

Barriers perceived by office workers to participate in a workplace gymnastics program

Barreiras percebidas por trabalhadores da área administrativa para participar de um programa de ginástica laboral

Valquíria Aparecida de Lima^{1,2} , Marcos Gonçalves Maciel³ , Janaina Resende Medeiros³ ,
Sérgio Roberto de Lucca¹ 

1. Faculdade de Ciências Médicas (FCM), UNICAMP, Campinas, SP, Brazil
2. Associação Brasileira de Ginástica Laboral, Guarulhos, SP, Brazil
3. Universidade do Estado de Minas Gerais, Belo Horizonte, MG, Brazil

ABSTRACT

Aim: To analyze the barriers presented by office workers from an administrative sector of a chemical company at the city of São Paulo to not participate in labor gymnastics (LG). **Methods:** Descriptive, cross-sectional, exploratory research. Sample: 176 participants, 98 (55.7%) men and 78 (44.3%) women, average ages 35 and 29 respectively. Non-probabilistic and intentional selection of participants and the company. In the data analysis, descriptive statistics and the chi-square test were adopted (with $p < 0.05$). **Results:** 44 participants answered not to participate in the program (12 men and 32 women); the main barriers pointed out by the participants were: "lack of time" (28.4%), "overwork" (19.8%), "miscellaneous commitments" (16.9%), "already practicing physical activity" (14.8%). **Conclusion:** The organizational factors of work present important barriers that can influence adherence to participation in LG. It is recommended to expand the analysis of organizational factors and the perceptions of workers from all sectors involved, to adapt LG to the peculiarities of the organization.

Keywords: exercise; gymnastics; sedentary behavior; occupational health.

RESUMO

Objetivo: Analisar as barreiras apresentadas por trabalhadores do setor administrativo de uma empresa do ramo químico na cidade de São Paulo para não participar da ginástica laboral (GL). **Métodos:** Pesquisa do tipo descritiva, transversal, exploratória. Amostra: 176 participantes, sendo 98 (55,7%) homens e 78 (44,3%) mulheres, com média de idade 35 e 29 respectivamente. Seleção não probabilística e intencional dos participantes e da empresa. Na análise dos dados adotou-se a estatística descritiva e o teste de qui-quadrado ($p < 0,05$). **Resultados:** 44 participantes responderam não participar do programa (12 homens e 32 mulheres); as principais barreiras apontadas pelos participantes foram: "falta de tempo" (28,4%), "excesso de trabalho" (19,8%), "compromissos diversos" (16,9%), "já pratica atividade física" (14,8%). **Conclusão:** Os fatores organizacionais do trabalho apresentam importantes barreiras que podem influenciar na adesão à participação na GL. Recomenda-se ampliar a análise dos fatores organizacionais e das percepções dos(as) trabalhadores(as) de todos os setores envolvidos, para adequar a GL às peculiaridades da organização onde é desenvolvida.

Palavras-chave: exercício físico; ginástica; comportamento sedentário; saúde do trabalhador.

Introduction

One of the most significant public health problems globally, considered a pandemic, is the physical inactivity [1-3]. This fact is increasing the prevalence of chronic diseases [4,5] as well as the social costs related to health and premature deaths resulting from these diseases [6,7]. In this scenario, actions to promote physical activities stimulation are recommended to be performed in different environments, including at work [8].

The physical activity practice in the workplace can be performed through labor gymnastics (LG) [5]. This activity is understood as the performance of specific physical exercises and adapted to the different functions and working conditions [9,10]. LG has numerous benefits both for companies [11,12] and for the workers [13,14]. However, as in different social contexts, adherence to the physical activity practice in the work environment, specifically concerning LG, presents some barriers to adherence.

Understand the factors that interfere with the adherence or not to this activity must permeate a multifactorial and multidimensional view, regardless of the social context. Thus, some studies in the international literature were carried out to identify these aspects [15-20]. However, in the Brazilian scenario, there are few investigations found on this topic [18]. In this sense, it is necessary to carry out studies on the national scene that can contribute to the production of knowledge for the area regarding this theme to dialogue with international knowledge.

In this sense, this work seeks to understand the barriers presented by workers to not participate in LG. When considering this issue, the objective of this research was to analyze the barriers presented by workers in the administrative sector of a company in the chemical sector, in the metropolitan region of São Paulo, to not participate in LG.

Methods

Type of study

This research was carried out in 2017, whose study design is characterized as qualitative, exploratory, and transversal [21].

Sample characteristic

As an inclusion criterion for participation in the research, participants should be 18 years old or older and active in that company during data collection.

This research is part of a data clipping, specifically concerning barriers to the practice of LG, collected and analyzed from a broader study, whose total sample was 176 people. In this sense, the sample of this study was composed of 44 workers, all from the administrative sector, who answered that they would not participate in the

LG classes, and who reported the reasons interpreted as barriers. The sociodemographic profile of the participants is described in Table I.

Table I - Sociodemographic profile of the sample

Gender	Male	12
	Female	32
Education	Did not answer	1
	High school	1
	Incomplete graduation	15
	Graduated	19
	Complete postgraduate	8
Marital status	Single	27
	Married	17

Source: Research data.

Place of study

The choice of the sample was intentional and for convenience. The investigated company is in the chemical sector, located in the city of São Paulo, has 550 workers, of which 250 are in production and 300 in the administrative sector.

The company has maintained the LG program for 16 years. The production sector is divided into two shifts, with five LG classes per week, at the beginning of the day, namely, 6:00 am and 2:00 pm, respectively. In turn, the administrative sector holds five weekly LG classes, in the morning, between 8:30 am and 10:30 am. The professional responsible for conducting the classes conducts them in the different sections of this sector during this period. Both sectors have LG classes lasting 10 minutes, being taught by Physical Education professionals.

Data collection instrument

As a data collection instrument, a semi-structured questionnaire was adopted, validated by Lima [22], and composed of sociodemographic data, information regarding participation in LG classes (weekly frequency and general time of participation), and justifications for non-participation, called barriers. The first author of this work delivered this questionnaire to all eligible members of LG at their respective workstations, who responded and returned it to the applicator.

Data analysis

Regarding data analysis, it was verified through the Shapiro-Wilk test that there was no results normality. Furthermore, when considering the difference between the number of men (12) and women (32) participating in the research, it was decided to carry out the weighted average of the gender variable in proportions adjusted for both sexes. Such adjustment was necessary to establish a balance in the intersections and avoid distorting the analysis, considering the higher number of fe-

male respondents, as well as the reduced number of participants in the present study.

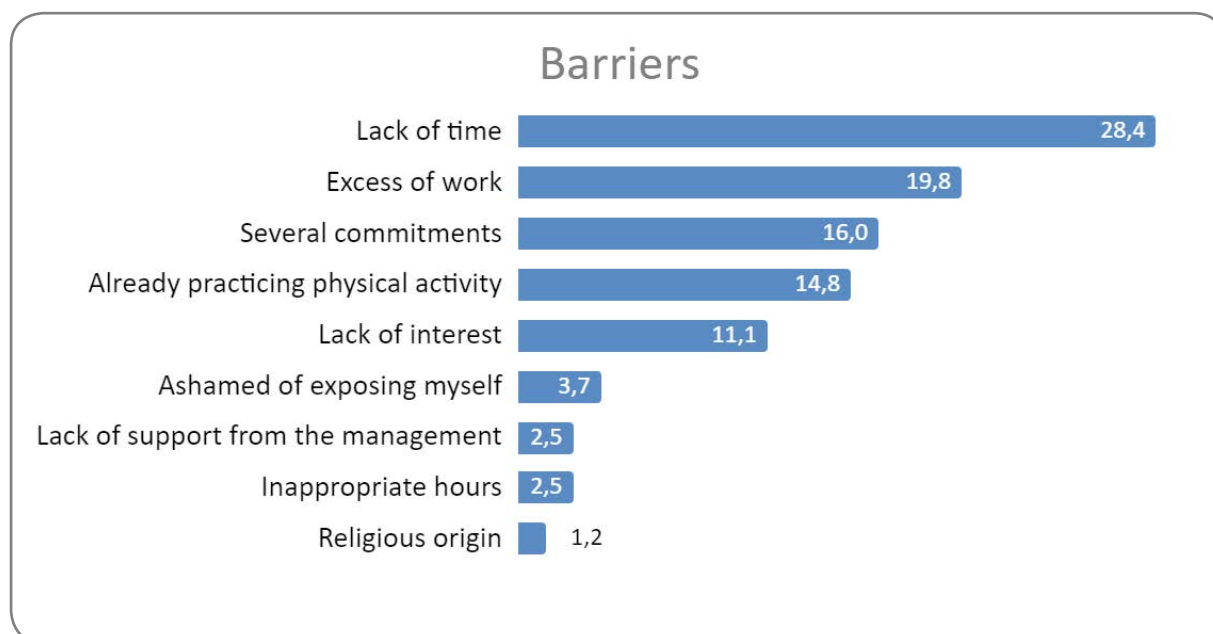
Descriptive statistical tools with mean and standard deviation measures were considered, as well as the Chi-square test to assess the correlation of barriers to the practice of LG between the independent variable - gender - with the other variables: already practicing physical activity; inappropriate hours; excess of work; religious origin; lack of support from the management; lack of interest; ashamed of exposing myself; several commitments. For all analyses, the significance level adopted was the value of $p < 0.05$.

It is worth noting that, in the course of the investigation, the ethical aspects recommended in resolutions 466/12 and 510/16 of the Ministry of Health, which guide research with human beings, were considered. Thus, the research was submitted and approved by the Ethics Committee of the university to which one of the authors was affiliated (CAAE: 53093816.0.0000.5404).

All participants were duly informed about the purposes of the investigation and signed the Free and Informed Consent Form (FICF) so that their identities were kept confidential. In addition, those responsible for the company consented to the survey being carried out on-site, as indicated in the Letter of Agreement.

Results

For the general evaluation of the data, the SPSS 19.0 Software was used. Figure 1 demonstrates the results regarding the barriers identified for the practice of LG.



Source: Lima (2017).

Figure 1 - Description of barriers to non-participation in LG activities in a company in the city of São Paulo, 2017

Table II presents the data according to the analysis of the gender variable, relating it to the data obtained from the answers regarding the barriers to LG, using

the Chi-square test. The results demonstrate that there is no significance between the variables in question. However, the descriptive statistics of the variables infers the need for stimuli for the practice of physical activity among the identified barriers.

Table II - Description of barriers to non-participation in LG activities in a company in the city of São Paulo, 2017

		Already practicing physical activity			
		Mentioned	Not mentioned	Total	p value
Gender	Male	15.6%	33.3%	48.9%	0.67
	Female	13.3%	37.8%	51.1%	
	Total	28.9%	71.1%	100.0%	
Inappropriate hours					
Gender	Male		50.0%	50.0%	0.31
	Female	2.3%	47.7%	50.0%	
	Total	2.3%	97.7%	100.0%	
Excess of work					
Gender	Male	15.9	34.1	50.0%	0.75
	Female	18.2	31.8	50.0%	
	Total	34.1	65.9	100%	
Lack of support from the management					
Gender	Male		50.0%	50.0%	0.31
	Female	2.3%	47.7%	50.0%	
	Total	2.3%	97.7%	100.0%	
Lack of interest					
Gender	Male	15.9%	34.1%	50.0%	0.15
	Female	6.8%	43.2%	50.0%	
	Total	22.7%	77.3%	100.0%	
Several commitments					
Gender	Male	11.6%	37.2%	48.8%	0.56
	Female	16.3%	34.9%	51.2%	
	Total	27.9%	72.1%	100.0%	

Source: authors.

Discussion

In general, the results identified in this study present organizational aspects such as “lack of time” (28.4%), “excess of work” (19.8%), and “several commitments” as the main barriers to participation in gymnastics classes at work (16.9%), as well as the personal perception of having a physically active lifestyle in their free time, “already practicing physical activity” (14.8%), such claim is not justifiable by the fact that LG has goals distinct.

It was identified among the study participants the predominance of women with higher education and single. These data are consistent with those made available by the Surveillance System for Risk Factors for non-communicable chronic diseases (VIGITEL) regarding the practice of physical activity [23]. This report presents data regarding the physical activity practice in free time from a population sample, although it does not discriminate specific population groups.

VIGITEL [23] shows a frequency of 13.9% of physically inactive adults in 2019. According to this report, the frequency of physically inactive men tended to increase with age, while among women, it decreased until 54 years old and increased from that age onwards. Physical inactivity reached the highest frequency in the less educated stratum. Thus, the profile of physically inactive people in the sample of the present investigation differs from that of VIGITEL [23] concerning age group among women and education level. This fact demonstrates the complexity involved in the issue of adherence to physical activity, with emphasis on behavioral, cultural, environmental, and social aspects, including work.

A study carried out by Grande & Silva [18] analyzed the reasons presented by 183 workers (43.61 ± 9.38) not participating and 151 participating workers (45.11 ± 10.22 years) in the LG. Most non-participants were male 97 (53%). In turn, this same group represented 41.4% of the sample. However, this study did not analyze the barriers between the two groups in isolation, and the main reasons reported as barriers were: "because I don't like it" (19.67%), "lack of time" (18.78%), "I do activities outside of work" (8.84%). However, when considering this general analysis, there are similarities between the barriers reported by the sample in this study.

In the study by Lima *et al.* [24], with a sample of 651 volunteers of both sexes, working in the administrative banking and manufacturing areas of two metallurgy companies, the barriers to LG participation were: lack of time (25.34%); excess of work (16.89%); practicing physical activity elsewhere (13.97%); inappropriate hours (11.36%). Another study by Soares *et al.* [25] highlighted the following barriers reported for non-adherence to LG classes: class schedule and already practicing physical activity outside working hours, as justifications for the worker's absence to them.

These studies identify a similarity with the data from this study, which highlights the need to review the organizational aspects that influence adherence to LG, related to the function responsibilities, support or not from the management, and fear of loss of productivity. In addition, the adequacy of class hours about times of highest demand in carrying out work functions to allow the rotation of workers for greater adherence. Another possibility to reduce the perception of these barriers is to increase awareness campaigns about the benefits that LG can provide to workers, as well as exploring classes as a time to promote satisfaction with the practice of physical activity, in other words, an encounter with yourself, of body and self-knowledge, of spirituality; finally, to seek a humanization through the human movement [26].

It is noteworthy that identifying the aspects that involve the perception of barriers identified by workers in non-adherence to LG is an opportunity to unders-

tand to enable the re-planning of interventions and discuss the interactions between the physical, social and organizational aspects in the workplace.

In this sense, the World Health Organization [27] emphasizes that a healthy work environment is one in which workers and managers collaborate towards sustainability in work environments through a continuous improvement process of protecting and promoting the safety, health, and well-being of workers. According to the International Society for Physical Activity [28], the workplace is also opportune for health promotion. According to the report of this institution [28], most adults spend at least a third of the day in the work environment, hence the need to improve the offer and opportunities of physical activity programs in these places as a way to facilitate all people being physically active.

However, actions related to LG must be adapted to the various sectors, ranging from the implementation of educational events to inform workers about the benefits of physical activity and even encourage an active work culture (for example, walking or alternating standing and sitting during meetings); and offer workers paid and/or flexible time to perform physical activity.

Bredahl *et al.* [16] analyzed the barriers perceived by workers of a Danish company to the physical activity program in the workplace, which differs from LG. The study's results allowed for a broad discussion beyond the practical issue, such as the schedule of activities and work organization, and to consider the stages of change in behavior and intention to practice physical exercises [29]. According to the authors, when implementing programs with these characteristics, the different behavior stages must be considered to select the best intervention strategies and monitor the perception of motivation and level of physical activity practice before, during, and after these programs' implementation.

Regarding the behavior change process, Andersen & Zebis [30] highlighted the importance of contextual factors such as support and approval from higher management for workers to participate during working hours.

From this point of view, LG should not be conducted in a reductionist way, which is predominant in most programs, and aim only at the application of exercises as a means of preventing occupational diseases such as Work-Related Musculoskeletal Disorders. Complementarily, there is a unique opportunity to expand this approach and include other aspects, such as a healthy way of "breaking" the routine and, that can result in a positive association between the practice of physical activity and physical exercise as a promotion of health and wellness-being [9,31].

Conclusion

It was found in this study that the main barriers reported by the participants are related to organizational aspects of work, as well as behavioral ones. Therefore, an analysis of these factors is necessary, adapting them to the peculiarities of the work and the characteristics of the organization, demands, and profiles of workers in each sector.

Academic affiliation

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Potential conflict of interest

No potential conflicts of interest relevant to this article have been reported.

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Author's contributions

Conception and design of study: Lima VA, Lucca SR; **Acquisition, analysis and/or interpretation of data:** Lima VA, Lucca SR, Maciel MG; **Drafting the manuscript:** Lima VA, Medeiros JR; **Reviewing the manuscript critically for important intellectual content:** Maciel MG, Lucca SR.

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