

Prevalence of presenteeism among workers of an industrial company

Prevalência do presenteísmo em trabalhadores de uma indústria

Beatriz Machado de Campos Corrêa Silva¹,
Aline Bedin Zanatta¹, Sérgio Roberto de Lucca¹

ABSTRACT | Background: Attending work when sick for fear of losing the job is common among workers. Presenteeism is a rising problem, which has called the attention of researchers from different fields; being difficult to notice, it also raised concerns among managers. **Objective:** To establish the prevalence of presenteeism at a food industrial company. **Method:** Cross-sectional epidemiological study conducted with 1,224 workers, with application of Stanford Presenteeism Scale (SPS-6) as method to investigate presenteeism. **Results:** Presenteeism was adopted by 30.6% of the analyzed workers along the previous 12 months. The prevalence of presenteeism detected through SPS-6 was 50.9% for the full sample. Significant association was found between presenteeism and sedentarism, overweight and some self-reported symptoms. **Conclusion:** The detected high prevalence of presenteeism and its association with sedentary lifestyle and musculoskeletal symptoms confirm the relevance of presenteeism and its negative impact on the health of workers.

Keywords | presenteeism; occupational categories; psychosocial impact.

RESUMO | Contexto: Comparecer ao trabalho doente com medo de perder o emprego é um comportamento frequentemente adotado pelos trabalhadores. O presenteísmo é um problema emergente, cujas repercussões socioeconômicas têm despertado a atenção de pesquisadores em diversas áreas e a preocupação de gestores por ser difícil de ser percebido. **Objetivo:** Determinar a prevalência de presenteísmo entre os trabalhadores em uma indústria do setor alimentício. **Métodos:** Estudo epidemiológico, de corte transversal, com população de 1.224 trabalhadores, com aplicação da *Stanford Presenteeism Scale* (SPS-6) como método de investigação do presenteísmo. **Resultados:** A avaliação do presenteísmo apontou que 30,6% da amostra teve um comportamento presenteísta nos últimos 12 meses e o SPS-6 identificou que 50,9% desses trabalhadores são presenteístas. Observou-se uma associação significativa do presenteísmo entre os trabalhadores sedentários, com excesso de peso, e alguns sintomas autorreferidos. **Conclusão:** Os resultados da elevada prevalência de presenteísmo e a associação entre sedentarismo e sintomas osteomusculares confirmam a relevância do tema e o impacto negativo para a saúde dos trabalhadores.

Palavras-chave | presenteísmo; categorias de trabalhadores; impacto psicossocial.

Study performed at State University of Campinas (Universidade Estadual de Campinas – Unicamp) – Campinas (SP), Brazil.

¹State University of Campinas (Universidade Estadual de Campinas – Unicamp) – Campinas (SP), Brazil.

DOI: 10.5327/Z1679443520170011

INTRODUCTION

Changes in workers' skills have been detected in recent years. The cognitive and mental demands of work are increasingly predominating over the physical capacity of workers to perform their job. Within this context, the psychosocial and organizational aspects of work are considered to be an integral part of workers' health¹.

While work is essential for well-being, the working conditions might be a cause of suffering and impair the physical and mental health of workers²⁻⁴.

Within this context, absenteeism due to disease or other causes is considered a relevant indicator of the health of an organization, based on the assumption that the physical presence of employees at the workplace ensures the productivity of companies⁵.

However, workers tend to avoid missing days at work due to a fear originated in the ongoing crisis and its continuous threat of unemployment. Fear intensifies obedience and ethical transgressions and causes dread, which individualizes the suffering of individuals under the same conditions. According to surveys performed by Cooper² and Selligmann-Silva¹, the fear of losing the job is one of the main causes of presenteeism.

Organizations are currently concerned with presenteeism, i.e., with workers who do come to work, but are unable to attain satisfactory productivity due to illness. Presenteeism is considered as one of the main causes of loss of productivity^{2,5-7}. It also interferes with the quality of life and health of workers^{1,8}, because when not timely treated, health problems might become chronic and disabling^{1,5,9}. Presenteeism is difficult to notice and detect^{5,6}, and for this reason it is still considered an incipient subject within occupational health.

Several studies reported a high incidence of presenteeism¹⁰⁻¹². The employees' perception of the work environment is highly relevant as concerns the presenteeism behavior¹³. Performance within organizations and work management include aspects related to the job demands, the possibility of control or autonomy at work and the relations with supervisors and colleagues¹⁴.

According to Preziotti and Pickett¹⁵, 60% of workers feel pressured to remain at the workplace even when sick. Job insecurity is the most plausible explanation for sudden falls in the sickness absenteeism rates during periods of layoffs

or inactivity. Ramsey¹⁶ listed other reasons for workers to go to work when ill: fear of being left behind; belief in that missing work due to disease is a sign of weakness ("iron man mentality"); resistance to benefit from sick leaves; and belief in that missing work will be harmful to the organization ("indispensable man theory") which is attended by anxiety and ambiguous feelings of responsibility.

A study conducted with healthcare workers found that 80% of the sample exhibited high levels of occupational stress and health problems, and that they tended to avoid missing work; 48% felt guilty for missing work; 20% feared hostile reactions from supervisors; and 18% were afraid of reducing productivity¹⁷.

The health problems most commonly associated with presenteeism are headache, fatigue, joint complaints, low back pain, allergy, asthma, gastrointestinal disorders and anxiety, among others¹⁸⁻²⁴. Dissatisfaction with life and the job, health problems and stress are some of the psychosocial risk factors strongly associated with higher presenteeism rates^{19,22,23,25}.

The main destabilizing factors for the mental health of workers in the present time are related to loss of subjectivity and impaired quality of relationships. Triggers must be identified to preserve the mental health of workers⁵.

The aim of the present study was to investigate the prevalence of presenteeism and its association with self-perceived health among workers at a food processing company in the interior of the state of São Paulo, Brazil.

METHODS

The present cross-sectional, epidemiological and descriptive study with quantitative design was conducted with a population of workers at an industrial company located in the interior of the state of São Paulo. The study was submitted to and approved by the ethics committee of School of Medical Sciences, State University of Campinas (Universidade Estadual de Campinas — UNICAMP) ruling no. 783,058/2013.

There are about 1,800 employees at the analyzed company. Based on the list provided by the department of human resources, employees meeting any of the following conditions were excluded from the study: hired less than one year earlier; on vacation or leave during the study period;

refusal to sign the informed consent form; and missing answers in questionnaires. A total of 1,480 employees were considered to be eligible and were invited to participate in the study; 1,224 employees fully responded the sociodemographic questionnaire and signed the informed consent form. From this group, only the ones who reported having gone to work ill, according to the criterion described in the applied instrument, were asked to respond the second part of SPS-6, which investigates presenteeism. As a result, the final sample comprised 395 participants. The study was conducted on the company's premises at a preset time during the working hours.

The investigator performed data collection on February 2014 through the application of a socio-demographic and morbidity questionnaire developed based on previous studies on the subject of interest, and *Stanford Presenteeism Scale (SPS-6)* formulated by Koopman et al.²⁶, translated and validated for the Brazilian Portuguese language by Paschoalin et al.²⁷; both are self-report questionnaires.

The instrument, described in Chart 1, comprises six questions clustered in two groups for the purpose of analysis:

- questions 1, 3 and 4 address psychological factors and assess the respondents' ability to sustain their concentration during the performance of work ("sustained concentration") — in this case, responding "1- *I strongly agree*" to all three questions represents the worst possible situation;
- questions 2, 5 and 6 investigate the interference of reported health problems with the ability to complete work, i.e., whether the respondents' state of health — usually in association with a physical cause⁶ — interferes with adequate performance of work and achieving goals — in this case, responding "5- *I strongly disagree*" to all three questions represents the worst possible situation, i.e., that the respondent's state of health does interfere with work.

The total score on SPS-6, which ranges from 6 to 30, was obtained by adding the scores of the two groups of questions. Lower scores (6 to 18) denote presenteeism, i.e., reduced performance of work activities. Higher scores denote better performance at work. Each response is scored from 1 to 5, being that in one of the groups of questions scoring is reverse.

A sociodemographic questionnaire was applied to draw the profile of the participants to investigate associations between self-perceived state of health and presenteeism. This questionnaire collected data on: individual characteristics (sex, age, marital status, body mass index — BMI, physical activity and smoking); occupational characteristics (length of work at the company, area/department, job position, length of work at current position, work shift and

Chart 1. Stanford Presenteeism Scale 6.

| SPS-6 | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Please describe your work experiences in the past month. These experiences may be affected by many environmental as well as personal factors, and may change from time to time. For each of the following statements, please check one of the following responses to show your agreement or disagreement with this statement in describing your work experiences in the past month. | |
| Please use the following scale: (1) strongly disagree with the statement (2) somewhat disagree with the statement (3) am uncertain about my agreement with the statement (4) somewhat agree with the statement (5) strongly agree with the statement | |
| 1. Because of my health problem, the stresses of my job were much harder to handle. | <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4) <input type="checkbox"/> (5) |
| 2. Despite having my health problem, I was able to finish hard tasks in my work. | <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4) <input type="checkbox"/> (5) |
| 3. My health problem distracted me from taking pleasure in my work. | <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4) <input type="checkbox"/> (5) |
| 4. I felt hopeless about finishing certain work tasks, due to my health problem. | <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4) <input type="checkbox"/> (5) |
| 5. At work, I was able to focus on achieving my goals despite my health problem. | <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4) <input type="checkbox"/> (5) |
| 6. Despite having my health problem, I felt energetic enough to complete my work. | <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4) <input type="checkbox"/> (5) |
| Note that the words 'back pain', 'cardiovascular problem', 'illness', 'stomach problem,' or other similar descriptors can be substituted for the words 'health problem' in any of these items. | |

schedule); and health conditions (chronic and/or mental diseases; previous sick leaves; presence of physical, mental and/or behavioral symptoms).

The investigator entered the collected data in a Microsoft Office Excel® 2010 spreadsheet. The study population was characterized as per the investigated variables. Statistical tests were performed using *R Core Team software R*. The results were analyzed and compared with the data available in the literature on the subject of interest.

Categorical variables were described as ratios and proportions. Numerical variables were described by means of measures of central tendency and dispersion. The significance level (α) was set to 5%, p-value <0.05 was considered to be significant with 95% confidence interval (95%CI). Differences between proportions were analyzed by means of Pearson's χ^2 test with Yates correction.

RESULTS AND DISCUSSION

All 395 employees who reported having gone to work while ill in the past year responded the questionnaires. As to the sociodemographic characteristics of the sample, men (77%) and married participants/in a stable union (67%) predominated. Most of the women were within age range 21 to 30 years old (53%); among the men, the predominant age ranges were 31 to 40 (40%) and 21 to 30 (39%) years old.

About 67% of the participants were operators, 18% were analysts, 3% supervisors, 3% assistants, 2% managers, 2% specialists, 1% technicians and 2% performed other functions. The average length of work at the company was 5 years and 2 months, and the average length of work at the current position 3 years and 3 months.

The analysis of possible associations between sociodemographic and occupational variables for employees who reported or not presenteeism is described in Table 1.

Assessment of presenteeism by means of SPS-6 followed the criteria formulated by Koopman et al.²⁶, i.e., the scores of groups I (questions #1, #3 and #4) and II (questions #2, #5 and #6) were first calculated separately and then added together to obtain the global score.

The results indicated high prevalence of presenteeism among the employees of the investigated company, i.e.,

the ones who reported having gone to work even when ill in the past 12 months (32%). For 50.9% of such workers the global score on SPS-6 was equal to or lower than 18, therefore indicative of impaired performance at work due to presenteeism.

About 30.6% of the sample scored 3 on group I of questions (concentration ability) which indicates that their concentration ability was impaired by their health problems. In regard to group II of questions, which indicates how much the state of health interferes with the performance

Table 1. Association of sociodemographic and occupational variables with presenteeism among employees at a food processing company in the interior of the state of São Paulo.

| Variables | Non-presenteeism (%) | Presenteeism (%) | p value |
|------------------------|----------------------|------------------|---------|
| Sex | | | |
| Female | 53.6 | 46.4 | 0.28 |
| Male | 46.9 | 53.1 | |
| Age (years) | | | |
| 18 to 25 | 54.1 | 45.9 | 0.76 |
| 26 to 30 | | 49.5 | |
| 31 to 35 | 49.1 | | |
| 36 to 40 | 50.9 | | |
| >40 | 47.5 | | |
| Marital status | | | |
| Married/stable union | 44.0 | 56.0 | 0.78 |
| Single/other | 43.0 | 57.0 | |
| Work schedule | | | |
| 5/2 | 39.4 | 60.6 | 0.08 |
| 6/1 | 46.9 | 53.1 | |
| 6/2 | 38.0 | 62.0 | |
| Length of work (years) | | | |
| <2 | 52.9 | 47.1 | 0.70 |
| 2 to 5 | 50.0 | 50.0 | |
| >5 | 46.0 | 54.0 | |

and completion of tasks, 31.1% of the participants exhibited scores showing that their state of health interfered with their work.

The prevalence of presenteeism found in the present study is similar to the rates reported by other authors. We should observe that the main dimension of presenteeism was associated with reduction of the concentration ability, a Taylorist approach to production (detected at the investigated company) and the organizational characteristics that condition the criteria for promotion and profit sharing distribution (PSD). In addition, work in shifts and insecurity derived from the present economic situation in Brazil and globally stood out among the psychosocial factors. These situations are a source of stress, mental suffering and anxiety, and might affect the health of workers in the long run^{1,2,28-30}.

Also other studies converge on the idea that psychosocial factors might induce high levels of occupational stress as a function of the quality of relationships, support from supervisors and colleagues, job demands and degree of autonomy, and directly influence the prevalence of presenteeism³⁰⁻³². In addition to these factors, also job insecurity has both direct and indirect influence on productivity, and might be considered a predictor of presenteeism as a function of its negative impact on the health of workers^{12,32,33}.

The present study found significant association of lack of practice of physical activity (sedentary lifestyle) and overweight or obesity with presenteeism, as shown in Table 2. Our findings corroborate the results of studies showing that these conditions are some among the main causes of productivity losses^{24,28,34}.

According to the data collected from the 1,224 participants who responded the sociodemographic questionnaire, 58% performed physical activity, with the following frequency: 47% 2 or 3 times per week, 30% 4 to 5 times per week, and 6% 6 or 7 times per week. Among the participants who reported presenteeism, most (59.2%) did not perform any type of physical activity. The differences found were statistically significant, which allows concluding there was association between non-performance of physical activity and presenteeism. There is a positive relationship between physical activity and psychosocial health, whereby the former might represent a potential strategy to reduce presenteeism³⁵.

Only 5% of the participants reported to be smokers, and association was not found between smoking and presenteeism. A study that investigated the correlation between smoking and presenteeism found that smokers missed more days of work and experienced more unproductive time at work³⁶.

The data collected on the participants' body weight and height were used to calculate their BMI. The results showed that 52% of the sample had excess weight, being 13% obese and 1.53% were classified as with morbid obesity. Association was found of overweight and obesity with presenteeism.

A study that investigated the correlation between excess weight and presenteeism evidenced occurrence of musculoskeletal disorders, and also that obese workers exhibited greater tendency to be admitted to hospital

Table 2. Association of habits, body mass index and self-reported symptoms with presenteeism.

| Variables | Non-presenteeism (%) | Presenteeism (%) | p value |
|---------------------------|----------------------|------------------|---------|
| Physical activity | | | |
| Yes | 55.2 | 44.8 | 0.01 |
| No | 40.8 | 59.2 | |
| Smoking | | | |
| Yes | 25.0 | 75.0 | 0.08 |
| No | 50.7 | 40.3 | |
| Body mass index | | | |
| Normal | 54.9 | 54.6 | 0.01 |
| Overweight | 45.4 | | |
| Grade 1 obesity | 46.5 | 53.5 | |
| Cardiovascular symptoms | 47.2 | 52.8 | 0.26 |
| Neuropsychiatric symptoms | 42.0 | 58.0 | 0.18 |
| Gastrointestinal symptoms | 45.1 | 54.9 | 0.27 |
| Musculoskeletal symptoms | 44.8 | 50.9 | 0.04 |

compared to the ones with normal weight³⁷. In a review article on the relationship between obesity and occupational stress, Ribeiro et al.³⁴ reported that high job demands cause stress and increase the need and desire to eat, and also that the obese individuals eat faster in response to irritability at the workplace. Based on these facts, excess weight might be considered to be associated with psychosocial factors of stress at the workplace, as well as with unhealthy behaviors relating to the diet quality and daily calorie intake, which situation is made worse by a sedentary lifestyle.

The following stood out among the symptoms reported by the study participants: headache (17%), musculoskeletal injuries (10%), kidney and skin disorders (both 9%), arterial hypertension (6%), psychiatric conditions (4%), respiratory diseases (4%), arthritis (2%), heart disease (1%) and diabetes (1%). Musculoskeletal injuries most frequently affected the knees (22%), arms (17%), back (17%) and shoulders (13%).

Association was not found between presenteeism and reported symptoms or diseases, however, the prevalence of the former tended to be higher among the employees with the following conditions: diabetes (83.3%), skin problems (62.5%), respiratory illnesses (59.1%) and kidney disease (53.7%).

The symptoms most frequently reported in the literature were clustered into four categories: cardiovascular, neuropsychiatric, gastrointestinal and musculoskeletal. Analysis of the collected data showed that 72% of the participants reported at least one symptom, being that 45% reported neuropsychiatric symptoms, 29% gastrointestinal symptoms, 22% musculoskeletal symptoms and 14% cardiovascular symptoms. Association was found between occurrence of musculoskeletal symptoms and presenteeism ($p < 0.05$).

In regard to the reasons for sick leaves, 16% of the participants reported health-related reasons in association with surgical procedures (27%), conjunctivitis (11%), low back pain (7%) and fractures (95%). Association was not found between smoking and presenteeism.

About 50.8% of the participants reported having gone to work while ill at least one day in the year, which indicates a possible association between this variable and presenteeism. To be sure, this is the true picture of presenteeism, i.e., going to work even while ill. Half of all the workers in

the United States admitted going to work even while ill one to four days in the year⁷.

Most participants (72%) reported to feel tired often or sporadically after one day at work. However, no significant associations were found for this variable.

In regard to the self-perceived state of health by comparison to same-age individuals, most participants rated their health as excellent or good. This finding disagrees from the ones of a study on self-perceived state of health conducted with employees from a metallurgy company in southern Brazil, which found that negative self-perceived health was associated with occurrence of chronic diseases³⁴.

Among the limitations of the present study, cross-sectional application of the instrument and use of self-report data stand out, as in such case information bias is a relevant constraint, the number of analyzed variables notwithstanding. As a function of the characteristics inherent to cross-sectional studies, facts and exposures are collected simultaneously; this allows establishing associations, but not causal relationships.

CONCLUSION

The prevalence of presenteeism among the analyzed employees who reported to having gone to work while ill in the past 12 months (30.9%) was 50.9%. The cognitive performance of such workers (concentration ability) was the aspect most influenced by their state of health and represented the largest contribution to the occurrence of presenteeism. This to say, the results showed poorer concentration ability among the employees of the investigated company, which adopts a Taylorist approach to production.

Association was found between presenteeism and non-performance of physical activity, overweight or obesity and occurrence of musculoskeletal symptoms. Presenteeism was detected for all job positions at the investigated company: managers, specialists, supervisors, analysts and operators.

The results of the present study confirm the relevance of the subject addressed and the negative impact of presenteeism on the health of the employees of the investigated company.

The work process adopted and the Taylorist management style contributed to the results obtained. Communication of the results and discussions with the company managers might contribute to the formulation of policies for management of the psychosocial factors at work and of intervention

programs to improve the health and work conditions in the industry sector.

The main limitation of the present study is its cross-sectional design; longitudinal follow up of the study subjects might enable comparisons and establishing associations.

REFERENCES

- Selligmann-Silva E. Presenteísmo em diferentes países. *Rev Proteção*. 2011 [cited Dec 13, 2013]. Available from: http://www.protecao.com.br/noticias/geral/presenteismo_em_diferentes_paises/Jay5AAja
- Cooper C. Presenteeism is more costly than absenteeism. *HR Magazine*. 2011 [cited Apr 06, 2014]. Available from: <http://www.hrmagazine.co.uk/hro/features/1019355/presenteeism-costly-absenteeism>
- Farias SNP, Zeitoune RCG. A interferência da globalização na qualidade de vida no trabalho: a percepção dos trabalhadores de enfermagem. *Esc Anna Nery*. 2004;8(3):386-92.
- Calderero ARL, Miasso AI, Corradi-Webster CM. Estresse e estratégias de enfrentamento em uma equipe de enfermagem de Pronto Atendimento. *Rev Eletron Enferm*. 2008 [cited Apr 07, 2014];10(1):51-62. Available from: <https://www.revistas.ufg.br/fen/article/view/7681>
- Hemp P. Presenteeism: at work - but out of it. *Rev HBR*. 2004;82(10):49-58.
- Quazi H. Presenteeism: the invisible cost to organizations. London: Palgrave MacMillan; 2013.
- Milano C. Being there: can coming to work be a risk? *Risk Managem*. 2005;52(11):30-4.
- Lowe G. Here in body, absent in productivity: presenteeism hurts output, quality of work-life and employee health. *Canadian HR Reporter*. 2002;2:1-2.
- Araújo JP. Afastamento do trabalho: absenteísmo e presenteísmo em uma Instituição Federal de Ensino Superior [dissertation in Health Science]. Brasília: Universidade de Brasília; 2012.
- Aronsson G, Gustafsson K. Sickness presenteeism: prevalence, attendance-pressure factors, and an outline of a model for research. *J Occup Environ Med*. 2005;47(9):958-66.
- Elstad JI, Vabo M. Job stress, sickness absence and sickness presenteeism in Mordic elderly care. *Scand J Public Health*. 2008;36(5):467-74.
- Hansen CD, Andersen JH. Going ill to work - What personal circumstances, attitudes and work-related factors are associated with sickness presenteeism? *Soc Sci Med*. 2008;67:956-64.
- Dew K, Keefe V, Small K. Choosing to work when sick: workplace presenteeism. *Soc Sci Med*. 2005;60:2273-82.
- Caverly N, Cunningham JB, Macgregor JN. Sickness presenteeism, sickness absenteeism, and health following restructuring in a public service organization. *J Management Studies*. 2007;44(2):304-19.
- Preziotti S, Pickett K. New national survey shows employees feel pressured to go to work despite being sick with flu. Maryland: Bethesda; 2006.
- Ramsey RD. Presenteeism: a new problem in the workplace. *Supervision*. 2006;67(8):14-7.
- Mckevitt C, Morgan M, Dundas R, Holland WW. Sickness absence and "working through" illness: a comparison of two professional groups. *J Public Health Med*. 1997;19:295-300.
- Medibank Private Limited. Sick at work: the cost of presenteeism to your business, employees and the economy. Canberra: Medibank, 2011 [cited Nov 2013, 28]. Available from: www.medibank.com.au/client/documents/pdfs/sick_at_work.pdf
- Ruez P. Quality and bottom-line can suffer at the hands of the working sick. *Managed Healthcare Executive*. 2004;14(11):46-8.
- Chapman L. Presenteeism and its role in worksite health promotion: practical information to make programs more effective. *Am J Health Promot*. 2005;19(4):S1-8.
- Goetzel RZ, Long SR, Ozminkowski RJ, Rutter KR, Isaac F, Wang S. The long-term impact of Johnson & Johnson's Health & Wellness Program on employer health risks. *J Occup Environ Med*. 2002;44(5):417-24.
- Cocker F, Martin A, Scott J, Venn A, Otahal P, Sanderson K. Factors associated with presenteeism among employed Australian adults reporting lifetime major depression with 12-month symptoms. *J Affect Disord*. 2011;135:231-40.
- Prochaska JO, Evers KE, Johnson JL, Castle PH, Prochaska JM, Sears LE, et al. The well-being assessment for productivity: a well-being approach to presenteeism. *J Occup Environ Med*. 2011;53(7):735-42.
- Ashby K, Mahdon M. Why do employees come to work when ill? An investigation into sickness presence in the workplace. London: AXA PPP Healthcare; 2010 [cited Dec 13, 2013]. Available at: <http://www.istas.ccoo.es/descargas/FINAL%20Why%20do%20employees%20come%20to%20work%20when%20ill.pdf>
- Gollac M, Bodier M. Mesurer les facteurs psychosociaux de risque au travail pour les maîtriser. Rapport du Collège d'Expertise sur les risques psychosociaux au travail. Paris: Collège d'Expertise; 2011.
- Koopman C, Pelletie, K, Murray JF, Sharda CE, Berger ML, Turpin RS et al. Stanford presenteeism scale: health status and employee productivity. *J Occup Environ Med* 2002;44(1):14-20.
- Paschoalin HCS, Griep RH, Lisboa MTL, Mello DCB de. Adaptação transcultural e validação para o português brasileiro do Stanford Presenteeism Scale para avaliação do presenteísmo. *Rev Latino-Am Enferm*. 2013;21(1):388-95.
- Lucca SR. Aplicação de instrumento para o diagnóstico dos fatores de risco psicossociais nas organizações. *Rev Bras Med Trab*. 2017;15(1):63-72.
- Prado CEP. Estresse ocupacional: causas e consequências. *Rev Bras Med Trab*. 2016;14(3):285-9.

30. Hertz RP, Unger AN, McDonald M, Lustik MB, Biddulph-Krentar J. The impact of obesity on work limitations and cardiovascular risk factors in the U.S. Workforce. *J Occup Environ Med.* 2004;46(12):1196-203.
31. European Agency for Safety and Health at Work. Managing psychosocial risks with cleaning workers. Santiago de Compostela: OSHA; 2010 [cited Feb. 12, 2014]. Available from: http://www.osha.mddsz.gov.si/resources/files/pdf/51_Managing-risks-cleaningworkers.pdf
32. European Foundation for the Improvement of Living and Working Conditions. Fifth European Working Conditions Survey. Dublin: Eurofound; 2012 [cited Apr 23, 2014]. Available from: https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1182en.pdf
33. Aronsson G, Gustafsson K. Sickness presenteeism: prevalence, attendance-pressure factors, and an outline of a model for research. *J Occup Environ Med.* 2005;47(9):958-66.
34. Ribeiro TD, Signoretti VT, Moraes GFS. Custo social das más condições de trabalho na indústria da construção civil. *R Laborativa.* 2013;2(1):1-14.
35. Brown HE, Gilson ND, Burton NW, Brown WJ. Does physical activity impact on presenteeism and other indicators of workplace wellbeing? *Sports Med.* 2011;41(3):249-62.
36. Bunn WB 3rd, Stave GM, Downs KE, Alvir JM, Diran R. Effect of smoking status on productivity loss. *J Occup Environ Med.* 2006;48(10):1099-108.
37. Höfelmann DA, Blank N. Excesso de peso entre trabalhadores de uma indústria: prevalência e fatores associados. *Rev Bras Epidemiol.* 2009;12(4):657-70.

Corresponding address: Beatriz Machado de Campos Corrêa Silva - Rua Sebastiana Leite de Barros, 365, Parque Avenida I - CEP: 13482-249 - Limeira (SP), Brazil - E-mail: beatriz-correa@uol.com.br