Teaching bioethics online during Covid-19: Reflections from Pakistan

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Abstract
The Covid-19 pandemic necessitated a shift to online teaching of bioethics, a field that relies on discourse and interactive teaching methods. This paper aims to highlight the challenges faced and lessons learned while describing the experience of having to shift to teaching bioethics online to students enrolled in the Postgraduate Diploma in Biomedical Ethics (PGD) and Master of Bioethics programs at the Centre of Biomedical Ethics and Culture (CBE&C) in Pakistan. Opinions of students, mainly compromising mid-career healthcare related professionals, were obtained through a survey (n = 13) and an in-depth group discussion via Zoom. Observations from core faculty (n = 7) were recorded through conducting a content analysis of monthly faculty meetings, enhanced by faculty narratives published in the Centre’s bi-annual newsletter. Faculty and students alike expressed unease with the online mode since it minimized chances of interaction with peers and faculty thus negatively affecting learning process. Juggling work responsibilities while taking synchronous online classes proved to be difficult for students particularly for clinicians, with unique issues for women. Faculty faced increased workload due to the necessity for development of innovative teaching methods and new assessment tools in order to maintain the standard of the academic programs. Despite the problems surrounding the online mode, students and faculty also acquired new skills during this period. Overall, there was a clear preference for on-campus learning, however against the backdrop of a pandemic, online mode was considered as the only viable option.

Keywords Bioethics education · Covid-19 pandemic · Online education · Mid-career professionals · Pakistan

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Introduction

The field of medicine relies on the discipline of ethics to transmit not only theoretical knowledge but also the development of ethical decision-making inculcated through critical thinking. Therefore, this multidisciplinary field is different from scientific, factual aspects of medical education as it relies on dialectic discourse facilitated through interactive teaching methods to instill values that can be applied in real-life contexts.

Bioethics education continues to be a topic of hot debate in terms of most appropriate teaching strategies and assessment tools, and more particularly with respect to application of this field to real-life situations. Covid-19 pandemic introduced another variable due to the necessity of transitioning to online education. Documenting and disseminating experiences connected to online education is essential since they can provide future directions for experts in the field. Sandars and Patel (2020) have advocated this, proposing that educators share their experiences and reflections of transitions to online teaching. Literature from various parts of the world exploring the impact of Covid-19 on education documents that online teaching is more time-consuming, requires a different skillset, and demands more from both students and educators (Khalil et al. 2020). However, there is limited literature, to the best of our knowledge, with respect to teaching bioethics online particularly within postgraduate medical education.

The current paper describes our experience of having to shift to teaching bioethics online to students enrolled in the Postgraduate Diploma in Biomedical Ethics (PGD) and Master of Bioethics programs at the Centre of Biomedical Ethics and Culture (CBEC) in Karachi, Pakistan. We describe the changes made in educational structures and content including the curricula, and use of new pedagogical tools and assessment strategies and share observations and experiences of students and faculty comparing learning and teaching bioethics on-campus versus online and highlight the challenges faced and lessons learned.

Centre of biomedical ethics and culture (CBEC)

At present, CBEC is the only dedicated bioethics centre that provides contextual bioethics education at a postgraduate level in Pakistan, a low middle-income country in South Asia. The Centre, inaugurated in 2004, is based in the Sindh Institute of Urology and Transplantation (SIUT), a tertiary care government hospital in Karachi providing free of cost healthcare services to all patients. In 2018, the Centre was also designated as a World Health Organization Collaborating Centre for Bioethics.

The Center offers two academic degree programs, a one-year Postgraduate Diploma (PGD) in Biomedical Ethics since 2006 and a two-year Master of Bioethics (MBE) initiated in 2010. The two programs run concurrently, with four on-campus modules to complete coursework combined with asynchronous distance-learning

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1 CBEC’s website: https://siut.org/bioethics/
components throughout the academic year. The second year for MBE students is dedicated to thesis research and writing.

The on-campus modules consist of a Foundation Module (with sessions providing relevant basics of philosophy, law, humanities, religion and introduction to contemporary bioethics), a Research Ethics and Public Health Module, a Clinical Ethics Module, and a Gender Ethics Module combined with the exit exam for PGD students. Modules run for ten to fourteen days from 8:00 am to 5:00 pm on the CBEC campus. A national and international faculty employs various teaching strategies from theoretical texts to case-based teaching, use of videos, role-plays, class presentations, debates and mock committee sessions to help students analyze situations and formulate logical ethical arguments to support their position.

The CBEC student body is unique since the Centre targets mid-career professionals working in healthcare related fields. Students find the hybrid nature of the program less disruptive and facilitatory in enhancing their professional development. In addition to Pakistani professionals, the programs also attract international students supported by a National Institutes of Health (NIH) grant in partnership with Kenya Medical Research Institute (KEMRI), Nairobi. Kenyan students travel to Pakistan to attend the four on-campus modules in Karachi leading to meaningful cross-cultural exchanges, friendships and professional contacts.

**Transitioning to online teaching**

In January 2020, the Foundation Module was completed as planned in CBEC with fifteen PGD and 3 MBE enrolled students. However, as Covid-19 reached Pakistan and number of cases began to rise, there was a realization it would not be possible to conduct the subsequent three modules (planned for April, June and December 2020) on campus. The faculty held a series of meetings in order to discuss whether the mode of teaching ought to be switched to the online medium. While the faculty believed that they had a responsibility towards students who had already enrolled in the programs, there was also unease about switching to an unfamiliar mode of teaching for bioethics which could potentially affect standards. Following online discussion with students, who were disappointed but keen to complete the program, the faculty decided that the teaching would proceed online to fulfil the commitment.

A major issue that required resolution was the timing and duration of online sessions. All students had returned to work. Many were clinicians and some were soon enrolled as frontline workers in the pandemic by their hospitals. Online classes were offered initially on Friday evenings (4:00–7:00 pm), and all day on Saturdays. However, students reported difficulties concentrating after working all day on Fridays. Therefore, the final decision was to limit online classes to alternate Saturdays from 10:00 am to 5:00 pm. Frequent breaks were built in during the Zoom sessions to allay the strain of sitting in front of the screen for extended periods of time. Fortnightly classes however meant that the coursework would need to extend into May 2021 instead of ending in December 2020.

Transitioning to online required restructuring and compressing the curricula content due to logistical problems and time constraints. Faculty decided to identify
minimum benchmarks that students must maintain, agreed on the core content of
the bioethics curriculum, and focused on essential competencies students should
acquire. Sessions in areas of research and public health connected to pandemics
were also included.

The Zoom platform was regarded as most feasible since it was relatively inexpen-
sive and user-friendly. In faculty’s experience, small group discussions were among
the most effective teaching strategies for bioethics and in order to mirror physical
small group discussions, Zoom breakout rooms were used extensively (Sullivan
et al. 2020).

New assessment strategies were also introduced online to ensure that students
were grasping concepts being taught. These included periodic use of pop quizzes
with Multiple Choice Questions (MCQ), pre-session assignments and end of mod-
ule tests through flexiquiz.com consisting of MCQs and Short Answer Questions
(SAQs).

Methods

Opinions and experiences about teaching and learning online were obtained from
both faculty and students. Ten students enrolled in the PGD program, and 3 MBE
students provided their feedback/experience of learning online. Reflections of seven
core faculty members were also recorded. The core faculty at the Centre conducts
majority of the teaching sessions and is also involved with day-to-day running of the
two academic programs.

Prior to data collection, students were informed that the purpose of the program
evaluation was to improve the quality of online teaching. They were also told that
their responses may be collated to inform a paper on the subject. Students were also
familiar with providing feedback since they were asked routinely to return filled
forms after each online session. Since this was regarded as an educational program
evaluation, approval from the Institutional Review Board (IRB) was not sought
(Casarett et al. 2000).

Data collection tools

Data from students were gathered primarily through two methods. This included a
quantitative survey form, developed specifically for the purpose of this evaluation.
The survey, to be filled anonymously, was circulated through surveymonkey.com.
Students were familiar with this platform since they were required to return feed-
back forms after each online session. The feedback form consisted of five close-
ended questions out of which three asked students to rate various criteria (faculty
interaction, internet speed, convenience as a mid-career healthcare professional, and
ability to learn effectively during classes etc.) on a five-point Likert scale. Addition-
ally, two open-ended questions required students to list down three advantages and 3
disadvantages of the online module in comparison to the contact module.
As a second step, qualitative data was obtained through a focus group discussion conducted via Zoom. The discussion, led by the three authors (core faculty at the Centre), was initiated with the question: “How was your experience of online learning?” The discussion, conducted in English, lasted for 90 min and was audio-recorded after obtaining permission from students and later transcribed verbatim. Twelve students participated in the qualitative arm since one could not attend due to contracting Covid-19 infection. Codes were subsequently assigned to student-participants, (S-F1, S-M1 etc.).

Data about faculty’s reflections about their experiences were primarily obtained through the minutes of the monthly faculty meetings running from June 2020 to May 2021. Relevant content obtained from the minutes was also supplemented by faculty narratives documented in December 2020 CBEC newsletter, *Bioethics Links.*

**Data analysis**

Data analysis was performed separately for faculty and students. The process of inductive coding was utilized to organize data obtained from open-ended questions on the survey and transcription of the discussion. All authors individually read the responses multiple times leading to development of themes. The final thematic framework was agreed upon by all authors after multiple discussions. Frequencies obtained from the survey form were added to the themes wherever deemed relevant. The three authors also conducted a content analysis on the minutes of the faculty meeting and derived relevant themes through an iterative process organized under faculty’s experiences. This section was then enhanced through narratives shared by the faculty in the newsletter.

**Students’ voices**

**Participant characteristics**

Thirteen students returned the quantitative survey form, out of which seven were females. Eight were clinicians, two were researchers, one belonged to healthcare administration, one was a lecturer in public health at a university, and one a lawyer. Seven students were from Pakistan, out of which one belonged to another province in the country. Four Kenyan students belonged to Nairobi, whereas one was from Mombasa. A list of participants (anonymized) is provided in Table 1.

**Comparing on campus to online learning**

Eleven students stated that contact module at CBEC was more conducive to the process of learning. This was due to closer interaction with faculty members and peers.

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2 https://siut.org/bioethics/Dec20.pdf
As one student stated, “The first module in January was excellent because we had communication with our seniors as well as our colleagues.” (S-F1) While 12 students rated accessibility to faculty during contact module as “Excellent”, only 2 provided the same rating for the online module. The on-campus module also allowed better engagement with faculty which allowed the students to “ask [faculty] questions directly, and they were also able to understand our facial expressions, our body language.” (S-F1) This meant that “you could clarify things easily” (S-M1) by “asking questions.” (S-M1) Interactions with faculty during the contact module were mostly rated as “Excellent” (n = 9) and “Very Good” (n = 4). However, in the online medium, 2 students rated this criterion as “Average”, 5 as “Good”, 5 as “Very Good” and only 1 as “Excellent.” This was perhaps because “sitting in front of the computer or laptop all day long was a nightmare” (S-F3) leading to “Zoom fatigue” (S-F1) and “short attention span.” (S-F3) One student said, “I have seen a very big difference in my attitude. I get lost during online sessions. My mind drifts, I have to bring myself back. In physical sessions, it was easier to stay focused.” (S-F4) Many others reported difficulties in maintaining concentration for a long span of time which was comparatively easier on-site since “when we came here [CBEC campus], we could stand up, grab a cup of coffee or tea” (S-M2) thus breaking the monotony of sitting in one place.

Students expressed disappointment at being unable to interact with their teachers in the online medium. This meant “not getting immediate feedback,” (S-F5) and having difficulties in asking questions when having trouble in understanding ethical concepts. Discussions were also compromised since the option of “approaching a lecturer [after the session] and have a conversation and get clarification about areas of confusion” (S-F5) was not possible in the online medium. Much of these clarifications had occurred during tea and lunch breaks enhancing ethical discourse.

| Code | Sex  | Profession       | Academic program | Country | Qualitative/Quantitative arm |
|------|------|------------------|------------------|---------|-------------------------------|
| S-F1 | Female | Clinician      | PGD              | Pakistan | Both                          |
| S-F2 | Female | Clinician      | PGD              | Pakistan | Both                          |
| S-F3 | Female | Clinician      | PGD              | Pakistan | Both                          |
| S-F4 | Female | Clinician      | PGD              | Pakistan | Both                          |
| S-F5 | Female | Lawyer         | PGD              | Kenya    | Both                          |
| S-F6 | Female | Healthcare Administration | MBE | Pakistan | Both                          |
| S-F7 | Female | Lecturer in Public Health | MBE | Kenya    | Both                          |
| S-M1 | Male  | Researcher      | PGD              | Kenya    | Both                          |
| S-M2 | Male  | Researcher      | PGD              | Kenya    | Both                          |
| S-M3 | Male  | Clinician       | PGD              | Pakistan | Both                          |
| S-M4 | Male  | Clinician       | PGD              | Pakistan | Both                          |
| S-M5 | Male  | Clinician       | MBE              | Kenya    | Both                          |
| S-M6 | Male  | Clinician       | MBE              | Pakistan | Quantitative                  |
In the opinion of one student because of limited time of online sessions, she could not “argue out points where [she] disagreed” (S-F5) since “you either had to agree with what was being said or keep quiet with your disagreements and give others a chance to talk,” (S-F5) and this impacted personal learning. This was also evident from data obtained from the feedback form. Nine and 4 students rated effectiveness of class discussions during the on-site module as “Excellent” and “Very Good” respectively. The numbers dropped in the online medium. Only one student regarded this criterion as “Excellent” and 3 students rated it as “Average.”

The online mode was also considered problematic because the students felt that they could not interact with each other to the fullest. A Kenyan student voiced an opinion that she “missed learning from [her colleagues]” (S-F5) and that interacting in-person with Pakistani colleagues had “allowed her to compare between cultures,” (S-F5) considered a strength of CBEC’s academic programs. Out of town students who resided in the institute’s flats during the module recalled their discussions over dinner which facilitated their learning process in the field of ethics. According to another student, “During dinner times, we would have half an hour reflection sessions with our colleagues. It helped us because we got perspectives from each other.” (S-M2).

According to students, another aspect not possible in online teaching was interacting closely with renowned international teachers, an area considered a significant advantage of CBEC’s programs. In the online mode of teaching, while it was easy to have international faculty Zoom in for 90-min sessions, not being able to interact on a personal level with them was a disadvantage since “physical interaction opens opportunities for future collaborations.” (S-F5).

Keeping in consideration the limitations associated with the online medium, all but one student indicated, on the survey form, that on-campus module was more conducive to learning, and that given a choice, they would choose learning on-site over online classes. However, against the backdrop of a pandemic, they also recognized that “the whole program would have ended” (S-M3) had this shift not occurred. This student believed that “initial contact session is something that is required for a program like this.” (S-M3) He then made an important observation that had they not attended the first module on-campus, it would have “very, very difficult to continue with the training [program online].” (S-M3).

**Difficulties of online teaching specific to clinicians**

An important area that emerged from our students’ narratives was that juggling work responsibilities while attending online classes proved to be increasingly difficult especially for clinicians some of whom were designated frontline physicians in the pandemic. A student, the only infectious disease specialist in his province, stated that attending synchronous online classes were a “struggle because sometimes I had to leave a critical meeting [at work] in order to join a session.” (S-M3) While 11 students rated the contact module between “Excellent” and “Very good” as convenient for a mid-career professional, only two provided similar ratings for the online modules.
Taking time off for work every alternate Saturday was also difficult for clinicians. It was more “acceptable” (S-F3) to obtain approved leaves four times in the year for on-campus modules than to excuse themselves from routine clinical work on every alternate Saturday. According to a student, “Just one thing [on campus module] mainly took priority over the rest of things throughout the two weeks.” (S-F4) However, “taking time off from theatre [operating room] and work every alternate Saturday” (S-F3) was strenuous. Another added, “When we have a module at CBEC, we are relieved from my institute for the duration.... But for online sessions, I have to take Saturday leaves, and then in case of emergencies, I am stuck...” (S-F2).

The spilling of coursework into the next year also complicated the picture because students had to “manage online sessions...for four to six months.” (S-F2) As one student summed it, “Juggling between work and learning has become an enormous challenge.” (S-M5) For another, “the [on-campus] module was the only commitment for me so I can inform my patients and colleagues.” (S-F2) Understandably, between education and clinical responsibilities, the latter took priority during a pandemic when healthcare personnel are stretched.

Against this backdrop, online modules were perceived as being more “intense” and “demanding” (S-M1) than the on-campus module because “[students] were trying to read for the next classes and balancing also in regards to work and other things which [they] did not experience when [they] were on-site.” (S-M1).

**Difficulties specific to female students**

Online classes proved to be more challenging for women in a number of ways. As one female student explained, “Saturday for me is a priority family day” (S-F5) which was compromised due to classes, a concern none of the male students raised. To attend online classes, she “had to shift off my children somewhere every other Saturday, which was quite inconvenient.” (S-F5) Unable to find childcare, she had her children around her while attending classes but “....[it] was made clear to us [by the faculty] that this should not be the case. But sometimes I [didn’t] have control over it.” (S-F5) Two female students dropped out of the program (not included among the participants of either arms) within two months of initiation of online classes. Both were frontline pandemic professionals and found it hard to cope with online classes, work responsibilities and household chores, which in the case of one, included caring for a disabled spouse. One of them occasionally logged on for class while commuting from work to home. In contrast, none of the male students, all married with children, dropped out of the program even though two were directly involved with management of the pandemic.

**Difficulties with infrastructure and logistics**

Major impediments to a smooth process of learning were the problems with Internet failures and power outages common in developing countries. Many students described this as a “constant worry.” (S-F7) Internet connections were rated as average by 3 students followed by 4 as Good, and 4 as Very Good. However bad internet...
connections, whenever they occurred, disrupted the flow of discussions and segments of conversations had to be repeated during sessions already constrained for time. A student lost her Internet connection in the middle of an exam and had to redo the paper for a second time (S-F4). For another, a major power outage in her town on the day of the exam required that she commute to her workplace where backup power generation facility and stable Internet connection were available (S-F7).

Students sometimes joined sessions while traveling from work to home requiring Internet connections on their smartphones. For Kenyan students in particular, faster Internet connections were expensive, “For one sitting, you can use like $25, really expensive to have a whole day of class.” (S-F5) As one Kenyan student pointed out, if this cost had not been mitigated through funding by the aforementioned NIH grant, online sessions “would have been a big disadvantage” (S-F5) for them.

Positive aspects of the online medium

Despite the shortcomings of online classes, students also highlighted some positive outcomes for them. Introduction of new teaching modalities during the period of online teaching was an area widely appreciated by students. Use of breakout rooms, for instance, was a great success. As one student said, “Even in the online forum, we were given this opportunity [to engage in small group discussions]. It was made very comfortable for students to have that small group discussion where we would not have any kind of disturbance.” (S-F6) The use of videos, another teaching tool widely employed during the contact module, was also adapted for online use. Students were asked to watch short videos pre-session followed by discussions during the session itself. Students considered both techniques significant value additions as compared to passively attending Zoom lectures that minimize interaction and increase chances of boredom.

Another aspect students appreciated was the use of new assessment strategies introduced by faculty. These included pre-session assignments, online pop quizzes and end of module tests, since “[these tools] made us understand the gist of things.” End of module tests were considered “Most Useful” and “Quite Useful” by six and seven students respectively. One student did not consider the pre-session assignments to be useful, although 11 students considered them useful. In-class quizzes, regarded by 12 students as useful, motivated students to be more alert during the sessions driving better learning. Some of the quizzes introduced also provided students instant results, which were also considered useful because “it helped in self-driven learning.” (S-F6).

The transition to online learning also led students to learn new technologies and improve their digital skills. According to a student, “Ability to embrace technology and learn more on virtual meetings [was a strength of the online shift].” (S-F5) Another believed that learning new IT skills enabled students to “become more self-driven.” (S-F6) Students also found useful ways of connecting with their peers such as through a “WhatsApp group where we argued points after the session” enabling better learning. (S-F5).
Faculty reflections

Out of the seven core faculty whose experiences are documented therein, three work full time at the Centre for six days a week while the others contribute varying number of hours to CBEC activities as needed. All faculty hold formal academic qualifications in bioethics ranging from diplomas, Masters and one with a doctorate. A detailed description along with codes assigned to each faculty is provided in Table 2.

Content analysis of meetings’ minutes and faculty narratives in the newsletter highlighted numerous teaching responsibilities and administrative work necessary for the programs to function effectively and maintain standards.

Disadvantages of online teaching

Much like the students, faculty also considered interacting over the virtual medium a significant challenge since it was difficult to gauge "expressions on student’s faces (a puzzled look, a furrowed brow, and glazing of the eyes)" (F-1) in order to assess how much they have understood. Students were reduced to "two-dimensional, disembodied heads on computer screens with indecipherable facial expressions." (F-1) This meant that the faculty struggled with becoming "better, more connected teachers" (F-5) since they were unable to "find their [student’s] pulse" (F-1) to be sure whether they had fully understood the concepts. Faculty regarded the inability to know the students’ body language as a "handicap." (F-5) Within the virtual medium, "all elements of communication [were] gone except the voice which gets interrupted often because of poor Internet connection or because another person starts speaking at the same time." (F-7) This sense of disconnection persisted despite the faculty’s insistence that students keep their videos on at all times.

Apart from creating barriers in the learning process, this meant that interaction between students and faculty on a deeper level was felt to have been lost. Close interaction with students had always been considered an important feature of on-campus modules and students would often linger after the day ended to discuss issues with faculty. This sense of camaraderie developed and continued largely due to the unique structuring of the Centre with a relatively small group of students per

Table 2  CBEC-SIUT faculty-participants

| Code | Sex   | Designation               | Primary specialty                  |
|------|-------|---------------------------|-----------------------------------|
| F-1  | Female| Professor and Chairperson | Medical (Pediatric Surgery)       |
| F-2  | Male  | Professor                 | Medical (General Surgery)         |
| F-3  | Female| Assistant Professor       | Social Sciences                   |
| F-4  | Female| Professor                 | Medical (practicing surgeon)      |
| F-5  | Female| Part-time faculty         | Humanities                        |
| F-6  | Female| Associate faculty         | Medical (practicing surgeon)      |
| F-7  | Male  | Associate faculty         | Medical (practicing nephrologist) |
class and a core faculty team. Faculty would get to know students well, and upon their graduation, the alumni were always told that they were now “part of the CBEC family.”

This loss is expressed in the words of a faculty member who termed herself as the “Resident Tear Blotter. “It was my shoulder they used to cry on: the weepy ones, the lost ones, the ones who were hard to like. In chats during tea breaks and lunch, they would tell me they were struggling or homesick or missing their children……. I try to get a sense of who they are [in the online medium] but it is much harder to know people when you’re looking at them through a pinhole.” (F-5) This “familial” connection often begins during the first module which is perhaps the reason for the faculty feeling a sense of obligation to shift to the online mode despite the multiple challenges they faced.

**Increased workload in online teaching**

Restructuring the curricula required extensive work on part of the faculty which meant often staying beyond office hours, and occasionally working from home. Other academic activities including research projects and writing had to be put on hold in order to plan and conduct the Saturday sessions. Conducting these classes eventually became “exhausting” and “draining” (F-3) leading to “online fatigue” (F-1, F-3) for the faculty as well.

Constant concerns faculty shared with each other during faculty meetings involved concerns about quality of education being imparted online and whether students were adequately grasping the concepts being taught. To address these, faculty added innovative teaching methodologies and developed new assessment tools. Three faculty members were assigned to develop assessment tools including F-2, F-3 and F-4 supervised by F-1. One of them (F-3) also holds a formal qualification in medical education which aided in this process. However, this required significant time commitment and effort. Developing MCQs to rapidly assess grasp of core concepts, for instance, was a formidable and labor-intensive task. During a faculty meeting six months into the online sessions, the three assigned faculty requested others to pitch in with questions related to their teaching sessions so that some of the workload could be distributed.

Addition of pre-session assignments and their grading to provide feedback to students was also time-consuming. Online assessment tests also carried a risk of student cheating minimized by using an online tool that shuffled order of questions for each student and required students to keep their video while responding. Additional online sessions were also incorporated to revise areas in which students scored poorly, also found “stressful” as well as “time-consuming.” (F-3).

**Silver lining of online teaching**

Teaching bioethics online necessitated innovative use of various tools and was seen as a “new learning curve altogether.” (F-3) One faculty member said, “Covid-19 gave me an opportunity to look into newer methods of assessment, utilizing
technology that we had not used previously. This took a lot of time but was a learning experience.” (F-3).

While faculty members hoped to return to on-campus teaching in the next academic cycle, there was an agreement that several new “tricks” learnt during online sessions could be usefully employed beyond the pandemic when returning to on-campus teaching. According to a faculty member, “I see ‘Covidized’ education as an opportunity to learn, to innovate, and when the old normal returns, to enrich it with new tricks we learn in our virtual classrooms.” (F-2).

In many ways, shifting to the online mode was the only viable option left. As a faculty member expressed, “When life serves you lemons, make lemonade” (F-2) indicating that it was necessary to make the best out of a bad situation.

**Discussion**

In this paper, we share our experience of teaching and learning bioethics online from the perspectives of faculty and students respectively. There was a recognition that teaching bioethics, which is a field that fundamentally relies on discourse would be challenging. The time difference between Kenya and Pakistan along with the unique composition of the student body were other constraints that had to be kept in mind while designing the online modules.

This shift was pragmatic, necessitated by the global pandemic but with inherent drawbacks. This was closely reflected in what the students shared with us; the online medium compromised learning by limiting interactions with peers and faculty. The initial delay in initiating online modules was caused by this concern. However, as reflections from the core faculty reveal, a sense of obligation towards students who had already spent the first module physically at the Centre and uncertainties about the pandemic trajectory were major motivating factors behind the decision to move to online teaching. During the on-campus module, faculty had come to know students at a personal level, made possible through candid discussions over tea and lunch breaks. In a similar vein, students also persevered despite the strain that online learning posed on their personal and professional lives. This may reflect the “familial” paradigm that often defines teacher-student relationships within Pakistani society. Close linkages and bonds develop not only between students but also with faculty who are traditionally perceived as akin to parents. Perhaps this factor also contributed to both students and faculty working hard to make the online modules work.

In order to take into consideration the challenges that mid-career professionals faced, several structural adjustments were made. The Centre’s student body is different. As healthcare related professionals they are unlike regular students who can devote full-time to their education. They are full-time professionals with busy work schedules which required consideration. Many were clinicians who ended up involved with the Covid-19 pandemic management. The pandemic was physically as well as emotionally and psychologically difficult for our students. Not only did most of them and members of their families contract the infection at some stage, one, in fact, also lost a spouse to the disease.
While classes on alternate Saturdays became taxing for all, it was particularly so for women since they had to sort out childcare and take time away from their families. International literature that has emerged from the pandemic also reflects that women, particularly those who are mothers and also work outside the home, found their burden increased disproportionately compared to their male counterparts (Power 2020; Savage 2022). Two female students also dropped out from our program before data collection for this project was carried out whereas no male did.

One female student, a busy clinician with three children, was eventually asked to leave the program because she could not cope with the requirement for attendance in all online classes, and timely submission of assignments that were necessary to progress satisfactorily through the modules. Another student, a public health official with responsibilities on the pandemic frontline at the governmental level, decided to drop out of the program herself. She was unable to keep pace with online classes not only due to her professional commitments but also caregiving duties towards a husband who was bedridden due to an accident some years back. Due to non-existence of nursing homes and home assistance facilities such caregiving duties generally fall upon women. These problems are magnified by sociocultural norms that frown upon leaving strangers to care for a close family member. None of the male students mentioned duties and obligations they had to deal with connected to the household or children.

Students and faculty alike felt that online learning was not as effective as on-campus learning. This has also been documented in literature from other places where students believed that online medium made learning outcomes difficult to achieve (Al-Rasheed 2021; Almendingen et al. 2021). Bioethics education thrives on discussion and discourse enhancing students’ reflective abilities, opportunities for which are limited in the virtual medium apart from in Zoom breakout rooms (Sullivan et al. 2020). Many of CBEC’s preferred teaching methodologies, including use of role-play, debates, in-class presentations could not be used (Souza and Vaswani 2020). We believe a major casualty of shifting to the online mode was that on-campus collegiality, exchange of ideas, and close personal connections that develop between faculty and students were severely compromised.

Our experience also illustrates some common challenges experienced by LMICs. Our student body compromising mainly of Pakistani and Kenyan students faced difficulties due to power outages and bad internet connections. This has also been reflected in literature from other developing countries (Dyrbye et al. 2009; Ullah et al. 2021).

Despite the challenges of online modules, an area of strength identified by faculty and students alike included the newer forms of assessment introduced during this period. While time-consuming for the faculty to develop and test initially, we believe they could have utility by helping to enhance student assessments during on-campus modules. Many of these modalities including Zoom breakout rooms are now being used in bioethics workshops conducted online by the Centre. In addition, upon commencement of the new academic year on-campus next year, end-of-module exams will become a routine additional assessment strategy.

In conclusion, delivery of education is a planned activity that requires a defined structure. In unprecedented times, change at an emergency level requires tremendous

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time commitment, innovations and creativity, accentuated in the case of a field like bioethics. The advantages of face-to-face education cannot be disputed, and the physical and emotional toll of transitioning to online education is a reality.

Declarations

Conflict of interest  The authors declare that they have no conflict of interest.

References

Almendingen, K., M.S. Morseth, E. Gjølstad, A. Brevik, and C. Tørris. 2021. Student’s experiences with online teaching following COVID-19 lockdown: A mixed methods explorative study. PLoS ONE 16 (8): e0250378. https://doi.org/10.1371/journal.pone.0250378.

Al-Rasheed, A. 2021. The challenges faced by undergraduate women during the COVID-19 pandemic in Saudi Arabia. Education Research International. https://doi.org/10.1155/2021/8841997.

Casarett, D., J.H. Karlawish, and J. Sugarman. 2000. Determining when quality improvement initiatives should be considered research: Proposed criteria and potential implications. JAMA 283 (17): 2275–2280.

Dyrbye, L., A. Cumyn, H. Day, and M. Heffin. 2009. A qualitative study of physicians’ experiences with online learning in a masters degree program: benefits, challenges, and proposed solutions. Medical Teacher 31 (2): e40-6. https://doi.org/10.1080/01421590802366129.

Khalil, R., A.E. Mansour, W.A. Fadda, K. Almisnid, M. Aldamegh, A. Al-Nafeesah, A. Alkhaliﬁah, and O. Al-Wutayd. 2020. The sudden transition to synchronized online learning during the COVID-19 pandemic in Saudi Arabia: A qualitative study exploring medical students’ perspectives. BMC Medical Education. 20 (1): 1. https://doi.org/10.1186/s12909-020-02208-z.

Power, K. 2020. The COVID-19 pandemic has increased the care burden of women and families. Sustainability: Science, Practice and Policy 16(1): 67–73. https://doi.org/10.1080/15487733.2020.1776516.

Sandars, J., and R. Patel. 2020. The challenge of online learning for medical education during the COVID-19 pandemic. International Journal of Medical Education. 11: 169. https://doi.org/10.5116/ijme.5f20.55f2.

Savage, M. 2022. How Covid-19 is changing women’s lives. Bbc.com. [cited 20 April 2022]. Available from: https://www.bbc.com/worklife/article/20200630-how-covid-19-is-changing-womens-lives.

Souza, A.D., and V. Vaswani. 2020. Diversity in approach to teaching and assessing ethics education for medical undergraduates: A scoping review. Annals of Medicine and Surgery. 56: 178–185. https://doi.org/10.1016/j.amsu.2020.06.028.

Sullivan, B.T., DeFoor, M.T., Hwang, B., Flowers, W.J., and W. Strong. 2020. A novel peer-directed curriculum to enhance medical ethics training for medical students: a single-institution experience. Journal of Medical Education and Curricular Development 7. https://doi.org/10.1177/2382120519899148.

Ullah, A., M. Ashraf, S. Ashraf, and S. Ahmed. 2021. Challenges of online learning during the COVID-19 pandemic encountered by students in Pakistan. Journal of Pedagogical Sociology and Psychology 3(1): 36–44. https://doi.org/10.33902/JPSP.2021167264.

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