

Acceptability and usability of the ICT and AI-based care services for older people living alone in Korea

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Purpose People aged 65 or older make up 14.3 percent of the population in Korea. Among senior citizens 65 or older, 8.8% of them live by themselves in Korea. This figure is expected to double in 2035(National Statistical Office, 2018). Moreover, the percentage of those over 80 will be the fastest growing group. In order to provide safer living environment for the vulnerable elders living alone, the Korean government has been providing ICT-based emergency alarm system since 2008 for almost 90,000 elders around the country. Recently, a new national plan was introduced which include more ICT-based services for lone elders, and they plan to expand services using more advanced technology in future. Additionally, some AI-based care services have emerged in private sectors. The purpose of this research is to describe the situation of ICT and AI-based care service users, and compare the acceptability and usability of the two types of services. **Method** In this paper, data from a survey of 488 lone elders using ICT and AI-based care services was analyzed from the acceptability and usability perspectives. A survey was conducted in ten public agencies providing ICT-based emergency alarm system in October-November, 2018. A structured survey included questions on socio-demographic variables, service need, satisfaction, acceptability, usability, depressive mood, loneliness and the effectiveness of service use. **Results and Discussion** Among the recipients of the home visit services, 38% of the survey respondents used the emergency alarm services and 17.4% used AI-speaker services. The level of satisfaction was 2.15(sd=.58) on a 5-point-scale. Even though the emergency alarm service showed higher level of satisfaction than the AI speaker service, they played different types of emotional support functions for the lone elders. AI speaker-based services seemed to play the role of friendly companions, while the emergency alarm service provided a sense of safety and guardianship to the service users. From the usability perspective, AI speaker service was rated relatively lower on items such as easy to use, simplicity and efforts for use. The recipients of the emergency alarm service showed higher level of depression indicating that this group might be more vulnerable lone elders in community dwellings. The users of the ICT and AI-based care services suggested that improvements need to be made on voice recognition, simplicity of use, location of devices, design of devices, the feeling of being monitored and service cost. Moreover, they also requested more financial support to improve their economic and housing conditions. Results from the survey showed that the ICT and AI-based care services provide some positive and supplemental functions in alleviating loneliness and rescuing life from emergency situations for lone elders in Korea. However, there remains daunting challenges in designing technology and services to enhance the effectiveness and efficiency of the system. There is an increasing demand for technology and innovations to support healthy and active aging. Utilizing the latest developments in technology, more integrated and user-centered service models need to be designed for providing care services in Korea. In this context, there will be more opportunities to develop improved models that could be used by lone elders aging in place.

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