

## **Cortisol concentration in the saliva of horses and riders taking part in the discipline of show jumping**

### **Summary**

Stress is a phenomenon whose effects in the body include increased secretion of cortisol, a glucocorticoid hormone produced by the adrenal cortex. Participation in show jumping competitions generates stress in horses as well as in their riders. It was therefore hypothesized that an emotional relationship and mutual induction of stress-generating processes takes place between the rider and the horse. The aim of this study was to analyse changes in the cortisol concentration in saliva samples taken from riders and horses competing in show jumping. The study was conducted on 38 horses and 38 riders in the senior age category. The competitors included 11 women and 27 men. The group of horses consisted of 17 stallions, 16 geldings and 5 mares. Cortisol concentration, expressed in nmol/l, was determined by the immunoenzymatic method with reagents from the ELISA SLV-4635 kit. The results were analysed statistically by multifactorial analysis of variance according to the ANOVA GLM model. Significance of differences was determined by Tukey's t-test. Correlations between features were described using Pearson's correlation coefficients. The correlation between the level of cortisol in horses and the level in their riders was found to be minor, and was only observed in the post-exertion period in the group of men, in horses above the age of ten years, and in mares—in these cases one-way dependencies can be expected—and in the group of women, but with mutual dependencies. The results can be used in choosing a horse to suit the individual needs of the rider.

**KEY WORDS: stress, cortisol, saliva, rider, horse**