

Making Assistive Technology and Rehabilitation Engineering a Sure Bet

Functional Outcomes and Patient Satisfaction of Clients in the Seating and Mobility Clinic

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ABSTRACT

Background/Purpose: Wheelchair seating-mobility specialists need to determine patient satisfaction and functioning to assure best evidence-based outcome for new and existing technologies they prescribe. The purpose is to determine the effectiveness of the prescribed seating systems using the Functioning Everyday with a Wheelchair (FEW) and satisfaction with the evaluation process. **Subjects/Methods:** The FEW and a patient satisfaction survey were administered via phone to 43 patients, 3-4 weeks post-fit. **Results:** Participants reported a high level of function of their seating system and satisfaction with the evaluation process. **Discussion/Conclusion:** With additional subjects, stratification based on seating system may be possible. The results can be used to improve wheelchair prescription and service.

Keywords:

wheelchair; seating; patient satisfaction; functional outcomes; FEW

BACKGROUND

According to the Disability Statistic Center, 1.6 million people who suffer from a type of disability use wheelchairs.¹ Encompassing a variety of models to meet different needs, wheelchairs are used to assist users with mobility, communication, and activities of daily living (ADL's). The effectiveness of the chair is only as good as the fit between the device and its user. Clinics that prescribe wheelchairs must make sure that the device satisfies the needs of the patient. JACHO requires that facilities assess their performance related to "patient perception of the safety and quality of care, treatment, or services delivered by the organization," as well as "patient satisfaction with and complaints about products and services."² Features of the wheelchair need to address each individual's specific needs, environments, and special preferences. Arthanat reported that 84% of wheelchair users experienced some level of back pain and 73% suffered persistent pain in their upper extremities, confirming the need to assure a proper fit for the patient to minimize these secondary effects.³ Medical practitioners and suppliers providing wheelchair seating and mobility interventions are in need of evidence-based outcomes to determine the effectiveness of existing and new technologies and evaluation techniques. Such outcomes give providers and consumers the ability to measure the functional

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effectiveness of their technology; at the same time, providers can justify their assistive technology recommendations and the efficacy of their service delivery programs. The Functioning Everyday with a Wheelchair (FEW) was designed as a self-reported functional assessment tool for individuals with progressive or non-progressive conditions, using a wheelchair or scooter as their primary seating and mobility device.⁴ This questionnaire is an indicator of perceived function related to wheelchair or scooter use. The purpose of this research was to determine the level of perceived function of individuals using their prescribed seating system as determined by the FEW and the level of patient satisfaction with the process in obtaining their prescribed seating system. This information may help to evaluate the fit and function of specific products and improve the quality of service to the patient.

METHODOLOGY

Subjects were recruited from the Vanderbilt University Medical Center Adult Seating and Mobility Clinic. The only inclusion criterion was that they have a seating evaluation and be prescribed and receive a wheelchair/seating system. No specific diagnoses were included or excluded. If the client was not able to provide consent or had difficulty communicating by phone, the legal representative of that individual was asked to participate. At the time of his/her evaluation or fitting, the client was introduced to the study, provided with the informed consent and copies for the FEW and patient satisfaction survey. If they were willing to participate, the consent and contact information were obtained, and a subject intake form was completed. Three to four weeks after the fitting, the participants were contacted by phone, and the surveys were administered with the responses collected and entered in a database for analysis.

RESULTS

To date, 43 subjects have completed the surveys. Types of chairs have included manual (rigid, folding, tilt in space) and power with a variety of seating systems. Table 1 presents the percent response for each question on the FEW. Eighty-five percent or greater of the participants responded with “completely agree” or “mostly agree” to each of the criteria on the FEW with the exception of 3 questions: Question 7- “The size, fit, postural support and functional features of my wheelchair/scooter allow me to carry out personal care tasks as independently, safely and efficiently as possible” (83.6%), Question 9- “The size, fit, postural support and functional features of my wheelchair/scooter allow me to get around outdoors as independently, safely and efficiently as possible”(83.6%), and Question 10- “The size, fit, postural support and functional features of my wheelchair/scooter allow me to use personal or public transportation as independently, safely and efficiently as possible” (83.7%). One hundred percent of the respondents reported “completely agree” or “mostly agree” with Question 4- “The size, fit, postural support and functional features of my wheelchair/scooter allow me operate it as independently, safely and efficiently as possible.”

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Table 1 – Functioning Everyday with a Wheelchair (FEW)

Percent of participants that responded in each category for each of the questions on the FEW.

FEW questions	Comp. Agree	Mostly Agree	Slightly Agree	Slightly Disagree	Mostly Disagree	Comp. disagree	Does not apply
1. The stability, durability and dependability features of my wheelchair/scooter contribute to my ability to carry out my daily routines as independently, safely and efficiently as possible.	74.4	20.9	2.3		2.3		
The size, fit, postural support and functional features of my wheelchair/scooter							
2. match my comfort needs	67.4	20.9	4.7	2.3	2.3	2.3	
3. match my health needs	67.4	28	2.3		2.3		
4. allow me to operate it as independently, safely, and efficiently as possible	67.4	32.6					
5. allow me to reach and carryout tasks at different surface heights as independently, safely, and efficiently as possible	51.2	34.9	7			2.3	4.7
6. allow me to transfer from one surface to another surface as independently, safely, and efficiently as possible	69.8	18.6	4.7				7
7. allow me to carry out personal care tasks as independently, safely, and efficiently as possible	53.4	30.2	9.3		2.3		4.7
8. allow me to get around indoors as independently, safely, and efficiently as possible	72.1	25.5	2.3				
9. allow me to get around outdoors as independently, safely, and efficiently as possible	58.1	25.5	2.3	7			7
10. allow me to use personal or public transportation as independently, safely, and efficiently as possible	65.1	18.6	2.3	2.3			11.6

On the patient satisfaction survey (Table 2), greater than 90% of the participants responded with “excellent” or “very good” to each of the questions; the exception was item 2, “Insurance coverage for the evaluation was clearly explained,” with 86% responding “excellent”

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or “very good.” Participants were provided the opportunity to provide additional comments. The most consistent comment provided concerned the lack of adequate physical space for the wheelchair evaluation.

*Table 2- Patient Satisfaction Survey
Percent of participants that responded with Excellent or Very Good to each of the criteria is reported in this table.*

Criteria (abbreviated)	% that responded Excellent or Very Good
Scheduling process was smooth and timely	91
Insurance for the evaluation was clearly explained	86
PT helped me understand what to expect	91
Staff was sensitive to expressed goals and concerns	93
Evaluation findings and plan communicated	95
PT contributed to my understanding of my WC and seating needs	95
PT and vendor worked as a team	98
I participated in the decisions	93
PT was knowledgeable about options	98
I am satisfied with the services	98
I would recommend this program	98

DISCUSSION

Overall there was a high level of reported functionality with the prescribed seating and mobility devices. The lower responses on the question related to personal care may be due to the pre-existing level of function of these patients. Many of these individuals were dependent for a majority of ADL’s due to their medical conditions/impairments prior to receiving their mobility device and/or seating systems. The lower responses on the questions related to accessibility to outdoors and use of personal/public transportation may be due to patients’ medical conditions preventing them from accessing the community. In addition, there are limited resources in this community for accessible public transportation. Due to limited personal resources and lack of third party reimbursement, some patients are unable to obtain accessibility modifications such as ramps and/or adapted vans to allow access to their community.

The satisfaction survey data indicated a high degree of satisfaction with the clinic and the evaluation process. The slightly lower response on the criteria related to insurance coverage may indicate an area for improvement in the clinic procedures. Pre-authorization for physical

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therapy for a seating and mobility evaluation is obtained prior to scheduling the patient. However, patients/caregivers should be educated regarding their insurance coverage for the physical therapy visit, which is separate from the insurance coverage for the wheelchair and seating system. Wheelchair and seating interventions are a collaborative effort between the therapists and medical providers, suppliers, patients, caregivers, and third party payers. The coordination and communication between all parties is essential for optimal functional outcomes and high patient satisfaction.

Data collection is on-going. With increased sample size, stratification based on type of mobility device and seating system or diagnosis may be possible to determine the effectiveness of individual devices. In addition, further investigation of patient satisfaction will allow for continuous quality improvement of service delivery.

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