

Leisure physical activity of people with and without chronic non-communicable diseases

Atividade física de lazer de pessoas com e sem doenças crônicas não transmissíveis
Actividad física de esparcimiento de personas con y sin enfermedades crónicas no transmisibles

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ABSTRACT

Objectives: to analyze the leisure physical activity of people with and without chronic non-communicable diseases by the single health system of the city of Ribeirão Preto – São Paulo. **Methods:** observational cross-sectional study, data were collected by means of interviews in a sample for convenience and random of adults. **Results:** there were 719 people, where 70.1% had chronic non-communicable diseases, being 68.1% inactive. Physical inactivity presents a similar distribution between the groups with and without disease and a national average in leisure physical activity. **Conclusions:** these data are aimed at health services that do not encourage physical and auditory leisure activities, such as multiprofessional activities in the health area.

Descriptors: Exercise; Leisure Activities; Chronic Disease; Motor Activity; Life Style.

RESUMO

Objetivos: analisar a prática de atividade física de lazer de pessoas com e sem doenças crônicas não transmissíveis usuárias do sistema único de saúde do município de Ribeirão Preto – São Paulo. **Métodos:** trata-se de estudo observacional transversal. Os dados foram coletados por meio de entrevistas em uma amostra por conveniência e aleatória de adultos. **Resultados:** foram 719 pessoas, dentre as quais 70,1% possuíam doenças crônicas não transmissíveis, sendo 68,1% inativos. A inatividade física apresenta uma distribuição semelhante entre os grupos com e sem doença, e a média nacional na atividade física de lazer. **Conclusões:** esses dados podem direcionar ações junto aos serviços de saúde no que tange ao incentivo à realização de atividade física e ao estímulo de práticas saudáveis de lazer, como estratégias multiprofissionais no âmbito político de saúde.

Descritores: Exercício; Atividades de Lazer; Doença Crônica; Atividade Física; Estilo de Vida.

RESUMEN

Objetivos: analizar la práctica de actividad física de ocio de personas con enfermedades crónicas no transmisibles por el sistema único de salud del municipio de Ribeirão Preto – São Paulo. **Métodos:** estudio observacional transversal, los datos fueron recolectados por medio de entrevistas en una muestra por conveniencia y aleatoria de adultos. **Resultados:** fueron 719 personas, donde el 70,1% poseía enfermedades crónicas no transmisibles, siendo el 68,1% inactivo. La inactividad física presenta una distribución similar entre los grupos con y sin enfermedad y una media nacional en la actividad física de ocio. **Conclusiones:** estos datos se dirigen a los servicios de salud que no incentivan la realización de actividades físicas y auditivas de ocio, como las actividades multiprofesionales en el espacio de salud.

Descriptorios: Ejercicio; Actividades de Ocio; Enfermedad Crónica; Actividad Física; Estilo del Vida.

INTRODUCTION

The four main chronic non-communicable diseases (CNCDs) most studied in the context of intervention on the practice of physical activity are diseases of the circulatory system, cancer, chronic respiratory diseases and diabetes mellitus (DM)⁽¹⁾. The worldwide prevalence of CNCDs has increased in recent decades and are responsible for 38 million deaths around the world in 2012 and 74% in Brazil. Its complexity is strongly influenced by common behavioral risk factors. One of the main factors are physical inactivity, unhealthy diet, harmful use of alcohol, tobacco, and excess body weight⁽¹⁻²⁾. An estimate has shown a 10% or 25% reduction in physical inactivity would prevent, respectively, 530 thousand or 1.3 million deaths per year worldwide, since physical inactivity increases the risk of adverse health conditions⁽³⁾. On the other hand, literature has shown important evidence that physical exercise can reduce the risk of premature mortality by at least 20% to 30% in more than 25 types of chronic conditions⁽⁴⁾.

However, compared to no regular exercise, any type of physical activity (PA) provides a protective effect against the risk of cardiovascular disease. All forms of PA, regardless of age, gender or ethnicity, have a beneficial effect in the prevention of CNCD, and better results in mortality⁽⁵⁾.

In Brazil, supported by the Ministry of Health, the recommendation for all age groups is to be physically active. They recommend the practice of at least 150 minutes per week of moderate intensity physical activity in order to achieve goals such as the prevention of CNCDs, being recommended for people to be more active and not necessarily more conditioned, allowing the inclusion of more flexible programs in their daily lives⁽⁶⁾.

Present in the various actions of everyday life, that is, at work - or occupational field -, at home, in commuting and leisure, the practice of PA requires studies that, when considering these four different domains, could better clarify its relation with several aspects related to health and direct the elaboration of actions with the purpose of increasing the level of physical activity of the population⁽⁷⁾.

A study that evaluated the prevalence of physical activity in 27 Brazilian capitals showed that it occurred in more than a third of the Brazilian population (33%), being higher among men than women. The frequency tends to decrease with increasing age, more accentuated among men and to increase with the level of education⁽⁸⁾.

Although previous studies have shown that regular physical activity can delay the onset of certain chronic diseases, there is still a need to explore changes in physical activity practices after the diagnosis of chronic diseases⁽⁴⁻⁶⁾. A meta-analysis that tested the possible differences in adherence and dropout rates among patients involved in aerobic physical activity interventions showed an overall adherence rate of 77.0% to physical activity programs and the dropout rate was 7.0%, suggesting that people with chronic conditions are able to keep up on doing exercise for more than 3 months, under different degrees of supervision, at levels which are sufficient for health benefits⁽¹⁾.

With the ageing population, PA has been an important routine in the lives of older adults. A study in China that evaluated a total of 3198 older adults found that those who were physically active experienced a later onset of chronic disease compared to sedentary ones, particularly for obesity and diabetes. After

the diagnosis of a chronic disease, physically active older adults were more likely to increase their levels of physical activity, while those who were sedentary were less likely to start exercising⁽⁹⁾.

In Brazil, a study carried out in Florianopolis, aiming at verifying the levels of physical activity and the health conditions of older women, found that the level of physical activity is related to sociodemographic characteristics and health conditions, since the more active elderly women are the younger ones, without diseases and whose health status does not hinder their practice of physical activity⁽¹⁰⁾. On the other hand, a study carried out in Curitiba aiming at describing the estimated prevalence of CNCDs and common risk factors among the adult population found that out of 1103 people evaluated, 35.1% of them were sufficiently active⁽¹¹⁾.

Despite the evidenced benefits of practicing regular physical activity, its promotion is complex and difficult, as there is a need for evidence-based planning of public health interventions, and the increase in scientific behavioral approaches focusing on individuals⁽¹²⁾. Understanding the reasons why some people are active, and others are not, and the number of these individuals in a society, will contribute to the planning of public interventions to increase the physical activity of the population⁽¹³⁾. One of the most studied domains for intervention in the literature has been the practice of PA in free time, also known as leisure physical activity (LPA). This study aims to understand the differences in a context of Sao Paulo in the practice of LPA of people with and without CNCD and users of health units.

OBJECTIVES

To analyze the levels of leisure physical activity of people with and without chronic non-communicable diseases using health units in the city Ribeirao Preto - SP.

METHODS

Ethical aspects

This study complies with Resolution 466/2012 from the National Health Council of the Ministry of Health and was approved by the Research Ethics Committee of a Nursing School in Ribeirao Preto-USP, n. 1 875 599. It also complies the STROBE guidelines for its presentation.

Design, setting and period of study

This is a descriptive, observational, cross-sectional study with a quantitative approach. The study setting was the population in the city Ribeirao Preto, located in the northeast region of the state of Sao Paulo (SP), with a population of 694 534 inhabitants estimated by IBGE⁽¹⁴⁻¹⁵⁾ for the year 2018. The Primary Health Care Services Network is organized into five Health Districts (West, Central, South, North and East).

Population or sample: inclusion and exclusion criteria

The study population consisted of a total of 53240 adult consultations performed in pharmacies in 2016. The sampling plan adopted was Stratified Random Sampling with proportional allocation by

strata, and each one of them was formed by the Health Districts from Ribeirao Preto - SP. For the sample calculation, a 10% relative error and a 5% significance level were adopted. A total of 719 people participated in the study, 107 of them were from the Western District, 192 from the Central, 100 from the South, 165 from the North and 155 from the East. The inclusion criteria were adults over 18 years old, using health services and agreeing with the study ICF.

Study protocol

Data collection took place from April 2017 to April 2018, through interviews performed during working hours in health units. We used a questionnaire containing the sociodemographic and clinical variables: gender (female and male), age (from 18 to 29, 30 to 59, 60 years old or more), marital status (married or in a stable union, separated or divorced; widow/widower and single), education (below elementary school, elementary school, high school or higher education or more) and the economic class according to ABEP - Brazilian Association of Research Companies - 2016 (A1, B1, B2, C1, C2, D/E), type of disease referred to: circulatory diseases (hypertension, heart disease and stroke), cancer, respiratory diseases (rhinitis, sinusitis, asthma, bronchitis and chronic obstructive pulmonary disease) and diabetes mellitus (type 1 and type 2)^(2,16).

The International Physical Activity Questionnaire (IPAQ) - long version - instrument was also used to identify the level of leisure physical activity⁽¹⁷⁾. The domain used for analysis was "physical activities of recreation, sport, exercise and leisure", denominated in this study as LPA. It contains six questions about walking, moderate and vigorous activities. With regard to intensity, activities considered moderate are those that require some physical effort and increase the respiratory rate; and vigorous ones, requiring a great physical effort and greatly increase the respiratory rate. The frequency of LPA was considered in days per week and the duration was considered in minutes per day.

In order to classify the level of physical activity, we used the recommendation of the World Health Organization (WHO), which considers as active people those who perform at least 150 minutes of moderate physical activity per week or 75 minutes of vigorous physical activity per week. The insufficiently active were considered those who perform 10 to 150 minutes of moderate physical activity; and inactive those who do not practice at least 10 minutes of LPA per week⁽¹⁷⁻¹⁸⁾.

Data analysis and statistics

A descriptive statistical analysis was performed using tables. In order to identify the differences between the groups of people with and without CNCD, the chi-square test was used, adopting a significance level of 5%. The data were analyzed and processed by the SPSS program, version 21.

RESULTS

A total of 719 health unit users participated in the study. Regarding sociodemographic data, most of them were women (71.2%), aged between 30 and 59 years old (48.9%), married or in a stable relationship (47.1%), incomplete elementary school (40.7%) and socioeconomic class C1 (26.9%). Most people reported having at least one of the CNCDs, 504 (70.1%), and 215 (29.9%) did not report any CNCDs.

Regarding the time of LPA practice, most of the sample was considered inactive 500 (69.5%), that is, does not practice at least 10 minutes of activity, and 115 (16%) reported being active, as it can be identified in Figure 1. The distribution of the level of LPA among the groups with or without CNCD was similar.

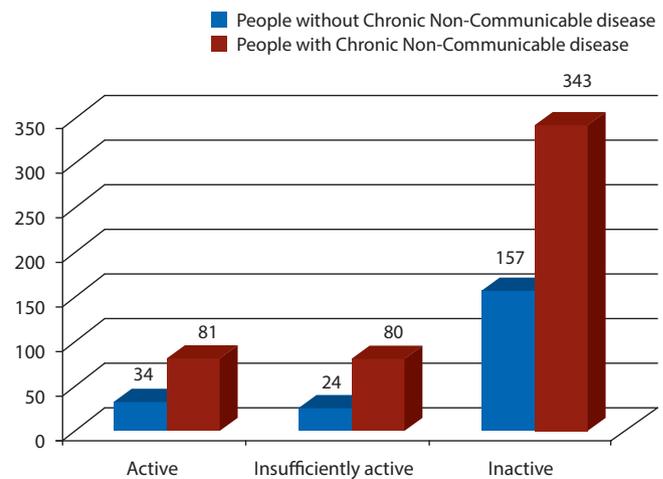


Figure 1 - Numerical distribution of health service users with or without chronic non-communicable diseases according to the level of leisure physical activity, Ribeirao Preto, São Paulo, Brazil, 2018

Table 1 - Numerical and percentage distribution of health services users with or without chronic non-communicable diseases, according to sociodemographic data and leisure physical activity, Ribeirao Preto, São Paulo, Brazil, 2018

Variable	Without Chronic Non-Communicable Disease			p	With Chronic Non-Communicable Disease			P
	Active n (%)	Irregular n (%)	Inactive n (%)		Active n (%)	Irregular n (%)	Inactive n (%)	
Gender				.215				.132
Female	21 (14.1)	14 (9.4)	114 (76.5)		52 (14.3)	55 (15.2)	266 (70.5)	
Male	13 (19.7)	10 (15.2)	43 (65.2)		29 (20.6)	66 (17.7)	67 (61.7)	
Age				.104				.099
18-34	18 (15.7)	12 (10.4)	86 (73.9)		23 (18.1)	29 (22.8)	76 (59.1)	
35-59	9 (11.8)	12 (15.8)	66 (72.4)		32 (14.7)	30 (13.8)	166 (71.4)	
≥ 60	7 (29.2)	0 (0)	17 (70.8)		26 (16.3)	21 (13.1)	113 (70.6)	
Marital Status				.534				.440
Married/Stable union	15 (15.8)	11 (11.6)	69 (72.6)		36 (14.3)	36 (14.3)	174 (71.3)	
Separated/Divorced	0 (0)	2 (12.5)	14 (87.5)		6 (12)	9 (18)	36 (70)	
Widow/Widower	2 (33.3)	0 (0)	4 (66.7)		4 (11.1)	7 (19.4)	25 (69.4)	
Single	17 (17.3)	11 (11.2)	70 (71.4)		36 (20.7)	29 (16.7)	109 (62.6)	

To be continued

Table 1 (concluded)

Variable	Without Chronic Non-Communicable Disease			p	With Chronic Non-Communicable Disease			P
	Active n (%)	Irregular n (%)	Inactive n (%)		Active n (%)	Irregular n (%)	Inactive n (%)	
Education				.750				.054
< Elementary School	9 (12.9)	10 (14.3)	51 (72.9)		36 (15.7)	31 (13.9)	157 (70.4)	
Elementary School	4 (23.5)	2 (11.8)	11 (64.7)		5 (12.8)	5 (12.8)	29 (74.4)	
High School	16 (17.2)	7 (7.5)	70 (75.3)		22 (12.8)	29 (16.9)	121 (70.3)	
≥ Higher education	6 (14.3)	5 (14.3)	25 (71.4)		19 (27.1)	15 (21.4)	36 (51.4)	
Economic Class				.519				.529
A	1 (12.5)	2 (25)	5 (62.5)		4 (30.8)	2 (15.4)	7 (53.8)	
B1	2 (10)	3 (15)	15 (75)		5 (15.2)	6 (18.2)	22 (66.7)	
B2	11 (19.3)	4 (7)	42 (73.7)		22 (18.5)	21 (17.6)	76 (63.9)	
C1	6 (11.8)	5 (9.8)	40 (78.4)		24 (16.8)	23 (16.1)	96 (67.1)	
C2	12 (23.5)	6 (9.8)	34 (66.7)		17 (13.3)	23 (18)	88 (68.8)	
D/E	2 (7.1)	6 (17.9)	21 (75)		9 (13.2)	5 (7.4)	54 (79.4)	

Table 2 - Numerical and percentage distribution of leisure physical activity levels, according to the types of chronic non-communicable diseases, Ribeirão Preto, São Paulo, Brazil, 2018

Variable	Active n (%)	Irregularly Active n (%)	Inactive n (%)	Total n
Without Chronic Non-Communicable Disease	34 (15.8)	24 (11.2)	157 (73)	215
Cardiovascular Diseases				
Hypertension	40 (17.1)	31 (13.2)	163 (69.7)	234
Stroke	1 (4.8)	3 (14.3)	17 (81)	21
Heart Diseases	13 (18.8)	10 (14.5)	46 (66.7)	69
Total	54 (16.6)	44 (13.5)	226 (69.7)	324
Respiratory Diseases				
Rhinitis	23 (14.1)	28 (17.2)	112 (68.7)	163
Sinusitis	24 (14.1)	32 (18.9)	113 (66.9)	169
Chronic obstructive pulmonary disease	4 (25)	1 (6.3)	11 (68.8)	16
Asthma	3 (15.8)	3 (15.8)	13 (68.4)	19
Bronchitis	3 (10)	6 (20)	21 (70.0)	30
Total	57 (14.4)	70 (17.6)	270 (68.0)	397
Diabetes Mellitus				
Type 1	0 (0)	0 (0)	4 (100)	4
Type 2	20 (20.6)	10 (10.3)	67 (69.1)	97
Total	20 (19.8)	10 (9.9)	71 (70.3)	101
Neoplasms	7 (30.4)	6 (26.1)	10 (43.5)	23

Regarding sociodemographic characteristics and LPA levels, the distribution was similar according to the groups of people who have or do not have any of the CNCDs, as shown in Table 1. However, it is highlighted that people with CNCD, higher education and aged between 18 and 34 years old were more active than people without CNCD. There was no statistical significance in any variable of the sociodemographic data.

Table 2 shows the distribution of LPA level according to the different types of CNCDs. Despite the similar distribution between groups, with a predominance of physical inactivity, neoplasms showed lower values of inactivity when compared to other diseases.

DISCUSSION

We found that regardless of whether or not they had CNCD, 69.5%, most adults are inactive in LPA. In contrast, a national telephone survey study, whose objective was to describe the prevalence of risk and protective factors for CNCDs in the adult population living in Brazilian capitals in 2013, found that out of the 52 929 interviews, only 16.2% reported physical inactivity⁽¹⁹⁾.

The distribution of the levels of LPA (active, irregularly inactive and inactive) was similar between groups of people with and

without CNCD. On the other hand, according to a study carried out in Florianópolis, there were differences. Among people who had a disease, most of them were considered active (61.8%) and those who did not have a disease were also more active than the other interviewees. (92.9%). That is, most of them were considered active; those who had some disease were more inactive than the other participants⁽¹⁰⁾.

According to a study that assessed the level of LPA of Brazilians in the five regions of the country, through the National Health Survey, 22.7% respondents were considered active. In comparison with this study, it can be said that the studied population, in the city Ribeirão Preto, is less active than people from other locations in the country (16%). These numbers are similar when we compare active people in the practice of LPA in the southeastern region (22.9%), region of the studied city⁽¹⁵⁾. This data is also compared to that of a study in the city of Florianópolis - Santa Catarina, which says that more women than men do not meet the recommendations for leisure physical activity, with 25.1% of the men studied practicing LPA⁽¹⁰⁾. In the national and international literature, men are more active than women^(1,3,5,8,11). In contrast, the Brazilian study showed that young people are the ones who most practice leisure physical activity. In our findings, among those

who do not have the disease, the most active people were those over 60 years old, as also found in the literature^(3,9,20).

In another aspect, which can be a subsidy for the elaboration of strategies to promote physical activity, scholars have investigated the perception of the environment for the practice of physical activity. The study that analyzed this perception of people with diabetes mellitus type 2 in a city in the state of Sao Paulo stands out. People who perceive access to conveniences closer to their house are more active in leisure time than those who do not. Likewise, those who receive an invitation from neighbors and/or friends are more likely to practice physical activity than people who do not⁽²¹⁾.

Regarding the LPA levels of people with CNCD, the distribution was similar among the types of disease, with an average of 60% of inactive people. It is noteworthy that people with neoplasms had a lower rate of physical inactivity, 43.5%. However, it is not possible to make a comparison with other diseases due to the low number of cases of people with neoplasms found in the study. Yet, a study presented data on the contribution of physical inactivity that contributed to a substantial number of deaths due to breast cancer in Brazil. Physical inactivity was responsible for more deaths due to breast cancer than other modifiable risk factors, these findings support the promotion of physical activity in the Brazilian female population to prevent and manage breast cancer⁽²²⁾. Likewise, data from a Brazilian study estimate diabetes mellitus due to physical inactivity, and concludes that there must be the promotion of physical activity in the Brazilian population to prevent and manage chronic non-communicable diseases⁽²³⁾.

We highlight a study that investigated the practice of vigorous PA once a week and showed it to be associated with lower chances of having some chronic diseases among men and women⁽³⁾. This evidence reinforces that even a single high intensity weekly exercise can reduce the risk of chronic disease or cardiovascular death. The authors point out a message of hope for those who are unable to comply with the recommendation for regular PA practice, as being physically active, even below recommended

levels, still has beneficial health effects. Therefore, future prospective studies should analyze whether the impact of LPA on chronic disease is also the same in adults and older adults, and in different Brazilian contexts.

Limitations of the study

Despite the fact that chronic diseases and PA have been self-reported in this study, which is susceptible to bias, it is considered a reliable method for epidemiological studies and is still widely used in surveillance studies^(1,5).

Contributions to the area of nursing, health and public policy

The participation of several professionals, such as nurses, in routine health guidance to encourage the practice of physical activity, especially for leisure, has been theme of health investigations. Therefore, future prospective studies should analyze whether the impact of LPA on chronic diseases is also the same in adults and older adults, and in different Brazilian contexts. Thus, knowing LPA levels of people with CNCD, compared to those who do not have it, could subsidize the direction of actions along with health services. Regarding the incentive to perform LPA, a domain that we can modify in people's daily lives, as well as multiprofessional intervention strategies in the political field of health.

CONCLUSIONS

In our findings, most respondents were inactive when it comes to leisure physical activity, which shows that both: people who do not have CNCDs and those who have any CNCD need to be encouraged to increase movement. Thus, LPA should be encouraged for the prevention, as to those who already have CNCD, LPA should also be incentivized for the treatment and improvement in quality of life and health.

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