Musculoskeletal disorders prevalence in Nurses – a genders comparative study

Pedro Ferreira Reis, Jansen Atier Estráuzulas, Cleangela Mendes Andrade Reis, Priscila Reis, Osni J. Silva, Antonio Renato Pereira Moro
Paulista Universaty - UNIP

Introduction: the work environments of brazilian hospitals has provided to employees a significant situations of morbidity and mortality. The low back pain in hospitals is increasing by the time. In this sense, the most affected is the Intensive Care Units (ICUs) and Medical Clinic, where the workers have to do force to transfer and transport the patients with high body mass. This environment when ergonomically incorrect, will provide to nurses a risk to develop the musculoskeletal disorders. Purpose: This study purpose to analyze the influence of gender on complaints and discomforts, and the relationship with handgrip strength in workers at West Paraná’s hospital, in Brazil. Method: The sample was established with the participation of 60 professional nurses (37 nurses and 23 technicians of nurse), 30 were male (35.7 ± 7.2 years old) and 30 females (34.7 ± 7.1 years old). The evaluation of discomfort and pain body was performed using Corlet diagram. The handgrip strength was measured by the Association of hand therapy’s protocol, using the Jamar dynamometer, regulated in the third position, with the subject sitting without support for the trunk and arms in 90 degrees position, being held in dominant hand (DH). The organizational data were collected using a questionnaire. Analyze statistics were performed with Bioestatic 5.0 program, being conducted descriptive statistics and the chi-square test (p = 0.05) for analysis of the regions of the discomforts. Have to check the strength difference between genders was used "t" test of Student (p = 0.05). Results and Discussion: it was found that 100% of surveyed workers need to use force during the performance of work tasks, highlighting the changing of patient positions, transfer and transport which showed a body weight ranging from 40 to 110 kg. Regarding handgrip strength males showed 43.8 kgf (± 4.57) and females 28.9 kgf (± 2.51), with a significant difference in strength handgrip between males and females (t = 3.51≥0.05). Thus we found that women showed a percentage of grip strength of 43.14% lower than male gender. Thus it was possible to understand that in work involving the use of force, men and women should have a differential treatment in respect of work organization. As for discomfort and pain, the male and female gender presented in the cervical region (♀ 52% ♂ 37%), shoulders (♀ 41% ♂ 33%), chest (♀ 59% ♂ 35%), elbow (♀ 7.8 % ♂ 4.8%), hand / wrist (♀ 20.5% ♂ 15.5%), low back (♀ 70.2% ♂ 60.2%), hip (♀ 28.3% ♂ 37.4%), thighs (♀ 27.8% ♂ 12.3%), knees (♀ 50.3% ♂ 40.1%) and ankles / feet (♀ 41% ♂ 36.2%). According to data of the discomforts, we found that the men had rates of discomfort/pain lower than females, except in the hip region, which can be explained by the female anatomy, present a wider hip in compared to males. Conclusion: We conclude with this research that this environment contributes to the musculoskeletal disorders. The results showed that in work that needs force, like in the hospital case, that has an activities with handling of patients, which involve relocation and transportation should respect the physiological differences between males and females. In this sense, the organizational ergonomics is the key to improve the right activities, providing to all employees a healthy environment, more comfortable and humane.

Keywords: musculoskeletal disorders; gender; nurses.