

Letter to the Editor

Questionnaires for assessing physical activity in Spanish population: future research directions***Medición de la actividad física en la población española mediante cuestionarios: direcciones futuras de investigación***

Dear Editor:

Guirao-Goris et al.¹ have recently presented a structured review of physical activity questionnaires for older adults and the elderly. Since physical activity is considered a cornerstone to prevent chronic diseases, it is compulsory to monitor physical activity for public health strategies. In this review, a special focus was given by the authors to present physical activity questionnaires validated in Spanish population. Only three validated physical activity questionnaires for Spanish adults were found (that is, Minnesota Leisure Time Physical Activity, Yale Physical Activity Survey and Modified Baecke Questionnaire). These findings show the necessity to carry out studies to validate — in terms of reliability and validity properties — physical activity questionnaires in Spanish adults. Nevertheless, this new research must be conducted with caution. Two principal rationales should be taken into consideration to select physical activity questionnaires for validation purposes.

Firstly, each questionnaire should be valid to assess physical activity in surveillance studies across lifespan (childhood, adolescence, adulthood and aging). Although validation studies will have to be conducted in all the different age groups, cross-sectional and longitudinal samples may be measured by using the same questionnaire or with an identical structure and the same physical activity outcomes. Secondly, physical activity questionnaires must be valid for cross-national comparisons. Comparisons of physical activity levels among countries need the same instrument to minimize biases. Thus, it makes possible the implement of short- or long-term physical activity public policies developed in the most active countries.

In the scientific literature there are several attempts to achieve these two objectives at the same time. For example, the International Physical Activity Questionnaire (IPAQ, www.ipaq.ki.es) has been validated for adults and adapted for several languages such as Arabic, Croatian, Dutch, English, Estonian, French, German, Icelandic, Italian, Korean, Malay, Lithuanian, Persian, Polish, Swedish, Turkish, Vietnamese and Spanish from USA, Colombia and Argentina, but not from Spain². Likewise, the IPAQ has been recently validated for European adolescents (International Physical Activity Questionnaire for Adolescents, IPAQ-A) from 9 countries to the HELENA Study framework (www.helenastudy.com)³. On the other hand, there is a “family” of questionnaires with the same structure and similar questions for children⁴ (Physical Activity Questionnaire for Children, PAQ-C), adolescents⁵ (Physical Activity Questionnaire for Adolescents, PAQ-A), and adults⁶ (Physical Activity Questionnaire for Adults, PAQ-AD). In addition, the PAQ-A version has been recently

validated in Spanish adolescents⁷. Hence, the “IPAQ and PAQ families” are two plausible opportunities for validation studies in Spanish population. However, these questionnaires may be too long to be included in epidemiological surveys where physical activity is just one more lifestyle marker. Thus, single-item questions (e.g. How many days do you do physical activity for 60 min or more?) may also be a feasible option in many research designs^{8,9}.

In spite of the fact that physical activity questionnaires are widely used, objective instruments, such as accelerometers, pedometers and heart rate monitors, may assess accurately physical activity in Spanish population, and should not be forgotten in health-related research since these tools do not differentiate among cultures and languages. Objective measures of physical activity are considered as an acceptable criterion to validate questionnaires, but more efforts must be performed to use these methods in large sample populations from Spain.

References

1. Guirao-Goris JA, Cabrero-García J, Moreno Pina JP, et al. Structured review of physical activity measurement with questionnaires and scales in older adults and the elderly. *Gac Sanit.* 2009;23:334.e1–7.
2. Craig CL, Marshall AL, Sjöström M, et al. International physical activity questionnaire: 12-country reliability and validity. *Med Sci Sports Exerc.* 2003;35:1381–95.
3. Hagströmer M, Bergman P, De Bourdeaudhuij I, et al. Concurrent validity of a modified version of the International Physical Activity Questionnaire (IPAQ-A) in European adolescents: the HELENA Study. *Int J Obes (London).* 2008;32(Suppl. 5):S42–8.
4. Kowalski KC, Crocker PR, Faulkner RA. Validation of the physical activity questionnaire for older children. *Pediatr Exerc Sci.* 1997;9:174–86.
5. Kowalski CK, Crocker PR, Kowalski NP. Convergent validity of the physical activity questionnaire for adolescents. *Pediatr Exerc Sci.* 1997;9:342–52.
6. Copeland JL, Kowalski KC, Donen RM, et al. Convergent validity of the Physical Activity Questionnaire for Adults: the new member of the PAQ Family. *J Phys Act Health.* 2005;2:216–29.
7. Martínez-Gómez D, Martínez-de-Haro V, Pozo T, et al. Reliability and validity of the PAQ-A Questionnaire to assess physical activity in Spanish adolescents. *Rev Esp Salud Publica.* 2009;83:427–39.
8. Jackson AW, Morrow Jr JR, Bowles HR, et al. Construct validity evidence for single-response items to estimate physical activity levels in large sample studies. *Res Q Exerc Sport.* 2007;78:24–31.
9. Martínez-Gómez D, Martínez-De-Haro V, Del-Campo J, et al. Validity of four questionnaires to assess physical activity in Spanish adolescents. *Gac Sanit.* 2009;23:512–7.

David Martínez-Gómez^a, Ascension Marcos^a y Óscar L. Veiga^{b,*}

^a *Immunonutrition Research Group, Department of Metabolism and Nutrition, Instituto del Frío, Institute of Food Science and Technology and Nutrition (ICTAN), Spanish National Research Council (CSIC), Spain*

^b *Department of Physical Education, Sport and Human Movement, Autonomous University of Madrid, Spain*

*Corresponding author.

E-mail address: oscar.veiga@uam.es (Ó.L. Veiga).