



Perceived Impact of the COVID-19 Pandemic on Psychiatric Training Among Final-Year Medical Undergraduates in Sri Lanka: an Online Survey of Students from Eight Universities

Anuradha Baminiwatta¹ · Madhubhashinee Dayabandara² · Jayamal De Silva³ · Thanabalasingam Gadambanathan⁴ · Pabasari Ginige⁵ · Imalsha Premarathne¹ · Harshini Rajapaksha⁶ · Anuprabha Wickramasinghe⁷ · Sambasivamoorthy Sivayokan⁸ · Chamara Wijesinghe¹

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Abstract

Objective This study aimed to assess the perceived impact of the COVID-19 pandemic on undergraduate psychiatry training in Sri Lanka and to explore several potentially associated factors.

Methods An online survey was distributed among students from eight medical schools who recently faced their final exam. Their perceptions on the impact of the pandemic on the psychiatry training and exam performance were rated on a 10-point scale. Resilience was assessed using a two-item scale.

Results A total of 644 students responded (69.5% female, mean age=27.5 years). Among them, 164 (25.5%) reported being quarantined; 25 (4%) reported becoming infected with COVID-19; and 170 (28.6%) reported ward closure for over a week during the clerkship. Greater impact was reported for patient availability (mean=7.08), mental status assessments (mean=6.3), developing rapport (mean=6.2), and diagnostic skills (mean=5.9), whereas the impact on peer-learning (mean=5.5) and self-study (mean=3.6) was relatively lower. Impact on clinical components of the final exam (mean=6) was rated higher than on theory components (mean=4.5). The majority (70.3%) reported that COVID-19-related stress affected their exam preparations. Higher resilience predicted lower perceived impact on all aspects of training/exam performance. Female gender and ward closure predicted greater impact on diagnostic skills, overall training, and clinical exam performance, whereas being quarantined predicted greater impact on peer-learning and self-study.

Conclusion The pandemic has significantly affected the undergraduate psychiatry training in Sri Lanka, particularly its clinical components. Increasing clinical exposure to patients, managing students' stress, and building their resilience should be key concerns for medical educators during the pandemic.

Keywords COVID-19 · Pandemic · Medical education · Psychiatry education · Resilience

The COVID-19 pandemic has presented diverse new challenges to medical educators and students worldwide [1, 2]. During the early part of the pandemic, medical students would have struggled to adapt to the rapidly changing educational environment. Disruption of onsite clinical experiences may

have had significant implications on students' acquisition of relevant knowledge, skills, and attitudes [3]. Social distancing and wearing masks would have affected students' ability to establish rapport with patients and conduct proper mental status examinations [4]. In addition to the impact on clinical

✉ Anuradha Baminiwatta
baminiwatta@kln.ac.lk

¹ University of Kelaniya, Ragama, Sri Lanka

² University of Colombo, Colombo, Sri Lanka

³ University of Sri Jayewardenepura, Nugegoda, Sri Lanka

⁴ Teaching Hospital Batticaloa, Batticaloa, Sri Lanka

⁵ University of Peradeniya, Peradeniya, Sri Lanka

⁶ University of Ruhuna, Galle, Sri Lanka

⁷ Rajarata University of Sri Lanka, Saliyapura, Sri Lanka

⁸ Teaching Hospital Jaffna, Jaffna, Sri Lanka

training, the pandemic may have affected the theory aspects of training such as the acquisition of theoretical knowledge through self-study and peer-learning. Numerous methods have been proposed to address these concerns and achieve desired learning outcomes in psychiatry during the pandemic [5–7]. Since clinical clerkships are known to improve medical students' attitudes towards psychiatry, efforts should be made to ensure proper delivery of undergraduate psychiatric training, especially in low-and-middle-income countries (LMICs) such as Sri Lanka, where recruitment into psychiatry has been a major challenge [8, 9].

Compared to other countries in South Asia, Sri Lankan medical schools offer a more comprehensive undergraduate curriculum in psychiatry, with about 8–12 weeks of clinical clerkships, 40–75 h of formal lectures, and a mandatory qualifying examination at the end of the final year [8]. Since 2018, a uniform format for final-year assessments in psychiatry is followed by all state medical schools in Sri Lanka, consisting of a multiple-choice question (MCQ) paper, structured essay question (SEQ) paper, long case (where the candidate assesses a patient over 30–45 min and discusses the findings with a panel of two examiners over 15–20 min), viva voce examination (where the candidate discusses with two examiners a case-book of patient summaries prepared during their clinical rotation), and modified objective clinical assessment (MOCE) [10]. Although online learning management systems were in place in some Sri Lankan universities prior to the pandemic, their use was limited, and online lectures were rare during that period. Therefore, the need to rapidly shift to the virtual platform with the onset of the pandemic presented many challenges to both students and teachers in Sri Lanka [10, 11]. The impact of the pandemic on training as perceived by students may show a wide variability among individuals. This study hypothesized that certain external factors such as being quarantined (i.e., staying separated from others following exposure to COVID-19 infection), being infected with COVID-19 or having wards closed down during the clerkship, and certain personal factors like gender and resilience may contribute to this variability. We thus aimed to assess students' perceptions of the impact of the pandemic on different clinical and theory aspects of undergraduate psychiatry training and assessments, and perceptions on distance learning methods, and to explore their association with selected external and personal factors.

Methods

This was a cross-sectional, online survey conducted in August 2021. Approximately 1,000 medical students from eight state universities who had completed their final examinations in April 2021 and experienced the first and second waves of

the pandemic during their final year of training and assessments were invited to participate via email and social media groups. No exclusion criteria were used. Ethics approval was obtained from the Ethics Review Committee of the Faculty of Medicine, University of Kelaniya, prior to study commencement.

A questionnaire assessing perceptions on the impact of the pandemic on different aspects of training was developed by the authors. Students rated the impact of the pandemic on each domain using a scale from 1 to 10, where 1 indicated “Not affected at all,” and 10 indicated “Extremely affected.” Similar 10-point scales were used to assess the effectiveness of online lectures (1=Not effective at all to 10=Extremely effective), self-confidence in using digital technology (1=Not confident at all to 10=Extremely confident), and satisfaction with information technology facilities (1=Not satisfied at all to 10=Extremely satisfied). The students were asked whether online case discussions, simulated patients, and video/audio recordings of real patients were used by their lecturers and whether they thought they were useful. Relevant background information was collected: gender, history of being quarantined, history of being infected with COVID-19, ward closure for more than 1 week, adequacy of personal protective equipment, career interest in psychiatry, and level of COVID-19-related stress close to the examination were recorded as binary yes/no variables. The outcome in the final examination was recorded as “passed with distinction,” “passed without distinction,” or “did not pass.”

Resilience was assessed using the two-item Connor Davidson Resilience Scale (CD-RISC-2). CD-RISC-2 has shown satisfactory correlation with the original 25-item CD-RISC, and also showed test-retest reliability, convergent validity, and divergent validity [12]. Resilience score was the sum of scores on the two items; the maximum possible score was 8.

Data analysis was performed using IBM SPSS 21. Summary findings of participants' responses are presented; missing values are excluded when presenting percentages. Means of outcome measures (i.e., impact ratings or resilience) were compared between binary groups (e.g., gender, being quarantined) using the independent-samples *t*-test. Pearson correlation was used to assess the correlations between resilience and the impact ratings. Chi-square was used to test associations between categorical variables.

Results

The online survey was completed by 644 students (64% response rate) from eight medical schools. Out of them, 447 (69.5%) were female. Mean age was 27.5 years (SD=1.2). The number of students from different universities ranged from 44 to 144. Among the students, 95.8% (*n*=612) had

passed the final examination in psychiatry. About one-fifth (20.8%, $n=124$) considered psychiatry as a potential career option.

About a quarter of the sample ($n=164$, 25.5%) reported being quarantined at some point during their final year, and 25 participants (3.9%) had contracted COVID-19. One hundred seventy (28.6%) reported that the psychiatric ward was closed for over a week during their clerkship period. Almost half (47%, $n=298$) felt that they were not provided with adequate PPE during their clerkship.

Figure 1 illustrates the perceived impacts of the pandemic on different aspects of training, each rated on a scale of 1 to 10, where higher ratings indicate a greater negative impact. The greatest reported negative impact was for patient availability for clinical learning, followed by impacts on the ability to assess mental status, developing rapport with patients, skills in diagnosis, peer learning, and confidence in treating psychiatric patients. The impact on self-study was rated much lower. The participants rated the overall negative impact on training at a mean of 6.5/10 (SD=2.2).

Students rated the effectiveness of online lectures during the pandemic at 7.5/10 (SD=2.3). When asked which mode they preferred for lectures to be conducted in, 367 (57.2%) chose a blend of online and face-to-face lectures, whereas 175 (27.3%) preferred face-to-face-only, and 100 (15.6%) preferred online-only lectures. Students rated their confidence in using digital technology for learning at a mean of 7.84/10 (SD=1.7). Satisfaction with the support received from the university with regard to information technology facilities was rated at a mean of 6.2/10 (SD=2.5).

Among the students, 543 (85.1%) reported that lecturers conducted online case discussions about real patients; 572 (89.4%) stated that it is useful to have online case discussions. According to 425 students (67.1%), simulated patients had been used by their lecturers for teaching; 540 (85.3%) thought it is useful to have simulated patients. Three hundred eighty-two (60.1%) students reported that video/audio recordings of real patients were used during their training, and 594 (93.5%) thought it is useful to have video/audio recordings of real patients.

Among the most commonly experienced difficulties when using online learning methods were connectivity issues (86.8%, $n=559$), difficulty maintaining attention (65.5%, $n=422$), having too frequent online sessions (56.8%, $n=366$), and screen fatigue (53.7%, $n=346$). Difficulty obtaining a digital device due to financial problems was reported by 71 (11%) students.

The perceived impact of the pandemic on their performance in the clinical components (i.e., long case, viva voce, and MOCE) of the final examination was higher than in theory components (i.e., MCQ and SEQ) (Fig. 1). Among the students, 523 (81.6%) reported that COVID-19 increased their stress while preparing for the final exam, and 450 (70.3%) reported that COVID-19-related stress affected their preparations for the exam.

Among the 27 students who did not pass the examination in psychiatry, 85% ($n=23$) reported that COVID-19-related stress affected their exam preparations; among those who passed without a distinction ($n=537$), this percentage was 70%; and among those who passed with a distinction

Fig. 1 Perceived impact of the COVID-19 pandemic on different aspects of psychiatry training and assessments among medical undergraduates, rated on a scale of 1 to 10 (1=Not affected at all; 10=Extremely affected); error bars indicate standard errors



($n=71$), the corresponding percentage was 66%; however, these differences were not statistically significant ($\chi^2=3.48$, $p=0.178$).

The mean resilience score of the sample was 5.04 ($SD=1.4$). Males had higher resilience (mean = 5.3) than female (mean = 5.0) students, $t=2.48$, $p=0.013$. Students who reported that COVID-19-related stress affected their exam preparations had lower resilience (mean score = 4.92) than those who did not (mean = 5.47), $t=-4.55$, $p<0.001$.

A few intrinsic factors (gender, resilience) and extrinsic factors (being quarantined, being infected with COVID-19, ward closure) were explored as possible correlates of the impact on different aspects of training (Table 1). Female students reported a greater impact of the pandemic on skills in diagnosis, confidence in treating patients, patient availability, overall training, and clinical exam performance. Higher resilience was associated with lower perceived impact on all aspects of training/exam performance. Those who had been quarantined reported a greater impact on peer-learning and self-study, but not on other aspects. Being infected with COVID-19 during the final year was not associated with any of the impact ratings. Ward closure during the clerkship was associated with greater impact on skills in diagnosis, patient availability, overall training, and clinical exam performance.

Discussion

This online survey of medical students' perspectives on the impact of the COVID-19 pandemic on their undergraduate psychiatry training revealed a higher perceived impact on

the acquisition of clinical skills such as developing rapport with patients, performing mental status examinations, and diagnosing mental illness, compared to acquisition of knowledge through self-study and peer-learning; this was in the context of a high perceived impact on the availability of patients for clinical learning. In line with this, the negative impact on their performance in the clinical components of the final examination was rated much higher than the impact on the theory components.

One key strategy to overcome the large mental health treatment gap that exists worldwide, especially in LMICs, is to have an adequate number of trained professionals to identify and manage mental health problems effectively; primary care physicians have a major role to play in this regard [8, 13]. Unless a medical graduate opts to pursue postgraduate training in psychiatry, the only clinical training in psychiatry received by doctors in Sri Lanka is at the undergraduate level. Since developing clinical skills pertinent to the practice of psychiatry, such as the empathetic understanding of patients' problems, requires a reasonable duration and quality of clinical interactions with patients, efforts need to be taken to ensure these opportunities for the medical students, despite the restrictions caused by the pandemic [14]. Our findings thus highlight the need to urgently adopt new methods to increase medical students' clinical exposure to psychiatric patients.

The overall perception of the sample towards the quality of online education appeared favorable. However, the majority showed a preference for either a blend of face-to-face and online lectures or face-to-face lectures alone. A reasonable move towards adoption of the online platform for clinical teaching by lecturers was evidenced by the reported

Table 1 Factors associated with perceived impact of the COVID-19 pandemic on different aspects of undergraduate psychiatry training

Specific area of impact	Gender		Resilience ^b			Being quarantined			Being infected with COVID-19			Ward closure		
	Male (mean)	Female (mean)	<i>p</i> value ^a	<i>r</i>	<i>p</i> value	Yes (mean)	No (mean)	<i>p</i> value ^a	Yes (mean)	No (mean)	<i>p</i> value ^a	Yes (mean)	No (mean)	<i>p</i> value ^a
Patient availability	6.72	7.20	0.026*	-0.096	0.016*	7.30	6.97	0.165	7.24	7.05	0.713	7.54	6.89	0.003**
Mental status examinations	6.23	6.33	0.630	-0.71	<0.001**	6.38	6.28	0.660	6.48	6.30	0.711	6.49	6.24	0.245
Developing rapport	5.96	6.29	0.104	-0.175	<0.001**	6.27	6.16	0.559	6.00	6.19	0.686	6.36	6.15	0.294
Skills in diagnosis	5.31	6.08	<0.001**	-0.173	<0.001**	6.01	5.79	0.328	6.16	5.83	0.509	6.36	5.63	0.001**
Confidence in treating	5.10	5.51	0.042*	-0.238	<0.001**	5.62	5.31	0.147	6.17	5.36	0.097	5.49	5.37	0.553
Peer learning	5.40	5.62	0.349	-0.227	<0.001**	6.19	5.33	<0.001**	6.32	5.52	0.147	5.80	5.47	0.167
Self-study	3.41	3.62	0.300	-0.235	<0.001**	3.91	3.43	0.025*	3.92	3.54	0.422	3.75	3.49	0.202
Overall training	6.04	6.69	<0.001**	-0.176	<0.001**	6.73	6.41	0.103	6.88	6.48	0.366	7.03	6.29	<0.001**
Clinical exam performance	5.63	6.20	0.005**	-0.214	<0.001**	6.32	5.92	0.070	6.72	6.00	0.140	6.36	5.90	0.026*
Theory exam performance	4.30	4.64	0.107	-0.195	<0.001**	4.74	4.47	0.229	5.28	4.51	0.129	4.79	4.44	0.111

Note: ^a Significance of a *t*-test comparing means between two groups is reported. ^b Pearson correlations between impact ratings and the resilience score based on Connor-Davidson Abbreviated Resilience scale are reported. *Relationship is significant at the 0.05 level (2-tailed). **Relationship is significant at the 0.01 level (2-tailed)

widespread use and perceived usefulness of online clinical case discussions, simulation, and video/audio recordings of real patients. However, since not all sites appear to have adopted these remote learning methods, further efforts to incorporate and improve the delivery of such modalities of teaching, with inputs from relevant literature, are warranted [15, 16]. On the other hand, issues like poor network connectivity, difficulty maintaining attention, and screen fatigue during online classes were experienced by many students. A notable proportion (11%) had difficulty obtaining a device due to financial difficulties. Negative effects of financial issues on academic work during the pandemic have been reported among undergraduates from other LMICs such as Bangladesh [17].

About 70% of students in the sample reported that COVID-19-related stress interfered with their preparation for the final exam. High levels of stress among medical students in Sri Lanka during the pandemic have been reported using validated instruments [11]. Preparing for the final examination, where the stakes are high for medical students, can be a cause of significant stress and anxiety for them [18]. In this study, higher reported resilience was associated with lower perceived impact on the undergraduate training and lower perceived stress, suggesting that resilience may play a protective role. The importance of strategies to improve medical students' resilience is being increasingly recognized [19]. Therefore, interventions known to enhance stress-management skills and build resilience among medical students, such as mindfulness-based self-care programs, could prove useful in this regard [20].

These findings should be interpreted against several limitations. Females are over-represented (about 70%) among respondents; the female proportion in the study population is known to be around 59%. Impact on each aspect was assessed using self-report ratings; objective measures were not used. Only a few select factors were studied as potential predictors of impact. Resilience was measured by an abbreviated scale to maintain brevity of the questionnaire.

In summary, this study revealed that the COVID-19 pandemic has impacted differentially on the different aspects of undergraduate psychiatry training in Sri Lanka, with greater deleterious effects on clinical components. Medical educators should take measures to increase students' clinical exposure to psychiatric patients, manage students' stress, and potentially build their resilience during the pandemic.

Declarations

Disclosures On behalf of all authors, the corresponding author states that there is no conflict of interest.

Ethics Approval Ethics approval was obtained from the Ethics Review Committee of the Faculty of Medicine, University of Kelaniya.

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