



Original Research

The International Physical Activity Questionnaire-long form overestimates self-reported physical activity of Brazilian adults

E. Sebastião^{a,*}, S. Gobbi^b, W. Chodzko-Zajko^a, A. Schwingel^a, C.B. Papini^c, P.M. Nakamura^c, A.V. Netto^c, E. Kokubun^c

^a Aging and Diversity Laboratory, Department of Kinesiology and Community Health, University of Illinois at Urbana-Champaign, 126 Louise Freer Hall, 906 S. Goodwin Ave., Urbana-Champaign, IL 61801, USA

^b Physical Activity and Aging Laboratory, Department of Physical Education, UNESP – Univ. Estadual Paulista, Rio Claro, Brazil

^c Physical Activity, Sport and Health Centre, Department of Physical Education, UNESP – Univ. Estadual Paulista, Rio Claro, Brazil

ARTICLE INFO

Article history:

Received 24 March 2011

Received in revised form

4 April 2012

Accepted 20 July 2012

Available online 1 September 2012

Keywords:

Adults

Assessment

Survey design

IPAQ

Questionnaires

SUMMARY

Objective: To explore issues associated with measuring physical activity using the International Physical Activity Questionnaire (IPAQ)-long form in adults living in a mid-sized Brazilian city.

Methods: A stratified random sampling procedure was used to select a representative sample of adults living in Rio Claro. This yielded 1572 participants who were interviewed using the IPAQ-long form. The data were analysed using standard statistical procedures.

Results: Overall, 83% of men and 89% of women reported at least 150 min of combined moderate and/or vigorous physical activity per week. Reliable values of leisure and transportation-related physical activity were observed for both males and females. With regard to the household and work-related physical activity domains, both males and females reported unusually high levels of participation.

Conclusion: The IPAQ-long form appears to overestimate levels of physical activity for both males and females, suggesting that the instrument has problems in measuring levels of physical activity in Brazilian adults. Accordingly, caution is warranted before using IPAQ data to support public policy decisions related to physical activity.

© 2012 The Royal Society for Public Health. Published by Elsevier Ltd. All rights reserved.

Introduction

Physical inactivity is a global health problem that causes more than two million deaths each year, making it one of the top 10 leading causes of death and disability.¹ There is strong evidence that regular physical activity is associated with

significant health benefits and improved quality of life for individuals of all ages.² In the recently published Physical Activity Guidelines for Americans, an impressive array of evidence strongly suggests that regular physical activity reduces the risk of developing numerous chronic diseases and conditions,³ and increases life expectancy by reducing

* Corresponding author. Tel.: +1 217 244 8520.

E-mail address: decounesp@yahoo.com.br (E. Sebastião).

0033-3506/\$ – see front matter © 2012 The Royal Society for Public Health. Published by Elsevier Ltd. All rights reserved.

<http://dx.doi.org/10.1016/j.puhe.2012.07.004>

both deaths from cardiovascular disease and all-cause mortality.^{4,5}

Despite the recognized benefits of regular physical activity, a growing consensus suggests that physical inactivity is an ongoing public health problem for many countries.^{6–8} In Brazil, estimates of physical inactivity levels in the population range from 40% to 88%.^{6,9–12} One of the reasons behind the lack of precision in population estimates of physical activity is the wide variation in methodologies used to estimate levels of participation. Adequate measurement of physical activity is important for determining trends in physical activity levels over time, evaluating the effect of physical activity interventions, and determining the health benefits of physical activity. Poor measurement of physical activity may hinder detection of important associations or effects. Challenges associated with physical activity assessment present significant problems for the establishment of public health policy guidelines. Therefore, valid and reliable measures of physical activity at the population level are needed to enhance the development and implementation of public health strategies, interventions and policies.

Although there are many different approaches to the quantification of physical activity, the most common, simple and cheap approach, especially in surveillance studies, employs self-reported physical activity questionnaires.^{13,14} Unfortunately, due to the large array of populations and settings to be studied, there is no consensus regarding a single instrument/questionnaire that best measures self-reported physical activity.^{13,14}

Although some questionnaires have been translated into several languages, an ongoing challenge in the physical activity assessment literature has been the identification of an accurate and low-cost physical activity assessment tool that can be used in different cultures and ethnic groups around the world.¹⁵ In 1997, a working group of public health and physical activity experts developed a cross-cultural physical activity assessment instrument known as the International Physical Activity Questionnaire (IPAQ).¹⁶ Available in two formats (short and long forms), the IPAQ was developed as a relatively simple self-report instrument that would be available in many languages, and which would enable researchers to estimate levels of physical activity in different countries and compare these data. Several studies have been conducted to test validity and reliability.¹⁶ In 2003, a large international survey was conducted to analyse the validity and reliability of the IPAQ in several countries, including Brazil.¹⁶ However, a recent literature review highlighted methodological problems with these validations studies.¹⁴ A key feature of the IPAQ is its ability to provide, in detail, participation estimates for multiple domains of physical activity, including leisure-time physical activity, physical activity for transportation, physical activity in the home and physical activity at work.¹⁶ An important difference between the long and short forms of the IPAQ, and a possible advantage of the long form, is that in the long form, the IPAQ provides information about time spent in physical activity for each domain, whereas in the short form, the outcome is only a total score for physical activity.

Although the IPAQ has been used across the world,^{6,16,17} there are some concerns about whether the questions are interpreted similarly by individuals from different countries

and cultures,^{18,19} thereby introducing unintended variance into physical activity estimates across different population groups. One of the challenges associated with the IPAQ is its attempt to assess both 'vigorous' and 'moderate' physical activity behaviour that extends for a minimum of 10 min per bout. There is evidence to suggest that some individuals have difficulty differentiating between 'vigorous' and 'moderate' physical activity.²⁰ Furthermore, others also have difficulty identifying the actual time spent in these activities, especially when durations are relatively short, close to the 10-min IPAQ cut-off. The IPAQ instructs respondents to disregard physical activity conducted in epochs of less than 10-min duration. Many individuals have difficulty interpreting such instructions.²⁰ All of these issues may have contributed to a tendency for studies using the IPAQ to generate unusually high estimates of levels of participation in physical activity.²¹

This study sought to investigate physical activity estimates and explore issues associated with measuring physical activity data using the IPAQ-long form in adults living in a mid-sized Brazilian city. Like most emerging economies, Brazil is undergoing an epidemiological transition from a medical system focused primarily on infectious disease control to a system increasingly focused on the prevention and treatment of chronic disease and conditions.²² Brazilians today are thought to be increasingly less active and more overweight than ever before¹²; however, there is a paucity of large-scale population data regarding the actual levels of activity of Brazilians.

Methods

A cross-sectional, population-based study was conducted in Rio Claro, São Paulo, a mid-sized city (190,000 inhabitants) located in south-eastern Brazil, during 2007 and 2008. Physical activity was assessed using the IPAQ-long form in a sample of community-dwelling adults over 20 years of age. The UNESP – São Paulo State University Ethical Committee approved the research protocol, and informed consent was obtained from each subject before data collection.

Sample

A stratified random sampling procedure was used to select a representative sample of adults living in Rio Claro. From the total number of census tracts ($n = 200$), 100 were selected at random for inclusion in the study, and eight households within each tract were selected at random for interview. This yielded a total of 800 households selected for interview. All residents in each household over 20 years of age who were able to walk independently were eligible for inclusion in the study. This procedure resulted in a final sample of 1572 individuals interviewed for the study.

Measures

Physical activity was assessed in four domains using the eighth version of the IPAQ-long form (work, transportation, housework and leisure-time). A domain-specific activity score was calculated separately for each domain of physical activity

Download English Version:

<https://daneshyari.com/en/article/1087658>

Download Persian Version:

<https://daneshyari.com/article/1087658>

[Daneshyari.com](https://daneshyari.com)