

## Relation between musculoskeletal pain and postural habits in female students of elementary school

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### Abstract

School age children's physical structure is in constant development. Besides changes felt in height and body weight, mostly because of individual experiences, children's posture also shifts (Dusing & Harbourne, 2010). Children's bad postural behaviors is considered to be one of the main risk factors contributing to musculoskeletal disorders felt in adulthood (Desouza & Gagulic, 2017). This is why Bracciali and Vilarta (2000) claim the necessity of establishing early preventive measures and propose the introduction of health education programs, which can influence the physical health of children. These programs should be included in the curricula of Physical Education in order to incorporate exercises aiming at the improvement of the corporal self-consciousness in children. This paper aimed to present a study that analyzed the relation between musculoskeletal pain and postural habits adopted by 5th and 9th school grade female students. Our sample consisted of 104 female subjects, divided in 57, 5th grade and 47, 9th grade students, with ages between  $10.58 \pm 0.653$  and  $14.55 \pm 0.653$ , respectively. This study took one month for participant selection process, personal identification questionnaire completion and musculoskeletal pain assessment according to Body Discomfort Scale (Corlett & Bishop, 1976) in order to verify and categorize the pain by subjects. Musculoskeletal pain occurrence among 5th school grade students was 82.5%, with an average intensity of  $2.49 \pm 0.99$ . When it comes to its duration, 21.1% of the subjects claim to have experienced chronic episodes, 35.1% acute, while 26.3% subacute episodes of pain occurred. On the other hand, when it comes to 9th grade school age children (3rd Basic Education Cycle, ending) the amount that claim to have experienced some kind of pain occurrence was lower (74.5%), but the average pain intensity ( $2.69 \pm 0.83$ ) and its duration (46.8% chronic, 10.6 acute and 17.0 subacute episodes) were higher. Regarding postural habits, 84.8% of the participants that stated to adopt bad ones, presented a mean experienced pain intensity of  $2.63 \pm 0.927$ , significantly higher ( $p=0.004$ ) than the ones that claimed to adopt good postural habits, with  $2.00 \pm 0.816$  mean experienced pain intensity episodes.

The postural habits of children are affected by several aspects that are determinant for musculoskeletal development, especially in the period of osteoarticular growth, where appropriate or inappropriate patterns of posture can be determined in childhood and practiced in adolescence, and may become incorrect postural habits (Desouza & Gagulic, 2017). Major findings point out for a moderate to severe pain prevalence in subjects with bad postural habits. When it comes to older (9th grade) students, our study revealed they presented a higher chronicity level of pain. The results of the study may be useful for future research and help in the development of intervention programs related to postural education and school health exercise programs as a way to prevent or treat early changes/deviations, such as the back-school program (Zachrisson, 1981), which is considered one of the mainstream postural preventive strategies, aimed to prevent musculoskeletal back pain problems in children and adults.

**Keywords:** musculoskeletal pain, postural habits, body discomfort scale

### References

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