**Physical activity patterns in the French 18-74-year-old population**

*The French nutrition and health survey (ENNS, 2006-2007)*

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**Introduction**

- Assessing health-related physical activity is a global concern for public health strategies aiming at improving health status of populations.
- The ‘International Physical Activity Questionnaire’ (IPAQ) was developed to measure physical activity in a population.
- Identifying dimensions which are variable between IPAQ categories (‘low’, ‘moderate’ and ‘high’) for gender could help to define targets for public health actions.
- Our objective was to describe detailed physical activity and sedentary behaviour in French adults by IPAQ categories.

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**Methods**

- National cross-sectional survey including 3,115 18-74-year-olds; random sample selection based on a three-phase design.1 Demographic, physical activity and sedentary lifestyle data were collected at home via face-to-face interviews.
- The French short form of the IPAQ was used to describe physical activity in 2,971 participants. Data processing rules, calculation of metabolic equivalent task (MET-min/week) and classification by IPAQ categories were strictly undertaken as recommended by the IPAQ group.2
- Time spent in a sitting position and time spent in front of a screen (television, computer, video game) were used as markers of sedentary behavior.
- The complex survey design and weighting were accounted for in all analyses.

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**Results**

- About 6% of adults declared no physical activity at all.
- **Figure:** According to IPAQ categories, 29.5% [95%CI: 25.9-33.1] of men and 23.6% [21.1-26.6] of women were classified in the high-IPAQ category, while 36.1% [32.2-39.9] of men and 37.5% [34.7-40.3] of women were in the low-IPAQ category.
- Men were more physically active than women (median total MET-min/week: 1,893 versus 1,434; p<10^-3) but they spent more time in front of a screen than did the latter (mean time: 3h04 versus 2h51, p<10^-3).

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**Table: Median days, durations and MET by physical activity intensity level, IPAQ category and gender**

<table>
<thead>
<tr>
<th>IPAQ category</th>
<th>Men</th>
<th></th>
<th></th>
<th>Women</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Moderate</td>
<td>Low</td>
<td></td>
<td>High</td>
<td>Moderate</td>
</tr>
<tr>
<td><strong>Vigorous intensity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of active days/week</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>*</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Daily duration (h/min)</td>
<td>2.00</td>
<td>1.00</td>
<td>1.15</td>
<td>*</td>
<td>1.45</td>
<td>1.00</td>
</tr>
<tr>
<td>MET-min/week</td>
<td>3240</td>
<td>960</td>
<td>960</td>
<td>*</td>
<td>2160</td>
<td>720</td>
</tr>
<tr>
<td><strong>Moderate intensity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of active days/week</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>*</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Daily duration (h/min)</td>
<td>3.00</td>
<td>1.00</td>
<td>1.20</td>
<td>*</td>
<td>2.30</td>
<td>1.00</td>
</tr>
<tr>
<td>MET-min/week</td>
<td>2400</td>
<td>900</td>
<td>480</td>
<td></td>
<td>2880</td>
<td>720</td>
</tr>
<tr>
<td><strong>Walking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of active days/week</td>
<td>7</td>
<td>6</td>
<td>2</td>
<td>*</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Daily duration (h/min)</td>
<td>1.00</td>
<td>0.45</td>
<td>0.30</td>
<td>*</td>
<td>1.00</td>
<td>0.45</td>
</tr>
<tr>
<td>MET-min/week</td>
<td>990</td>
<td>693</td>
<td>198</td>
<td>*</td>
<td>990</td>
<td>693</td>
</tr>
<tr>
<td>Total MET-min/week</td>
<td>5139</td>
<td>1893</td>
<td>462</td>
<td></td>
<td>4662</td>
<td>1554</td>
</tr>
</tbody>
</table>

- Medians for each PA intensity level were calculated in adults who practiced activities of that intensity level at least one day per week, while total MET-min/week medians were calculated for the whole population.

- Differences were all statistically significant (p<0.05) between high- and moderate- and low-IPAQ categories except for:
  - No statistical difference between moderate- and low-IPAQ categories.

- No statistical difference between high- and moderate-IPAQ categories.

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**Conclusion**

- Despite limitations, the reliability and validity of the short IPAQ version have been underlined.3 IPAQ is particularly useful for the follow-up of public health plans such as the French ‘Programme national nutrition santé’.4 However, scrupulous application of data processing rules recommended by the IPAQ group and quality of data collection are needed in order to minimize physical activity overestimation.
- For most adults in the low-IPAQ category, an increasing number of moderately active days per week would be sufficient to attain a moderate-IPAQ category. Yet, the gap between moderate- and high-IPAQ categories was much greater than between moderate and low categories, particularly in terms of daily duration of physical activity. Variations across IPAQ-categories by gender rather differed, underlying the need for sex-adapted public health messages and actions.

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**References**