

ORAL PAPER PRESENTATION 1: HOUSING AND DAILY LIVING

Technologies to age in place in community-dwelling older adults and family caregivers: A systematic review

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Purpose The pandemic has highlighted the importance of aging in place. Technology-based solutions are an excellent option to support seniors living at home. With many alternatives available and limited resources, it is crucial to analyze the evidence-based technologies for home support in community-dwelling older adults (CDOA) and their family caregivers (FC). This systematic review presents the evidence-based technologies used for home support targeting CDOA without cognitive impairment and their FC from 2016 to 2021. **Methods** Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, two independent librarians specializing in Geriatrics and Psychology identified 2120 studies from five different databases (CINAHL, Medline, PsycINFO, AgeLine, and Web of Science) using specific keywords addressing gerontechnology (e.g., tablet, robot) and home support (e.g., home care, independent living). We included records showing evidence of the use of technology for home support in CDOA without neurocognitive impairment and their FC, tested in participants 65 years and older. Using COVIDENCE software, 679 duplicates were removed. Three reviewers with expertise in Psychology and Engineering independently screened the titles and abstracts to verify inclusion criteria, and a fourth reviewer resolved conflicts (n = 1441). The full text of 112 articles was assessed for eligibility by two independent reviewers, with 16 articles meeting the criteria for the extraction phase. **Results and Discussion** The collective sample included 273 CDOA (age range = 60 - 98) and 223 family caregivers (age range = 35 - 64) from nine different countries. Most technologies were tested in the United States (38%) and Switzerland (12%). The remaining were assessed in Australia, Chile, Croatia, Japan, Norway, Sweden, and Taiwan. Research methods included qualitative (38%), quantitative (25%), and mixed designs (37%). These gerontechnologies were designed to monitor behavioral changes (50%), promote social contacts to reduce isolation (19%), health (13%) or sleep monitoring (6%), medication distribution (6%), or both behavior/health surveillance (6%). However, there was not a gerontechnology integrating all these aspects, which are vital to age in place and support CDOA/FC dyads. This systematic review highlights the latest findings concerning gerontechnologies to support aging in place, the need to develop integrative technologies that reduce the cost of caring for older adults at home, and accessibility concerns. Future directions in the area of gerontechnology to support aging in place include the customization of options based on CDOA/FC's needs (Corcella et al., 2019), ethical aspects (Berridge & Wetle, 2020), and implementation challenges (Coardos & Marinescu, 2020).

References

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