Concurrent validity of the Portuguese version of the Brief physical activity assessment tool
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Background
• Physical activity (PA) is an important health enhancing behaviour and should be routinely assessed in clinical practice to identify insufficiently active people.
• Activity monitors provide objective assessment of free-living PA, however, they are too expensive to be used in resource-constrained clinical settings.
• Several PA questionnaires have been validated to the European Portuguese language. However, most questionnaires are too long, hence unsuitable for use in clinical practice.

Aims
1. To explore the relationship between the European Portuguese version of a short PA questionnaire, the Brief Physical Activity Assessment Tool (Brief-PA tool), and the International Physical Activity Questionnaire short form2 (IPAQ-sf, already validated for Portugal).
2. To explore the test-retest reliability of the Brief-PA tool.

Methods
Procedures:
• Linguistic adaptation of the Brief-PA tool1 to the Portuguese language was first conducted (Fig. 1).
• 86 healthy volunteers (53♂; 49.5±18.1yrs) completed the Brief-PA tool and the IPAQ-sf2 (T1).
• A sub-sample of 56 volunteers (37♂; 43.1±18.1yrs) completed the Brief-PA tool one week later (T2).

Statistical analysis:
• Spearman’s rank correlation coefficient (p) was used to assess correlations between the Brief-PA total score and the IPAQ-sf (MET-min/week);
• %agreement and Cohen’s kappa were used to assess agreement between categorical scores obtained from the measures (‘sufficiently’/‘insufficiently’ active) and test-retest reliability of the Brief-PA tool.

Results
• A significant correlation was found between the Brief-PA tool and the IPAQ-sf (ρ=0.721, p<0.001, Fig. 2).
• The Brief-PA tool identified 34.9% (n=30) sufficiently active participants in the total sample while the IPAQ-sf identified 59.3% (n=51, Table 1).
• Agreement between the Brief-PA tool and the IPAQ-sf was moderate (%agreement=70.9%; Cohen’s kappa=0.450, p>0.001, Table 1).
• Test-retest reliability of the Brief-PA tool was substantial (%agreement=89.3%, kappa=0.755, p<0.001, Table 2).

Table 1. Comparison of ‘sufficiently’ and ‘insufficiently’ active patients according to the Brief-PA tool and the IPAQ-sf (n=86).

<table>
<thead>
<tr>
<th>Brief-PA tool</th>
<th>IPAQ-sf</th>
<th>%agreement</th>
<th>Kappa (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>28</td>
<td>2</td>
<td>70.9%</td>
</tr>
<tr>
<td>Inactive</td>
<td>23</td>
<td>33</td>
<td>0.450</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.287 to 0.613)</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Comparison of ‘sufficiently’ and ‘insufficiently’ active patients according to the Brief-PA tool collected in T1 and T2 (n=56).

<table>
<thead>
<tr>
<th>Brief-PA tool (T2)</th>
<th>IPAQ-sf</th>
<th>%agreement</th>
<th>Kappa (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>15</td>
<td>2</td>
<td>89.3%</td>
</tr>
<tr>
<td>Inactive</td>
<td>4</td>
<td>35</td>
<td>0.755</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.571 to 0.939)</td>
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</table>

Conclusion
• The Brief-PA tool seems to be valid and reliable for assessing PA in the Portuguese adult population, although the agreement with the IPAQ-sf was only moderate.
• Further research assessing the validity of the Brief-PA tool with objective measures is needed.