Using Online Self-Management Diaries for Qualitative Research

Seyedehtanaz Saeidzadeh¹, Stephanie Gilbertson-White², Kristine L. Kwekkeboom¹, Faezeh Babaieasl³, and Aaron T. Seaman⁴

Abstract
Diaries are an underutilized tool in qualitative research addressing self-management. The “real time” data offered by the diaries provide an opportunity to capture details of self-management that otherwise may be missed during an interview. The purpose of this study is to describe the feasibility of using diaries for capturing self-management of post-treatment cancer survivors. The research questions are (1) how did participants engage with the diary? (2) what were participants’ evaluations of the self-management diary? and (3) how did the use of self-management diaries affect qualitative interviews and the interview data collected? We conducted a qualitative descriptive study, which comprised diary and semi-structured interview components to explore cancer survivors’ self-management activities. Participants were individuals diagnosed with head and neck or colorectal cancers at ages ≥18 years old who had completed primary treatment between 2–10 years prior. The diary instructions directed participants to document their self-management activities daily for 1 week before a scheduled interview. Data were analyzed using thematic analysis. The results showed (1) fifteen participants completed the diary and n = 9 completed all 7 days with detailed information regarding self-management. (2) A majority of the participants (n = 13) found the diary easy to use. A few participants (n = 3) shared individual-level challenges including preferring to document over several months, difficulty finding time to document, and difficulty putting thoughts into words. Suggestions to promote diary completion in future research included allowing participants to either document for only 1 day or allowing them to provide a summary of their weekly routine activities, sending reminders, and having more specific prompts. (3) For participants who completed the diary, we were able to customize the interview questions, which enhanced the richness of the interview data and captured greater complexity of self-management activities over time. Using diaries can promote the customization of interview questions and facilitate capturing rich interview data.

Keywords
self-management, diary, qualitative research, cancer survivors

Introduction
Self-management is a process of engaging in managing health and well-being (Ryan & Sawin, 2009). While research on self-management is a priority area for nursing (Grady, 2017), our knowledge toward self-management of populations such as post-treatment cancer survivors is limited. Diaries offer unique data collection opportunities for self-management both for research and clinical practice. Diaries are great tools for collecting data for research (Evald et al., 2020; Furness & Garrud, 2010; Hertzog et al., 2021), providing narrative everyday life events as a reflection tool or as a primary data collection tool with the purpose of analyzing data into meaningful categories (e.g., information about daily routine). Diaries can be used in clinical decision support (Van Woensel et al., 2015) and

¹School of Nursing, University of Wisconsin-Madison, Madison, WI, USA
²College of Nursing, University of Iowa, Iowa City, IA, USA
³School of Nursing, Babol University of Medical Sciences, Babol, Iran
⁴Department of Internal Medicine, College of Medicine, University of Iowa, Iowa City, IA, USA

Corresponding Author:
Seyedehtanaz Saeidzadeh, School of Nursing, University of Wisconsin-Madison, 701 Highland Avenue, Madison, WI 53792-2455, USA.
Email: saeidzadeh@wisc.edu

Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 License (https://creativecommons.org/licenses/by-nc/4.0/) which permits non-commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the SAGE and Open Access pages (https://us.sagepub.com/en-us/nam/open-access-at-sage).
can also improve patients’ adherence (Shim & Hwang, 2016) and enhance self-efficacy (van Kruisssen et al., 2015). In this article, we refer to diaries as data collection tools with which a study participant records daily activities and behaviors (Filep et al., 2017) that are useful for gathering information pertinent to self-management. The design of the diary itself is dependent on the research questions. While a majority of diaries have structured designs, some are designed to be open ended, encouraging participants to identify what to record and why it is important (Janssens et al., 2018).

Despite their well-established use in multiple research contexts (Fritz & Lysack, 2014; Wolf et al., 2016), diaries remain underutilized in qualitative research within the nursing discipline and self-management research (Morrell-Scott, 2018). The main use of diaries for self-management research is related to using them in self-management intervention. In symptom and behavioral change interventional studies, diaries are widely used as a tool to help participants track their symptoms and self-management (Evald et al., 2020). In cancer research, for example, diaries are often used to track symptoms such as pain (Baggott et al., 2012; Yamanaka & Suzuki, 2020). Self-management diaries are different than symptom diaries because they have a broader focus, capturing a range of behavioral activities such as exercise, diet, and symptom management in order to depict a broad overview of their day-to-day practices. Despite the benefits that diaries offer to capture rich “real-time” data, including an opportunity to collect longitudinal data that is not possible to obtain during a one-time interview, they have not been used to study self-management in post-treatment cancer survivors who received treatments with curative intent. Indeed, the current research with the cancer survivors’ population typically uses one-time interviews or surveys, which are subject to recall bias (Althubaiti, 2016).

The real-time data that diaries offer can provide a clearer picture of what individuals actually engage in every day for management of their health and well-being. Based on our previous experience conducting qualitative research on self-management, participants need prompting to articulate their self-management activities. Additionally, during interviews, participants might not immediately recall the activities that they practice. Asking participants to document their activities in the self-management diary promotes awareness (Woll, 2013), which can later help them associate their activities with self-management and discuss those self-management activities with the researcher. We developed diaries comprising close- and open-ended elements to help participants document and reflect (Bartlett & Milligan, 2015) on their self-management before the interview. Successful implementation of self-management diaries is critical for data collection because diary methods require a high level of participant engagement. In order to develop the methodological potential of diaries for enhancing qualitative data collection, the purpose of this study is to describe the feasibility of using diaries for capturing self-management of post-treatment cancer survivors. The research questions are (1) how did participants engage with the diary? (2) what were participants’ evaluations of the self-management diary? and (3) how did the use of self-management diaries affect qualitative interviews and the interview data collected? We detail our diary-based data collection methods, identify feasibility of using the self-management diary, and provide recommendations for future design of self-management diaries. This study is important to provide methodological insight and advance understanding of using self-management diaries in cancer survivorship.

Methods

Design and Sample

Self-management diaries were implemented as part of a parent cross-sectional qualitative descriptive study (N = 24) designed to investigate the self-management activities of head and neck (HNC) and colorectal cancer (CRC) survivors. Head and neck and CRC diagnoses were selected because little is known about the self-management practices of these survivor groups. The parent study aimed to identify the types of self-management activities that cancer survivors practiced and how and why participants engaged in self-management activities (Saeidzadeh, 2020). Our inclusion criteria were individuals diagnosed with HNC or CRC at ages of ≥ 18 years old and completion of primary curative intent treatment between 2 and 10 years ago. The exclusion criteria were adult survivors of childhood cancer. We developed self-management diaries for participants and asked them to document their self-management activities prior to conducting semi-structured interviews. Our goal for using the self-management diaries was to encourage participant reflection on self-management behaviors and reasons for engaging in self-management to inform subsequent qualitative interviews. Diaries were made optional after recruiting half of the participants to overcome recruitment challenges encountered during study. Data were analyzed using thematic analysis. In this article, we focus on analyzing data related to those who provided at least some diary data. We refer to those who completed all 7 days of the diary as full completers and those who completed diary less than 7 days as partial completers. We also refer to those who did not complete the diary at all as non-completers.

Description of the Self-Management Diary

The diary was developed and completed online in REDCap and comprised two sections. The first section asked participants to document their self-management activities in sections designated for the morning, afternoon, and evening using an open-ended format (Figure 1). They were instructed to document their daily routines for taking care of their health after cancer treatment was finished. Examples of routine activities were given to the participants to help them with documentation such as controlling symptoms, eating a healthy diet,
The purpose of this diary is to help us understand what patients who have completed cancer treatment routinely do to take care of themselves. As someone with a cancer history, your experience and opinions are important to understand. Please use this diary to document the activities you currently do to take care of your health day-to-day. Please record your activities every day for one week. It should take you approximately 10-15 minutes per day. You can save your response at the bottom of the survey by clicking on save button and return to the survey later.

Section A. Please record your daily routines for taking care of your health after cancer treatment was completed. Examples of activities that might be part of your routine could include: controlling your symptoms, eating a healthy diet, physical activity exercise, sun exposure, maintaining a healthy weight, limiting or quitting smoking and alcohol consumption, or any other form of activity that you do because you feel it affects your health.

Day 1:
Please list your Morning activities

Day 2:
Please list your Afternoon activities

Day 3:
Please list your Evening/night activities

Figure 1. Diary section one: Open-ended items documenting self-management activities.

physical activity and/or exercise, and protecting against sun exposure. After participants completed the first section daily for 1 week, the second section was presented (completed only once at the end of day seven) which had the list of self-management activities applicable to all cancer survivors. The second section asked participants to list self-management activities and report why they performed those activities using closed-ended, multiple-choice items with the followings response options: (1) to control consequences of cancer in their life (e.g., engaging in social activities and unable to work full-time), (2) to control symptoms and/or side effects from cancer treatment, (3) to prevent/monitor cancer, (4) to control emotion, or (5) to promote health (Figure 2). Participants could select multiple answers for each item. Reminders were sent up to two times a week for those who did not finish the diary within 3 days.

Results

Participant’s Characteristics
A total of $N = 24$ post-treatment cancer survivors participated in the parent study. Participants’ mean age was $59.5 ± 11.3$. The majority were male (54.2%), college/graduate-level educated (72.7%), white (100%), and married (69.6%). The cancer types were HNC ($n = 12$) and colorectal ($n = 12$). Of the total sample, $N = 15$ participants completed diaries and provided feedback and had the following characteristics: The mean age for the participant was $56.5 ± 9.4$ (Range: 41–67 years). Majority of the participants were female (60.0%) college/graduate educated (80.0%), white (100%), and married (60.0%). We have presented participants’ characteristics based on whether they are full/partial completers of the diary ($n = 15$) or if they are non-completers ($n = 9$) in Table 1.

Feasibility
Eleven (out of 15) participants had completed diaries before they were made optional, and four participants (out of 9) completed diaries after they became optional (Figure 2 Supplementary Material). Many participants ($n = 13$) discussed that completing the self-management diary was easy for them. The format was “straightforward” and the space on the diaries was sufficient, which allowed them to document everything that they wished to record.

Diary Engagement

Documentation style. Participants varied in their documentation style regarding the type of information and level of detail they provided. The analysis on the pattern of diary completion shows that nine participants fully completed all 7 days of the diary and six participants partially completed the diary (less than 7 days). All participants who completed all 7 days provided detailed information regarding their self-management. The recorded information was relevant to
how they took care of their health on a daily basis (e.g., managing dry mouth through using biotin products). For example, one participant (P27, 60 years, and female) recorded that her physical activity consisted of “combined sitting, standing, walking at job.” Participants outlined the details of their self-management activities. One participant (P5, 55 years, and female) recorded details of her head and neck exercises, saying, “I do 15 minutes of neck stretches to maintain range of motion and flexibility as well as to reduce neck/shoulder pain, specifically to the right side of my neck and top of shoulder. These exercises help me to be able to turn my head left and right and to tip my head towards each of my shoulders. It also reduces the number of ‘shocking,’ immobilizing pain that radiates from the right side of my jaw, down my neck and out towards my arm.” Conversely, for the participants who had documented less than 7 days, the level of detail was limited. They mainly described their overall self-management activities. For example, one participant (P50,

Table 1. Characteristics of Participants Based on Completion of the Diary (N = 24).

| Variable               | Completers* (n = 15) | Non-Completers** (n = 9) |
|------------------------|-----------------------|--------------------------|
|                        | Mean ± SD (Range)     | Mean ± SD (Range)        |
| Age (years)            | 56.5 ± 9.4 (41–67)    | 65.5 ± 10.8 (47–81)      |
| Gender                 |                       |                          |
| Female                 | 9 (60.0%)             | 3 (33.3%)                |
| Male                   | 6 (40.0%)             | 6 (66.7%)                |
| Education              |                       |                          |
| College/graduate level | 12 (80.0%)            | 8 (88.9%)                |
| Other                  | 2 (13.3%)             | 0 (0.0%)                 |
| Missing                | 1 (6.7%)              | 1 (11.1%)                |
| Marital status         |                       |                          |
| Married                | 9 (60.0%)             | 7 (77.8%)                |
| Not married/single     | 5 (33.3%)             | 2 (22.2%)                |
| Missing                | 1 (6.7%)              | —                        |
| Race                   |                       |                          |
| White                  | 15 (100%)             | 9 (100%)                 |
| Other                  | 0 (0%)                | 0 (0%)                   |
| Cancer                 |                       |                          |
| Head and neck          | 7 (46.7%)             | 5 (55.6%)                |
| Colorectal cancer      | 8 (53.3%)             | 4 (44.4%)                |

Note. *Completers are participants who fully/partially completed the diary. **Non-completers are participants who did not complete the diary.
Saeidzadeh et al.

50 years old, and female) condensed her activities into a list without further detail, saying their morning routine consisted of “Breakfast, daily vitamins, morning medications, check blood sugar regularly.”

**Diary as a reflective/self-monitoring tool.** Overall, participants (regardless of being full/partial completers) described diaries as providing an opportunity to “reflect” on their behavior. Four participants discussed benefiting from diaries because they allowed participants to keep track of their self-management. For example, one participant (P27, 60 years old, and female) said, “It was good for me to keep the diary in that it, you see it right in front of you and it makes you very cognizant of how you spend your day and what, goes into your day and how you’re eating and what kind of activity you’re doing or your level of activity in general and day-to-day quality of life, it seems like a meal routine. Then you had to have great benefit I think in the long run. So, if nothing else, I didn’t mind doing it because it helps me keep track of what I was doing and made me very mindful of what I was doing. So, I know water, I probably can drink more water than I do. I try to drink plenty of water and that was one thing I did. I noticed more during the, when I was keeping track, I realized that I’ve got to keep up on my water. So, in that regard I think it’s good to have something like that in front of a person. It just brought things right to the forefront of my attention not to get away from good health in general good health practices.”

**Diary Feedback**

We asked participants to give us feedback regarding the diary to improve it for future research. Both full and partial completers of the diary (i.e., those completing the diary for 7 days and less than 7 days, respectively) shared their perspectives. Their feedback was regarding the workload of completing the diary \( n = 3 \), sending reminders \( n = 1 \), and diary instruction \( n = 2 \) (Table 2).

| Theme                | Feedback                                                                 | Exemplary Quote                                                                                           |
|----------------------|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Diary workload       | -Providing a summary of self-management activities that are practiced within a week  
                      | -Documenting only one time in a day                                          | “Maybe if there’s a way to write like your standard, if there’s something that is standard across an entire  
                      | rather than morning, afternoon, and evening                                   | week just to kind of enter it once and so it…wouldn’t have to be reentered.” (P6, 43 years old, and female) |
| Diary reminders      | -Sending text reminder instead of email                                    | “Because my memory is so bad and I’m on the go, that’s one thing I don’t do is check email every day. If it was on a text message where I could go in on a text and hit a link, I would remember it better.” (P42, 67 years, and female) |
| Diary instruction    | -Providing specific instructions/list of self-management they can choose from (e.g., asking about exact frequency of exercise in a week) | “I think just making it a little bit more specific. You know, as to like what meds or even though that’s over the counter, this Xylitol melts were like a big thing for me. And the massages, you know, maybe look at a little bit more, cause people don’t always think of that as, they may not just think of that as being self-care as a more complimentary medicine. Things that people do…You just, yeah, a lot of times you do things you don’t even think about it.” (P21, 57 years, and female) |

**Individual-Level Challenges**

A few participants \( n = 3 \) discussed the challenges that they encountered documenting their self-management activities. The challenges were related to documentation over a short period of time (i.e., 1 week) leading to repetitive entries because they had similar daily routines throughout the week. For example, one participant (P4, 67 years old, and male) said, “It was a bit challenging. It is because I have such a boring life and it was challenging. My days are similar, my routines are similar. When I see back, I struggled with making entries on certain days and I think the survey shows repetitive entries. But when, I don’t know if over the course of several months will be more effective.” Another challenge was related to finding the time to document. For example, one participant (P6, 43 years old, and female) said, “My life is kind of busy, I work full time and I’m a full-time single parent, so it’s hard to sometimes sit down and make myself do it. Obviously, my schedule is, it just can be crazy, but it wasn’t too bad. It was pretty easy.” Lastly, one participant (P28, 41 years old, and male) discussed that documenting was difficult for him mainly because he found putting his thoughts into words challenging. He asked his wife to help him with diary completion. He described, “My wife helped me quite a bit with it. She actually typed it in, you know, I would get to keep track of what I did. I sometimes I’m just not able to put in words what I’m thinking. So, it was helpful for her to kind of translate for me.”
Diaries’ Enhancement of Qualitative Interview

Responding to interview questions. When participants maintained daily diaries (regardless of being full/partial completers), qualitative interviews focused on in-depth conversations about how and why participants engaged in their self-management activities, which allowed more insight into the research questions than interviews with participants who did not complete diaries. Interviews with participants who did not complete diaries focused more on remembering daily activities rather than discussions on how and why they practice these activities. For example, during the interview for one the participants (P5, 55 years old, and female) who had recorded her daily routine for her neck exercises and eating habits, the interview was able to focus on investigating how she strategized to practice these self-management activities. One of the questions that we asked was “how you strategize in terms of having the balance between getting enough healthy food and managing your dry mouth in a way that eating food is pleasant for you?” Yet, for those who did not document anything on the diary, we had limited information prior to the interview. Therefore, we were not able to customize the interview questions, and the interview time was spent on helping participants reflect on their self-management through exploring the types of self-management activities in which they engaged (Table 2).

Outcome of the interview. The outcome of the interview for all participants, whether they were full/partial completers, led to generating rich data (Table 3). Since we were able to customize questions during the interviews and because participants had the self-reflective opportunity prior to the interviews, the results obtained were informative. We were able to characterize self-management activities, strategy approaches, and reasons for engagement in self-management. For example, because one of the participants had recorded details of her self-management in the diary, during the interview we focused on exploring those details which led us to obtain information about various aspects and challenges of self-managing her diet. She said: “I also kind of go back and forth between like getting back to a healthy diet, but also at the same time, there’s the days when I’m like, well I just had cancer so, I’m not gonna worry about things as much cause you know, what am I going to get cancer again? You know, I could, but I just, I tried to like not think about it like that and just think like I deserve, um, more enjoyment out of life and not be so regimented, you know, because of what I went through.” (P6, 43 years, and female).

Discussion

The preliminary data obtained from completion of diaries and subsequent participants’ feedback provides methodological insight for using diaries for qualitative research on self-management in post-treatment cancer survivors. Despite the use of self-management diaries in other research designs (e.g., intervention studies), their feasibility in qualitative research is not well established. Self-management is a multifaceted concept, and using diaries helped us collect information that could not have been captured otherwise during an interview. It provided an opportunity for the participants to reflect on what they typically did during a week for self-management and allowed us to better tailor our interview questions. For those participants who followed the diary instructions and recorded information related to their health, our interviews resulted in obtaining richer data compared to those who did not complete the diary. Participants who did not complete the diary were more likely to be male, and the participants who completed the diary were more likely to be female. We did not find any differences between the quality and the outcome of the interviews for those who fully/partially completed the diary. Diary completion provided an opportunity for participants to think about their self-management routine. Our results are consistent with a phenomenological study conducted by Furness and Garrud (2010) who used diaries to collect data from facial cancer surgery participants. While the diaries were the only data collection method used in their study, the researchers found the data obtained using this method to be rich (Furness & Garrud, 2010).

Diaries enable researchers to obtain data in “real time.” It allows for capturing the change in phenomenon of interest over time (Bartlett & Milligan, 2015) and obtaining data in a “naturally occurring” setting (Xu et al., 2018). This is particularly valuable for self-management research because participants often cannot recall their day-to-day activities instantly at the time of interview. It captures fluctuations as they occur instead of relying on memory to recall events (Day & Thatcher, 2009). In our study, we benefited from employing self-management diaries which illuminated how cancer survivors typically engaged in self-management. During the interviews, participants understood what we were asking about and often referred to what they had documented in their diaries. We were able to deeply explore their self-management routine, and the results of interviews helped us to better contextualize the routine self-management based on the narrative provided by participants. Therefore, the use of diaries for self-management research can provide a supplementary source of data and also improve data collected through other methods, such as interviews. Qualitative descriptive studies on self-management overwhelmingly use one-time interviews to collect data at a single point in time, which might not provide sufficient information on the everyday routine of participants. Our experience in using self-management diaries resulted in richer data during the interviews.

While choosing a data collection method depends on the research questions, use of a variety of methods such as surveys, diaries, and photo elicitation (Fritz & Lysack, 2014) can be more informative. In addition to supporting data collection, depending on the content of the diary, it can have beneficial
effects on participants too. Some of our participants indicated that using the diary made them mindful about their own self-management activities, which in turn can improve participants’ well-being and reinforce engagement in self-management. Our finding is consistent with that of Fritz and Lysack (2014) who used photo elicitation to capture self-management of diabetes. They found that participants gained awareness of their self-management when they were taking photos of their food, which resulted in them changing their self-management behavior (Fritz & Lysack, 2014).

Our study has limitations. Our sample size was small which could have limited capturing different perspectives regarding diary completion. We only offered the diary in an online format, which could have impacted some participants’ engagement with the diary. Additionally, completing diaries required more time than completing a one-time interview or a survey, which may explain why some of the participants did not complete the optional diary. Despite these limitations, there are many lessons learned from our study that can be useful for future research.

Participants’ engagement with the diary is essential for a successful implementation of diaries. It is important to consider the potential challenges that participants may encounter prior to design of the diary. For example, in our study, dedicating the time to document and having trouble with putting thoughts into words were found to be the individual-level challenges. Making the diary accessible by offering a variety of formats for documentation such as audio/photo/video/text messages can facilitate engaging with the diary (Danielsson & Berge, 2020; Gibson et al., 2013). For better engagement in completing the diaries, we suggest tailoring them based on the participants’ characteristics. For example, depending on the type of disease, some of the participants might have memory problems related to cancer and its treatments or aging. Sending reminders can be useful and help them remember to record their activities in the diary. In our study, one participant indicated preferring to receive text reminders rather than emails, indicating that text reminders would have facilitated the diary completion. Therefore, it is important to choose the reminder based on participants’ preferences. Another strategy for increasing engagement is to encourage participants to work on the diary with their caregivers. Our results showed that one of the participants had difficulty putting his thoughts into words, and encouraging

### Table 3. Diaries’ Enhancement of Qualitative Interview.

| Summary of Diary | Interview Question | Outcome of the Interview |
|------------------|-------------------|--------------------------|
| Participant documented information about: | Questions were customized to explore and capture complexity of self-management routine (e.g., how do you balance eating healthy food and managing your dry mouth?) | • Provided a detailed list of self-management activities and strategies with clear picture of day-to-day routine • Detailed information obtained on how the participant strategized self-management routine • Information obtained on how the participant prioritized various self-management activities |
| • Management of lymphedema | Time spent during the interview for the participant to remember and for the interviewer to explore information about self-management activities | • Provided an overall list of self-management activities and strategies without clear picture of day-to-day routine • Brief information obtained on how the participant strategized self-management routine |
| • Management of dry mouth | | |
| • Oral care routine | | |
| • Level of physical activity | | |
| • Information on weekly diet | | |

### Table 4. Recommendation for Future Design of Self-Management Diaries.

| Diary Design | Content Recommendation | Process Recommendation |
|--------------|------------------------|------------------------|
| Engagement with diary | - Allow participants to choose based on their preferences: • Online/paper documentation • Audio/photo/video/text diary - Reduce the number of days for documentation | - Encourage participants to work on the diary with their caregivers. - Consider how participants’ characteristics might affect their ability to complete the diary |
| Formatting the diary | - Provide both structured and unstructured diary | - Ask participants for their preference in receiving the reminders • Email • Text • Phone call - Pilot testing the diary with the stakeholders involved |
caregivers to work with the participants can facilitate documentation. Depending on the research question, we suggest providing both structured and unstructured diary formats to help participants know what to document. Some participants work well with unstructured diary items, and others find it challenging to know what or how to document if there are no specific instructions, questions, and suggested responses. We have provided recommendations for future self-management diary content and process development in Table 4.

We recommend the following methodological research considerations in future to facilitate and promote using diaries for qualitative research. We suggest that future researchers include the diary as a supplement/appendix file in their manuscripts. This will help future researchers have access to a variety of diary designs. Examining how the diary is used in the interview process should be investigated. It will be particularly informative to explore the feasibility of using a diary as an interview guide preparation or diary as an elicitation tool and/or analytic triangulation tool with interview data. Lastly, the methodology of using diaries in other context of self-management should be further explored.

**Conclusion**

Considering that diaries are useful tools in qualitative research, examining their feasibility can bring methodological insight into their further use in qualitative research. It is recommended that future researchers consider using diaries as a tool for self-management research that can facilitate data collection, enhance quality of the subsequent interviews, and provide rich data.

**Supplemental material**

Supplemental material for this article is available online.

**Declaration of Conflicting Interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

**Funding**

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the Graduate and Professional Student Government at the University of Iowa.

**ORCID iDs**

Seyedehtanaz Saeidzadeh https://orcid.org/0000-0002-5721-7353
Aaron T. Seaman https://orcid.org/0000-0002-1680-1334

**Supplemental Material**

Supplementary material for this article is available online.

**References**

Althubaiti, A. (2016). Information bias in health research: definition, pitfalls, and adjustment methods. *Journal of Multidisciplinary Healthcare*, 9, 211-217. https://doi.org/10.2147/JMDHS.104807

Baggott, C., Gibson, F., Coll, B., Kletter, R., Zeltzer, P., & Maskowski, C. (2012). Initial evaluation of an electronic symptom diary for adolescents with cancer. *JMIR Research Protocols, 1*(2), e23. https://doi.org/10.2196/resprot.2175

Bartlett, R., & Milligan, C. (2015). The development of diary techniques for research. In: *What is diary method?* (1 ed., pp. 1-12). Bloomsbury Academic.

Danielsson, A. T., & Berge, M. (2020). Using video-diaries in educational research exploring identity: Affordances and constraints. *International Journal of Qualitative Methods, 19*, 160940692097354. https://doi.org/10.1177/1609406920973541

Day, M., & Thatcher, J. (2009). “I’m really embarrassed that you’re going to read this ...”: Reflections on using diaries in qualitative research. *Qualitative Research in Psychology, 6*(4), 249-259. https://doi.org/10.1080/14780880802070583

Evalu, L., Graarup, J., & Højskov, I. E. (2020). Diary for self-observation: A self-management tool for recipients of lung transplantation-A pilot study. *Nursing Open, 7*(6), 1766-1773. https://doi.org/10.1002/nop2.562

Filep, C. V., Turner, S., Eidse, N., Thompson-Fawcett, M., & Fitzsimons, S. (2017). Advancing vigour in solicited diary research. *Qualitative Research, 18*(4), 451-470. https://doi.org/10.1177/1468794117728411

Fritz, H., & Lysack, C. (2014). “I see it now”: Using photo elicitation to understand chronic illness self-management. *Canadian Journal of Occupational Therapy, 81*(4), 247-255. https://doi.org/10.1002/nop2.562

Furness, P. J., & Garrud, P. (2010). Adaptation after facial surgery: Using the diary as a research tool. *Qualitative Health Research, 20*(2), 262-272. https://doi.org/10.1177/1049733309357571

Gibson, B. E., Mistry, B., Smith, B., Yoshida, K. K., Abbott, D., Lindsay, S., & Hamdani, Y. (2013). The integrated use of audio diaries, photography, and interviews in research with disabled young men. *International Journal of Qualitative Methods, 12*(1), 382-402. https://doi.org/10.1177/160940691301200118

Grady, P. A. (2017). Advancing science, improving lives: NINR’s new strategic plan and the future of nursing science. *Journal of Nursing Scholarship, 49*(3), 247-248. https://doi.org/10.1111/jnu.12286

Hertzog, C., Pearman, A., Lustig, E., & Hughes, M. (2021). Fostering self-management of everyday memory in older adults: A new intervention approach. *Frontiers in Psychology, 11*, 560056. https://doi.org/10.3389/fpsyg.2020.560056

Janssens, K. A. M., Bos, E. H., Rosmalen, J. G. M., Wichers, M. C., & Riese, H. (2018). A qualitative approach to guide choices for designing a diary study. *BMC Medical Research Methodology, 18*(1), 140. https://doi.org/10.1186/s12874-018-0579-6

Morrell-Scott, N. (2018). Using diaries to collect data in phenomenological research. *Nurse Researcher, 25*(4), 26-29. https://doi.org/10.7748/nr.2018.e1527
Ryan, P., & Sawin, K. J. (2009). The individual and family self-management theory: Background and perspectives on context, process, and outcomes. *Nursing Outlook, 57*(4), 217-225. https://doi.org/10.1016/j.outlook.2008.10.004

Saeidzadeh, S. (2020). Self-management activities in long-term post-treatment cancer survivors. [PhD, The University of Iowa]. Retrieved from www.proquest.com/dissertations-theses/self-management-activities-long-term-post/docview/2450401815/?amp;accountid=465

Shim, J. L., & Hwang, S. Y. (2016). Development and effects of a heart health diary for self-care enhancement of patients with heart failure. *Journal of Korean Academy of Nursing, 46*(6), 881-893. https://doi.org/10.4040/jkan.2016.46.6.881

van Kruijssen, V., van Staa, A., Dwarswaard, J., In’t Veen, J. C., Mennema, B., & Adams, S. A. (2015). Use of online self-management diaries in asthma and COPD: A qualitative study of subjects’ and professionals’ perceptions and behaviors. *Respiratory Care, 60*(8), 1146-1156. https://doi.org/10.4187/respcare.03795

Van Woensel, W, Roy, PC, Abidi, SR, & Abidi, SS (2015). A Mobile and intelligent patient diary for chronic disease self-management. *Studies in Health Technology and Informatics, 216*, 118-122.

Wolf, A., Fors, A., Ulin, K., Thorn, J., Swedberg, K., & Ekman, I. (2016). An eHealth diary and symptom-tracking tool combined with person-centered care for improving self-efficacy after a diagnosis of acute coronary syndrome: A substudy of a randomized controlled trial. *Journal of Medical Internet Research, 18*(2), e40. https://doi.org/10.2196/jmir.4890

Woll, H. (2013). Process diary as methodological approach in longitudinal phenomenological research. *Indo-Pacific Journal of Phenomenology, 13*(2), 1-11. https://doi.org/10.2989/IPJP.2013.13.2.2.1176A

Xu, X., Tupy, S., Robertson, S., Miller, A. L., Correll, D., Tivis, R., & Nigg, C. R. (2018). Successful adherence and retention to daily monitoring of physical activity: Lessons learned. *PLoS One, 13*(9), e0199838. https://doi.org/10.1371/journal.pone.0199838

Yamanaka, M., & Suzuki, K. (2021). Evaluation of appropriateness of a nursing intervention program to promote pain self-management for adult outpatients with cancer pain. *Asia-Pacific Journal of Oncology Nursing, 8*(1), 33-39. https://doi.org/10.4103/apjon.apjon_37_20