



The Validity of the Quick-FAAM in Physically Active Patients with Foot and Ankle Pathology

Legner JL, Hoch JM, Lorete CJ, Hoch MC
Old Dominion University, Norfolk, VA



BACKGROUND

Patient-reported outcome instruments (PROs) can be used to assess the severity of impairments, quantify rehabilitation progress, and evaluate the quality of the clinician's practice patterns. The barriers associated with the utilization of these instruments in practice include administration time and scoring time.^{1,2}

The Quick-Foot and Ankle Ability Measure (Quick-FAAM)³ is a 12-item region-specific PRO that contains items from both the FAAM-Activities of Daily Living (FAAM-ADL) and FAAM-Sport subscales. The Quick-FAAM has demonstrated excellent internal consistency and a strong correlation to the original FAAM in people with chronic ankle instability.³ However, the validity of this instrument for patients with acute or sub-acute foot or ankle conditions is unknown.

OBJECTIVES

To determine convergent and divergent validity of the Quick-FAAM in physically active patients seeking treatment for a foot or ankle pathology.

DESIGN

A cross-sectional design was used to determine the convergent and divergent validity of the Quick-FAAM.

METHODS

SUBJECTS

Twenty physically active patients

- Age: 19.9±1.8years
- Height: 69.6±3.6cm
- Weight: 83.1±24.4kg

INCLUSION CRITERIA

Subjects were included if they were:

- Between the ages of 18-35
- Participated in ≥90 minutes of strenuous/moderate/mild exercise per week prior to their injury
- Seeking treatment for an ankle or foot health condition (Table 1)

Table 1. Injury profile of included subjects (n=20)

Injury/Pathology	N
Ankle Sprain	11
Foot/Toe Sprain	2
Tendinitis	3
Other	4

This research was funded by the Old Dominion Research Foundation.

METHODS cont.

PROCEDURES

After informed consent the patients completed a demographic questionnaire and the four PRO instruments:

- Modified Disablement in the Physically Active Scale (mDPA)
- Short-Form 12 (SF-12)
- FAAM-Sport and ADL
- Quick-FAAM

The included PROs were administered and completed electronically and completed once at any time during the course of their treatment

INSTRUMENTATION

Modified Disablement in the Physically Scale (mDPA)

The mDPA is a 16- item generic PRO comprised of a physical (mDPA-PCS) and mental component (mDPA-MCS). The mDPA-PCS and mDPA-MCS have demonstrated acceptable internal consistency.⁴ Scores range from 0-48 on the mDPA-PCS and from 0-16 on the mDPA-MCS, with higher scores indicating greater disability.⁴

Short-Form 12 (SF-12)

The SF-12 is a licensed, cost-for-use generic PRO that is comprised of two summary components: the SF12-PCS and SF12-MCS. The test-retest reliability is acceptable for both subscales.⁵ The SF-12 is scored using a norm based algorithm of 50 where lower scores represent a decrease in health-related quality of life.⁵

Foot and Ankle Ability Measure (FAAM)

The FAAM is a region-specific PRO that is used to assess the impact of ankle or foot pathologies on the physical constructs of HRQOL.⁶ The ADL and Sport subscales have 21 and 8 items respectively. The final score is often reported as a percentage and lower scores indicate decreased function. The FAAM is a reliable and valid in patients with a variety of ankle and foot health conditions.⁶

Quick-Foot and Ankle Ability Measure (Quick-FAAM)

The Quick-FAAM is a reduced-item region-specific PRO developed from the original FAAM-ADL and FAAM-Sport.³ It contains 12 items, 5 items from the ADL and 7 items from the FAAM-Sport. The Quick-FAAM is scored similarly as the FAAM subscales.

STATISTICAL ANALYSIS

The median (interquartile range (IQR)) were calculated for each variable.

Spearman's Rank Correlations (r) were performed to determine the relationship between the: Quick-FAAM and the mDPA-PCS, mDPA-MCS, the SF12-PCS, the SF12-MCS and the FAAM-Total.

- R-values were interpreted as: Very strong (0.8-1.0); Strong (0.6- 0.79); Moderate (0.4- .59); Weak (0.2- 0.39); No relationship (0.0-0.19).

RESULTS

The Quick-FAAM demonstrated good convergent validity with the included PROs measuring physical constructs of HRQOL: SF-12 PCS, mDPA-PCS and the FAAM total (Table 2).

The Quick-FAAM demonstrated good divergent validity with the included PROs measuring psychological constructs of HRQOL: the mDPA-MCS and SF12- MCS (Table 2).

Table 2. Correlations between the Quick-FAAM and Generic/Region-Specific PROs

Outcome Measure	Median	IQR	r-value	r ²	p-value
Quick-FAAM	25	22			
mDPA-PCS	25.5	17.5	-0.795	0.632	0.001
mDPA-MCS	3	4.8	-0.347	0.120	0.134
SF12-PCS	44.3	18.3	0.891	0.794	0.001
SF12-MCS	56.3	10.5	0.306	0.093	0.217
FAAM-Total	83	37	0.919	0.845	0.001

CONCLUSIONS

The Quick-FAAM has good convergent and divergent validity in physically active adults seeking treatment for an ankle or foot pathology. This is similar to the results of the original FAAM, which was assessed using the SF-36 and determined to be a valid measure in patients with a broad range of leg, foot, and ankle disorders.⁶

A barrier for PRO administration in clinical practice for athletic trainers and physical therapists is administration time.^{1,2} The newly developed Quick-FAAM appears to be a valid region-specific instrument that takes minimal time to administer and score.

Future research should investigate the responsiveness and test-retest reliability of this measure in this patient population.

REFERENCES

1. Snyder Valier AR, Jennings AL, Parsons JT, Vela LI. Benefits of and barriers to using patient-rated outcome measures in athletic training. *J Athl Train.* 2014;49(5):674-683.
2. Jette DU, Halbert J, Iverson C, Miceli E, Shah P. Use of standardized outcome measures in physical therapist practice: perceptions and applications. *Phys Ther.* 2009;89(2):125-135.
3. Hoch MC HM, Hoch JM. Development of the Quick-FAAM: A preliminary shortened version of the Foot and Ankle Ability Measure for chronic ankle instability. *International Journal of Athletic Therapy & Training.* 2016; In Press.
4. Houston MN, Hoch JM, Van Lunen BL, Hoch MC. The development of summary components for the Disablement in the Physically Active scale in collegiate athletes. *Quality Of Life Research.* 2015;24(11):2657-2662.
5. Ware JE, Jr., Kosinski M, Keller SD. A 12-Item Short-Form Health Survey: Construction of Scales and Preliminary Tests of Reliability and Validity. *Medical Care.* 1996;34(3):220-233.
6. Martin RL, Irrgang JJ, Burdett RG, Conti SF, Van Swearingen JM. Evidence of validity for the Foot and Ankle Ability Measure (FAAM). *Foot Ankle Int.* 2005;26(11):968-983.

