Brazilian Journal of Physical Therapy (2017) xxx, xxx–xxx

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Associação Brasileira de Pesquisa e Pós-Graduação em Fisioterapia

Brazilian Journal of Physical Therapy

https://www.journals.elsevier.com/brazilian-journal-of-physical-therapy

ORIGINAL RESEARCH

Predictors of perceived barriers to physical activity in the general adult population: a cross-sectional study

Yaneth Herazo-Beltrán[a,*], Yisel Pinillos[a], José Vidarte[b], Estela Crissien[a], Damaris Suarez[a], Rafael García[a]

[a] *Physical Therapy Program, Universidad Simón Bolívar, Barranquilla, Colombia*
[b] *Physical Therapy Program, Universidad Autónoma de Manizales, Manizales, Colombia*

Received 8 November 2015; received in revised form 28 February 2016; accepted 8 April 2016

KEYWORDS
Motor activity;
Social support;
Socioeconomic factors;
Health resources;
Motivation;
Physical therapy

Abstract
Background: The perception of personal barriers to physical activity varies according to the sociodemographic characteristics of individuals.
Objective: To determine the predictors of the perception of barriers to physical activity in the adult population.
Method: A cross-sectional study with 1066 adult women and 1036 adult men. The sociodemographic variables (age, gender, marital status, socioeconomic level, level of education), the perception of barriers that do not allow performance of physical activity (i.e. lack of time, social support, energy, motivation, skill, resources, and fear of injury during practice); and the level of physical activity through the International Physical Activity Questionnaire in its short-form version were evaluated.
Results: Individuals from low socioeconomic level (1 and 2) have higher risks of perceiving barriers such as lack of motivation [OR 1.76 (95% CI (1.4–2.1))] and lack of resources [OR 1.37 (95% CI (1.1–1.6))]; individuals with partners did not perceive the lack of social support [OR 0.29 (95% CI (0.2–0.4))] and lack of motivation [OR 0.54 (95% CI (0.4–0.7))] as barriers to physical activity. Individuals with low schooling perceived lack of social support [OR 3.81 (95% CI (3–4.7))], lack of resources [OR 2.78 (95% CI (2.2–3.3))], and fear of injury [OR 2.70 (95% CI (2.2–3.3))] as barrier to physical activity.
Conclusion: Factors such as socioeconomic level, marital status, level of education, and self-perception of health are predictors of barriers to physical activity.

* Corresponding author at: Carrera 59 N° 59-65, Barranquilla, Colombia.
E-mail: aherazo4@unisimonbolivar.edu.co (Y. Herazo-Beltrán).

http://dx.doi.org/10.1016/j.bjpt.2016.04.003

Please cite this article in press as: Herazo-Beltrán Y, et al. Predictors of perceived barriers to physical activity in the general adult population: a cross-sectional study. *Braz J Phys Ther.* (2017), http://dx.doi.org/10.1016/j.bjpt.2016.04.003

Introduction

Physical inactivity is associated with a higher frequency of chronic non-communicable diseases. According to the World Health Organization, it is recognized as the fourth risk factor for global mortality.[1] Despite efforts by national and international organizations to increase physical activity (PA) levels among the population, the prevalence of physical activity is low in developing countries. The percentage of people complying with the recommendations of 150 min per week of moderate activity is 31.1% globally.[2] In Colombia, this level reaches 57.4%.[3] In this sense, it is essential to develop public health interventions,[4,5] given that physical activity is influenced by personal or internal factors such as the perception of barriers,[6] which can determine people's lifestyles because they act as cognitive restrictions to physical activity.[7]

Within a sociological approach, perception of barriers is a construct of the intra- and inter-personal levels,[4,8] recognized as a significant predictor of PA.[7] Other authors consider lack of time (external barrier) and lack of motivation (internal barrier) as the most relevant barriers physical activity.[9] The concept of internal or personal and external or environmental barriers has been defined in a number of studies. Internal barriers are related to the personal motivations of individuals, unlike external barriers, which refer to the infrastructure in the neighborhoods and communities.[10,11] This interaction of perceived barriers of a personal and social nature is also explained by the social-cognitive theory, which specifies that a set of determinants affects the health-related practices of individuals, including the perception of personal and social facilitators and barriers that hinder or enable healthy behaviors.[12,13]

Sharifi et al.[9] report that motivational internal barriers predominate in developed countries, while the perception of barriers for PA in developing countries is related to environmental factors such as lack of facilities, places, and programs for PA, considered external barriers.

Physical activity is inversely related to the perception of personal and environmental barriers, with this association varying according to the sociodemographic characteristics of individuals.[14] Although the perception of barriers is strongly related to PA during leisure time rather than during commuting and home and work activities,[5] this perception varies according to gender.

A study conducted by Arango et al.[15] found that the relevant barriers to physical activity were lack of motivation and time (70% and 46.2%, respectively), especially in women and overweight participants.[15] Therefore, the results obtained in this study may become a tool for physical therapists to define the relevant aspects for the organization, design, and implementation of collective intervention programs, previously identifying the health model that guarantees the integration of practical strategies and focuses on promoting health in order to encourage physical activity in the communities. Therefore the aim of this study was to determine the predictors of the perception of barriers for physical activity in the adult population.

Method

Study design

This was a cross-sectional study with 1066 women and 1036 men from Barranquilla, Colombia.

Population and sample

The sampling was probabilistic, random, and multi-staged, taking into account the following selection criteria: people between the ages of 18 and 69, who are residents of the city of Barranquilla, Colombia, and who provided their informed consent. The five locations considered as primary units for sampling in the district of Barranquilla were Riomar, North-Historical Center, Southwest, Southeast, and Metropolitan; later, the neighborhoods were considered as second stage units, the streets as third stage units, the housing conglomerates as fourth stage units, and finally any man or woman between 18 and 69 years of age as the fifth stage units.

Data collection

Prior to data collection, all study subjects signed the informed consent form. To collect the data of this study, a survey was applied with questions about sociodemographic variables (age, gender, socioeconomic level, marital status, and educational level), self-perception of the health status, and barriers to PA, offering the following options: lack of time, social support, energy, motivation, skills, resources, and fear of injury. For each barrier, the participants could answer yes or no.

The level of PA was obtained through the short version of the International Physical Activity Questionnaire (IPAQ). The IPAQ permitted categorizing the subjects by compliance or non-compliance to the recommendations for physical activity with health benefits, consisting of 150 min per week of moderate intensity or 75 min per week of vigorous intensity.[16]

In its development stage, the present study had the participation of health professionals who work as ''Health Walkers'' in the Chronic Non-Communicable Diseases Program, a part of the epidemiological surveillance team from the District Health Secretary's public health network. These ''Health Walkers'' facilitated the physical therapists' access to the neighborhoods; the application of the assessment instruments was carried out by the physical therapists participating in the research study.

Data analysis

The model was built to determine the factors associated with the barriers of physical activity. For this model, we conducted a multivariate logistic regression analysis and the results were presented as odds ratio (OR) with 95% confidence intervals for each perceived barrier variable investigated that had statistical significance $p < 0.05$.

In the model, the variable representing gender took a value (1 for women and 0 for men), and likewise for marital

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