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ENVIRONMENTAL BARRIERS TO PARTICIPATION AND FACILITATORS FOR MYOELECTRIC PROSTHESIS USE- A COMPARISON WITH USERS OF OTHER ASSISTIVE TECHNOLOGY

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INTRODUCTION: Myoelectric prostheses (MEP) are used in varying degrees; the number varies between 12-80% [1]. Prosthesis use is greatly affected by the environment, and qualitative research implies that the experience from environmental influence differs depending on how much the MEP is used; daily prosthesis users experience more support and less environmental barriers [2]. To strengthen this conclusion and also to investigate if it is valid for other types of advanced assistive technology (AT), a further study based on quantitative methodology is needed.

AIM: To describe the presence of environmental barriers to participation, and facilitators for MEP use, and to compare this with users of powered mobility devices (PMD) and assistive technology for cognition (ATC).

METHOD: A cross-sectional survey was conducted with users of MEP, PMD and ATC. The inclusion criteria were: at least one year experience as AT user; age 20-90 years; and communicating in Swedish. The survey contained the Swedish version of Craig Hospital Inventory of Environmental Factors (CHIEF-S) and a study-specific questionnaire focusing on facilitators for AT use. The sample consisted of 156 participants (users of MEP n=51; PMD n=56; and, ATC n=47). The experience of using AT varied between 1-41 years, and many participants used their AT daily (MEP= 80%, PMD=64%, and, ATC=87%). Since the scores were not normally distributed, Kruskal Wallis and 2-tailed Mann-Whitney U test for differences between the groups, and Spearman's rank order correlation were used for analyses.

RESULTS: The top two items acting as barriers to participation in MEP users were *Natural environment* (temperature, terrain and climate) and *Policies government* (rules, regulations governed by law). Barriers to participation were significantly less for MEP users than for users of other AT (CHIEF-S total score, md: MEP=0.120, PMD=0.619, ATC=1.560 [p<0.05]). In contrast to other AT use, a significant (p<0.05) correlation between prosthesis use and barriers to participation was shown in MEP users, with less barriers correlating to more use. Most support came from *Related persons* and *Professionals*, and least from *Authorities* and *Rules and regulations*.

DISCUSSION & CONCLUSION: The results confirm earlier qualitative research but show a difference to users of other AT. This should be an avenue for future research. Furthermore, prosthesis usage reported in this study was higher than in most other studies. Hence, the results may not be representative for MEP users in other contexts and this need to be studied further.

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