

## Benefits, disadvantages and challenges of virtual conferencing in the COVID-19 era: Adjusting to the new normal

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### Abstract

**Objective:** The COVID-19 pandemic has had tremendous effect on the medical and scientific community. Measures instituted to curb the spread of the disease such as physical distancing and ban on large gatherings have significantly altered conferencing activities of medical professional associations. With no end in sight to the pandemic, it is certain that medical professional associations may have to make do with purely virtual or hybrid conferencing for some time to come. The objective of this paper is to highlight the benefits, disadvantages and challenges of virtual conferencing

**Methods:** We searched Pubmed, Embase, Scopus, and AJOL databases from January 1, 2021 to December 31, 2021 for publications describing the benefits, disadvantages and challenges of virtual conferencing during the pandemic. This, together with authors' experience formed the resource base for this work.

**Conclusion:** We propose ways the scientific community in Nigeria can maximize the virtual conferencing while the pandemic lasts. We also advocate increased discussion about how to improve the virtual conferencing culture and the development of guidelines for purely virtual or hybrid scientific conferences.

**Key Words:** Virtual conferencing, COVID-19 Era, Benefits and limitations

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Received: March 6, 2021

Accepted: February 17, 2022

Published: June 30, 2022

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<http://dx.doi.org/10.4314/rejhs.v10i2.10>

## **Avantages, inconvénients et défis de la conférence virtuelle à l'ère du COVID-19: s'adapter à la nouvelle normalité**

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### **Résumé**

**Objectif de l'étude:** La pandémie de COVID-19 a eu un effet considérable sur la communauté médicale et scientifique. Les mesures instituées pour freiner la propagation de la maladie, telles que l'éloignement physique et l'interdiction des grands rassemblements, ont considérablement modifié les activités de conférence des associations professionnelles médicales. Sans fin en vue de la pandémie, il est certain que les associations professionnelles médicales devront se contenter de conférences purement virtuelles ou hybrides pendant un certain temps encore. L'objectif de cet article est de mettre en évidence les avantages, les inconvénients et les défis de la conférence virtuelle.

**Méthodes de l'étude :** Nous avons effectué des recherches dans les bases de données Pubmed, Embase, Scopus et AJOL du 1er janvier 2021 au 31 décembre 2021 pour trouver des publications décrivant les avantages, les inconvénients et les défis des conférences virtuelles pendant la pandémie. Ceci, combiné à l'expérience des auteurs, a constitué la base de ressources pour ce travail.

**Conclusion :** Nous proposons des moyens pour que la communauté scientifique du Nigéria puisse maximiser les conférences virtuelles pendant la durée de la pandémie. Nous préconisons également une discussion accrue sur la manière d'améliorer la culture des conférences virtuelles et l'élaboration de lignes directrices pour les conférences scientifiques purement virtuelles ou hybrides.

**Mots-clés :** Conférence virtuelle, ère COVID-19, avantages et limites

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*Received: June 24, 2021*

*Accepted: December 30, 2021*

*Published: June 30, 2022*

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## INTRODUCTION

COVID-19 originated from a cluster of acute respiratory infection cases in Wuhan, Hubei Province China in December 2019 with infections with the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (1). It has since grown to a pandemic of monumental proportions with 353,924,758 cases and 5,619,319 deaths as at January 24, 2022 (2) leaving in its wake grave economic and social consequences. The World Health Organization (WHO) designated the infective agent SARS-CoV-2 and gave the name Coronavirus disease-2019 (COVID-19) to the disease on February 11, 2020 (3). The disease was subsequently declared a pandemic on March 11, 2020 as it rapidly escalated.

There is no doubt that the pandemic has had tremendous effect on the medical and scientific community. The measures instituted to curb the spread of the disease such as physical distancing and ban on large gatherings have significantly altered not only the scope and processes of clinical care but they have reduced the usual pace of academic activities both within institutions and as relates to conferencing activities of medical professional associations.

We wish to draw attention to another effect of the COVID-19 pandemic. This is the conversion - especially in the months immediately following the onset of the pandemic- of most scheduled scientific conferences in Nigeria and other parts of the world from physical meetings to fully virtual online or hybrid physical and virtual meetings using various conferencing software.

Despite the easing of the various lockdown measures, the ban on large gatherings still remains in Nigeria. Waves of the COVID-19 infection continue to occur in cycles, Lagos state only recently announced the end of its fourth wave (4). With no end in sight to the pandemic, it is certain that medical professional associations and societies may have to make do with purely virtual or hybrid conferencing for some time to come.

Virtual conferencing is not new. The search for and use of media spaces that can provide real time audio and visual communication between individuals in different physical locations dates back to the 1980's and 1990's(5). Over the past decade, before the advent of the pandemic, it had been the norm for conducting day-to-day business in some organizations in the developed economies (5).

Web conferencing depends primarily on

the availability of internet services. In Nigeria, internet penetration in the general population has risen from 2.5% in 2009 to 51.4% in 2021. This is projected to increase to about 60% in 2026 (Figure 1) (6). Nigeria also has an impressive level of mobile phone penetration (Figure 2) (7) which is the principal device through which most citizens access the internet. Hence Nigeria appears to have ready baseline requirements for web conferencing, the COVID-18 pandemic turning out to be a catalyst to explore other uses of mobile telephony and internet infrastructure

Web conferencing software can be divided in two categories (5). One category includes the platforms that provide only one way audio and video broadcast centrally from the meeting's moderator to an audience. The other, in addition to combining audio and video communication, provides features for two-way communication, shared desktop access, document and file sharing, simultaneous editing and other electronic forms of communication that allow data to be mutually shared, edited and copied during the meeting/conference. The features also include note-taking, instant messaging and real-time integration into other broadcast platforms such as YouTube, Twitter, Facebook e.t.c. This category is more commonly used and is available in popular virtual conferencing softwares such as Zoom®, join.me®, Go ToMeeting®, Slack®, uShare® e.t.c.

We highlight below the benefits, limitations and challenges of virtual conferencing and propose ways the scientific community in Nigeria can maximise the technology of virtual conferencing while the pandemic lasts.

## METHODOLOGY

We searched Pubmed, Embase, Scopus, and AJOL databases from June 1, 2021 to December 31, 2021 for documents describing the benefits, disadvantages and challenges of virtual conferencing during the pandemic. This, together with the authors' experience formed the resource base for this work.

## DISCUSSION

### Benefits of virtual conferencing

The benefits of holding conferences virtually are myriad. Probably the prime benefit is cost reduction. Virtual conferences are cheaper to organise and cheaper even to attend because travel and accommodation costs are eliminated. Because registration fees are usually lower or even eliminated, virtual conferencing provides

easier access for certain categories of attendees who ordinarily would not attend. These include people who cannot ordinarily afford the registration fees, individuals who cannot take long periods off work such as junior professionals or trainees or those in private medical practice. Also, virtual conferences, if well planned, can attract greater participation. An example is the report by Vervoort et al of the recent American Association of Thoracic Surgeons Centennial conference which was held virtually and which had over 6000 participants- the highest attendance in its history(8).

In virtual conferences, audience participation is also better. Chat boxes in conferencing software enable comments and questions to be raised easily without fear of intimidation by senior or more experienced attendees. A virtual conference also makes it possible to have a greater number and wider spectrum of expert Faculty. High profile international speakers who will ordinarily be unable to fit the conference into their schedule can easily attend and make their presentations from their remote location without the organisers incurring travel costs, while adding great value to the conference deliberations.

The flexibility of virtual conferencing software is also a high point. Many of them have the capacity to make conference sessions available real time on online electronic media such as YouTube hence leaving in public domain recordings that can be accessed subsequently by those who missed the live presentations. This removes the limitation of difference in participants' time zones and can actually enhance involvement by participants from time zones different from the conference venue.

#### **Disadvantages of virtual conferencing**

The disadvantage of not having enough social interaction and professional networking that is a cardinal component of in-person conferences is a veritable drawback of virtual conferencing. Such informal interactions held on the sidelines of major conferences usually birth research collaborations and also present mentorship and training opportunities for younger professionals. Also not everyone is comfortable with technology. Since this is required to benefit maximally from a virtual conference, it may discourage some from participating. Consistent attendance through all the sessions of a conference may also not be guaranteed because participants may simply have added the conference to their usual daily clinical

and social schedules and thus move in and out of sessions in between their daily work schedule. Some loss of potential revenue also occurs with virtual conferencing. The absence of product exhibitions or their limitation to virtual exhibition rooms (if available) diminishes revenue from industry support and sponsorship. Other benefits of in-person conferences such as hands-on trainings and workshops may also be lost or reduced in impact by their conversion to virtual sessions devoid of the hands-on component.

#### **Challenges of virtual conferencing**

The main challenges of virtual conferencing in Nigeria revolve around high cost of internet data as well as poor speed and quality of internet services. This causes unpleasant disruptions that could terminate hitherto well-prepared presentations. For organisers, programme planning to offer best value to attendees is still a challenge. Some organisers have had to abolish specialised break-out (parallel) sessions sticking only to plenary sessions in their virtual conferences. Those who offered both plenary and parallel sessions had to find creative ways of coordinating people to find their virtual break-out meeting rooms after plenary sessions and to return to plenary sessions from parallel sessions. This causes a loss of valuable time.

#### **CONCLUSION**

The disadvantages notwithstanding, the overwhelming advantages of virtual conferencing make it important to consider introducing it as a new standard into the medical and scientific conference culture when COVID-19 restrictions governing mass gatherings are fully lifted. The hybrid mode of conferencing mixing both physical and virtual components will surely help to get the best of these two strategies in the bid to sustain the medical and scientific conferencing culture.

The COVID-19 pandemic has probably changed the culture of scientific conferencing in Nigeria for good. Even after the pandemic when the large physical gatherings become safe, we suggest that virtual conferencing should not be abandoned in its entirety. Its capacity to increase the participation of faculty and attendees without the limitation of cost is an advantage too strong to ignore. We recommend that combined physical and virtual meetings that harness the potentials and benefits of virtual conferencing with that of the traditional in-person attendance should be the

new normal. We therefore advocate increased discussion about how to improve the virtual conferencing culture and the development of guidelines for virtual or hybrid scientific conferences.

**Acknowledgement:** We acknowledge Mr Joshua Adesola for his assistance with graphics design

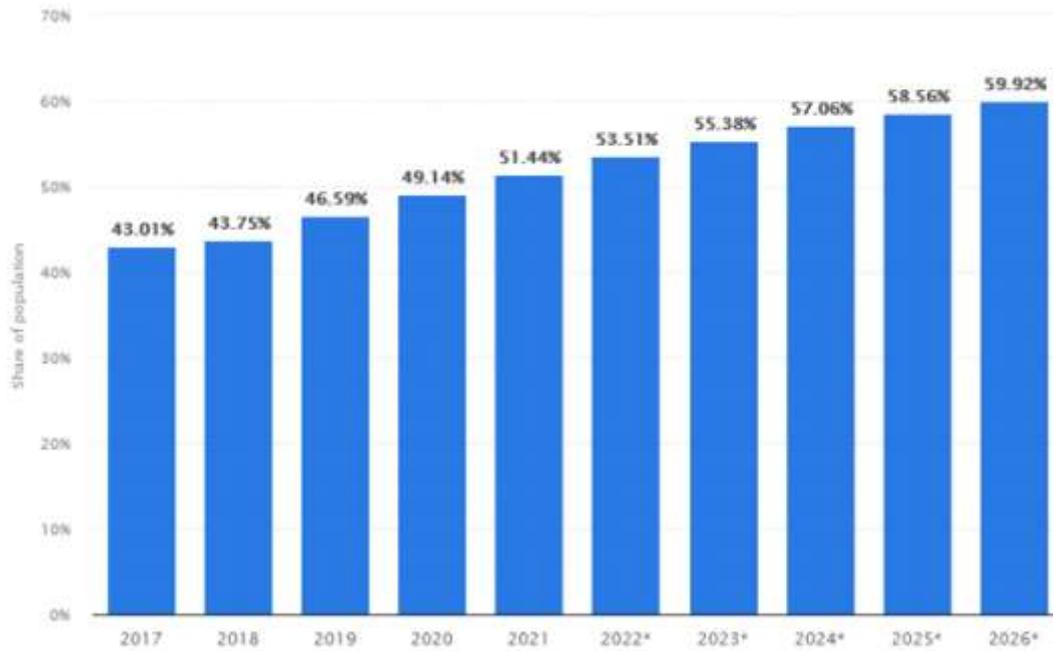
**Conflicts of interest:** None.

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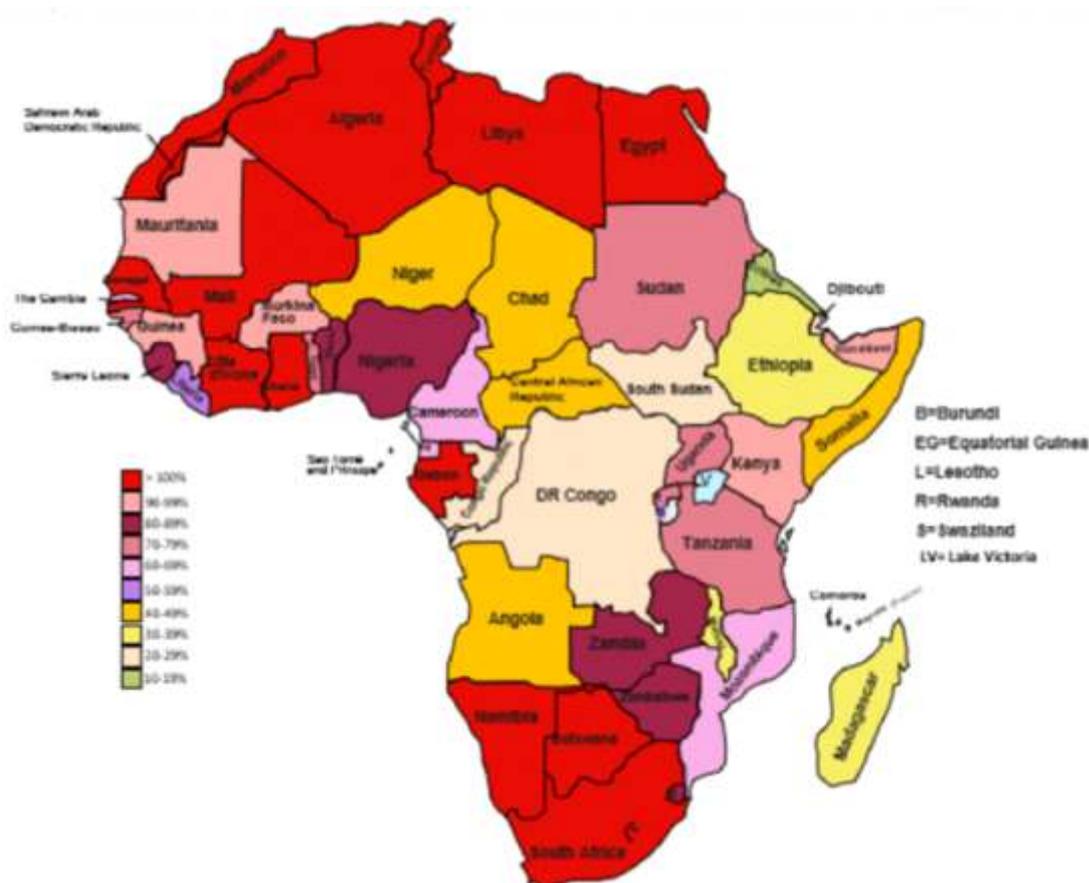
## How to cite this article:

Ogunmodede J.A., Ogunmodede A.J., Buhari O.I.N., Dele-Ojo B.F., Omotoso A.B., Agede O.A., Omotoso A.B.O. Benefits, disadvantages and challenges of virtual conferencing in the COVID-19 era: Adjusting to the new normal. *Research Journal of Health Sciences*, 2022, 10(1): 162-167



**Figure 1:** Internet user penetration in Nigeria from 2017 projected to 2026 (Adapted from: Internet penetration in Africa. 2021 Feb 22 [cited 2022 January 24] Available from <https://www.statista.com/statistics/484918/internet-user-reach-nigeria/>)

\*Projections



**Figure 2:** Mobile phone penetration in Africa (Adapted from: Adebayo PB, Oluwole OJ and Taiwo FT. COVID-19 and Teleneurology in Sub-Saharan Africa: Leveraging the Current Exigency. *Front. Public Health* 2021; 8:574505)