

# Pedagoški izazovi u provođenju edukacije specijalizanata psihijatrije tijekom pandemije COVID-19: što možemo primijeniti u budućim edukativnim aktivnostima

---

**Knez, Rajna**

*Source / Izvornik:* **Medicina Fluminensis, 2022, 58, 36 - 45**

**Journal article, Published version**

**Rad u časopisu, Objavljena verzija rada (izdavačev PDF)**

[https://doi.org/10.21860/medflum2022\\_271158](https://doi.org/10.21860/medflum2022_271158)

*Permanent link / Trajna poveznica:* <https://urn.nsk.hr/urn:nbn:hr:184:965213>

*Rights / Prava:* [Attribution 4.0 International](#)/[Imenovanje 4.0 međunarodna](#)

*Download date / Datum preuzimanja:* **2024-08-07**



*Repository / Repozitorij:*

[Repository of the University of Rijeka, Faculty of Medicine - FMRI Repository](#)



# The pedagogical challenges of teaching psychiatry residents during the COVID-19 pandemic: Applications for future educational activities

## Pedagoški izazovi u provođenju edukacije specijalizanata psihijatrije tijekom pandemije COVID-19: što možemo primijeniti u budućim edukativnim aktivnostima

Rajna Knez

University of Rijeka, Faculty of Medicine,  
Department of psychiatry and psychological  
medicine, Rijeka, Croatia

**Abstract.** The coronavirus disease 2019 (COVID-19) pandemic has challenged and almost completely disrupted the previous teaching system, based mainly on teachers' and learners' physical presence. This impact has forced educators to identify alternative learning models and begin utilizing new approaches, often without detailed analysis or thorough, systematic planning. The current literature review aims to reveal some of the greatest pedagogical challenges in remotely teaching psychiatry residents during the pandemic. This mini-review's results may help in developing additional pedagogical techniques and key applications for educational activities to teach psychiatry residents, as well as to suggest directions for future psychiatry resident education.

**Key words:** COVID-19; education, distance; internship and residency; psychiatry

**Sažetak.** Pandemija koronavirusne bolesti 2019. (COVID-19) u značajnom je obimu onemogućila provođenje uobičajenih edukacijskih aktivnosti što je, između ostalog, rezultiralo i primjenom novih modela učenja. Međutim, promjene koje su uslijedile često su implementirane bez detaljne prethodne analize i temeljitog, sustavnog planiranja njihovog provođenja. Ovaj kratki pregled literature ima za cilj identificirati neke od glavnih pedagoških izazova u edukaciji specijalizanata psihijatrije tijekom aktualne pandemije. Rezultati ovog preglednog članka mogu pomoći pri razvoju dodatnih pedagoških tehnika i inovativnih alata za korištenje u budućim obrazovnim aktivnostima te pridonijeti planiranju organizacije specijalističkog obrazovanja iz psihijatrije.

**Ključne riječi:** COVID-19; e-učenje; psihijatrija; specijalističko usavršavanje

**Corresponding author:**

Assist. Prof. Rajna Knez, MD  
University of Rijeka, Faculty of Medicine,  
Department of psychiatry and psychological  
medicine, Cambierieva 15, 51 000 Rijeka,  
Croatia  
E-mail: rajna.knez@uniri.hr

<http://hrcak.srce.hr/medicina>

## INTRODUCTION

The COVID-19 (coronavirus disease 2019) pandemic appeared unexpectedly, bringing a great number of changes to the education field. Classical teaching system, which mostly requires physical presence, has become quite hard to follow through during the pandemic. This shift has forced educators to adapt to new learning models that mostly rely on remote teaching. Pedagogical challenges accompanying this process have been particularly notable in medical education system, whose learning process and professional skill development have relied mostly on clinical experience.

This article focuses on the specialized occupation of medical education while emphasizing the psychiatry specialty. After overcoming the initial technical hurdles with organizing of the distance learning and identifying optimal solutions that have been implemented later on, a detailed consideration of this entire process of pedagogical adaptation is necessary. Accordingly, this article reflects upon the state of medical (and particular psychiatric) education at the beginning of the pandemic, establishes an understanding of the current state, and provides insights and recommendations for psychiatry residents' future education. Thus, this review aims to summarize key learning from various practices and answers the following research questions:

- What are the biggest pedagogical challenges of psychiatry residents' educational programs during the COVID-19 pandemic?
- Which education practices that emerged during the first response to the pandemic can be continued, which should be improved, and what insights do they offer for future practice?
- What will the future teaching of psychiatry residents involve?

## METHOD

The literature review was conducted to identify pedagogical challenges in the medical education context generally, as well as in the psychiatric context specifically. The PubMed database was searched on March 31, 2021, and the results of this search were used as data for this mini-re-

view. Since no articles had been published about COVID-19 before 2020, no articles predating 2020 were considered. This PubMed search was limited to English-language articles' abstracts and full texts available. The basic search terms were *education, distance, COVID-19, psychiatry, internship, and residency*. Search strategies explaining how Medical Subject Headings (MeSH) terms were combined: "*Education, Distance*" and "*COVID-19*" and "*Psychiatry*" and "*Internship and Residency*"; "*Education, Distance*" and "*COVID-19*"

Various pedagogical challenges may be notified in teaching residents during the pandemic, such as prioritizing residents' needs, disrupting or modifying clinical experiences, implementing innovative tools and new settings, assuring educational value, identifying new educational topics, enhancing specific competencies, exploring residents' and teachers' motivations and attitudes toward digital tools and remote learning.

and "*Psychiatry*"; "*COVID-19*" and "*Psychiatry*" and "*Internship and Residency*"; "*Education, Distance*" and "*COVID-19*" and "*Internship and Residency*". Articles obtained through different searching strategies (n=39) were combined and analyzed together. Throughout the selection process, nine titles were deemed irrelevant through screening, based on their titles and abstracts, and they were excluded. Six articles were obtained from references in the search results and other sources, such as direct searches in relevant journals.

After a thorough review, the collected items were narrowed to 36 articles. Three targeted learning population categories emerged: *psychiatry residencies and fellowships* (nine articles), *undergraduate psychiatry teaching and other training in the psychiatry field* (six articles), and learning from *residency education in other specialties* (21 articles). Nine selected articles related to distance education in psychiatry residencies and fellowships were detailed presented in the results sections. An analysis of all 36 articles' selected for this review revealed several pedagogical challenges, which were then organized into sub-groups vis-à-vis their thematic similarities

(*Prioritizing needs; Clinical experience; Educational value; New topics and competencies; Innovative tools and settings; Motivations, attitudes, and feedback*). The main outcomes in the pedagogical challenges category for all articles across all learning population categories were reflected in the results. For the purposes of this paper, the terms *e-learning*, *remote teaching and learning*, and *online or distance education and learning* are understood to be synonymous.

## RESULTS

### Distance education in psychiatry residencies and fellowships

Nine selected articles related to distance education in psychiatry residencies and fellowships during the COVID-19 pandemic:

#### *American Association of Geriatric Psychiatry online trainee curriculum: Development and method of initial evaluation*

The Teaching and Training Committee leadership of the American Association of Geriatric Psychiatry (AAGP) has, in collaboration with geriatric psychiatry experts, developed a web-based geriatric psychiatry curriculum for psychiatry residents to address the educational gap that has resulted from the pandemic's disruption of in-person clinical experiences<sup>1</sup>. As Conroy et al. wrote in their brief report<sup>1</sup>, this curriculum is a module-based geriatric psychiatry didactic learning experience that comprises 30 video-recorded lectures, covering topics such as those related to geriatric assessments, neurocognitive disorders, late-life psychiatric disorders as well as their psychopharmacological treatment, the management or treatment of dementia's behavioral and psychological symptoms, and caregiver support. If the curriculum is found successful, despite its primary design to resolve COVID-related training deficits in geriatric psychiatry, it could transition to a permanent offering.

#### *Psychiatric training during the global pandemic*

Richards and DeBonis<sup>2</sup> identified, in an open forum, several aspects of COVID-19's impact on clinical care, teaching, and psychiatry trainees' well-being. They outlined challenges facing psychiatric training directors' fulfilling of trainees'

educational needs amid the pandemic. The article emphasized the responsibility of workflow adjustment while attempting to preserve educational momentum, protecting both mental and general health among trainees. Most psychiatry training programs shifted to remote delivery in response to the pandemic, and the article describes this transition period. It pays particular attention to residents' well-being, as well as focusing initial efforts on residents' basic needs and safety using Maslow's hierarchy of needs as a framework. The authors, as training directors, also emphasized the need to consider the COVID-19 pandemic's immediate and long-term consequences on residents' well-being, professional identity, and clinical experience, along with modifications to educational curricula in order to address incoming challenges.

#### *Using digital tools to support psychiatry residency training during the COVID-19 pandemic*

In their letter to an editor, Tay et al.<sup>3</sup> described challenges in psychiatry residency training in Singapore and their responses to the actual pandemic's disruptions to education. Although the country had already been affected by a health crisis in 2003 (the severe acute respiratory syndrome or SARS epidemic), it adapted differently to COVID-19. Technological tools, such as video-conferencing, were implemented to reduce disruptions to residency training and provide opportunities to discuss clinical cases with supervisors. This approach afforded supervisors an opportunity to continue assessing trainees' clinical skills and competencies. Pre-recorded lectures on online platforms, through a program that had started before the pandemic, allowed participants full access to learning materials, and became especially useful.

#### *Co-constructive patient simulation*

The qualitative study by Martin et al.<sup>4</sup> assessed the first implementation of the co-constructive patient simulation (CCPS) in psychiatry. In this original research, the authors hypothesized that CCPS can help learners develop professional identities, advancing their professional growth toward becoming psychiatrists. Because of the pandemic, several sessions took place via syn-

chronized videoconferencing. The case script for this novel medical educational approach was created by a designated learner (clinician) and then used by a professional actor as a simulated patient. An hour-long simulation was followed by an hour-long debriefing session with all participants (fellows in child and adolescent psychiatry or CAP). Through iterative thematic analysis, the authors derived an alliterative “9R” model (“regulate, relate, reason, reflect, realities, restraints, relationships, repair, reaffirm”). The authors proposed that CCPS and the 9R model be robustly applied to psychiatry learning because of this specialty’s uniquely interpersonal nature.

#### *Trainees and faculty members perceptions of remote learning*

An original study by Heldt et al.<sup>5</sup> presented a brief report that aimed to compare faculty members’ and trainees’ perceptions of remote learning versus in-person learning. The results showed that both groups perceived in-person learning more favorably than remote learning in several domains, such as “overall enjoyment,” “interpersonal connection,” “concentration,” and “ability to communicate.” However, both groups thought that—even despite the possibilities for the return of in-person learning—some lectures should continue to be delivered remotely. The study’s second aim was to evaluate whether faculty attitudes toward remote learning had been affected by brief faculty training in best practices for online teaching. Faculty members who had attended this training reported more confidence in their ability to teach remotely, but they did not show increased optimism compared to non-attendees.

#### *Continual medical education during the pandemic*

Kanneganti et al.<sup>6</sup> identified methods used in different specialty training programs at an academic institution in Singapore to ensure the continuation of continual medical education (CME). As the authors explained, the psychiatry approach used videoconferences and continued small, in-person group didactics with two to three specialty trainees and adequate physical distances. The groups were perceived as appropriate because of their small size and need for in-person mental-state examinations.

#### *A psychiatric residency in the COVID-19 era: A Bionian perspective*

A case study of group dynamics<sup>7</sup> described psychiatric residents’ reflections on their own experiences applying Wilfred Bion’s concepts of *work groups* and *basic assumptions groups*. Lim et al.<sup>7</sup> described their response to pandemic and proposed several suggestions for clinical leadership in the COVID-19 era, as well as changes to residency programs, such as observations and responses to residents’ anxiety or fight-flight behavior, more frequent meetings with residency leaders, greater support, mentorship, and an advising process for incoming residents.

#### *Residents’ experience with telepsychiatry*

In a column, Abdullah et al.<sup>8</sup> described third-year psychiatry residents’ quick transitions to telepsychiatry for patient care provisions. Since this service was provided from the residents’ homes, they met several challenges that can offer valuable lessons to enhance competence in telepsychiatry. Moreover, the article showed that working from home makes the separation between work and life extremely difficult. Providing clinical care at home also highlighted supervision challenges since it also took place remotely.

#### *A curriculum for art as a training tool*

Throughout psychiatry residency training, art-based education tools play an increasing role<sup>9</sup>. Davidson et al.<sup>9</sup> proposed, in an educational case report, virtual adaptations to art-based education sessions during COVID-19. As these authors have argued, art provides not just a unique way for residents to process their emotions and experiences but also sharing art activities among residents can create a sense of community and increase social connectedness due to COVID-19 physical distancing guidelines.

#### **Pedagogical challenges**

The main outcomes in the pedagogical challenges category for all 36 articles across the three learning population categories are presented below.

Several articles emphasized the need to consider residents’ education alongside their safety and wellness, as well as psychological impacts, due to

pandemic, on trainees and their mental health<sup>2, 10-14</sup>. Some authors described educational efforts directed toward residents that were contextualized and prioritized using Maslow's hierarchy of needs<sup>2</sup>.

The disruption of in-person clinical experience, along with relocations and limited opportunities for rotations, has reduced training exposure and affected educational activities at the clinical level<sup>1, 2, 10, 12-19</sup>. In the psychiatry field, a lack of clinical experiences has been especially noticeable in geriatric psychiatry since it faced particular restrictions to in-person rotations due to the pandemic<sup>1</sup>.

Multiple articles focused on evaluating trainees' perceptions of online webinars as an educational tool, training experiences during the pandemic, and perceptions of electronic education opportunities' current and future importance<sup>1, 14, 18, 20</sup>. For example, neurosurgery residents' perceptions revealed their satisfaction with online webinars, provoking a consideration of online educational webinars' use as an educational method<sup>20</sup>.

Some new topics and urges to enhance competencies have arisen. Thus, the need for reflection, as well as a focus on leadership and management, were pointed out<sup>7, 14</sup>. In the psychiatry field, enhancing competencies (e.g. in telepsychiatry service) has emerged as a new topic<sup>8</sup>.

The most frequent pedagogical challenge addressed in the current study's assessed articles was the implementation of innovative tools and settings. In the psychiatry field, archived videos and e-learning modules, along with videoconferences and small-group teaching, have been implemented<sup>3, 6, 9</sup>. For example, a web-based curriculum with recorded lectures has been developed, while the use of simulation-based education during the pandemic—such as CCPS—was also described<sup>1, 4</sup>. Moreover, a case-based, online CAP training program integrating both audio and video of real patients was also implemented<sup>21</sup>.

Art-based education, increasingly used to train psychiatric residents, has also undergone virtual adaptation during COVID-19<sup>9</sup>. Virtual e-learning techniques' implementation in medical education generally—not only for psychiatry residents—was described in several articles<sup>10, 11, 17-20, 22-35</sup>. Such techniques include for example cloud-based cen-

tralized classrooms, distance learning solutions to simulate radiology workstations, simulated daily readouts<sup>27, 32</sup>, an online video library of patient encounters, teleconferencing, social media<sup>10</sup>, a flipped virtual classroom model, a social-media-based platform to provide daily practice questions<sup>11</sup>, virtual wet labs, virtual-reality learning and surgical simulators<sup>18, 31</sup>, podcasts<sup>10</sup>, and case conferences that combine low-fidelity simulation with gamification elements<sup>33</sup>.

Remote learning in psychiatry was perceived less favorably among residents than in-person learning, while using real patients in e-learning during training in CAP evaluates positively by underground students<sup>5, 21</sup>. Trainees in medical specialties other than psychiatry, such as orthopedic surgery and neurosurgery, expressed positivity and encouraging results regarding remote training, as well as preferences for virtual conferencing's<sup>20, 28, 35</sup>. Among residents in emergency and internal medicine, synchronous online conferences were associated with decreased attention and engagement among residents<sup>30</sup>. If students turned their cameras off, faculty members were unable to see students' facial expressions and adjust their teaching accordingly<sup>22</sup>. A lack of real-time feedback during teaching sessions was, thus, a consistent problem reported by faculty<sup>22</sup>. Answering chat questions during lectures, small-group sessions, and lecture gamification may improve engagement during online conferences<sup>30</sup>. Moreover, one technique that could improve students' engagement is including digital badges<sup>36</sup>.

## DISCUSSION

Online learning has become an indispensable aspect of education during the pandemic<sup>37</sup>, and most psychiatry training programs have shifted to remote teaching<sup>2</sup>. Moreover, in-person clinical exposure time—long considered a clerkship education standard<sup>38</sup>—was significantly affected, probably because online clinical education is more demanding than transferring, for example, a flipped-classroom model to an online format<sup>10</sup>. As the pandemic has evolved, novel educational programs supplementing COVID-related training deficits<sup>1</sup> have become necessary, as well as timely modifications to educational curricula<sup>39</sup>. Changes

that would have otherwise required months of preparation were implemented in a few days<sup>2</sup>. Therefore, the learning points resulting from these swift changes must now be evaluated. Thus, this study reviewed published articles about residents' education during the COVID-19 pandemic. Despite a relatively small number of published works having targeted psychiatry residents' education in the COVID-19 context vis-à-vis surgical and procedural subspecialties<sup>40</sup>, published articles about other residents may help reveal some of the basic pedagogical challenges to resident education during this crisis, when in-person gatherings have been limited or even completely banned.

This literature review aims to reveal the greatest pedagogical challenges in remotely teaching medical (and particularly psychiatric) residents and summarize key learning points from different practices, the following research questions were answered:

**What are the biggest pedagogical challenges of psychiatry residents' educational programs during the COVID-19 pandemic?**

During the pandemic, many educational programs for psychiatric residents transitioned to remote learning—a sometimes difficult process. Several categories of pedagogical challenges emerged from this transition. Adjustments to workflows, educational needs, and residents' well-being played a role in needs prioritization<sup>2, 10</sup>. Limited rotations and a lack of in-person clinical experience directly resulted from the pandemic, and a challenge to fill the resulting gap and compensate for this lack of clinical experience arose<sup>1, 2, 10</sup>. Another key pedagogical challenge is identifying and implementing efficient teaching methods. Restrictions due to the pandemic have prevented traditional teaching methods, and education has transitioned to videoconferences and remote learning<sup>2, 3, 5, 6, 10</sup>. This whole transition process can be regarded as a learning journey, necessitating sometimes a confrontation of uncertainty without feelings of full "digital" competency. In this process, feedback from both residents and teachers is critical. Their motivations and attitudes toward remote education are important as well and a particular challenge has arisen in engaging residents during

remote learning. Open discussions between residents, faculty members, and study directors about how to conduct online teaching sessions are needed as an ongoing part of this process<sup>41</sup>. Nagendrappa et al.<sup>42</sup> pointed out several areas of psychiatric training affected by the pandemic—training quality, lacks of diversified clinical exposure and practice, a lack of research activities, the use of technologies for education, and effects on entrance and exit exams—which mostly align with the challenges identified in this review. Nev-

Whether the quality of remote psychiatry resident education during COVID-19 pandemic has been satisfactory and whether participants have been able to obtain valuable knowledge for their clinical practice as psychiatrists remained open questions, and may present a future research area.

ertheless, other impacts of the COVID-19 pandemic—such as the need for the introduction of new educational topics, and the enhancement of competencies—also emerged as a necessary focus for this review. Thus, this medical crisis has catalyzed a need for topics such as telepsychiatry. A related major challenge for psychiatry education programs is identifying other key "new" topics and enhancing residents' competencies. Although a broad assessment would be premature, given the ongoing pandemic, remote residencies' educational value should be closely monitored and evaluated within the question:

**Which education practices that emerged during the first response to the pandemic can be continued, which should be improved, and what insights do they offer for future practice?**

Besides the categorical approach to pedagogical challenges, this review has identified some aspects of online learning that work well and might be considered for future implementations, as well as some aspects partially overlooked by residents' educators.

To reduce disruptions in residency training, technological advancements have been used<sup>3</sup>. Accordingly, various novel models have been implemented—such as videoconferencing, CCPS,

didactic lectures, and involving real patients in e-learning<sup>1, 3, 4, 6, 21, 33</sup>. Although these tools and techniques cannot substitute for direct patient contact, residents may benefit these tools' continuation of their education, rather than missed learning possibilities. Thus, students appreciated opportunities to include real patients in e-learning, aiming to transfer real-life experience into an online format, since they could learn with "real-world patients" during the pandemic<sup>21</sup>. The Challenging Case Conference presents gamified approach to foster the development of clinical reasoning skills and increase residents' engagement during a virtual conference<sup>33</sup>. A team of residents first submit a real clinical case, and then a team of different residents "plays" a gamified, simulated version of the case on a videoconference call before a facilitated debriefing discussion. Online versions of simulation-based education for psychiatry residents, along with case conferences that combine simulation with gamification elements, may constitute a promising new tool in teaching psychiatry residents.

The implementation of new tools and settings offers considerable opportunities for new topics in psychiatry education. Residents' challenges in providing patient care during the pandemic have offered important lessons to enhance telepsychiatry competencies<sup>8</sup>. Moreover, inpatient visits with limited exposure and personal protective equipment should also be considered as a new education topic. Along with these changes, mental status examinations and assessments of affect must also be modified<sup>43</sup>. Psychiatric residents must learn how to overcome barriers to reading nonverbal languages and cues during psychiatric interviews, and they must develop the necessary skills to provide quality psychiatric care through previously unforeseen challenges<sup>44</sup>. These adjustments should, thus, be incorporated into teaching and clinical supervision to expand trainees' knowledge and enhance their competencies. As Morreale et al.<sup>25</sup> stated, psychiatry must continue distinguishing itself to ensure that psychiatrists are sufficiently educated to practice their specialty to its full potential.

Given the increased risk of neurological and psychiatric disorders during the first six months after

a patient's COVID-19 diagnosis<sup>45</sup>, psychiatry resident education on neurological outcomes, as well as the traumatic experiences of seriously ill COVID-19 survivors, should be addressed as well. Liaison psychiatry has taken on a special role during the pandemic, supporting healthcare staff and facilitating the grief process for families of critically ill COVID-positive patients<sup>46</sup>, and should be emphasized for psychiatry residents. Maintaining solidarity during a crisis, teaching burnout prevention, role-modeling the ability to cope with uncertainty<sup>2</sup> are among the key emphases of the collective pandemic experience that could mark a distinguish educational topics during psychiatry residency. Accordingly, Richard and DeBonis<sup>2</sup> formulated a brilliant question that must be considered: *"How do we use what this crisis has taught us about the human condition to become better psychiatrists?"*

One aspect that probably requires an additional focus in planning psychiatry residency programs is trainees' and educator s' well-being, as well as, the fulfillment of their basic needs, especially during crises. Psychiatry educators have considered the pandemic's consequences on trainees' safety and well-being—immediately and long-term<sup>39</sup>—but their own needs should also be addressed. Guerandel et al.<sup>36</sup> considered faculty's ability to adapt to remote teaching from both technological and psychological perspectives. Nevertheless, Heldt et al.<sup>5</sup> showed that despite a rise in confidence, faculty training on best practices in online teaching has not influenced faculties' optimism. Thus, the question of how well teachers' needs were perceived and fulfilled remains actual despite attention to teachers' digital education. The additional aspects that may be improved are ensuring that the education committees of professional societies create national recommendations or special curricula for psychiatry residency education related directly to the pandemic, assisting education providers in planning, and implementing educational programs for residents in period of crisis. Evaluations of such curricula for educational quality would lead not just to program improvement but, perhaps, also allow their transition into permanently offered programs<sup>1</sup>.



“Flexible learning,” a learner-centered approach that offers extensive choices to students, should be a focus<sup>47</sup>. Using online, flexible learning provides students ample choices regarding their learning, it rises their opportunity to create learning resources, and possibilities to expand their responsibilities in the learning process<sup>47</sup>. It is also important that residents have access to information relevant to their education and obtaining information from a single reliable source may help residents navigate sometimes conflicting information in planning educational activities during a crisis. Doubtless, information regarding education should be correct, relevant, comprehensive, consistent, timely, and easily accessible. Analysis of the content and accessibility of a fellowship website in the field of CAP, which was presented in an article by Bernstein et al.<sup>48</sup>, exemplify some of these important aspects, and suggest the need for improvement in the comprehensiveness and accessibility. Thus, the accessibility and content availability of psychiatry residents’ educational websites should be also in the focus and may present a future research area.

In conclusion, whether the quality of remote education during COVID-19 pandemic has been satisfactory and whether participants have been able to obtain valuable knowledge for their clinical practice as psychiatrists remained open questions despite some coverage in the literature. The pedagogical challenges of teaching psychiatry residents during the COVID-19 pandemic, as well as changes to traditional educational pathways, present a substantial opportunity to reevaluate educational programs, utilizing this knowledge and experience in future educational activities. Thus, the current review may encourage further steps in both quantitative and qualitative studies that analyze residents’ and teachers’ feedback about remote learning to overcome the pedagogical challenges of teaching psychiatry residents. This review may lay the foundation for ongoing dialog about educational improvements, proposing several pedagogical categories that could be targeted by such improvement. Further research might also benefit by focusing on topics, such as pedagogical theory and models for the planning and execution of

psychiatry residents’ education. The current review’s strength, paradoxically, lies in the scarcity of published articles about remotely teaching psychiatry residents during COVID-19—since its underlying value is its emphasizing the need to structurally evaluate psychiatry resident education programs’ responses. However, this work’s main limitation is that only one person reviewed the obtained articles. Furthermore, only one database was targeted, so some articles may have been overlooked, while some of the included articles could not be generalized as they represent limited opinions. Thus, drawing a robust conclusion related to the each of the research questions is strongly limited by insufficient methodology. Despite these limitations, this review proposes a viewpoint to the question of what psychiatry residents’ future teaching may involve, enabling future discussions.

#### What will the future teaching of psychiatry residents involve?

As the Greek philosopher Heraclitus wisely stated, *“No man ever steps in the same river twice, for it’s not the same river and he is not the same man”*<sup>49</sup>. Therefore, returning fully to old learning models may be impossible—first because the times have changed and, second, because people have changed, having grown richer in experience. Remote learning is a definitive part of the future; as the title of an article that presented trainees’ and faculty members’ perceptions of remote learning suggested, *“We’re not Sure We Like It but We Still Want More”*<sup>5</sup>. This shift calls upon authorities—such as study directors and other leaders in resident education, including professional societies’ education committees—to thoroughly monitor the changes to psychiatry residency education because this transition has already occurred and future education will probably never be fully the same as education before the pandemic.

**Conflicts of interest:** Author declare no conflicts of interest.

#### REFERENCES

1. Conroy ML, Garcia-Pittman EC, Ali H, Lehmann SW, Yarns BC. The COVID-19 AAGP online trainee curriculum: development and method of initial evaluation. *Am J Geriatr Psychiatry* 2020;28:1004-8.

2. Richards M, DeBonis K. Psychiatric training during a global pandemic: how COVID-19 has affected clinical care, teaching, and trainee well-being. *Psychiatr Serv* 2020;71:1300-2.
3. Tay YH, Lim L, Cheng A, Sim K. Disrupting the disruption: using digital tools to support psychiatry residency training in Singapore during the COVID-19 pandemic. *Psychiatry Res* 2020;289:113-063.
4. Martin A, Weller I, Amsalem D, Adigun A, Jaarsma D, Duvivier R et al. From learning psychiatry to becoming psychiatrists: a qualitative study of co-constructive patient simulation. *Front Psychiatry* 2021;11:616239.
5. Heldt JP, Agrawal A, Loeb R, Richards MC, Castillo EG, DeBonis K. We're not sure we like it but we still want more: trainee and faculty perceptions of remote learning during the COVID-19 pandemic. *Acad Psychiatry* 2021;45:598-602.
6. Kanneganti A, Sia CH, Ashokka B, Ooi SBS. Continuing medical education during a pandemic: an academic institution's experience. *Postgrad Med J* 2020;96:384-6.
7. Lim CT, Harris ZB, Caan MP. A psychiatric residency in the era of COVID-19: a Bionian perspective. *Psychodyn Psychiatry* 2020;48:259-70.
8. Abdullah S, Burton ET, Bell IC Jr. Working on the frontlines from home: residents' experiences with telepsychiatry during the COVID-19 pandemic. *J Psychiatr Pract* 2021;27:48-51.
9. Davidson SM, Benson NM, Beach SR. Drawn together: a curriculum for art as a tool in training. *Acad Psychiatry* 2020;45:382-87.
10. Dedeilia A, Sotiropoulos MG, Hanrahan JG, Janga D, Dedeilias P, Sideris M. Medical and surgical education challenges and innovations in the COVID-19 era: a systematic review. *In Vivo* 2020;34:1603-11.
11. Chick RC, Clifton GT, Peace KM, Propper BW, Hale DF, Alseidi AA et al. Using technology to maintain the education of residents during the COVID-19 pandemic. *J Surg Educ* 2020;77:729-32.
12. Chertoff JD, Zarzour JG, Morgan DE, Lewis PJ, Canon CL, Harvey JA. The early influence and effects of the coronavirus disease 2019 (COVID-19) pandemic on resident education and adaptations. *J Am Coll Radiol* 2020;17:1322-8.
13. Virarkar M, Jensen C, Javadi S, Saleh M, Bhosale PR. Radiology education amid COVID-19 pandemic and possible solutions. *J Comput Assist Tomogr* 2020;44:472-8.
14. Harmer MJ, Southgate G, Raja M, Alam S. Paediatric trainees' training experiences during the COVID-19 pandemic: a national survey. *Arch Dis Child Educ Pract Ed* 2021;2020-321151.
15. Amparore D, Claps F, Cacciamani GE, Esperto F, Fiori C, Liguori G et al. Impact of the COVID-19 pandemic on urology residency training in Italy. *Minerva Urol Nefrol* 2020;72:505-9.
16. Cheserem JB, Esene IN, Mahmud MR, Kalangu K, Sannoussi S, Musara A et al. A continental survey on the impact of COVID-19 on neurosurgical training in Africa. *World Neurosurg* 2021;147:8-15.
17. Wittayanakorn N, Nga VDW, Sobana M, Bahuri NFA, Baticulon RE. Impact of COVID-19 on neurosurgical training in Southeast Asia. *World Neurosurg* 2020;144:164-77.
18. Megaloikonomos PD, Thaler M, Igoumenou VG, Bonanzinga T, Ostojic M, Couto AF et al. Impact of the COVID-19 pandemic on orthopaedic and trauma surgery training in Europe. *Int Orthop* 2020;44:1611-9.
19. Smigelski M, Movassaghi M, Small A. Urology virtual education programs during the COVID-19 pandemic. *Curr Urol Rep* 2020;21:50.
20. Al-Ahmari AN, Aylan AM, Bajunaid K, Alotaibi NM, Al-Habib H, Sabbagh AJ et al. Perception of neurosurgery residents and attendings on online webinars during COVID-19 pandemic and implications on future education. *World Neurosurg* 2021;146:811-6.
21. Taurines R, Radtke F, Romanos M, König S. Using real patients in e-learning: case-based online training in child and adolescent psychiatry. *GMS J Med Educ* 2020;37:96.
22. Dela Cruz AM, Alick S, Das R, Brenner A. Same material, different formats: comparing in-person and distance learning in undergraduate medical education. *Acad Psychiatry* 2020;44:659-63.
23. Looi JC, Bonner D, Maguire P, Finlay A, Keightley P, Parige R et al. Flattening the curve of COVID-19 for medical education in psychiatry and addiction medicine. *Australas Psychiatry* 2021;29:31-4.
24. Richardson J, Cabaniss D, Cherry S, Halperin J, Vaughan S. Emergency remote training in psychoanalysis and psychotherapy: an initial assessment from Columbia. *J Am Psychoanal Assoc* 2020;68:1065-86.
25. Morreale MK, Balon R, Coverdale J, Louie AK, Beresin E, Guerrero APS et al. Supporting the education of nurse practitioners and physician assistants in meeting shortages in mental health care. *Acad Psychiatry* 2020;44:377-9.
26. Mishra K, Boland MV, Woreta FA. Incorporating a virtual curriculum into ophthalmology education in the coronavirus disease-2019 era. *Curr Opin Ophthalmol* 2020;31:380-5.
27. McRoy C, Patel L, Gaddam DS, Rothenberg S, Herring A, Hamm J et al. Radiology education in the time of COVID-19: a novel distance learning workstation experience for residents. *Acad Radiol* 2020;27:1467-74.
28. Lazaro T, Srinivasan VM, Rahman M, Asthagiri A, Barkhoudarian G, Chambless LB et al. Virtual education in neurosurgery during the COVID-19 pandemic. *Neurosurg Focus* 2020;49:17.
29. Tabakin AL, Patel HV, Singer EA. Lessons learned from the COVID-19 pandemic: a call for a national video-based curriculum for urology residents. *J Surg Educ* 2021;78:324-6.
30. Weber W, Ahn J. COVID-19 conferences: resident perceptions of online synchronous learning environments. *West J Emerg Med* 2020;22:115-8.
31. Pasricha ND, Haq Z, Ahmad TR, Chan L, Redd TK, Seitzman GD et al. Remote corneal suturing wet lab: microsurgical education during the COVID-19 pandemic. *J Cataract Refract Surg* 2020;46:1667-73.
32. Recht MP, Fefferman NR, Bittman ME, Dane B, Fritz J, Hoffmann JC et al. Preserving radiology resident education during the COVID-19 pandemic: the simulated daily readout. *Acad Radiol* 2020;27:1154-61.
33. Kobner S, Grassini M, Le NN, Riddell J. The challenging case conference: a gamified approach to clinical reasoning in the video conference era. *West J Emerg Med* 2020;22:136-8.
34. Ossai EN. Impact of COVID-19 on medical education and the challenges: how prepared is Nigeria? *Pan Afr Med J* 2020;37:45.

35. Figueroa F, Figueroa D, Calvo-Mena R, Narvaez F, Medina N, Prieto J. Orthopedic surgery residents' perception of online education in their programs during the COVID-19 pandemic: should it be maintained after the crisis? *Acta Orthop* 2020;91:543-6.
36. Guerandel A, McCarthy N, McCarthy J, Mulligan D. An approach to teaching psychiatry to medical students in the time of Covid-19. *Ir J Psychol Med* 2020;2:1-7.
37. Malhotra A, Kumar A. Breaking the COVID-19 barriers to health professional team training with online simulation. *Simul Healthc* 2021;16:80-1.
38. Fisher DR. In the room where it happens. *Acad Psychiatry* 2020;44:675-6.
39. Schwartz AC. Editor's comment on COVID-19 and psychiatry education. *Acad Psychiatry* 2020;44:654.
40. Coe WH, Millard H. The Impact of COVID-19 on Inpatient Psychiatry Resident Supervision. *Acad Psychiatry* 2020;44:687-8.
41. Sanches M. Research education, distance learning, and the COVID-19 era. *Acad Psychiatry* 2021;45:639-40.
42. Nagendrappa S, de Filippis R, Ramalho R, Ransing R, Orsolini L, Ullah I et al. Challenges and opportunities of psychiatric training during COVID-19: early career psychiatrists' perspective across the world. *Acad Psychiatry* 2021;45:656-7.
43. Goldenberg MN, Gerkin JS, Penaskovic KM. Being reactive: assessing affect in the COVID-19 era. *Acad Psychiatry* 2020;44:682.
44. Katato H, Smith D, Akinyemi E. Residency training in a healthcare crisis. *Acad Psychiatry* 2020;44:683-4.
45. Taguet M, Geddes JR, Husain M, Luciano S, Harrison PJ. Six-month neurological and psychiatric outcomes in 236,379 survivors of COVID-19: a retrospective cohort study using electronic health records. *Lancet Psychiat* 2021;8:416-27.
46. Bains A. Liaison psychiatry during challenging times. *Acad Psychiatry* 2021;45:647-8.
47. Zayapragassarazan Z. COVID-19: strategies for online engagement of remote learners. *F1000Research* [Internet]. 2020;9. [cited 2021 Jul 20]. Available from: <https://doi.org/10.7490/f1000research.1117846.1>.
48. Bernstein SA, Gu A, Bernstein SL, Wei C, Vogel AC, Gold JA. Child and adolescent psychiatry fellowship program website content and accessibility. *Acad Psychiatry* 2021;45:425-8.
49. Krieger RA. *Civilization's quotations: Life's ideal*. 1<sup>st</sup> Edition. New York: Algora Publishing, 2007:7.