

# ASSISTIVE TECHNOLOGY & HOME MODIFICATION – HOW DOES IT AFFECT PEOPLE?

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## Background

The development and advances of assistive technologies, smart technologies and home modifications have rapidly increased in the last two decades, thereby shaping the world in which we live. Occupational therapists have recognised the benefits of these technologies, which are aimed at increasing independence in controlling the environment, facilitating participation in activities of daily living and improving communication, thus improving individual's quality of life and functional independence.

The Smart Home IRIS was established in Slovenia five years ago with the aim to enable persons with disabilities and elderly people to test various assistive technologies and technical solutions for their independent living, but its importance has not been defined yet based on practical experience and feedback from the users who have been treated in it.

## Research Aim

To investigate the effect on functional independence, occupational performance and satisfaction with that performance following treatment at the Smart Home IRIS.

## Methodology

A quasi-experimental design without a control group was employed to obtain information.

Two standardised measurement tools – Canadian Occupational Performance Measure (COPM) and Functional Independence Measure (FIM) – were applied at the first assessment in Smart Home IRIS and at a second assessment at participant's home after 6 to 12 months.

## Participants

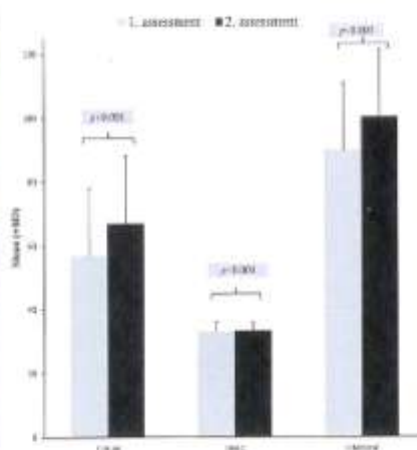
A convenience sample of 59 persons with disabilities and elderly people:

- 30 male and 29 female
- age 24-81 years, mean age 54.9 years
- different diagnoses: less severe (74,6%), more severe (25,4%)
- number of ATs: range 0-5, majority 1 (35,6%) or 2 (40,7%).

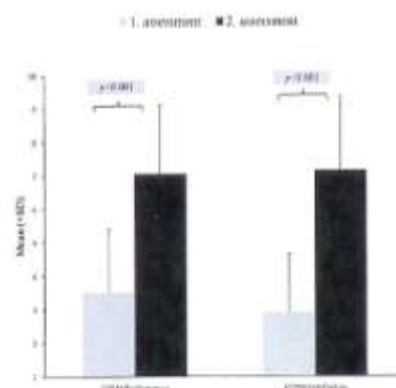
## Results

Statistical analysis reveals that all the outcomes (FIM motor, cognitive and total score, and COPM mean individual performance and satisfaction score) statistically significantly improved from the first to the second assessment.

### Results of FIM



### Results of COPM



## Conclusions

The results indicate that the usage of assistive technology, smart home technology and home modification, which were advised during the treatment in Smart Home IRIS, contribute to higher functional independence and higher occupational performance and satisfaction with performance for persons with disabilities and elderly people.

Despite the methodological limitations and the preliminary nature of the study, the empirical evidence gained could be used by occupational therapists and other public health practitioners working with people with disabilities and elderly to support their negotiations with insurance companies and third-party payers for better funding of assistive technology. The study improves the current lack of evaluation to some extent, and sets the scene for further studies which could influence the political initiatives towards assistive technologies development in Slovenia.

A more detailed study is in press @ *Computational and Mathematical Methods in Medicine*.

J. Ocepek, A.E.K. Roberts, G. Vidmar (2013). Evaluation of treatment in the Smart Home IRIS in terms of functional independence and occupational performance and satisfaction.



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