Clinical complications associated with two low-cost 12-inch wide pediatric wheelchairs

Joy Wee,1 MSc,MD,FRCPC, Karen Rispin,2 MSc

1 Department of Physical Medicine & Rehabilitation, Queen’s University; 2 Department of Biology, LeTourneau University

OBJECTIVE: To compare real-world utility (as identified by participants) and clinical complications associated with use of two different makes of 12-inch wide low-cost pediatric wheelchairs.

METHODS: Observational cohort study, comparing findings from use of 10 wheelchairs donated by the local Kenyan manufacturer and 20 wheelchairs donated through an overseas non-governmental organization.

RESULTS: Feedback was obtained from 26 children with disabilities who had opportunity to use the donated wheelchairs, as well as from 9 health professionals regarding wheelchair components. All 26 children were examined for clinical complications. Eight reported musculoskeletal difficulties. For two children, pressure ulcers developed in relation to wheelchair use. Other problems noted and reported are present. Lap-trays were reported as a key aspect of the pediatric wheelchairs allowing improved participation in schooling.

CONCLUSIONS: Low-cost pediatric wheelchairs that are properly fitted to children with disabilities are helpful in improving school participation and play. Various aspects of design are important to consider.

Learning Objectives:
1. Discuss the importance of aligning research with international guidelines
2. Explain the utility of wheelchair design with respect to participation
3. Describe clinical complications that may be associated with elements of wheelchair design

ABSTRACT

BACKGROUND

This social accountability study aimed to implement and facilitate the guidelines of the World Health Organization regarding manual wheelchair provision in less resourced settings (1). Prior to the Wheels Project, children at the study site requiring wheelchairs were simply placed in any donated wheelchair, most of them being adult-sized. Many complications resulted.

DISCUSSION

Key steps involved in wheelchair service delivery identified by the WHO that this study addressed included assessment, prescription, product preparation, fitting, follow-up and maintenance. Education and training was provided as necessary, thereby facilitating sustainable transfer of skills and knowledge. In the course of this first phase of the Wheels Project, the need for wheelchair skills training became evident. Thus, appropriate wheelchair skills training was incorporated into the second phase of this study (to be presented elsewhere).

REFERENCES


ACKNOWLEDGMENTS

Queen’s Department of Physical Medicine & Rehabilitation
BethanyKids Rehabilitation Therapists in Kenya