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MOVE MORE, HURT LESS? A COMPARATIVE STUDY OF LOW BACK PAIN AND PHYSICAL ACTIVITY AMONG UNIVERSITY STUDENTS

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Low back pain is a prevalent health problem worldwide, posing a significant burden. Its multifactorial etiology necessitates identifying population groups at increased risk. University students may represent such a group, particularly those exposed to contrasting physical demands, such as physiotherapy and administration students.

Goal: To compare physical activity levels, as well as the frequency and intensity of low back pain, between physiotherapy and administration students. Additionally, the study examined associations between pain, physical activity, and anthropometric parameters.

Methods: A total of 100 participants aged 20–25 years were enrolled, including 50 physiotherapy students (22.78±0.91 years) and 50 administration students (21.98±1.33 years). Physical activity was assessed using the Global Physical Activity Questionnaire (GPAQ). Pain intensity was measured with the Visual Analogue Scale (VAS), and disability related to back pain was assessed with the Quebec Back Pain Disability Scale (QBPDS). Anthropometric measurements included height, weight, BMI, WHR, and WHtR.

Results: Administration students reported significantly higher levels of back pain and disability (QBPDS: 9.28±6.95 vs. 3.02±3.94; VAS: 2.3±1.38 vs. 1.0±1.46; $p<0.001$). Physiotherapy students demonstrated significantly higher physical activity levels (MET: 6547.6±6490.25 vs. 1334.4±2655.97; $p<0.001$) and spent less time in sedentary behavior (205.5±103.16 vs. 270.1±110.84 minutes/day; $p<0.01$). No significant differences were observed in anthropometric parameters between the groups. Correlation analyses revealed no significant associations between pain intensity and physical activity or anthropometric indices in either group, except for a weak positive relationship ($R=0.289$; $p=0.04$) between disability and sedentary time among administration students.

Discussion and conclusions: Students with a predominantly sedentary lifestyle exhibit higher levels of low back pain and related disability compared to more physically active peers. However, physical activity and anthropometric measures were not significantly associated with pain intensity. These findings highlight the importance of reducing sedentary behavior in prevention strategies targeting low back pain among young adults.

References:

1. Castro, O., Bennie, J., Vergeer, I., Bosselut, G., & Biddle, S. J. H. (2020). How sedentary are university students? A systematic review and meta-analysis. Prevention Science, 21(3), 332–343.

2. Howie, E. K., McVeigh, J. A., Smith, A. J., & Straker, L. M. (2020). Physical activity trajectories from childhood to late adolescence and their implications for health in young adulthood. Preventive Medicine, 139, 106224.

3. Li, Y., Yan, L., Hou, L., Zhao, X., Liu, J., & Wang, X. (2023). Exercise intervention for patients with chronic low back pain: A systematic review and network meta-analysis. Frontiers in Public Health, 11, 1155225.

4. Maruszczak, K., Kielar, A., Kasprzak, M., Kasperek, W., & Kochman, M. (2023). Adolescents' nutritional status and its association with physical fitness, physical activity attitudes, and sleep duration. Archives of Physiotherapy and Global Researches, 26(1), 13–20.

5. Zovko, V., Djuric, S., Sember, V., & Jurak, G. (2021). Are family physical activity habits passed on to their children? Frontiers in Psychology, 12, 741735.

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