Physical activity and health: getting to know more about the European situation

Dr. Oppert is professor of nutrition at the University Pierre-et-Marie Curie in Paris

The importance of regular physical activity in relation to health and well-being is increasingly recognized, as evidenced by the current WHO global strategy on diet, physical activity and health. Over the past years, public health recommmendations for physical activity have shifted from an emphasis on the protective cardiovascular effects of vigorous endurance training to the more general concept of health-enhancing physical activity. Current recommendations are that all adults should perfom at least 30 minutes of moderate-intensity physical activity such as brisk walking on most, and preferably all days of the week (Pate et al. 1995). These guidelines emphasize the importance of physical activity accumulated during daily living, including the various contexts of leisure and sports, occupation, as well as domestic chores.

Until recently, efforts to assess and monitor physical activity at the population level, and to perform cross countries comparisons, were limited by a lack of adequate standardized survey instruments. Therefore, the development and testing of the International Physical Activity Questionnaire (IPAQ) appears as an important step forward in this area, as this instrument was primarily designed for such purposes (Craig et al. 2003). The short form of this new questionnaire assesses, over the past seven days, the frequency and duration of moderate and vigorous physical activity, as well as walking and sitting, in all contexts of everyday life. Results can be expressed in metabolic equivalents (MET), using defined energy costs for the types of physical activity assessed (www.ipaq.ki.se).

In this and the forthcoming issue of the journal, Rütten and Abu-Omar present a series of four papers (Rütten & Abu-Omar 2004a; 2004b; Abu-Omar et al. 2004a; 2004b) analyzing a large data set on physical activity, collected using the IPAQ in the framework of the Eurobarometer 58.2 survey. In total, 16 230 interviews were conducted in representative samples of about 1 000 subjects aged 15 years and older in each 15 member states of the European Union. As expected, male gender, younger age, being single, and higher income were associated with higher physical activity levels. Across age, gender, and socio-economic subgroups, being sufficiently active, as based on current recommendations, was positively associated with better self-rated global health, as well as mental health. Interestingly, perceptions of environmental opportunities for physical activity were analyzed. A majority of about 70% of respondents were satisfied with the infrastructure characteristics of the place they live in, whereas only 57% agreed that local authorities were doing enough in terms of local policies for physical activity. For all outcomes examined, significant variations were evidenced across countries. Total physical activity in MET-hours per week was highest in the Netherlands, Germany, Luxembourg and Denmark, and lowest in Italy, Belgium, France and Sweden. Odds-ratios for having a good subjective health status in sufficiently compared to insufficiently active subjects ranged from 1.0 (Finland) to 2.42 (Italy). Evidence for a dose-response relationship between physical activity and indicators of mental health was found in some, but not all, countries. Lowest satisfaction with environmental opportunities were found in Portugal, Italy and Greece, and highest in Denmark, the Netherlands, Luxembourg and the western part of Germany.

The work by Rütten and Abu-Omar clearly points to the importance of cross-national variations in physical activity levels and correlates across member states of the EU. This fits particularly well with the objectives of the IPAQ. It is intriguing that a north-south gradient in physical activity levels was not found, in contrast with other studies with a European scope (Martinez-Gonzalez et al. 2001). This might be related to the fact that the IPAQ assesses physical activity across all contexts of everyday lifes, whereas most

Soz.- Präventivmed. 49 (2004) 231–232
0303-8408/04/040231–2
DOI 10.1007/s00038-004-4018-6

previous studies only investigated leisure-time physical activity. A strength of the IPAQ is that it has demonstrated acceptable reliability and validity properties (Craig et al. 2003). Overreporting of physical activity has however been identified as a significant problem in some studies (Rzewnicki et al. 2003) and deserves further investigation. Another dimension not examined in these articles is sedentary behavior (assessed with questions about the time spent sitting). It is now well documented that physical activity and time spent in sedentary occupations are not simply the opposite of one another but represent different dimensions of behavior (Bertrais et al. 2004). Moreover, they are independently related to health outcomes such as the risk of obesity or type 2 diabetes (Hu et al. 2003). Reducing sedentary behavior while promoting physical activity appears an integral part of public health efforts in this area.

The findings reported in SPM by Rütten and Abu-Omar add important information to data on physical activity presented elsewhere by the European Commission, at the request of which Eurobarometer surveys are performed (www.eu.int/comm/health). They may help to target at-risk populations and guide the development of physical activity preventive programs at the european level. It is anticipated that with 10 new members in the European Union, reassessment will be needed soon, to get a better picture of the diversity of the European situation in terms of physical activity.

Jean-Michel Oppert

References

Abu-Omar K, Rütten A, Lehtinen V (2004a) Mental health and physical activity in the European Union. Soz Praventiv Med *49* (*5*) (in press).

Abu-Omar K, Rütten A, Robine J-M (2004b). Self-rated health and physical activity in the European Union. Soz Praventiv Med *49*: 235–42.

Bertrais S, Preziosi P, Mennen L, Galan P, Hercberg S, Oppert JM (2004). Socio-demographic and geographic correlates of meeting current recommendations for physical activity in middle-aged French adults (the SU.VI.MAX study). Am J Public Health (in press).

Craig CL, Marshall AL, Sjostrom M, et al. (2003). International physical activity questionnaire: 12-country reliability and validity. Med Sci Sports Exerc *35*: 1381–95.

Hu FB, Li TY, Colditz GA, Willett WC, Manson JE (2003). Television watching and other sedentary behaviors in relation to risk of obesity and type 2 diabetes mellitus in women. JAMA *289*: 1785–91.

Martinez-Gonzalez MA, Varo JJ, Santos JL, et al. (2001). Prevalence of physical activity during leisure time in the European Union. Med Sci Sports Exerc *33*: 1142–6.

Pate RR, Pratt M, Blair SN, et al. (1995). Physical activity and public health: a recommendation from the Centers for Disease Control and Prevention and the American College of Sports Medicine. JAMA *273*: 402–7.

Rütten A, Abu-Omar K (2004a). Perceptions of environmental opportunities for physical activity in the European Union. Soz Praventiv Med *49* (*5*) (in press).

Rütten A, Abu-Omar K (2004b). Prevalence of physical activity in the European Union. Soz Praventiv Med *49*: 281–89.

Rzewnicki R, Vanden Auweele Y, De Bourdeaudhuij I (2003). Addressing overreporting on the International Physical Activity Questionnaire (IPAQ) telephone survey with a population sample. Public Health Nutr *6*: 299–305.

Address for correspondence

Jean-Michel Oppert, MD, PhD
Professor of Nutrition
University Pierre-et-Marie Curie (Paris VI)
Department of Nutrition
Hôtel-Dieu Hospital
F-75004 Paris

Soz.- Präventivmed. 49 (2004) 231–232