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Limitation of the use of voice in teaching and leisure-time physical activity: Educatel Study, Brazil, 2015/2016

Limitação do uso da voz na docência e a prática de atividade física no lazer: Estudo Educatel, Brasil, 2015/2016

Limitación del uso de la voz en la docencia y la práctica de actividad física durante el tiempo de ocio: Estudio Educatel, Brasil, 2015/2016

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Abstract

The study sought to identify the prevalence of voice-related problems teaching basic education teachers and to analyze their association with the practice of physical activity. We used data from a phone survey of a representative sample (n = 6,510) of Educatel Study carried out between October 2015 and March 2016. The main data of this study were self-referred voice-related problems teaching, leisure-time physical activity (defined according to its intensity, duration and frequency) and potential confounding variables. The data was analyzed using Poisson regression models with robust variance. Around one fifth of teachers (20.5%) reported having had voice-related problems teaching, while approximately one third reported sufficient leisure-time physical activity (≥ 150 minutes/week) (37.8%). Both recommended physical activity volume and five or more days of physical activity per week (regardless of total volume) were inversely associated with voice-related problems teaching, both in bivariate models and in models adjusted for confounding variables (sex, age and working hours). Basic Education teachers have a high prevalence of voice-related problems teaching. Sufficient leisure-time physical activity and exercising five or more days a week are potential protective factors for reducing this problem.

Exercise; School Teachers; Health Surveys; Occupational Health

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Introduction

According to one study, voice disorders are the main health problem (17.7%) keeping teachers away from classrooms [1]. Reports of voice-related symptoms are highly prevalent among teachers [2,3] and are more evident among teachers than among non-teachers [2].

The literature acknowledges the limitations of identifying voice disorders through epidemiological surveys, given their dynamic and functional manifestation and the difficulty obtaining a clinical diagnosis [4]. It is important to consider the impact of a voice-related problem on individuals' lives [4,5], since there does not always exist a direct relationship between the voice disorder and individuals' self-evaluation of the problem [6]. Voice disorders are not just a larynx and voice problem, but are also a communication difficulty [6].

Quality of life may be affected by work restrictions and impediments created by voice disorders that encompass alterations in vocal function perceived by the individual during interpersonal communication. Other forms of limitations originating in voice problems, besides work [7], include social [8] and emotional [5] impacts.

Teachers tend to notice voice symptoms in relation to their use of their voice at work, such as, for example, the difficulty in projecting their voice, the need to overcome background noise or to modify didactic-pedagogical strategies [9]. Barriers to perceiving voice problems, resulting in a worsening of their clinical presentation, increase work-related losses [10].

Schools' precarious occupational conditions [2,11], as well as unfavorable individual behaviors, are strongly associated with speech production. Due to the complex, multi-causal etiology of voice disorders, evidences point to abusive use of voice, insufficient hydration [12,13] and the lack or insufficiency of regular physical activity [14,15] as factors that strongly influence teachers' illnesses [2,4].

The scientific literature on the benefits of a physically active lifestyle is broad and robust. Proven benefits of physical activity include the prevention of several chronic diseases, short- and long-term improvement of life quality, and increased life expectancy by at least three years [16,17,18].

The influence of physical activity on professional performance is also well-known, as it is considered a form of leisure and of replenishing physical and mental health after the harmful effects brought on by the work routine [11]. On the other hand, insufficient regular physical activity is an important predictor of stress, cognitive alterations, anxiety, depression and low self-esteem [19].

A growing body of scientific evidence indicates that teachers who are insufficiently physically active tend to have voice disorders more frequently than those who are sufficiently physically active [14,15]. In speech therapy, regular physical activity is recommended to teachers and others who use their voice professionally because it is beneficial to the organism as a whole [20], as well as because of the relationship between adequate respiratory capacity and greater voice efficiency [21]. Little is known about the parameters of frequency, duration and intensity of physical activity associated with the impact of voice problems on teaching.

This study sought to analyze the prevalence of voice-related problems teaching among basic education teachers in Brazil and to verify their association with leisure-time practice of physical activity.

Methods

This is an analytical cross-sectional study. It used primary data on health, working conditions and absenteeism from a phone survey of Basic Education teachers in Brazil [22].

Study population and sampling

Brazilian teachers working in preschool, primary and secondary education (which make up Basic Education in Brazil) are the study's target population. According to data from the 2014 *School Census* [23], this population comprises 2,229,269 teachers.

The Educatel Study sampling process sought to obtain a representative sample of Basic Education teachers in Brazil based on data from the 2014 *School Census* [23]. It used a complex, two-stage sampling strategy: in the first stage, the population was stratified according to geographical location (country

region and census tract), demographic variables (age group and sex) and insertion into the school system (school's administrative affiliation, type of employment and educational stage); in the second stage, teachers were randomly selected from each stratum. More information is available in another publication [1].

Based on these characteristics from the sampling process, we set a minimum sample size of 6,500 teachers. We considered 95% confidence level and 0.99% of the maximum error predicted for the estimation of the prevalence of absenteeism for the entire population of teachers in Brazil. Given the logistical complexity and high costs involved in carrying out in-person interviews for a sample of this size, we chose to use telephone interviews instead.

The potential inclusion of teachers who do not meet inclusion criteria in the sample (because out-of-date records in the 2014 *School Census*) and losses due to teachers refusing to participate in the study (around 20%) led us to select a total of 13,243 teachers (distributed across 11,042 schools). Teachers who did not respond to fifteen attempts at contact (carried out at various times of the day), who worked at schools that did not have a phone or in which the phone number provided to the 2014 *School Census* was not working and those who, at the time of contact, no longer worked at the school were excluded. In total, 119,378 calls were made and 7,642 teachers (57.7% of the list of randomly selected names) were considered eligible for inclusion. Of these, 6,510 interviews were concluded (82.5% success rate), making up the final Educatel Study sample.

Interview results were associated with weighting factors in order to assure that the weighted sample totals coincided with the known population totals for Basic Education teachers in Brazil. These weighting factors take into account the influence of cases of non-response on the Educatel Study estimates, the sample design and an additional factor for equating the sample with what was registered in the *School Census*, according to the distribution of the variables used in the survey's sample plan (post-stratification) [24].

Data collection and organization

Data collection took place between October 2015 and March 2016 (around 120 days). The team comprised thirty interviewers, two supervisors and one coordinator (belonging to a Brazilian market research company). All received prior training and were supervised, during data collection, by researchers from the Group on Health and Work Studies (NEST, in Portuguese), School of Medicine of the Federal University of Minas Gerais (UFMG). Initially, schools were contacted (over landlines) in order to confirm that selected teachers were still employed. If employment was confirmed and the teacher agreed to participate in the study, the interview could be carried out either over the school's telephone (during the initial contact or at a later time) or over another telephone provided by the teacher.

The Educatel Study 2015/2016 was constructed based on the particularities of phone interviews with real-time data entry into a computer system and based on reviews of national and international experiences in the field of health and, more specifically, teacher health. We used a structured questionnaire divided into five thematic modules: (a) absenteeism; (b) absenteeism due to illness; (c) teacher health; (d) working conditions; and (e) management quality. The questionnaire's adequacy was confirmed after each question was evaluated in terms of statement intelligibility and goal. The questionnaire's internal organization, type of question (open-ended or close-ended) and answer alternatives, terminology and interview duration were confirmed through a pilot test carried out with a convenience sample (n = 15). More details can be found in a complementary theoretical-methodological publication [25].

We assessed self-reported voice-related problems teaching through the question "Over the past 4 weeks, have you experienced problems at work or in performing your job because of your voice?" (often/sometimes/rarely/never or hardly ever). This question was based on the *Voice-Related Quality of Life* (V-RQOL) measure [26]. During analysis, this question was turned into a dichotomous indicator and answers were recoded as yes (often/sometimes) and no (rarely/never or hardly ever).

According to the World Health Organization (WHO), an adult individual (≥ 18 years) needs at least 150 minutes of moderate intensity physical activity or 75 minutes of vigorous physical activity per week (with a minimum uninterrupted duration of 10 minutes) in order to experience health benefits

and effect prevention against chronic non-communicable diseases [27]. Based on that recommendation, the *Risk and Protective Factors Surveillance System for Chronic Non-Comunicable Diseases Through Telephone Interview* (VIGITEL, in Portuguese) has used, since 2011, the indicator of sufficient leisure-time physical activity (≥ 150 minutes/week) [28], with good reproducibility and sufficient accuracy [29]. This system's questions regarding physical activity were used in the Educatel Study questionnaire (Box 1).

We calculated the sufficient leisure-time physical activity indicator in stages, considering the type (in order to classify the intensity of physical activity as moderate or vigorous), daily duration and weekly frequency of the activity. The classification of types of physical activity was based on the 2011 *Compendium of Physical Activities* [30].

Based on the calculation of the number of minutes spent per week on leisure-time physical activity (obtained by multiplying the usual number of minutes of physical activity by the number of days of physical activity per week, using the midpoint of reported categories), we calculated a dichotomous indicator: < 150 minutes/week of leisure-time physical activity was considered "insufficiently active" and ≥ 150 minutes/week of leisure-time physical activity was considered "sufficiently active".

The variables age (≤ 34 years/35-44/45-54/≥ 55 years), sex (male/female) and working hours (< 20 hours/20-40/> 40 hours) were also included in the analyses.

Data analysis

The study sample was described according to socioeconomic characteristics, weekly working hours, variables related to physical activity (intensity, weekly frequency and daily duration) and the indicator "sufficient leisure-time physical activity" (≥ 150 minutes/week).

Box 1

Questions used for the physical activity variable. Educatel Study, Brazil, 2015-2016.

QUESTIONS	ANSWER CATEGORIES	INDICATORS
"Over the past three months, did you practice any type of physical activity or sport?"	Yes, No	-
"What kind of physical activity or sport did you practice?"	Light/Moderate = walking, walking on a treadmill, wtrength training (resistance exercises), hydrogymnastics, general gymnastics (stretching, pilates, yoga), swimming, martial arts and fights (jiu-jitsu, karate, judo, boxing, muay-thai, *capoeira*), riding a bicycle (includes stationary bicycles), volleyball/footvolley and dance (ballet, ballroom dancing, belly dancing), others. Intense = jogging, running on a treadmill, aerobic gymnastics (spinning, step, jump), football (soccer)/futsal, basketball and tennis	No physical activity = 0
		Light/Moderate [30] = 1
		Intense [30] = 2
"Do you exercise at least once a week?"	Yes, No	-
"How many days a week do you usually practice physical activity or sport? "	1-2 days per week, 3-4 days per week, 5-6 days per week, everyday (including Saturdays and Sundays)	No physical activity = 0
		1-2 days = 1
		3-4 days = 2
		5 or more days = 3
"On the days you practice physical activity or sport, how long does the activity last?"	Less than 10 minutes, between 10 and 19 minutes, between 20 and 29 minutes, between 30 and 39 minutes, between 40 and 49 minutes, between 50 and 59 minutes, 60 minutes or more	No physical activity = 0
		Between 10 and 29 minutes = 1
		30 minutes or more = 2

We analyzed the association between voice-related problems teaching and physical activity through Poisson regression models in order to calculate crude (cPR) and adjusted prevalence ratios (aPR). We analyzed the presence of voice-related problems teaching as the dependent variable (outcome) and the physical activity indicator as the independent (explanatory) variable. In the adjusted model, sociodemographic characteristics and working hours were included in growing order of significance (p-value).

We used weighting in all analyses in order to guarantee not only representativity of the target population, but also to minimize the influence of non-responses. We used the statistical software Stata, version 12.2 (https://www.stata.com/) for data processing and analysis, given the complex design of the study sample. Educatel Study was approved by the Ethics Review Board of the School of Medicine/UFMG (CAAE: 48129115.0.0000.5149).

Results

Among the Basic Education teachers included in the Educatel Study sample, there was a predominance of female sex (80.3%), age groups 18 to 34 (33%) and 35 to 44 (30.1%), and 40 or more weekly working hours (56.2%). Voice-related problems teaching were reported by 20.5% of teachers. Approximately one third reported sufficient leisure-time physical activity (≥ 150 minutes/week) (37.8%). Most moderate intensity (46%), weekly frequency of three to four times (26.5%) and daily duration of 30 minutes or more (39.1%) were the most frequently reported (Table 1).

As to type of physical activity, the most commonly reported activities were walking (38.7%), cardiorespiratory activities (spinning, step, jump and riding a bicycle) (17.1%) and resistance training, better known as strength training (16.6%) (Figure 1).

In multivariate model 1, sufficient leisure-time physical activity reduced the probability of voice-related problems teaching among Basic Education teachers by 19% (0.81; $p < 0.05$) (Table 2). In multivariate model 2, weekly physical activity was also inversely associated with voice problems – 3-4 days (0.84; $p < 0.05$) and 5 or more days (0.70; $p < 0.05$) (Table 2).

In both multivariate models, with and without adjusting for covariates sex, age group and weekly working hours, the differences that were initially identified remained statistically significant ($p < 0.05$) (Table 2). After adjusting for these variables, sufficient leisure-time physical activity reduced the probability of voice-related problems teaching by 17% (0.83; $p < 0.05$) and weekly physical activity frequency of 5 or more days reduced them by 8% (0.72; $p < 0.05$). The association between weekly physical activity frequency of 3 to 4 days and voice-related problems teaching were no longer statistically significant ($p \geq 0.05$) (Table 2).

Discussion

By systematically recording information regarding the health of Basic Education teachers in Brazil and its associated conditions, we were able to produce an unprecedented diagnosis of the occurrence of voice problems among these professionals. The data analysis has shown the lower prevalence of voice-related problems teaching among teachers who exercised most days of the week.

The benefits of regular physical activity lean towards the promotion of teachers' integral health and, probably, to protecting vocal health, a primary instrument in teaching. However, we cannot overlook the challenging school environment, which, given precarious working conditions, is considered a risk factor for teachers' vocal and mental health [11].

In this study, we observed a predominance of cardiorespiratory activities and of weekly frequency of three or more times, with daily duration of thirty minutes or more. The sample's prevalence of sufficiently active teachers, according to WHO criteria, is close to what was found in other studies of teachers [15,31,32]. This evidence suggests teachers' propensity for adopting the lifestyle that tends to provide better quality of life and health.

Study results show that one fifth of teachers reported voice-related problems teaching (20.5%) and approximately one third reported sufficient leisure-time physical activity (37.8%). We found fewer

Table 1

Descrição das características dos professores da Educação Básica. Educatel Brasil 2015-2016.

Variables	n	% *
Voice-related problems teaching		
No	5,269	79.5
Yes	1,241	20.5
Sex		
Male	2,394	19.7
Female	4,116	80.3
Age (years)		
18-34	2,218	33.0
35-44	1,944	30.1
45-54	1,604	26.4
55 or more	744	10.5
Weekly working hours		
Less than 20	526	8.1
20-39	2,152	35.7
40	2,319	34.1
More than 40	1,513	22.1
Sufficient physical activity **		
Insufficiently active	2,629	62.2
Sufficiently active	3,881	37.8
Intensity of physical activity		
No physical activity	2,572	42.7
Moderate ***	2,982	46.0
Vigorous #	956	11.3
Weekly physical activity frequency (days)		
No physical activity	2,791	45.5
1-2	1,283	18.3
3-4	1,742	26.5
5 or more	694	9.7
Daily physical activity duration (minutes)		
No physical activity	2,791	45.5
10-59	1,015	15.4
30 or more	2,704	39.1
Total	6,510	100.0

* Adjusted values in order to equate the Educatel Study sample to the distribution of Basic Education teachers in Brazil. For more details, see the Methods section;

** 150 minutes of moderate physical activity per week or 75 minutes of vigorous physical activity per week with minimum uninterrupted duration of 10 minutes;

*** Walking, walking on a treadmill, strength training, hydrogymnastics, general gymnastics (stretching, pilates, yoga), swimming, martial arts and fights (jiu-jitsu, karate, judo, boxing, muay-thai, capoeira), riding a bicycle (includes stationary bicycles), volleyball/footvolley and dance (ballet, ballroom dancing, belly dancing);

Jogging, running on a treadmill, aerobic gymnastics (spinning, step, jump), football (soccer)/futsal, basketball and tennis.

reports of voice-related problems teaching among teachers who engage in physical activity three to four times and five times or more per week and with a weekly duration of 150 minutes or more.

The 20.5% prevalence of self-reported voice-related work problems, in the four weeks prior to the interview, is close to a 17% prevalence found by a study [33] that used the same protocol – V-RQOL – and a reference period of two weeks. We therefore conclude that the reference period we used was not a determining factor in the results. We cannot affirm that all teachers who reported voice-related

Figure 1

Description of the main types of physical activity practiced by teachers. Educatel Study, Brazil, 2015-2016.

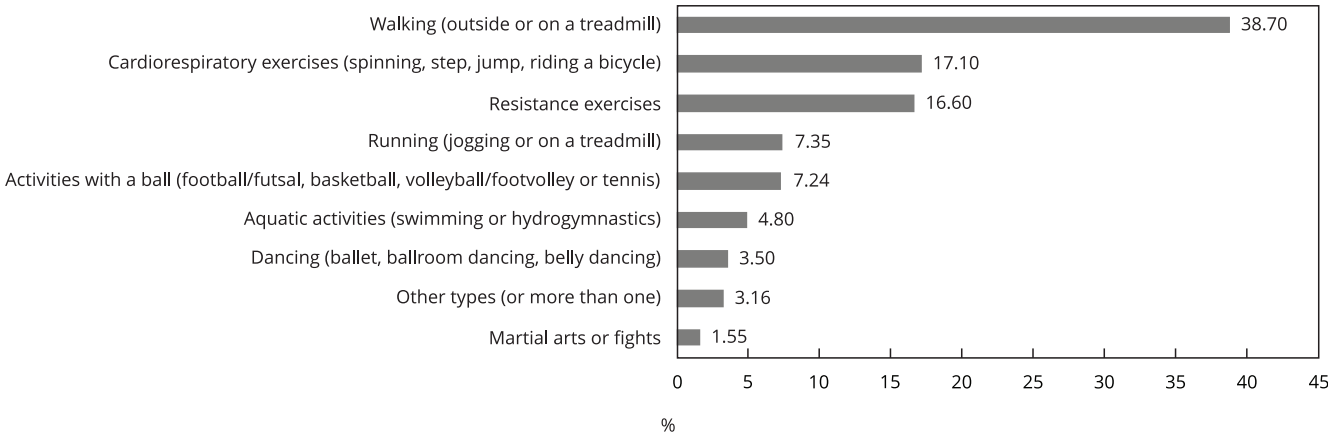

Table 2

Multivariate models of the association between physical activity variables and voice-related problems teaching. Educatel Study, Brazil, 2015-2016.

Variables	Voice-related problems teaching (%)	cPR	p-value	95%CI	aPR	p-value	95%CI
Multivariate model 1							
Leisure-time physical activity *							
Insufficiently active	66.8	1.00	0.002		1.00		
Sufficiently active	33.2	0.81 *		0.72-0.93	0.83*	0.006	0.73-0.95
Multivariate model 2							
Intensity of physical activity							
No physical activity	45.0	1.00			1.00		
Moderate **	43.2	0.89	0.079	0.78-1.01	0.91	0.161	0.80-1.04
Vigorous ***	11.8	0.98	0.911	0.82-1.20	1.05	0.573	0.90-1.30
Weekly physical activity frequency (days)							
No physical activity	48.3	1.00			1.00		
1-2	20.5	1.05	0.475	90.62-1.23	1.09	0.246	0.94-1.28
3-4	24.0	0.84 *	0.032	0.73-98.60	0.86	0.060	0.74-1.00
5 or more	7.2	0.70 *	0.004	0.53-0.89	0.72 *	0.008	0.57-0.92
Daily physical activity duration (minutes)							
No physical activity	48.3	1.00			1.00		
10-29	14.6	0.89	0.199	0.74-1.06	0.90	0.265	0.76-1.08
30 or more	37.1	0.89	0.091	0.78-1.02	0.92	0.225	0.81-1.05

95%CI: 95% confidence interval; aPR: adjusted prevalence ratio obtained through Poisson regression models using the covariates: age groups, sex and weekly working hours; cPR: crude prevalence ratio obtained through Poisson regression models.

Note: p-value < 0.05.

* 150 minutes of moderate physical activity per week or 75 minutes of vigorous physical activity per week with minimum uninterrupted duration of 10 minutes;

** Walking, walking on a treadmill, strength training, hydrogymnastics, general gymnastics (stretching, pilates, yoga), swimming, martial arts and fights (jiu-jitsu, karate, judo, boxing, muay-thai, capoeira), riding a bicycle (includes stationary bicycles), volleyball/footvolley and dance (ballet, ballroom dancing, belly dancing);

*** Jogging, running on a treadmill, aerobic gymnastics (spinning, step, jump), football (soccer)/futsal, basketball and tennis.

problems teaching had voice disorders [33], because the "problem" may be related to a sporadic vocal symptom, inadequate vocal adjustments that impact communication and teaching, among others.

Given the multicausality of voice problems, epidemiological surveys of voice disorders have limitations in terms of sensitivity and specificity [4]. This is because, by using, for example, only the self-perception of voice-related limitations/restrictions at work, teachers with voice disorders may present both a high score, revealing the large impact the voice has in the profession, or a median to low score, due to the use of didactic resources or voice behaviors that are favorable to their professional lives, which may minimize the perception of a developing voice problem.

Thus, in order to diagnose voice disorders, vocal, medical and self-perceived evaluations must be complementary [4,6,10], and this may be considered a limitation of this study. However, regardless of the confirmation of the clinical diagnosis, self-reports indicate a loss in the profession set in motion by the use of the voice, which enables us to adopt a perspective not directly related to the presence of a disease, but going beyond the disease, directed at teachers' vocal health.

Among the benefits of physical activity is its capacity to prevent several chronic diseases, such as cardiovascular diseases, type 2 diabetes mellitus, obesity, types of cancer, osteoporosis, mental health degeneration and overall mortality, as well as to improve quality of life by presenting short- and long-term health benefits [16,17,18]. Though physical activity may favor physical and mental health and, thus, aid in individuals' personal, social and work routines, its benefits are not limited to this area, because there is a tendency for physically active individuals to prioritize other healthy lifestyles [34], such as, for example, better daily hydration, balanced diet and greater quality of sleep.

Some studies use the description of the weekly frequency (in days) of physical activity, without considering the relevance of the type, duration and intensity of the activity, in the association with voice disorders [17]. We draw attention to the indication, in published works, of lower voice disorder prevalences among those who exercise three or more times a week, when compared with those who exercise less often or with the insufficiently active [14,15]. A study carried out with 3,142 teachers from 129 municipal schools in Belo Horizonte, using only the frequency (in days) of physical activity, found that 52.5% of teachers report some physical activity. Of these, 31% report exercising twice a week and 21%, three or more times a week [15].

The potential benefits of physical activity for the voice have been estimated by researchers who analyzed the greater prevalence of voice disorders among teachers who did not practice regular physical activity [15]. Among the findings, we highlight the possibility of the relationship between stress reduction, speech production with lower physical effort, given a possible reduction of muscular tension in the phonatory system [15].

Likewise, a study of singers verified that cardiorespiratory training has a positive impact on the respiratory flow needed for speech production. It also observed an ease in increasing air flow during phonation, and thus increasing the level of sound pressure in a healthy manner [21]. This ability is crucial for common situations in the teaching profession, in which teachers need to use their voices for extended periods of time and raise them in order to communicate with students. Another study, carried out with 12 singers, verified a beneficial association with vocal warm-up coupled with caridiorespiratory activities for singers, in order to reduce phonatory pressure and vocal noise (Jitter and harmonics-to-noise ratio), in addition to improving vibrato regularity [35].

Regarding the influence of occupational factors, there is scientific evidence that individuals' relationship with their surroundings (occupational or otherwise) is strongly associated with the production of tensions and their harms to health, such as adverse psychological situations [36,37]. We highlight the influence of exhausting working hours, both in terms of overburdening the use of the voice and in terms of low levels of physical activity [38], as a risk factor for acute and chronic health problems [37].

Thus, the anxiety generated by overlapping demands in the teaching process, as well as the anguish derived from engaging with students' situations [38,39], also increase the chances of unfavorable lifestyles [38]. Authors have concluded that factors associated with reduced productivity include: lack of physical activity, high mental work demand, lack of autonomy and inadequate conditions in the work environment [40,41]. Despite the relevance of occupational and individual factors in teachers' work context, this study, based on multivariate analyses, found benefits of physical activity to be independent from confounding factors (age group, sex and weekly working hours) in terms of the lower prevalences of voice-related problems teaching.

One aspect of the study worth emphasizing is its national scope and representativity of the population of Basic Education teachers in Brazil. We highlight that interpretations and comparability of scientific evidence must be cautious due to the use of different indicators for measuring physical activity [29]. The methodological design we used indicates the study's internal and external validity.

Physical activity, as well as the presence of voice-related problems teaching, were measured through teachers' self-reports. Self-reported data are usually used in large surveys of health conditions and lifestyles [42] due to the ease and low cost of obtaining them from large population samples [43]. Additionally, all investigations carried out up to the present moment have found good validity and reproducibility of the physical activity indicators (based on self-referred information obtained through a phone survey) [29,44].

We must promote teachers' quality of life by implementing policies that encourage physical activity, as well the use of public spaces, city gyms, bicycle paths, among other spaces meant for maintaining physical health. These initiatives seek to value and acknowledge teachers' crucial importance in building society.

Conclusion

We observed the prevalence of voice-related problems teaching among 20.5% of Basic Education teachers. One third of teachers reported sufficient leisure-time physical activity, predominantly walking. We identified sufficient leisure-time physical activity, as well as five or more days of physical activity per week, as potential strategies for reducing the prevalence of voice-related problems teaching, regardless of sex, age group and weekly working hours.

Contributors

S. M. M. Santos participated in study conception and design, data analysis and interpretation and article revision. E. G. Maia participated in data analysis and interpretation and article revision. R. M. Claro contributed to study design, data interpretation and to writing and reviewing the article. A. M. Medeiros participated in study conception and design and in writing and reviewing the article.

Additional informations

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Resumo

O objetivo do estudo foi identificar a prevalência de problemas na docência por causa da voz entre os professores da educação básica, e analisar sua associação com a prática de atividade física. Foram utilizados dados de inquérito por entrevista telefônica junto à amostra representativa (n = 6.510) de professores do Estudo Educatel, entre outubro de 2015 e março de 2016. As informações de interesse central deste estudo compreendem o relato do professor de problemas na docência por causa da voz, a prática de atividade física no lazer (definida por sua intensidade, duração e frequência) e potenciais variáveis de confundimento. A análise dos dados foi estudada por meio de modelos de regressão de Poisson com variância robusta. Cerca de um quinto dos professores (20,5%) relatou problemas na docência por causa da voz, enquanto aproximadamente um terço relatou a prática de atividade física suficiente no lazer (≥ 150 minutos/semana) (37,8%). Tanto a prática de volume recomendado de atividade física quanto a prática de atividade física em cinco ou mais dias por semana (independentemente do volume total) estiveram associadas de forma inversa a problemas na docência por causa da voz, tanto em modelos bivariados quanto naqueles ajustados por variáveis de confundimento (sexo, idade e jornada de trabalho). Professores da Educação Básica apresentam alta prevalência de problemas na docência por causa da voz. A prática suficiente de atividade física no lazer e a prática semanal por cinco ou mais dias despontam como fatores potenciais de proteção para a redução da prevalência deste problema.

Exercício; Professores Escolares; Inquéritos Epidemiológicos; Saúde do Trabalhador

Resumen

El objetivo del estudio fue identificar la prevalencia de problemas en la docencia, debidos a la voz, entre profesores de educación básica y analizar su asociación con la práctica de actividad física. Se utilizaron datos de una encuesta por entrevista telefónica, junto a una muestra representativa (n = 6.510) de profesores de Estudio Educatel, entre octubre de 2015 y marzo de 2016. La información con mayor interés de este estudio incluye el relato de docentes con problemas en su profesión, debidos a la voz, la práctica de actividad física durante el tiempo de ocio (definida por su intensidad, duración y frecuencia) y las potenciales variables de confusión. El análisis de los datos se estudió mediante modelos de regresión de Poisson con variancia robusta. Cerca de un quinto de los profesores (20,5%) informó de problemas en la docencia, debidos a la voz, mientras aproximadamente un tercio informo sobre la práctica de actividad física suficiente durante el tiempo de ocio (≥ 150 minutos/semana) (37,8%). Tanto la práctica del volumen recomendado de actividad física, como la práctica de actividad física durante cinco o más días por semana (independiente del volumen total), se asociaron de forma inversa a problemas en la docencia debidos a la voz, tanto en modelos bivariados, como en aquellos ajustados por variables de confusión (sexo, edad y jornada de trabajo). Los profesores de Educación Básica presentan una alta prevalencia de problemas en la docencia debidos a la voz. La práctica suficiente de actividad física durante el ocio y la práctica semanal durante cinco o más días despuntan como factores potenciales de protección para la reducción de la prevalencia de este problema.

Ejercício; Maestros; Encuesta Epidemiológica; Salud Laboral

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