



Prevalence and experience of assistive technologies use among community-dwelling oldest old in Japan

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Other participating research institutions: Osaka University; Tokyo Metropolitan Institute of Gerontology; Research Institute of National Rehabilitation Centers for persons with Disabilities, Japan; Maynooth University; and University College Dublin

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Background

More than one billion of the world's population need assistive technologies (AT). AT comprise a wide spectrum of products, ranging from 'low-tech' to 'high-tech' devices. Examples include, but are not limited to, hearing aids, glasses, walking frames, wheelchairs, communication aids, memory aids, and prostheses. Access to AT remains very limited with only one in ten people worldwide having access to such technology. Older people are one of the largest groups in need of assistive products and devices due to high prevalence of chronic morbidities and other age-related frailty and disabilities. There is limited research on the profile of people using AT, the types of AT that are used, as well as the users' experience with AT among the oldest old. Japan, being the world's leading aged society, offers a unique setting for addressing this research gap.

Goal

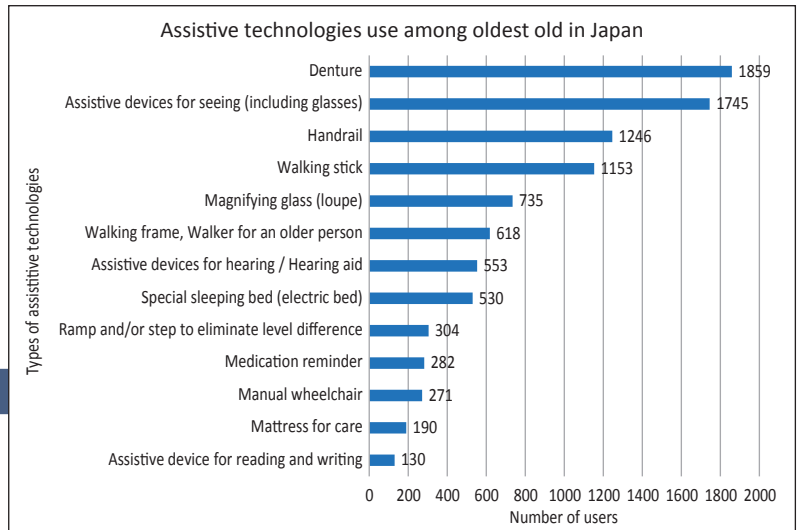
To document the profile of AT use, in terms of the age of the users, types of most commonly used AT, and the users' experience with AT among the community-dwelling oldest old in Japan.

Methods

This is a cross-sectional, mixed-methods study. The quantitative arm consisted of a preliminary mail-based survey followed by a detailed face-to-face, interviewer-administered structured questionnaire. Participants were sampled from two specific studies: the Kashiwa90 study and the SONIC (Septuagenarians, Octogenarians, Nonagenarians Investigation with Centenarians) study. The Kashiwa90 study is a newly established cohort by this research project. It focuses on individuals 90 years and above residing in Kashiwa City. The SONIC is an ongoing prospective cohort study, initiated in June 2010, in the Kansai area (Itami City and Asago City of Hyogo prefecture) and Kanto area (Itabashi City and Nishitama district of Tokyo). The collected data consisted of the participants' demographic characteristics, health status, physical condition, cognitive and motor functions, mental health, and other relevant information. The qualitative arm of the research consisted of in-depth interviews on users' experience with AT.

Results

The analytical sample size for the mail survey included a total of 2,477 participants from both the Kashiwa90 and SONIC studies. The participants' ages ranged from 88 to 106 years with 2.1% of them being aged 100 years and older. The majority (98.7%) used some type of AT. Multiple device use was very common. Around 79% of the participants reported using three or more AT, while the proportion of those who reported using at least five AT was 44.8%. The most commonly used AT included dentures (76.7%), glasses and other wearable vision-related devices (72.0%), handrails (51.4%), and canes (47.6%). Data from the qualitative interviews (one male and four females ranging in age from 94 to 100 years) revealed that the use of AT had a notable positive impact on daily living activities of the community-dwelling oldest old.



Implications

This study has shown the high prevalence of multiple AT use and has documented the most commonly used AT by community-dwelling oldest old in Japan. This information could inform the design and prescription of AT that are attuned to the needs of the oldest old. An important outcome of this research project is that it has set up a new research cohort, the Kashiwa90 study, which will potentially serve as a data source for future research on AT and other aging-related issues among the oldest old in Japan.