Impact of COVID-19 Pandemic on Postgraduate Psychiatry Teaching-Learning and Evaluation in India: A Nationwide Survey

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ABSTRACT

Background: COVID-19 pandemic had disrupted postgraduate (PG) medical education in India. This study aimed to assess PG teaching, learning, evaluation (TLE), and innovative TLE methods used during the pandemic.

Methods: We conducted a cross-sectional survey using Google Forms to seek anonymous responses from psychiatry teachers across India. Information about PG TLE, postings in COVID-19 care units, methods of teaching adopted in different settings, difficulties faced, and methods of evaluation used were sought in responses. Descriptive statistics methods were used for analysis.

Results: The pandemic led to compromised TLE opportunities for the students. Posting of students and teachers in COVID-19 wards for an average of 15 months, students and teachers getting COVID-19, conversion of psychiatry wards to COVID-19 wards, and reduced number of outpatients and inpatients impaired the teaching-learning opportunities. For examination, the evaluation was done with limited standards, like using dummy patients or case vignettes. A few innovative TLE methods were also used during the pandemic.

Conclusions: COVID-19 pandemic had led to sub-optimal PG TLE. Teachers suggested many alternative and flexible TLE methods and platforms.

Key words: COVID-19 pandemic, postgraduate, teaching, learning, evaluation

Key messages: Postgraduate training in psychiatry was severely impacted during the COVID-19 pandemic. Due to the time-bound nature of the training program (six semesters for MD and four semesters for DPM programs), this loss of teaching-learning and evaluation could not be compensated. Psychiatry teachers should be ready with innovative TLE methods and alternative ways of delivering the syllabus to the students for any such foreseeable circumstances.

During the COVID-19 pandemic, medical education has been sub-optimal as traditional teaching, learning, and evaluation (TLE) modalities were rendered unusable.[1] A group of researchers identified various areas affected in psychiatry medical education, which included compromised quality of training, lack of diversified clinical exposure and patient interaction, limited research activities, and the use of online platforms of teaching and consultation.[2] Medical education sector was among the initial few to start the use of online methods of pedagogy along with the use of other e-learning tools, which to some extent compensated for the loss of undergraduate medical students.[3] Existing methods of pedagogy, like the use of interactive communication devices, Massive Open Online Courses (MOOC), Objective Structured Long Examination Record (OSLER), and Objective Structured Clinical Examination

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(OSCE), might have proven handy for teachers and students during this pandemic.[4-6] However, for postgraduate (PG) education, where experiential learning is essential, these teaching methods were not sufficient. Learning communication and psychomotor skills and hands-on training in procedures need a good number of outpatients and inpatients. For PG pedagogy, this cannot be compensated well by using virtual platforms. In addition, most of the PG students and faculties were posted for COVID-19 duties round the clock, making it difficult for synchronous online learning.[7]

During the initial phases of lockdown, there were no clear-cut guidelines regarding the conduct of the examination. A group of psychiatry teachers suggested a few methods for evaluation, like using simulated patients, audio-visual aids, and OSCE or Tele-OSCE, to conduct examinations during the pandemic.[8] There was an obvious predicament for psychiatry students during the ongoing pandemic in India. To the best of our knowledge, no previous study have objectively evaluated and documented this aspect of compromised PG psychiatry training during the COVID-19 pandemic in India.

Objectives: The primary objective was to assess the status of TLE of psychiatry PG students in India during the COVID-19 pandemic from the teachers' perspective. The secondary objective was to compile the innovative ideas related to TLE used during restrictions posed by the pandemic.

Materials and Methods

For this cross-sectional study, data was collected using a questionnaire created in Google Forms. Though online surveys have limitations, this was the most feasible option during the second wave of the COVID-19 pandemic. A group of teachers from medical colleges came together to prepare a study design, questionnaire, and analysis plan.

Description of the Questionnaire

The questionnaire had four sections. The first section was related to academic details like current designation, age, sex, teaching experience, whether they are recognized PG guides, accreditation status of the institute, type of the institute, state, and city. The second section assessed the status of the PG teaching program during the pandemic. Teacher's level of satisfaction for using online platforms for teaching was assessed on a scale of 0 to 10 (0—least satisfaction; 10—highest level of satisfaction). Questions sought to answer the number of PG seats (2020–2021), whether the PG training program was disrupted, and details of posting of PG students and faculties PG in COVID-19 care units. Utilization of psychiatry ward for COVID-19 care and the state of outpatient and inpatient services, bedside teaching, etc., were also part of this section. There were also questions about PG activities in the department. The third section assessed methods adopted for evaluating PG students during the pandemic. The last section was an open-ended question seeking a description of innovative methods that were used for providing PG training during the pandemic.

This Google form was validated by four senior teachers from other institutes, and their suggestions were incorporated into the form. Also, a pilot testing was conducted by emailing the link to 10 teachers, and as per their suggestions, questions were further modified. Institute Ethics Committee of Mahatma Gandhi Mission's Medical College Aurangabad approved the research protocol.

A list of 374 psychiatry teachers was compiled with their mobile numbers and email id. As there is no ready directory of psychiatry teachers in India except the Indian Psychiatric Society West Zone Branch (113 teachers), we obtained contact details of teachers in the country that were available from authors of other surveys conducted among psychiatry teachers in India and a few contacts from teachers known to us.[9] Thus, we had to adopt the convenience sampling method. A message was drafted with the research topic's importance, the approximate time taken to fill the form, and an appeal to respond to the survey form. The survey link was embedded in email and WhatsApp message. This message was sent to the 374 teachers on the list, making it a closed type of survey, and was sent only to the participants in the list.

There was no advertising or announcement of the survey in public forums. Any kind of incentive was not offered to participants. Link to submit, edit, or delete responses was open for all participating teachers from May 20, 2021 to June 20, 2021 for one month (data collection time frame). Two reminders were sent to participants, the first on the 15th day and the second on the 25th day from the day of sending the link for the first time. Participants were free to optout or delete their responses during this one month. Acceptance of responses was closed on June 20, 2021 (the end date for data collection).

Statistical Analysis

Data was transferred to a Microsoft Excel Spreadsheet. One record with data missing for most variables was excluded from the analysis. Mean with standard deviation was used for continuous variables. Categorical variables were tabulated with frequency. Qualitative data were analyzed by listing findings and summarized tables. Months of posting in COVID-19 care areas were grouped to present as semesters, to give a perspective of the limited semester-wise time frame of psychiatry training during post-graduation. Associations were tested with the chi-square test, and a P value of <0.05 was set as significant. Epi Info 7 software (Centre for Disease Control and Prevention) was used for data analysis.

Results

We got responses from 77 psychiatry teachers with a response rate of 20.58% across India. One participant had left the answers to most questions blank, so this response was not considered in the analysis. So, for analysis, the total responses were 76. The participants belonged to 15 states/union territories: Andhra Pradesh, Chandigarh, Chhattisgarh, Delhi, Goa, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Puducherry, Telangana, Tripura, Uttar Pradesh, and West Bengal. These 76 participants comprised teachers to private medical colleges (26, 34.21%), state-government-funded medical colleges (23, 30.26%), medical colleges funded by municipal corporations (9, 11.85%), and deemed universities (8, 10.53%), autonomous institute (3, 3.94), and central government funded institute

(5, 6.57). In addition to this, a teacher from district level teaching hospital and one from a minority medical college also responded to the survey. Possibility of more than one faculties of the same institute responding to the survey is less likely as we had repetition only from Mumbai ($n = 2$), Aurangabad ($n = 2$), and Bangalore ($n = 2$) all of which have multiple medical colleges. Only 63 participants had PG teaching programs in their institute, while the other 13 had only undergraduate teaching programs. So the data analyzed and presented below was obtained from these 63 teachers only. These teachers approximately represented a total yearly intake capacity of 274 PG students.

The mean age of teachers was 40.90 (SD = 9.50) years, with a male-to-female ratio of 1.65. The mean years of teaching experience were 11.80 (SD = 8.29). A majority, 43 (68.25%) teachers, were thesis guide/PG teachers working in National Assessment and Accreditation Council or International Organisation for Standardization accredited institutes 46 (73.02%). During the pandemic, 43 (68.25%) were posted in COVID-19 care areas, with the mean number of days being 49.78 (SD = 82.92). Only 32 (50.79) could attend PG activity in their department. Most institutes had adopted the online mode of teaching. The teacher's level of satisfaction with online teaching was 5.85 (SD = 1.87). This satisfaction level did not differ significantly as per their designation in the department ($P = 0.7$)

PG TLE was reported to be disrupted either completely or partially by most teachers (**Table 1**). In most institutes, psychiatry PG students (59, 93.65%) were posted in COVID-19 care. Duration of COVID-19 care posting was as follows: 0–3 months—22 (36.66%), 4–6 months—16 (26.66%), 7–12 months—15 (25%), 13–18 months—7 (11.66%). Forty six participants responded in affirmative to the question "whether the psychiatry ward was converted into a COVID-19 care area?" There was no admission of patients to psychiatry indoor services for an average of six months (mean = 6.13, SD = 6.51). Reasons quoted for reduced teaching of PG students in the outpatient department (OPD) were: posting of students in COVID-19 care, posting of teachers in COVID-19 care, a minimal

TABLE 1.

Effect on Postgraduate Teaching-Learning (PGTL) Activities

Change in TL Method	Description of Parameter	n (%)
Was PGTL disrupted?	No	10 (15.87)
	Partially	29 (46.03)
	Yes	24 (38.10)
Were PGs posted in COVID-19 care?	Yes	59 (93.65)
	No	4 (6.35)
Was the psychiatry ward converted into a COVID-19 care ward?	No	17 (26.80)
	Yes	46 (73.20)
How was PG activity (case-based discussions, journal club, seminars, etc.) conducted?	In-person	9 (14.28)
	Hybrid format	18 (28.57)
	Sometimes in-person and sometimes on digital platforms	13 (20.63)
	Using digital platform	19 (30.15)
	No PG activities	4 (6.34)
Was OPD space adequate for teaching with appropriate COVID-19 norms?	Additional space provided by the institute	1 (1.58)
	No	31 (49.20)
	Yes	31 (49.20)
Reasons for impaired PG teaching in OPD setting (multiple options could be chosen)	It continued as usual	2 (3.17)
	Teaching was affected due to the absence of PG students—posted in COVID-19 care	4 (6.34)
	Teaching was affected due to the absence of both PG students and teachers: due to the posting of both teachers and students in COVID-19 care	4 (6.34)
	Teaching was affected due to the posting of teachers in COVID-19 care	3 (4.76)
	Teaching was affected due to reduced patient load	14 (22.22)
	Teaching was affected due to reduced patient load, as well as posting of PG students in COVID-19 care	16 (25.39)
	Teaching was affected due to reduced patient load, as well as the absence of both teachers and PG students (due to posting of both in COVID-19 care)	22 (34.92)
How was bedside teaching done during the pandemic?	Cases were called up one by one in front of the consultant and discussed at a separate site instead of discussion in the ward	13 (20.63)
	For four months, no admissions were there. Subsequently, bedside teaching was done as usual.	1 (1.58)
	No bedside teaching done	15 (22.80)
	Only treatment rounds took place, no teaching rounds.	23 (36.50)
	Patients were made to sit at a distance of two meters with masks and all COVID-19 precautions; teaching continued.	1 (1.58)
	Same as before the pandemic	10 (15.87)

TL: teaching-learning, PGTL: postgraduate teaching-learning, PG: postgraduate, OPD: outpatient department.

number of patients attending the OPD during the lockdown, and the patients wanting to rush out of OPD fast due to of fear of contacting COVID-19 in the hospital. Also, some reported that most of the faculty in the department was infected by Corona virus, causing prolonged breaks in PG teaching in OPD. With the COVID-19 social distancing protocol in place, 31 (49.20%) teachers reported OPD space being cramped and inadequate to follow social distancing norms. Bedside teaching of PG students was also affected; either a modified way of teaching was opted or bedside teaching was stopped altogether (**Table 1**).

Most (47, 74.6%) teachers reported that their students faced difficulty in thesis completion as per their approved protocol. The MD University exam was not conducted in institutes of 12 (19.05%) teachers; while 8 (12.70%) stated that PG seat was started within past 2 years, so there was no candidate to appear for examination. Exam was conducted in institutes of 43 (68.25%) teachers; all of them reported difficulty in arranging real patients for university examinations. Only 12 (19.04) respondents stated that real patients were kept for the examination. The remaining teachers reported that a mix of real psychiatry patients, case vignettes, and dummy patients were kept for the examination. Some used paramedical staff or other students to demonstrate the neurological examination. In a few institutes, audio-visual media was used to do a clinical examination of patients by the examinee PG student. Seventeen percent (n = 11) reported that only case vignettes were used for conducting the exam. Only one institute used OSLER and OSCE techniques for the MD university examination. Most institutes (44, 69.76%) faced difficulty in getting external examiners, and at a few institutes, external examiners joined using a virtual platform. University exams were conducted using relaxed norms of National Medical Commission (NMC) for external examiners. At one institute, only internal examiners conducted the exam. Only at 8 (18.60%) teachers' institutes, external examiners from outside the state were available to conduct examinations. External examiners within the state and university but from other medical colleges were available in 9 (21.0%), and external examiners from within the state but from the different universities were available at 25 (39.68%) teachers' institutes. Teachers also used many innovative TLE methods during this COVID-19 pandemic (**Box 1**).

Discussion

Teachers from 15 states participated in this survey, representing status of PGTLE during current pandemic across India. Also, there is a good mix of responses from different types of medical colleges in India. Psychiatry PG students were posted in COVID-19 care units outside their department for an average of 2–3 semesters. This is a significant amount of time from their time-bound six semesters of the MD Psychiatry training program. NMC PG curriculum requires maximum experiential learning and active discussion during PG teaching-learning activities (case-based discussions, seminars, journal clubs, problem-based learning [PBL], etc.) in the six semesters.[10] As can be seen from our results, the pandemic affected this established system of PG training in the country. This has led to impaired quality of training, lack of diversified clinical exposure and practice of skills, and inability to conduct research activities apart from COVID-19-related research, as reported in an article describing the perspective of early carrier psychiatrists across the world.[2] This is a lost opportunity to gather specialty-specific knowledge and skills and conduct research work (thesis and non-thesis). This was compounded by the reduced number of psychiatry patients in OPD, conversion of psychiatry ward into COVID-19 care ward for months together, reduced or absence of admissions to psychiatry wards due to lockdown, and fear of contracting COVID-19. Psychiatry trainees often rely on observation of direct clinical interaction between faculty and patient and also supervised interaction between themselves and patients. This was severely disrupted by this pandemic, posing a big challenge in front of psychiatry trainees.[11] Many residents and teachers themselves got infected with the virus, disrupting the training. These important reasons for the loss of academics documented in our study are similar to the few quoted in commentary articles and studies assessing the psychological impact of the pandemic on residents.[7,12,13]

Many students faced difficulty in completing their thesis. NMC norms for evaluating PG students mandate acceptance of the thesis by the university as per pre-approved research protocol, four theory papers, and practical examination consisting of case-based evaluation and viva voce.[10] As can be seen from our findings, most of these were compromised during the pandemic. Conduct of university examination was also

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BOX 1.

Innovative TLE Methods Used

- In-camera discussion of the case by a resident and teacher and live broadcast to other students using a virtual platform
- Use of case vignettes, spots, specimens of the brain, and movie clips to demonstrate a phenomenon
- Poll-based quizzes, use of Google Meet and Zoom for seminars, PBL, and journal clubs
- Creation of e-resources such as videos, audio clips, etc., with the involvement of students
- Use of readily available courses on MOOC platforms such as Coursera and Udemy to keep up learning
- Supervised role-plays by students to demonstrate a phenomenon
- Evening time is used for teaching when residents are relatively free from duty
- Utilization of time for research and learning of psychiatric conditions associated with the COVID-19 pandemic
- Use of podcasts and YouTube, WhatsApp, Facebook, and other social media for academic purposes
- Creation of open access pooled academic recourse platform to enable residents to access it whenever they are free (off COVID-19 duty)
- Actual cases kept with dual-communication mike/speaker across a glass partition in separate cabins
- Use of Objective Structured Clinical Examination and Objective Structured Long Examination Record methods in the exam
- Use of dummy patients, case vignettes, stored case records for discussion and exam

PBL: problem-based learning; MOOC: Massive Open Online Courses.

suboptimal. Most institutes conducted examinations with dummy patients or case vignettes. Also, the majority were unable to recruit examiners from other states as mandated by NMC guidelines. Considering the unusual circumstances and the difficulties in recruiting external examiners, NMC had relaxed the norms for the appointment of external examiners vide its advisory issued on March 18, 2021, about relaxed criteria.[14] Though this was an essential and helpful step in conducting timely exams, this also led to compromise in the evaluation of PG students before awarding them master's degree.

Various innovative teaching-learning methods were used in this pandemic, and a few additions which can be used in the future during similar circumstances were detected. Most institutes were quick to adapt to the use of audio-visual aids. Live streaming of in-camera discussion of a case, seminars, PBL, journal discussion, etc., enabled learning by a large group of students on their screens. This, to some extent, helped the students learn the subject despite being away from the psychiatry department.[15] Online remote teaching was utilized to deliver theoretical knowledge using online platforms like Zoom, Google Meet, Cisco Webex, Skype, Microsoft Teams, etc. Studies from Australia and Ireland reported that online remote learning could help overcome barriers like lack of structure and social isolation, which were very common in this pandemic.[16,17] Guerandel et al. highlighted the important components of online teaching like pre-scheduled online lectures, engagement of students by using breakout rooms, and availability of online space for peer support, which came in handy in this pandemic.[17] Teachers in this survey adopted alternative ways of delivering knowledge, like using case vignettes, spots, specimens of the brain, movie clips, etc., to compensate for the decrease or absence of real patients. This also highlights the importance of maintaining the case records, preparing short videos, brain specimens, etc., for any similar circumstance in the future. Participants reported increased use of available MOOC platforms. MOOC platforms such as NPTEL, Udemy, Coursera, etc., were utilized for self-directed learning to compensate for

halted traditional TL methods during this pandemic. This has compensated to some extent the loss of learning for the students. At the same time, it also opened gates to the vast knowledge waiting for them. Other authors also suggested an online mode of self-study for students in quarantine and those infected with COVID-19.[18,19] This pandemic made participating teachers use available resources optimally and innovatively. Demonstration of a phenomenon by role-plays among students, recording of videos of interactions with patients (with informed consent), use of social media like WhatsApp groups for academic discussions, teaching on simulated patients, use of brain models and specimens, etc., were a few examples. These methods were all available before the pandemic, but their usefulness was realized in the constraints posed by the COVID-19 pandemic. A few teachers conducted PG activities in the evening to suit the timings of the students posted outside the department. This flexibility was a welcome step to compensate for lost training in these circumstances.

Similarly, the importance of existing teaching techniques such as PBL, self-directed learning, small group teaching, DOAP, OSCE, OSLER, etc., were prioritized during this COVID-19 pandemic. This helped both teachers and students in gaining confidence in the use of these techniques. Adoption of telepsychiatry services in a few institutes allowed trainee psychiatrists to learn patient evaluation and management remotely as reported in other studies.[20,21]

Our findings have implications for being prepared for the current pandemic and future situations where PG training may be hampered. The experiences shared by the teachers and the innovative methods adopted will help achieve this. Our findings shall be interpreted with its limitations of being an online survey with a relatively low response rate and that the findings are from the teachers' perspective. Current survey was designed as closed type of survey; however, there is a possibility that some teachers might have forwarded the message to appropriate contacts. A teacher might have conducted multiple exams during the pandemic. We did not ask for the experience of any specific exam in our survey, so this is a

limitation. This study is limited to teachers in medical institutes in India; findings cannot be generalized to other countries where some different mechanisms might be in place to compensate for the difficulties faced in PG training. Also, we did not assess the effectiveness of the innovative TLE methods. A detailed study with PG students as subjects can be done to get the students' perspectives on this issue.

Conclusions

Psychiatry PGs have lost a significant amount of learning during this ongoing pandemic. They were taught minimally with suboptimal pedagogy methods. Evaluation too was suboptimal during this pandemic. Due to the limited tenure of six semesters as PG learners, the time lost cannot be compensated. This may have implications for their careers ahead and also for patient care. Teachers used a few innovative TLE methods to deliver knowledge. These, though with own limitations, can be used in the ongoing pandemic and in the future if a similar situation arises.

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