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Feature Article

eHomecare and safety: The experiences of older patients and their relatives

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ABSTRACT

The study's aim was to extend descriptions of how older patients with granted eHomecare and their relatives understand safety, and further to describe how they experience safety in everyday life. The study was conducted in Sweden. The participants were 12 older patients who had been provided with eHomecare and 8 relatives. Data were collected by semi-structured individual interviews. A conceptual framework of safety was used and a qualitative content analysis was conducted in a deductive and an inductive phase. The deductive results are presented in predefined categories: perceived sense of safety, disturbance and threats, re-establishing safety, and new safety. The inductive analysis resulted in two main categories: safety as part of everyday life and eHomecare as safety. The results show that eHomecare can promote safety for older patients and their relatives. Existing doubts and ethical concerns about the service can be minimized by providing adequate information.

Introduction

The world's ageing population is a demographic achievement resulting from improved living conditions and advancements in public health and medical technologies.[1,2] However, it is also a challenge for society and healthcare services. Ageing includes a risk of frailty due to physical and mental disabilities, implying a dependence on support in daily life. Some older patients will need residential care whereas others can continue to live at home with the right support.[3] A majority of older patients wish to remain independent as they age.[4] and to stay in their own home as it contributes to a sense of security and familiarity.[5] Information and communication technology (ICT) is one possible way to help older people remain at home with support and social interactions.[3] Relatives caring for an older adult can also benefit from ICT as a source of support, information, and networking,[3,6] and as a means for promoting health.[7] and contributing to quality in daily life.[8] ICT can also offer savings in efficiency when it complements or replaces homecare visits.[3] The current study focuses on safety and the use of ICT as a new form of homecare ("eHomecare") that is offered in the form of various ICT solutions to older patients living in their own home.

In Sweden, older patients who need support to manage their daily life have the right to homecare granted by a social worker (their care manager). Older adults are entitled to homecare when they can no longer live independently and safely and need support to live an active and meaningful everyday life. Municipalities ensure the homecare service, which includes personal care, practical housework, monitoring, and social support, and is delivered by homecare staff. Municipalities are also obliged to offer support to relatives including, for example, education, social support, and temporary relief to reduce the care burden.[9,10] Since 2013, eHomecare has been part of homecare services in some municipalities, offering information services, monitoring, reminders, and social interactions. Today this service mainly replaces homecare visits and can provide independence, participation, and safety.[11,12] Improved safety and security are prominent reasons motivating older adult's use of technology to support ageing in place.[13,14] Safety can be defined as the state of being free from harm or loss, and security can be defined as the of state of being free from danger.[15,16] In this study, these two concepts are understood to be closely related to each other and to sometimes have the same meaning. Social ties and frequent social contacts with friends,[17] having someone to rely on, and feeling healthy and at home all have meaning for the older adult's safety.[18] To be familiar with situations and things, and to use assistive technology as a means of social alarm, a telephone or a wheel walker, can strengthen the older adult's sense of security.[19] Older

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patients can perceive ICT as liberating and as protecting their privacy because it enables them to remain safely in their own homes instead of having to move to a nursing home.[20] Older patients are also willing to sacrifice some of their privacy to increase feelings of safety for example, by using safety alarms.[21]; this is consistent with earlier research.[22] However, there are doubts about being monitored by camera. In addition, lack of comprehension regarding new procedures and security alarms might have a negative impact on older patients' perceptions of safety.[21]

Safety is a central concept in the quality of older adult's care in the homecare context. Modern approaches to older adult's care, such as eHomecare, are likely to change the context of older adult's care. This context will undergo considerable changes in the near future, mainly due to the implementation of ICT. The potential of new technology may affect users' perception of safety. Considering the changes our older people's care systems are undergoing, and the paucity in research examining safety in this context, it is important to gain more knowledge about older people's care practiced as eHomecare.

The use of ICT in homecare is expected to be a win–win situation. Older patients can age in place and, at the same time, the health and welfare system can reduce care costs. eHomecare is expected to provide safety,[11,12] and improved safety can motivate the use of technology to support ageing in place.[13,14] Therefore, it is important to explore how older patients with eHomecare and their relatives experience safety, and to find out if these expectations are fulfilled. In the current study, Segesten's conceptual framework of safety.[23] is used, which is understood as a multidimensional concept comprising safety, security, trust, and confidence (see Fig. 1). Safety is further explained here as having both external and internal dimensions. Internal safety is a state of peace, with feelings of harmony and experienced trust. External safety means relations with others, material security and safe environments. When individuals can ensure for themselves an optimal quality of life, with a meanings that may vary between each individual, there are feelings of safety. This requires individual safety resources explained as safety-producing components. Losing safety resources or losing control over them is a threat to safety. Individuals strive to be free from these threats in different ways. Threats can be cancelled by elimination or materialization. When the threat is eliminated, resources are reset, and safety is re-established. If a threat materializes, it becomes actual, and the individual must seek new resources for safety.[23] In this study, the word *safety* will include both safety and security in accordance with the conceptual framework. The study's aim was to extend descriptions of how older patients with granted eHomecare and their relatives understand safety, and further to describe how they experience safety in everyday life.

Method

The study had a qualitative design and used individual interviews for data collection. Qualitative content analysis was used according to Elo and Kyngäs'.[24] and Hsieh and Shannon's.[25] A major benefit of content analysis is its flexibility in research design.[24] In this study, the data analysis was conducted in two distinct phases: a deductive phase and an inductive phase. The use of the deductive and inductive methods was determined by the purpose of the research, in this case a two-fold purpose. This methodological integrative and iterative approach in content analysis procedures use theory as a grid for analyzing textual data.[26,27] Deductive content analysis.[24] is useful when prior research on a phenomenon (e.g. safety) would benefit from further description,[25] and in cases of retesting existing data in a new context,[24] as was the case in this study.

Setting

The study was conducted between November 2013 and January 2016 in a municipality in central Sweden. eHomecare was introduced in the municipality when the study started. The participants were older patients who had been provided with eHomecare and their relatives. The provision of eHomecare meant that the older person received the ICT tool, installation of the technology, and Internet access. The cost for this was included in the homecare fee, with a maximum fee of about 1800 SEK (about $ 222) per month. The municipality initially offered four tools: a night camera for supervision at night, a videophone and a portable videophone for daily check-ups, social interactions and reminders, and an electronic mailbox for reminders and information by SMS and MMS messages and emails (Table 1). The last tool was removed from the service after six months because of contract issues. The offered tools were procured based on the security requirements defined by Swedish law. All tools had two-factor authentication and all transmissions were encrypted.

Recruitment and participants

The inclusion criteria for the older patients were that they must be aged 65 years or older, they must have been provided with eHomecare, and they must be able to understand and express themselves orally. Inclusion criteria for the relatives were that they should be related to an older adult provided with eHomecare. Relatives could be a spouse, children, other relatives, or a close friend. To be a family caregiver was not an inclusion criterion for the relatives, therefore they are titled as relatives. Relatives' interactions with the older adult differed between daily and weekly contacts. Not being able to speak and understand the Swedish language was an exclusion criterion for all participants. Forty-five possible participants (32 older patients and 13 relatives) were asked to participate in the study by the municipality's eHomecare managers after they had been provided with eHomecare. The majority of the older patients who had been provided with cameras did not fulfil the criteria because of cognitive failure. Twelve older patients and eight relatives chose to participate. When the last participant was recruited in the study, 64 cameras and 29 videophones were in use in the municipality. Demographic data from the participants are shown in Table 2.

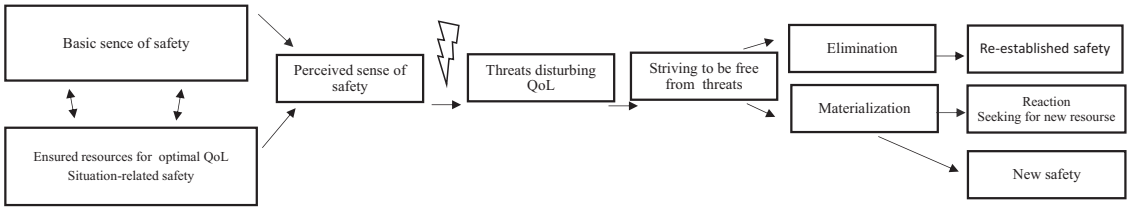

Fig. 1. Segesten's.[23] conceptual framework of the understanding of safety (Courtesy of K. Segesten).