

Musculoskeletal complaints and their associations with health and work-related factors: a cross-sectional study in a beverage company

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ABSTRACT

Musculoskeletal disorders in workers may be associated with individual, physical / biomechanical, psychosocial, cognitive and organizational risk factors. We analyzed the association of self-reported pain with other variables in one hundred workers at a beverage company by Fisher's Exact Test and logistic regression/ Odds Ratio (OR)($p < 0.05$, 95%Confidence Interval). 57% participants reported low back pain; by Nordic Questionnaire and 38% by Corlett's Body Map of moderate intensity. Association was found for age, time in function, absenteeism, and not adherence to workplace exercises. SF-36 questionnaire Functional Capacity, Physical Aspects, Social Aspects, Mental Health, Pain and General Health Status, Work Ability Index questionnaire and Need for Recovery Scale also contributed. Musculoskeletal pain/discomfort was most related to back, regardless the type of work. It was associated with individual, physical/biomechanical and psychosocial risk factors.

Keywords: Pain; Risk Factors; Musculoskeletal Disorders; Assessment; Association

OBJECTIVES

This study aimed to describe the prevalence of musculoskeletal pain and discomfort and to analyze the association of individual, physical / biomechanical, psychosocial, cognitive and organizational risk factors in a beverage company which offers workplace exercises as part of its quality of life program.

METHODS

This was an observational and cross-sectional study in a convenience sample of a beverage company. This study was approved by the Local Ethical Committee. All participants were instructed to answer a sociodemographic questionnaire with items related to age, sex, lifestyle and occupational aspects.

The questionnaires Medical Outcome Study 36-item Short Form (SF-36); Nordic Questionnaire; Corlett's Body Map; Work Ability Index (WAI); Need for Recovery Scale (NRS) and Quick Exposure Check (QEC) were collected. To verify the association between qualitative variables, the data were submitted to Fisher's Exact Test. The quantification of this association was measured using logistic regression models by Hosmer and Lemeshow (1989), where the gross Odds ratio was calculated with their respective 95% confidence intervals. All statistical analyzes were performed using the SAS statistical software.

RESULTS

Table 1. Socio-demographic data (n=100)

Men	69%
Mean age	33.76 years (8.51 years)
BMI normal	60%
Workers that did not perform lifting, transportation or handling of loads	51%
Practice physical activity	41%
Classes in workplace exercises	55%

Figure 1. Interval Plot (mean and confidence Interval with 95%) from domains of SF-36 questionnaire, related to pain.

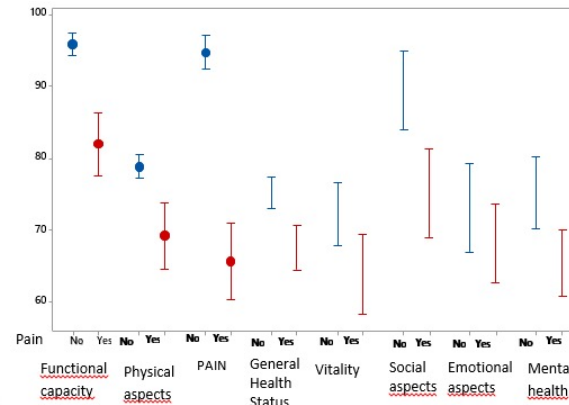


Table 2 Frequency, Fisher's Exact Test and logistic regression related to self reported pain.

		Pain		Total	P-value*	Raw Odds Ratio (CI 95%)
		No (43%)	Yes (57%)			
		n (%)	n (%)			
Age (years)						
40 a 60		3 (15.79)	16 (84.21)	19 (100.00)	0.006	7.40 (1.87; 9.25)
Time in function (years)						
More than 5		8 (26.67)	22 (73.33)	30 (100.00)	0.021	4.12 (1.43; 11.84)
Absenteeism due to musculoskeletal diseases						
Yes		6 (16.22)	31 (83.78)	37 (100.00)	<0.001	7.35 (2.68; 20.14)
Workplace exercises						
No		13 (28.89)	32 (71.11)	45 (100.00)	0.014	2.95 (1.28; 6.80)
Work Ability Index (WAI)						
Reduced		5 (13.16)	33 (86.84)	38 (100.00)	<0.001	10.45 (3.58; 30.47)
Need for Recovery Scale (NRS)						
Moderate /High		9 (25.00)	27 (75.00)	36 (100.00)	0.006	3.40 (1.38; 8.36)

CONCLUSIONS

The area most affected by pain in these workers was the lower back, both for functions that required lifting, transporting and handling loads, and for those that did not involve such activities. The musculoskeletal pain / discomfort found in the workers was associated with individual, physical and psychosocial risk factors, reducing quality of life, capacity for work and increasing the need for rest between working hours.

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