Comparative literature review of assistive technology for dementia care in South Korea, Japan, and Thailand
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Purpose South Korea, Japan, and Thailand have a high proportion of older adults. The growing age could lead to the risk of dementia and to date, the prevalence of dementia in these countries is continuing to rise. To support dementia care, assistive technology (AT) is growing interest and has become one of the fundamental pillars of healthcare. Technology could improve quality of life among people with dementia and caregivers. AT are demonstrated the advantage when used for rehabilitation and psychosocial interventions. However, healthcare policies related to AT in each country are different. For this reason, this study aims to summarize and compare the assistive technology available for older adults with dementia in each country. **Method** A systematic literature search was performed using the Scopus, PubMed and additional search was done through domestic databases, for instance, J-Stage, KCI, and TCI databases. Search terms include ("assistive technology" OR "assistive device") AND ("dementia" OR "Alzheimer") AND ("care" OR "rehabilitation"). The inclusion criteria were article published in a peer-reviewed journal within 20 years, described as a research article, and discussed on the high-tech assistive technology being used in each country's context, the assistive technology is mainly for dementia care and not medical device. After assessing eligibility, then 10 studies were included in this review. The analysis was done based on Arksey and O'malley's framework. **Results and discussion** The search identified 203 articles, 10 of which were reviewed and met the inclusion criteria. Among the 10 articles included in this study, 6 were from Japan, 3 were from South Korea, and 1 was from Thailand. Subjects were people with mild dementia to severe dementia. Types of AT were social robots; for example, PARO (Inoue, Wada, and Shibata, 2021; Koh and Kang, 2018; Song, 2009; Takayanagi, Kirita, and Shibata, 2014) and PALRO (Inoue et al., 2022), automatic medication dispensers (Kamimura, 2019), electric calendars (Nishiura et al., 2021), information support robots (Mizuno et al., 2021), and robots for entertainment (Oh et al., 2015; Wongpatikaseree et al., 2021). Outcome were caregiver burden, global cognitive function, activities of daily living, restlessness, social interaction, psychosocial symptoms, and behavioral problems. Overall, results showed that AT were beneficial in behavioral and psychological symptoms of dementia (BPSD) management, reducing caregiver burden and increasing social interaction. In comparison, Japan and South Korea adopted high-tech AT for caring people with dementia, such as social robots (humanoid and animal-type) and electronic AT, while only one social robot was developed in a pilot dementia care study in Thailand. This could be an influence of culture, economic status, and health care policy. According to this review, the use of AT for people with dementia is focused on the management of BPSD and caregiver burden, which are the main domains of concern for dementia care. High-tech AT seems to have a benefit for dementia care. However, to provide AT to people with dementia, personal preference and affordability should be considered. Moreover, despite the benefits of the AT for dementia care, research on AT for people with dementia in Thailand is insufficient, this could limit the comparability among these three countries.

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