User Evaluation of the Neater Uni-Wheelchair in the Home Environment

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Aim
The aim of the study was to evaluate user’s experiences of using the Neater Uni-wheelchair in the home environment.

Introduction
The Neater Uni-wheelchair was designed as an alternative to powered wheelchairs, lever drive and dual handrim wheelchairs for hemiplegic users. The Neater Uni-wheelchair is a standard Action 3 chair to which a kit has been attached which enables users to self propel and steer independently of attendants. A differential in the rear wheel enables both wheels to be driven through one pushrim and a novel steering mechanism attached to the foot plate permits self directed steering. Earlier work by Mandy et al (2009;2009) indicated that the Neater Uni-wheelchair was more ergonomically efficient and preferred by users.

Methods
A group of 12 hemiplegic male and female subjects who had participated in the earlier studies by Mandy et al (2009) that investigated ergonomic efficiency of the Neater Uni-wheelchair were invited to use the wheelchair in their own homes for a period of one month. Experiences were recorded using either a digital recorder or in a diary. The data was transcribe or reviewed for thematic analysis.

Results
The following 4 themes were identified from the users’ evaluations:

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<th>Theme</th>
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| Increased independence. | • ‘I am able to take myself to the computer room when I feel like it’

| Improved manoeuvrability and ease of use within the home environment | • ‘I liked the turning circle and being able to move in confined spaces’.

| Easier to drive | • ‘I don’t have to think about using two handrim to propel myself’.

| Use | • ‘It is easy and intuitive to use’.  • ‘I didn’t think I would use but having had one it is a fine piece of work and I am very pleased with it’.

Conclusions:
The Neater Uni-wheelchair is a viable alternative to those that are currently available to hemiplegic users. There are no storage issues and it is also a cheaper option than a powered wheelchair.

Keywords:
Assistive technology, independence, manoeuvrability

References