

Evaluation of the NF-Walker

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Introduction

Cerebral palsy (CP) is the primary cause of disability in developed countries, with an incidence of 1.5-3/1000 live births. Bipedal locomotion in children with CP (especially GMFCS Levels IV or V), or other diseases which are characterised by severe psychomotor development delays, is a skill which is difficult to achieve. The Norsk Funktion-Walking Orthosis (NF-Walker) is a standing frame system with partial suspension of body weight. It consists of a 4-wheel system, from which HKAFOs (hip- knee-ankle-foot orthoses) are hung, connected to a hip and chest belt. At the bottom of the device, special orthopaedic shoes can be fitted. The suspension of body weight allows the patient to activate ambulation and initiate alternating movements.

The purpose of our work is to obtain knowledge of the clinical and functional characteristics of the NF-Walker user, outside the firm's intended indications. We also wish to evaluate satisfaction and efficacy based on parents' or carers' opinions regarding use of the NF-Walker.

Material and methods

From December 2011 to February 2012, a retrospective descriptive study involving 26 users of the NF-Walker was conducted using a survey. Epidemiological, clinical, rehabilitation therapy, and NF-Walker use data, as well as data on the level of satisfaction regarding technological aspects and purpose were collected, using the Children's Version of the scale to evaluate technical assistance, The Quebec User Evaluation of Satisfaction with Assistive Technology (QUEST 2.1). In addition, mobility data from the GMFCS Family Report Questionnaire and the Pediatric Evaluation of Disability Inventory (PEDI) scale were recorded.

Results

A total of 26 patients were included. Of these, 61.5% were female and 38.5% were male, with a mean age of 10.2 years. 84.6% had CP, with spastic cerebral palsy being the most common type (50%). 73% were GMFCS Level V.

All were receiving an average of 3.8 hours/week of rehabilitation treatment. The NF-Walker was used 8.5 hours/week on average, and the development time median was 25.5 months. In 7.7% of cases it was recommended by a rehabilitation doctor. Around 80% of the parents thought it was “very satisfactory” in all the items evaluated in the QUEST scale.

Discussion and conclusions

The study has limitations with respect to losses and because no comparison can be made with another type of walker to identify clinical improvements and independence offered by the NF-Walker, since it is indicated for children who cannot walk with any other type of walker.

According to the results obtained in our study, the “typical patient user” of the NF-Walker is a child with spastic CP, GMFCS Level V.

There is a significant level of satisfaction of parents regarding the technological aspects, in that it meets their needs and provides greater independence. The NF-Walker is a good prescription option for rehabilitation doctors and these patients.

This is a translated version of the original article: EVALUACIÓN DEL ANDADOR NF-WALKER published in Jornadas Científicas de la Sociedad Española de Rehabilitación Infantil, Volumen 2, Madrid Marzo 2012