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Virtual conferences, online learning and ethics video-meetings: An elixir in the time of COVID-19 crisis

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Abstract

In the current COVID-19 pandemic, it is more important than ever to maximize communication in the scientific and medical community. In the context of academic meetings, Ethics video meetings and Conferences, there is the growing need for a set of guidelines secondary to the COVID-19 pandemic, and the growing environmental and economic challenges that large academic and medical conferences face. The article includes the current pattern of online gatherings, its limitations, strengths, recommendations in the time of crisis and aims to provide a comprehensive report on impact of the COVID-19 pandemic on Virtual conference, online teaching and Ethics meeting and indicate the way forward. The need of the hour is to innovate and implement alternative educational system and assessment strategies. The COVID-19 pandemic has provided us with an opportunity to pave the way for introducing digital learning.

Keywords: Ethics Committee, e-learning, Conference, Academics, COVID.

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1. Introduction

The COVID-19 disease is caused by the novel coronavirus (SARS-CoV-2). On March 11th 2020, the World Health Organization (WHO) labelled the COVID-19 as a pandemic [1]. COVID-19 has a rapid spread and causes serious infections posing a continuous threat to humans. Droplets and aerosol, being the commonest mode of infection, it is important to promote social distancing and maintain a "no-touch" emergency state in the health care setup [2]. The major concern is to safely manage the patients and to break the chain of infection to "flatten the curve." Social distancing is one of the modes for the prevention of the spread of infection along with masks and sanitisation [3].

This outbreak prompted a quickly developing circumstance affecting the training framework overall [4]. Proceeding with training conveyance through elective learning and teaching channels, conducting virtual conferences and video-gatherings for Ethical committee clearance for research proposals unexpectedly turned into a first concern for establishments to lessen the effect of the emergency on education. The worldwide Covid episode has endured a monstrous shot in every one of these areas. Conferences, teaching and Ethics Committee meetings moved to online mode to control the spread of COVID-19.

This narrative review article will give an overview on changes which have taken place in the education system due to the Pandemic and its impact on all major aspects of academics like the teaching, the conferences and also on the Ethics Committee Meetings.

2. Virtual Conferences

A conference is generally a meeting of several people to discuss a particular topic. At a conference, innovative ideas are thrown about and new information is exchanged among experts. An academic conference is a gathering of scientists or academicians, where research

findings are presented or a workshop is conducted. [5] Plenty of meetings have gone virtual-or been cancelled all together-since the beginning of the COVID-19 pandemic and Conferences are not an exception. Academic conferences as one key pillar of dissemination and interaction around research and development have taken a hit.

The COVID 19 pandemic led to a series of cancellation of planned conferences and events. Since in person conferences could no longer be organised, there was a sudden surge in virtual conferences and webinars. Though online meetings lacked the benefits of in person conferences, at length discussions, face to face networking and sharing perspectives over dinner, it paved a way for conferences to be carried out safely. It not only reduced travel cost and travel time, but also enabled audiences to attend conferences in different parts of the world in the same day. For the organizers also cost of organising conferences went down as hospitality cost reduced. For students and beginners sharing views and presenting papers with eminent personalities became easier and less intimidating than face to face encounters. They could freely express the views without fear and this also increased in the number of students doing research work, although face to face interactions and presentations build up confidence.

Researchers with care giving responsibilities, disabilities, travel restrictions, scheduling conflicts, and limited funds are more likely be able to attend a meeting online [6].

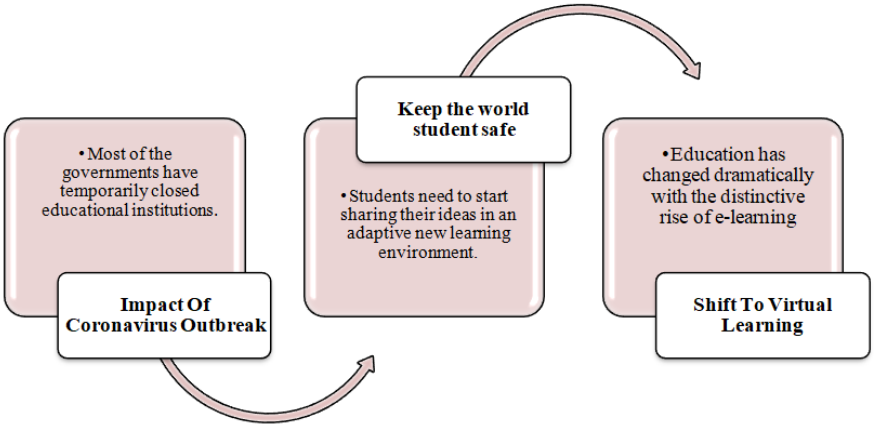
Normally, coordinators move from focusing in on settings, food and ushers in addition to other things-to zeroing in on the determination of a reasonable online stage to sort out the introductions, conversation rooms, meetings and different means for communication during the gathering. Delegates likewise accept that virtual gatherings will in general be more comprehensive. Participants don't need to stress over getting travel reserves nor the tiring and dubious interaction of visa applications-which further permits participants from underrepresented regions to approach and be important for the conversations, including UGs and early-vocation scientists. Such an expansion can possibly change the texture of the conversations and the spectra of the thoughts introduced.

For participants, however technical issues played spoilt game. Frequent interferences, lead to loss of interest in the crowd while making it trying for the moderators to convey a discussion to a screen rather than to a live crowd. With no live audience, or feedback through their responses it got hard for moderator to choose whether or not the audience comprehended what was conveyed. Online gatherings additionally came up short on the closeness of actual get-togethers, while expanding screen-time fatigue and time-zone scheduling conflicts. It is to be noticed that, junior researchers regularly use conferences as an approach to meet future collaborators. That is harder to do in the virtual world, however it's certainly feasible.

3. Online learning

The outbreak of Coronavirus disease 2019 (COVID-19) necessitated an abrupt transition from on campus, face-to-face sessions to online, distance learning in higher education institutions. Social distancing and lockdown measures due to COVID-19 pandemic have led to closures of schools, training institutes and higher education facilities in most countries. There is a paradigm shift in the way quality education is delivered- through various online platforms. The online learning, distance and continuing education have become a panacea for this unprecedented global pandemic, despite the challenges posed to both educators and the learners. Transitioning from traditional face-to-face learning to online learning can be a different experience, which we must adapt to with little or no other alternatives available. The education system and the educators have adopted “Education in Emergency” through various online platforms and are compelled to for which they are not prepared for. [7]

Fig 1: Present Scenario of education system

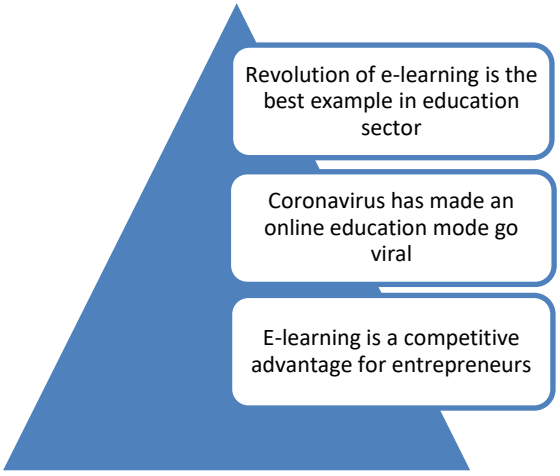


There are many factors which influence the effectiveness of online learning, such as administrative issues, social interaction, academic skills, technical skills, learner motivation, time and support for studies, technical problems, cost and access to the internet. Other factors could result in low-quality online learning, for example an ineffective design and arrangement of multimedia materials. The effective analysis of online and offline teaching in medical education, therefore, should depend on a comprehensive consideration of how they are used across groups. It should all be assessed including the learning goals, properties of the learning materials, evaluation of learning outcomes, etc.

Although the challenges for educators, schools, institutes and the government have been overwhelming regarding online education, also we should not forget that there are several opportunities created by the COVID-19 pandemic for the unprepared and the distant plans of implementing e- learning system. In the traditional way of learning parents were required to support the students' learning academically and economically. Also, children with disabilities will require special support from the caregivers and parents. Online platforms such as Zoom, Google Classroom, Microsoft Team, You Tube Live, virtual learning environment and social media, Telegram, Messenger, WhatsApp are explored and tried for teaching and learning. Even if the traditional teaching resumes, and these platforms can provide additional resources and coaching to the learners. Teachers are collaborating actively to improve online teaching methods.[8] Online learning has provided the opportunity to teach and learn in innovative ways unlike the teaching and learning experiences in the normal classroom setting.

All these distance learning courses, requires special techniques of course design, instructional design, and communication methods [9,10]. Given the urgency of pandemic situation, institutions did not get time to plan and adapt systematic way of transitioning, which usually involves a substantial amount of being capable of handling the change. The learners had to adapt to distance learning and online environment. Moreover, these challenges were exacerbated by multiple changes and restrictions accompanying COVID-19, resulting in psychosocial stress to learners and the educators [11,12]. Educators and learners needed to increase networking, foster humanity in their connections, and enhance their communication effectiveness before, during, and after their online engagements [13].

Fig 2: COVID-19 Gave A Rise To An Online Learning Business Saving Lot of Money



Ethics committee meeting by video-conferencing during Covid-19:

Epidemics/ Pandemics or outbreaks in raise many ethical issues related to the standard of health care delivery, informed consent, privacy and confidentiality, and resource allocation. To date, there are no approved treatments known to be safe and effective for COVID-19, which is similar to such previous outbreaks as Ebola virus disease and Zika virus disease. Conducting research on new medications or vaccines during a pandemic is essential, and research ethics committees (EC) need to be prepared to rapidly review related research projects. Almost 80% of Non-Covid trials are halted and maximum trials as of now are COVID related. There are actions that ethics committees should undertake to prepare for rapid review of emergency research protocols, such as for COVID-19.[14]

Many articles and reports published after the 2014 Ebola outbreak addressed ethical issues in research during outbreaks and research ethics governance [15-19]. Of note, issues were raised about time sensitivity and the balance between

- Quality and time to review,
- Ensuring the protection of participants in clinical trials, many of whom are in desperate need of the lifesaving benefits of management protocols.

A workshop organised by the WHO Global Health Ethics Team and the African coalition in 2018, for epidemic research, emphasised "ethics preparedness" during outbreaks. It recommended that ECs should develop a formal standard operating procedure for emergency response ethical review [20].

Studies during infectious disease outbreaks can involve collection of data and/or clinical specimens which is useful in understanding the pathophysiology of disease and for diagnostics, management and surveillance. The drug/device interventions in outbreaks provide information about the effects of vaccines and therapeutics [21]

The ECs in India are in different stages of evolution.[22] Some have already digitized the submission and review processes, while there are ECs that are still following traditional processes using paper documents for submission and review. The ECs were affected to a variable extent by the circumstances created by the pandemic, the restrictions and the lockdown. Many ECs did not have any standard operating procedures (SOPs) for dealing with the situation of pandemic combined with prolonged period of lockdown. Although ECs had defined processes for amending SOPs, how could they amend the SOPs that required members to meet in person, discuss and debate? In-person meetings were not feasible and virtual/online meetings were not even mentioned in the SOP. Therefore, ECs dependent on the paper-based system had to suddenly adjust to the new paradigm of using electronic processes for submission and review.[23] Presently the EC meetings are held all over by "Zoom cloud-meeting" platform or Microsoft Teams.

Table 1: Problems faced by EC during the Pandemic

A	Routine and for-cause monitoring of research projects could not be undertaken
B	Maintaining communication channels with the investigators was challenging
C	Investigators were working from home or the research project staff was not available at the research site
D	Investigators of ongoing projects faced challenges in enrolling new participants
E	Scheduling the follow-up visits, and procuring supplies of investigational and other drugs

The ECs were required to find quick fixes for the challenges faced. They did so through ad hoc decisions. The ECs tried to devise a plan so that they can continue to discharge their responsibilities in an effective and efficient manner, even during emergency situations.

Table 2: ICMR ethics guidelines

As per 2020 ICMR COVID-19 ethics guidelines: Main Ethical Issues for Indian ECs during COVID-19	
Informed consent	Alternative consent procedures are recommended to avoid direct interaction with patients whilst proper documentation is maintained.
Vulnerable people	Vulnerable persons should only be involved in research that addresses their needs and for which risk minimization strategies and support systems to deal with medical and social problems are available.
Healthcare workers	Planning of research schedules to prevent overcrowding in facilities is needed as well as additional safety measures to prevent assault on staff.
Community engagement	Prior to engaging communities, information leaflets should be distributed and innovative ways of making contact sought.
Media	The media have a role in responsible dissemination of news, in particular of avoiding the spreading of fake news.
Ethics review	A central ethics committee, constituted for this purpose by the ICMR, approves master or generic protocols for multicentre studies
Ongoing studies	Missing information and diminished sample sizes are a significant worry for progressing non-COVID-19 research because of limited access to research facilities. Many ECs have halted new recruitment to non-COVID-19 studies

ICMR: Indian Council of Medical Research

Table 3: In order to formulate the amendments for SOPs of EC, the following issues may have to be looked into:

Decision-making process and authorities	***Limit the submission of new research projects***	***Suspension of certain activities***	***Virtual/online platforms for meetings***
Decisions regarding approval of research projects will have to be taken at the full-board meetings, but other decisions pertaining to choosing non COVID research projects for review, changing timelines, etc. can be delegated to the Member Secretary or a subset of EC. Also these decisions will be altered, as and when situations improve.	ECs should allow submission of research projects only pertaining to the emergency (e.g., COID19-related projects, in the current situation). However, the EC may have to also continue to take up research projects related to dissertations	EC may suspend routine site monitoring visits to ensure that clinician-investigators can continue to carry their emergency-related clinical work. The projects could be monitored entirely through review of reports received from the investigator.	SOPs should be suitably amended so that decisions can be taken through virtual meetings. The ECs need to decide whether the virtual meetings should be limited to unusual or extraordinary circumstances or should they be conducted frequently, if not routinely.

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4. What are the requirements for informed consent in emergencies?

Consent is the major concern during the pandemic situation. According to WHO, individual informed consent is a fundamental ethical requirement for research. Prospective research participants must be able to weigh the risks and benefits of participation. This can be particularly challenging in a public health emergency like COVID-19 because of uncertain risks and vulnerable (COVID-19 infected) population. [24]

Issues like language boundaries, restorative misguided judgements, social and strict contrasts, and trust in the clinical framework require cautious thought by scientists and ECs. Presently, in a period of lockdown and social distancing, it is inconceivable for specialists to utilize their, attempted, and tried techniques for looking for consent. Coronavirus patients might be unwell as well as kept in isolated conditions with access allowed distinctly for medical services labourers. It can likewise be hard to acquire consent from Legally Authorized Representative (LARs) in light of the fact that they are not permitted inside the medical services premises all things considered.

The new rules prescribe those elective strategies to stay away from direct cooperation with patients be investigated. Nonetheless, the significance of legitimate documentation is accentuated. Electronic consent can be an appropriate technique if the member or potentially their LAR is acquainted with the innovation. In any case, a large portion of the ECs in India are not certain about getting educated assent through computerized implies. Besides, the protection and security highlights of a virtual device present moral challenges. An elective method for getting consent may consequently include forefront medical services labourers who approach the Coronavirus limited zones.[25]

5. Discussion

Nowadays digital information is available to almost everyone. In this era of pandemic, medical education is confronted with novel challenges. On one hand, the online healthcare information boom is continually challenging medical students to rapidly update and expand their existing body of knowledge. On the other hand, the informatics competency requirements of healthcare technology, such as utilizing electronic healthcare records, learning systems and aided-diagnosis systems, also present a new challenge for medicos to master [26].

6. Advantages of virtual /online learning or meetings

- Online learning helped ensure remote learning, it was manageable, and students could conveniently access teachers and teaching materials. Both the students and teachers had an opinion that online learning modalities had encouraged student-centeredness during this lockdown situation. The students had become self-directed learners and they learnt asynchronously at any time in a day.[27]
- Virtual conferences might lack the intimacy of a physical gathering, but it's still possible for attendees to connect with each other. It also reduced use of traveling resources and other expenses. Many researchers say that, in the past year, they have been able to attend more meetings than ever before because of online portals.

7. Limitations of virtual /online learning or meetings

- Through internet learning modalities instructors couldn't educate and learn functional and clinical work.
- They could only teach and assess knowledge component.
- Due to lack of immediate feedback, teachers were unable to assess students' understanding during online lecturing.
- The students also reported limited attention span.
- Also, during online study, students misbehaved and tried to access online resources during assessment
- Poor networking opportunities in conferences
- Time zone differences
- Digital platform issues

8. Recommendations

- Educators and attendees proposed persistent workforce and faculty improvement.
- They suggested a decrease in intellectual burden and expanded interactivities during internet teaching or meeting.
- Those in clinical years recommended approaches to begin online Case Based Learning. However, some were additionally of the assessment that there ought to be revision classes alongside psychomotor hands on educating after the COVID pandemic is levelled out.
- To upgrade quality, they proposed purchasing premium programming and other delegating programming and software to detect cheating and copyright infringement [27].

9. Conclusion

The research community needs academic conferences in one form or the other. From a financial perspective, virtual conferences should be cheaper to organise as compared to face-to-face conferences [28]. A few orders have announced a record expansion in (on the web) delegates over conventional editions of the conference in years [29].

Further, virtual gatherings are proposing different strategies to upgrade the intelligence of their meetings, these incorporate delivering chronicles, procedures and strengthening recordings of their presentations. This permits participants to focus on the points they are keen on and make up for lost time with all the other things that they may have missed during the gathering (for example, time region differences, individual responsibilities, helpless transmission capacity, etc)[30]. The scientific community isn't accustomed to getting sorted out virtual meetings for an enormous scope and dilemmas identified with association, digital protection, absence of systems administration and innovation have been seen.

Regarding EC, making timely decisions for Covid-19 research proposals is a challenge for ECs [31]. However, they progressively got adjusted to the situation. Meetings by video conferencing are a feasible option for early decision making by the ECs, especially for research proposals related to the pandemic. In the absence of any formal strategy, it is important to prepare guidelines to assist with co-ordination and conduct of crucial EC meetings during an emergency. Appropriate amendments in SOPs will arm the ECs with flexibility in working, which is extremely important. It will help them to be agile in responding. It will ensure that they are able to play their role in emergency-related research without compromising on the safety of the participants.

Regarding online teaching, one of the surveys offer supporting proof on the adequacy of internet learning in undergrad clinical education [32]. Further research is expected to explain the impacts of internet learning and the conditions under which it very well may be viably utilized. Regardless of whether web-based learning functions as an immediate or direct factor in improving accomplishment should be evaluated, as do what plan and conveyance systems for internet learning works practically speaking. How the benefits of web-based learning can be utilized to enhance other encouraging strategies for undergrad clinical students additionally should be contemplated. The plan of the evaluation instruments and educational program types utilized for internet learning requires further investigation. It is possible that students do procure information and abilities through virtual learning that can't get through offline learning. We need to perceive that internet learning enjoys its own benefits for upgrading UGs learning and ought to be viewed as a potential showing strategy in medical education. To ensure the viability of web-based learning, the plan standards of advanced learning materials, learning objectives and understudies' inclinations and qualities ought to be thoroughly assessed.

The disturbance, brought about by COVID-19 has impacted the whole globe, across the economy and society by and large. With broad restrictions on social affairs, COVID has additionally influenced research gatherings for a long time to come. Mainstream researchers are completely perceptive of this change and recognize that coordinating a meeting in these occasions is an exhausting undertaking [33]. Considering virtual/online meetings/learning requires the right balance of inputs from various disciplines, a stronger academic base, and greater availability of basic training and resource which is dedicated to scientific strategy [34]. These online modes enhance the tool kit of meeting coordinators as far as the scope of adaptability of gathering exercises and situations. With the general wellbeing reaction to COVID expected to persevere and while the world sits tight for the accessibility of a Vaccine, "the new norm" of virtual gatherings is setting down deep roots.

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