


RESEARCH NOTE

Open Access



Synchronous online focus groups in health research: application and further development of methodology based on experiences from two mixed-methods research projects

Jonas Lander^{1*} , Hala Altawil¹, Elise-Marie Dilger², Anna Levke Bruett², Lara Marleen Fricke¹, Dyon Hoekstra³, Cosima John¹, Christian Krauth¹, Kathrin Krüger¹, Kristina Schaubert¹, Julia von Sommogy⁴, Annett Thiele³ and Marie-Luise Dierks¹

Abstract

Objectives Focus groups used for data collection in health research are increasingly conducted online. In two multi-center health research projects, we applied available methodological instructions for synchronous online focus groups (SOFGs). We describe necessary changes and specifications regarding the planning (recruitment, technology, ethics, appointments) and conduct (group composition, moderation, interaction, didactics) to enhance knowledge about the planning and conduct of SOFGs.

Results Recruiting online proved to be challenging and necessitated direct and analogue recruiting, too. To ensure participation, less digital and more individual formats may be offered, e.g. telephone calls. Explaining verbally the specifics of data protection and anonymity in an online setting can foster participants' confidence to actively engage in the discussion. Two moderators, one moderating, one supporting technically, are advisable in SOFGs, however, due to limited nonverbal communication, roles and tasks need to be defined beforehand. Participant interaction is central to focus groups in general, but sometimes difficult to achieve online. Hence, smaller group size, sharing of personal information and moderators increased attention to individual reactions appeared helpful. Lastly, digital tools such as surveys and breakout rooms should be used with caution, as they easily inhibit interaction.

Keywords Online focus groups, Digital focus groups, Synchronous online focus groups, Focus group methods; health research

*Correspondence:

Jonas Lander
lander.jonas@mh-hannover.de

¹Institute of Epidemiology, Social Medicine and Health Systems Research, Hannover Medical School, Hannover, Germany

²Department for Health Services Research, University of Oldenburg, Oldenburg, Germany

³Institute for Special and Rehabilitation Education, University of Oldenburg, Oldenburg, Germany

⁴Institute for Epidemiology and Preventive Medicine, University of Regensburg, Regensburg, Germany



© The Author(s) 2023. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated in a credit line to the data.

Introduction

Digital tools to plan and conduct research may offer many advantages, not only in times of the COVID-19 pandemic [1]. In qualitative health research, focus groups (FGs) are an established methodology, not least as the interplay among participants can result in a more comprehensive understanding than simply gathering individual statements [2–4]. Several publications report on the application of online focus groups (OFGs) in health research [5–9], and there is emerging evidence about applied OFG methods [10]. One main difference between these studies is the format used, which is either textual (e.g. chats on closed social media platforms) or audiovisual (e.g. Zoom meetings), and asynchronous (e.g. an online message board) or synchronous (e.g. a live meeting). Recent studies state that asynchronous text-based OFGs have been to date the most-used format [2, 11], because of the ease of participation. Synchronous audiovisual OFGs (SOFGs), which are the focus of this work, resemble the original in-person format more closely, but are also more challenging [12, 13]. We expect many researchers to be interested in the benefits of SOFGs, particularly in terms of organization, time, economic resources, and overcoming physical distance, even post-pandemic. However, only a few academic contributions address the overarching issues of planning and conducting SOFGs. Further, although methodological instructions exist (e.g., [2, 13, 14]), there is little empirical evidence on whether these are applied, and if so, to what extent they are appropriate for SOFGs in health research. Hence, based on our own experience, we aim to describe how far existing instructions are suited to the planning and conduct of SOFGs, and to suggest modifications where necessary.

Main text

Methods

From October 2020 to September 2021, we conducted a total of $n=37$ SOFGs across two health research projects. One was related to the health information behavior of parents of infants (project A [15]), the other to the experiences and needs of people with multiple sclerosis and health professionals in the healthcare system (project B [16]) – the contents are presented in additional file 1. We enrolled a total number of $n=125$ participants across both SOFG projects (respectively $n=77$ and $n=48$). As the initial plan was to conduct FGs in person at each project site, we devoted particular attention and effort to the conversion to SOFG format. During technical planning, we selected a suitable video-conferencing platform (that offered e.g., private chat, hand raising, document sharing, and a virtual whiteboard), agreed data protection aspects with a data safety expert, modified the initial informed consent form, and developed tutorials (project A=video- and text-based, project B=text-based).

To ensure smooth running, we conducted pre-tests and offered pre-meetings to explain the platform and clarify any questions on the use. Based on the results of the pre-test and the available methodological instructions, we made various adjustments to the traditional FG format, outlined in more detail below.

Results

The following sections describe the main steps in our planning (recruitment, ethics, technology, appointments) and conduct (duration, moderation, interaction, didactics) of the SOFGs. In each, we briefly summarise recommendations from available SOFG instructions, and explain how we implemented them, with any modifications we found useful. Table 1 provides an overview of which topics are already covered by existing methodological instructions and indicates in how far we had to adapt respective instructions and suggestions.

Recruitment

Methodological instructions suggest that, because of the sheer number of options and channels for recruitment, recruiting participants online offers the ability to reach broader and more diverse populations [13, 17, 18]. However, during our own recruitment efforts (using e.g. Facebook, Instagram, self-help organisations), we found contacting hard-to-reach groups particularly difficult: invitations to participate in the study were easily overlooked or disregarded by people without a specific interest in health research. It was therefore necessary (and effective) to add recruitment channels that allow more direct contact with and more detailed explanation to potential study participants, e.g. via patient representation associations or social workers in childcare institutions who could approach potential study participants in person.

Ethics

The available literature points out that ethical aspects of OFGs are not fundamentally different from those of in-person FGs [19]. Nevertheless, aspects need to be specified in the consent forms according to the format, e.g. the meaning of anonymity or pseudonymity in an online audiovisual session [13, 19, 20]. In our studies, we received hardly any prior questions or feedback from participants regarding these matters, and were therefore uncertain about whether participants deem these issues relevant in an online environment. Hence, and because of the potentially sensitive subjects of discussion, and other issues such as other family members being recorded if they are in the same room, it seems vital to address at least the most important issues verbally at the start of a meeting, or even during pre-meeting contacts with participants. This explicit attention may also help

Table 1 Summary of SOFG challenges, recommendations, and adjustments

| Topic | Specific challenge | Recommendations in literature? | Recommendation changed or made more detailed? | Recommendation applied? |
|-------|--|---|--|-------------------------|
| 1 | Recruiting How to reach people who cannot or do not want to participate online? | Partly - Embrace diverse options of online recruitment [18] | Yes - direct, analogue recruitment (particularly for hard-to-reach-groups) | Partly |
| 2 | Ethics How to ensure participants do not worry about anonymity, privacy, confidentiality? | Yes - Adjust, specify informed consent document [2] | Yes - outline privacy aspects verbally at the beginning of a SOFG | Yes |
| 3 | Technology How to handle participants who are less technically literate or not used to an online conversation? How to ensure technical functioning? | Yes - pre-test [21] - extra time [2] - technical assistant [21] - chat [18] | Yes - offer analogue (non-digital) conversation alternative | Partly |
| 4 | Appointments and time Which time slots suit participants best and how can "no-shows" be avoided? | Yes - online scheduling [18] - offer several timeslots [18] - over-recruit [12] - reminders [21] | Yes - prior in-person conversation to agree on appointment, or - invite more participants than needed to one SOFG appointment (over-invite) | Partly |
| 5 | Duration How long should a SOFG last? | Partly - Communicate it clearly [21] | Yes - 60–75 min limit, longer meetings are possible but require participants' agreement | Yes |
| 6 | Moderation How can moderators communicate among each other? | Yes - Basic participation rules [13] | Partly - assign moderation parts and topics in advance - subdivide moderation roles (e.g. technical moderator; answering of questions) - use of a separate chat | Partly |
| 7 | Interaction How to enable effective interaction online? | Yes - Introduce exercise [2] - Devise subgroups [13] - introduce interaction [20] - Digital tools [2] | Yes - consider group composition and participant characteristics as central elements for interaction - maintain interaction throughout moderation | Partly |
| 8 | Didactic methods Which methods work well in a SOFG setting? | No | - avoidance of unfamiliar digital tools - use of (only) self-evident tools - focus on participant discussion/interaction instead of introduction of additional methods | Partly |

participants to feel confident about openly contributing to the group discussion.

Technology

The main concern regarding technology in SOFGs is that participants who are unable to participate in research conducted online will be excluded from the respective research projects or that unexpected technical difficulties arise during participation, resulting either in sampling limitations or missing out on important participant contributions, respectively. The available literature identifies various ways to overcome technical difficulties, notably the use of prior instructions and/or testing, allowing extra time at the beginning of a SOFG to ‘technically set up’ each participant, and the provision of a technical assistant for questions during the meeting [2, 18, 21]. It proved helpful to not only rely on digital methods, but to apply e.g. individual telephone interviews, too, as this was effective to persuade those to participate who – specifically – lacked the technical means or felt unprepared for online participation.

Appointments

In an online research setting, the ‘threshold’ for not showing up or cancelling a meeting spontaneously seems lower – for a variety of individual reasons which were not enquired in more detail during our own research. Therefore, it is vital to think about how to avoid ‘no-shows’ and last-minute cancellations. While these can never be completely avoided, it has proven helpful not only to send reminders [21] but also to ask participants for a short confirmation by email and/or participation in a technical pre-test, which may increase the sense of commitment when a personal meeting has taken place a priori. A strategy we applied to achieve a good SOFG group size was to invite $n=7$ participants to a specific appointment, for which in almost all cases only $n=3-5$ participants will confirm. Any ‘missed’ participants can then be re-invited for upcoming appointments (project A). A different way of filling the sample was to contact each individual who expressed particular interest personally and agree on one specific appointment (project A and B).

Duration

During our own pre-testing, we found that in an online environment a ‘traditional’ two-hour meeting – as is common for in-person FGs – may be too long. Apart from advice to clearly communicate the length [21], there are few concrete suggestions as to the ideal length of an SOFG. We found that 60–75 min seems attractive, particularly for busy people such as parents of infants, or when the topic of discussion is more abstract. Longer meetings (e.g., 90 min) may be considered when participants are personally concerned with the topic, hence

motivated to discuss in more detail, e.g., healthcare system barriers for chronically ill people (here: multiple sclerosis patients), but then require breaks from participating in a (comparatively more) physically and mentally demanding online setting, particularly for those with current health problems.

Moderation

The available literature often emphasizes the role of moderators in guiding and leading the discussion [2]. Another challenge we experienced was communication among moderators of a jointly-moderated SOFG (e.g., main and technical moderator), as they are just as hampered as the participants by the lack of direct contact and visual cues, resulting in difficulties in spontaneous and immediate coordination. In addition to suggestions such as the introduction of basic group rules or strategies to handle off-topic or overly active contributors [13], we recommend that each discussion theme – or, alternatively, each moderation task – be assigned to a single moderator, and to communicate this to participants during introduction: e.g., moderator A introduces main themes, moderator B handles follow-up questions. Using a private (moderator) chat proved helpful, too. While small(er) groups could also be led by only one moderator, the important task of achieving and maintaining interaction in an online setting (see below) can be better achieved by having two moderators. This helps to uphold and enhance lively discussion, which tends to easily stagnate online.

Interaction

Participant interaction is critical for successful FGs, but in SOFGs it is often limited, due to factors such as missing nonverbal communication or the lack of quick annotations and side talks [12]. Previous research often discusses aspects such as group size, group composition and moderation independently, but they should be considered together for their impact on interaction. Therefore, we propose: Firstly, ensure group participants share at least one specific characteristic (e.g., disease status, cultural background) to facilitate the feeling of togetherness within the group despite physical distance. Secondly, pay special attention to a small group size (e.g. $n=4-6$, depending on aim and composition of SOFG), as interaction with each other becomes more difficult online with each additional member; and finally, moderators should actively solicit participants’ response to what is being said, to keep the discussion going.

Methods (didactics)

There are many didactic methods, from both traditional in-person FGs, e.g. participants brainstorm ideas with their seat neighbor, or from available OFG instructions, e.g., the use of digital collaboration tools. However, we

found that, especially as SOFGs are still new to most participants, additional methods should be introduced with caution. First, they require additional time, making it harder to keep SOFGs brief (see above). Second, they easily distract from efforts to increase interaction, as participants need time to understand what they are supposed to do. Thirdly, even supposedly “easy” tasks like using a weblink can create technical difficulties, e.g. for mobile device users who need to switch among applications. Therefore, we suggest introducing only self-evident methods, e.g., reading a short case scenario in the chat.

Discussion

Since SOFGs are quite similar to in-person FGs, one may assume that the transition to an online format will be fairly smooth: e.g. the intended participants remain the same, hence changes to the recruitment or conduct would not be required. We found on the contrary that various aspects from recruitment to didactic methods require adjustment. Recently published OFGs [22–24] contain little to no description of how the online format was developed or adapted. A related important aspect is the availability and use of methodological instructions. First, during our own planning we noticed that potentially very helpful methodological instructions such as [2, 13, 21] are rather difficult to find in both academic and non-academic search engines and databases. Obvious search phrases like “online focus group guideline” failed to give satisfying results. To identify these sources, we had to expand the scope of the search, e.g. manually search the reference lists of previously-found articles. Second, while these sources are clearly helpful, especially in identifying the most relevant themes for planning, such as technology, group composition, moderation, etc., we found that applying suggestions was often only partially feasible, either because important specifications such as the number of participants, coordination among moderators, or practical ways to increase interaction are missing or contradictory, or because one’s individual study objectives and context require different approaches. Those who want to conduct a SOFG will benefit most from a step-by-step checklist that offers definite suggestions for each planning step; e.g. how to approach hard-to-reach individuals or measures that strengthen group interaction.

Limitations

The SOFGs were conducted during the pandemic, thus the willingness to participate in a study that was conducted online might have increased. Further investigation with differently vulnerable groups and for other research topics and questions is needed, also to enable generalization regarding (a) post pandemic times and (b) experiences for other topics and study populations.

List of abbreviations

| | |
|------|--------------------------------|
| FG | Focus group |
| OFG | Online focus group |
| SOFG | Synchronous online focus group |

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s13104-023-06288-0>.

Supplementary Material 1

Acknowledgements

We are grateful for the language editing support provided by Roy Reuben Thomas. For project A, we thank the members of the steering committee of the interdisciplinary HELICAP research group (Christian Apfelfbacher, Eva Maria Bitzer, Janina Curbach, Susanne Brandstetter, Marie-Luise Dierks, Markus Antonius Wirtz).

Author contributions

JL and MLD designed and implemented the study; JL wrote the first draft, LF, EMD, KK, DH and JvS provided a substantial contribution through drafting the manuscript. All authors were involved in the revision of the manuscript. All authors agreed to be personally accountable to the accuracy and integrity of the research. All authors read and approved the final manuscript.

Funding

Funding for this research was provided by a grant from German Research Foundation (DFG FOR2959, project number: 409800133; GZ: DI-1757/2-1) and a grant from the German Federal Joint Committee’s Innovation Fund (01VSF19046). The funder had no role in the design of the study, data collection, data analysis, or interpretation of the results. Open Access funding enabled and organized by Projekt DEAL. Open Access funding enabled and organized by Projekt DEAL.

Data availability

The qualitative interview data underlying the initial studies reported here can be accessed upon request from the first author. The literature underlying the argumentation of this article is freely accessible (see reference list).

Declarations

Ethics approval and consent to participate

Ethical approval for the initial studies underlying this work was provided by the Ethics Commission of Hannover Medical School (ID 9173_BO_K_2020 and ID 8161_BO_K_2018) and by the University of Oldenburg (ID 2020–108). For the initial focus group studies, both projects reported here obtained participants’ informed consent in written.

Competing interests

The authors declare that they have no competing interests.

Consent for publication

Not applicable.

Additional file 1

Focus group guidelines (.docx)

Received: 28 April 2022 / Accepted: 7 February 2023

Published online: 20 February 2023

References

1. Lobe B, Morgan D, Hoffman KA. Qualitative data Collection in an era of Social Distancing. *Int J Qualitative Methods*. 2020;19:160940692093787. <https://doi.org/10.1177/1609406920937875>.

2. Fielding N, Lee RM, Blank G, editors. The SAGE handbook of online research methods. Los Angeles. London, New Delhi, Singapore, Washington DC, Melbourne: SAGE Reference; 2017.
3. Morgan DL. Basic and advanced focus groups. Los Angeles. London, New Delhi, Singapur, Washington DC, Melbourne: SAGE; 2019.
4. Tausch AP, Menold N. Methodische Aspekte der Durchführung von Fokusgruppen in der Gesundheitsforschung: welche Anforderungen ergeben sich aufgrund der besonderen Zielgruppen und Fragestellungen? Köln; 2015.
5. Harmen IA, Mollema L, Ruiter RAC, Paulussen TGW, de Melker HE, Kok G. Why parents refuse childhood vaccination: a qualitative study using online focus groups. *BMC Public Health*. 2013;13:1183. <https://doi.org/10.1186/1471-2458-13-1183>.
6. Veld HInH, Verkaik JG, van Meijel R, Verkade B, Werkman P-J, Hertogh W, Francke CMPM. Self-management support and eHealth when managing changes in Behavior and Mood of a relative with dementia: an Asynchronous Online Focus Group Study of Family Caregivers' needs. *Res Gerontol Nurs*. 2018;11:151–9. <https://doi.org/10.3928/19404921-20180216-01>.
7. Lai AY-K, Sit SM-M, Lam SK-K, Choi AC-M, Yiu DY-S, Lai TT-K, et al. A phenomenological study on the positive and negative experiences of Chinese International University Students from Hong Kong studying in the U.K. and U.S. in the early stage of the COVID-19 pandemic. *Front Psychiatry*. 2021;12:738474. <https://doi.org/10.3389/fpsy.2021.738474>.
8. Gabes M, Kann G, von Sommoggy J, Stute P, Apfelbacher CJ. 'as long as I have a restroom somewhere ... I am fine': a qualitative study on the perspectives of peri- and postmenopausal women on the impact of the urinary component of the genitourinary syndrome of menopause (GSM). *BMC Womens Health*. 2021;21:391. <https://doi.org/10.1186/s12905-021-01523-x>.
9. Dangerfield li DT, Wylie C, Anderson JN. Conducting virtual, synchronous focus groups among black sexual minority men: qualitative study. *JMIR Public Health Surveill*. 2021;7:e22980. <https://doi.org/10.2196/22980>.
10. Tran B, Rafinejad-Farahani B, Moodie S, O'Hagan R, Glista D. A scoping review of virtual Focus Group Methods used in Rehabilitation Sciences. *Int J Qualitative Methods*. 2021;20:160940692110422. <https://doi.org/10.1177/16094069211042227>.
11. Tuttas CA. Lessons learned using Web conference technology for online focus group interviews. *Qual Health Res*. 2015;25:122–33. <https://doi.org/10.1177/1049732314549602>.
12. Hinkes C. Key aspects to consider when conducting synchronous text-based online focus groups – a research note. *Int J Soc Res Methodol*. 2021;24:753–9. <https://doi.org/10.1080/13645579.2020.1801277>.
13. Lobe B. Best Practices for Synchronous Online Focus Groups. In: Barbour RS, Morgan DL, editors. A new era in Focus Group Research. London: Palgrave Macmillan UK; 2017. pp. 227–50. https://doi.org/10.1057/978-1-137-58614-8_11.
14. Hesse-Biber SN. Handbook of Emergent Technologies in Social Research. s.l.: Oxford University Press USA; 2011.
15. Lander J, Curbach J, von Sommoggy J, Bitzer EM, Dierks M-L, Awareness. Information-seeking behavior, and information preferences about early Childhood Allergy Prevention among different parent groups: protocol for a mixed methods study. *JMIR Res Protoc*. 2021;10:e25474. <https://doi.org/10.2196/25474>.
16. Krüger K, Fricke LM, Dilger E-M, Thiele A, Schaubert K, Hoekstra D, et al. How is and how should healthcare for people with multiple sclerosis in Germany be designed?—The rationale and protocol for the mixed-methods study multiple sclerosis-patient-oriented care in Lower Saxony (MS-PoV). *PLoS ONE*. 2021;16:e0259855. <https://doi.org/10.1371/journal.pone.0259855>.
17. Boydell N, Fergie G, McDaid L, Hilton S. Avoiding Pitfalls and Realising Opportunities: reflecting on issues of Sampling and Recruitment for Online Focus Groups. *Int J Qualitative Methods*. 2014;13:206–23. <https://doi.org/10.1177/160940691401300109>.
18. Greenspan SB, Gordon KL, Whitcomb SA, Lauterbach AA. Use of Video Conferencing to facilitate Focus Groups for qualitative data Collection. *AM J QUALITATIVE RES*. 2021;5:85–93. <https://doi.org/10.29333/ajqr/10813>.
19. Williams S, Clausen MG, Robertson A, Peacock S, McPherson K. Methodological reflections on the Use of Asynchronous Online Focus Groups in Health Research. *Int J Qualitative Methods*. 2012;11:368–83. <https://doi.org/10.1177/160940691201100405>.
20. Reisner SL, Randazzo RK, White Hughto JM, Peitzmeier S, DuBois LZ, Pardee DJ, et al. Sensitive Health Topics with Underserved patient populations: methodological considerations for online Focus Group Discussions. *Qual Health Res*. 2018;28:1658–73. <https://doi.org/10.1177/1049732317705355>.
21. Daniels N, Gillen P, Casson K, Wilson I. STEER: factors to consider when Designing Online Focus Groups using Audiovisual Technology in Health Research. *Int J Qualitative Methods*. 2019;18:160940691988578. <https://doi.org/10.1177/1609406919885786>.
22. Anderson K, Gall A, Butler T, Arley B, Howard K, Cass A, Garvey G. Using web conferencing to engage Aboriginal and Torres Strait Islander young people in research: a feasibility study. *BMC Med Res Methodol*. 2021;21:172. <https://doi.org/10.1186/s12874-021-01366-y>.
23. Temmesen CG, Nielsen HS, Andersen HLM, Birch Petersen K, Clemensen J. Using social media for qualitative Health research in danish women of Reproductive Age: Online Focus Group Study on Facebook. *JMIR Form Res*. 2021;5:e24108. <https://doi.org/10.2196/24108>.
24. Torensma M, Harting J, Boateng L, Agyemang C, Lassooy Tekle Y, Jacob Y, et al. Contextual factors that shape uptake of COVID-19 preventive measures by persons of ghanaiian and eritrean origin in the Netherlands: a focus group study. *J Migr Health*. 2021;4:100070. <https://doi.org/10.1016/j.jmh.2021.100070>.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.