Are self-reported sedentary behaviors markers of total sedentary time in adolescents?

by

Rey-López JP[1,2,3], Gracia L[1,2], Vicente-Rodriguez G[1,2], Manios Y[4], Benito PJ[5], Martinez D[5], Beghin L[6], Mauro[7] B, de Bourdeaudhuij I[8,9,10], Sjöström M[3], Moreno LA[1,2]

Objectives: To study the agreement among total time spent in self-reported sedentary behaviors (by the Helena questionnaire) and total sedentary time (by accelerometry) in a large sample of European adolescents.

Methods: Daily minutes in sedentary time by accelerometry (counts per minute, c.p.m. < 500) and total time spent in self-reported sedentary behaviors were obtained in 2248 adolescents (1036 males and 1212 females, aged 12.5-17.5 yr) within the framework of the HELENA study. Sedentary time (as minutes spent < 500 c.p.m. / total registered time) was determined by Actigraph (wearing at least 3 days, with at least 8 daily hours of registered time). Sedentary behaviors were assessed by the Helena sedentary questionnaire, which included daily minutes of TV viewing, playing with computer games, playing with console games, internet for non-study reasons, internet for study and studying. An index of total sedentary time was created by summing the time devoted to these behaviors. Spearman correlation coefficients between the sum of sedentary behaviors and sedentary time (by accelerometry) were obtained in four age groups (12.5-13.9, 14-14.9, 15-15.9 and 16-17.4).

Results: Very few significant correlations were found. In males, the only significant correlations were in 12.5-13.9 yr (r=0.14, p<0.01) and 15-15.9 yr (r=0.22, p<0.01). In females, no significant correlations were found in all age groups.

Conclusions: Our findings show clear differences between total indices of sedentariness by questionnaires and total sedentary time measured by accelerometers. A possible explanation for this is that part of the inactive time spent by adolescents is not gathered by questionnaires. However, the use of self-report questionnaires in epidemiologic studies remains important because they provide crucial information of the type of behaviour, different domains and the associated food pattern.

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[1] GENUD: "Growth, Exercise, Nutrition and Development" Research Group. University of Zaragoza, Spain
[2] School of Health Sciences. Department of Physiotherapy and Nursing, University of Zaragoza, Spain
[3] Unit for Preventive Nutrition, Department of Biosciences and Nutrition, Karolinska Institutet, Huddinge, Sweden
[4] Department of Nutrition & Dietetics.Harokopio University. Athens, Greece
[5] Department of Health and Human Performance. Faculty of Physical Activity and Sport Sciences-INEF. Universidad Politécnica de Madrid, Spain
[6] Clinique de Pédiatrie, CHRU de Lille, Faculté de Médecine. University of Lille2, France
[7] Istituto Nazionalen di Ricerca per gli Alimenti e la Nutrizione, Italy
[8] Department of Movement and Sports Sciences, Ghent University, Ghent, Belgium
[9] Department of Physiology, School of Medicine, University of Granada, Spain
[10] Institut für Ernährungs- und Lebensmittelwissenschaften. Humanernährung, Rheinische Friedrich-Wilhelms Universität, Bonn, Germany

Correspondence: jprey@unizar.es