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Facilitators and barriers to using smart TV among older adults in care settings: a scoping review protocol

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ABSTRACT

Introduction The objective of the scoping review is to understand what has been reported in the literature regarding facilitators and barriers to using smart television (smart TV) among older adults in care settings.

Methods and analysis The scoping review will adopt the Joanna Briggs Institute scoping review methodology. It will occur between March and August 2022. It will consider literature on using smart TV with older adults in care settings. A three-step search strategy will be applied: (1) to identify keywords and index terms from MEDLINE and CINAHL; (2) to do a search using identified keywords and index terms across chosen databases (MEDLINE, CINAHL, Embase, Web of Science, Scopus, AgeLine, PsycINFO, Web of Science, ProQuest and Google) and (3) to hand search the reference lists of all selected literature for additional literature. Further, we will search using Google for grey literature. Two research assistants will independently screen the titles and abstracts by referring to the inclusion criteria. After that, two researchers will independently assess the full text of selected literature by referring to the inclusion criteria. We will present the data in a table with narratives that answer the questions of the scoping review.

Ethics and dissemination The scoping review does not require ethics approval because it collects data from the publicly available literature. The findings will offer insights to inform the use of smart TV among older adults in care settings for education, practice, policy and future research. The scoping review results will also be disseminated through conference presentations and an open-access publication in a peer-reviewed journal.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ We will involve people with lived experience in conducting and dispersing the scoping review.
⇒ This topic is timely and innovative to understand the facilitators and barriers to using smart TV among older adults in care settings.
⇒ The Joanna Briggs Institute scoping review guidelines do not recommend methodological appraisal of the quality of studies. Therefore, the results and recommendations of scoping reviews cannot be graded.
⇒ This scoping review will miss literature that are not published in English.
⇒ Facilitators and barriers to using smart TV among older adults living at home in the community will not be captured.

INTRODUCTION

There are increasing discussions on using smart television (smart TV) among older adults. Smart TV refers to TV which is interactive. This means that, instead of just watching, older adults can interact with the technology in different ways such as taking steps following the TV,[1 2] connecting with other people remotely[2–4] or selecting options by touching screen or speaking to the TV.[5]

According to literature, smart TV has been used to achieve the following purposes with older adults: education (eg, education on healthy eating,[6] physical exercise,[2] digital literacy[7]), training (for instance, cognitive training[8]), social connection,[3] monitoring and assessment or evaluation (eg, cognitive assessment[9]) and care (for instance, giving medical appointment and medication reminders[10]).

In most literature, smart TV has been used among older adults living at home in the community.[2 5–9] There is limited literature on older adults in care settings such as long-term care and hospital: Santana-Mancilla and Anido-Rifón[10] explored use of smart TV on health and social care among older adults living at homes in community and nursing homes in Mexico. For example, the TV would show reminders when it was time for medication. Tapia, Gutierrez and Ochoa[4] examined using smart TV on social connection among older adults living in assisted living. Older adults can use the TV to exchange messages and photos with family and friends living remotely. Considering the limited literature on smart TV among older adults in care settings, there is a need to fill this literature gap.

There are two main rationales for conducting this scoping review. First, technology such as smart TV offers the potential to support quality of life, reducing deprivation

of meaningful stimulation, loneliness and social isolation among patients and residents in hospitals and long-term care. There is a need for knowledge to understand how smart TV can be used in care settings for patient and resident benefits. This scoping review will provide a summary of evidence about existing research to inform research, policy and practice. Second, adopting technology in complex clinical environments such as hospitals and long-term care requires careful consideration of multiple factors, including workflow, staff attitude and readiness, culture, resources, and leadership support. The scoping review study will map out the facilitators and barriers reported in the literature.

We will use the Joanna Briggs Institute (JBI)[11] methodology for the scoping review. JBI methodology is a methodology guiding researchers on how to conduct a scoping review. It was initially developed for doing scoping reviews on literature related to healthcare. However, it is now widely used in doing scoping reviews on different disciplines. It provides clear steps on strategies for protocol development, study search, study selection, data extraction,and data synthesis.

We conducted a preliminary search of MEDLINE, CINAHL, PsycINFO and the JBI Database of Systematic Reviews and Implementation Reports on 23 January 2022 and found no systematic review examining facilitators and barriers to using smart TV among older adults in care settings.

This scoping review will have three contributions. First, it will provide a strong synthesis of latest evidence. Second, identifying accessible literature will provide a thorough overview of evidence to inform education, practice, policy and further research. Third, patient and family partners will be involved in conducting the scoping review. This will increase the relevance and quality of the scoping review, including transparency and accountability.[12] Finally, a scoping review is useful to systematically identify and synthesise the current knowledge on a research topic that is new and has not been fully explored, as suggested by JBI.[13]

The primary objective of doing scoping review is to chart the body of literature on facilitators and barriers to using smart TV among older adults in care settings.

Review questions

What has been reported in the literature regarding facilitators and barriers to using smart TV among older adults in care settings?

METHODS

We will conduct the scoping review according to the JBI methodology for scoping reviews.[13] This current protocol will apply the same methodology and methods as the previous protocol by Hung *et al*,[14] but the topic and content are different.

We will use JBI methodology because compared with other scoping review methodologies, the JBI methodology is widely used, internationally recognised and has clear steps on how to do a scoping review. This scoping study will take place between March and August 2022.

Inclusion criteria

Participants

This review will include older adults in care settings. It will define older adults to be people aged 60 or above. We decided to begin from age 60 because it is a well-known age for considering individuals as older adults. For example, the WHO[15] also adopts age 60 as the beginning of older adults.

Concept

This scoping review aims to identify facilitators and barriers to using smart TV among older adults in care settings. The core concept is smart TV.

Context

Care settings refer to formal healthcare organisations such as long-term care facilities, assisted living and hospitals. Studies on people living at home in community will be not considered in this review.

Types of studies

Studies published in English will be considered with no time limit. We will consider an extensive range of study designs. We will consider all types of study designs (quantitative and qualitative). We will also consider student theses and dissertations published by universities.

Search strategy

The three-step search strategy will be adopted as suggested in JBI review guidelines.[16] The first step will be an initial limited search of at least two appropriate online databases relevant to the topic. We will conduct an initial limited search of MEDLINE and CINAHL using the selected keywords: older adults, smart TV, long-term care, geriatric acute care. After that, we will analyse the titles and abstracts of relevant literature, and the index terms used to describe the literature. The second step will be using all identified keywords and index terms to search for literature in all selected databases. The third step will be screening the reference lists of all included literature for additional literature. Please see the full search strategy for MEDLINE (see online supplemental file 1). We worked and will continue to collaborate with a university medical librarian to further refine the search strategy so that we can make sure that we capture the key literature. The academic professor (LH) in the team is familiar with key literature and will provide guidance for specific reference search throughout the process.

Information sources

The databases to be searched include MEDLINE, CINAHL, Embase, Web of Science, Scopus, AgeLine, PsycINFO, Web of Science and ProQuest for theses and dissertation. Google will be searched too by using phrases, ‘smart TV’ OR ‘smart television’ OR ‘interactive TV’ OR

'iTV' OR 'interaction television' OR 'TV-based assisted technology' OR 'television-based assisted technology' OR 'digital TV' OR 'digital television' OR 'DTV.

Study selection

We will collect and import all identified citations into Mendeley. We will delete the duplicates. Two research assistants (CW and DP) will then independently screen the titles and abstracts for assessment by referring to the inclusion criteria. Potentially relevant literature will be retrieved in full, and their citation details will be uploaded into the JBI System for the Unified Management, Assessment and Review of Information (JBI, Adelaide, Australia). Two researchers will assess the full text of selected literature in details by referring to the inclusion criteria. The first author will check with the medical librarian, and academic professor (LH) will refine the searching and selecting process. We will record and report the reasons for exclusion of full-text studies that do not meet the inclusion criteria. If there are any disagreements between the reviewers at any stage of the literature selection process, reviewers will resolve through discussion. The academic professor (LH) will make a decision if a consensus cannot be reached. We will report the results of the search in full in the final report. We will also present them in a Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) for Scoping Reviews flow diagram.

Data extraction

Two researchers will use a data extraction tool to extract data from literature included in the review. We will extract the following details: the year of publication, country, setting, population, and facilitators and barriers to using smart TV among older adults in care settings. Please see the draft charting table (see online supplemental file 2). We will do a pilot test with the data extraction tool. Two independent researchers will do the extraction from three studies and compare the results. We will adjust the draft data extraction tool and revise during the process of data extraction if needed. We will describe the adjustments in the full scoping review report. Depending on the discussion in the study team meeting, if necessary, we will go back to any included literature to further explore and present results that is not in the extracted data. If there is any disagreements between the reviewers, the reviewers will resolve through discussion. The academic professor (LH) will make decisions in case consensus cannot be achieved.

Patient and public involvement

Patients and the public were involved in the designing, conducting, reporting or dissemination plans of this research.

Two patient partners (people with early stage of dementia—MG and JM) and two family partners (LW and AB) will participate in regular meetings to discuss extracted data and results. See their full names in acknowledgement. They will review extracted data and full-text literature. Each partner will decide the number of articles that they want to review. We expect about 3–5 articles per person. The partners will receive a small honorarium and will be coauthors of the full scoping review report. Patient and family partners were recruited from the Community Engagement Advisory Network (CEAN), a local community organisation supporting patient and public involvement. More information about CEAN can be found at http://cean.vch.ca Due to the COVID-19, in-person meetings may not be possible. If this is the case, we will engage the partners by zoom meetings. The meeting aims to invite inputs and seek feedback from the partners on the scoping review results. We also hope that the partners can spread the results on their organisational websites and their communication network.

ETHICS AND DISSEMINATION

This scoping review does not need research ethics approval and consent to participate because it collects data from publicly available articles. We will disperse the results at regional, national and international conferences. Healthcare professionals, policy and decision-makers, and the public will all have access to the findings.

Data synthesis

We will use a table to present the extracted data and results to identify and sum up the existing literature. The categories of the data and results to be extracted are the author, year of publication, country, context, population, type of article, study design, and facilitators and barriers to using smart TV among older adults in care settings. Following the table, there will be a narrative summary to describe the key themes of the literature. The findings of the scoping review will be evidence to inform future practice, policy and research.

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Contributors KLYW conceived the idea, developed the research protocol and methods, and drafted and edited the final manuscript. MG and LH helped to refine and develop the research question and study methods and made meaningful contributions to the drafting and editing of the manuscript. All authors approved the final manuscript submitted.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

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