Use of assistive technology and barriers for participation in everyday activities – environmental influence on 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 describe and compare the presence of environmental barriers for participation and facilitators for AT use experienced by users of three different types of AT devices.

Methods: A cross-sectional survey was conducted. The inclusion criteria were: at least one year experience as user of myoelectric prosthesis (MEP), powered mobility device (PMD), or assistive technology for cognition (ATC); age 20-90 years; and communicate in Swedish. The survey contained the Swedish version of Craig Hospital Inventory of Environmental Factors and a study-specific questionnaire focusing on facilitating factors.

Results: 156 participants answered the survey. Of these were 51 (33%) using MEP, 58 (37%) PMD, and 47 (31%) ATC. The experience of using AT varied between 1-41 years, and more than 2/3 of the participants used their AT daily. MEP users experience significantly fewer barriers while ATC users experience most barriers (p<0.01) for participation and least support (p=0.05 - <0.01) for AT use. The top three barriers were: Natural environment, Surroundings and Information. A significant (p< 0.05) correlation between AT use and barriers for participation was shown in MEP users, with less barriers correlating to more use. Compared to the other groups, daily users of ATC reported most barriers for participation. Most support for the entire group comes from related persons and professionals.

Conclusions: There is a difference in how users of different AT devices experience the environment in terms of barriers for participation. Users of ATC may benefit from more facilitators for use. Society could facilitate participation in all assistive technology users by reducing barriers in the physical/structural environment.