



Article Type: Research Article

Received: 12/11/2021

Published: 19/11/2021

DOI: 10.46718/JBGSR.2021.10.000238

## The use of Zoom Videoconferencing for Qualitative Data Generation: A reflective account of a research study

Temitope Labinjo<sup>1\*</sup>, Russell Ashmore<sup>2</sup>, Laura Serrant<sup>3</sup> and James Turner<sup>4</sup>

*Department of Nursing and Midwifery, College of Health, Wellbeing & Lifesciences, Sheffield Hallam University, Sheffield, United Kingdom*

\*Corresponding author: Temitope Labinjo, Department of Nursing and Midwifery, College of Health, Wellbeing & Lifesciences, Sheffield Hallam University, Sheffield, United Kingdom

### ABSTRACT

Historically, the face-to-face interview has been the method of choice for undertaking interviews in qualitative research. However, the introduction of communication technologies (for example, Zoom) has resulted in qualitative researchers re-thinking how they generate data.

This article presents the experience of a Ph.D. researcher who used Zoom videoconferencing to interview participants, including its benefits and limitations, and suggestions for future research. The article demonstrates that although video conferencing tools like Zoom are not meant to replace traditional face-to-face interviews, they are a helpful addition to the researcher's choice of methods. Although there are some technical limitations to using this tool, this can be overcome by familiarization and training. This is particularly useful due to the COVID-19 pandemic where face-to-face interaction is not allowed, disrupting their research. However, future research is needed to determine Zoom's suitability and security, especially in health and social care research.

**KEYWORDS:** Interviews; Qualitative research; Zoom Video conferencing; Data generation; Online communication

### INTRODUCTION

Interviewing is the most used form of data collection in qualitative research (Creswell, 2007). Historically, face-to-face interviews have been the preferred method for generating data in qualitative research. However, online interviews are research methods conducted online using computer-mediated communication (CMC) (Salmons, 2014). There are two types of online interviews which are synchronous (real-time) and asynchronous (non-real-time). Asynchronous (non-real-time) online interviews are usually in the form of emails, discussion groups, etc. (Hooley et al., 2012). Also, synchronous (real-time) online interviews are generally in the form of text-based chat rooms, videoconferencing, instant messaging, etc. (Steiger and Gortiz, 2006). More recently, with advances in communication technology and internet usage, video conferencing is becoming widely used and an alternative to traditional means of interviewing in qualitative research.

Video conferencing is defined as a communication technology that allows real-time, online simultaneous conversations to occur with audio-visual information (Salmons, 2012). Videoconferencing involves the use of instant feedback and non-verbal cues such as facial expressions and voice gestures. However, there is a paucity of research exploring digital technology as a data collection tool (Archibald et al., 2019).

The use of digital technology in research has a lot of potential benefits such as convenience and cost-effectiveness of online methods compared to in-person interviews, especially when researching a large geographical area (Hewson, 2008; Horrell, Stephens & Brehany, 2015; Braun, Clarke and Gray, 2017; Cater, 2011; Deakin & Wakefield, 2014 & Archibald et al., 2019). Furthermore, online methods are beneficial in many research contexts where there is a need to communicate with multiple stakeholders in geographically dispersed areas with limited resources

---

(Archibald et al., 2019). Therefore, online interviews can be 'conducted' in an environment more relaxed, comfortable, and familiar to the participant (Irani, 2018).

A significant advantage of online interviews is that they allow researchers to identify non-verbal cues to build trust and encourage engagement while collecting rich textual data (Hesse-Biber and Griffin, 2013). Studies found that researchers reported the ability to respond to nonverbal cues like facial expressions and gestures. This improved engagement, built trust while promoting natural and relaxed conversations. There were also instances where researchers reflected that the ability to view and respond to the participant's body language improved when the participants were familiar with videoconferencing technology, allowing for the generation of rich qualitative data.

However, there were also concerns about mistrust because, usually in face-to-face communication, lack of eye contact is sometimes seen as a sign of distrust or deception. Bekkering (2004) created a method to compare trust perceptions of email messages, voice messages, and video messages recorded at different angles. In the different angles at which the video was recorded, all participants in the study saw and heard the same messages irrespective of how the message was delivered. The study also sought to determine if the participant's behaviour will differ due to a higher or lower level of perceived trust. The study found that the level of trust was determined by the richness of the communication channel, i.e., a combination of audio and video components.

Sometimes video conferencing may not be appropriate to some sensitive research studies or where a participant expresses emotion, and the researcher cannot comfort and build appropriate rapport with the participant (Irani, 2018). However, some participants might find online interviewing an advantage in studies researching sensitive topics. For example, Mabragna et al. (2013) used videoconferencing to obtain a sexual history from participants in a vaginal micro-blade study. However, they reported that they would have felt too embarrassed to discuss their sexual behaviour face to face with the interviewer (Mabragna et al., 2013).

Another significant aspect is nonverbal cues of eye contact, which are absent in non-real-time online interviews. Eye contact may not be visible during videoconferencing interviews due to the camera location. Vertegaal et al. (2002) attempted to resolve this by developing the Gaze-2 system, where a tracker selects the camera closest to the eye position. Using this system, the current speaker is viewed in the full-frontal, and the images of the listeners are viewed when rotated towards the speakers' image. Unfortunately,

it also limits the ability to fully assess the participant's environment, which may sometimes be crucial during the analysis phase. Zoom as a data collection tool.

Zoom is a web-based conferencing tool with a local desktop client and a mobile application that allows users to meet online (Maldow, 2013). Zoom users can record sessions, engage in projects, and share each other's screens using an easy platform. In addition, zoom offers quality video, audio, and wireless-sharing performance (Keanu, no date).

Security while using the application to undertake research is a priority. No meetings were allowed before the host (researcher) arrived. All meetings were one on one and scheduled with the participant's approval. Due to the Covid pandemic, Zoom updated its features to improve its security system. One of the ways was by account holders creating passwords for all meetings and the ability to control meetings and remove unwanted guests. Finally, a key feature was to include end-to-end encryption. This allows all communication between the user and other people in the chat or sessions to be made available to only these parties (Zoom Privacy statement, 2021).

Zoom categorically states that they have no access to the meetings, sessions, or interviews, including all audio and video files except authorised by the account holder or required by law, safety, or security reasons. Therefore, only the account holder and any third person authorised have access to all data used on the Zoom platform (Zoom Privacy Statement, 2021). Additionally, for international data transfers (as the case with this study), Zoom operates globally, meaning data can be moved/ stored, or processed outside of the county where data was collected.

Confidentiality is an essential aspect of all research, and the use of Zoom as a tool adds another consideration to that. To help mitigate data protection issues while using Zoom, an account is created specifically for a research study. On completion of the research, the account is closed, and all data is removed. Therefore, based on the benefits and data security, zoom video conferencing was used as a tool to generate data from study participants resident in Nigeria about a sensitive topic of mental health.

Archibald et al. (2019) explain that in addition to the advantages of VoIP technologies such as Zoom and, in comparison, to face-to-face interviews, the outcome of these experiences is based on the researcher's subjective assessments of the quality of the interview data generated. Therefore, using Zoom as a platform for qualitative data generation can guide researchers' decisions, thereby

developing strategies to overcome contact and platform barriers to support positive relationships between researchers and participants.

Zoom video conferencing has been successfully used to generate qualitative data, supervise work teams, and provide guidance and supervision to junior medical officers (Archibald et al., 2019; Bolle et al., 2009; Cameron, Ray, and Sabesan, 2015). A recent study (Archibald et al., 2019) asked researchers and research participants about their Zoom experiences as a research tool. On the whole, respondents were optimistic about their experiences and recommended Zoom as an alternative to face-to-face, telephone, and other videoconferencing service platforms. Furthermore, the study suggests using Zoom as a qualitative data collection tool due to its ease of use, cost-effectiveness, data management features, and security options (Archibald et al., 2019).

Regarding conducting qualitative interviews, a study by Gray et al. (2020) found that Zoom contributes to high quality and in-depth qualitative interviews when face-to-face interviews are not possible. The tool was also developed to eliminate long-distance and promote international communication, thereby reducing travel costs. Above all, participants in the study described using Zoom as a positive experience with benefits such as convenience, ability to discuss personal issues, accessibility to electronic devices, and saving time, especially where no travel requirements are needed. This is particularly useful during recent times when the COVID-19 pandemic has restricted face-to-face contact. This has enabled qualitative researchers to conduct safe and secure interviews (Davis et al., 2020). Using Zoom in qualitative research: an example

## METHODOLOGY

The research is a qualitative phenomenological study that was recently conducted to explore the experiences of mental health among internal migrants in three states in Nigeria. Interviews were used as a method of generating data for the study. Serrant-Green (2005) describes interviews as a way of encouraging researcher and participant involvement and an inclusive approach to exploring experiences. One-on-one and face-to-face interviews were the recommended method as they allowed participants to describe their experiences, especially on a sensitive topic like mental health.

Therefore, open-ended, and minimally structured interviews were chosen because this method helps first-person verbal descriptions (Huberman and Miles, 2002). This considered their comfort, convenience, and available resources, including the interview venue (Zoom video

conferencing). There were no language issues as all the participants were educated and spoke English because English is the official spoken language in Nigeria.

All participants were informed of and agreed to the use of Zoom video conference to conduct the interviews. This allowed the interviews to occur without traveling to Nigeria to conduct them, which was initially considered. Furthermore, the use of Zoom enabled the project to be successfully undertaken following the emergence of the recent worldwide pandemic. The participants were residents in Nigeria, while the researcher was resident in Sheffield, UK. In addition, the questions were judged (supported by the supervision team) to be sufficient for an online interview using Zoom video conferencing. The average length of the in-person video interviews was between 30-45 minutes.

## RESULTS

Nineteen semi-structured interviews were generated between August 2019 and March 2020. The participants shared their lived experiences as internal migrants in the three states of Federal Capital Territory (Abuja), Kaduna, and Lagos states in Nigeria. They identified factors that impacted their migration experiences and subsequently on their mental health. They also shared their views and perceptions of mental health, including the definition and causes of mental disorders.

Zoom also provided a convenient data generation method, allowing participants to arrange or re-arrange the interview dates to meet their schedules. All participants were assured that all information was confidential by storing it on a password-protected computer and Sheffield Hallam University's secure drive. Participants were impressed with the interviews using Zoom due to having a face-to-face conversation over a distance. Even though they were unfamiliar with the tool initially, this suggests that it is user-friendly and easy to use.

## LIMITATIONS

One of the limitations of video conference technology like Zoom is that this might create a potential barrier to potential participants due to a lack of computers. However, the participants in this study were quite educated and conversant with computers and the internet. Nigeria has 99.05 million internet users. Fifty-four percent accesses the internet daily, while 12 percent have active social media accounts. Individuals spend an average of 3 hours 17 minutes on social media (Clement, 2019; Udodiong, 2019).

Another limitation is a technical difficulty due to poor internet connection. To overcome internet connection issues, the researcher ensured that participants familiarised

themselves with the tool. Therefore, participants could familiarise themselves with Zoom video conferencing by discussing the tool checklist before the proposed interview. This involves collecting demographic data helps familiarize the tool by having a video conversation before the main interviews (appendix 1) to allow uninterrupted usage of the internet tool during the interviews.

#### **CHECKLIST FOR COMMON PROBLEMS WITH ZOOM**

Some of the common issues are:

##### *Video/ Camera not working*

*If the participant's camera is not showing up in Zoom settings or not showing the video:*

- *Test your video to confirm that the correct camera is selected and adjust video settings.*
- *Test the video before the meeting by clicking settings, click the video tab; a preview of the camera is shown, and can choose a different camera.*
- *When in meeting:*
- *Click the arrow next to start video/ stop video*
- *Select video settings- Zoom will display your camera's video and settings.*
- *If you don't see your camera's video, click the drop-down menu and select another camera.*

##### *Audio is not working*

*Speaker issues: if you cannot hear the other speaker in a zoom meeting, follow these steps:*

*Click 'Test speaker/microphone', when the new window pops up, click 'test speaker', if there is a test sound then its ok, if not, then the wrong input is selected.*

*Echoes sound: This occurs due to multiple devices in the room joining the same meeting. 'mute your microphone and turn down the speaker volume.*

##### *The image is skipping or shaking*

*This happens due to poor internet connection and lacks the bandwidth to send the signals to the destination. You can diagnose the issue by running a speed test if the video meeting on the mobile device/ older computer could be due to inadequate memory or CPU. To resolve this, close other applications to devote more CPU power to the meeting.*

#### **Wireless (Wi-Fi) Connection Issues**

*If you are experiencing any issue(s) with latency, frozen screen, poor quality audio, or meeting getting disconnected while using a home or non-enterprise Wi-Fi connection, try the following:*

- *Watch a video about Wi-Fi connectivity*
- *Check your Internet bandwidth using an online speed test*
- *Try to connect directly via Wired (if your internet router has wired ports)*
- *Try bringing your computer or mobile device closer to the Wi-Fi router or access point in your home or office*
- *Upgrade your Wi-Fi router firmware. Check your Wi-Fi router vendor support site for firmware upgrade availability.*

*Retrieved from (Zoom Blog, 2013 & Zoom Help Centre, 2019).*

However, due to poor connectivity issues in some areas in Nigeria, a few interviews had to be rescheduled. For the same reason, a few participants (n=5) opted for the telephone option of the application. Therefore, it would also be helpful to explore the impact of digital literacy on qualitative data generation.

All participants were literate and educated, spoke English fluently, and were residents in urban centres. Uneducated people with low English proficiency, unskilled, and residents in rural areas with poor internet connectivity are likely to have a different outcome and most likely prefer the traditional face-to-face mode. Research to determine the suitability of Zoom for various users is necessary to create specific strategies, improve the contribution and digital literacy.

Future studies should determine the degree of consensus or dissent about the merits or demerits of using Zoom video conferencing among both researchers and study participants. This will involve differences in data quality, sampling, and recruitment. Finally, future research should also encourage the improvement of future applications of video conferencing technology in areas of context, user satisfaction, and data quality and integrity (Archibald et al., 2019).

#### **CONCLUSION**

The availability and advancement of communication technology have a significant implication on qualitative research (Irani, 2018). New and continuous use of online communication technology like Zoom has an essential significance on the practice of research and data generation tools (Archibald et al., 2019). Due to Zoom's flexibility and convenience, Zoom and other similar technologies can significantly contribute to qualitative research while providing rich quality data (Archibald et al., 2019).

Although videoconferencing research is not meant to replace traditional interview methods, it can be a valuable cost and time-saving tool in qualitative research. Existing



research has shown that Zoom is a reliable and effective tool in collecting qualitative data, even on sensitive topics like mental health (Mabragana et al., 2013). Although there are some technical limitations in using Zoom, these can be overcome by familiarization with the platform and training.

Research has found Zoom a promising tool that can complement and extend qualitative researchers' options of generating rich data (Archibald et al., 2019). It is an excellent tool in the health sector to encourage diversity of users' (participants) experiences. Archibald et al. (2019) recommend that researchers include an evaluation of both participants and researcher experiences.

However, in this study, the generation of rich data from the participants' lived experiences, and an objective assessment of the researcher made the tool appropriate for the study.

### KEY POINTS

1. Zoom Video Conferencing was successfully used to generate data by exploring participants' lived experiences due to cost-effectiveness and eliminating distance barriers.
2. The limitations of poor internet connectivity can be overcome by access to better internet connection and digital literacy training and awareness.
3. As suggested in this research and previous research, the tool will be helpful in research in the health and social care field due to its ease of use, cost-effectiveness, and time-saving. Thus, its use is a significant contribution to research in health and social care. However, more measures should be taken to update its security measures.
4. In addition, future research should explore the impact of digital literacy on qualitative data.
5. Finally, research should also be conducted to determine Zoom's suitability among all participants, especially in health and social care.

### ETHICS

The Sheffield Hallam University Review board granted ethical approval with Number ER7565232.

### References

1. Archibald MM, Ambagtsheer RC, Casey MG, Lawless M (2019) Using zoom videoconferencing for qualitative data collection: perceptions and experiences of researchers and participants. *International J of Qualitative Methods* 18: 1-8.
2. Bekkering E, Shim JP (2006) Trust in videoconferencing. *Communications of the ACM* 49(7): 103-107.
3. Bekkering TJE (2004) Visual angle in videoconferencing: The issue of

- trust. Mississippi State University.
4. Bolle SR, Larsen F, Hagen O, Gilbert M (2009) Video conferencing versus telephone calls for teamwork across hospitals: a qualitative study on simulated emergencies. *BMC Emergency Medicine* 9(1): 1-8.
5. Braun V, Clarke V, Gray D (2017) Innovations in qualitative methods. In B Gough (Ed.), *The Palgrave handbook of critical social psychology*. Basingstoke, England: Palgrave Macmillan: pp. 243-266.
6. Cameron M, Ray R, Sabesan S (2015) Remote supervision of medical training via videoconference in northern Australia: a qualitative study of the perspectives of supervisors and trainees. *BMJ open* 5(3): e006444.
7. Cater JK (2011) Skype a cost-effective method for qualitative research. *Rehabilitation Counselors & Educators Journal* 4(2): 3.
8. Clement J (2019) Nigeria: Number of Internet users 2017-2023.
9. Davis MG, Haas MR, Gottlieb M, House JB, Huang RD, Hopson LR (2020) Zooming in versus flying out: virtual residency interviews in the Era of COVID-19. *AEM Education and Training* 4(4): 443-446.
10. Deakin H, Wakefield K (2014) Skype interviewing: Reflections of two PhD researchers. *Qualitative research* 14(5): 603-616.
11. Gray LM, Wong Wylie G, Rempel GR, Cook K (2020) Expanding qualitative research interviewing strategies: Zoom video communications. *The Qualitative Report* 25(5): 1292-1301.
12. Hesse Biber S, Griffin AJ (2013) Internet-mediated technologies and mixed methods research: Problems and prospects. *J of Mixed Methods Research* 7(1): 43-61.
13. Hewson C (2008) Internet-mediated research as an emergent method and its potential role in facilitating mixed methods research. *Handbook of emergent methods*: 543-570.
14. Horrell B, Stephens C, Breheny M (2015) Online research with informal caregivers: Opportunities and challenges. *Qualitative Research in Psychology* 12(3): 258-271.
15. Huberman M, Miles (2002) *The qualitative researcher's companion*. Sage.
16. Irani E (2019) The Use of videoconferencing for qualitative interviewing: Opportunities, Challenges, and Considerations 23: 4-8.
17. Keanu GC, Zoom at a Glance. UC Riverside. University of California.
18. Mabragana M, Carballo Diéguez A, Giguere R (2013) Young women's experience with using videoconferencing for the assessment of sexual behavior and microbicide use. *Telemedicine and e-Health*, 19(11): 866-871.
19. Maldow DS (2013) "Zoom's full featured UME videoconferencing platform exceeds expectations". telepresence options.
20. Novick G (2008) Is there a bias against telephone interviews in qualitative research? *Research in nursing & health* 31(4): 391-398.
21. Salmons J (2012) Designing and conducting research with online interviews. In J Salmons (Ed.), *Cases in online interview research*. Thousand Oaks CA:1-30.
22. Salmons J (2014) *Qualitative online interviews: Strategies, design, and skills*. Sage Publications.
23. Serrant Green L (2005) We need to talk--the role of interviewing in research. *Nurse Researcher* 13(1): 3-4.
24. Tuttas CA (2015) Lessons learned using web conference technology for online focus group interviews. *Qualitative Health Research* 25(1): 122-133.
25. Udodiong I (2019) Here is how Nigerians are using the internet in 2019. *Pulse Nigeria*.
26. Vertegaal R, Weevers I, Sohn (2002) GAZE-2: An attentive video conferencing system. In *Extended Abstracts of the CHI '02 Conference on Human Factors in Computer Systems*. (Minneapolis, MN, Apr 2002), ACM Press: 736-737.
27. Whittaker S, O Conaill B (1997) The role of vision in face-to-face and mediated communication. *Video-Mediated Communication*. KE Finn, A Sellen SB, Wilbur, Eds. Lawrence Erlbaum Associates, Mahwah, NJ: 23-49.
28. Zoom Video Communications Incorporation (2020) August. Zoom Privacy Statement.
29. Zoom Video Communications Incorporation (2020) April 22. 90-Day Security Plan Progress Report.
30. Zoom Video Communications Incorporation (2019) Zoom Privacy Policy.

**Citation:** Temitope Labinjo<sup>1</sup>, Russell Ashmore<sup>2</sup>, Laura Serrant<sup>3</sup> and James Turner<sup>4</sup>. The use of Zoom Videoconferencing for Qualitative Data Generation: A reflective account of a research study. *Op Acc J Bio Sci & Res* 10(1)-2021