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# COVID-19 Rumours and Grapevines and their Impact on the People: A Case Study of Enugu State, Nigeria

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Abstract---COVID-19 is a novel virus never before seen on the surface of the earth. It took the world and her scientists by surprise. It was initially indefinable, unclassifiable, untreatable, and uncontrollable. The situation resulted in a lot of suspicions and rumours about its nature, spread, cure, control etc. This work intends to study the suspicions and rumours that attended that situation and their impacts on the people of Enugu state, Nigeria. The work was guided by the social responsibility theory. The studied sample comprised of two hundred and fifty five (255) randomly selected respondents from the Local Government Areas whose opinions were elicited through questionnaires and interviews. The result revealed a lot of suspicions and rumours about the virus and its management. It manifested the fact that intensive and prolonged advertisements and public relations were needed in such a situation but the efforts in that regard were abysmally poor.

*Keywords---*COVID-19, Enugu people, grapevines, misconceptions, rumours.

## Introduction

The outbreak of COVID-19 was surrounded by fear, tension and trembling all over the world and even more so in "religious" Nigeria and Africa where it was suspected to be a signal of the end time. All sorts of thoughts, imaginations and suspicions were entertained. Rumour was rife as it was doubtful whether there could ever be a cure or control for it. COVID-19 was marked by trepidation, anxiety and uncertainty which are veritable avenues for rumours and disinformation which actually spread very quickly physically and virtually. The easy spread of false information gave rise to "infodemic". Infodemic, according to WHO, is "an overabundance of information, some accurate and some not, that makes it hard for people to find trustworthy sources and reliable guidance when they need it". COVID-19 which affects 220 countries and territories as at 21<sup>st</sup> June, 2021 is the first truly global pandemic in this age of social media. According to Richardson & Domingos (2002), the implication is that false information created in one country experiencing COVID-19 could spread fast globally online. According to him permitting this is the frictionless nature of social media platforms which allow content to be published without moderation and fact-checking, preconditions that are associated with more formal publications. This allows false information to spread faster and wider than before.

Rumour has no generally accepted definition. A rumour could be defined as an unconfirmed communication transmitted from person to person, usually in a situation of stress or anxiety. Knapp (1944), defines it as: A proposition for belief of topical reference disseminated without official verification. So, formidably defined, rumour is but a special case of informal social communication, including myth, legend, and current humour. From myth and legend it is distinguished by its emphasis on the topical.

According to Nekovee et al. (2007), "Rumours are an important form of social communications, and their spreading plays a significant role in a variety of human affairs". Rumour gets shorter, more concise, more easily grasped and told as it spreads (Allport & Postman, 1952). Knapp identified three basic characteristics of rumour as: they're transmitted by word of mouth, they provide "information" about a "person, happening, or condition," and they express and gratify "the emotional needs of the community."

Rumour is attractive to individuals and is a crowd puller. It is usually irresistible to those that have knack for it. It is used to while away time in groups. Knapp also identified three types of rumour namely: pipe dream rumours: reflect public desires and wished-for outcomes, bogie or fear rumours reflect feared outcomes and wedgedriving rumours intend to undermine group loyalty or interpersonal relations.

When COVID-19 initially broke out the disease was, within Nigeria, variously and wrongly referred to as "colodia drivous" as typified by one young female pupil on Channels Television, "Covet one nine" by President Buhari as heard from his speech on Channels Television coverage at the outset, "Colona vaisis" as it was called by a member of the Nigerian Senate at the floor of the House of senate, "colona-virus" by a lot of Nigerians and "okolo virus" by a lot of Igbo speakers. It was that much generally misunderstood even by its name.

COVID-19 is a pandemic that was alleged to have started from the wet market in Wuhan, China in November, 2019. Genetic sequencing of the virus suggests that it is a beta corona virus closely linked to the SARS virus. The news of the outbreak was said to have been suppressed by the authorities in Wuhan and the whistleblower who attempted to blow the matter open was suppressed. It was suspected to have spread from bat to man and subsequently from man to man. It spreads from person-toperson through droplet and contact transmission. There was equally the conspiracy or Lableak theory that it was from an accidental leak from a laboratory in China. Journalists were not allowed into Wuhan to report or record the development of the disease at the initial days of the disease. Problem arose because they could not achieve any local containment of the virus. COVID-19 outbreak further proved the global interconnectedness. It was widely suspected that the disease spread because of lack of cooperation among the nations of the world at the onset and lack of transparency on health matters among them beginning with China. It was said that the Chinese government asked her doctors to lie about how quickly and devastatingly it spreads. Thus, there was misinformation about the seriousness of the disease from China. It was initially said not to be transmittable from human to human. It was likened to other zoonoses like SARS, Mad-cow disease, HIV, Ebola, Zika virus, etc. Scientific evidence revealed that the virus came from bats. The COVID-19 disease is a highly transmittable and a pathogenic viral infection caused by severe acute respiratory syndrome corona virus 2 (SARS-COV-2) which apparently emerged in WUHAN, China and spread around the world. COVID-19 is transmitted via droplets and formites during close unprotected contact between an infector and an infectee. According to Kabiru et al. (2020), Some observed issues aiding community transmission of COVID-19 in Nigeria are: the distrust of some Nigeria citizens towards government on COVID-19 management, poverty, religious beliefs, ignorance on face mask sharing, low level of informed populace, misconceptions, stigmatization of infected individuals, poor health facilities, inadequate testing centre, shortage of health workers, poor treatment among others

The symptoms of COVID-19 include fever, dry cough, fatigue, sputum production, shortness of breath, sore throat headache, myalgia or arthralgia, chills, nausea or vomiting, nasal congestion, diarrhea etc. The strategies adopted to contain the virus were isolation, quarantine, use of face masks, regular washing of hands, social distancing and lockdown as a general measure. As reported by Allen et al. (2020), the

pandemic was a global health crisis and speedily translated into an unequaled economic crisis. Early in the history of the disease W.H.O. entered into a partnership with China to seek solution to the pandemic. The objectives of the WHO-China Joint Mission on corona virus Disease 2019 (COVID-19) were: to enhance understanding of the evolving COVID-19 outbreak in China and the nature and impact of ongoing containment measures; to share knowledge on COVID-19 response and preparedness measures being implemented in countries affected by or at the risk of importation of COVID-19; to generate recommendations for adjusting COVID-19 containment and response measures in China and internationally; and to establish priorities for a collaborative programme of work, research and development to address critical gaps in knowledge and response and readiness tools and activities (Guo et al., 2020; Ogundokun et al., 2020; Fatmi, 2020; Suryasa et al., 2021).

This strategic and informed plan did not bear the desired fruits. Nigeria's first casualty to the COVID-19 pandemic was a former managing director of the pipelines and products marketing company (PPMC), after days he returned to Nigeria from United Kingdom.

## Theoretical Framework

The theoretical framework used to conduct this work is the social responsibility theory of the press. The social responsibility theory of the press is an offshoot of Wilbur Shramm's Four Theories of the press that initially enunciated the role of the press according to the nature of the government in a particular environment. It extended and explained the functions of a press in a free or libertarian society. It reemphasized the inalienable role of a free press. It defined the extent of freedom and the extent of responsibility that goes with it. The social responsibility theory maintained that the free press should ideally be free to perform her functions unfettered in the society but with room for the peoples interference when the need be as well as in-house and professional oversights. Such a press must permit the contents of her media to be discussed in public domains. The theory allows:

- a) The people freedom to express their opinions for or against the press, government or issues.
- b) Public or group voice
- c) Sets limit to private rights and recognizes society's interests
- d) The media is better as private outfit but could be by public/private initiative directed in public interest.
- e) Media must be socially responsible and compelled to be so by the government and other interest groups.

The social responsibility theory respects individual and groups interest and encourages pluralism. The external checks it prescribes prevent the media from putting forth

manipulative stories and sensitive information which can cause problem. In the theory the needs and good of the society is uppermost.

The press takes its colorization from the society in which it operates. The present Nigerian government is by garb a democratic government but in reality a despotic, tribal and totalitarian regime. Ordinarily, it is said that he who pays the piper dictates the tune but with this government it is different. It dictates the tune for everything and everybody. Oppositions are clandestinely crushed. Contrary opinion is fought to finish or outrightly ignored.

The commitment of social responsibility was an imposition on the mass media first suggested by the Hutchins commission in 1947. Social responsibility was a pivotal reassertion of modern media's role in a democratic society. Nigerian present government wants a press that does what it wants to the extent of calling white, black and covering a large and protruded pregnancy with the palm of one hand. Lies and misinformation and cover up are their stocks-in-trade. The press dare not expose or say anything against the evil plans, hidden agenda and biased actions of the government. To that extent the press is prevented from being socially responsible. Issues are not subjected to public attention, consideration or debate. The cardinal functions of the media have been abandoned for sycophancy and deceit.

Public enlightenment and education was in an all-time low. A pandemic came and the press was not sure of what to do because of the government suppressive nature and in order not to attract sanctions from them. Serious and sustained mass campaign and education was absent. Severe prohibitions and restrictions were put in place before any publicity at all. Due to the government nature of insincerity and untrustworthiness even the little information it released was held suspect. There was no physical proof of truth in the information released by the government (Shehzad et al., 2020; Haleem et al., 2020; Ornell et al., 2020).

# Methodology

An eclectic triangulation methodology was adopted for this study using a combination of questionnaires, oral interviews, and document and participant observation. This is to ensure that no salient information is left uncaptured. A total of two hundred and fifty five respondents were sampled from the seventeen local government areas of the state. The investigation was conducted between June and December, 2020. The observation method enabled the researchers to collect the relevant data to the study unobtrusively in relaxed conditions in newspaper stands, joints, bus stops, cafes, playgrounds etc.

# Data Analysis and Discussion

The study showed the data and results presented hereunder:

## Rumours in Nigeria about COVID-19

Nigerians according to the respondents peddled the following rumours about the pandemic:

- a) COVID-19 affects only the rich.
- b) It does not exist.
- c) Alcohol kills the COVID-19 virus.
- d) COVID-19 cannot thrieve in Africa, the hot weather is inimical to it.
- e) Only top government officials/ rich men are infected.
- f) Use of hot African Spices in cooking is preventive as well as curative.
- g) Inhalation of steam from a combination of lemon peel, garlic and onion is curative.
- h) Drinking hot lemon juice is preventive by boosting immunity.
- i) Some face masks are impregnated with the disease causing bacteria.
- j) The development of 5G communication network band is synonymous with the disease.
- k) It is the creation of Bill Gates to make more money and enslave Africans perpetually.
- l) Preventive vaccines are designed to induce infertility and change the genetic makeup of people.
- m) Vaccines are impregnated with biological chips that make all recipients identifiable under "666" plan of the devil.

## Grapevines shared during of the Period.

Grapevine is communication of unknown origin passing through informal structure and spreading to the people, most often, rapidly. It is also said to be communication recommended held without following structure (https://harappa.education/harappa-diaries/what-is-grapevine.communication/). Government use grapevine to test probable public reaction to actions if taken by it. Grapevines could originate from unofficial communication among employees of the same rank and spread by those who overheard the discussion. Geektonight (2021), says grapevine communication is an unstructured and informal network formed on social relationship rather than organizational charts or job descriptions. The four types of grapevine communication are: single strain, gossip chain, probability chain and cluster chain. In a single strain chain grapevine information travels from person A to person D. In the gossip chain one person spreads the news to as many as they can while in the probability chain the person disperses the information randomly and in turn others do the same. In the cluster chain one person tells a selected group of people who also spread the news to another cluster. Grapevine communication has the potential to reveal a lot about an organization or government like how much workers and citizens trust the government or organization, an increase in conflict, workplace satisfaction and informal groups within the system. Grapevine information is not necessarily false. It could be said to be premature and released by informal means.

The initial period of the corona virus pandemic of 2020 (COVID-19) was greeted with massive grapevines. The major government functionaries were meeting continuously and suspected to be receiving funds and revenues and sharing them among themselves. The fund received from international agencies and bodies and even individuals were not made public and even the internally generated revenue was not spent on projects that can be witnessed by the people. Transparency was hidden with the scare of the virus.

News making the round was that government helmsmen were sharing public fund with their cronies and cohorts. The government claimed to be executing a mass poverty alleviation programme called National Cash Transfer Programme (NASSCO) or Household Uplifting Programme (HUP) and few clips of fund sharing was shown on television showing where government fund was being shared in public ostensibly without record or observable system. Of particular interest were the testimonials of some of the recipients of their own receipt and that of the baby on their backs. The question then was what sincere government statistics captured the baby behind the women as a beneficiary of such a national programme probably made while the baby was in the womb or yet to be conceived and how and when the statistics was generated? And why was the execution of such a welfare scheme skewed to a particular zone and people in the country? The programme implementation has a replica with the government. The so-called "trader-money" was shared in market places weeks before the 2019 general election also in predetermined areas and to 'predetermined' public without any credible record. The programme was articulately designed in theory and was said to be a component of National Social Safety Nets Project (NASSP) which was supported by the World Bank, to provide financial support to targeted poor and vulnerable Nigerian households. There were suspicions of duplication of project claims. One wonders then the difference between the earlier project and the COVID-19 Rapid Response Registration (RRR) Cash Transfer Project that was claimed to lift the urban poor affected by the pandemic out of poverty.

The government was claimed to have used public fund to buy food stuff and other essential commodities and stockpile for themselves and families and those of their cronies for the unknown length of the lockdown. This they eventually called "COVID-19 relief packages" or palliatives and sampled and hoarded in gigantic warehouses across the nation. The relief packages were only available to politicians

and their families. The amount of money expended in the project existed only with the political captains but information has it that they received huge assistance from home and abroad for the make-belief people's oriented programme (Luo et al., 2021; Guo et al., 2023; Liang et al., 2022; Manzaba & Rodríguez, 2021).

Lockdown restrictions on movement were for the masses not for the government and their cohorts, agents and security personnel. It was the international ban on flights that restricted air travels otherwise Nigerian government officials would have been cruising around the globe. Their land vehicular movement was without restriction only that it was devoid of the usual pomp and pageantry. It is only the masses that faced the restrictions even in cases of ill-health.

## Their effects

COVID-19 rumors and grapevines destroyed the basic integrity of the government which includes providing overall leadership, protecting life and properties and informing. The people in government abdicated their responsibilities of effective leadership to touts, hooligans and hoodlums. Credible and reliable information was either not available or very minimal.

The pandemic exposed the lack of strategic information management by the government. Government was not able to handle the COVID-19 information smartly; people got and followed the information about COVID-19 virtually, through the television and local/international radios and more importantly through the third party. The actions of the various governments to mitigate the effects on the citizens were also unavailable.

COVID-19 brought back to life gossip centers. Assembly grounds for sharing information and rumours resurrected in all city corners and villages especially as most people were idle and had no place to go. Palm wine markets, ogogoro (local gin) joints, backyard, neighborhood Ìgbo (Indian hemp) hideouts, formerly busy bus-stops etc became free-for-all gossip exchange centre points. The major rumour merchants gather in those places to collect their consignment and withdraw to their different territories to hawk it even up to the doorstep of individuals.

In some places during the period rumours were used to glorify evil, bad habits/actions like smoking Indian hemp and lure some young ones to evil acts, excessive drinking of alcohol, raping young girls, pilfering, shop breaking etc. The events that culminated into the vandalization of COVID-19 relief-items warehouses across the nation started as a rumour. In all corners and crannies of the nation it was rumoured that the pandemic relief packages were hoarded in selected warehouses and government houses nationwide. And so when the opportunity came, with the breakdown of law

and order, in Lagos following the #EndSARS protest hungry men and women besieged the places and emptied them.

One COVID-19 rumour that almost tore Enugu state apart was that the government of Governor Ugwuanyi was implementing an agenda of landed property supremacy for the Nsukka people in Enugu and halting Enugu capital city development for Nsukka town and environs infrastructural development. The governor was scouting for and reclaiming lands reserved for future development in different ministries, parastatals, schools and establishments in Enugu urban and selling them to his people, friends and cohorts for private use. This action would spell a bleak future to those places as there would be no room for expansion. Among other things the rumour brought the matter to public attention.

COVID-19 pandemic had other multifarious impacts on the people of Enugu state and environs. Generally it was not, for the majority of the people, a palatable experience. It affected the pattern of life of the people. It brought so much sorrow, pain, hunger, disorientation, frustration and deaths.

ILO,FAO, IFAD and WHO (2020) claimed that the COVID-19 pandemic led to a dramatic loss of human life worldwide and presented an unprecedented challenge to public health, food systems and the world of work. It was not convincingly so in Enugu state despite government claims. It was the copied lockdown that wrecked the greatest havoc among the people as it was also reported by Bordi et al. (2021).

Another major impact of COVID-19 in Enugu state was heightened loss of confidence in government. The confidence level before the pandemic was low. The government was not trusted with telling the truth. Promises were made and broken. The government was held suspect in all things and at all times. The government promise to provide health-check, care for the sick and provide palliative to the general public was therefore regarded as another of their normal lies and it proved to be. The people did not believe that COVID-19 was real. They saw it as another government gimmick to attract funds from international communities and donor agencies and cart away the remaining public income and resources in the name of pursuing a health emergency when the people are without food and care.

The pandemic affected schools generally and students in particular. Schools were shut for over nine months and physical social contacts were reduced and out-of-home leisure time activities were cancelled, the students and teachers were home and not properly or meaningfully engaged. When schools eventually reopened a lot of the girls did not return to school due to adolescent pregnancy/child marriage.

The other impact of the pandemic was total exposure of the government failure to cater for the health needs of people. It revealed that government hospitals were few,

under staffed and ill-equipped in the state. At the onset of the pandemic the few available hospitals were deserted due to general fear of the spread of the pandemic coupled with there being no protective wears for the healthcare workers to enable them stay in the hospitals to receive and attend to sick people. It was a sheer conspiracy against the people as there were nobody to attend to even non-COVID-19 cases in hospitals and the people were abandoned to die. There was no testing centre throughout the Eastern region of the country with a population of about twelve million people. Testing centres were claimed to be in Abuja and Lagos only in a country with a population of over two hundred million people.

The greatest individual and group effect of COVID-19 was fear. The rumours, the shutdown, the control protocols and their implementation strategies put fear in the people generally. The people experienced traumatic and post-traumatic stress disorders, anxiety and depression during the period. The compulsory wearing of masks and compulsory observation of social distance affected the convivial lifestyle of the people and their perception of empathy towards others. The pandemic made convivial ties lose their flavour among the people. Local annual or periodic festivals and ceremonies like omaba (a type of masquerade) ceremony, ekpe (another type of masquerade) ceremony, iri ji (new yam festival), etc were skipped. The festivals used to bring the people together and create avenues for community sharing, eating and drinking. The festivals by creating such opportunities provide life tonic for the people. It reduces stress and promotes wellness. The appeal the local festivals and ceremonies were commanding got highly reduced. The reformed COVID-19 variety does not attract people. Traditional ceremonies became melancholic and disrupted. The calendar generally was disrupted. It should be remembered that the local calendar in Igbo land as in other places was an arrangement of the celebration of worships and festivals of the area. Some of the festivals are occasional: annual or biannual while some are once in three years. Eventually, some of the occasions were revised but some could not be because they are attached to specific time and season of the year.

The pandemic gave room for mutual suspicion of everyone as possible carrier of the disease. Children were avoiding their parents. Parents who prayed for their children to travel abroad for greener pastures were now praying for the children not to return then in order not to infect them with the virus. Everybody was avoiding every other person. The level of body-to-body contact reduced. Patients who needed mouth-to-mouth medical help like mouth-to-mouth resuscitation died out of neglect.

COVID-19 may not have accounted for so many deaths among the people than malaria, for example, but it became the major suspect in all deaths during the period. People with minor health challenges were left unattended to in hospitals and so many of them developed complications and died. Sick people in the hospitals and clinics during the period stayed and died in the emergency wards. Majority of the government

hospitals except the ones under the watchful eyes of the government in city centres or state capitals were shut down during the lockdown.

COVID-19 pandemic and the control protocols destroyed rural economy and social life. Market days were disrupted. Markets came to be conducted in secret makeshift places and times to evade the government functionaries and their agents. Those who depended on the market for subsistence suffered. Goods exchanged hands directly between the producers and the consumers. Food vendors' foods, vegetables and other edible or perishable items were wasted in large quantities. Remote villages were kind of invaded in the initial days of the pandemic as they did not expect that they could come under direct or strict government scrutiny or surveillance. Government agents and their cohorts besieged the rural markets midway, vandalized, scattered, destroyed goods and forced people to flee. People who prepared food, for instance, to sale had to carry them home unsold and it wasted. Vegetables harvested and brought to market for sale were unsold and mostly abandoned to the goats in the environment. Those who make routine market day purchases of their needs were frustrated or starved. External supplies of goods, medicine and services were cut off and on these accounts the people died in their numbers. Movements were restricted or prohibited. Essential movements were hampered by exploitation by security agents, multiple mandatory mask wearing enforcers, vigilantes and special squads. Transport fares quadrupled and penalty for not wearing mask was highly exploitative.

Panchal et al. (2020), observed that the COVID-19 pandemic and the resulting economic recession negatively affected many people's mental health and created new barriers for people already suffering from mental illness and substance use disorders. Specifically, they reported that KFF Health Tracking poll from July 2020 found that many adults are reporting specific negative impacts on their mental health and wellbeing, such as difficulty in sleeping (36%) or eating (32%), increase in alcohol consumption or substance use (12%), and worsening chronic conditions (12%), due to worry and stress over the coronavirus. With time isolation and job loss joined the already very bad situation. According to Fegert et al. (2020), Isolation, contact restrictions and economic shutdown imposed a complete change to the psychological environment of affected countries.

COVID-19 provided Enugu people the excuse for dodging responsibilities like: taking the sick to the hospital for treatment, giving befitting burial to the dead, naming ceremonies, house warming, age-grade functions, taking chieftaincy titles, town meetings, etc. Enugu state workers wished the pay without work or "work from home" of government of the pandemic time could continue. Even family function especially the extended family commitments were dodged.

The government of Enugu state hid under the COVID-19 pandemic restrictions on movement and restricted association of people to relocate the raw food depot at

Ogbete (Enugu main market) to Garki, Awkunanaw Enugu during the period. The depot was the final destination of long trucks and small ones alike with raw food from far and near in Enugu. The depot is centrally located and has served as such since the colonial days. It was rumoured that the governor of the state had sold the site to his town's man for private commuter business -a move that was to attract the rolling out of war drums by the sons of the soil of Enugu metropolis in opposition but for the quick rebuttal in the media. Such a move would not have been attempted on a normal day. The security agents were used to enforce compliance.

COVID-19 business oriented outfits mushroomed in cities, hospitals, schools, event venues, government and non-government offices selling nose covers, gloves and hand sanitizers. Transport vehicle operators capitalizing on the social distance requirement of the COVID-19 period raised their charges and fares and they did not observe the social distance directive for any meaningful length of time. Restriction in movement during the period caused an increase in street markets for dairy needs, essential consumables and the like. Neighbourhood markets grew bigger during the period. Generally, COVID-19 gave birth to sprawling market system in Enugu state. Markets grew wherever an appreciable number of people live or wherever somebody has goods to display and sale.

## Conclusion

The government of Enugu state like Nigeria itself does not seem to realize the enormity of its responsibility to the citizens especially in the area of health care provision, promotion and protection. COVID-19 pandemic exposed the gross inadequacies of the system — inadequate manpower, poor infrastructure, poor facilities, obsolete equipment, poor technical knowhow, lack of skilled personnel, etc. Health facilities are grossly inadequate and antiquated and the monitoring and reporting system are very regimented, inefficient, ineffective and poor. The emergence of the problem was not properly handled as a human interest issue that could affect everybody irrespective of status, position or location. The details were not sought after and provided and early precautions were not taken by the government. Consequently rumour and grapevine took over and filled the vacuum. And subsequently when the real information came out it was held suspect and suspicious. Rumour provided an unnecessary complication to the pandemic and has remained with it. Emergency health challenges have always been there but COVID-19 pandemic came to complicate them more than ever.

#### References

Allport, G. P., & Postman, L. (1952). L.(1947) The psychology of rumor. *Hery Holt*. Bordi, D., Knowles, M., Sitko, N., & Viberti, F. (2021). Assessing the Impacts of the COVID-19 pandemic on the livelihoods of rural people: A review of the evidence.

- Fatmi, M. R. (2020). COVID-19 impact on urban mobility. *Journal of Urban Management*, 9(3), 270-275. https://doi.org/10.1016/j.jum.2020.08.002
- Fegert, J. M., Vitiello, B., Plener, P. L., & Clemens, V. (2020). Challenges and burden of the Coronavirus 2019 (COVID-19) pandemic for child and adolescent mental health: a narrative review to highlight clinical and research needs in the acute phase and the long return to normality. *Child and adolescent psychiatry and mental health*, 14, 111.
- Guo, F., Zhou, A., Zhang, X., Xu, X., & Liu, X. (2023). Fighting rumors to fight COVID-19: Investigating rumor belief and sharing on social media during the pandemic. *Computers in Human Behavior*, 139, 107521. https://doi.org/10.1016/j.chb.2022.107521
- Guo, H., Zhou, Y., Liu, X., & Tan, J. (2020). The impact of the COVID-19 epidemic on the utilization of emergency dental services. *Journal of dental sciences*, 15(4), 564-567. https://doi.org/10.1016/j.jds.2020.02.002
- Haleem, A., Javaid, M., Vaishya, R., & Deshmukh, S. G. (2020). Areas of academic research with the impact of COVID-19. *The American journal of emergency medicine*, 38(7), 1524-1526. https://doi.org/10.1016/j.ajem.2020.04.022
- Kabiru, O. A., Christopher, O. F., Rebecca, O. A., Olabisi, A., Samuel, O. A., & Funmilayo, M. A. (2020). Intrigues and Challenges Associated with COVID-19 Pandemics in Nigeria. *Health*, 12(08), 954-971.
- Knapp, R. H. (1944). A psychology of rumor. Public opinion quarterly, 8(1), 22-37.
- Liang, X., Guo, G., Li, S., Zhong, X., & Luo, P. (2022). COVID-19-related information seeking and individual's rumor refuting: A multi-information-source perspective. *Computers in Human Behavior*, 134, 107342. https://doi.org/10.1016/j.chb.2022.107342
- Luo, P., Wang, C., Guo, F., & Luo, L. (2021). Factors affecting individual online rumor sharing behavior in the COVID-19 pandemic. *Computers in human behavior*, 125, 106968. https://doi.org/10.1016/j.chb.2021.106968
- Manzaba, F. D. M., & Rodríguez, M. A. Y. (2021). The technological revolution and its impact on current education: educational response to COVID-19. *International Research Journal of Management, IT and Social Sciences*, 8(1), 83-90.
- Nekovee, M., Moreno, Y., Bianconi, G., & Marsili, M. (2007). Theory of rumour spreading in complex social networks. *Physica A: Statistical Mechanics and its Applications*, 374(1), 457-470. https://doi.org/10.1016/j.physa.2006.07.017
- Ogundokun, R. O., Lukman, A. F., Kibria, G. B., Awotunde, J. B., & Aladeitan, B. B. (2020). Predictive modelling of COVID-19 confirmed cases in Nigeria. *Infectious Disease Modelling*, 5, 543-548. https://doi.org/10.1016/j.idm.2020.08.003
- Ornell, F., Moura, H. F., Scherer, J. N., Pechansky, F., Kessler, F. H. P., & von Diemen, L. (2020). The COVID-19 pandemic and its impact on substance use: Implications for prevention and treatment. *Psychiatry research*, 289, 113096. https://doi.org/10.1016/j.psychres.2020.113096

- Panchal, N., Kamal, R., Orgera, K., Cox, C., Garfield, R., Hamel, L., & Chidambaram, P. (2020). The implications of COVID-19 for mental health and substance use. *Kaiser family foundation*, 21.
- Richardson, M., & Domingos, P. (2002, July). Mining knowledge-sharing sites for viral marketing. In *Proceedings of the eighth ACM SIGKDD international conference on Knowledge discovery and data mining* (pp. 61-70).
- Shehzad, K., Xiaoxing, L., & Kazouz, H. (2020). COVID-19's disasters are perilous than Global Financial Crisis: A rumor or fact?. *Finance research letters*, *36*, 101669. https://doi.org/10.1016/j.frl.2020.101669
- Suryasa, I. W., Rodríguez-Gámez, M., & Koldoris, T. (2021). The COVID-19 pandemic. *International Journal of Health Sciences*, 5(2).