. Monkey pox was first identified in humans in 1970 in the Democratic Republic of Congo (then known as Zaire) in a nine-month-old boy within a region where smallpox had been eliminated in 1968. Since then, the majority of cases reported have been in the rural rain forest regions of the Congo Basin and western Africa – particularly in the Democratic Republic of Congo (DRC), where it is considered to be endemic. There are two recognized strains of the virus – West African Monkey pox virus clade (which is associated with milder disease) and the Central African monkey pox virus clade which is typically associated with more severe illness. The animal reservoir is not yet known but is highly suspected to be small mammal species such as a rodent. The Orthopoxvirusgenus (to which monkey pox belongs) also includes variola virus (the cause of smallpox), vaccinia virus (used in the smallpox vaccine), and cowpox virus. Nigeria is one of the West African countries that have reported monkeypox in the past—two recorded human cases in 1971 and one in 1978. Other African countries that have reported the disease include: Cote d'Ivoire, Liberia, Sierra Leone, Gabon, Cameroon, Republic of Congo, Central African Republic and South Sudan. The United States of America (USA) reported the first occurrence of the disease outside of the African continent in 2003 where 47 cases were linked to wild animals that were shipped to the USA as part of the pet trade. (NCDC 2024).

Moreso, the virus which is transmitted from its animal reservoir to a human host is currently believed to have limited secondary spread through human-to-human transmission (HHT). The case fatality rate (CFR) is reported to vary widely (between 1% and 10% for various outbreaks), with the majority of deaths occurring in younger age groups. There is no specific treatment or vaccine available for human monkey pox infections, however prior smallpox vaccination has been reported to offer a high degree of cross-protection to monkey pox. The virus can be transmitted from animal-to-human, human-to-human and from a contaminated environment-to-human. Index cases are infected by direct contact with the blood, bodily fluids, or cutaneous or mucosal lesions of infected animals, including through their bite or scratch. Human infections through the handling of infected monkeys, Gambian giant rats and squirrels have been documented in Africa, while eating inadequately cooked meat of infected animals has also been identified as a possible risk factor for transmission. Human contact with materials contaminated with the virus can also lead to infection. The virus enters the body through broken skin (even if not visible), the respiratory tract, or the mucous membranes (of the eyes, nose, or mouth).

Human-to-human (HHT) or secondary transmissions occur primarily through droplet respiratory particles requiring prolonged face-to-face contact, or by direct or indirect contact with skin lesions or body fluids of an infected person, and by contact with objects recently contaminated by patient fluids or lesion material (such as clothing or linens). There is limited evidence on the persistence of variola-related viruses on materials (that may act as fomites), under controlled environmental conditions, but there is evidence to suggest that vaccinia virus may persist from weeks to months underscoring the importance of environmental decontamination. During human monkey pox outbreaks, household members of active cases are at greater risk of infection due to their proximity, while hospital associated acquired infections have been noted in Democratic Republic of Congo as well as in the UK. There is some suspicion that sexual transmission may be one route of person-to-person transmission, but there is yet to be evidence to support this. Furthermore, transmission may also occur by inoculation or vertically via the placenta (congenital monkey pox). It is advised that affected individuals should avoid close contact with immune compromised persons (including those with HIV infection) until all crusts are gone. (NCDC 2024).

Also, clinical manifestations of monkey pox usually develop within 5–21 days of infection (incubation period), with infection usually mild-to-moderate in nature and can be divided into two periods: Invasion/prodromal period (0-5 days): with clinical manifestations of fever, intense headache, lymphadenopathy (swelling of the lymph node), back pain, myalgia (muscle ache) and an intense asthenia (lack of energy). Skin eruption period (within 1-3 days after appearance of fever): where rashes appear in various stages often beginning on the face and then spreading elsewhere on the body. The face (in 95% of cases), and palms of the hands and soles of the feet (in 75% of cases) are most affected. The evolution of the rash which occurs over a period of 10 days, progresses through the following stages: oMaculopapular (lesions with a flat base), oVesicles (small fluid filled blisters), oPustules (pus-containing rash), oCrust (dried blisters). The Nigeria outbreak showed that all parts of the body can be affected by monkey pox. However, the parts of the body most affected by rashes were in the following order from most affected to the least affected: Face, legs, trunk, arms, palms, genitalia, soles (NCDC 2024).

Moreover, Al-Dmour (2020) established that, social media platforms are used to create and publish information about health. WHO (2022) noted that Twitter has generated over 100 top tweets about monkey pox. The tweets contained information regarding epidemiology, forms of transmission, symptoms, diagnostic testing, treatment, and prognosis of monkey pox. On their Facebook page, Pulse Nigeria stated on May 24 2022 that the virus is spread through direct contact of an infected, animal bite and contaminated objects like towel, bed sheets and other belongings. It often comes with fever, headache, muscle ache, backache, swollen lymph nodes, chills and exhaustion. The result of the virus is rashes on the face, hands, feet and other part of the body (*Pulse Nigeria* 2022). Similarly, the World Health Organisation of Nigeria in their Instagram @whonigeria on 27th May 2022 disclosed that the virus is found in rodents like rats, squirrels and non-human primates, and can be spread by contact with the

blood, body fluids, secretion and skin lesions of the infected animal. *Punch* (2022) on their Facebook platform disclosed that although monkey pox vaccine has been administered to any high-risk group in any of the African countries reporting cases, WHO has provided over 40,000 test kits to countries. Individuals like @abati1990, @ElsTimmy, @kozVerite, @julianataiwo and @jeepeg274 among others on their Twitter pages shared their experiences and update concerning monkey pox with the aim of informing media audience on the latest trend. The campaign on monkey pox has been coming in from both the government, corporate and non-governmental bodies.

Methodology

This study adopted the survey method, using the questionnaire as the instrument for data collection. As at 2021, Ilorin had an estimated youth population of about 700,000 individuals (Google). Using the Cochran formular $n = N / (1 + N*(e^2))$, the researcher arrives at 399 as sample size for the study since the exact population is not known. The reliability of the measuring instrument was assessed using Cronbach's alpha, which yielded an internal consistency score of 0.74. Mean analysis was employed for data analysis, and the results were presented in tables using numerical values. Decision Rule is If the calculated mean is equal or greater than the criterion mean (2.5), then the decision is accepted but if the calculated mean is lower than the criterion mean (2.5), the decision is rejected.

Results

The questionnaire was distributed to 399 social media users in Ilorin via the whatsapp group chats of students in Ilorin. However, 390 copies were retrieved and analyzed. Mean analysis was used to facilitate a clearer understanding, with the mean serving as the basis for decision-making. The data collected is presented in alignment with the research questions.

Research Question One: What is the level of awareness about monkey pox among social media users in Ilorin?

Table 1: respondent on the level of awareness about monkey pox among social media users in Ilorin.

	Statement	SA	A	D	SD	Mean	Decision
1	I am aware of monkey pox viral Infection	154	199	22	15	3.9	Accepted
2	I am aware of monkey pox awareness campaign on social media	120	152	110	8	3.2	Accepted
3	I first came across monkey pox awareness campaign on WhatsApp	54	151	120	65	2.9	Accepted
4	I came to know about monkey pox on Twitter	162	124	64	40	3.4	Accepted
5	I have seen several updates about monkey pox on Facebook	182	95	74	39	3.1	Accepted
6	I obtained information about monkey pox on Instagram	44	89	162	95	2.4	Rejected
	Average Mean					3.1	Accepted

From the data presented in the table 1, it can be observed that at an average mean of 3.1, the respondent's level of awareness on monkey pox viral infection is high. Data presentation revealed that Twitter (3.4) and Facebook (3.1) were the prominent social media platforms that were used to create awareness on the monkey pox virus. There is high level of awareness about monkey pox among social media users in Ilorin.

Research Question Two: What is the level of knowledge about monkey pox among social media users in Ilorin?

Table 2: respondent on the level of knowledge about monkey pox among social media users in Ilorin.

	Statement	SA	A	D	SD	Mean	Decision
7	Monkey pox was first discovered in a monkey	130	161	64	35	3.5	Accepted
8	Human-to-human transmission can result from close contact of an infected person	158	207	15	10	3.7	Accepted
9	It can also be spread through an infected animal bite and contaminated objects	140	132	80	38	3.1	Accepted
10	The symptoms are fever, headache, muscle ache, backache, swollen lymph nodes, chills and exhaustion	138	146	62	44	2.9	Accepted
11	Rashes appears on the face, hands and feet before it spread to other part of the body	143	162	53	32	3.0	Accepted
12	Nigeria has the highest death toll from monkey pox disease in Africa	48	126	162	54	2.4	Rejected
	Average Mean					3.0	Accepted

From the data presented in the table 2, it can be observed that at an average mean of 3.0 the respondent's the level of knowledge about monkey pox is high so there is high level of knowledge about monkey pox among social media users in Ilorin.

Research Question Three: What is the attitude of social media users on monkey pox in Ilorin?

Table 3: respondent on the attitude of social media users on monkey pox in Ilorin.

	Statement	SA	A	D	SD	Mean	Decision
13	Thorough cooking of foods that contain animal meat and fish can help prevent the spread of monkey pox	151	200	7	32	3.4	Accepted
14	Constant washing of hands with soap and water is a way of preventing the virus	137	183	41	29	3.1	Accepted
15	Avoiding people infected with the virus helps with the prevention	123	172	49	46	3.2	Accepted
16	Visiting the clinic to check oneself against early signs of monkey pox can help in its prevention	180	173	22	15	3.5	Accepted
	Average Mean					3.3	Accepted

From the data presented in the table 3, it can be observed that at an average mean of 3.3 the respondent's attitude towards the prevention and treatment of monkey pox has changed positively.

Research Question Four: What is the practice of social media users towards the monkey pox in Ilorin?

Table 3: respondent on the practice of social media users towards the monkey pox in Ilorin.

	Statement	SA	A	D	SD	Mean	Decision
17	I wash meat and fish thoroughly before using it to cook	210	138	25	17	3.4	Accepted
18	I wash my hands with soap and water regularly	132	140	65	53	3.2	Accepted
19	I avoid coming in contact with people infected with the virus	193	120	51	26	2.9	Accepted
20	I visit the clinic even when I do not feel sick	38	20	210	122	2.1	Rejected
21	I visit the clinic to check myself against early signs of monkey pox	54	108	165	63	2.4	Rejected
	Average Mean					3.5	Accepted

From the data presented in the table 4, it can be observed that at an average mean of 3.5 the respondent's practice towards the detection, prevention and treatment of monkey pox infectious disease were high.

Discussion

The first finding highlighted that there is high level of awareness about monkey pox among social media users in Ilorin. Data presentation revealed that Twitter (3.4) and Facebook (3.1) were the prominent social media platforms that were used to create awareness on the monkey pox virus which different from Onyebuchi et al, (2024) which revealed that Twitter and Facebook were the major platforms used to create the awareness. This aligns with the findings of Okoli et al. (2019) and Nath et al. (2022), who revealed that both health workers and community members in Ikot Enin and Bangladesh are aware of the monkey pox viral infection. Similarly, Alshahrani et al. (2022) and Jairouna et al. (2022) confirmed that social media was the most frequently used channel for raising awareness about health-related issues. The second finding highlighted that there is high level of knowledge about monkey pox among social media users in Ilorin. Onyebuchi et al, (2024) revealed the respondents' knowledge level was assessed with an average mean score of 2.8, indicating a high understanding of the monkey pox infectious disease. This demonstrates that the participants possess a comprehensive grasp of what monkey pox entails. These findings are consistent with the studies of Okoli et al. (2019), Kargbo et al. (2021), and Ukwenya et al. (2021), which reported sufficient knowledge of monkey pox, coronavirus, and Lassa fever among the population. The third finding highlighted attitude towards the prevention and treatment of monkey pox has changed positively. This finding is consistent with Kargbo et al. (2021), who highlighted the presence of a sufficient and positive attitude toward the detection, prevention, treatment, and control of COVID-19. Similarly, Farrokh-Eslamlou and Maheri (2021), along with Ukwenya et al. (2021), noted that people exhibited a positive attitude towards the prevention and control of Zika virus and Lassa fever infections. The fourth finding highlighted that the health practice towards the detection, prevention and treatment of monkey pox infectious disease were high which was totally different from Onyebuchi et al, (2024). Kargbo et al. (2021) and Ukwenya et al. (2021) revealed that respondents exhibited positive and adequate practices regarding the prevention and control of health-related issues. Similarly, Riccò et al. (2022) found that individuals previously vaccinated against seasonal influenza were willing to receive the variola vaccine.

Conclusion and Recommendations

The rise of monkey pox has become a global issue as countries of the world experience the epidemic. However, social media platforms have continued to serve as a veritable medium for the dissemination of health information and campaigns. The way in which social media users consume health messages will help acquire sufficient knowledge, the right attitudes and adequate practices towards the detection, transmission, prevention and treatment of monkey pox in the Ilorin, Kwara and Nigeria at large. This study therefore concludes that social media users are sufficiently aware and knowledgeable about monkey pox and have demonstrated positive attitudes, adequate practice towards monkey pox campaigns indicating that their knowledge has transmitted to a health practice in

kicking against monkey pox transmission in the town. Based on the findings of this study, the following recommendations were made:

1. Health agencies and non-governmental organisations should adopt the use of all social media platforms when creating monkey pox awareness campaigns.
2. Social media platforms should be used more to inform and educate people more on the prevention of monkey pox.
3. Social media users should endeavour to go for monkey pox screening test even when they do not feel sick.

References

- Al-Dmour, H., Masa'deh, R., Salman, A., Abuhashesh, M., & Al-Dmour, R. (2020). Influence of social media platforms on public health protection against the COVID-19 pandemic via the mediating effects of public health awareness and behavioral changes: Integrated Model. *Journal of Medical Internet Research*, 22 (8), 1-15.
- Alshahrani, N.Z., Algethami, M.R., Alarif, A.M., Alzahrani, F., Sheerah, H.A., Abdelaal, A., Sah, R., & Rodriguez-Morales, A.J (2022). Knowledge and Attitude Regarding Monkey Pox Virus Among Physicians in Saudi Arabia, a cross-sectional study. <https://doi.org/10.21203/rs.3.rs-1883068/v2>
- Farrokh-Eslamlou, H., & Maheri, M. (2021). Knowledge, Attitude, and Practice Toward Zika Virus Among Staff of Comprehensive Health Services Centres Affiliated with Tehran University of Medical Sciences in 2020. *The Journal of Obstetrics and Gynaecology Research*, 47 (6), 2204–2214. <https://doi.org/10.1111/jog.14745>
- Jairouna, A.A, Al-Hemyaria, S.S, Abdullab, N.M, El-Dahiyatf, F., Shahwanh, M., Hassanh, N., Drj, O.J., Alyousefk, N.G., Sharifl, S., & Jaberm, A.A.S. (2022). Awareness and Preparedness of Human Monkey Pox Outbreak Among University Student: Time to Worry Or One To Ignore? *Journal of Infection and Public Health*, 15, 1065–1071.
- Kargbo, A., Mendy, P.A, Jawo, E., Jallow, B.J., Ceesay, B., Mendy, S.A., Camara, B., & Ndaw, M. (2021). Knowledge, Attitude And practice of Gambians Towards The Novel Corona Virus (COVID-19) Pandemic: A cross-sectional study. *African Journal of Health Sciences*, 34(1), 134-147.
- Nath, S.D., Islam, A.M.K., Majumder, K., Rimti, F.H., Das, J., Tabassum, M.N., Oishee, A.N., Tarannum, M., Paul, M., Akhter, M., Bhadra, A., Rimu, F.H., Chakraborty, S., Shom, P., Nosaibah, S.M., Rahman, M.A., Khan, A.S., Anjum, A., Khan, S., Hossain, M., & Hawlader, M.D.H. (2022). Assessment of Knowledge on Human Monkey Pox Virus Among General 2 Population in Bangladesh: A nationwide cross-sectional study. MedRxiv. <https://doi.org/10.1101/2022.08.31.22279445>.
- NCDC. Nigeria Centre for Disease Control. (2024, Aug, 20) National Monkey pox Public Health Response Guidelines. (Internet). Available from: <https://ncdc.gov.ng/reports/10/2024-october>
- NCDC (2022, September 11). Situation report. (Internet) <https://ncdc.gov.ng/diseases/sitreps/?cat=8&name=An%20Update%20of%20monkey%20pox%20Outbreak%20in%20Nigeria>
- Odoh, M.C., Onwukwalonye, B., & Onyebuchi, A.C. (2018). When Knowledge Does Not Translate To Practice: A study of the Influence of Cervical Cancer Campaigns on Nigerian Female Undergraduates in Enugu State. *IMSU Journal of Communication Studies*, 2, 23- 103.

- Okoli, S.C., Amao, L.K., Akinrogbe, J.T., Iniobong, J.I., & Burga, J. (2019). Outbreak Investigation of Monkey Pox in Akwa Ibom State: A matched case control study 14th - 24th October 2019. *East African Journal of Health and Science*, 4(1), 37-44.
- Onyebuchi, C. A., Onwukwalonye, B. C., & Odoh, M. C. (2024) Social Media Users' Awareness, Knowledge, Attitude and Practice on Monkey Pox in South East, Nigeria.
- Oyebanji, O., Ofonagoro, U., Akande, O., Nsofor, I., Ukenedo, C., Mohammed, T.B., Anueyiagu, C., Agenyi, J., & Ihekweazu, C. (2019) Lay Media Reporting of Monkey Pox in Nigeria. *BMJ Global Health*, 1-3.
- Pulse Nigeria* (2022, May 24). Things to Know About the Monkey Pox Following Recent Global Outbreaks. (5)
- Punch* (2022, June 10). Nigeria's Monkey Pox Death Toll Highest in Africa –WHO. <https://punchng.com/Nigeria's-Monkey-Pox-Death-Toll-Highest-in-Africa-who/?amp>
- Sharma, M., & Romas, J.A. (2012). Theoretical Foundations of Health Education and Health Promotion. Burlington, MA: Jones & Barlett Learning.
- Riccò M., Ferraro, P., Camisa, V., Satta, E., Zaniboni, A., Rszanieri, S., Baldassarre, A., Zaffina, S., & Marchesi, F. (2022). When a Neglected Tropical Disease Goes Global: Knowledge, Attitudes and Practices of Italian Physicians Towards Monkey Pox, preliminary results. *Tropical Medicine Infectious Disease*, 7(135), 1-21. <https://doi.org/10.3390/tropicalmed7070135>.
- The Guardian* (2022, June 29). NCDC Deplores Misinformation About Monkey Pox in Nigeria. <https://guardian.ng/news/ncdc-deplores-misinformation-about-monkeypox-in-nigeria/>.
- Ukwenya, V. O., Fuwape, T. A., Fadahunsi, T. I., & Ilesanmi, O. S. (2021). Disparities in Knowledge, Attitude, and Practices of Infection Prevention and Control of Lassa fever Among Health Care Workers at The Federal Medical Centre, Owo, Ondo State, Nigeria. *The Pan African Medical Journal*, 38, 357.
- WHO (2022, May 19) Monkeypox. <https://www.who.int/news-room/factsheets/detail/monkeypox>.
- WHO (2022, May 22) Multi-country Monkey Pox Outbreak in Non-endemic Countries 2022. (Internet).
- Wogu, J.O., Chukwu, C.O., Orekyeh, E.S.S., Anorue, L.I., Nwokedi, O. & Chukwu, L.C. (2019). Communicating Health Risk in South-East Nigeria The Case of Media Campaign Against Viral Hepatitis and its Implication for Health Communication. *Medicine*, 98(25), 1-8.