

# Online interviews for qualitative health research in Africa: a scoping review

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Online interviews can be powerful tools in global health research. In this article, we review the literature on the use of and challenges associated with online interviews in health research in Africa and make recommendations for future online qualitative studies. The scoping review methodology was used. We searched on Medline and Embase in March 2022 for qualitative articles that used internet-based interviews as a data collection method. Following full-text reviews, we included nine articles. We found that online interviews were typically conducted via Microsoft Teams, Zoom, Skype, WhatsApp, Facebook Messaging and E-mail chats. Online interviews were used in Africa because of the restrictions imposed by the coronavirus disease 2019 pandemic and the need to sample participants across multiple countries or communities. Recruitment for online interviews occurred online, interviews were characterised by inaudible sounds, the inability to use video options and the challenges of including people with low income and education. We recommend that researchers critically evaluate the feasibility of online interviews within a particular African locality before fully implementing this data collection approach. Researchers may also collaborate with community-based organisations to help recruit a more socioeconomically diverse sample because of the potential of excluding participants with limited internet access.

**Keywords:** Africa, developing country, internet-based interview, interview, online, qualitative research.

## Introduction

Online interviews (also called electronic interviews or E-interviews or virtual interviews) are defined as the use of internet-based technology to enable real-time, in-depth conversations between research participants and an interviewer. Online interviews can be essential in global health research as they allow access to hard-to-reach, busy or geographically dispersed or international populations.<sup>1</sup> Online interviews alleviate the financial cost and space-time constraints associated with in-person interviews.<sup>2</sup> Participants in online interviews conducted via social media are more likely to be authentic in their responses because of the anonymity these platforms provide.<sup>3</sup> Online interviews are more ecologically friendly compared with in-person interviews because the former requires less travelling.<sup>4</sup> These advantages have caused more researchers to adopt online interviews as a data collection method. The coronavirus disease 2019 (COVID-19) pandemic and its related social distancing restrictions also stimu-

lated the transition from face-to-face to online interviews in most qualitative research.<sup>5</sup>

Research evidence has shown that conducting online interviews can be challenging. In an international online study using Skype-to-telephone interviews, frequent call drops, noisy backgrounds, inaudible speech and lags in voice transmission disrupted the interview process, thereby reducing the quality of interview data.<sup>6</sup> The fear of encountering call drops in online interviews has been reported to lead to rushed interviews.<sup>7</sup> Audio-only online interviews create difficulties in gauging participants' comprehension of consent documents and evaluating participants' non-verbal cues during interview sessions.<sup>8</sup> Audio-only interviews have also been referred to as 'disembodied interviews', highlighting the apparent lack of connection between the interviewee and researcher.<sup>7</sup> Online interviews involving video-conferencing mostly capture the 'headshot' of participants, limiting the interviewer's ability to assess the full range of the participant's body language.<sup>2</sup> Participants in online interviews often complained about wanting to 'meet' and 'know' the person

they were talking to.<sup>7</sup> This suggests that participants may feel less connected to their interviewers. This apparent lack of connectedness may limit the depth of information participants share in online interviews.<sup>9</sup>

Although Africa is a diverse continent, with each of its 54 countries possessing a wide range of digital and technical infrastructures, most countries on the continent experience frequent power outages and have a less robust internet infrastructure, which can present a challenge to the use of online interviews on the continent. It is estimated that an average of 41% of people living in sub-Saharan Africa use the internet compared with 81% in the USA.<sup>10</sup> The limited internet penetration, low usage and familiarity with internet-based devices and low internet bandwidth<sup>10</sup> present a critical challenge to researchers who rely on the internet for their data collection. The International Communication Union reported that access to the internet within the African continent increased from 2% in 2005 to 22% in 2017.<sup>11</sup> Thus, although internet penetration remains low on the continent, available data reveal an upward trend over the past decade. This upward trend in internet usage may present an opportunity for researchers who want to exploit the benefits of online interviews within the continent.

Most extant internet-based research in Africa consists of online surveys that do not require synchronous interaction between the researcher and participants.<sup>12-14</sup> The extent to which online qualitative interviews have been used in Africa is unclear. Moreover, little is known about the potential challenges of implementing online interviews in Africa, where resources are limited. While some reviews on internet-based qualitative interviews have been performed, such reviews have either focused on a specific online interview tool (e.g. Skype)<sup>15,16</sup> or do not include studies from Africa.<sup>17</sup> In this article, we review the literature on the use of online interviews in Africa, identify challenges associated with online interviews and make recommendations for future online qualitative research studies in Africa. Overall, this article aims to characterise and evaluate the use of online qualitative interviewing methods in research conducted across African communities.

## Methods

A scoping review methodology was used to summarise the state of the research regarding online interviews in Africa.<sup>18</sup> Scoping reviews enable the researcher to assess the nature, extent and trends of research activity in a particular field of interest and identify the existing literature gaps.<sup>19</sup> This methodology is less time-consuming (in comparison with systematic reviews) but provides a transparent approach to mapping the literature in a particular research area. The scoping review methodology involves five iterative steps: identification of review question; identification of relevant studies; study selection; charting and collating the data; and summarising and reporting results.<sup>18</sup>

### Identifying relevant studies

A systematic search of the literature was conducted by a medical librarian in Ovid Medline (1946 to 7 March 2022) and Ovid Embase (1974 to 7 March 2022). The searches were conducted on

**Table 1.** Search terms used for Medline and EMBASE

OVID Medline (R) ALL,1946 to March 07, 2022>	
#	Query
1	exp Interview/ or interview*.mp.
2	online.mp. or exp Internet/
3	zoom.mp.
4	exp Videoconferencing/ or skype.mp.
5	microsoft teams.mp.
6	adobe connect.mp.
7	2 or 3 or 4 or 5 or 6
8	1 and 7
9	developing countr*.mp. or exp Developing Countries/
10	low resourc*.mp.
11	africa.mp. or exp Africa/
12	communication barrier*.mp. or exp Communication Barriers/
13	9 or 10 or 11 or 12
14	8 and 13
Embase <1974 to 2022 March 07>	
#	Query
1	exp Interview/ or interview*.mp.
2	online.mp. or exp Internet/
3	zoom.mp.
4	exp Videoconferencing/ or skype.mp.
5	microsoft teams.mp.
6	adobe connect.mp.
7	2 or 3 or 4 or 5 or 6
8	1 and 7
9	developing countr*.mp. or exp Developing Countries/
10	low resourc*.mp.
11	africa.mp. or exp Africa/
12	communication barrier*.mp. or exp Communication Barriers/
13	9 or 10 or 11 or 12
14	8 and 13

15 March 2022. Databases were searched using a combination of controlled vocabulary and free text terms for the concepts 'online interview' and 'low resource countries' or 'communication barriers'. Index terms used on Medline and Embase were 'exploded' to include all subcategories of the term being searched. For instance, the search for the index term 'Africa' included all 54 countries in Africa ('exp Africa/'). No limits were applied to the search. Details of the full search strategy are shown in Table 1.

### Study selection

The electronic search results were imported into EndNote X9 library (Clarivate, Philadelphia, PA, USA). Duplicates were removed in EndNote. The de-duplicated search results were then imported into Covidence, a screening and data extraction tool. The inclusion criteria were: (1) studies conducted in an African country; (2) collected data from participants using real-time individual online

interviews (including Voice over Internet Protocol, videoconferencing software, synchronous E-mail chats and messaging apps); (3) provided details regarding how participants were recruited, or the tools/software used for the online interview or how consent was provided; (4) methods papers based on the reflections of researchers conducting online interviews in Africa; and (5) articles in the English language. The exclusion criteria included: (1) online surveys or quantitative studies; (2) studies conducted outside Africa; (3) conference abstracts, dissertations and poster presentations; (4) interviews conducted via regular telephone networks (i.e. without the internet); and (5) focus group discussion (FGD) as a data collection method because we intended to only focus on individual online interviews. Thus, FGDs were beyond the scope of this review.

### Charting data and collating results

Data were extracted from the included studies using the data extraction form in Covidence. Extracted data included authors, year of publication, sample characteristics, study objectives, the tool used for online interviews, duration of interviews, recruitment of participants and the strengths and limitations of the interview method. The extracted data were tabulated and summarised.

## Findings

### Characteristics of the included studies

Of the 1014 citations identified in the search, only nine studies met the inclusion criteria. A Preferred Reporting Items for Systematic Review and meta-analysis (PRISMA) flow diagram showing the selection process is provided in Figure 1. All included studies used an exploratory or descriptive qualitative study design. The included studies were published during 2015–2022, with six studies published during the COVID-19 pandemic (two studies were specifically about COVID-19).<sup>20,21</sup> Sample sizes ranged from 7 to 46. The proportion of female participants ranged from 65% to 95% across studies. Seven studies included highly educated participants (health professionals, university students, lecturers, researchers). Participants' ages were reported in three studies and they ranged from 20 to 64 y.<sup>20,22,23</sup> The topics covered by the included studies ranged from the impact of COVID-19 to the experiences of men who pay for sex (Table 2).

Online interviews were conducted using Microsoft Teams, Zoom, Skype audio/video, WhatsApp, Facebook Instant Messaging and E-mails. Studies used a combination of audio/video (N=9) or text via instant messaging or E-mail (N=2). Online interviews that utilised the text-only format (e.g. synchronous E-mail chats and instant messaging) produced short responses from interviewees.<sup>22</sup> Two studies used a combination of in-person and remote interviews,<sup>22,24</sup> two used both telephone and internet-based (online) interviews<sup>23,25</sup> and one study used all three approaches (in-person, online and telephone interviews).<sup>26</sup> In two studies, participants were given the opportunity to choose from a list of electronic platforms (e.g. Microsoft Teams and Zoom) for their interviews.<sup>22,27</sup> On average, online interviews lasted 30–46 min. Only four studies piloted their interviews (only one of four pilot studies was conducted with participants

based in Africa).<sup>21,26–28</sup> Five studies were conducted in multiple countries, including South Africa, Kenya, Malawi, Sierra Leone, Somalia, Uganda, Sudan and Zimbabwe. The details of the studies (including study purpose) can be found in Table 2.

#### a. Reason for online interview

It was evident in the included studies that online interviews were used because of the researchers' goal of recruiting international or geographically dispersed participants.<sup>25,27,28</sup> The restrictions of the COVID-19 pandemic also warranted the use of online interviews. The choice to use online interviews was to help researchers maintain social distancing measures during the lockdown period.<sup>20,21</sup> Online interviews were also used to enable researchers to recruit subjects from hard-to-reach populations. For instance, online interviews were used to collect data about the experiences of men who pay for sex in South Africa.<sup>22</sup>

#### b. Recruitment of participants for online interviews

Investigators used multiple methods to recruit participants for online interviews. In a study to assess the experiences of health-care providers (HCP) implementing pulmonary rehabilitation in low- and middle-income countries, researchers recruited HCP by E-mailing the corresponding authors of review articles that discussed pulmonary rehabilitation in low-resource settings. They included a consent form, a participant information sheet and a request to disseminate the invitation to their colleagues.<sup>27</sup> Researchers also posted open invitations on Twitter.<sup>27</sup> Similar recruitment approaches (contacting experts and posting on social media) were adopted by two other studies.<sup>24,26</sup> In other studies, snowball sampling was used by first contacting and recruiting people within researchers' professional and social networks via E-mail and subsequently 'snowballing' via them to reach more participants.<sup>24,26,28</sup>

Participants were also recruited through targeted online advertisements, in which the investigator posted advertisements (including the researcher's E-mail address) on websites known to be used by the target population.<sup>22</sup> In two studies, the E-mail addresses of potential participants were obtained from professional bodies; participants were then sent a recruitment E-mail inviting them to participate in the study.<sup>25,26</sup> Recruitment was performed in person in only one study, in which investigators formed a partnership with a faith-based organisation that had contact with the population of interest.<sup>21</sup>

#### c. Consent process

Only seven out of the nine studies provided details about the consent process, as shown in Table 1. The process of obtaining informed consent for online interviews varied across studies. Prior to interviews, research participants were sent an information sheet and a consent form via E-mail<sup>23,26,27</sup> through an electronic platform (Blackboard, a learning management environment similar to Canvas)<sup>20</sup> or through an independent organisation that worked with the population of interest.<sup>21</sup> Participants were often given the opportunity to ask questions regarding the consent form before signing it.<sup>21,26</sup> Consent was again confirmed or

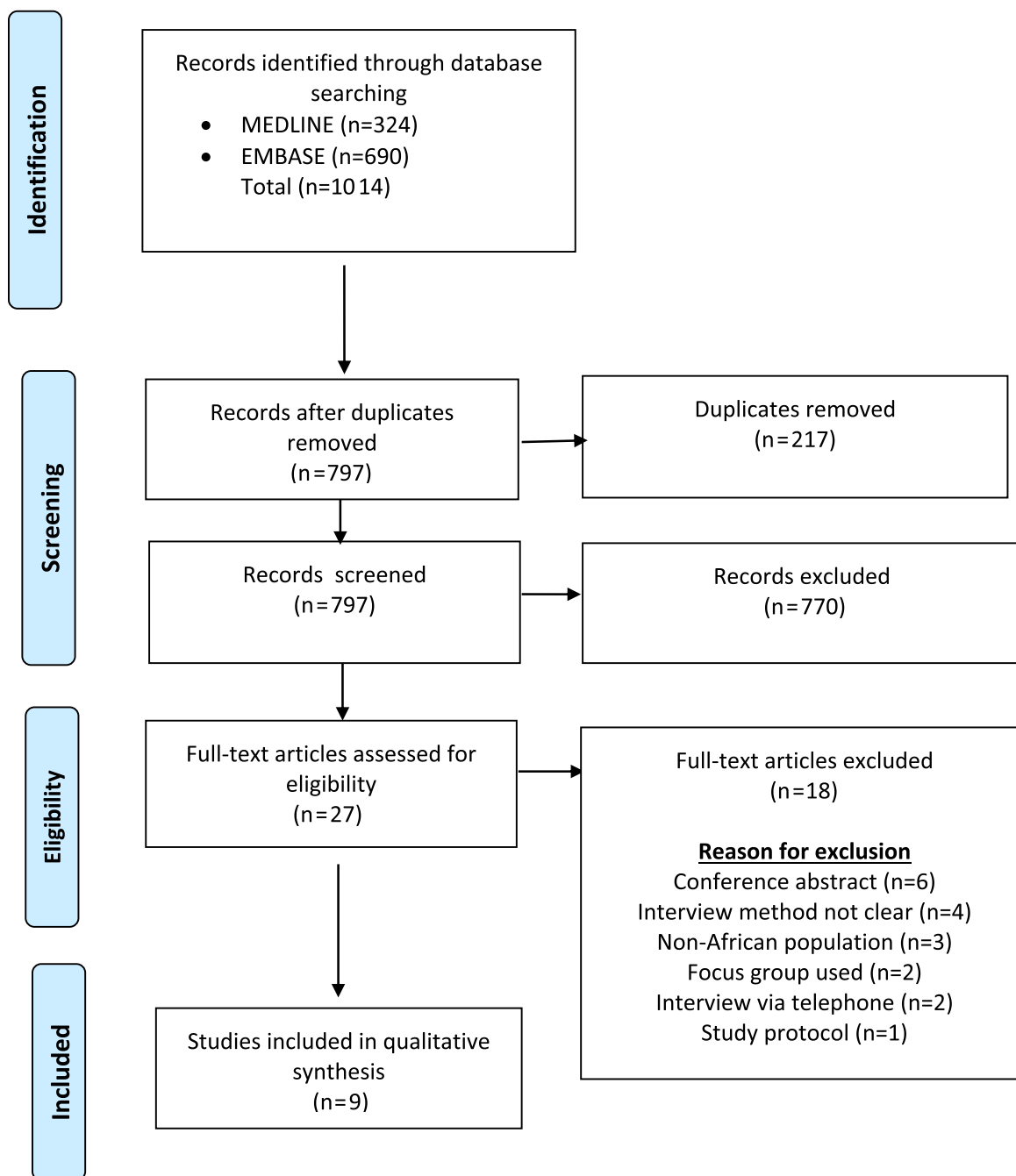


Figure 1. PRISMA flowchart.

reiterated before the interview started.<sup>24,27,28</sup> Consent was verbal for all but two studies.<sup>21,24</sup>

#### d. Reported limitations related to the interview approach

The use of online interviews was reported to have potentially limited the diversity of participants that were recruited. For in-

stance, in South Africa, the online recruitment strategy that was used predominately attracted white middle-class men who had regular internet access.<sup>22</sup> Also, in South Africa, where socioeconomic class is still mainly stratified along racial lines, many poor black men were potentially excluded from studies that required participants to have internet access and computer literacy.<sup>22</sup> Online interviews were reported to have impaired the interviewer-interviewee communication because of the researcher's difficulty in establishing and maintaining rapport with the

**Table 2.** Details of the included studies

First author, year	Purpose	Sample	Study design	Reason for online interview	Consent process	Multiple interview methods used	Tools for online interview	Recruitment of participants	Duration of interviews	Reported limitations related to interview approach
Huyssamen, 2020	To explore men's narratives about paying for sex	N=43, South Africans, age 22 to 67 y	Exploratory research design	Hard-to-reach population	Not reported	Yes	Skype video (n=2) or audio calls, or using synchronous Facebook messenger chats, Gmail chat and WhatsApp chats—for 30 interviews	Men who pay for sex are considered a hard-to-reach population. They were thus recruited online through two online classified websites. The researcher posted advertisements in sections of the online classifieds where erotic services are ordinarily advertised, stating that he was a researcher looking to interview men about their experiences of paying women for sex. The researcher provided an E-mail address where anyone interested in participating could contact him	Not reported	The online recruitment strategy was limited in that it predominantly attracted white middle-class men who were computer literate and had regular access to the internet. This recruitment strategy potentially excluded poor men who did not have regular access to the internet and did not access paid sexual services online. In South Africa, where class is still stratified largely along racial lines, this means that many poor black men would have been excluded from the sample
Gumede, 2022	To explore the experiences of undergraduate diagnostic radiography students of online teaching and learning during the COVID-19 lockdown period	Country: South Africa, N=14 undergrad; 71% female; 20 to 33 y	Exploratory research design	COVID-19 regulations	Permission was sought from the participants through an information letter and consent form shared online via Blackboard	No	Microsoft Teams	Not provided	Not more than 1 h	During interviews, the participants could not switch on their cameras due to data constraints
Singh, 2021	To establish the SA stakeholder perspective on the ethico-legal dimensions of biobanking	N=25; researchers/clinicians/grad students (educated); SA	Exploratory research design	Not clear	Written informed consent was obtained but details are missing	Yes	Skype	Snowballing, online/literature searches	30 to 60 min	Not reported
Nyashanu, 2020	To explore the impact of lockdown during COVID-19 among people living in an informal settlement	South Africa, N=30	Exploratory research design	To maintain social distancing measures enforced by the government of South Africa	Information sheet was reviewed with participants before signing informed consent	No	WhatsApp call	Informal settlers were purposively recruited through contacts from community and faith organisations that were distributing food and clothes in the IS during the current COVID-19 pandemic. The researchers sent letters and information sheets to the organisations inviting informal settlers to take part in the research study. Only those who had agreed to take part in the research study had their names and telephone contacts forwarded to the researchers to organise interview dates and times when they would sign a consent form prior to taking part in the interview. The consent forms were delivered and signed through the humanitarian organisations that were distributing food in the IS	45 min	A weak telephone/internet connection and language barriers between participants and interviewers was also a challenge for transcription. To mitigate these barriers, interviews were transcribed by one researcher and checked by the original interviewer for accuracy

Table 2. Continued

First author, year	Purpose	Sample	Study design	Reason for online interview	Consent process	Multiple interview methods used	Tools for online interview	Recruitment of participants	Duration of interviews	Reported limitations related to interview approach
Kam, 2015	To examine factors in low-income countries that influence prosthetic rehabilitation of adults with lower-limb amputations	N=11 (3 from Africa; 2 Sudan, 1 Malawi)	Exploratory research design	Geographically dispersed/international population	Not stated	Yes	Skype	Recruitment E-mail was to a contact list obtained through the networks of the ICRC and the ISPO, inviting trained prosthetists to participate in the study. Researchers then contacted the participants, who responded to this recruitment E-mail to schedule an interview by Skype or telephone. Prior to the date of each scheduled interview, an E-mail was sent to each participant reminding them of the date and time of the interview	Average 30 min	Not reported
Narain, 2019	To understand the roles of physiotherapists in the SDGs	9 physiotherapists, South Africa, all with a PhD; 7 females; 42-64 y	Exploratory research design	Geographically dispersed population	Participants received a consent form via E-mail	Yes	Skype	The nine participants, known to the researchers, were invited to participate via E-mail together with an invitation leaflet, a demographic information sheet and an informed consent form. Upon receipt of their informed consent to participate, the participants were contacted again via E-mail to set up a suitable time for the interviews. Participants were allowed to choose between a telephone or a Skype interview. Eight participants chose telephone and one chose Skype	Not reported	Not reported
Pretto-Lazarova, 2022	To support the understanding of what clinical trial quality entails from the perspective of resource-limited settings	N=46; 20 females; SSA; researchers involved (obviously educated)	Exploratory research design	Geographically dispersed population	Participants received an information sheet via E-mail and verbal consent to participate was given before the start of the interview	Yes	Skype, WhatsApp	Systematic review of studies conducted in SSA were extracted; authors and sponsors of studies were contacted; snowballing; distribution of flyers; listserv of professional networks. The stakeholders could originate from inside or outside SSA. Due to the large number of targeted countries, no travelling was intended. The interviewees were based in Switzerland and most interviews were conducted remotely, either by telephone or via Skype	35-75 min	Also, given that many interviews were conducted remotely, we were not able to verify if other persons may have been present in the background during interviews, which may have influenced the responses

**Table 2.** Continued

First author, year	Purpose	Sample	Study design	Reason for online interview	Consent process	Multiple interview methods used	Tools for online interview	Recruitment of participants	Duration of interviews	Reported limitations related to interview approach
Edgcombe, 2019	To explore the views of non-physician anaesthesia providers regarding the effectiveness of training programmes sub-Saharan African countries	N=15; females=7; country (Sierra Leone, Somaliland and Uganda)	Exploratory research design	Geographically dispersed/international population	Consent was confirmed and recorded prior to the start of the interviews	No	Zoom, Microsoft Teams	Initial identification of potential respondents took place through networks known to the researchers and subsequently by snowballing via existing respondents. Respondents were approached digitally via E-mail or Online Messenger) and provided with written information in advance. No interviews were repeated	The median interview duration was 46 min	Communication could also have been impaired because online interviews were conducted rather than face-to-face interviews. Synchronous online interviewing has some benefits in broadening the geographical remit of a study as well as putative advantages for interviewee comfort. <sup>35</sup> However, rapport between interviewer and interviewee may be worse than in person, and non-verbal cues, especially visual ones, are more difficult or impossible to detect
Bickton, 2022	To explore the barriers and enablers HCP face when implementing pulmonary rehabilitation in low- and middle-income countries	N=7, females=5; all HCP; country (Kyrgyzstan, India, Argentina, Kenya, Malawi, South Africa and Zimbabwe)	Exploratory research design	Geographically dispersed/international population	Consent form and information sheet sent via E-mail and participants were asked to provide written informed consent. Consent was reiterated verbally at the start of their interview	No	Zoom, Microsoft Teams	Recruitment E-mails were sent to the corresponding authors of articles included in review papers that discussed pulmonary rehabilitation in low-resource settings, along with a consent form, a participant information sheet and a request to disseminate the invitation to their colleagues. Further to this, an open invitation was posted on Twitter	40 min (ranging from 20 to 60)	Not reported

Abbreviations: HCP, healthcare providers; ICRC, International Committee of the Red Cross; IS, informal settlements; ISPO, International Society of Prosthetics and Orthotics; SA, South Africa; SDG, sustainable development goals; SSA, sub-Saharan Africa.

interviewee and detecting non-verbal cues, especially visual ones.<sup>28</sup> Moreover, Gumede and Badriparsad<sup>20</sup> reported that their ability to sustain video connection with participants was compromised during the course of their online interviews. Participants were unable to turn on their cameras due to internet constraints. Another study reported that a weak telephone/internet connection was a challenge for transcription as the recorded voice was sometimes inaudible. To mitigate these barriers, interviews were transcribed by one researcher and checked by the original interviewer for accuracy.<sup>25</sup> There were also concerns about other people being present in the background during interview sessions that may have distracted participants, influenced their responses and potentially violated their confidentiality.<sup>26</sup>

## Discussion

In this review, we found that individual online interviews have not been widely applied to qualitative research in Africa. The COVID-19 pandemic seemed to have stimulated the adoption of online interviews, especially among researchers performing multi-country or international studies. This was not surprising given the exponential increase in the adoption of virtual communication tools globally during the height of the COVID-19 pandemic.<sup>29–31</sup> As noted in this review and in congruence with the literature,<sup>1</sup> these virtual communication tools allow investigators to recruit from geographically dispersed populations at a low cost and access hard-to-reach populations. Thus online interviewing can be a powerful tool in global health research.

This review also noted several challenges related to online interviews, including inaudible sound, potentially sidelining people with low income and education, impaired communication, internet problems, transcription challenges, distraction of participants during interviews and the potential violation of participants' confidentiality. These challenges may continue to slow down the adoption of online interviews in Africa if not well addressed. Below follow some recommendations to address the limitations of conducting online interviews in Africa.

## Recommendations

### 1. Addressing the issue of impaired interviewer–participant communication

Online interviews require interactions between the interviewer and research participants via the internet. This internet-based communication can be interrupted by poor internet access, distraction from the participant's environment and unfamiliarity with the interview technology.<sup>5</sup>

To avoid the problem of poor internet access, researchers should first assess the feasibility of using online interviews within a setting. Investigators should clearly understand the internet coverage and speed within a particular context of interest. For instance, it is known that some parts of Africa have limited access to telephone networks and internet connectivity. Researchers should establish beforehand that participants can access internet-enabled devices and internet data. Researchers may provide high-speed internet access to participants in prepa-

ration for the interview. This strategy was used in a multisite study conducted in the Philippines and India, where researchers provided participants with free telephones along with high-speed internet access to ensure a stable internet connection throughout the interviews.<sup>32</sup> In situations where it is not possible to make such provisions, other interviewing methods could be explored to reach participants residing in areas with low internet speed and/or access. This may include conducting in-person, audio-only or telephone interviews. Thus, online interviews may not always be feasible, and researchers are expected to be flexible in using other interview methods.

While in this review pilot interviews were conducted in four studies, such interviews were focused on evaluating the appropriateness of interview guides and were not intended to detect potential technology-related problems that may arise on the day of the interview.<sup>26–28</sup> Most pilot interviews were also conducted outside Africa, where the final studies were conducted. Pilot interviews help researchers to establish a rapport with participants and allow participants and/or researchers to familiarise themselves with the interview software.<sup>33</sup> Pilot interviews also present an opportunity for researchers to review consent forms with participants and collect characteristic demographic data. While we found no evidence of participants struggling with the interview software, conducting pilot interviews (with participants based in Africa) will still be useful in preventing such incidents from occurring and ensuring uninterrupted interviewer–participant interactions.<sup>34</sup>

The challenge of participants being distracted by people and/or activities in their immediate surroundings during online interviews is important because it has implications for participants' privacy and the quality of interview data.<sup>7</sup> The presence of other people in the vicinity of participants can influence participants' responses and their willingness to divulge sensitive information.<sup>7</sup> It may also cause the interviewer to misinterpret participants' non-verbal cues (a burst of laughter from a participant could either be because of a third party in the vicinity or because of what the researcher said). Researchers should plan with participants to select the most appropriate times when participants will be alone and least likely to be distracted. Participants can also use headphones to minimise their risk of being overheard and to enhance audio quality.<sup>34</sup> If possible, participants should be encouraged to arrange for the use of private rooms at home or in the workplace. The need for privacy and a distraction-free interview should also be emphasised to participants.

### 2. Addressing the issue of potential exclusion of people with low income and education

This review found that studies that use online interviews often recruited participants online (e.g. via E-mail, online advertisements). This method of recruitment automatically excludes people with limited internet access. Previous studies have shown that internet use and access are linked to one's level of education.<sup>35</sup> Thus, people with a high level of education are likely to be recruited for studies that use online interviews. Indeed, the evidence from this review supports that claim because all the studies were conducted among highly educated participants. Online recruitments via E-mails and text-based advertisements operate under the often-wrong assumption that the target population



can read. Researchers should employ multiple recruitment strategies, including snowballing. Snowballing can allow researchers to purposively sample participants eligible for a particular study but with limited internet access. In snowballing, an initial sample of participants are recruited via the internet. This initial sample of participants may be asked to share researchers' contact details with individuals who may be eligible for the study. The initial sample may also extend the invitation to other people they know who might have been missed during the online recruitment process. Snowballing has been shown to effectively increase the study sample diversity at a low cost.<sup>36</sup> Another strategy could be the use of television and radio advertisements to reach individuals with poor internet access and people who may not be able to read even if they are reached via online recruitment.<sup>37</sup>

Researchers should also consider engaging with community groups to be partners in the research. Community engagement involves working collaboratively with local community groups to ensure the research is relevant to the local context.<sup>38</sup> In qualitative research, community engagement may be useful in recruiting participants, conducting a needs assessment prior to the study, gaining meaningful consent, data collection, interpretation of results and dissemination of research findings.<sup>38</sup> International investigators conducting online interviews in Africa must recognise community engagement as an essential component of meaningful qualitative research. Such community engagements may be useful in recruiting diverse samples and determining the feasibility of an online interview approach.<sup>39</sup>

## Limitations

This review has several limitations. First, the use of only two electronic databases, the exclusion of non-English articles and not using an individual free-text search for all 54 African countries meant that some important articles may have been missed. Second, while the main focus of this review was to highlight the peculiar challenges and opportunities in conducting internet-based interviews in Africa, the exclusion of regular telephone interviews represents a missed opportunity to review papers that could have shed light on the general strengths and limitations of conducting 'remote' interviews in Africa. Thus, in the future, it would be important to also review studies that use non-internet-based technology to learn about its usage patterns for qualitative interviews in Africa. Third, although we did not conduct a formal quality assessment of the included studies in line with the scoping review methodology,<sup>18</sup> a number of studies appeared to be of poor quality as evidenced by the failure to report important study details including the consent process, sample characteristics and the duration of interviews (Table 2).

## Conclusions

Online interviews enable researchers to recruit participants from hard-to-reach and geographically dispersed populations and they provide an inexpensive way to conduct international research. Online interviews can be challenging to implement in Africa. Researchers should use multiple recruitment strategies to mitigate the risk of excluding participants with low income

and education. Researchers should also pilot interviews to identify potential problems then address them. Most importantly, researchers should clearly understand the extent of internet penetration within the target community and evaluate whether an internet-based approach to qualitative research is feasible or otherwise use alternative interview methods such as face-to-face or telephone interviews.

## Authors' contributions:

SA and EE designed the study protocol, conducted title and abstract screening and developed a draft of the manuscript; YS, GAAF and LEN critically revised the manuscript for intellectual content. All the authors read and approved the final version of the manuscript. SA is the guarantor of the paper.

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