Conducting Qualitative Research under Pandemic Restrictions – Considerations, Challenges, and Benefits: A Methodological Field Report

Durchführung qualitativer Forschung unter pandemiebedingten Einschränkungen – Überlegungen, Herausforderungen und Vorteile: Ein Erfahrungsbericht

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ABSTRACT

Background The Covid-19 pandemic has a significant impact on professionals working in the medical area, with very high workload and tightened safety restrictions for physicians, nurses, caregivers, and patients. One of the main target participants in health services research are medical professionals. Their experiences contribute immensely to any research project aiming to improve delivery and quality of care. Furthermore, their input gives significantly greater insights into the handling of the pandemic and into what future improvements should be considered. In our research project ADAPTIVE (Impact of Digital Technologies in Palliative Care) we evaluate with qualitative research methods the impact of a web-based software on communication, teamwork, and lasting transformations in accountability in multidisciplinary teams (e. g., medication and independent decisions). In this paper, we discuss the challenges and benefits of conducting a qualitative research project under pandemic conditions by illustrating the progress of ADAPTIVE.

Methods ADAPTIVE started in March 2020 and ended in August 2021. For data collection, we interviewed 26 participants about using a web-based program to facilitate the exchange of patient information in multidisciplinary teams in outpatient palliative care in Germany (mainly physicians and nurses). However, due to emerging hygiene regulations, corona-related restrictions, and the ongoing workload of medical professionals, the recruiting and interviewing process were challenging. Hence, we had to modify the original study design of two face-to-face interviews per participant and a focus group discussion into one telephone interview. The focus groups were cancelled.

Results We discussed several adjustments to the data collection. However, the privacy policies of different clinics, participants' lack of experience with video calls, and a potential poor internet connectivity eliminated the option of digital video interviewing. Therefore, we interviewed 21 participants by

telephone and only five face-to-face. Further, the focus group discussions initially planned had to be dropped since a simultaneous gathering of the participants was not possible due to several reasons. Nonetheless, we obtained many insights into the usage of digital support systems in palliative care by conducting 26 interviews, allowing us to complete the research project.

Discussion Telephone interviews come with limitations. Firstly, it may be difficult for participants to establish a trusting relationship with the interviewer. Secondly, non-verbal communication is lost during a telephone interview. However, expanding the survey methodology to include telephone interviews gave us the option of allowing us to expand the recruitment nationwide and overcome issues successfully.

Conclusions Recruitment and data collection showed to be more time-consuming under pandemic circumstances, and further survey methods such as focus groups were nearly impossible. However, a qualitative research design offers greater flexibility when adapting study designs.

ZUSAMMENFASSUNG

Hintergrund Die Covid-19-Pandemie wirkte sich in erheblichem Maße auf medizinisches Personal aus. Dies führte zu einer sehr hohen Arbeitsbelastung und verschärften Schutzmaßnahmen für Ärzt*innen, Pflegepersonal und Patient*innen. Die Erfahrungen medizinischer Fachkräfte tragen in hohem Maße zu jedem Forschungsprojekt bei, das darauf abzielt, die Bereitstellung und Qualität der Versorgung zu verbessern. Darüber hinaus trägt ihre Teilnahme wesentlich dazu bei, einen besseren Einblick in den Umgang mit der Pandemie zu gewinnen und zu erfahren, welche Verbesserungen in Zukunft in Betracht gezogen werden sollten. Im Rahmen unseres Forschungsprojekts ADAPTIVE (Auswirkungen digitaler Assistenzen auf die Palliative Versorgung) haben wir mithilfe eines qualitativen Forschungsansatzes die Auswirkungen evaluiert, die eine webbasierte Software auf die Kommunikation und die Teamarbeit in multidisziplinären Teams hat und welche nachhaltigen Veränderungen in der Verantwortung damit einhergehen (z. B. Medikation und Delegation von Aufgaben). In diesem Beitrag diskutieren wir anhand des Forschungsprozesses innerhalb von ADAPTIVE die Herausforderungen und Vorteile der Durchführung eines qualitativen Forschungsprojekts unter Pandemiebedingungen.

Methoden Die ADAPTIVE-Studie begann im März 2020 und endete im August 2021. Zur Datenerhebung baten wir 26 Teilnehmer*innen an einem Interview über die Nutzung eines webbasierten Programms zur Erleichterung des Austauschs von Patient*inneninformationen in multidisziplinären Teams in der ambulanten Palliativversorgung in Deutschland (hauptsächlich Ärzt*innen und Pflegekräfte) teilzunehmen. Leider waren die Rekrutierung und die Datenerhebung aufgrund neuer Hygienevorschriften, coronabedingter Einschränkungen und der anhaltenden Arbeitsbelastung der medizinischen Fachkräfte eine Herausforderung. Aus diesem Grund mussten wir das ursprüngliche Studiendesign, das zwei Präsenzinterviews pro Proband*in und eine Fokusgruppendiskussion vorsah, abändern, so dass stattdessen ein Telefoninterview durchgeführt wurde. Die Fokusgruppen wurden letztendlich abgesagt.

Ergebnisse Das Forschungsteam diskutierte im Studienverlauf mehrere verschiedene Anpassungen der Datenerhebung. Auf Grund der Datenschutzrichtlinien verschiedener Kliniken, die oftmals fehlende Erfahrung der Proband*innen mit Videoanrufen und eine möglicherweise schlechte Internetverbindung entschied sich das Forschungsteam gegen die Option der digitalen Videobefragung. Alternativ wurden die Proband*innen per Telefon interviewt. Die ursprünglich geplanten Fokusgruppendiskussionen wurden verworfen, da ein Zusammentreffen der Proband*innen aus Gründen des Infektionsschutzes nicht möglich war. Nichtsdestotrotz haben wir durch das Telefoninterview wichtige Daten zur Nutzung digitaler Unterstützungssysteme in der Palliativversorgung erhalten, sodass wir das Forschungsprojekt erfolgreich abschließen konnten.

Diskussion Telefoninterviews haben gegenüber face-to-face Interviews verschiedene Limitationen. Erstens kann es durch den Mangel an Mimik und den Verlust der körperlichen Präsenz für die Proband*innen schwierig sein, eine vertrauensvolle Beziehung zu den Interviewer*innen aufzubauen. Zweitens fehlt am Telefon auch die Übermittlung der nonverbalen Kommunikation. Die Ausweitung der Erhebungsmethode auf Telefoninterviews gab uns jedoch die Möglichkeit, dass wir die Rekrutierung landesweit durchführen und so die vorher nur schleppend verlaufene Rekrutierung erfolgreich abschließen konnten.

Schlussfolgerungen Die Rekrutierung und Datenerhebung erwiesen sich als zeitaufwändiger als bei anderen Forschungsprojekten unter nicht-pandemischen Bedingungen, zudem waren einige Erhebungsmethoden wie Fokusgruppen kaum möglich. Ein qualitatives Forschungsdesign bietet jedoch eine hohe Flexibilität bei der Anpassung des Studiendesigns, so dass Studien mit den nötigen Anpassungen auch unter Pandemiebedingungen möglich waren.

Background

The Covid-19 pandemic affects all parts of society and leads to challenges at various levels of social life. Pandemic-related changes also prompt additional and specific challenges for health research. Particularly the healthcare sector is affected by massive transformations in everyday working life as well as additional burdens due to increased patient volume and lockdowns. Consequently, the healthcare sector is also changing as a research area, and this creates challenges for research designs and methods. These challenges apply specifically to studies following a qualitative study design because they often require interpersonal relationships in the sense of face-to-face interactions and field visits to ensure reliable and solid data collection [1, 2].

In this article, we argue that the main characteristic of qualitative research in form of interviews, such as flexibility and openness, offers considerable potential to be used and adapted under pan-

demic circumstances. We further illustrate – using the example of our study ADAPTIVE (Impact of Digital Technologies in Palliative Care) – how we incorporated the necessary adjustments under Covid-19 and argue for the importance of evaluating these adjustments during the research process and beyond.

In qualitative research focusing on health services, healthcare workers pose one of the main target groups. As a result of the pandemic, this target group suffered from further extended working hours, changed service models, associated expanded areas of responsibility, and fear for their patients' safety and their own [3]. These conditions make it significantly more challenging for them to participate in studies to the same extent as before [4]. Due to the close contact during, for example, face-to-face interviews, participating in a qualitative research project can bear a higher risk of infection [3, 5]. For this reason and because ongoing projects are usually limited in time and may not be extendable [2], we had to find alternative ways to successfully continue recruiting participants and ensure a safe and valid data collection.

So far, the challenges and difficulties faced by researchers in the process of qualitative research during the pandemic have often remained undisclosed, and modifications to research designs have seldom been discussed [2, 6]. To provide more information and transparency, this article reports the challenges and adaptations to the recruitment and interviewing process in our research project.

The project started in March 2020, shortly before the first pandemic wave hit Germany. The goal was to investigate changes in everyday practices associated with using a digital information system for exchange between multi-professional teams in the field of outpatient palliative care in Germany. The relevant stakeholders for the study were physicians and nurses in outpatient palliative care settings. The implications of using a digital information system in their work environment were to be investigated primarily in everyday practices, especially in their interaction with colleagues and patients.

The evaluated software Information System Palliative Care (ISPC) aims to allow the various stakeholders to access medical data collected in the network, thus shortening potential communication delays in multi-professional teams.

Methods

In order to illustrate the course of the ADAPTIVE study, the individual work packages are presented below. The results themselves are not discussed in this paper, but in further publications [7, 8], since this paper is focusing on the challenges of conducting interviews in the extraordinary situation of a pandemic, in this case Covid-19.

We divided our project into four work packages: 1. Literature research and planning, 2. Recruitment and field access, 3. Data collection and 4. Analysis/Evaluation. At the beginning of the project, the planned strategy was to recruit 25 participants in a local clinic who use the software ISPC, are of full age and willing to participate in two interviews. Accordingly, people who were underage or had no experience with a software like ISPC were excluded. We planned two points of data collection: T1 when participants first started using ISPC and T2 when participants were working with that software for a few months. We scheduled the first interview in the summer of 2020 with the goal of providing initial insight into the use of ISPC. A second interview with the same participants was supposed to follow four months later, to determine if there were changes in caregivers' daily work routine and the treatment and interaction with patients since the first interview.

Further, we planned a focus group in the summer of 2021, with all participants divided into three small groups, to add the group perspective to the individual perspective by stimulating a group discussion about the use of an information and communication tool. Due to infection occurrence, lockdowns, and increased workload in healthcare, the planning had to be heavily modified. For example, we had to expand our recruitment that was initially planned to take place in a specific clinic. Furthermore, during the third phase face-to-face interviews were no longer possible, so we had to find an alternative. The decision came down to a choice between video calls and telephone interviews.

The interdisciplinary research team reviewed and discussed all modifications in a recursive process. The guideline was only ever adapted in team consultation, all changes were documented and discussed with colleagues in the department's own research colloquium. Furthermore, a pilot interview was initially conducted with a medical colleague via Zoom, which is why this type of interview was also evaluated.

Results

The timeframes of projects are often tight, and the opportunities to extend the financing of a project are often limited. Moreover, a pandemic affects these timetables and can delay the recruitment and data collection phase. Therefore, we focus on the adaptations made to these two phases.

Phase I: Recruitment & Field Access

Establishing a trusting relationship with participants is vital in qualitative research. Qualitative researchers have developed elaborate strategies for successfully building a trusting relationship with their target groups [9]. One strategy is to visit participants before the actual interview as a door opener. During the pandemic, we could no longer apply many of these strategies due to hygiene measures. However, a participant's lack of trust can lead to insufficient "[…] sensitization for the perspective of the narrator and the conscious perception and classification of the interview as a communication and interaction process" [10].[1] Therefore, a trusting relationship is of utmost importance to ensure the quality of the collected data and the validity of qualitative studies. With the pandemic and necessary safety measures we had to apply a sensitive adjustment of the recruitment strategy.

At first, we planned to recruit 25 participants from a previously selected cooperating clinic, which had recently implemented ISPC for web-based exchange in networks, independently before ADAPTIVE started. Unfortunately, this strategy proved to be ineffective – after contacting potential participants in July 2020 via e-mail, only four interested candidates responded. Correspondence with further potential participants was also very time-consuming due to the long response times. Reasons for the delay in response that the contacted healthcare providers gave included sickness (own

[1] Translation by the authors.

and sickness of colleagues but unclear if because of Covid-19) and an increased workload due to Covid-19.

To overcome this obstacle and enhance the number of potential participants, we decided to broaden our target group beyond the clinic and established contact with a palliative care network in the same geographical area, which already used ISPC. By doing so, we gained eleven interested participants from outpatient care and private practices. By October, we decided to send a second reminder to each interested participant. As it was in the clinic, respondents reported an increased workload due to Covid-19 as the primary reason for their delayed communication and lack of feedback.

Since we had not met theoretical saturation with the participants interviewed from the clinic and the palliative care network, we decided to broaden our target group further and recruit participants via the software developer of ISPC. Utilizing a request for participation by them, about 4,000 users in Germany received an invitation with information about participation in the study. Twelve interested stakeholders responded, with whom we could schedule telephone interviews within three weeks. In addition, the twelve participants from the group of users also shared the project information with colleagues, enabling three further participants to be recruited and interviewed by telephone using purposive sampling. We contacted a total of 30 people with the support of three so-called "gatekeepers" who suggested possible participants in their clinical environment to us. Additionally, we asked all participants to share our request. Recruiting was rather extensive and by offering interviews via telephone, we created an option that is in line with the data protection regulations that prohibited web- and video interviews in some of the participating clinics. The telephone hereby served as a low-threshold medium that was available to everyone, did not have to be installed first and was not depending on an internet connection of good quality.

Due to this approach, we recruited different participants than we would have before Covid-19 (e. g., not only from regional clinics). New conditions in terms of accessibility of the preferred stakeholders and the willingness of the interviewees to participate changed the selected population. The change within the sample also impacts the results and needs to be reflected during the analysis. Transparency about and the disclosure of potential biases is crucial in the sense of the intersubjective comprehensibility of their results. For ADAPTIVE, this meant that nurses from hospices and palliative care teams responded more quickly and were more willing to be interviewed, whereas it was more challenging to reach physicians who accounted for only eight of 26 participants. In this sense, it was possible within the analysis framework to primarily address the changed working conditions of nurses, whereas new practices of physicians emerged less strongly in the analysis.

Phase II: Data Collection

A successful qualitative research project significantly depends on the motivation and willingness of potential interviewees to participate. Unfortunately, both are lower during the pandemic due to workload, insecurity, and stress than the times before Covid-19 [11, 12]. Nevertheless, our participants still stated a high level of interest in and cooperation with healthcare research projects. In the end, we conducted 26 interviews instead of the expected 25, even though the recruitment required two months more time than intended.

For ADAPTIVE, we designed a semi-structured guideline with a high narrative component for the interviews. To accommodate participants' significantly limited time resources, we shortened the duration of the interviews from approximately 90 to 60 minutes. The contents were thematically adapted so that we transferred topics from two originally planned interviews per participant into one guideline. In addition, we included questions with Covid-19 reference. Due to the Covid-19 restrictions, interviews had to be conducted in line with the current safety measures while also avoiding overstressing the respondent's time resources. Therefore, we streamlined the study design from the originally planned two interviews to only one interview per participant. Further, we initially planned to conduct the interviews at participants' workplaces – however, due to the pandemic, often interviewers were not allowed access to clinics any longer. To simplify the process of finding a suitable appointment for the participants and meeting all safety issues, we decided to offer participants a telephone instead of a face-to-face interview. In this way, we avoided personal contact, and both interviewer and participant stayed safe. We resorted to telephone interviews to interview all participants since video calls could be found to be challenging due to a lack of technical equipment, lack of personal experience in the use of e. g., Zoom or Skype, weak internet connections, dropouts due to participants' insecurities regarding being on camera, or data protection guidelines in clinics. Telephone interviews further proved to be more comfortable for participants, especially with their tight time resources.

Before the interview, we also offered participants an "off the record" call to develop trust with the interviewer and the study contents.

To ensure the interview appointments were made as smoothly and quickly as possible, we included slots for interviews and conducted them outside regular working hours. Most of the participants (n = 21) preferred a telephone interview, although, during some phases of the study, infection rates were low enough to conduct the interview face-to-face, e. g., at a participant's workplace. Similar to the study by Lum et al. [5], many participants were glad, in terms of time and safety, to have the option of a telephone interview to avoid an infection with Covid-19 as well as the infection of their patients. One of these participants postponed an interview for two weeks due to increased workload and rescheduled the initially planned telephone conversation to her usual workplace. An increased incidence of infections led her to again change the interview format to a telephone call. This example illustrates the necessary flexibility of researchers, which should also be considered structurally in the form of sufficient time and personnel resources in research projects during a pandemic.

Five participants requested a face-to-face interview, which we conducted at their workplaces. They considered telephone calls as a source of bias, because of the lack of non-verbal communication, or just preferred to talk to someone personally. Most of these interviews took place before the renewed increase in infection rates in October 2020 so that access to participants' workplaces was still possible. All interviews conducted in person took place in compliance with the distance and hygiene rules so that interviewer and participant took at least one and a half meters distance, and at least

the interviewer wore a face mask. Although we were concerned that wearing a face mask might affect recording quality, the recordings were still transcribed well.

We noticed that some participants were busy with other things during telephone interviews (clattering dishes, typing on keyboards, turning pages) and sometimes the mobile phone reception was rather poor for a few moments during some interviews. However, two participants explicitly insisted on a telephone interview in order to avoid contact as much as possible. During the personal interviews, one participant in particular was noticeable, who was strongly fixated on the voice recorder and thus seemed slightly inhibited.

Discussion

A recurrent criticism of qualitative research during a pandemic is that it places an additional burden on medical staff and disrupts workflows [3]. We argue that through a proper field approach and efficient communication (e. g., low-threshold access to the study by mail and phone and flexible and short-term appointment scheduling) with the respondents, these burdens can be minimized and justified from a research ethics point of view, to generate necessary scientific results even under pandemic conditions. Through the iterative sequence of different phases of the research process, the sampling procedure (purposeful case selection), and the continuous revision of the survey instruments qualitative researchers can flexibly adapt their studies to changing research conditions [2, 13, 14]. Thus, it is possible to respond more comprehensively than is the case in quantitative research, where once a random sample has been drawn, it can not be changed, and where researchers usually can not modify a research question during the quantitative research process [15]. In contrast, for qualitative research projects, it is more the rule rather than the exception to continuously adapt the theoretical sampling and quota plans [16], survey instruments, and research questions to new findings or changing conditions in the research field [17, 18]. Within ADAPTIVE, we found that qualitative research designs can be crisis-proof due to their flexibility. In contrast, the classic quality criteria of quantitative research – objectivity, reliability, and validity – are significantly related to adherence to a linear research process. The potential for adherence to the specific quality criteria of qualitative research – subject adequacy, empirical saturation, textual performance, and originality [19] – showed to be robust in the necessary adjustments to research designs since March 2020. The research team used only the method of qualitative telephone interviews to collect the data. To be able to provide a holistic and generalizable statement in this regard, further methodical approaches must be considered in more detail.

Usage of digital tools during Covid-19

As in many other areas of society, one of the most widespread coping strategies in the healthcare sector is the use of digital technologies both by healthcare professionals and healthcare researchers [20, 21]. Accordingly, there has also been a massive increase in "digital" data collection in health services research since spring 2020 [3, 5, 22, 23]. Field access strategies [24] had to be reconsidered and adapted, interviews and focus groups [25, 26] were conducted by video call or at least by telephone [2, 27–29]. By switching to purely digital or at least hybrid communication, research projects could be continued and completed. However, due to the virtual circumstances and common technical problems, additional context information is often lost, i. e., such as facial expressions and gestures of participants [27]. Also, often other contextual factors are lost (e. g. eye contact and the resulting nonverbal invitation to talk), which are crucial for qualitative research – their absence must be reflected upon in any case to deal with the new conditions methodically [6]. In ADAPTIVE this means that eye contact could not be made, so the interviewer could not navigate the conversation based on eye contact during the telephone interviews. Contextual factors, such as eye contact, can provide an indication of whether the participant is considering adding more to his/her answer or whether he or she is finished talking. It is possible that further content could have been lost as a result, but this is no longer comprehensible.

Further, it is essential to recognize that digital communication is neither comprehensive nor evenly distributed across society. For example, in Germany, small and medium-sized enterprises are significantly less digitized than large companies and younger, well-educated people still use digital technologies much more extensively and competently than older adults with lower education levels [30]. In this regard, the researcher should consider the following questions: Who is structurally excluded or included from the sample by (not) having access to digital technology? Which groups of people are more likely to shy away, and which groups have an affinity for a video interview?

In response to these questions, we offered telephone interviews because we were not sure if all participants were familiar with video call technologies and if data protection policies in participating clinics forbid them. With this approach, we tried to avoid other significant problems in digital data collection such as weak internet connections, unfamiliarity with the technology on parts of the participants, dropouts due to possible insecurities regarding them being on camera, and the exclusion of specific clinics through their data protection concepts which would have again significantly reduced the basis for recruitment.

Adjustments during the research process

Recruitment and scheduling of appointments proved to be consistently challenging due to the limited time capacities of potential participants. To make it easier for medical professionals to participate, we streamlined our study design down to only one interview per participant and no focus groups. We expanded our recruitment to a broader geographic field. This resulted in us being able to cover a wider range of participants. Experience with the software ranged from just a few months to over 10 years, allowing us to cover different stages of the usage experience. Since the implementation of the software took place up to 10 years ago, a second interview would not necessarily be meaningful in these cases. The second interviews were intended to collect experiences with the implementation as it progressed. We did not find this situation with any of the participants. Therefore, the waiver of the second interview was justifiable and was accompanied by no potential loss of data.

We also adapted the interview guidelines to save time. It might not always be feasible for all projects to dismiss work packages such

as focus groups because, e. g., the funding partner may not agree to do so. For ADAPTIVE, disadvantages of telephone data collection were offset by advantages in case selection: while there is a loss of nonverbal communication, respondents could be interviewed nationwide, thus facilitating the recruitment of a sufficient number of participants in our project. Further, participants always have their phones with them, so it was time-saving and convenient to be interviewed this way, instead of having to sit down at a computer for a video call. While video calls are also possible on smartphones, they often were not allowed in clinics due to concerns regarding data protection.

Nevertheless, Vindrola-Padros and colleagues [3] pose a crucial question about research in pandemic times: is it necessary and ethically justifiable to conduct research in pandemic times when caregivers are already under enormous pressure? The additional time and cognitive burden on healthcare staff must be ethically weighed against the benefits of the research results. Fortunately, 26 participants agreed to participate in a one-hour interview despite working extra hours, an increased workload in their daily work, and great professional and personal pressure. Their participation shows how valuable and necessary participants thought data collection during this time was and how useful they thought the data gathered would be. By expanding the data collection to cover participants' insights on their situation during the pandemic without necessarily prolonging the interviews, participants also had the opportunity to discuss their worries and illustrate their hardships of the last months. Participants appreciated this option, and it generated more valuable data on handling the pandemic; in this context, it was also possible to investigate the importance of digitization in medical settings. The trend towards digitization in the medical field seemed to accelerate as a result of Covid-19 [31]. The results of the study expected to convey the importance of the resulting networking with all providers involved in palliative care to the participants. In the context of these considerations, we decided to continue the study, to expand the interview guideline to include the experiences during the Covid-19 lockdown and the accompanying digitization measures, and to incorporate the resulting findings into the initial research question.

Challenges

Literature shows that like many analyses of the effects of new technologies in healthcare, exploratory research projects rely on collecting data in the field to gain a first impression of it [32]. Further, studies have shown that for analyzing the use of new technologies, such field visits (in the sense of ethnographic go-along or think-alouds) can help sharpen the researchers' focus of analysis [33]. Also, in qualitative interview studies, there is usually the possibility of being shown the technologies under investigation by the users on-site or observing them in actual use. This possibility represents a critical (data) triangulation [34] in interview studies, which is not available in purely linguistic interview transcripts. This possibility decreases during a pandemic due to safety restrictions and therefore poses challenges for qualitative research focusing on health services and digitalization.

Another challenge was how to collect data while ensuring safety for participants and interviewers but also ensuring high quality of the data. Within ADAPTIVE, we tried to combine masked face-to-face interviews with telephone interviews. However, as illustrated above, qualitative research is based on trust between interviewer and participant. An initial fear was that telephone interviews or wearing a face mask would result in a lack of legibility of nonverbal communication, resulting in difficulties in establishing a trusting relationship with the interviewer. Without a trust-based relationship, interviewees might not be as open and vulnerable with interviewers as they would be with a person they trust. The original research questions within ADAPTIVE (What ethical and qualitative effects does the implementation of a digital information system have on the outpatient palliative care?) only included participants' professional experience with digital technology and did not result in any particularly sensitive content. However, this may be a challenge to consider in studies with particularly sensitive interview content and research questions, and vulnerable target groups [35]. We also feared unclear articulation due to wearing a face mask would result in unclear transcriptions of the interviews. This possibility should be considered for more detailed transcriptions, i. e., data preparation for hermeneutic evaluation (e. g., sequence analysis). For interviews conducted in ADAPTIVE, a verbatim transcription was sufficient, and all interviews, could be transcribed well.

Considerations about the influence of the different methods on the results could not be confirmed. We could not find any difference between the data of the participants we interviewed in person and those who were interviewed by telephone. Many research projects under pandemic conditions lasted longer due to the workload of the target group and the contact restrictions [2, 3]. It would be significant for the future quality of research under pandemic conditions that third-party funders recognize such exceptional situations, are open to changes, and seek solutions together with the research team such as extending the duration, adapting the study design, and so forth, so that high-quality research can take place despite the circumstances.

A certain depth of data may have been lost since we conducted the interviews by telephone. Unfortunately, we do not have comparative data on this since no sensitive content was collected in ADAPTIVE due to the research question and the focus was therefore not on non-verbal signals. But as described in the literature, there is some impact of adjusting the survey method and the data depth might have suffered. In addition, there was the impact of the pandemic.

Conclusion

Within ADAPTIVE, we draw the following conclusions concerning qualitative research under pandemic conditions. Firstly, collecting robust qualitative data during a pandemic is very important. Our participants also acknowledged this importance, and they voluntarily participated, although they were dealing with minimal time resources caused by an increased workload. Secondly, without the flexibility of the qualitative study design, we would not have been able to adapt our study design to collect robust data under pandemic conditions. Expedient adaptations that we made included: (a) broadening the recruitment strategy (Germany-wide instead of regional) and using various approaches such as gatekeepers, flyers, and newsletters, (b) streamlining the study design with only one instead of two interviews per participant and no focus groups,

(c) switching from face-to-face interviews to telephone interviews, (d) adding an option for participants to also talk about their hardships during the pandemic.

Thirdly, as for the discussion whether telephone interviews or video calls would be the better option, telephone interviews were preferred over video calls because (a) with already minimal time resources, participants found them more comfortable and time-saving, (b) insecurities with the use of e. g. Zoom or Skype as well as on being on camera were eliminated, (c) issues due to weak internet connections and (d) conflicts with clinics' data protection policies were avoided.

Lastly, we think it is essential that all adaptations, their implications, and their effects on the collected data are being discussed and reflected upon thoroughly within the research team and are fully disclosed in publications.

Consent for publication

All participants consented to the publication of content-related statements, provided that their data were pseudonymized. All quotes listed here were pseudonymized so that only the research team can attribute them to a specific person.

Ethics approval and consent to participate

The Ethics Committee of the Medical Faculty of the Ruhr University Bochum approved this study (20-6948). All methods were performed in accordance with the relevant guidelines and regulations of this Ethics Committee. All participants attended voluntarily and agreed to the publication of the results. All participants provided both verbal and written informed consent to participate in the study and to process the interviews. The study was conducted in accordance with the criteria of the Helsinki Declaration.

Availability of data and materials

The data generated and/or analysed during the current study are available from the corresponding author on reasonable request.

Trial registration

https://www.drks.de/drks_web/navigate.do?navigationId=trial.HTML&TRIAL_ID=DRKS00021603 (Registration: 02. July 2020)

Authors' contributions

Study design and lead: IO; Recruitment and interview conduction: AS; Data analysis: AS, CG; Data interpretation: AS, CG, IO; Manuscript writing: AS, CG, HCV, IO, JH; Manuscript reviewing: AS, CG, HCV, IO, JH. The corresponding author attests that all authors have read and approved the final manuscript. The corresponding author attests that all authors meet the ICMJE authorship criteria.

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Conflict of Interest

The authors declare that they have no conflict of interest.

References

[1] Strauss AL. Qualitative Analysis for Social Scientists. Cambridge: University Press 2010

[2] Schnack H, Lubasch JS, Zinkevich A et al. Versorgungsforschung in Deutschland in Zeiten von COVID-19: Wie beeinflusst die Pandemie Forschungsprozesse, Methoden und die persönliche Situation von Forschenden? Eine Online-Befragung. Gesundheitswesen 2023; 85: 495–504. DOI: 10.1055/a-2055-0904

[3] Vindrola-Padros C, Chisnall G, Cooper S et al. Carrying Out Rapid Qualitative Research During a Pandemic: Emerging Lessons From COVID-19. Qual Health Res 2020; 30: 2192–2204. DOI: 10.1177/1049732320951526

[4] Begerow A, Michaelis U, Gaidys U. Wahrnehmungen von Pflegenden im Bereich der Intensivpflege während der COVID-19-Pandemie. Pflege 2020; 33: 229–236. DOI: 10.1024/1012-5302/a000744

[5] Lum HD, Padala KP, Dean KT et al. Psychogeriatric research during COVID-19 pandemic: qualitative analysis of participant views. Int Psychogeriatr 2020; 32: 1357–1360. DOI: 10.1017/S1041610220001179

[6] Reichertz J. Die coronabedingte Krise der qualitativen Sozialforschung. Soziologie 2021; 50: 313–335

[7] Giehl C, Suslow A, Hergesell J et al. Digital information systems in outpatient palliative care and their effect on caregivers' latitude and quality of care – A qualitative study. Nursing and Palliative Care 2023. DOI: 10.15761/NPC.1000223 (In press)

[8] Suslow A, Giehl C, Hergesell J et al. Impact of information and communication software on multiprofessional team collaboration in outpatient palliative care – a qualitative study on providers' perspectives. BMC Palliat Care 2023; 22: 19. DOI: 10.1186/s12904-023-01141-4

[9] Kvale S. InterViews: An Introduction to Qualitative Research Interviewing. SAGE Publications Inc; 1996

[10] Helfferich C. Die Qualität Qualitativer Daten. Manual für die Durchführung qualitativer Interviews. Wiesbaden: VS Verlag; 2011

[11] Mirza M, Siebert S, Pratt A et al. Impact of the COVID-19 pandemic on recruitment to clinical research studies in rheumatology. Musculoskeletal Care 2021; 1–5. DOI: 10.1002/msc.1561

[12] Rose S, Hartnett J, Pillai S. Healthcare worker's emotions, perceived stressors and coping mechanisms during the COVID-19 pandemic. PLoS One 2021; 16: e0254252. DOI: 10.1371/journal.pone.0254252

[13] Creswell JW, Poth CN. Qualitative Inquiry and Research Design. Choosing Among Five Approaches. 4. Aufl. London: SAGE Publications Inc; 2017

[14] Tremblay S, Castiglione S, Audet L-A et al. Conducting Qualitative Research to Respond to COVID-19 Challenges: Reflections for the Present and Beyond. International Journal of Qualitative Methods 2021; 20: 160940692110096. DOI: 10.1177/16094069211009679

[15] Behnke J, Baur N, Behnke N. Empirische Methoden der Politikwissenschaft. 2. Aufl. Paderborn: Schöningh; 2010

[16] Strauss AL, Corbin JM. Basics of qualitative research. Grounded theory procedures and techniques. Thousand Oaks: SAGE Publications Inc; 1990

[17] Marshall MN. Sampling for qualitative research. Fam Pract 1996; 13: 522–525. DOI: 10.1093/fampra/13.6.522

[18] Akremi L. Stichprobenziehung in der qualitativen Sozialforschung. In: Baur N, Blasius J, Hrsg. Handbuch Methoden der empirischen Sozialforschung. Wiesbaden: Springer Fachmedien Wiesbaden; 2014: 265–282

[19] Strübing J, Hirschauer S, Ayaß R et al. Gütekriterien qualitativer Sozialforschung. Ein Diskussionsanstoß. Zeitschrift für Soziologie 2018; 47: 83–100. DOI: 10.1515/zfsoz-2018-1006

[20] Vollmar HC, Kramer U, Müller H et al. Digitale Gesundheitsanwendungen – Rahmenbedingungen zur Nutzung in Versorgung, Strukturentwicklung und Wissenschaft – Positionspapier der AG Digital Health des DNVF. Gesundheitswesen 2017; 79: 1080–1092. DOI: 10.1055/s-0043-122233

[21] Kramer U, Borges U, Fischer F et al. DNVF-Memorandum – Gesundheits- und Medizin-Apps (GuMAs). Gesundheitswesen 2019; 81: 850–854. DOI: 10.1055/a-1038-9173

[22] Padala PR, Jendro AM, Gauss CH et al. Participant and Caregiver Perspectives on Clinical Research During Covid-19 Pandemic. J Am Geriatr Soc 2020; 68: E14–E18. DOI: 10.1111/jgs.16500

[23] Teti M, Schatz E, Liebenberg L. Methods in the Time of COVID-19: The Vital Role of Qualitative Inquiries. International Journal of Qualitative Methods 2020; 19: 160940692092096. DOI: 10.1177/1609406920920962

[24] Bengry A. Accessing the Research Field. In: Flick U, Hrsg. The SAGE Handbook of Qualitative Data Collection. SAGE Publications Inc; 2018: 99–117

[25] Morgan DL, Hoffman K. Focus Groups. In: Flick U, Hrsg. The SAGE Handbook of Qualitative Data Collection. SAGE Publications Inc; 2018

[26] Roulston K, Choi M. Qualitative Interviews. In: Flick U, Hrsg. The SAGE Handbook of Qualitative Data Collection. SAGE Publications Inc; 2018: 233–249

[27] Habermann-Horstmeier L. Die Situation von Menschen mit geistiger Behinderung in Zeiten der COVID-19- Pandemie aus Sicht der Betroffenen, ihrer Angehörigen und Betreuungskräfte. Ergebnisse einer qualitativen Public-Health-Studie 2020

[28] Krämer K, Pfizenmayer A. Interne Kommunikation in Zeiten von Covid-19. wie die Pandemie die interne Kommunikation verändert hat – eine qualitative Studie. Working Paper in Applied Linguisticts. Winterthur: ZHAW Zürcher Hochschule für Angewandte Wissenschaften 2020. DOI: 10.21256/ZHAW-2393

[29] Dehl T, Sauerbrey U, Dreier-Wolfgramm A et al. Intersectoral care management for older people with cognitive impairment during and after hospital stays intersec-CM: study protocol for a process evaluation within a randomised controlled trial. Trials 2021; 22: 72. DOI: 10.1186/s13063-021-05021-1

[30] Lichtblau K, Fritsch M, Millack A. Abschnitt A – Digitalisierung von Wirtschaft und Gesellschaft in Deutschland. In: Digital-Atlas Deutschland. Überblick über die Digitalisierung von Wirtschaft und Gesellschaft sowie von KMU, NGOs, Bildungseinrichtungen sowie der Zukunft der Arbeit in Deutschland 2018; 9–90

[31] Golinelli D, Boetto E, Carullo G et al. Adoption of Digital Technologies in Health Care During the COVID-19 Pandemic: Systematic Review of Early Scientific Literature. J Med Internet Res 2020; 22: e22280. DOI: 10.2196/22280

[32] Star SL, Strauss A. Layers of Silence, Arenas of Voice: The Ecology of Visible and Invisible Work. Computer Supported Cooperative Work (CSCW) 1999; 8: 9–30. DOI: 10.1023/A:1008651105359

[33] Hergesell J. Technische Assistenzen in der Altenpflege. Eine historisch-soziologische Analyse zu den Ursachen und Folgen von Pflegeinnovationen. Weinheim/Basel: Juventa; 2018

[34] Flick U. Triangulation in Data Collection. In: Flick U, Hrsg. The SAGE Handbook of Qualitative Data Collection. SAGE Publications Inc; 2018: 527–544

[35] Marhefka S, Lockhart E, Turner D. Achieve Research Continuity During Social Distancing by Rapidly Implementing Individual and Group Videoconferencing with Participants: Key Considerations, Best Practices, and Protocols. AIDS Behav 2020; 24: 1983–1989. DOI: 10.1007/s10461-020-02837-x