Companion robot can be a health keeper for the elderly: The effects of daily use of companion robot on medication compliance

J.-C. Yun, S.-H. Yu, E. Yi, D.-H. Park

Purpose Various social problems are occurring due to the increase of the elderly population (i.e. aging society). There is a lack of helping hand for the elderly in need of care. There are often situations in which an elderly person in need may even have to help another elderly person. These "care gaps" cause the elderly to face emotional (e.g. loneliness, depression) and physical (e.g. fall accidents, disease occurrence) problems, thus increasing many social costs. Recently, companion robots are attracting attention as a way to solve these social problems. The companion robot performs various functions, such as being a talk mate, exercising together, and telling good stories. Through this, companion robots have a positive impact on improving the quality of life of the elderly emotionally and physically. Focusing on the behavior of taking drugs that can significantly affect the physical problems of the elderly, this study confirms how the use of companion robots in daily life affects the medication compliance of the elderly. **Method** This study collected about 1.12 million log data for one month for users of "Hyodol", an AI companion robot product of Hyodol Co., Ltd. Among them, 613 elderly people who needed to take medicine were selected, and the relationship between the log of use "Hyodol" and medication compliance of each elderly person was analyzed. Specifically, gender, age, and the number of medications to be taken per day are set as control variables, and regression analysis was conducted to determine how sympathetic behavior (e.g. stroking, patting) with the companion robot and the behavior of using contents (e.g. gymnastics, brain training, quiz) provided by the companion robot affect medication compliance. **Results and Discussion** As a result of the regression analysis, the fewer the number of medications to be taken per day, the higher the medication compliance, and as the number of patting (sympathetic behavior) and quiz (content use behavior) that require active participation of users increased, medication compliance increased. On the other hand, the number of hearing sermons and hearing tales (content usage behavior) that require passive participation of the users increased, the medication compliance decreased. As a result, it was confirmed that the daily use of the companion robot affects the medication compliance of the user, and that the active use of the companion robot can contribute to the improvement of the medication compliance as compared with the case where it is not. The results of this study as described above can be utilized in the development of robots for the purpose of resolving the care gap for the elderly.

References

So-Yun Choi. (2022). A Study on Human-Centered IT Utilization in Caring for Elderly People Who Live Alone. Journal of Digital Convergence, 20(2), 455-462.