

Effect of a session of the workplace physical activity program on mood

Abstract

Introduction: The increasing pressure on the labor market has led to several psychological disorders such as mood disorders, which affects worker productivity.

Objectives: To verify the effect of a session of the workplace physical activity program on the mood state in employees of a community university of Chapecó-SC.

Methods: This study included 19 individuals of both sexes, with an average age of 29.4 dp 6.87 years. The Brunel mood scale (BRUMS) was used to evaluate the mood state in three periods: i) control, one week before the intervention; (ii) pre-intervention; and (iii) post-intervention. The intervention had ten minutes of workplace physical activity. Data were analyzed in a descriptive and inferential manner.

Results: In the pre- and post-intervention evaluation, it was observed the decrease of all negative aspects of mood, tension, depression, anger, fatigue and mental confusion. And increased the positive mood, vigor.

Conclusion: It was concluded that the workplace physical activity program was effective in improving the mood of the employees of this university.

Keywords: occupational health, affect, exercise. mood state, labor

Volume 5 Issue 4 - 2020

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Received: June 24, 2020 | **Published:** July 14, 2020

Introduction

The work had its origin with the appearance of the human being, who for many years performed it in a manual way, using his own body to perform the tasks.¹ With technological advances and social evolution, space has been given to the facilities that progress and modern life provide to individuals. Soon the production went from the artisanal way to the factory system, reducing physical efforts, and the work environments became reduced, and this has been reflected in negative results in the physical and psychological health of the worker.²

Promoting physically inactive and sedentary lifestyles, which are major public health problems and are associated with an increased risk of chronic disease and mortality.³⁻⁵ Sedentary occupational behavior has been specifically associated with an increased risk of diabetes and mortality and musculoskeletal problems such as neck and shoulder pain, in addition to impairing important work-related results, such as involvement and presenteeism.⁶

At all times, workers feel pressured by society in relation to their performance, whether in work activities, in their behaviors or/and attitudes.⁵ In this context, psychosocial risk factors arise, individual symptoms of mental tiredness, fatigue, stress, overload, among others; which are generally neglected and poorly understood.⁷ And many times, as França & Rodrigues⁶ reinforce, this worker is not prepared for so much pressure, triggering several pathologies and psychic disorders, among them mood disorders.

The work environment can be a major influencer, both in improving health, stimulating well-being and pleasure, as well as it can lead to emotional disruption and imbalances, triggering diseases.⁶ Companies have been concerned with the well-being of their workers and seek, in some way, to insert life quality programs with the aim of improving conditions in the work environment.⁸

In order to reduce or ameliorate these imbalances, physical exercise has been used as a mediator in the face of pathological conditions, promoting an improvement in mood, and also being responsible for several responses on the body, whether they are physiological, chemical, psychological or immunological.⁹

The workplace shows itself as a potential environment to promote physical exercise,¹⁰ through interventions aimed at promoting health and quality of life, since the possibility of reaching a large part of this population that devotes hours of their lives to work.¹¹ Thus, physical exercise exposes its possible benefits to the economy of the organization/company, with the reduction of absenteeism,¹² increased productivity, increased tolerance to stress and improved decision making, in addition to the benefits of physical and mental health for employees.¹⁰

Studies in the area lead to increasing awareness of the practice of physical exercise as a method of prevention and maintenance of health, and the workplace physical activity program (WPAP), known in Brazil as workplace gymnastics, performed during working hours, has been widely used and recommended.^{8,13} These exercises in the work environment consist of simple interventions, which use only stretching, to more complex programs, with a set of specific physical exercises in which muscle strengthening activities, flexion, stretching, relaxation and recreational activities are performed.¹⁴

In the traditional methodology, Mendes & Leite⁸ and Branco¹⁵ suggest classes of 10 to 15 minutes, three times a day, on all work days, whereas in the proposal of Laux, Corazza & Andrade¹⁶ the stipulated time of the session is 8 to 15 minutes, once a day, at least twice a week. This proposal proved to be efficient in decreasing medical certificates,¹⁴ improving simple reaction time and choice, benefits for the mood of employees¹⁷ and in improving anxiety,¹⁸ in addition to savings in the application of the program.¹⁹ Therefore, the objective of this study is to evaluate the effects of a session of workplace physical

activity program on the state of mood in employees of a Community University in Chapecó-SC.

Material and methods

This study was of an experimental nature²⁰ and followed the guidelines of resolution 466/12 of the National Health Council, with all those involved signing the informed consent form before the beginning of the research.

Nineteen employees from the administrative sectors of a University of Chapecó aged between 22 and 47 years participated in the study. For the selection of the study group, the following steps were respected: a) invitation and personal disclosure at the University; b) be part of the collaborative staff of the University’s administrative sectors; and 3) signing the informed consent form.

An anamnesis composed of questions was applied in order to describe the characteristics of the participants, such as age, sex, profession, function performed, working time and use of medication. As a tool for data collection, the Brunel Mood Scale (BRUMS)²¹ was used. The Brums is a questionnaire that has 24 indicators, which

the respondents answer about how they feel at that exact moment in relation to feelings, on a five-point scale (0 = nothing and 4 = very much). Brums is divided into six dimensions: i) anger, which describes feelings of hostility and antipathy towards others and oneself; ii) fatigue, represented by states of exhaustion, low energy level and apathy; iii) vigor, characterized by states of energy, animation and activity; iv) depression, which indicates depressed mood; v) confusion, characterized by feelings of uncertainty, instability to control emotions and attention; and vi) tension, referring to high musculoskeletal tension.²¹

The experimental design of the study was divided into two weeks: i) week one, the anamnesis and the Brums scale were applied upon delivery of the signed informed consent form, characterized as control; and ii) week two, intervention with the session of the workplace physical activity program, in which the state of mood was assessed before and after the intervention (Figure 1).

The intervention session was prepared based on the proposal by Laux, Corazza & Andrade,¹⁶ consisting of an initial part, a main part and a final part, as it is shown in Table 1.

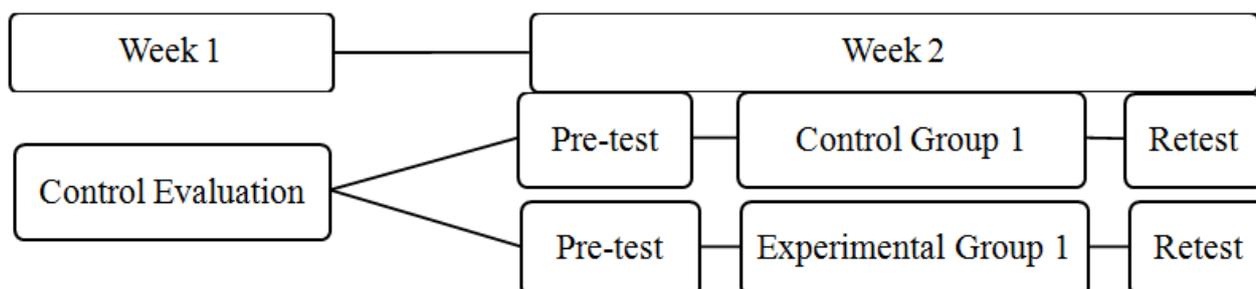


Figure 1 Experimental design of the study. Data: the author

Table 1 Activities of the physical activity program

	Initial part (4 min)	Main part (4 min)
Activities	Displacement between cones/chairs to the music, aiming to compensate for static postures.	Static and dynamic flexing exercises for all muscle groups, emphasizing those most used in the workday.
Materials	Chairs and cones.	Elastic bandages.

Data: adapted from Laux et al.¹⁴

Data analysis was performed in a descriptive and inferential manner. The tests were chosen after verifying the normality of the data. Data distribution was assessed using the Shapiro-Wilk test and it was found that they are not parametric. In view of this, the Friedman inferential test was used to compare the periods and the Bonferroni test as Post Hoc. The level of significance used was 5%. All tests were performed using the SPSS® 21.0 for Windows statistical program.

Results

Nineteen individuals participated in the study, three men and sixteen women, with an average age of 29.4 SD 6.87 years. Table 2 shows the average values of the mood scale in the control application,

before and after the intervention. It is observed that there were no significant differences in aspects of mood between the moments of control and pre-intervention. In the comparison between pre and post it was found that there was a decrease in all negative aspects of mood.

Figure 2 shows the state of control mood, pre and post intervention, in which the iceberg profile is observed, with low scores on negative aspects of mood and high on vigor.

Discussion

When verifying the effects of a session of the workplace physical activity program on the state of mood in employees of a Community University in Chapecó-SC, a decrease in all negative aspects of mood

was observed. The state of humor in its dimensions, vigor, fatigue, tension, mental confusion, depression and anger undergo acute and chronic changes resulting from the practice of physical exercise and the environment.²² And the different types and intensities of physical exercise have the potential to improve mood, as long as they are appropriate to the individuality of the practitioner, are practiced in a pleasant environment and in a pleasant way.²³

Similar results were found in the study by Laux.¹⁷ in which he verified the effects of a session of a workplace physical activity program on the mood of public servants at a university, through which he observed a decrease in the negative aspects of mood of the subjects submitted to the short-term physical exercise program in the work environment.

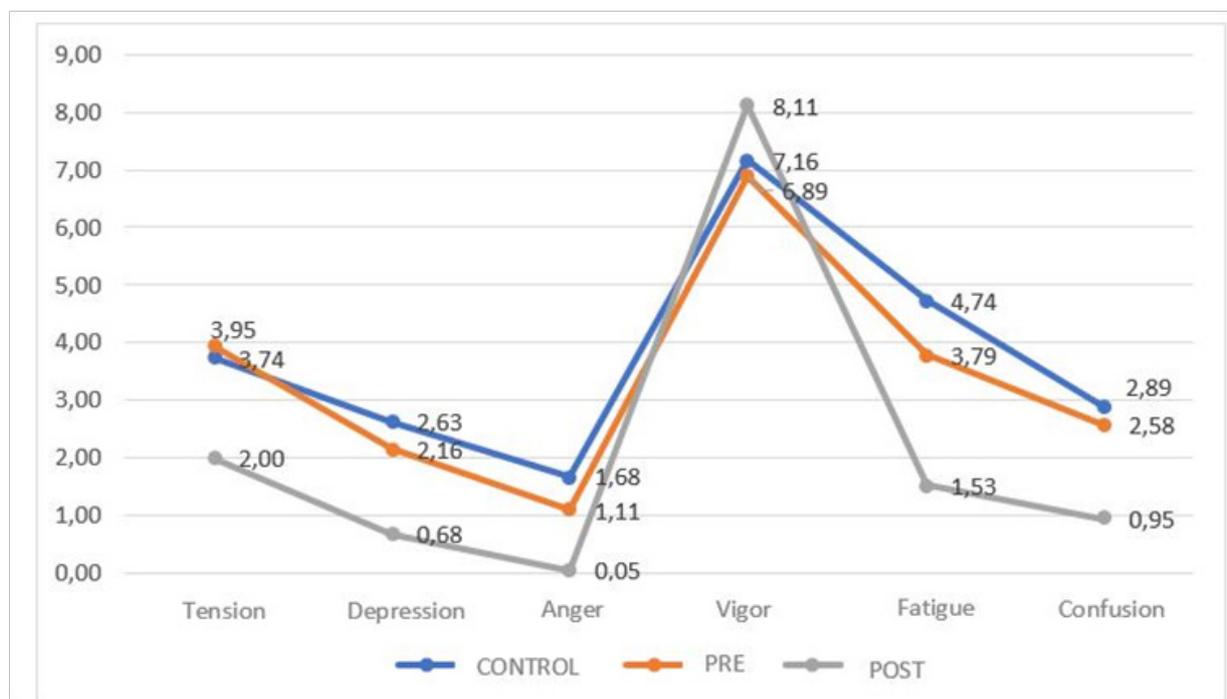


Figure 2 Mood State graph in the three periods control, pre- and post-intervention. Data: the author

Table 2 Comparison of mood between the three periods (n=19)

	Average (SD)			P
	Control	Pre	Post	
Tension	3,74 (3,12)	3,95 (2,72)	2,00 (1,95) a;b	<0,01
Depression	2,63 (3,39)	2,16 (2,71)	0,68 (1,49)a;b	<0,01
Anger	1,68 (2,11)	1,11 (1,63)	0,05 (0,22)a;b	<0,01
Vigor	7,16 (2,32)	6,89 (2,81)	8,11 (2,55)	0,04
Fatigue	4,74 (3,36)	3,79 (3,33)	1,53 (1,90)a;b	<0,01
Mental confusion	2,89 (2,88)	2,58 (2,81)	0,95 (2,16)a;b	<0,01

Subtitle, ^a difference with control, ^b difference with pre-intervention. Data, the author

The results obtained corroborate with the study by Stort et al.²⁴ developed with workers of a company, in which it was evident that the interferences from physical activity on mood states were clear and showed that physical activity in the workplace can be an efficient tool in an attempt to lead the employee to a perception of well-being and, consequently, improve their job performance, according to the researchers.

The positive mood is favorable to a productive work environment. According to Robroek et al.²⁵ when investigating the practice of physical exercise related to the health of 10,624 Dutch workers for a period of 12 months, they observed that physically active employees were less absent from work due to illness or when they fell ill they remained absent for periods smaller and produced more in relation to sedentary ones.

Similarly, Laux et al.¹⁸ evaluated the effect of a physical exercise program in the workplace on the anxiety of 36 administrative technical employees, pointing to a reduction in the anxiety of the subjects in the experimental group. However, for Freitas et al.²⁶ who evaluated 21 nursing professionals on levels of anxiety, depression, burnout, occupational stress and self-perceived health and quality of life at work, there was only an improvement in the perception of health and quality of life, while in the psychological and occupational stress variables it did not result in positive effects.

It is important to highlight that in this study the mood state data was presented in a classic *iceberg* profile, in which all the negative aspects are low and the positive aspect, vigor, is high. In view of this, the lack of physical exercise is a factor of great impact on the individual's mental health, since it happens to the reduction of self-esteem, self-image, well-being and sociability, stress, anxiety and possibly depression are elevated.²⁷

In agreement that Chu et al.²⁸ in a bibliographic research over a period of 23 years, found that physical activity in the workplace is associated with a significant reduction in depressive symptoms and anxiety, respectively. Therefore, physical exercise is a health promotion factor, essential for a healthy, productive worker¹¹ and for healthy aging.²⁹

Thus, the use of short-term physical exercise in the work environment as an alternative to improve the mood and, consequently, improve mental aspects, seems to be one of the objectives of worker health promotion programs.³⁰ However, the implementation of a workplace physical activity program must be careful, the professional must consider not only the worker's mechanical and labor needs, but also the psychological and motivational aspects.⁹

Limitations

This intervention was limited in relation to the number of subjects who participated in the investigation, in addition to the restricted time for executing the program. However, the demanding selection of participants and the control of intervening variables strengthen the findings of the present research.

Conclusion

Our results showed that only one session of workplace physical activity program showed potential to improve the negative aspects of the mood and stimulate the positive aspects of the employees' mood. These aspects are associated with a general improvement in emotional states and, consequently, reflect on the ability to produce and perform their functions with greater performance.

We suggest new studies on the workplace physical activity program that overcome the limitations of this study and that explore different populations.

Acknowledgments

None.

Conflicts of interest

The authors declare no conflicts of interest.

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