

RESEARCH ARTICLE

Service users' experiences with mobile safety alarms in home care: A qualitative study

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Abstract

Aim: To investigate service users of home-based care experiences of using mobile safety alarm and how the alarm affects their ability to cope with everyday life.

Design: A qualitative study with semi-structured interviews.

Methods: The data were collected through semi-structured interviews and analysed according to systematic text condensation. Four men and six women, between 47 and 85 years of age, were included in the study.

Results: Three main themes emerged in the analysis: dimensions of safety, the functionality of the alarm and variation in user guidance. The greatest benefit of having a mobile safety alarm was the feeling of safety. Moreover, the certainty of obtaining contact with the health professionals in any situation was highly valued. However, regarding implementation of the mobile safety alarm, the findings revealed a varying understanding among the service users. Nevertheless, the need for social interaction in their everyday lives is an important factor to recognize.

KEYWORDS

e-health, empowerment, home care, patient safety, technology

1 | INTRODUCTION

The World Population Prospects states that by the year 2050, the number of people aged 60 years and over will more than double from the 2015 numbers (United Nations, 2017). Furthermore, demographic changes and shortages of healthcare personnel are causing significant challenges for healthcare services in the western world. Previous literature stresses the importance of welfare technology in this context, as it can enable people to remain living at home, feel safe and provide greater independence in people's lives (Barland & Lovett, 2014; World Health Organisation, 2012). The concept of welfare technology is extensive and involves a diversity of technologies. Assistive technology, for example, can be described as "an umbrella term" for devices that increase the ease and safety with which tasks can be performed (Cowan & Turner-Smith, 1999).

In context to safety and how technology can affect everyday life, patient safety is a relevant concept. World Health Organization describes patient safety as "a framework of organized activities that creates cultures, processes, procedures, behaviors, technologies and environments in health care that consistently and sustainably: lower risks, reduce the occurrence of avoidable harm, make errors less likely and reduce the impact of harm when it does occur." (World Health Organisation, 2020) The Nordic region has established a common strategy which includes improving quality of health and patient safety. The strategy accentuates the challenge of an increased need of care in line with an ageing population (Husebø et al., 2017).

In Norway, the healthcare system are closely related to the development of the Nordic welfare state which is based on universal social rights for all citizens where equality and universalism are fundamental values (Magnussen et al., 2009). According to Norwegian

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law, the municipality must ensure that persons living in the municipality are offered the necessary healthcare services (Ministry of Health and Care Services, 2011). The home-based care service is integrated in the municipal healthcare services and is coordinated by geographic area (Glomsås et al., 2021; Magnussen et al., 2009).

In this article, home-based care can be described as delivery of care for people living at home. The care is delivered by health professionals who include nurses and nurse assistants working in home-based care. Within a nursing perspective, health promotion is a fundamental part of the care work (International Council of Nurses, 2021). In the context of home-based care and nursing, empowerment can be described as “a social process of recognizing, promoting and enhancing people's abilities to meet their own needs, solve their own problems and mobilize the necessary resources in order to feel in control of their own lives.” (Gibson, 1991) In relation to patient empowerment, the approach and delivery of care should include patient-centeredness and focus on individual needs (Castro et al., 2016).

1.1 | Background

The population is ageing, and people need help and support to remain living at home. The access to health personnel in the healthcare services declines, and the need for healthcare services increase (Barland & Lovett, 2014). The World Health Organization points out that the majority of people in need of help wish to get support in their homes. Healthcare services must therefore be available for all people in need of support, not just for people with resources and knowledge about welfare technology (World Health Organization, 2002). To ensure proper use of the technology, user diversity is also important to recognize. The literature indicates that there is a larger diversity among older people than in other age groups (Gregor & Newell, 2001; Gregor et al., 2002).

The focus of this study is on security technology, which includes technology that may create a safer environment and enables individuals to manage themselves to a greater degree (Barland & Lovett, 2014). Moreover, the mobile safety alarm is an example of security technology: it is a further development of the analogue security alarm and can be described as a communication unit with direct two-way speech amplification. An important upgrade from the analogue alarm involves that a health professional can map the situation and communicates to the service user directly. The mobile safety alarm works outdoors and is connected via the mobile network as they have a built-in sim card. This means that the service users have new opportunities in terms of moving outdoors.

Perceived utility value is based on whether the user perceives the technology as useful or not. This perception is further influenced by the quality of instruction, the information received and the technology's ease of use and design (Lindberg et al., 2013; Van Den Berg et al., 2012). As such, more knowledge about the long-term consequences and individual adaptation of using welfare technology is needed (Koch & Hägglund, 2009).

World Health Organization points out that the majority of previous patient safety research is based on hospital setting and not on the primary healthcare service where most care is actually delivered (World Health Organisation, 2017). Furthermore, there are few studies focussing at home-based care service and highlight the service user's perspective. It was therefore desirable to conduct qualitative interviews to gain a deeper knowledge of how service users living at home experience the use of the mobile safety alarm and in what way this affect quality of life. To succeed with good implementation of technology, it is important to become familiar with successful criteria and challenges related to use in the context of home-based care.

1.2 | Aim of the study

This study aims to investigate the service users of home-based care experiences of using mobile safety alarm and how the alarm affects their ability to cope with everyday life.

2 | METHODS

2.1 | Design

Based on the aim of this study, the following research question was asked: What are the experiences of service users in regard to use of the mobile safety alarm?

We conducted a qualitative study to answer the research question and to obtain in-depth knowledge about the participant's experiences using the mobile safety alarms (Malterud, 2001). A literature review was conducted prior to the work of the interview guide. Furthermore, the authors of this article investigated the service user's life situation and talked to health professionals in the current municipality which inspired the interview guide. Based on the preparatory work, an interview guide with open-ended questions was composed to answer the research question. To obtain input and feedback on the questions, the interview guide was discussed with the co-author and professionals working with health and welfare technology (insert Table 1 here). The Consolidated Criteria for Reporting Qualitative Research (COREQ) was used.

The first author has a background in health promotion and she is currently working at a Department of Digital Health Research. This qualitative study was conducted as a part of her Master of Science. The second author has background as an Intensive care nurse and she has long experience with research on welfare technology and qualitative methodology.

2.2 | Sampling and recruitment

The screening and recruitment of participants were carried out in collaboration with the home-based care in the municipality. This was done to ensure that all participants passed the screening criteria.

TABLE 1 Interview guide

| Interview guide | |
|--|---|
| Questions | Supplement questions |
| What is the reason for using the mobile safety alarm? | |
| Who took the initiative to purchase the alarm? | |
| Can you tell me about an experience or situation where you had to use the alarm? | <ul style="list-style-type: none"> - How did you experience the function of the alarm? If the answer is no: - Have you experienced any situations where the alarm would have been necessary? - In what situation do you think it would have been helpful to use the alarm? |
| How is your everyday life now, compared to before you received the mobile safety alarm? | |
| Can you tell me about the benefits of having a mobile safety alarm? | |
| Can you tell me about the inconveniences of having a mobile safety alarm? | |
| What do you think about the functionality of the alarm? | <ul style="list-style-type: none"> - The appearance of the alarm? - The alarm's functionality? - Experience with the charging? |
| Do you understand how to use the alarm? | <ul style="list-style-type: none"> - What is easy? - What is difficult? - Do you know if the alarm has other functionalities? |
| How did you experience the information and training you received? | <ul style="list-style-type: none"> - What kind of adjustment has there been? - What kind of follow-up did you get? - Have you tested the alarm yourself? - Did you get any reminding from the home-based care about the function of the alarm? |
| How did you experience the conversation with the health professionals through the mobile safety alarm? | |
| What do you think about the cooperation with the health professionals in the everyday life? | <ul style="list-style-type: none"> - Is there anything that you are missing, or think could have been different? |
| Is there anything you would like to add? | |

To avoid a distorted sample, we used strategic sampling based on specific inclusion criteria: the participants had to live in the chosen municipality; use a mobile safety alarm; speak fluent Norwegian; and be able to give their consent. We also sought participants of both genders. In advance of the recruitment process, the first author had a meeting with the home-based care in the municipality to inform about the study and screening criteria.

A section leader in the municipality where the study was conducted contacted service users of the mobile safety alarm who fulfilled the inclusion criteria. They were given information about the study and told that participation was voluntary. Those who consented to participate were called by the interviewer (first author) to schedule the interview. No participants dropped out during the study. In regard to the number of interviews, we had an estimate of how many we needed in advance. Furthermore, continuous recruitment was carried out, and we were satisfied with 10 interviews regarding saturation.

2.3 | Participants

The participants in this study were recipients of home-based care in a municipality in the eastern part of Norway. This municipality

is characterized by both urban areas with city, several small towns and rural areas with a large distance between houses, which is comparable to the majority of Norwegian municipalities. The current municipality has a population of more than 30,000 and is described as a municipality with rapid growth of inhabitants. The sample for this study consisted of users of the mobile safety alarm who lived at home. To ensure that the sample was diverse, four men and six women, between 47 and 85 years of age, with a median age of 68 years, were included in the study. All participants lived at home and received home nursing care to varying degrees. Most of the participants lived alone, as only three of the participants lived with a partner. Six of the participants had used an analogue safety alarm before they received the mobile safety alarm. All the participants had various functional limitations. Some of the service users had limitations related to stroke, operations and chronic conditions due to old age. Several used wheelchair or walker.

2.4 | Data collection

The data were collected from ten in-depth semi-structured interviews, which were conducted between November 2017 and January

2018). As the surroundings and context influence interpretation in qualitative studies, it was decided that interviews would be conducted in person, in the participants' homes (Polit & Beck, 2017). The length of the interviews varied, but most lasted for about one hour. Only the participants and interviewer were present during the conversation. After careful consideration, the transcripts were not returned to participants. However, the interviewer asked questions during the conversation to validate that the information was understood correctly. As the aim of this research project was to explore the user's experiences, there was the potential for sensitive information to emerge during the interviews. Thus, it was important to consider the balance of power and ethical issues throughout the entire interview process: one way to do so was to reflect on how the participant experienced the situation at all stages of the interview process (Alshenqeeti, 2014).

Data were considered to be saturated after 10 interviews, as no new issues regarding experiences of the mobile safety alarm were brought up in the last interviews. All the interviews, except one, were digitally recorded and transcribed verbatim by the interviewer. In the interview that was not recorded, the participant did not want to. However, this participant wanted his data to be used in the study. To collect data from this interview, the interviewer took notes during the conversation, and no direct quotations were used from the interview because of confidentiality concerns. All identifying information was anonymized and coded during the transcription to protect the privacy of the participants (Brinkmann & Kvale, 2015). In addition, the participants were given fictive names to ensure confidentiality.

2.5 | Data analysis

The data analysis was carried out manually. However, in the process of transcription and data analysis, two qualitative software tools were used. The interviews were transcribed in Hyper-Transcribe, and the software programme NVivo was used for categorizing the data. The data were analysed in accordance with systematic text condensation (STC), which is a descriptive, explorative thematic analytic method (Malterud, 2012). STC is a stepwise analysis and was carried out as follows. The first step involved a thorough reading of all the interviews to achieve a thematic overview of the data. In the second step, the meaning units were identified through a focus on the research question, then coded and recoded. A code map with the main themes and sub-themes was then developed using NVivo. To further consolidate the meaning units, careful reading and reflection led to the enrichment and modification of the code groups. The third step involved decontextualizing the data material by classifying and abstracting the meaning units as thematic groups. Three main themes and seven sub-themes emerged (see attachment 1). In the fourth and final step, the findings were synthesized, and the summary of all the codes highlighting the findings resulted in an analytic text. To enhance the validity of the findings, it was necessary to return to the transcripts and go through the stepwise process of

the analysis. Reflection on the quotations and meaning units was an important step to improve the analysis process.

The first author conducted the interviews and transcribed the data material. To enhance the validity of this study, both authors read the interviews independently. During the analysis, several meetings were held to discuss themes, meaningful units and procedure. This led to enriching discussions around the analysis and interpretation of the findings. To improve reflexivity, the authors had an attitude of being systematically in each step of the research process (Malterud, 2001). Even though the systematic text condensation was performed step by step, it was an iterative process involving continuous correction and evaluation. Finally, the analysis culminated in contextualizing and comparing the findings with existing studies and theoretical perspectives (Malterud, 2012).

2.6 | Ethics

The participants received oral and written information about the purpose of the study and gave their written informed consent in advance of the interview. All the transcriptions and recordings were stored in accordance with the General Data Protection Directive (Regulation, 2016) and the regulations at Oslo Metropolitan University. The study is reported to the Norwegian Centre for Research Data (NSD), reference number 55980. The study was conducted in line with the ethical principles as described in the Declaration of Helsinki (World Medical Association, 2013).

3 | FINDINGS

The main themes that emerged from the participants' experiences with mobile safety alarms were as follows: dimensions of safety with following sub-themes: safety and independence, safety and activity and safety for others. In the second main theme functionality of the alarm following sub-themes emerged: applicability and adaption to the alarm and routines, usages and challenges and variation in user guidance with the sub-theme: knowledge and Information. (Figure 1). For illustrations, supplement quotations in relevant themes (Table 2).

3.1 | Dimensions of safety

The findings in this study revealed various dimensions of safety, depending on the context. In general, however, the participants' understandings of safety revolved around managing their own daily life and having the opportunity to live the life they wanted.

3.1.1 | Safety and independence

All the participants expressed that the greatest benefit of having a mobile safety alarm was the feeling of safety in their everyday life.

The certainty of being able to contact the health professionals in any situation was highly valued. As a participant named Elias pointed out:

The greatest benefit is that you have the security. If something should happen, we get help. I'm glad I have the alarm. It is a safety.

Ola had a similar understanding, saying:

If anything should happen, you can reach contact with the home care nurse.

The ability to be outside alone and still feeling safe made the participants less dependent on others and enhanced their feelings of increased independence. Amalie described her experience with this:

It was almost half past ten, so I was wondering if I should get some assistance on the way back home. Nevertheless, I thought "Now I have the mobile safety alarm, so I will take the chance." This illustrates my thoughts on how this digital solution gives safety and freedom.

Although the participants were still in need of support, they emphasized the importance of being able to take care of themselves. Safety and freedom emerged as significant elements in the description of participants' new everyday life with the alarm. Still, two of the participants did not carry the alarm with them outside. For one participant, this was due to a lack of knowledge about how the alarm worked outside. The other participant used her mobile phone when she was outside. There was also a common understanding that the mobile safety alarm was something that should only be used in urgent situations. For example, one of the participants who had expressed that, without the alarm, he would not be able to live home by himself said that he used the alarm as little as possible to avoid the risk of bothering others.

3.1.2 | Safety and activity

There was a range of activity levels among the participants, in this context, activity is described as daily activities in the home, running errands, participating in union meetings, going on trips, and participating in physical and social activities in the community or at the municipal activity centre. Regarding the mobile safety alarm's impact on participants' activities, although the alarm did enable activity, the majority described their level of activity to be the same as before they received the alarm. Olivia described it in this way:

I have always tried to stay active. I do as I always have done. I attend activities and in the summertime, I go on trips in my wheelchair. I always have the alarm with me just in case anything should happen.

It appeared that level of activity was largely influenced by personal interests; however, some of the participants experienced mobility constraints. For example, because of the fear of falling, some participants' levels of activity decreased in the winter time, as weather conditions could be challenging with snow and slippery sidewalks.

3.1.3 | Safety for others

Those participants who had actually deployed the mobile safety alarm said the conversation through the alarm was loud and clear. One of the participants had used the alarm several times to help others in an emergency situation. Olivia described a situation that occurred right after she had received the alarm:

We were standing outside talking when an elderly man fell just outside the front door. His daughter was with him, but she did not manage to get him up. I said that I could get in contact with the health professionals. And then I called them.

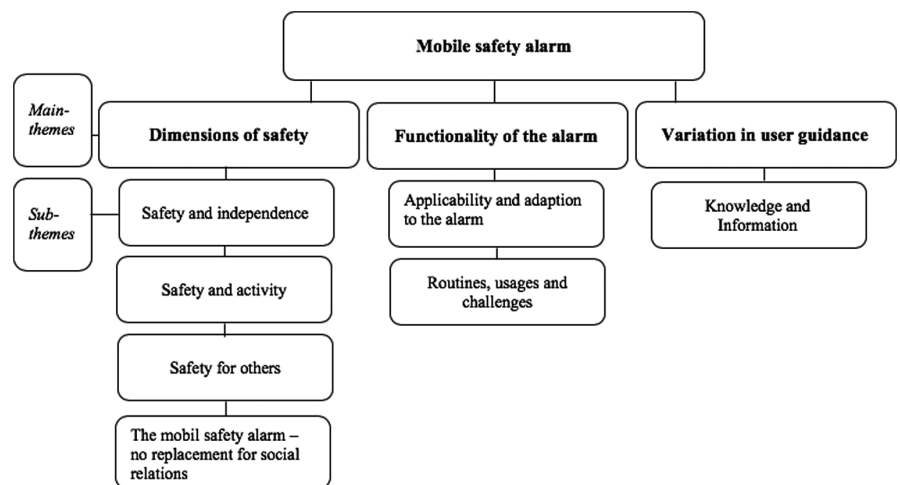


FIGURE 1 An overview of themes

TABLE 2 Supplement quotations in relevant themes

| Quotations | Condensed codes | Sub-themes | Main themes |
|---|---|---|----------------------------|
| "When I am moving over to the chair or going to bed I may fall. So, in that situation I have this mobile safety alarm which enables me to be a bit more daring. Although nothing has happened so far" (Amalie). | The alarm enables to be more daring | Safety and independence | Dimensions of safety |
| "It is a safety for me when I go to bed and have the alarm on my bedside table. Especially in the middle of the night if anything should happen" (Signe). | The certainty of always having access to help | Safety and independence | |
| "Sometimes I think it would be nice to have a friend that I could go to the theatre with or something like that. It would have been really nice. Or we could have dinner together" (Johanne). | Longing to have someone in everyday life | The mobile safety alarm – no replacement for social relations | |
| "I put the alarm on the clip, but the clip is really not that solid and it falls off too easily" (Ruth). | Experience with the clip | Routines, usages and challenges | |
| "In the beginning, I thought the alarm was too heavy carrying around since I have a bad neck. However, now that I am used to it I almost do not notice" (Olivia). | Have become used to the alarm | Applicability and adaption to the alarm | Functionality of the alarm |
| "I know that I can push the button and the call goes to the home care nurse that is closest. That is quite genius" (Anne). | Received information from the home-based care | Knowledge and Information | |
| "I was told that I should push the button and that the alarm should be charged. That was it. And that the alarm has GPS, so they can see where I am" (Halvor). | Received information from the home-based care | | Variation in user guidance |

She said that the health professionals were very supportive and the information she received through the alarm was helpful for solving the situation. In addition, the health professionals would collaborate with the fire department in case of emergencies. Some of the participants talked about events where they had fallen and received help from both health professionals and firefighters. The participants described this cooperation as added security.

Many of the participants received the alarm after health professionals or a family member proposed that they needed one. Some of the participants described how the alarm enabled them to be home alone without their relatives worrying about them.

3.1.4 | The mobile safety alarm – no replacement for social relations

In addition to the sense of security provided by the alarm and the cooperation between the various services, visits from health professionals, family and friends were also highly appreciated. Half of the sample received daily visits from health professionals, while others had them more infrequently. The participants who were living on their own also expressed the need for social contact. As Signe said:

That is what the ones who make decisions want, that most people can continue living at home. However, the elderly need proper help. Not just an alarm, there are some other things they have to do also. To visit people in their homes occasionally is desirable. It would be nice to have someone dropping by once a week at least. I would have appreciated that.

Many of the participants talked about the importance of social contact and good relations with family and friends. In addition, several described the desire to have someone to talk to and the loss of partners and friends, as they were growing older.

3.2 | The functionality of the alarm

3.2.1 | Applicability and adaption to the alarm

None of the participants who had used the alarm experienced any problems when it came calling for help. It was easy to push the button to reach the health professionals. Olivia described her experience like this:

I am satisfied with the alarm and I think it works well. And I have been using it to help others as well. I think it works fine and it is easy to push the button and obtain contact. They remind you to charge the alarm if you forget to do so, which works great. So, in that way, I have nothing to complain about. I think it is really nice.

3.2.2 | Routines, usages and challenges

Some of the participants would prefer a smaller alarm and suggested a wristwatch as an alternative. One of the participants, for example, thought the alarm was too noticeable and wanted a smaller and more discreet alarm. Others felt it was challenging to carry the alarm around their neck. A few said it eventually became better, while other participants continued to feel that the alarm got in the way. To solve the problem, some had tried to use the clip that is attached on the backside of the alarm. This, however, proved unsuccessful since the clip was too fragile. As Amalie said:

I was told that you could attach the alarm to the trousers. But it turned out to be very difficult. The alarm fell off right away. So, the clip was not solid enough.

One of the participants also thought the alarm needed to be charged too often and a few experienced some problems with the charger. Several of the participants had regular routines in which they charged the alarm during the night. Additionally, many pointed out that the home-based care had oversight of each mobile safety alarm and would follow up with the service users if the battery was low. If the alarm needed charging, the participants received a phone call from the home-based care.

3.3 | Variation in user guidance

3.3.1 | Knowledge and Information

The findings show that the participants had different experiences of the guidance they received. Several said they only received instructions from the health professionals on how to use the mobile safety alarm. Only a few mentioned receiving an information sheet. Some of the participants remembered the instructions well and felt they had sufficient knowledge about the alarm. Others had difficulties remembering the information and instructions they had received. In addition, even though they had received information and instruction about the alarm, many of the participants did not describe this as "training." As Ola explained:

I did not get any training at all. But I do not think the people who taught us this had received thorough training either. But as long as I know how the alarm

works ... When I push the button, I reach a person I can talk to, that is the only thing I have to do.

Amalie had a different experience:

I got this brochure. And when they came to install the new mobile safety alarm, we also tested it. They gave me this brochure, so I could try it on my own, so that has been working really well.

These statements illustrate the variation in user guidance and the participants' individual adaptability.

Nevertheless, all the participants knew how to use the alarm, and that they could reach a home care nurse by pressing the button for at least three seconds. Some of the participants had adequate knowledge about the alarm and were able to explain the purpose of the GPS. A few had not yet used the alarm, nor had they received any reminders from the home-based care about the use of the alarm. The level of competence and interest in technology varied amongst the participants. For example, several used other assistive technologies in addition to the mobile safety alarm and had a positive attitude towards welfare technology. In addition to the alarm, everyone used a mobile phone in their daily life.

4 | DISCUSSION

This study explored service users of home-based care' experiences with mobile safety alarms and how the alarm impact service users' ability to cope with everyday life. By having the mobile safety alarm, the participants experienced an increased feeling of safety, as similar to findings from a previous study conducted by Johannessen et al., (2019) As a result, it made them less dependent on others in their everyday life. This feeling of safety was revealed in different dimensions: It increased their feeling of independence, enabled activity and interaction with the home care nurse and provided a sense of security for their relatives. Moreover, context and life situation affected the participants' feeling of safety. Article 3 in the Declaration of Human Rights proclaims that "everyone has the right to live, to be free, and to feel safe." (Universal Declaration of Human Rights, 2015).

Many of the participants obtained the mobile safety alarm following the suggestion of a family member or the health professionals. However, when the alarm increased their feelings of safety, the participants discovered its benefits and valued the opportunities the alarm gave them. Previous research shows that if the technology is perceived by the user to be of high relevance to their quality of life, this can increase involvement and commitment in using the technology in their everyday life (Schulz & Nakamoto, 2013).

The participants shared a collective understanding and desire to manage themselves, regardless of their level of function. As independence was enhanced by the alarm, some of the participants experienced more freedom. Technology can enable people to remain

independent and feel secure, providing them with the opportunity to live safely and peacefully at home (Kim et al., 2017; Mortenson et al., 2016; Peek et al., 2016; Scanaill et al., 2006; Wiles et al., 2012). The participants in this study had a variety of functional limitations and different prerequisites for managing their everyday life. As our findings elucidates, the safety alarm to some extent helped them overcome some of the everyday barriers, by being more enabled to activity for instance.

Another aspect that heightened the participants' feelings of safety was the certainty of being able to easily connect with the health professionals. By pressing the button on the safety alarm, the participants were able to get support; irrespective of whether they were at home alone or outside. The home care nurses had oversight of each mobile safety alarm and would follow-up with the service users. This way of interaction and control can create security for both service users and the health professionals. The feeling of safety that this generated is compatible with findings from previous studies that emphasize how the ability to call health personnel directly with the use of the mobile safety alarm can make service users and their caregivers feel safe (Mortenson et al., 2016; Scanaill et al., 2006).

Research has shown that the mobile safety alarm is an efficient tool to maintain mobility and increase safety and freedom (Melander-Wikman et al., 2008). This study has similar findings; ability to be outside alone and still feeling safe enhanced their feelings of control and increased independence. From a health promotion aspect, experience of coping and gain more control is important dimensions in the empowerment process (Castro et al., 2016). Additionally, this aspect is in line with the ethical values of nursing and delivery of care (International Council of Nurses, 2021).

Nevertheless, in our study, the majority of the participants described their level of activity as equal to before they received the alarm. Consequently, the level of activity does not necessarily increase even if the alarm enables activity. However, some of the participants felt safer in their activities. Despite expressing an increased feeling of safety, a few participants, those who were most affected by functional limitations, also expressed the fear of falling. Even though the mobile safety alarm can contribute to the feeling of safety, it does not prevent the fear of falling. Therefore, we argue that other preventive measures, in addition to the safety alarm, would be helpful for maintaining or increasing the level of activity.

In terms of the relationship between daily activity and wearing the alarm, some of the participants said that, due to its size, it was challenging and uncomfortable to carry the alarm around their neck. One of the participants thought the alarm was too noticeable and wanted a smaller and more discreet alarm. This finding is in line with previous reports that some service users are concerned that the assistive technology is too noticeable or obtrusive (Peek et al., 2014; Satariano et al., 2014). Safety technology is evolving rapidly, and new and improved versions of the safety alarm might be better tailored to some service users. This study thus emphasizes the importance of user involvement in the assistive technology development and implementation process. With regard to developing user-friendly

technology, it is important to ensure that the assistive technology's function and design corresponds with the different needs of its service users. Due to the number of participants in this study, it is not possible to draw any conclusions in regard to gender or age in use of the mobile safety alarm.

As our findings reveal, the mobile safety alarm is not a substitute for human contact. Some of the participants living alone referred to the loss of a partner or friends as they described their everyday life. With regard to health and welfare among the elderly people and an increasing number of elderly individuals living alone, it is important to recognize the importance of social interaction in everyday life.

This study shows that, while everyone said they knew how to use the alarm in an emergency, the participants had different understandings of the instructions they had received. Previous research regarding implementation of technology point to the users' lack of knowledge and information as challenges that need to be addressed (Satariano et al., 2014). Findings from our research indicate the need for individualized guidance to achieve adequate implementation of security technology which can be related to a study performed by Glomsås et al. (2021) that shows during the process of implementing new technology the health professionals only to a limited extent followed up what kind of knowledge the service users was lacking (Glomsås et al., 2021). Additionally, previous studies emphasize good communication and dialogue between the caregiver and the person receiving care is essential regarding patient empowerment (Aujoulat et al., 2007; Hage & Lorensen, 2005; Holmström & Röing, 2010). Furthermore, suitable interaction and communication between the service users and health personnel is crucial for the successful use of the technology (Lindberg et al., 2013; Van Den Berg et al., 2012). These aspects can be particularly important to highlight in the introduction of new technology among service users.

4.1 | Limitations

In the work of composing the interview guide, the authors did not get the opportunity to pilot test the questions on service users due to challenges related to recruitment. Nevertheless, by pilot testing and quality assure the questions on professionals, the interview guide and questions covered several dimensions. It is important to note is that the interviews were conducted in Norwegian and translated to English for the purpose of this article. However, both of the authors cross-checked the quotations and translations afterwards to ensure that the content of the quotations were correctly presented. Finally, this study has a relatively small sample of ten participants. Considering the number of interviews, however, the sample provided valuable information (Malterud et al., 2016). Still, a larger sample that included participants with more experience of using the mobile safety alarm may have provided even more knowledge. Generalization is not possible for the current study, based on the sample's representativeness. However, we argue that our findings

have transferability for similar user groups of the mobile safety alarm in home-based care.

4.2 | Relevance to clinical practice

The findings from this study address the importance of an individual approach and user involvement when implementing technology in the field of home-based care. Adequate training is important throughout the process of introducing mobile safety alarm to ensure safe and proper use of the mobile safety alarm in the future. With the introduction of new technology, this means a new practice that has consequences for both the service user and the nursing practice, and all involved parties must be a part of the involvement process, implementation and training in a safe use of the mobile safety alarm.

4.3 | Further research

Findings from our study show that further research is needed to investigate and develop suitable methods to ensure an individual approach to user guidance of mobile safety alarms and needs. Furthermore, in relation to technology, more research is necessary to explore how security technology can improve quality of life in both older and younger persons. Further research is needed to investigate the use of security technology and ethical implications as this is to a limited extent explored in this study. In our study, the use of mobile safety alarms was advantageous, irrespective of the user's age. However, it would be interesting to explore if there are any differences in older and younger persons experiences of using the mobile safety alarms.

5 | CONCLUSION

The mobile safety alarm enables activity and increases the level of independence among the participants which enables them to safer manage their daily activities. In addition, the mobile safety alarm has proven to be an effective communication tool, helping the participants connect with their health professionals with ease. Furthermore, the study shows how, in addition to the mobile safety alarm, participants would appreciate other interventions to enhance social interactions in their everyday life. Finally, this study highlights the importance of customized information from the health professionals and training in addition to an individual approach when implementing security technology.

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CONFLICT OF INTEREST

The authors declare no potential conflict of interest.

AUTHORS' CONTRIBUTIONS

Both authors participated throughout the whole research process, including preparing the manuscript.

DATA AVAILABILITY STATEMENT

There are no data available from this study. All transcripts are in Norwegian and there are no rest data to publish.

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