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Barriers and Facilitators to the Use of Wearable Robots as Assistive Devices – Views and Experiences of Older Adults and Physiotherapists

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Introduction

Maintaining mobility is fundamental for active ageing and quality of life in older adults[1]. Wearable robots like the Myosuit[2] have the potential to assist users with mobility impairments in daily life.

Understanding the perspectives of older adults and physiotherapists (PTs), as a potential first point of contact with wearable robots, is crucial to inform future design decisions and guide implementation.

Aims

1. Explore the views of older adults and PTs on the use of a wearable robot as an assistive device
2. Identify barriers and facilitators to its use

Figure 1: The Myosuit

Methods

Descriptive design with a qualitative approach

A Interviews with older adults n=8	• 2 female, 72-88 years, reduced walking speed • Introduction to Myosuit (figure 1) followed by semi-structured interview
B Focus group with PTs n=6	• > 5 years professional experience in geriatric in- and outpatient settings and home care • Online focus group on anticipated barriers and facilitators to home use

Transcription of audio material and thematic analysis according to Kuckartz.[3]

Results

A. Older adults

- Perceived benefits: feeling safer, more stability when walking.
- Many did not see a need for the technology for themselves.
- Usability: donning and doffing without help overwhelming in the beginning; feeling of force application is new; noticeable sound indoors, weight of the device

B. Physiotherapists

- Main barriers: technology acceptance, reimbursement schemes in healthcare, donning and doffing without help.
- Main facilitators: expected benefits (i.e. independence), social support

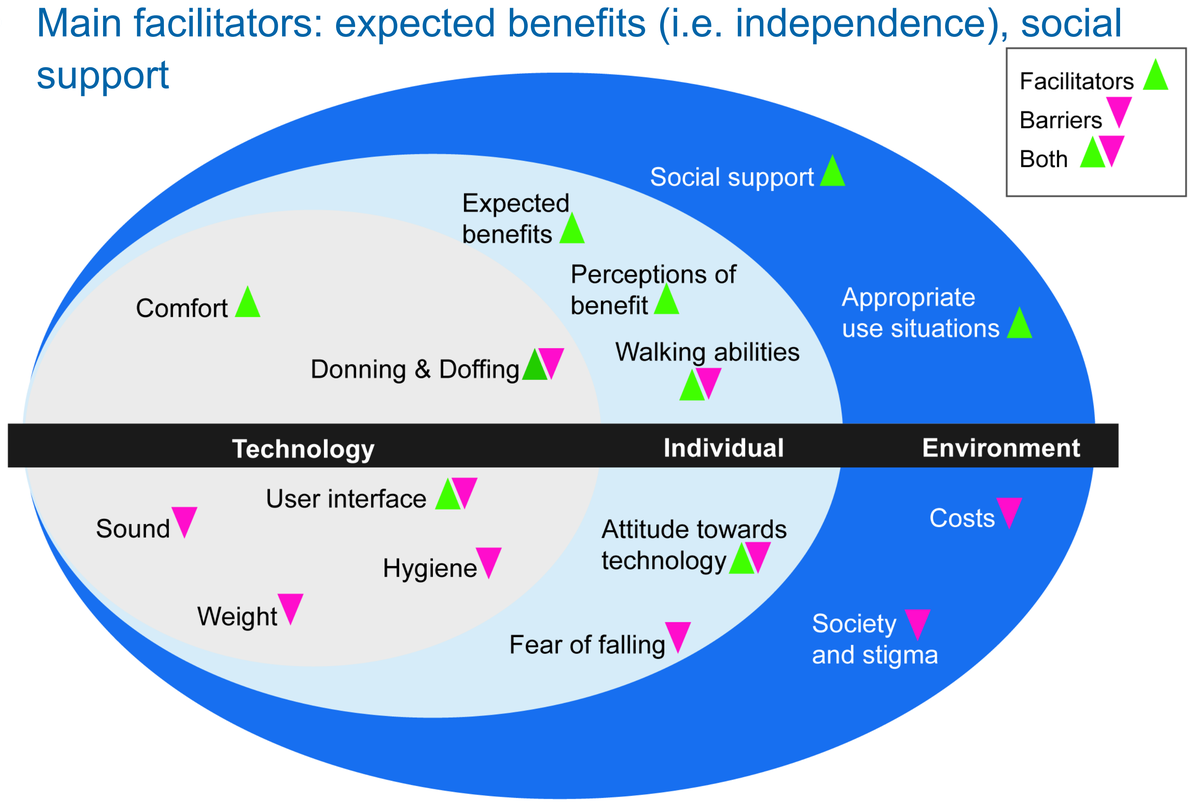

Figure 2: Barriers and facilitators to the use of Myosuit as assistive device

Discussion

- Facilitators and barriers centred around the technology, the individual and the environment (figure 2)
- In line with previous literature[4]: tension between benefit and need, attitude of "good for others but not themselves"

Conclusions

- The Myosuit was acceptable as an assistive device from the perspective of older adults & PTs
- Characteristics of the technology, e.g. the appearance are important, but the use and acceptance by older adults heavily depend on perceived usefulness and need

References

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