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Environmental barriers to participation and facilitators for use of three types of assistive technology devices

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Background: In rehabilitation, assistive technology (AT) is prescribed in order to improve activity and participation for individuals with disability. Research shows that many devices are not used to the extent or to the benefits expected. The aim of this study was to compare the presence of environmental barriers to participation and facilitators for AT use and study the relation between barriers and AT use in three different types of AT devices.

Methods: A cross-sectional survey was conducted. Inclusion criteria were: ≥1 year experience as user of myoelectric prosthesis (MEP), powered mobility device (PMD), or assistive technology for cognition (ATC) and age 20-90 years. The survey contained the Swedish version of Craig Hospital Inventory of Environmental Factors and a study-specific questionnaire focusing on facilitating factors. Overall, 156 participants answered the survey. Non-parametric tests were used for comparisons.

Results: Barriers to participation were significantly lowest in MEP users (md=0.12; p<0.001), and highest in ATC users (md=1.56; p<0.001-p=0.048). A positive correlation between fewer barriers and higher use of MEP was seen (r=0.30, p=0.038). Compared to the other groups, users of ATC with more use reported more barriers for participation. The greatest barriers to participation were: Natural environment, Surroundings, and, Information. Most support came from Relatives and Professionals.

Conclusions: There is a difference in how users of different AT devices experience the environment in terms of barriers for participation and facilitators for use. The environment may facilitate AT use but barriers in the environment can still restrict participation in AT users. Future research should comprise the influence of AT use on participation.