Relationship between the use of new technologies and musculoskeletal symptoms in children and adolescents

Paula C Santos [1,2], Sofia Lopes [1,3,4], Rosa Oliveira [1], Helena Santos, Jorge Mota [2], Cristina Mesquita [1,4]

1 Department of Phisioterapy, School of Allied Health Technologies, Polytechnic Institute of Porto, 4050-313 Porto, Portugal;

2 Research Centre in Physical Activity, Health and Leisure, Faculty of Sport, University of Porto, 4050-313 Porto, Portugal;

3 Escola Superior de Saúde de Vale de Sousa, 4585-116 Gandra, Portugal;

4 Centro de Estudos do Movimento e Atividade Humana, Escola Superior de Saúde, Instituto Politécnico do Porto, 4200-072 Porto, Portugal

Correspondence: Paula C Santos (paulaclara@ess.ipp.pt)

Background

Childhood and adolescence are determinants of musculoskeletal de-velopment, and the attitudes and habits adopted during these pe-riods can have repercussions in adult life. The increasing use of technologies is becoming more worrying due to the sustained and prolonged postures due to the use of these devices and the conse-quent impact on musculoskeletal health.

Objective

This study analyzes the relationship between the use of new tech-nologies with musculoskeletal symptoms (MSS) in children and adolescents.

Methods

Cross-sectional study with a sample of 460 students aged between 10 and 18 years. Data were collected through a questionnaire that in-cluded the Nordic Musculoskeletal Questionnaire.

Results

98.5% of students reported the used a mobile phone, 84.3% laptop and 52.4% tablet. Only 50.0% of the individuals who used mobile phones, 48.5% of the laptop and 31.1% of the tablet considered having a correct posture during the use of these technologies. We verified that the individuals with MSS showed more times of use of new technolo-gies than individuals without MSS. There were differences in the time (min/day) of mobile phone and laptop use among children and adoles-cents,

respectively 102.6 ± 121.47 vs 205.8 ± 175.89 ($p < 0.001$) and 74.0 ± 78.08 vs 117.9 ± 127.26 ($p < 0.001$).

Conclusions

Most students use new technologies in their daily lives, with less than half of them considering using these technologies in the right posture. It was also verified that individuals with MSS used more times new technologies than individuals without MSS. The time of use of new technologies increases with the age.

Keywords

New technologies, Musculoskeletal symptoms, Children and adolescents.