LOW BACK PAIN IN RELATION TO DIFFERENT TYPES OF PHYSICAL EXERCISE IN ADOLESCENTS

Auvinen Juha¹, Tammelin Tuija², Taimela Simo³, Zitting Paavo¹, Mutanen Pertti², Karpinnen Jaro¹

(University of Oulu¹, Finnish Institute of Occupational Health², University of Helsinki³, Finland)

Competitive sports training and high overall level of physical activity are considered risk factors for low back pain in adolescence. Types of exercise that are harmful for the growing back due to excessive loading should be recognized in order to prevent back disorders among physically active adolescents. Furthermore, potentially beneficial forms of exercise that strengthen the back without loading it excessively should also be identified.

This study examined the associations between participation in different types of physical activity and low back pain in general population of physically active adolescents. This population-based study included the members of the Northern Finland Birth Cohort 1986, who at the age of 15 to 16 years completed a questionnaire including items about their low back pains and participation in various physical activities (N=6945). Logistic regression analysis was used to evaluate how low back pain associated with a) participation in a certain type of sport and b) with the physical activity clusters formed by latent class analysis (LCA) according to the adolescents' profiles of participation in different sports.

Participation in certain sports showed some direct and inverse associations with low back pain when adjusted for participation in other sports. In girls, frequent gym training, dancing, or gymnastics associated with higher prevalence of low back pain, and aerobics or cross-country skiing associated with lower prevalence of low back pain. In boys, frequent gym training or basketball associated with higher prevalence of low back pain. However, in practice, physically active adolescents were engaged in several different sports. After grouping the individuals into clusters by their natural participation in different sports, no significant difference was observed in self-reported low back pain between the clusters. Natural engagement in several different sports makes the associations between single sports and low back pain inconsequential in the general population of adolescents. Participation in several sports seemed to protect from harmful effects of a single risk exercise. However, this finding cannot be generalized to adolescent elite athletes who often are involved in intense training for a single sport.

Keywords: Low Back Pain, Adolescents, Physical Activity