REFACS
Revista Família, Ciclos de Vida e Saúde no Contexto Social

Lifestyle and physical activity in area of social vulnerability
Estilo de vida e atividade física em área de vulnerabilidade social
Estilo de vida y actividad física en área de vulnerabilidad social

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The objective of this study was to determine the prevalence of sedentary and physically active individuals and its associations with sociodemographic and lifestyle aspects in a social vulnerable area in the city of São Paulo, SP, Brazil. Data from the quantitative cross-sectional study were collected through the application of a closed questionnaire at the participants' home. 2,416 households were visited, and the study had a sample of 5,155 participants. The prevalence of sedentary behavior was 68%, and it increased according to the age group. The multiple logistic regression identified four main predictive factors for sedentary behavior: female sex (OR:1.26, P=0.002), meat consumption (OR:1.28, P=0.003), non-consumption of fruits, vegetables and legumes (OR:1.24, P=0.009) and illiteracy (OR:1.33, P=0.025). The prevalence of sedentary lifestyle was high and was associated with age, female sex, illiteracy, smoking, meat consumption and low consumption of fruits, vegetables and vegetables.
Descriptors: Social vulnerability; Life style; Motor activity.

O objetivo deste estudo foi determinar as prevalências de indivíduos sedentários e fisicamente ativos e suas associações com aspectos sociodemográficos e de estilo de vida em uma área de vulnerabilidade social da cidade de São Paulo. Trata-sede estudo transversal quantitativo, com dados coletados por meio da aplicação de um questionário fechado nos domicílios. Foram visitados 2416 domicílios, e o estudo contou com uma amostra de 5155 participantes. A prevalência de comportamento sedentário foi de 68%, e aumentava conforme a faixa etária. A múltipla regressão logística identificou quatro principais fatores preditivos do comportamento sedentário: sexo feminino (OR:1,26, P=0,002), consumo de carne (OR:1,28, P=0,003), não consumir frutas, verduras e legumes (OR:1,24, P=0,009) e analfabetismo (OR:1,33, P=0,025). A prevalência de sedentarismo foi alta e esteve associada à idade, sexo feminino, analfabetismo, tabagismo, consumo de carnes e baixo consumo regular de frutas, verduras e legumes.
Descritores: Vulnerabilidade social; Estilo de vida; Atividade motora.

El objetivo de este estudio fue determinar la prevalencia del comportamiento sedentario y físicamente activo y su asociación con aspectos sociodemograficos y de Estilo de Vida en un área de vulnerabilidad social en la ciudad de Sao Paulo, SP, Brasil. Los datos de esto estudio cuantitativo transversal se recogieron a través de la aplicación de un cuestionario. Fueron visitadas 2416 residencias, y el estudio tuvo una muestra de 5155 participantes. La prevalencia de sedentarismo fue de 68%, y aumentó con la edad. La regresión logística múltiple identificó cuatro predictores principales del comportamiento sedentario: género femenino (OR:1,26, p=0,002), consumo de carne (OR:1,28, P=0,003), no comer frutas y verduras (OR:1,24, P=0,009) y alfabetización (OR 1,33, P= 0,025). La prevalencia de sedentarismo fue alta y estuvo asociada a la edad, sexo femenino, analfabetismo, tabaquismo, consumo de carnes y bajo consumo regular de frutas, verduras y legumbres.
Descriptores: Vulnerabilidad social; Estilo de vida; Actividad motora

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INTRODUCTION

The leading cause of deaths in the world, in Brazil and in São Paulo is related to diseases of the circulatory system[1] which, along with neoplasms, diseases of the respiratory and the endocrine system, nutritional and metabolic diseases, are chronic non-communicable diseases (CNCD)[2].

Although these diseases are considered lifestyle diseases[3], and are strongly associated with modernity, 80% of deaths because of these diseases occur in developing countries[2]. It is intuitive to assume, therefore, that in areas of social vulnerability the CNCD are one of the major public health challenges.

One of the main targets of the World Health Organization action plan for prevention and control of CNCD is to combat the sedentary lifestyle, among other lifestyle factors such as alcoholism and smoking[4]. Although poverty is a strong predictor of early morbidity and mortality[5,6], the factors related to lifestyle (LS), even in areas of social vulnerability, are changeable[7].

The Community Jardim Colombo, socially vulnerable area located in the southern of Sao Paulo city, was initially occupied in the end of the seventies, by road workers and their families that settled there[8]. The residents' Union estimates that about 3,500 families (approximately 17,000 people) live in the place, which occupies an area of around 30,000 m[2].

From the point of view of disease prevention and health promotion, it is important to identify individuals and populations with elevated risk of chronic diseases and early death[7].

So far, no data are available to characterize and point the needs and peculiarities of LS of populations in areas of social vulnerability, especially in relation to the practice of physical activity.

Thus, the objective of this study was to determine the prevalence of sedentary and physically active individuals and their associations with sociodemographic and lifestyle aspects in an area of social vulnerability in the city of São Paulo.

METHOD

This study, of transversal and quantitative design, was carried out in Jardim Colombo, through the application of a closed questionnaire, adapted from a form of Family Registration of Families, available in the Family Health Strategy program of the Ministry of Health of Brazil.

Before the data collection we carried out the territory characterization, which resulted in the subdivision of the community in three census micro areas. The data survey was done in four days (Saturdays and Sundays) in the months of March and April 2012, having counted with the participation of approximately 200 volunteers each day.

All volunteers received training and were accompanied by academic researchers during the collection. Each researcher teacher accompanied a group of six volunteers, who were guided to visit all households of the community.

The application of the questionnaire was made in the form of an interview at the doorway. Commercial establishments, churches and kindergartens were excluded from the sample.

The LS was characterized from the questionnaire, by means of issues about religion, fruits and vegetables consumption, meat consumption, physical activity practice, alcohol consumption, and hours of sleep. Individuals were classified as physically active (PA) when they reported practicing at least 30 minutes of any physical activity, 5 or more days per week. Those who did not achieve these recommendations were considered to have sedentary behavior (SED).

As exclusion criterion we considered the absence of information concerning sex and age. The study was approved by the Committee of Ethics in Research of the Adventist Academical Center of São Paulo, Opinion number 5696.

Data were analyzed through the statistical package GraphPadPrism, version 6.0 for Windows (www.graphpad.com). The exact test of Fisher (χ^2) was applied for the categorical bivariate analyses. The prevalence and their confidence intervalsof 95% (IC95%) were also calculated. After, we carried out logistic regression multiple

analysis, with sedentary behavior (SED) as dependent variable. In all the cases the level of statistical significance established was P <0,05.

RESULTS

2416 households were visited, in which 1546 families (64%) were present and met the researchers. Of these, 71 families (3%) refused to participate in the study and in 799 households (33%) did not answer to researchers.

The initial sample was composed by 5282 residents, of which 2% (127) had no information on age and sex. The study included a final sample of 5155 participants (98%), 3239 (89%) of whom were 18 years or older and were considered in this analysis (male and 1565 1674 female, 48% and 52%, respectively).

The prevalence of SED in the Community Jardim Colombo was 68% (n=2,167). Figure 1 presents the findings in relation to age, sex and hours of sleep daily.
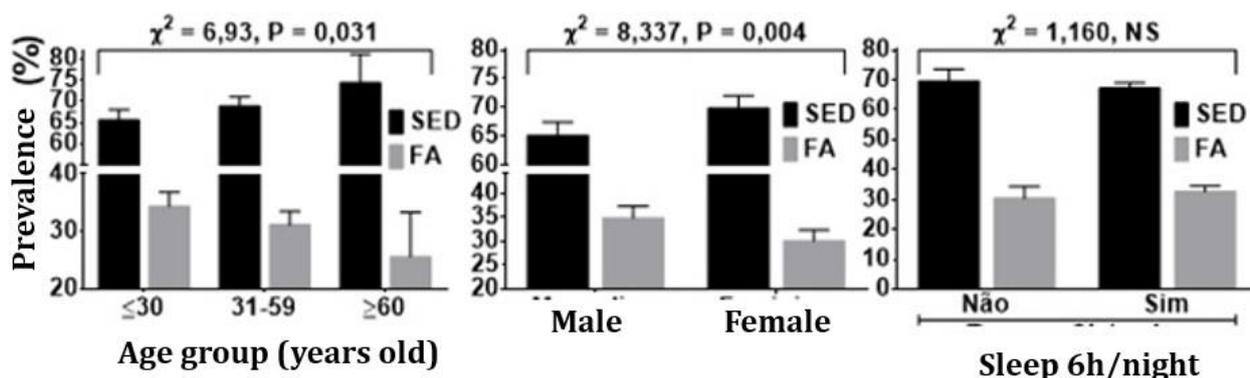

Figure1. Prevalence (±IC95%) of sedentary (SED) and physically active (PA) behavior, associated with the different age groups, sex and hours of sleep daily. Jardim Colombo, 2012.

With increasing age, the prevalence of SED increased significantly (P=0.031), from 66% (≤30 years) to 69% (31 to 59 years) and 74% (≥60 years). The SED was also significantly higher (P=0.004) among women (70% versus 65%) but did not differ in function of the amount of sleep daily (67% to 70%).

Figure 2 shows the prevalence of SED and PA between literate and among those who owned or not any religion. The prevalence of SED among non-literate (73%) was significantly greater (P=0.025) that among literate (67%), but did not differ among those who reported having (67%) or not (70%) religion.
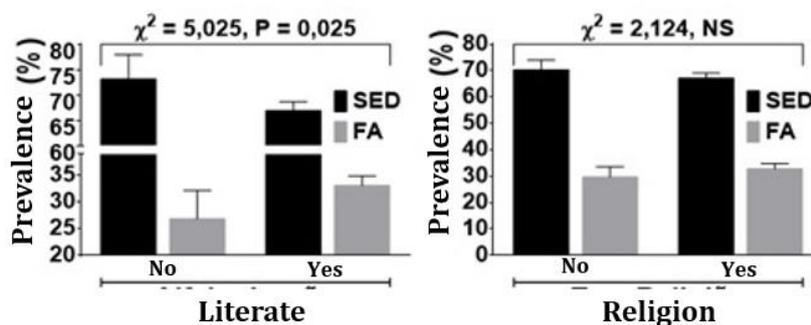

Figure 2. Prevalence (±IC95%) of sedentary (SED) and physically active (PA) behavior associated with literacy and religiosity. Jardim Colombo, SP, Brazil, 2012.

Figure 3 illustrates the associations between SED and daily consumption of fruits,

vegetables, and meat. The proportion of individuals SED was significantly higher (P).
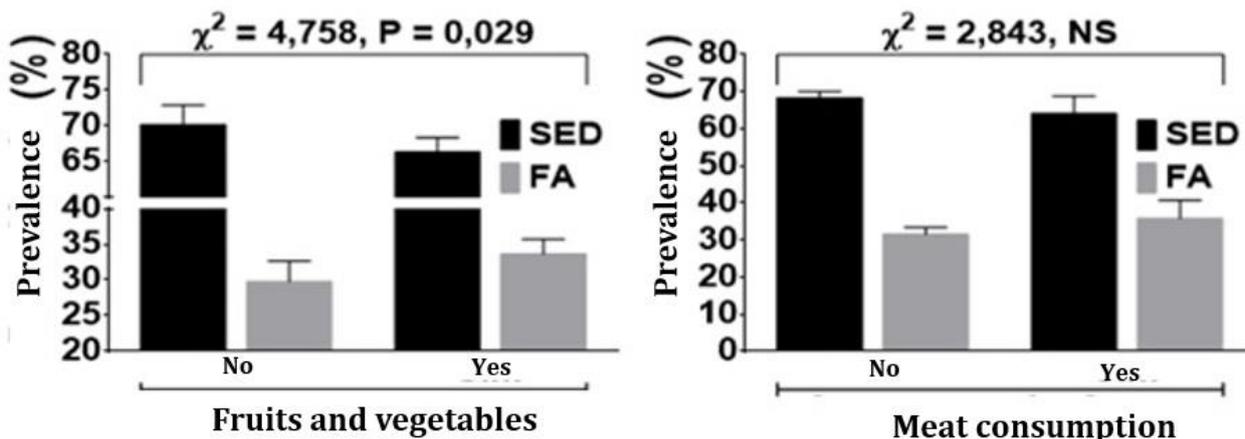

Figure 3. Prevalence (±IC95%) of sedentary (SED) and physically active (PA) behavior associated with the consumption of fruits, vegetables and meat. Jardim Colombo, 2012.

Figure 4 focuses on associations between SED and smoking, and SED and alcoholism. The proportion of SED among individuals who reported smoking (70%) was significantly greater (P=0.007) than among non-smokers (64%) but did not differ between those who consume (69%) or not (66%) alcohol.
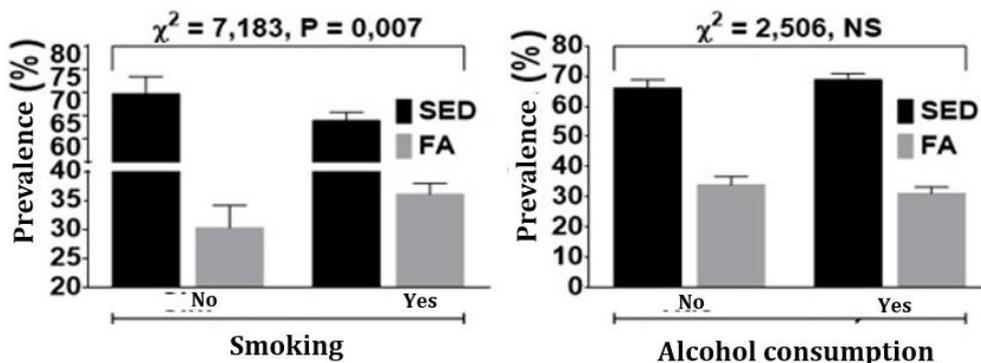

Figure 4. Prevalence (±IC95%) of sedentary (SED) and physically active (PA) behavior associated with smoking and alcohol consumption. Jardim Colombo, 2012.

Multiple logistic regression identified four major predictive factors of sedentary behavior: 1-female (OR: 1.26, P=0.002), 2- meat consumption (OR: 1.28, P=0.003), 3 non-consumption of fruits and vegetables (OR: 1.24, P=0.009) and 4- illiteracy (OR: 1.33, P=0.025).

DISCUSSION
The prevalence of SED rate was 68%, much higher than the value recorded for the National Research by Households Sample[9], which found that 20.2% of Brazilians over the age of 14 years were physically inactive at leisure, at work and at home.

On the other hand, a study conducted in the State of São Paulo found 65.4% of sedentary adults in leisure[10], close to the value found in the present study.

The prevalence of SED in the community searched increased significantly with age. This data is supported by a study that reports on the consistenttrend of physical activity reduction the over the years[11]. It was found that SED was significantly greater among women. Similar data were alreadyspread[9,12,13,10], suggesting that social and cultural factors can be responsible for this diference[14]. Women are usually responsible for housework and family and are often also engaged in paid work, and thus they have less time available to carry out a physical activity[15].

The higher prevalence of SED observed

between not literate individuals, compared to those literate, is not unprecedented. A study that evaluated the physical inactivity in Brazil[9] found that the lower the educational level, the greater the prevalence of physical inactivity. Despite this, there are conflicting data. A study that evaluated the physical inactivity in several domains[10] found that individuals with less education were most active at work and as a means of locomotion.

A limitation of this study lies in the fact that physical activity practice was not quantified in their various fields, which prevents more specific statements. In addition, the data about food, religion, smoking, alcoholism and schooling are dichotomous, which also prevents greater speculation about the extent of the influence of these variables on sedentary behavior.

Among individuals who reported unhealthy LS, such as non-daily consumption of fruitsand vegetables, and smoking, SED was greater compared to those who practiced good habits. It is known that the practice of physical activity is related to the adoption of other healthy habits, such as healthy eating and the reduction of smoking[16]. Nevertheless, in this study, SED did not differ according to other habits, such as the amount of daily sleep, having or not some religion, consumption or not of meat and alcohol.

Among the main predictive factors of sedentary behavior identified in this study, only one is not modifiable: sex. The others relate to schooling and feeding. This points to possible targets of public policies and social actions, aiming at the empowerment of residents of areas of social vulnerability, such as those of the research community, to stimulate the incorporation of healthy habits.

CONCLUSION
The prevalence of sedentary behavior in the Community Jardim Colombo, area of social vulnerability located in the municipality of São Paulo is high (68%) and is significantly associated with age, female sex, illiteracy, smoking, consumption of meat and low regular consumption of fruitsand vegetables.

The main predictors of the sedentary behavior identified were female, meat consumption, non-consumption of fruits and vegetables and illiteracy.

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CONTRIBUTIONS
Leslie Andrews Portes contributed to the analysis and interpretation of data and writing. **Natália Cristina de Oliveira** participated in the collection and interpretation of data and writing. **Leonardo Tavares Martins** served on data collection and writing. **Cristina Zukowsky-Tavares** collaborated in the design of the study and review.