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Commentary

COVID-19-Related Disruptions Are an Opportunity for Reflection on the Role of Research Training in Psychiatric Residency Programs

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Abstract: This commentary describes COVID-19-related disruptions and responsive accommodations to facilitate a research project required to complete postgraduate psychiatry training in a resource-limited small island developing state. After providing context concerning the impact of the pandemic on medical education, we focus on implications for postgraduate training in psychiatry. Lessons learned from this experience have relevance for ongoing discussions concerning the role and implementation of research training in residency programs. Research skills are essential for evidence-based practice as well as academic careers. Longitudinal integration of research training and flexibility of research requirements are needed in postgraduate psychiatry to balance residents' development of research skills with demands of clinical service.

Keywords: psychiatry; research; residency training; COVID-19

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Citation: Campbell, M.H.; Majumder, M.A.A.; Venner, S.; Emmanuel, M.K. COVID-19-Related Disruptions Are an Opportunity for Reflection on the Role of Research Training in Psychiatric Residency Programs. *Int. Med. Educ.* **2022**, *1*, 73–78. https://doi.org/10.3390/ime1020009

Academic Editor: Hideki Kasuya

Received: 22 September 2022
Accepted: 27 October 2022
Published: 31 October 2022

1. Introduction

The COVID-19 pandemic has required rapid, sometimes seismic, modifications of undergraduate and postgraduate medical training [1–4], especially for teaching programs and residencies that are mainly practice-based and clinically oriented. The challenges presented by the pandemic to postgraduate clinical training have been multifaceted, including reduced in-person hospital visits, suspension of many outpatient and inpatient services, disruptions in clinical placements for residents, and curtailment of elective surgical procedures [3,4]. Moreover, the range of usual opportunities to bolster knowledge and skills for both practice and research has been restricted by the transition to distance learning, suspended research work, disrupted mentoring, and cancelled conferences and workshops [3,4]. At the same time, this adversity has offered opportunities to institute or expand innovative teaching strategies (e.g., teleconsultation, videoconferencing, virtual simulations) [4]. Research concerning the effectiveness of these strategies is in nascent stages, and further work is needed to evaluate the continued viability of novel teaching practices occasioned by the pandemic. This commentary considers the implications for future research training in psychiatric residency programs using a case study related to postgraduate psychiatry research requirements at a publicly supported Caribbean university during the early stages of the COVID-19 pandemic.

2. Impact of COVID-19 on Under- and Postgraduate Psychiatry Training

Pandemic-related disruptions posed significant barriers to trainees' (both medical students' and residents') acquisition of knowledge, skills, and professional development support in the rapidly changing research and clinical training environment [5–7]. Reduced opportunities to strengthen clinical skills contributed to deficits in developing rapport

with patients, performing mental status examinations, conducting diagnostic interviews, and other clinical skills that are difficult to develop solely through self-study and peer-learning. The scarcity of patients available for clinical training translated to reduced trainee performance in clinical relative to knowledge-based components of examinations [3]. Consequently, many medical schools adapted the Objective Structured Clinical Examination (OSCE) formats, and residents were required to pivot, abruptly in some cases, to teleconsultation to provide clinical services in both training and examination settings [4].

Several studies demonstrated that COVID-19-related stress affected students' wellbeing, with stress and burnout impeding learning, clinical work, and exam preparation and performance [8]. Higher levels of resilience among students were associated with better training outcomes [3]. Therefore, medical schools have recognized the need for interventions to enhance coping and build resilience among students, including mindfulness-based self-care programs and practical accommodations to support trainees [9,10].

Similarly, medical educators have proposed or implemented various pedagogical accommodations to navigate challenges and achieve desired learning outcomes in all levels of psychiatry training [1,2,7,11,12]. Case reports, role-play, simulations, and virtual instruction and clinical supervision have been employed when face to-face teaching and clinical practice were discouraged or prohibited. Virtual learning modalities have included, inter alia, journal clubs, online seminars, flipped classroom instruction, recordings of real patients, virtual grand rounds, and telemedicine. Medical institutions should take appropriate measures to expose their trainees to more psychiatric patients, manage stress, and potentially increase their resilience to overcome the impact they experienced during the pandemic.

3. Challenges for Postgraduate Research Training during the COVID-19 Pandemic

Postgraduate residency training has been among the most tangibly impacted areas of medical education during the pandemic, given the simultaneous, and often competing, demands of clinical services during the universal crisis and ongoing training requirements [4]. A national survey of residents in US psychiatry programs in April 2020 found a wide range of concerns; the most prominent were mental health of fellow residents and infection risk for families [13]. Reports from other countries show that similar strains on residency programs are a global phenomenon [5,14,15]. As the pandemic has continued, the vulnerabilities of research training have emerged in an environment of unrelenting clinical demand, especially when clinicians themselves are directly affected by public health threats.

The Academic Leads Group of the Academy of Medical Royal Colleges has emphasized the wide-ranging impact of COVID-19 in biomedical, clinical, and public health research and training, and acknowledged that restarting many "interrupted" research initiatives will not be possible "due to the shortfall in funding and/or delays in research activities" [16]. These lost opportunities hinder generation of evidence-based scientific and clinical knowledge and the ability of trainees to "complete the research intended to be the vehicle for their academic training" [16]. Researchers in India described analogous frustrations, in which postgraduate medical trainees failed to submit dissertations after being unable to follow enrolled research participants or recruit new volunteers for their research projects [17]. A single-institution study in the US found that 64% of trainees reported their jobs or roles had changed, 86% experienced new barriers to training and/or research, 100% identified barriers to complete research activities or projects, and 40% reported that their career plans had been adversely impacted as a result of COVID-19 [18]. In summary, barriers to research and training have included closure of research facilities, pausing of non-COVID-19 patient and healthy volunteer research, lack of clinical material, reduced access to patients, loss of dedicated research time and training, increased COVID-19-related clinical duties, absence of supervision, mental health issues (e.g., stress and burnout), increased COVID-19-related risk for trainees, and concerns for family and friends [16,19,20].

4. A Case-Study Related to Postgraduate Psychiatry Training

A resident completing their postgraduate training in psychiatry began a study for a mandatory capstone research requirement of the residency program at a publicly supported Caribbean university. The project was a trial of a group intervention designed to decrease self-stigma in clients of a public psychiatric outpatient clinic in a small island developing state (SIDS). The study received prior approval from the research ethics committee with jurisdiction.

Recruitment and retention of study participants was quite challenging from the outset of the study, and coronavirus reached the country soon after the close of data collection. The public health repercussions presented myriad difficulties impacting both participation rates and delivery of planned interventions. About fifty participants provided some questionnaire data in the first phase of the study. However, most patients declined to participate in the interventional component. Only single digits of participants provided data through the completion of the intervention, and follow-up data retention of participants significantly limited data analysis and certainly precluded adequate evaluation of the intervention. The resident and supervisors actively considered alternatives for collecting more data with another round of intervention, but the continuing pandemic meant that in-person groups would pose unacceptable infection risk to participants, and both hospital and broader public health regulation prohibited group meeting in almost all settings. Further, the capacity of public transportation was reduced during several phases of the pandemic, impeding the ability of patients to attend in-person appointments. Patients able to attend were reluctant to participate in any activities besides the minimum required to refill prescriptions to minimize their infection risk.

The resident, supervisors, and residency program faced a series of challenging choices regarding how to proceed and to fulfill program completion requirements given pandemic-related constraints. The resident produced a draft research report in keeping with the typical flow of requirements on track to program completion, but the utility of findings was severely limited. However, the resident had invested considerable time and effort to develop a comprehensive and unusually ambitious research plan, which demonstrated a number of important competencies. Undertaking a second, more easily achievable, research project was possible but would have delayed the student's progress to completing residency. The resident had demonstrated robust performance in clinical components of training, and the supervisors had confidence in their ability to transition to independent clinical practice. Moreover, the resident had been accepted to a prestigious fellowship program.

The initial phases of the pandemic demanded adaptions of clinical training that required immediate action, but the research component needed to be addressed as a capstone requirement for the residency program. Program faculty developed an ad hoc marking scheme for projects that could not collect sufficient data due to pandemic-related constraints. Residents were required to detail expected response rates and results, describe appropriate statistical techniques, and describe how the expected results were relevant to the stated aims and objectives of the project. Ultimately, the resident proceeded successfully to complete the program on the basis of solid work in conceptualizing, designing, and writing about the research, as well as excellent performance in the clinical examination.

This case highlights challenges presented by disruptions of postgraduate psychiatry training in a resource-limited SIDS during the COVID-19 pandemic and resonates with broader discussions of the role and implementation of research training in residency in other settings during the pandemic [13,16–20] and more generally. Short-term considerations in this scenario were practical: what accommodations were possible and appropriate in evaluating the resident's fulfillment of research requirements? Because alternative research venues were limited in a relatively small mental health system, efforts focused on evaluating demonstrated research knowledge rather than identifying opportunities for additional data collection. In this case, the regional program faculty reached a collective decision to modify the rubric for marking the final paper to accommodate the barriers to producing intended findings. Specifically, evaluators graded the paper using a rubric that emphasized the data analysis plan in place of the limited results section. These accommodations facilitated

the resident's graduation and transition to more advanced training. More broadly, this case touches on the relative importance of formal research training and its relationship to development of clinical competencies in postgraduate psychiatry.

5. Importance of Research Literacy Training during Psychiatry Residency Programs

Calls for greater attention to research literacy and longitudinal training in research skills in psychiatry residency programs are decades old [21]. As of 2017, 34% of US psychiatry programs offered informal research components (e.g., electives), and a further 26% offered formal research tracks [22]. The Accreditation Council for Graduate Medical Education (ACGME), responsible for accrediting residency and fellowship programs in the US and, by invitation, in a growing number of other countries, acknowledges this diversity in research emphasis. The ACGME common program requirements include a scholarship section with several key points: an accredited residency must "demonstrate evidence of scholarly activities consistent with its missions(s) and aims." Programs must "advance residents'" knowledge and practice of the scholarly approach to evidence-based patient care" and "allocate adequate resources to facilitate resident and faculty involvement in scholarly activities." [23]. The requirements further state that programs "must provide residents with opportunities for research and development of research skills for residents interested in conducting research [emphasis added] in psychiatry or related fields." [23]. The distillation: research knowledge to support practice of evidence-based medicine is essential. Research production is laudable, and encouraged to varying degrees, but not universally or absolutely required.

The role of research training in Canadian residencies is similarly elective and varied. A 2014 study found that 73% of programs required residents to complete at least one "scholarly activity," ranging from assisting with a faculty-led study to conducting an independent research project, and about half offered a formal research track [24]. In the European Union, a recent survey of psychiatry residency programs found that research rotations occupied only a small fraction of time for trainees [25]. In the UK, the Royal College of Psychiatrists has placed greater emphasis on research. The 2022 Core Psychiatry Curriculum, pending approval from the General Medical Council, states that trainees will demonstrate the ability to "participate in research in a variety of clinical settings" [26]. More specifically, one of nine high level objectives speaks to application of research knowledge to clinical practice, including understanding of research methodologies and ethics, and the skills to critically appraise and evaluate generalizability of research findings [26].

Global standards and practices of research training in psychiatry vary considerably. Although some residency programs encourage (or do not discourage) research production, training in research methodology may be lacking or peripheral. In 2003, the US Institute of Medicine identified regulatory, institutional, and personal barriers to psychiatry residency research training and recommended "research literacy requirements and research training curricula tailored to psychiatry residency programs of various sizes" [21]. Almost twenty years later, Balon and colleagues [27] articulated updated variations on the theme, including lack of agreement on definition and scope of research literacy, variable pedagogical approaches, and human and material resource challenges in small residency programs. These challenges are more pronounced in low- and middle-income countries (LMICs) and SIDS, where broader resource constraints may exacerbate conflicts between public health needs and academic activities [28]. Further, LMICs, especially SIDS, are vulnerable to disruptions related to the emerging climate threat. In these countries, COVID-related research constraints can be viewed as exacerbations of challenges that exist at baseline, and practical efforts to support research training focused on core competencies in an environment of limited resources, systemic disturbances, and heavy (and unpredictable) clinical demand offer models that may be useful in future residency training, especially in vulnerable settings. Therefore, greater emphasis on research competencies acquired longitudinally may be a useful way forward. Specific research capstones are worthwhile goals, but their feasibility may be compromised by multiple and sometimes unforeseeable threats.

6. Conclusions

The COVID-19 pandemic reminds us that research training may be more vulnerable than clinical components of residency. Indeed, the Academy of Royal Medical Colleges has recommended individualized accommodation for academic research requirements in the era of COVID-19 [16]. Flexibility in terms of research timelines and funding is warranted, but duty of care must take precedence in times of strain on health systems and personnel, and disruptions of health systems themselves may increase clinical demands, especially for mental health providers. Notwithstanding challenges, research knowledge is crucial for evidence-based practice, and many psychiatrists will have important roles in producing clinical research. These predicates support practical, cost-effective, and longitudinal integration of research training from medical school through advanced residency, which reduces the vulnerability of curricula to unforeseen events. This is foundational for residents who will pursue academic research careers as well as important preparation for effective evidence-based practice. Based on lessons learned during the pandemic, residency programs should plan for contingencies in future research and training activities to minimize the impact of disruptions on the academic progress and well-being of residents that will continue to present challenges beyond the COVID-19 era.

Author Contributions: Conceptualization, M.H.C., M.K.E. and S.V.; writing—original draft preparation, M.H.C. and M.A.A.M.; writing—review and editing, M.H.C., M.K.E., S.V. and M.A.A.M. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

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