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International Physical Activity Questionnaire for people post COVID-19: a validation study

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Abstract

Background: This study assessed the validity of the International Physical Activity Questionnaire – Short Form (IPAQ-sf) in people post COVID-19.

Methods: PA was assessed with both the IPAQ-sf and inertial systems, worn on the low back for 7 days; ≥ 2 weekdays with ≥ 8 -hour records were accepted. Cut-offs were used to categorise participants into low-, moderately- and highly-active (IPAQ-sf: < 600 , 600-2999, ≥ 3000 MET-min/week; inertial systems: < 7500 , 7500-9999, and ≥ 10000 steps/day).

Validity was assessed with Spearman's correlations (ρ) between the IPAQ-sf (METs-min/week, time in vigorous [VPA], moderate PA [MPA], walking time/week, and sedentary time/day) and inertial systems (VPA, MPA, and step-count/week; sedentary time/day) for continuous variables; polychoric correlations, weighted Cohen's k , sensitivity, and specificity (95%CI) for categories.

Results: 288 assessments of people post COVID-19 (52% men; 55 ± 15 years) were included.

All outcomes had significant weak-to-moderate correlations ($0.171 < \rho \leq 0.371$, $p < 0.001$).

Categories presented significantly moderate correlation ($r=0.486$, $p<0.001$) although weak agreement ($k=0.129$, $p<0.001$). The low-active was highly sensitive (0.94 95%CI[0.84,0.99]) but low specific (0.22 95%CI[0.17,0.28]), while both the moderately and the highly-active were low sensitive (0.10 95%CI[0.06,0.16] and 0.23 95%CI[0.14,0.35]) but highly specific (0.88 95%CI[0.80,0.93] and 0.97 95%CI[0.94,0.99]).

Conclusions: The IPAQ presents a weak-to-moderate correlation and agreement with inertial systems. Furthermore, it identifies mostly low-active people and discriminates moderately- or highly-active participants poorly. Thus, its results should be taken with caution.

Physical activity Covid-19 Measurement properties

Footnotes

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