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Association between demographic and socioeconomic conditions with exercise practice and physical fitness in community projects participants aged 50 years or more in Ribeirão Preto, São Paulo

Associação entre condições demográficas e socioeconômicas com a prática de exercícios e aptidão física em participantes de projetos comunitários com idade acima de 50 anos em Ribeirão Preto, São Paulo

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ABSTRACT: ***Objective:*** To investigate the association between both demographic and socioeconomic conditions with physical fitness and regular practice of physical exercises in participants of community projects, supervised by a physical education teacher. This enabled to investigate whether the adoption of an active lifestyle depends only on the personal choice or has any influence of socioeconomic factors. ***Methods:*** 213 individuals aged over 50 years joined the study, and provided information about their socioeconomic status (age, gender, education/years of study, and income); usual level of physical activity (ULPA); and physical fitness, by a physical battery tests which allowed the calculation of general functional fitness index (GFFI). ***Results:*** The generalized linear model showed that participants ranked in the highest GFFI groups (good and very good) had more years of study and higher income ($p < 0.05$). The multiple linear regression model complements the previous analysis, demonstrating the magnitude of the change in the GFFI in association with the years of study (group > 15), income (all groups) and age ($p < 0.05$). By means of analysis of variance, a difference between the groups was verified and longer practice of exercises (> 6 months) were also associated with education and income ($p < 0.05$); among the groups with exercise practice whether greater than or equal to six months, that supervised showed better results in the GFFI ($p < 0.05$). ***Conclusion:*** The association between variables strengthens the hypothesis that adherence and maintenance of physical exercise might not be only dependent of individual's choice, but also the socioeconomic factors, which can influence the choice for any active lifestyle.

Keywords: Aging. Educational status. Life style. Exercise. Income. Physical inactivity. Sedentary lifestyle.

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RESUMO: ***Objetivo:*** Verificar a associação entre condições demográficas e socioeconômicas com a aptidão física e a prática regular de exercícios físicos supervisionados em participantes de projetos comunitários, possibilitando investigar se a adoção de um estilo de vida ativo depende apenas da escolha pessoal ou sofre influência de fatores socioeconômicos. ***Métodos:*** 213 indivíduos com idades acima de 50 anos com informações sobre condição socioeconômica (idade, sexo, escolaridade/anos de estudos e renda); nível habitual de atividade física; e aptidão física por meio de testes motores que permitiram o cálculo do Índice de Aptidão Funcional Geral (IAFG). ***Resultados:*** O modelo linear generalizado de comparação de grupos evidenciou que os participantes classificados nos grupos de IAFG mais elevado (bom e muito bom) apresentaram maiores escolaridade e renda ($p < 0,05$). O modelo de regressão linear complementa a análise anterior, evidenciando a magnitude da modificação da pontuação do IAFG na associação com os anos de estudos (grupo ≥ 15), a renda (todos os grupos) e a idade ($p < 0,05$). Pela Análise de Variância, verificou-se diferença entre os grupos e, com isso, associação entre maior tempo de prática de exercícios (> 6 meses) com a escolaridade e a renda; entre os grupos com prática de exercícios igual ou superior a seis meses, o grupo supervisionado apresentou os melhores resultados no IAFG ($p < 0,05$). ***Conclusão:*** A associação entre as variáveis fortalece a hipótese de que a adesão e manutenção da prática de exercícios podem não ser dependentes apenas da escolha do indivíduo, mas também de fatores socioeconômicos que podem influenciar a escolha pelo estilo de vida ativo.

Palavras-chave: Envelhecimento. Escolaridade. Estilo de vida. Exercício. Renda. Estilo de vida sedentário.

INTRODUCTION

The elderly population in Brazil is represented by approximately 20 million people or 11% of the total population. In 1940, the average life expectancy was 45.5 years. In 2010, it increased to 73.1 years and, according to the projections, people in the country will continue aging, reaching a life expectancy of 81.3 years in 2050[1]. Population aging leads to economic and social changes and increases vulnerability to certain diseases, especially those noncommunicable[2], such as cardiovascular disease.

Functional, physiological, and behavioral changes that occur owing to the natural process of aging are usually intensified by a sedentary lifestyle[2]. Several studies have shown that physically active individuals tend to have better physical fitness and less chance of developing health problems[2-4]. However, physical inactivity levels are still high in the Brazilian population. Data collected in 2014 and published in 2015 in the Surveillance of Risk Factors and Noncommunicable Disease Protection through telephone interviews (VIGITEL)[5], covering the 26 Brazilian state capitals and the Federal District, indicated that only 35.3% of adults and elderly were considered active in leisure time, according to new recommendations from the World Health Organization (WHO) (those who practiced at least 150 minutes per week of physical activity of mild or moderate intensity or 75 minutes per week of vigorous intensity activity, regardless of the number of days). In a study conducted[6] in Ribeirão Preto, São Paulo, in which the International Physical

Education Questionnaire (IPAQ) was applied to individuals aged over 30 years, the authors indicated a sufficient physical activity (active and very active) in only 37.5% of men and 32.1% of women.

One of the possible reasons indicated in the literature for the high inactivity levels among the population is the association between physical inactivity and unfavorable socioeconomic status (income and education) and demographic components (age and gender)[5,6]. Therefore, it may be questioned that the adherence to and maintenance of an active lifestyle may not depend on an individual decision only, but rather be related to a broad and complex social context.

Gonçalves[7] indicates that social conditions are not always favorable to the adoption of healthy habits, which still rely on an appropriate routine. The idea that to improve people's lives some practices must be incorporated into daily living is spread by the media and by some public policies, as if this only depended on the will of the subject.

This process is named "victim blaming," which is a practice that may cover up the malfunction of some services, leading the individual to feel guilty about his or her lifestyle habits, even if the necessary socioeconomic conditions for improvement are not provided[7]. Therefore, there is a limit for individual's responsibility for his or her actions owing to realistic choices about his or her habits and lifestyles.

Although there are signs of the relationship between regular practice of physical activity and socioeconomic factors, studies concerning the real effects of socioeconomic status on the improvement of physical fitness, on the adherence to exercise programs (practice time), and on physical activity under the supervision of a physical education professional are scarce. Thus, it is feasible to suggest that an assessment of objective data related to physical fitness and its relationship with socioeconomic conditions can indicate more consistent directions that enable observing the existence or not of a relationship between such variables. The hypothesis of this study is that more favorable socioeconomic status is associated with regular practice of physical activity and better physical fitness of the participants.

Therefore, the aim of this study was to evaluate the influence of socioeconomic status on physical fitness and regular practice of supervised physical activity among participants in community projects in the city of Ribeirão Preto, São Paulo, Brazil, which enabled investigating whether the adoption of an active lifestyle is associated with socioeconomic conditions that were favorable to the personal choice of adults aged over 50 years.

METHODS

Cross-sectional study in the city of Ribeirão Preto, São Paulo, Brazil, with 213 adults aged over 50 years, of which 112 were elderly aged 60 years or more and were participants in community projects. Community projects used as reference for this study were

available for the entire population and were linked to the City Hall, to retiree associations of companies, and to universities extension projects. All programs were free. The calculation of the sample size (n) was based on a methodology of analysis of variance (ANOVA one-way)[8], establishing the power of the test (β) in 80% and the level of confidence in 95%. The sample size was obtained based on the differences according the orthogonal contrasts set for the interest groups. This was accomplished when a pilot data containing 90 occurrences was performed. These calculations returned a sample of 194 subjects. On top of it, we added 10%, which intended to protect the study sample against any losses, totaling 213 subjects. Inclusion criteria were presenting a doctor's certificate authorizing the practice of regular physical activities, and not presenting any medical condition or musculoskeletal and balance problems that could prevent the motor tests.

In stage I of the convenience sampling, conglomerates that constituted and reflected the characteristics of the population, and were heterogeneous as to the investigated aspects, were selected. Such conglomerates were two retiree associations and three community programs linked to universities and the City Hall. They promote physical activities and varied sociocultural experiences, such as handicrafts, chorus, and cooking. In stage II, all individuals of each cluster were invited to participate in this study, with equal chances of participation. During the recruitment process, we sought to balance participants' characteristics according to age, schooling, *per capita* family income, skin color, and usual level of physical activity (ULPA)[9] in order to avoid a disproportion among the population studied, which could possibly lead to biased conclusions.

All participants signed a informed consent form and answered a questionnaire with open and closed questions which enabled to collect information concerning the health condition (disease or risk factor for a specific disease; physical limitations to daily activities, or those which could prevent the motor tests; surgery and when it was held; medicines); habits of physical activity with or without the supervision of a physical education professional; and socioeconomic and demographic characteristics presented as follows: gender (male and female), age (each year of life), years of schooling (1–4 years, 5–10 years, 11–14 years, and ≥ 15 years), and *per capita* family income (according to the number of minimum wages [MW]: ≤ 1 MW, 1–2 MW, 2–3 MW, and > 3 MW).

Participants' ULPA level was assessed by means of the short version of IPAQ. The assessment of the physical fitness was conducted by means of the battery of tests of the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD), which is a specific instrument to measure the overall functional fitness related to daily activities. The choice of this battery of tests was due to its wide utilization and because it has normative data table that is validated to assess the physical fitness of adults and elderly people[10,11]. The battery of tests consists of motor tests of coordination, agility and dynamic balance, flexibility, aerobic endurance, and strength, as described by Zago and Gobbi[11], Benedetti et al.[12], and Mazo et al.[13]. The result of each test was classified according to the normative data tables, and its scores (percentile score) ranged from 0 to 100. Individual general functional fitness index (GFFI) was obtained by the sum of each test

score, ranging from 0 to 500. This classification enables the division of groups into quintiles[11-13]; however, owing to the low frequency of participants in the group "very weak" (GFFI 0-99), and following the recommendation of a minimum of 10% participants in each group to perform the statistical analysis properly[9], we opted for combining the groups "very weak" (score 0–99) and "weak" (score 100–199) and to maintain the name of the new group as "weak" for results presentation purposes. Thus, the participants were first divided into four groups, according to the GFFI classification: weak (0–199), regular (200–299), good (300–399), and very good (400–500).

In a second step, participants were also divided according to the duration of the practice of regular physical activities and the supervision of a physical education professional, which composed the following groups:

- < 6 months without supervision – not active group with less than six months of practice of physical activities without supervision;
- < 6 months with supervision – not active group with less than six months of practice of physical activities with supervision;
- > 6 months without supervision – active group with more than six months of practice of physical activities without supervision;
- > 6 months with supervision – active group with more than six months of practice of physical activities with supervision.

Once more we opted to combine two groups: "< 6 months without supervision" and "< 6 months with supervision," owing to the low frequency of participants in the group "< 6 months with supervision." The new group was named "< 6 months" – not active group with less than six months of practice of physical activities with and without supervision.

With regard to the statistical analysis, the results were analyzed using the software SAS® 9.0. Initially, an exploratory analysis of the data was carried out, which were described as mean and standard deviation. The comparison between groups, with the GFFI classification as the independent variable, was performed using a generalized linear model, considering the potential confounding factors gender and age. The variables subject to confusion were identified by means of descriptive analysis of the data, because they were unevenly distributed among the compared groups and because there was evidence from the biological perspective[14].

To study the multiple associations of variables related to socioeconomic and demographic characteristics, a multiple linear regression model was used in order to analyze the relationship between a single dependent variable – GFFI – and several independent variables – socioeconomic and demographic. The significance level was maintained at 5% for all analyzes.

The ANOVA with post hoc Tukey was used to detect possible differences between the groups related to the duration of regular practice of physical activity and to the supervision of a physical education professional.

The authors declare no conflict of interests. This research only started after its approval by the Research Ethics Committee (CEP/FCFRP/USP number 172/2010).

RESULTS

The mean and standard deviation of the participants' age were 61.4 and 8.4 years, respectively, with a minimum age of 50 years and maximum of 80 years. Among the participants, 101 (47.4%) were in the age group 50–59 years and 112 (52.6%) in the age group 60–80 years. With regard to gender, 163 participants (76.5%) were female and 50 (23.5%) were male. Regarding ULPA, 89 participants (41.8%) had sufficient physical activity. Table 1 shows the qualitative variables related to socioeconomic characteristics, physical fitness and habits of physical activities of the participants.

Table 1. Socioeconomic characteristics, physical fitness, and habits of exercise of the participants. Community projects involved in the study. Ribeirão Preto, São Paulo, 2012.

Variable	(n = 213)	%
Schooling (years of study)		
1 to 4	61	28.6
5 to 10	58	27.3
11 to 14	67	31.4
≥ 15	27	12.7
Per capita family income (in MW)		
< 1	24	11.2
Between 2 and 3	85	40
Between 2 and 3	52	24.4
> 3	52	24.4
GFFI		
Weak (0 to 199)	61	28.6
Regular (200 to 299)	58	27.2
Very good (400 to 500)	67	31.5
Muito bom (400 a 500)	27	12.7
Duration of the practice/supervision		
< 6 months	108	50.7
> 6 months without supervision	44	20.7
> 6 months with supervision	61	28.6

MW: minimum wage; GFFI: general functional fitness index.

With regard to schooling and *per capita* family income, in general an even distribution of participants in the groups was observed; however, the lower frequency of participants with more than 15 years of schooling and greater frequency of those with *per capita* family income between 1 and 2 MW should be highlighted. Regarding GFFI classification, a lower frequently of participants classified with GFFI equal to "very good" and a homogeneous distribution among participants with other classifications were observed. If the groups "> 6 months without supervision" and "> 6 months with supervision" are added and compared to "<6 months," it is possible to emphasize the balance between participants with practice of physical activities for more than six months and those who practice physical activities for less than six months. Among those performing the exercises for more than six months, a higher frequency of participants in the group with supervision is noted.

Table 2 shows the results of the generalized linear model of group comparison having as independent variables the GFFI and the control of some confounding variables (age and gender). It was possible to verify that the better the GFFI classification, the higher the *per capita* family income and the greater the schooling.

Table 3 presents the results of the multiple linear regression model for the independent variables (socioeconomic and demographic) on the GFFI (dependent variable). After adjusting the variables, a positive association of GFFI with schooling (years of study) and with the *per capita* family income and a negative association of GFFI with age (every year of life) were observed. The β coefficients indicate the magnitude of the change in GFFI score.

Table 4 shows the ANOVA results, considering as the independent variable the duration of the practice and the supervision of a physical education professional. It was possible to verify differences between the groups "> 6 months with supervision" and "> 6 months without supervision" with the group "< 6 months" for *per capita* family income and schooling. For GFFI, the same differences were found and it was still possible to show differences between the groups "> 6 months with supervision" and "> 6 months without supervision."

Table 2. Socioeconomic status (income and schooling) of the participants according to the General Functional Fitness Index (GFFI). Community projects involved in the study. Ribeirão Preto, São Paulo, 2012.

	GFFI			
	Week (n = 61)	Regular (n = 58)	Good (n = 67)	Very good (n = 27)
Income (BRL)	1.049.56 (556.23)	1.142.20 (632.22)	1.451.87 (721.21)[a,b]	2.050.79 (990.85) [a,b,c]
Years of schooling	8.8 (4.8)	8.9 (4.2)	12.5 (3.0)[a,b]	14.7 (2.2)[a,b,c]

GFFI: general functional fitness index; GFFI groups (scores): Week (0 to 199), Regular (200 to 299), Good (300 to 399), Very good (400 to 500); Income: *per capita* family income; [a]p < 0.05 *versus* Week. [b]p < 0.05 *versus* Regular. [c]p < 0.05 *versus* Good; Mean (Standard deviation): adjusted by gender and age.

Table 3. Multivariate analysis of the socioeconomic and demographic characteristics with General Functional Fitness Index General (GFFI) of the participants. Community projects involved in the study. Ribeirão Preto, São Paulo, 2012.

Variable	All (n = 213) β Coefficient (95%CI)	p-value
Gender		
Male	ref.	0.13
Female	-22.9 (-52.7; 6.9)	
Age (each year of life)	-4.71 (-6.28; 3.14)	< 0.001
Schooling (years of study)		
1-4	ref.	
5-10	25.1 (-14.8; 65.0)	0.21
11-14	28.2 (-12.6; 69.0)	0.17
≥ 15	53.0 (11.0 a 95.0)	0.01
Per capita family income (in MW)		
< 1	ref.	
Between 1 and 2	55.5 (13.8; 97.2)	0.009
Between 2 and 3	66.1 (21.4; 110.8)	0.004
≥ 3	89.4 (43.3; 135.5)	< 0.001

MW: minimum wage; ref.: reference.

Table 4. Socioeconomic characteristics and physical fitness of the participants according to the duration of the practice of physical activity and the supervision of a physical education teacher. Community projects involved in the study. Ribeirão Preto, São Paulo, 2012.

	Duration of the practice and supervision		
	< 6 months (n = 108)	> 6 months without supervision (n = 44)	> 6 months with supervision (n = 61)
Age (years)	62.2 (8.6)	60.9 (8.9)	60.4 (7.6)
Socioeconomic			
Per capita family income (BRL)	1.178.14 (694.17)	1.475.08 (776.31)[a]	1.488.12 (823.12)[a]
Schooling (years of study)	9.4 (4.4)	11.6 (4.5)[a]	12.3 (3.9)[a]
Physical fitness			
GFFI (years)	228 (88.4)	274.6 (116.9)[a]	355.2 (80.9)[ab]

GFFI: general functional fitness index; Groups Duration of Practice and Supervision: "< 6 months" – not active group or practicing exercise with less than 6 months with and without supervision, "> 6 months without supervision" – active group with more than 6 months of practice of physical exercises without supervision, and "> 6 months with supervision" – active group with more than 6 months of practice of physical exercises with supervision; [a]p < 0.05 *versus* "< 6 months"; [b]p < 0.05 *versus* "> 6 months without supervision"; mean (standard deviation).

DISCUSSION

The importance of studying the influence of socioeconomic and demographic characteristics on the active lifestyle and physical fitness level is in the evidence described in the literature for the many benefits of regular practice of physical activity, especially the association of better levels of physical fitness with lower chances of developing health problems[2-4].

The results found related to the participants of this study, who were mostly women, followed the trend of other studies with the same age group[15,16]. In community programs for elderly, Andreotti and Okuma[15] indicate the predominance of women and give examples in which the proportion of women ranges from 70 to 80%. In addition, Gomes, Nascimento, and Araújo[16] claim that men are less worried with their health than women, which may explain the lower participation in these community projects and in health care research.

The results of ULPA are similar to the results of a population-based study in Ribeirão Preto, São Paulo[6], which indicated sufficient physical activity (active and very active) in approximately 40% of men and 32% of women, taking into account only individuals aged over 50 years. Considering men and women, this study revealed sufficient physical activity in 41.8% of participants.

The relationship between GFFI and socioeconomic and demographic characteristics was observed by means of the generalized linear model to compare groups with the GFFI as the independent variable (Table 2), and by means of the multiple linear regression model (Table 3). The results suggest that advancing age seems to have an inverse relationship with GFFI, whereas individuals classified in the most advantaged groups in terms of *per capita* family income and education showed better results in GFFI.

With regard to the duration of the practice of physical activity and supervision (Table 4), it was observed that the groups "> 6 months without supervision" and "> 6 months with supervision" appear to be more socioeconomically advantaged. However, with regard to GFFI results, although this is not the direct scope of our work, we observed that the group "> 6 months with supervision" showed better results, indicating that the practice of physical activities guided by a qualified professional seems to promote better results related to physical fitness.

Other studies showed different facets of the relationship between socioeconomic conditions, ULPA and regular physical activity. Regarding the variables income and education, the study of Zaitune et al.[17] with elderly people in São Paulo, Brazil, which applied the IPAQ, showed association of physical activity during leisure time with greater schooling and higher family income. Siqueira et al.[18] found higher prevalence of physical inactivity in the Northeast compared to the South region. Low family income was the main risk factor for physical inactivity among adults and elderly people, whereas low education caused some effect only among the elderly. Suzuki et al.[6] also found association between ULPA and socioeconomic factors in a study carried out in Ribeirão Preto, São Paulo, Brazil. The sedentary lifestyle associated with more than ten working hours per day for males;

for females, physical inactivity was associated with schooling of one to three years and income below BRL 520.00 (the minimum wage in effect during the data collection of this study was BRL 520,00 – in 2016 the minimum wage in effect is BRL 880.00). The study of Knuth et al.[19], with data from the National Survey of Household Sample (PNAD) in 2008, showed a relationship between levels of physical activity during leisure time and schooling, in which individuals with more years of schooling showed higher levels of physical activity during leisure time.

Pitanga and Lessa[20] showed that elderly in the state of Bahia, Brazil, with lower income and schooling had less access to equipment, to appropriate and safe public places to practice exercise or to private environments and places (paid), and/or with high cost. They also had less access to health professionals' guidance and to living conditions that are necessary to the adherence to healthy practices. Another important aspect is that some studies[21,22] showed that a higher socioeconomic status enables a better understanding of the benefits of regular physical activities for health.

The studies cited earlier show, in general, that gender, schooling, and income are associated with the choice of a lifestyle, especially with regard to the increased prevalence of a sedentary lifestyle[23]. This association may indicate a stronger sociocultural bias compared to the genetic or psychological (such as individual "will power"), as signaled in the data presented in this study. This suggests that individuals who have a budget and better living conditions will have greater possibilities of choice and adherence to practices adopted in their lifestyle. However, this study shows some progress by indicating the association of more privileged socioeconomic status with higher levels of physical fitness.

The adoption of a healthy lifestyle is considered in contemporary society as an important factor toward life and health situation of individuals. However, this does not happen frequently, owing not to the individual's lack of will, but to the absence of favorable socioeconomic conditions[7]. Barata et al.[23], in a study carried out in the central area of the city of São Paulo, Brazil, evidenced this scenario by showing that the health status self-reported as "good" was inversely associated with social vulnerability and directly associated with income and education.

In general, regardless of the design adopted or instrument applied, there is a close relationship between regular physical exercise and better health conditions[2-4,8]. Therefore, more attention to public policies is necessary to avoid the "victim blaming," which involves only the disclosure of information concerning a healthy lifestyle or construction of public spaces. Such policies are primarily directed at individuals with more favorable socioeconomic status, representing a gap for individuals with unfavorable socioeconomic conditions.

The study of Ferreira et al.[24] illustrates this situation, as it proposes a critical reflection on the ambiguity of health promotion by means of institutional programs to promote physical activity. According to the authors, these programs aim at increasing the level of knowledge about the benefits of an active lifestyle, as well as increase the level of physical activity. In addition, they are based on the behaviorist conservative approach

of health promotion, as they condemn physical inactivity, blame those physically inactive individuals, and rely on their strategies related to individual behavioral change as a means of reducing the epidemiological risk, regardless of social, economic, and cultural conditions.

This critical perspective agrees with the data presented in this study, which indicates that the adoption of healthy habits depends on the subject's attitudes and on the adherence to an appropriate routine, provided that their socioeconomic status enables this choice. Individuals with higher *per capita* family income and schooling show better levels of physical fitness and access to the practice of regular exercise, and are under specialized professional supervision.

Given this context, the important role of the physical education professional, along with other health professionals, in social transformation processes and promotion of a healthy lifestyle should be highlighted. The process of "victim blaming," in addition to blame the subjects for an inactive lifestyle and take the responsibility of the government for providing better socioeconomic status, assigns responsibilities to the healthcare professional that are not theirs[25]. The social transformation that is necessary to improve physical fitness, and consequently population health, requires the participation of different health professionals in addition to public policies that promote conditions for the adherence and maintenance of regular physical activities with supervision[25]. Corroborating this idea, the study of Virtuoso et al.[26] suggests that investing in active aging, by providing adequate spaces for physical activity, reduces the increasing demand and use of health services by the population aged 60 years or older.

Therefore, to offer better benefits to the population, public health policies based on the practice of physical activities could be linked to projects and agendas of the fields of education, labor, healthcare, infrastructure, public safety, and others, as this study suggests that simple physical activity, isolated and decontextualized, is not able to broadly improve the quality of life of an individual[25,26].

Some limitations should be considered when interpreting the results. The first one refers to the convenience sampling restricted to participants in community projects in the city of Ribeirão Preto, São Paulo, Brazil, who agreed to participate in such research. The second limitation of the study is that the results do not allow any temporal relationship of cause and effect, but only associations, owing to its cross-sectional design.

CONCLUSION

The results show an association of more favorable socioeconomic status with adherence to regular physical exercise. Therefore, the idea that adherence and maintenance of physical activities cannot depend solely on participants will, but also on socioeconomic conditions, which provide a choice for the active lifestyle, is reinforced.

Thus, this study results indicate the need for public policies that not only aim at disseminating information on the importance of the practice of physical activities, which reinforced

the logic of "victim blaming," but also aim at providing adequate spaces and equipment for the practice of physical activities, and at enabling the guidance of physical education and other health professionals, thus contributing significantly to improving practitioner's quality of life.

The improvement of the lifestyle of the population is associated with socioeconomic status, revealing a complex perspective of public health and demanding broad social changes that go beyond the individual motivation of the participants.

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