INTRODUCTION

Falls are the leading cause of fatal and nonfatal injuries among older adults. With technology becoming increasingly integrated into daily life, information communication technologies (ICTs) have been popularized to aid in fall prevention.

ICTs used in fall prevention interventions assist in the monitoring of both the individual and the environment. ICTs may improve capability for assessing the demands of the environment and the individual’s ability and resources to meet environmental demands, ultimately increasing older adults’ independence and ability to age in place.

Aging In Place

Aging in place is defined by the CDC as “the ability of an individual’s ability and resources to meet the monitoring of both the individual and the environment. ICTs may improve capability for assessing the demands of the environment and the individual’s ability and resources to meet environmental demands, ultimately increasing older adults’ independence and ability to age in place.”

AIM

In order to mitigate the successful adoption and adherence of fall prevention ICTs in older adults, it is vital to understand older adults’ preferences in terms of the following:

- Functions that the technology will carry out
- Factors that influence use and adherence
- Possible issues and barriers to adoption/use

METHOD

A non-systematic literature review was conducted to identify English-language articles with specific discussion of fall prevention technologies and older adult preferences.

Inclusion Criteria:
- Sample population of community-dwelling older adults
- Available in the English language and published in peer-reviewed journals
- Quantitative or qualitative analysis of technology use, acceptance, preference, and/or outcome

Supplemental material from the Daily Balance Project was also referenced.

Databases (accessed through UIUC Library):
- PubMed
- SAGE Journals
- Elsevier Science Direct

Articles were found using a keyword search of combinations of the following terms:
- older adults, fall, falls, prevention, technology, caregiver, caregivers, home based, usability

RESULTS

The article search yielded 6 relevant articles (three systematic reviews, one RCT, one cross-sectional survey study, and one narrative review).

Types of Fall-Prevention Technology

Home-based technology, or smart-home technology, uses sensors and actuators to monitor the inhabitant’s condition and assist in activities of daily living. This may include video monitoring, floor sensors, task automation, and more.

Mobile technology has broad ranges of functioning, including:
- Contact with friends, family, caregivers, physicians, service personnel, etc.
- Promotion and education of preventative health behaviors
- GPS navigation/way-finder

Wearable technology is a subset of mobile technology that can be worn on the body (e.g., on wrist or waist), mostly because they want to remain close and connected to their communities.

CONCLUSIONS

Disclaimer: in no way does this research poster discuss the full scope of fall prevention technologies available and older adult preferences.

Older adults’ preferences for functions of mobile, wearable, and home-based fall prevention ICTs are majorly related to monitoring, fall detection, and transmitting information to caregivers and providers. Technology use and adoption was largely associated with whether older adults believed the technology would help them age in place. The greatest concerns with using fall prevention ICTs were privacy, cost, and safety.

Future Directions

- Preferences may vary greatly across individuals.
- Thus, a tailored approach is vital for successful adoption and adherence to fall prevention ICTs.
- Caregiver preferences must also be considered as caregivers are highly involved with fall prevention management.

ACKNOWLEDGEMENTS

I would like to acknowledge my research mentor and primary investigator for the Daily Balance Project, Dr. Shannon T. Mejia, PhD. I would also like to acknowledge the graduate students that worked closely with me during my time at AdaptLab, Faith Washington & Ted Su.

REFERENCES

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