Older Adults' Attitudes Towards Smart Home Features

Demiris G, Skubic M, Rantz MJ, Harris K, Hensel B, Aud MA, Lee J, Burks K, Oliver DR, He Z, Tyrer HW, Keller J.

Background

The ongoing growth of the elderly population and increase in life expectancy have led to new models of positive ageing empowering older adults to maintain functionality, autonomy and quality of life. A smart home initiative funded by the National Science Foundation, exploring ways to utilize technology to support quality of life and independence of older adults, is currently under development at Tiger Place, a 34,000 square foot facility in Columbia, Missouri, developed by the University of Missouri-Columbia with Americare Systems, Inc., of Sikeston, Missouri. Within its 32 apartments emphasis has been placed on a state of the art building and apartment design that supports independence, therefore helping residents to age at home and not in a nursing facility**.** The aim of study was to assess the perceptions and expectations of seniors in regard to specific smart home technologies that are to be installed and operated in their homes with the purpose of improving their quality of life and monitoring their well-being.

Methods

We conducted two focus group sessions with TigerPlace residents The sessions were facilitated by members of the research team. At the beginning of the focus group session, the facilitator introduced the purpose of the study. The focus group protocol included questions about participants' current experience with technology, and their perceptions of the usefulness of specific devices and sensors. The facilitator demonstrated a bed sensor, a sensor mat, a gait monitor, a motion sensor and a stove sensor. Participants were asked to discuss potential benefits, problems or concerns, their willingness to adopt this technology and who they would like to be the recipient of the monitoring data sets. In order to ensure the protocol's validity, the questions were reviewed by a team consisting of researchers experienced in instrument development and health care providers.

Results

A total of 9 residents over the age of 65 years of age participated in two sessions (1 male and 8 female). The majority of participants found benefits in using "smart home" technologies. Bed sensors and gait monitors were perceived as useful; two participants, however, stated that they are still independent and do not see immediate benefits but can imagine needing such interventions at a later point in time. One participant expressed some concerns about privacy. Most participants expressed the desire to include both health care providers and family members in the monitoring process and would like their immediate family to be notified of changes in their activity levels. Three participants saw additional benefits in sensor technology beyond monitoring of their health status; namely, potentially using the technology to prevent intruders and increase the security of their residences. Stove sensors and motion sensors were perceived as very helpful.

Conclusions

This study indicates that older adults have overall a positive attitude towards smart home technologies. Conducting two consecutive focus group sessions allowed the research team to modify the focus group protocol and to determine that the best way to illustrate the function and purpose of smart home technologies is by using examples and anecdotal reports.