



# Reliability and validity of the international physical activity questionnaire short-form (IPAQ-sf) in COPD

Sofia Flora, Nádia Hipólito, Liliana Santos, Filipa Januário, Sónia Silva, Carla Valente, Lília Andrade, Fátima Rodrigues, Alda Marques, Joana Cruz

European Respiratory Journal 2020 56: 253; DOI: 10.1183/13993003.congress-2020.253

[Article](#)[Info & Metrics](#)

## Abstract

Physical activity (PA) may improve COPD prognosis, thus its assessment and promotion are crucial. The International Physical Activity Questionnaire Short-Form (IPAQ-sf) is widely used for assessing PA but there is limited evidence on its clinimetric properties in COPD. We assessed the test-retest reliability and validity of the IPAQ-sf in patients with COPD. Fifty-five participants (68.6±7.8yrs, 48 males, FEV1 52.3±22.5%pred) completed the IPAQ-sf, wore an accelerometer for 7 days and completed a second IPAQ-sf. Test-retest reliability/agreement was assessed with: Intraclass Correlation (ICC, 95%CI), 95% Limits of Agreement (LoA), standard error of measurement (SEM) and minimal detectable change (MDC95) for continuous variables; %agreement for categories ("active" vs "inactive"). Validity was assessed with Spearman's correlations ( $\rho$ ) between the IPAQ-sf (METs-min/week, time in vigorous [VPA] and moderate PA [MPA] per week) and accelerometry [time in MVPA, VPA and MPA per week] for continuous variables; %agreement, Cohen's kappa, sensitivity and specificity (95%CI) for categories. Reliability was acceptable (ICC=0.738, 0.629→0.873) but with wide LoA (-5713→4793.3 METs-min/week). SEM and MDC95 were 1844.7 and 5113.3 METs-min/week, respectively. %agreement of the two IPAQ-sf was 85.5% (kappa=0.660, 0.444→0.876). Significant correlations were found between METs-min/week and accelerometry (0.515≤ $\rho$ ≤0.596), except for VPA ( $p>0.05$ ). %agreement between tools was 67.3% (kappa=0.350, 0.279→0.571) with high sensitivity (0.89, 0.887→0.891) but low specificity (0.46, 0.46→0.47). The IPAQ-sf could be used as PA measurement tool in COPD although caution is needed to avoid misclassification.

COPD   Physical activity   Quality of life

## Footnotes

Cite this article as: European Respiratory Journal 2020; 56: Suppl. 64, 253.

This abstract was presented at the 2020 ERS International Congress, in session "Respiratory viruses in the "pre COVID-19" era".

This is an ERS International Congress abstract. No full-text version is available. Further material to accompany this abstract may be available at [www.ers-education.org](http://www.ers-education.org) (ERS member access only).

Copyright ©the authors 2020

---

## We recommend

Validity of the Brief physical activity assessment tool for clinical use in COPD

Joana Cruz et al., European Respiratory Journal, 2017

Validation of the rapid assessment of physical activity questionnaire (RAPA) in COPD patients

Ridvan Aktan et al., European Respiratory Journal, 2018

Physical activity evaluation in non-cystic fibrosis bronchiectasis patients

Victoria Alcaraz Serrano et al., European Respiratory Journal, 2017

An estimation of the minimal important difference in physical activity for patients with COPD

Heleen Demeyer et al., European Respiratory Journal, 2014

Within-day test-retest reliability of the timed "up & go" test in patients with advanced chronic organ failure

Rafael Mesquita et al., European Respiratory Journal, 2013

Reliability and validity of the Tibetan medicine constitution scale: a cross-sectional study of the general population in Beijing, China

Corresponding Authors Hui Luo, Traditional Medicine Research, 2020

Development and validation of the perioperative recovery scale for integrative medicine

Li Zhou et al., Traditional Medicine Research, 2020

Test-retest reliability of adolescents' self-reported physical activity item in two consecutive surveys

Kwok Ng et al., Arch Public Health, 2019

Effect of a pedometer-based walking challenge on increasing physical activity levels amongst hospital workers

Abdulla S. Al-Mohannadi et al., Arch Public Health, 2019

Bacterial cytochrome P450-catalyzed regio- and stereoselective steroid hydroxylation enabled by directed evolution and rational design

Xiaodong Zhang et al., Bioresources and Bioprocessing, 2020

Powered by **TREND MD**

I consent to the use of Google Analytics and related cookies across the TrendMD network (widget, website, blog). [Learn more](#)

Yes

No

[← Previous](#)

[^ Back to top](#)

**Vol 56 Issue suppl 64 Table of Contents**[Table of Contents](#)[Index by author](#) [Email](#) [Alerts](#) [Citation Tools](#) [Request Permissions](#) [Share](#)**Jump To** [Article](#) [Info & Metrics](#)[Tweet](#)[Like 0](#) **More in this TOC Section** **Related Articles**

*No related articles found.*

[Google Scholar](#)**Navigate**[Home](#)[Current issue](#)[Archive](#)**About the ERJ**[Journal information](#)[Editorial board](#)[Reviewers](#)[CME](#)[Press](#)[Permissions and reprints](#)[Advertising](#)**The European Respiratory Society**[Society home](#)[myERS](#)

[Privacy policy](#)

[Accessibility](#)

## ERS publications

[European Respiratory Journal](#)

[ERJ Open Research](#)

[European Respiratory Review](#)

[Breathe](#)

[ERS books online](#)

[ERS Bookshop](#)

## Help

[Feedback](#)

## For authors

[Instructions for authors](#)

[Submit a manuscript](#)

[ERS author centre](#)

## For readers

[Alerts](#)

[Subjects](#)

[Podcasts](#)

[RSS](#)

## Subscriptions

[Accessing the ERS publications](#)



## Contact us

European Respiratory Society

442 Glossop Road

Sheffield S10 2PX

United Kingdom

Tel: +44 114 2672860

Email: [journals@ersnet.org](mailto:journals@ersnet.org)

## ISSN

Print ISSN: 0903-1936

Online ISSN: 1399-3003

