

The assisted living technology for the older adult users- Current application, challenges, and future development S. H. Ho & C. J. Lin.

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Purpose Aging has been a global issue influencing many societies of developed areas in the world. Aging causes deterioration in physical condition and psychological status, which influences the seniors' mobility, safety, social interaction, and their independence in their living environment (Schulz et al., 2014). Therefore, disease control, health promotion, and long-term care become important to the aging society (Kazawa et al., 2018). Meanwhile, as the advances of technology develops, assisted living technology can also provide some beneficial effects to enhance the active and independent living for the population of older adults (Viana et al., 2019). Previous investigation found that mobile device usage has risen rapidly among older adults (Anderson & Perrin, 2017). However, there are still some challenges for older adult users to access the applications of assisted living technology. This research aimed to investigate the current applications of assisted living technology developed on mobile devices to support the seniors' daily life and to reduce the loads of the caregivers. **Method** First, a literature review of recent applications of assisted living technology on mobile devices for older adult users was conducted using the search engine of PubMed. The collected articles were screened and selected. The selected criteria included publication time (within 1 year), theme of topic (older adult users and mobile health applications), and English as the published language. Then, the findings were summarized based on these selected articles. The core issues of these applications of assisted living technology were also summarized. This research explored the future challenges and possibilities of the development of the applications of assisted living technology in the aging societies. **Results and Discussion** There were 24 articles meeting the initial criteria in the search, and after further confirmations of the content, 12 articles were excluded due to irrelevancy to older adult users. Based on the categorization from the definition of Lewin et al. (2010), recent applications of assisted living technology focus mainly on telecare services, followed by telehealth services, and there is one article discussing wellness services for older adult users. Although the technology has become more affordable and accessible for the older adult users recently, the age-related deterioration (Gao & Sun, 2015), usability issues, and the technology anxiety could still influence the senior users to accept the assisted living technology (Mallenius et al., 2007; Mitzner et al., 2010). Among the searched articles, two researches included user studies to improve the developed applications for older adult users. The main focus of these user studies was the function of the product from the users' needs. Future researches can explore the aging-related ability declines which influences the interface interaction for senior users. The facing challenges of the development of assisted living technology include how to improve the usability of interface design, to enhance the user experiences, and to reduce the technology anxiety for the older adult users. The findings are helpful to provide guidance for future designers and researchers in this field to develop applications to meet older adult users' requirements, and to enhance their quality of life through utilizing the beneficial parts of the technology.

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