Tennessee Orthopaedic Alliance Upper Extremity Functional Measure: Development and Content Validity Testing

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Abstract

Purpose:

The purpose of this present study was to develop a new region-specific PRO measure, the TOA-UEFM, that specifically focuses on elbow, wrist and hand function in order to meet the needs of hand centers that exclusively treat this population.

Introduction

Documenting functional outcomes of hand therapy services is an essential part of practice. It is through these outcomes that patient progress is tracked and the benefits of hand therapy services are exhibited. Functional outcome measures that are rated by the patients themselves, referred to as patient-reported outcomes (PRO), reflects patient perceived health gains and recent popularity among health professionals in clinical care.1 Functional PRO measures are self-reported instruments that are based on the client-centered philosophy that patients are the best informants of their own function.2 In the field of hand therapy, these measures assess how a person perceives the function of their hand(s) and their satisfaction with the hand therapy services received. A modified version of the Guyatt Model of questionnaire development5,6 that incorporates the functional outcomes measurement approach was used to generate the initial version of the TOA-UEFM. Phase 1 of the study was a literature review using CINAHL and MEDLINE databases. Authors used the inclusion criteria of “disability” in the search terms for the review. The initial version of the TOA-UEFM was developed in the current study, was found to possess both clinical validity and reliability. Although it has not yet been tested for criterion validity and reliability, the TOA-UEFM holds promising application for clinical use.

The purpose of this present study was to develop a new region-specific PRO measure, the TOA-UEFM, that specifically focuses on elbow, wrist and hand function in order to meet the needs of hand centers that exclusively treat this population.

This project was completed in partial fulfillment of OTD 6608 Residency

Methodology

Participants:

A convenience sample was used. Eight TOA hand therapy clinicians (Phase 1: n=5) and 11 patients receiving hand therapy services at the TOA Hand Therapy Center in the One City Center (Phase 2: n=6) participated in the study. Informed consent was obtained prior to each participant’s involvement.

Inclusion criteria:

• All phases:
  • 18 years of age or older
  • Read & write in English language
  • Part 2a: Initial Item Reduction phase:
    •Treating hand therapy clinician (OT, OTA, PT, PTA)
    •Evaluate the patients’ involvement.

Procedure & Data Collection

Phase 1: Item Generation

A list of potential outcome measures was generated based on clinical experience and findings from previously published upper extremity PRO measures. The list included a wide variety of items related to elbow, wrist and hand function in order to cover a wide range of movement and activities of daily living.

Phase 2a: Initial Item Reduction

The potential list was reduced by removing replicates, redundancies and items that primarily focused on shoulder function.

Phase 2b: Final Item Reduction

The potential list was further reduced by clinician (75%) and patient review (25%).

Phase 3a: Content Validity

The initial version of the TOA-UEFM was reviewed by hand therapy clinicians (part 1 = 75%) and patients (part 2 = 25%) for its content validity and clinical utility. From this feedback gained, the final version of the TOA-UEFM was created.

Phase 3b: Content Validity Testing

• Participants: A convenience sample was used. Eight TOA hand therapy clinicians (Phase 1: n=5) and 11 patients receiving hand therapy services at the TOA Hand Therapy Center in the One City Center (Phase 2: n=6) participated in the study. Informed consent was obtained prior to each participant’s involvement.

• Inclusion criteria:
  • All phases:
    • 18 years of age or older
    • Read & write in English language

Results

Phase 1: Item Generation

• An initial set of 245 potential outcome measures were compiled from 8 common upper extremity PRO measures: DASH, HEI, HJS, HITS, Patient Evaluation Measure (PEM), PRWE, PWRH, UEFS, UFL & UFLI.

Phase 2a: Initial Item Reduction

• The initial set of potential items were reduced to a condensed list of 29 items.

Phase 2b: Final Item Reduction

• Most important considerations when selecting a measure: (1) Satisfaction of Medicare code requirements, (2) Requirements of their own time, (3) Requirements of their own time, (4) Scoring & complexity of measure, (5) Inclusion of both objective and subjective information

Conclusions:

Although a modified version of the Guyatt Model of questionnaire development was used, item generation resulted in the inclusion of important considerations when selecting a measure: (1) Satisfaction of Medicare code requirements, (2) Requirements of their own time, (3) Requirements of their own time, (4) Scoring & complexity of measure, (5) Inclusion of both objective and subjective information.

Discussion

According to clinicians in this study, the most desired characteristics of a clinical measure were related to the ease and brevity of its administration and scoring process, and the inclusion of a Medicare Code requirement. Item finding is also supported by past studies that found, the most common reasons reported for not using a particular instrument are related to its clinical utility.5-11 Providing required evidence to third-party payers has also been reported as one of the most common reasons why therapist did not use the TOA-UEFM in their own practice.1,12 The 13-item TOA-UEFM, developed in the current study, was found to possess both clinical validity and reliability. Although it has not yet been tested for criterion validity and reliability, the TOA-UEFM holds promising application for clinical use.

References


Data Analysis:

•SPSS data analysis software was used to rank descriptive statistics
•Partial data analysis is shown in present poster

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