User Feedback on Wheelchair Evaluation: Insights from the Wheelchair Check Tool

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Background

User feedback on wheelchair fit, posture, and mobility is key to preventing wheelchair-related health issues. The screening tool www.wheelchaircheck.com helps users identify specific wheelchair issues and needs across a range of domains, and enables users to communicate these to healthcare professionals and wheelchair providers. The tool is also linked to an online database that supports research on challenges faced by wheelchair users. The Dutch version has been available for nearly five years and, due to its success, has been translated into English, Dutch, German, Spanish and Norwegian (with French and Greek versions underway).

Project aims

The goals of the Wheelchair Check initiative are: 1) improve individual outcomes regarding wheelchair fit and use, 2) empowering wheelchair users worldwide, 3) establishing a global index for wheelchair quality from the user's perspective, and 4) use these data to help improve wheelchair provision systems.

Objectives of session

To explain the tool and to demonstrate how the insights gained can help improve an individual's wheelchair-set-up. The potential of this international screening tool for wheelchair users, health professionals, and researchers is also showcased by highlighting a small selection of findings from the Dutch database.

Method

We will report the main characteristics (diagnosis, age, biological sex, wheelchair types and duration of use) of those individuals that completed the Dutch tool and agreed for their data to be used for research purposes.

The answers to the following questions were dichotomized into two categories: 0 = positive rating and 1 = negative rating.

"How would you rate the sitting position in your wheelchair?" (Excellent, Good, Reasonable = 0, Moderate and Poor = 1).

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"Do you find sitting in the wheelchair, in general, tiring?" and

"Do you find sitting in your wheelchair, in general, painful?" (Never, Sometimes = 0 and Regularly, Often and Always = 1) and

"Are you stable 1) while sitting, 2) performing activities, and 3) using the wheelchair" (yes (or fairly) = 0 and no, e.g. falling forward and/or sideways = 1). Questions from Wheelchair Check were derived from earlier research. (Valent et al., 2019) We present prevalence of issues (%) and use chi-square to test for associations between these issues.

Preliminary results

The Dutch database includes 933 wheelchair users who agreed to the use of their data for research purposes, and eight diagnosis groups with n>40: Spinal cord injury (SCI): Tetraplegia (TP) n=99, Paraplegia (PP) n=295; Spina Bifida (SB) n=42; Cerebral Palsy (CP) n=52; Leg Amputee (LA) n=48; Acquired Brain Injury (ABI) n=54; Multiple Sclerosis (MS) n=110; Muscular Disease (MD) n=121; Ehlers-Danlos Syndrome (EDS) n=112. Mean age: 47 yrs (range 5-99 yrs), Gender: 47% men, 53% women, Wheelchair type: 74% hand rim, 20% electric, 6% other. Years using a wheelchair; mean 12 yrs (range: 0-72 yrs), 17% < 1 year.

Dissatisfaction with sitting posture (Moderate or Poor ratings) within diagnosis groups: TP: 21%, PP: 22%, LA: 26 %, SB: 27%, CP: 34 %, MD: 35%, MS: 38%, ABI: 47%, and EDS: 54%.

Notably, across all diagnosis groups significant ($p<0.05$) associations were observed for dissatisfaction with sitting position and instability 1) while sitting, 2) performing activities, and 3) using the wheelchair. Dissatisfaction was also frequently linked to experiencing significant pain (localized to the back, buttocks, etc.), and in half of the diagnosis groups, fatigue during sitting was linked to dissatisfaction.

Discussion

Preliminary results highlight a high proportion of dissatisfied Dutch wheelchair users especially among those with EDS, ABI, MS, MD and CP, and to a lesser extent among individuals with SCI, SB, and LA, suggesting a need for further investigation. The confined selection of reported wheelchair-related health problems demonstrates that user feedback, combined with clinical observations (Alm et al., 2003), may help HC professionals focus on what matters most for wheelchair users. We encourage clinicians to have clients fill out the tool and bring their completed version to their clinical appointment. As the database grows, it will enable comparison of satisfaction with quality of wheelchair provision wheelchair-user matching across different funding systems, wheelchair types, and countries. These insights could help improve wheelchair provision systems globally.

Please contact us if you're interested in collaborating with the Wheelchair Check initiative.

Summary

The Wheelchair Check tool collects user feedback on wheelchair fit, posture, and mobility to prevent health issues. Available in multiple languages, it helps users identify misfits and aids communication with healthcare professionals. The example of the Dutch database reveals dissatisfaction with sitting posture and significant instability, highlighting the need for further research and also for collaboration to evaluate the quality of the wheelchair provision globally.

References

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