International Journal of Nursing Studies 52 (2015) 134–148

Contents lists available at ScienceDirect

International Journal of Nursing Studies

journal homepage: www.elsevier.com/ijns

Attitudes and perceptions of adults of 60 years and older towards in-home monitoring of the activities of daily living with contactless sensors: An explorative study

Veerle Claes [a], Els Devriendt [a,b], Jos Tournoy [b,c], Koen Milisen [a,b,*]

[a] Department of Public Health and Primary Care, Health Services and Nursing Research, KU Leuven, Leuven, Belgium
[b] Geriatric Medicine, University Hospitals Leuven, Leuven, Belgium
[c] Department of Clinical and Experimental Medicine, KU Leuven, Belgium

ARTICLE INFO

Article history:
Received 29 November 2013
Received in revised form 16 May 2014
Accepted 20 May 2014

Keywords:
Activities of daily living
Aged
Attitude
Perception
Technology

ABSTRACT

Background and objectives: Contactless monitoring is increasingly used to enhance qualitative and cost-effective care for older persons. Succesful integration of this technology in older peoples' daily lives, depends on their acceptance of these systems. The primary purpose was to explore attitudes and perceptions of adults of 60 years and older towards contactless monitoring of the activities of daily living.
Design, participants and methods: A questionnaire was developed, validated and used in a cross-sectional survey with a convenience sample ($n = 245$). The results were presented using descriptive statistics and bivariate analyses to explore variables associated with willingness to install the technology.
Results: Descriptive statistics indicate that adults of 60 years and older find contactless monitoring useful for various purposes (e.g. to remain living at home longer, safely and independently; for timely detection of emergency situations and gradually emerging health problems). They agree to share collected information with professional caregivers and own access to the data is valued. Respondents like to take part in diverse decisions about the monitoring (e.g. about the rooms in which it is installed, the type of sensors used and access of third parties to collected information). However, several concerns were expressed related to the functioning and financing of contactless monitoring. Bivariate analyses show that both socio-demographic factors (e.g. age, receiving professional home care) and attitudes and perceptions towards contactless monitoring (e.g. on its potential usefulness, on the availability of collected information, on the functional requirements and financial costs of the system and on the use of video cameras) can promote or impede acceptance of the technology.
Conclusions: This explorative study indicates that older adults are willing to incorporate contactless monitoring in later life or when their health declines. They agree to share collected information with professional caregivers and clearly demand for participation in decisions about the technology. Various concerns and requirements provide implications for clinical practice and future research. Thereby, technology developpers, policy makers and professional caregivers can promote the implementation of contactless monitoring in the care for older adults.

© 2014 Elsevier Ltd. All rights reserved.

* Corresponding author at: Department of Public Health and Primary Care, Health Services and Nursing Research, KU Leuven, Kapucijnenvoer 35/4, B-3000 Leuven, Belgium. Tel.: +32 16 336975; fax: +32 16 336970.
E-mail address: koen.milisen@med.kuleuven.be (K. Milisen).

http://dx.doi.org/10.1016/j.ijnurstu.2014.05.010
0020-7489/© 2014 Elsevier Ltd. All rights reserved.

What is already known about the topic?

- Successful implementation of contactless in-home monitoring in the care for older adults depends on their acceptance of the technology. This is influenced by their attitudes and perceptions towards these systems.
- The attitudes and perceptions of older persons towards contactless in-home monitoring include perceptions on the potential usefulness of contactless monitoring, on the communication of information obtained through the monitoring, on the involvement and participation of the older adult in decisions about the monitoring and several concerns related to the technology.

What this paper adds

- This is one of the first explorations of the attitudes and perceptions of older adults towards contactless monitoring using quantitative research methods and a validated questionnaire.
- Older adults are willing to accept contactless monitoring, they agree to share information collected through these systems with professional caregivers and they clearly demand involvement in informed decision-making about the technology.
- The acceptance of contactless monitoring can be promoted through the design of the system, by taking various measures for privacy protection and by developing recommendations for informed decision making and funding of the technology.

1. Introduction

Demographic changes with an ageing population are creating a growing demand for care for older people (Steele et al., 2009; van Hoof et al., 2011; Sponselee, 2013). Figures concerning the population projections up to and beyond 2050 illustrate that the segment of individuals aged 70 and older, which brings along high expenditures and pressure on health care, will keep increasing substantially (United Nations, 2003). Therefore the provision of qualitative and cost-effective care for older persons will become more and more important (Steele et al., 2009; Sponselee, 2013).

Ageing can be associated with physical, sensory and cognitive decline and related (chronic) health problems. It can interfere with the performance of activities of daily living and the maintenance of health, safety and a social network. However, retaining of independence is of great importance for many older people. The majority of older persons want to live safe in their familiar home environment as long as possible (Demiris et al., 2008a; Peek et al., 2014; Wild et al., 2008). In order to meet these challenges, there is a growing interest in the development of technologies for the in-home monitoring of older people (Peek et al., 2014; Sponselee, 2013; Townsend et al., 2011). Different types of contactless sensors can be integrated into the infrastructure of a house, such as motion, temperature, pressure or bed sensors, video cameras and sensors on public utilities (e.g. water, gas and electricity). They do not require control by the residents, attachment to clothing or implantion in the human body (Courtney et al., 2008; Demiris and Hensel, 2009; Ding et al., 2011).

Herewith it is possible to map the activities of daily living (ADL) of older persons, such as personal hygiene, sleeping, toilet visits, cooking, making a phone call or managing medication (Devriendt et al., 2012; Ding et al., 2011; Katz et al., 1970). The ability to live independently and the security of the older persons are mapped and both acute and gradual abnormal changes can be detected. Examples of acute changes are emergency situations, such as a fall, the sudden absence of activity in the home or a gas stove that remains turned on. Gradual changes include a progressive decrease in the ADL activities and sleep or behavioural disturbances (Ding et al., 2011). By sharing this information with (professional) caregivers, help can be offered timely in emergency situations, or various health problems – such as dementia – can possibly be detected in an early stage and assistance for the older person can be started or adapted timely. Furthermore, institutionalization can possibly be delayed, the quality of life can be improved and the workload for the caregivers can be reduced (Devriendt et al., 2012; van Hoof et al., 2011; Wild et al., 2008).

Several researchers have explored the use of contactless monitoring in the care for older persons (Alwan et al., 2006; Chan et al., 2009; Ding et al., 2011). In Flanders, this has recently been done through the research projects Automatic monitoring of activities of daily living using contactless sensors (AMACS), FallCam and Care4Safety (Christelijke Mutualiteit, 2012; Devriendt et al., 2012; Vlaeyen et al., 2013). The succesful integration of contactless long-term monitoring in older people's daily lives, strongly depends on their acceptance of these systems, which is influenced by attitudes and perceptions towards these technologies (Beckwith, 2003; Sponselee, 2013; Townsend et al., 2011). Systems that are perceived negatively by their users, are more likely to be rejected and vice versa. The acceptance of contactless monitoring systems can be promoted by exploring the needs, concerns and possible prejudices of older people as end-users and adapting the technologies to these requirements during their development and implementation (Demiris et al., 2004, 2008b, 2009; Steele et al., 2009).

Despite the importance of the above-mentioned topics for technology developers, healthcare professionals and policy makers, many research projects focus mainly on technical and clinical aspects (Courtney, 2008; Demiris and Hensel, 2009; Sponselee, 2013). In our recent systematic review, we only could find a limited number of mainly qualitative studies paying attention to the attitudes, perceptions and needs of older people as the potential or actuel end-users of contactless in-home monitoring and their willingess to accept these technologies. Most of these studies have a limited profundity and methodological quality (Claes et al., 2013).

Given the above-mentioned reasons and because there is a scarcity of explorative studies with quantitative research methods on this research topic, the purpose of this study was twofold: (1) to develop and validate a questionnaire to explore the attitudes and perceptions of adults of 60 years and older towards contactless in-home

Download English Version:

https://daneshyari.com/en/article/1076029

Download Persian Version:

https://daneshyari.com/article/1076029

Daneshyari.com