Comparison of Newly Designed Wheelchairs Locally Available in Kenya

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Introduction

The Aspects of Wheelchair Mobility Test (AWMT) was developed to help with provision of appropriate wheelchairs in low resource countries. This assessment measures the mobility of wheelchair users on three different surfaces: rough, smooth, and tight (Rispin et al., 2017a). The AWMT provides results crucial to individual wheelchair users, local therapists providing wheelchairs, and wheelchair manufacturers.

Currently, there is no standardized process for testing and getting user feedback on wheelchairs provided in low—to middle-income countries. Well-meaning manufacturers produce and sell wheelchairs that may not meet the unique needs of wheelchair users in the local context**.**

The newly designed Safari Seat (SS) wheelchair that are now manufactured in Kenya. These will be compared against each other as well as the user's current wheelchair (OWN) as the baseline

Purpose

The primary objective is to evaluate the appropriateness of one locally available wheelchair in Kenya using a validated test that includes the Aspects of Wheelchair Mobility Tests (AWMT). **Well-meaning manufacturers produce and sell wheelchairs that may not meet the unique needs of wheelchair users in the local context.**

RQ: How is the user's experience on the Safari Seat in comparison with the participant's own wheelchair on rough, smooth, and tight surfaces

"Difficult to control"

"Very difficult to move; wheels got stuck and required some assistance"

"Not easy to propel forward"

Methodology

Design: Quasi experimental, multifactoral within subjects research study

Participants: This study will take place in Thika, Kenya, at Joytown Special School in partnership with A1C Kijabe College Health Sciences. The individuals who participated in the study used the therapy space and the wheelchair repair space at Joytown Special School.

Measures: Wheelchair professionals or those under the supervision of the PIs will complete the Aspects of Wheelchair Mobility (AWMT) to measure the impact of the three different wheelchair types on physical performance in commonly encountered rolling environments. All of these tools were developed and validated by the LeTourneau Wheels Project. The outcomes tools and related journal articles are available at https://wingsaloft.org/aspects-of-wheelchair-mobility-tests/

Data Collection and Analysis: Data was collected by researchers and entered into Microsoft Excel and used JASP to analyze. Comments by participants about the wheelchairs were analyzed by the team of researchers using frequency of negative and positive comments.

Results

A Wilcoxon signed-rank test indicated that there was a significant difference between all four surfaces (Rough, Smooth and Tight) between the Safari Seat and the participant's own wheelchair with p-values all <001 .

References

1. **Rispin, K., Hamm, E., Wee, J.** (2017). Discriminatory validity of the Aspects of Wheelchair Mobility Test as demonstrated by a comparison of four wheelchair types designed for use in low-resource areas. *African Journal of Disability*, 6, 1-11.
2. **Rispin, K., Huff, K., Wee J.** (2017). Test–retest reliability and construct validity of the Aspects of Wheelchair Mobility Test as a measure of the mobility of wheelchair users. *African Journal of Disability*, 6, 1-6.