

Data collection challenges in emergency care settings during the COVID-19 pandemic: lessons learnt

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Emerging infectious diseases have affected every aspect of medical practice and the advent of COVID-19 in 2019 created many challenges for basic science research methods. Face-to-face data collection was extremely problematic to undertake in any healthcare environment. The emergency department (ED) in low-resource environments, specifically, was severely impacted by the research restrictions, the psychological state of the ED staff, and the lack of perceived importance of research in the emergency departments. This paper aims to reflect on the challenges in collecting research data in the ED during the COVID-19 pandemic and provides some suggestions and lessons learnt for other researchers embarking on such a path. Notwithstanding challenges inherent to virtual platforms, video-calling may be an option rather than in-person interviewing and can allow for data collection over a large geographical area, even when social distancing measures are not in place. New opportunities were acquired through which the self-reflexive practice characteristics of action research were strengthened.

Keywords: low-resource environments, face-to-face data collection, emergency department, COVID-19, research restrictions

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Introduction

Globally, emerging infectious diseases (EIDs) such as the coronavirus disease 2019 (COVID-19) continue to pose a major threat to public health and create challenges for healthcare systems. Over decades, despite the measures to promote disease surveillance and infection control, healthcare has experienced the emergence of many new infectious agents, including some that are major public threats.¹ Although COVID-19 is not the first EID, its biological and epidemiological properties and the spread of misinformation, amplified on social media and other digital platforms, have challenged medical and public health to contain it.² The global public health authorities instituted measures to contain its spread which understandably had, and could still continue to have, a significant impact on various aspects of human activities and social interactions, including conducting health research.³ It is significant to highlight and reflect on the challenges of conducting research in the emergency departments (EDs) of low-resource environments during this period. This might provide some suggestions and lessons learnt for other researchers who might experience such challenges in the future.

EDs remain the primary patient access point for healthcare systems, and they cannot drop or suspend services for any length of time as they play an essential role in delivering universal health coverage.⁴ The value of EDs is more evident during an outbreak when concurrently the EDs

fulfil surveillance, triage and clinical care functions such as continuing to manage acute illnesses and injuries.^{1,5} This distinguishing feature of the EDs, particularly in low-resource environments, renders them a challenging area to conduct clinical research in, as it entails unique methodological and operational challenges.^{6,7} The EDs in low-resource environments are characterised by various research challenges, including limited access to basic research infrastructure, availability of standardised protocols and dedicated personnel to collect data, including recruitment and engagement of research participants.^{8,9}

With the advent of the global COVID-19 pandemic and the efforts to contain it through public health measures, social distancing, lockdown, and quarantine measures, the EDs and normal research processes were severely impacted in various ways.^{10,11} A recent report showed that many academic medical institutions in developed countries, such as the United States, had to withhold all clinical research activities to divert focus to COVID-19-related research, and adjust to essential hospital operations.¹² In the low-resource environments where research activities are already limited by multiple challenges, COVID-19 triggered mammoth setbacks in the research agenda.^{13,14} The pandemic severely disrupted learning and the research environment as a result of the abrupt termination of access to educational facilities. In-person data collection methods (lab experiments, face-to-face interviews, focus groups) were impossible, and

researchers had to switch approaches from face-to-face to virtual or telephone data collection.^{7,9,15}

COVID-19 has presented unique challenges, affecting the reliability of qualitative research which relies completely on collaboration between researcher and participant.¹⁶ Qualitative research aims to explore and describe the nature of phenomena,^{17,18} and face-to-face interaction during data collection is deemed vitally important. This is because such a data collection approach enables rapport building, creating open and authentic discussion with research participants as it tends to provide the ability to pick up on verbal and non-verbal cues from the participants.¹⁹ These social cues might complement the interviewee's verbal response and encourage further probing questions from the interviewer and elaboration from the interviewee.^{20,21} With the disrupted face-to-face data collection processes due to the COVID-19 pandemic, the literature then advocated for the engagement of virtual qualitative research.^{16,22} However, a recent study argues that there is limited comprehensive research focusing on the range of practical, rigorous, and ethical considerations arising when adapting and engaging in virtual qualitative research.²³

Challenges in data collection

Research studies and researcher reflections across various contexts have highlighted that researchers experience various challenges in collecting qualitative data in the EDs of low-resource settings.^{9,24} However, little is known about the challenges and difficulties researchers face in gaining access to the participants during the pandemic, particularly in the EDs of low-resource environments, and alterations to data collection methods have rarely been discussed. Therefore, this article reflects on the author's experiences in accessing participants when conducting individual interviews with the participants during the COVID-19 pandemic in Lesotho.

Negotiating access to participants and conducting interviews

According to Friesl et al., even without any catastrophe, negotiating access to research participants remains a major issue in qualitative research.²⁵ They further argue that access to participants is determined by the researcher's relations with gatekeepers and participants themselves. Negotiating access to participants through gatekeepers is an integral part of a dynamic process shaped by the researcher through building a network of informal relationships across various hierarchical levels.^{25,26} It further requires the researcher to develop workable strategies, including making calls, sending emails and writing letters to the gatekeepers and the participants.²⁷ Obtaining ethical approval and permission from the gatekeepers does not necessarily guarantee access to participants and or the required data. The permission granted is revocable, and participants may wish not to participate or withdraw from the study whenever they wish.²⁸ Moreover, during a pandemic, qualitative research focussing on health professionals may be challenged by the

context of the ED and participants' fear for their own safety, thus making it more challenging for them to be accessed.^{29,30}

Acknowledging that the nature of challenges varies from context to context, and that for access to be obtained, there needs to be a relation between the researcher, gatekeepers and participants, the use of virtual resources for negotiating access is suggested,^{22,31} particularly in the unprecedented socioeconomic and health-related challenges such as the COVID-19 pandemic. The introduction of virtual data collection methods also came with their own concerns, including researchers' experience, skills and access to virtual data collection tools, internet connectivity and quality of data as well as gaining access to and establishing rapport with participants virtually.³² A recent study showed that the unique geographical conditions in developing countries, poor telecommunication infrastructure, and intentional internet disruptions by governments may have a particular impact on network coverage, free communication and collaboration.³³ Virtual methods raise concerns such as online distractions, challenges in gaining access to and establishing rapport with participants virtually, and the absence of non-verbal cues when utilising audio platforms without video options.³⁴

According to Price et al.,⁸ conducting interviews using online technology poses issues of privacy and confidentiality as participants may not have private spaces in their homes and it might prevent participants from answering questions fully and openly. It is also ethically sound to request permission from the participants before conducting WhatsApp video calls, even if informed consent has already been obtained from the participants.³² In principle, virtual data collection may create sample selection bias towards those with telecommunication access, particularly during a pandemic such as COVID-19, which was surrounded by various uncertainties. This is contrary to Novick,³⁵ who argued that bias against telephone interviews in qualitative research resulted from the perceived absence of visual cues via telephone interviews, yet, they could still provide reliable quality data.

Acknowledging these challenges, Unnithan advocates that telephonic interviews remain a better option in times of crisis when challenges in conducting face-to-face interviews due to contextual factors, including health and safety measures, arise.³⁶ He argues that COVID-19 has allowed researchers to broaden their rationale and embrace previously underutilised methods, such as telephonic interviews, due to their perceived inferiority to face-to-face interviews. His arguments are well supported in the literature and adaptive and responsive data collection strategies pre-planned for times of research crisis could be engaged^{16,22,31} because they are cost-effective, facilitate higher participation rates, and thus reduce travel costs of the researcher.

Overwhelmed emergency department staff

ED staff were overwhelmed due to the increased surge of patients in the EDs, lack of preparedness and the fear

of infection due to limited response equipment such as personal protective equipment (PPE). The aftermath of the pandemic made participants more reluctant to continue participating in a study. Some participants were no longer willing to participate, and some were not accessible on their mobile phones. In other instances, the participants were unavailable for interviews as they were either quarantined or inaccessible due to the unpredictable shift changes. Most importantly, in Lesotho, where the study was conducted, healthcare workers embarked on a nationwide strike demanding COVID-19 PPE and risk allowances. This added more challenges in accessing the participants as they had no time for research calls.

This encounter is consistent with the current literature,³⁷ and showed that the uncertainties surrounding the COVID-19 pandemic led to the ED staff experiencing feelings of anxiety and fear. Although social media played a vital role in disseminating information about the pandemic, there was a high potential to spread erroneous, alarmist, and exaggerated information leading to fear, stress, depression, and anxiety among the healthcare personnel.³⁷⁻³⁹ During COVID-19, health professionals experienced an unexpected increase in workload, uncertainty and powerlessness, leading to reduced personal accomplishment, absenteeism, and lack of participation in research.^{40,41}

Lack of perceived importance of research in the emergency department of the low-resource environment

Most participants perceived that their engagement in the study or sharing their thoughts would not provide any change as they were more concerned about their health and the drastic increase in their workload with the emergence of the disease. They perceived participation in any study as insignificant in contrast with their clinical work due to the increasing mortality of health workers in developed countries. During a telephone call, one participant commented: "Mr K", calling the researcher by his name, "Are you still busy with your study? We are busy planning for COVID-19 here... it is killing so many health professionals."

While conducting qualitative research, the researcher may face environments that are outside of their control and the context often interacts with the field of research, thus posing a challenge of accessing participants and collecting face-to-face data.⁴² This warrants the researcher to possess research resilience and adapt to respond to crises. Incorporating resilience into research design, and encouraging reflection on research practices, can encourage qualitative researchers to adopt critical reflection in their research practice process.⁴² Furthermore, in a situation where there are challenges with the traditional means of building rapport, the researcher could use networking strategies with the gatekeepers (hospital/nursing service manager) who would facilitate the recruitment of participants or even arrange for telephonic interviews.⁴³

Lessons learnt

The following lessons were learnt from this experience:

- Be adaptive and responsive. As a researcher, one needs to be aware of what is happening in the research context and always be willing and flexible to adapt to changes where needed.
- Be open to new ways of doing things. Notwithstanding problems associated with virtual platforms, video-calling may be an option for in-person interviewing and can allow for data to be collected over large geographical areas, even when social distancing measures are not in place,³¹ thus reducing travel costs for the researcher.
- Networking is fundamental during restrictions to enable negotiation, access to and recruitment of participants through gatekeepers.⁴³ This can also facilitate the effective establishment of rapport with participants.
- Resilience in research methods is needed. Research in the ED in the context of a pandemic requires that the researcher is aware of the challenging nature of the environment and that things can change, which could lead to delays. Build a little extra time into timelines where possible.²³

Conclusion

This paper highlighted some of the challenges of conducting research in the EDs of low-resource environments during the COVID-19 pandemic. In deliberating the challenges, this paper also suggested some strategies to overcome those specific challenges identified. These observations might provide valuable lessons to other researchers working in similar contexts to tackle data collection challenges that may emerge in the future.

Conflict of interest


The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.


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References

- Lam SK, Kwong EW, Hung MS, Pang SM, Chien WT. A qualitative descriptive study of the contextual factors influencing the practice of emergency nurses in managing emerging infectious diseases. *Int J Qual Stud Health Well-being*. 2019;14(1):1626179. <https://doi.org/10.1080%2F17482631.2019.1626179>.
- Volkmer, I. Social media and covid-19: A global study of digital crisis interaction among gen z and millennials. University of Melbourne; 2021. Available from: <http://hdl.handle.net/11343/283399>.
- Villarosa AR, Ramjan LM, Maneze D, George A. Conducting population health research during the COVID-19 pandemic: impacts and recommendations. *Sustainability*. 2021;13(6):3320.
- Hollander JE, Sharma R. The availablists: emergency care without the emergency department. *NEJM Catalyst*. 2021;2(6):1-13.
- Markwell A, Mitchell R, Wright AL, Brown AF. Clinical and ethical challenges for emergency departments during communicable disease outbreaks: can lessons from Ebola Virus Disease be applied to the COVID-19 pandemic? *Emerg Med Australas*. 2020;32(3):520-4. <https://doi.org/10.1111%2F1742-6723.13514>.
- Probst MA, Caputo ND, Chang BP. Behind the scenes of successful research in emergency medicine: Nine tips for junior investigators. *AEM Educ Train*. 2020;4(Suppl 1):S75-81. <https://doi.org/10.1002/aet2.10383>.
- Razzak J, Beecroft B, Brown J, Hargarten S, Anand N. Emergency care research as a global health priority: key scientific opportunities and challenges. *BMJ Glob Health*. 2019;4(Suppl 6):e001486. <https://doi.org/10.1136/bmjgh-2019-001486>.
- Price D, Edwards M, Carson-Stevens A, et al. Challenges of recruiting emergency department patients to a qualitative study: a thematic analysis of researchers' experiences. *BMC Med Res Methodol*. 2020;20(1):151. <https://doi.org/10.1186/s12874-020-01039-2>.
- Katyal A, Kumar A, Rajesh P, Mathew R, Bhoi S. Strengthening emergency care by developing data collection systems in low- and middle-income countries. *Afr J Emerg Med*. 2021;11(1):111-2. <https://doi.org/10.1016/j.afjem.2020.09.003>.
- Gonzalez T, De La Rubia MA, Hincz KP, et al. Influence of COVID-19 confinement on students' performance in higher education. *PLoS One*. 2020;15(10):e0239490. <https://doi.org/10.1371/journal.pone.0239490>.
- Welsch W. The new normal: collecting data amidst a global pandemic. 2020. Available from: https://reliefweb.int/report/world/new-normal-collecting-data-amidst-global-pandemic?gclid=CjwKCAjw3ueiBhBmEiwA4BhspDzjDYaQDXzVw3NsqIY2q-3i5VWNHGR9Xk_wXk_dkxvSEluE222XThoCoLQQAvd_BwE. Accessed 29 May 2021.
- Mourad M, Bousleiman S, Wapner R, Gyamfi-Bannerman C. Conducting research during the COVID-19 pandemic. *Semin Perinatol*. 2020;44(7):151287. <https://doi.org/10.1016/j.semperi.2020.151287>.
- European Medicines Agency. Guidance on the management of clinical trials during the COVID-19 (Coronavirus) pandemic. European Medicines Agency; 2020. Available from: <https://www.ema.europa.eu/en/news/guidance-sponsors-how-manage-clinical-trials-during-covid-19-pandemic>. Accessed 19 Aug 2022.
- Tadesse S, Muluye W. The impact of COVID-19 pandemic on education system in developing countries: a review. *Open J Soc Sci*. 2020;8(10):159-70. <https://doi.org/10.4236/jss.2020.810011>.
- Hester R. Clinical trials and tribulations: the challenges of recruiting participants for research during epidemics. 2020. Available from: https://www.researchgate.net/publication/342674667_Clinical_trials_and_tribulations_the_challenges_of_recruiting_participants_for_research_during_epidemics/references. Accessed 30 Mar 2022.
- Hall J, Gaved M, Sargent J. Participatory research approaches in times of covid-19: a narrative literature review. *Int J Qual Methods*. 2021;20. <https://doi.org/10.1177/16094069211010087>.
- Lather P, Moss PA. Introduction: implications of the scientific research in education report for qualitative inquiry. *Teachers College Record*. 2005;107(1):1-3. <https://doi.org/10.1111/j.1467-9620.2005.00450.x>.
- Busetto L, Wick W, Gumbinger C. How to use and assess qualitative research methods. *Neurol Res Pract*. 2020;2(1):14. <https://doi.org/10.1186/s42466-020-00059-z>.
- Reñosa MDC, Mwamba C, Meghani A, et al. Selfie consents, remote rapport, and Zoom debriefings: collecting qualitative data amid a pandemic in four resource-constrained settings. *BMJ Glob Health*. 2021;6(1):e004193. <https://doi.org/10.1136%2Fbmjgh-2020-004193>.
- Opdenakker R. Advantages and disadvantages of four interview techniques in qualitative research. *Forum Qualitative Sozialforschung/Forum: Qual. Res. J*. 2006;7(4). <https://doi.org/10.17169/fqs-7.4.175>.
- Dejonckheere M, Vaughn LM. Semistructured interviewing in primary care research: a balance of relationship and rigour. *Fam Med Community Health*. 2019;7(2):e000057. <https://doi.org/10.1136/fmch-2018-000057>.
- Lathen L, Laestadius L. Reflections on online focus group research with low socio-economic status African American adults during COVID-19. *Int J Qual Methods*. 2021;20:16094069211021713. <https://doi.org/10.1177/16094069211021713>.
- Keen S, Lomeli-Rodriguez M, Joffe H. From challenge to opportunity: Virtual qualitative research during COVID-19 and beyond. *Int J Qual Methods*. 2022;21:16094069221105075. <https://doi.org/10.1177/16094069221105075>.
- El-Menyar A, Asim M, Latifi R, Al-Thani H. Research in emergency and critical care settings: debates, obstacles and solutions. *Sci Eng Ethics*. 2016;22(6):1605-26. <https://doi.org/10.1007/s11948-015-9730-5>.
- Friesl M, Hanel E, Konuk V. Not now: negotiating research access during phases of crisis. *M@n@gement*. 2022;25(1):33-48. <https://doi.org/10.37725/mgmt.v25.5517>.
- Davies JT, Peters E. Relationships between gatekeepers and researchers: the experience of conducting evaluations into parenting programmes in community and penal settings. In: Lumsden K, Winter A, editors. *Reflexivity in criminological research: experiences with the powerful and the powerless*. London: Palgrave Macmillan UK; 2014. p. 35-46.
- Fobosi S. Experience of negotiating access in the "field": lessons for future research. *World J Soc Sci Res*. 2019;6:503. <https://doi.org/10.22158/wjssr.v6n4p503>.
- De la Cuesta Benjumea C. Access to information in qualitative research. *A matter of care. Invest Educ Enferm*. 2014;32(3):480-7. <https://doi.org/10.17533/udea.iee.v32n3a13>.
- Syed H, Syed GK. A tale of two studies: reflections on issues faced by novice researchers during data collection and analysis in Pakistan. *Res Educ*. 2021;111(1):14-23. <https://doi.org/10.1177/0034523720970985>.
- Suslow A, Giehl C, Hergesell J, Vollmar HC, Otte I. Conducting qualitative research under pandemic restrictions—considerations, challenges, and benefits. 2021. <https://doi.org/10.21203/rs.3.rs-753390/v1>.
- Lobe B, Morgan D, Hoffman KA. Qualitative data collection in an era of social distancing. *Int J Qual Methods*. 2020;19:1609406920937875. <https://doi.org/10.1177/1609406920937875>.
- Greeff M. Conducting qualitative research during a period of lockdown and social distancing. *Africa Unit for Transdisciplinary Health Research*. 2020.
- Kimuwwe P. Towards an accessible and affordable internet in Africa: key challenges ahead. In: *Collaboration on international ICT policy for East and Southern Africa*; 2021. Available from: <https://cipesa.org/2021/12/towards-an-accessible-and-affordable-internet-in-africa-key-challenges-ahead/>. Accessed 30 Aug 2022.
- Pocock T, Smith M, Wiles J. Recommendations for virtual qualitative health research during a pandemic. *Qual Health Res*. 2021;31(13):2403-13. <https://doi.org/10.1177/10497323211036891>.
- Novick G. Is there a bias against telephone interviews in qualitative

- research? *Res Nurs Health*. 2008;31(4):391-8. <https://doi.org/10.1002/nur.20259>.
36. Unnithan M. Dialling in: reflections on telephone interviews in light of the covid-19 pandemic. *J Leg Res Methodol*. 2021;1(1):50-83. <https://doi.org/10.19164/jlrm.v1i1.1145>.
 37. Al Hariri M, Hamade B, Bizri M, et al. Psychological impact of COVID-19 on emergency department healthcare workers in a tertiary care center during a national economic crisis. *Am J Emerg Med*. 2022;51:342-47. <https://doi.org/10.1016/j.ajem.2021.10.055>.
 38. González-Padilla DA, Tortolero-Blanco L. Social media influence in the COVID-19 pandemic. *Int Braz J Urol*. 2020;46(Suppl 1):120-4. <https://doi.org/10.1590%2FS1677-5538.IBJU.2020.S121>.
 39. Sun P, Wang M, Song T, et al. The psychological impact of COVID-19 pandemic on health care workers: a systematic review and meta-analysis. *Front Psychol*. 2021;12:626547. <https://doi.org/10.3389/fpsyg.2021.626547>.
 40. Liu Q, Luo D, Haase JE, et al. The experiences of health-care providers during the COVID-19 crisis in China: a qualitative study. *Lancet Glob Health*. 2020;8(6):e790-8. [https://doi.org/10.1016/S2214-109X\(20\)30204-7](https://doi.org/10.1016/S2214-109X(20)30204-7).
 41. Giusti EM, Pedroli E, D'Aniello GE, et al. The psychological impact of the COVID-19 outbreak on health professionals: a cross-sectional study. *Front Psychol*. 2020;11:1684. <https://doi.org/10.3389/fpsyg.2020.01684>.
 42. Rahman SA, Tuckerman L, Vorley T, Gherhes C. resilient research in the field: insights and lessons from adapting qualitative research projects during the COVID-19 pandemic. *Int J Qual Methods*. 2021;20:16094069211016106. <https://doi.org/10.1177/16094069211016106>.
 43. Marland A, Esselment AL. Negotiating with gatekeepers to get interviews with politicians: qualitative research recruitment in a digital media environment. *Qualitative Research*. 2019;19(6):685-702. <https://doi.org/10.1177/1468794118803022>.