

OCS2: FREE THEME

Moderador: Rubim Santos (ESTSP.IPP)

OC6: Determination of maximum acceptable weight of schoolbag carriage in one shoulder

Helena Soares¹, Isabel Loureiro^{2,1}, Diana Silva¹, Matilde A. Rodrigues¹

¹Department of Environmental Health, Research Centre on Health and Environment, School of Allied Health Technology of Polytechnic Institute of Porto, Vila Nova de Gaia, Portugal

²Centre ALGORITMI. School of Engineering of the University of Minho. Guimarães, Portugal

Presenting author: mar@estsp.ipp.pt

Introduction: Pain and discomfort are prevalent symptoms among children and adolescents in school age. Carrying heavily loaded schoolbags or carrying it improperly, such as in a single shoulder, has been related to this symptomatology. In view of this, it is important to better understand the students' perceptions about what they consider to be a safe weight to carry.

Objectives: Determination of maximum acceptable weight (MAW) and the rate of perceived exertion (RPE) for the task of schoolbag carriage in one shoulder.

Materials and Methods: This study included a total of 128 students. The students were instructed to put in the schoolbag the maximum amount of books that they believe be able to carry comfortably in the requested task and then, they performed the task for 10 min. During the task, they were asked to adjust the load weight by themselves. The MAW was estimated at the end of the task. A questionnaire was filled to determine the RPE.

Results and Discussion: The average of MAW achieved was 4.0kg (sd=1.4), which represents 7.7% of the students' body weight. Differences were found between genders (U=1556, p<0.05), where higher MAW was identified for males. These results are close of the recommendations for the schoolbags carriage with two shoulders, showing that students have low perceptions about the risk of the carriage with one shoulder.

Conclusion: This study results suggest that students do not have a correct perception about the risk of carry the schoolbag in one shoulder, which can lead them to carry too heavy weights every day.

References

1. Trevelyan, F.C., & Legg, S.J. (2006). Back pain in school children—Where to from here? *Applied Ergonomics*, 37, 45–54.
2. Iyer, S. (2001). An ergonomic study of chronic musculoskeletal pain in schoolchildren. *The Indian Journal of Pediatrics*, 68(10), 937-941.