SUMMARY

Subject: The knowledge of the sport performance structure with individual identification of the sport training model is a prerequisite for the effective management of sport training. Achieving the sports top limit performance in sport is possible by adapting the training plan to the athlete's individuality by his physiological and psychological prerequisites. To achieve the highest sports performance, sports training analysis is an indispensable tool for international competitiveness. This case study deals with the description of sports training models identified by the composition and dynamics of the training load predictors. A retrospective longitudinal study provides with insights into the possibilities of influencing sports training, which made national, Czech, records on the course of 800 m men and 3,000 m of women's steeplechase. Probandé (n=2) at the age of 21 (runner 1) and 28 resp. 29 years old (runner 2) reached limiting sports performances. The track record dates originates from 1995 to 2012. Runners were participants or medalists from top world or European athletic competitions.

Objectiv: The aim of the thesis is to identify retrospectively through the found predictors, by whom were reached limit sports performance and sporting performance in the middle distances run.

Methods: The identification of models comprised of predictors - training devices (OTU no=10; STU ns=11) was performed by multiple linear regression. The data of the longitudinal case study were acquired by both the coach and the athlete for the duration of the runner's sports career. The personal maxima of the probands are simultaneously the national maxims of the Czech Republic: (runner 1 = 800 m - 1:45.97i min or 1:45.06 min; runner 2 = 3 000 m steeplechase - 9:41.73 min). Athletic performance of probands is recorded in long-term athletic tables of TIM, EAA European Athletics Tables and IAAF World Athletic Tables. The data processing format (Excel 2010 spreadsheet) were selected according to the customs and terminology used in the Czech Republic. To determine the normality of the data, we performed Shapiro - Wilk's normality test. The impact of predictors in performance models in runtime (time) was assessed by statistical and material significance $p \leq 0.05$; effect size $\alpha \geq 0.50$). For the correlation analysis we used the multiple linear regression method and the Pearson correlation coefficient.

Results and conclusions: By retrospective analysis we identified the training load models that achieved limiting sports performance and sports performance in middle runs. Matching in

4 predictors was identified in the models. 4 predictors identified in models of both probands: ST (special pace / mileage), OV (general endurance / mileage), SUMA (total mileage), and CIRCLE TRAINING (number of round training units). Runners 1(800 m) the predictors were: the number of training units, the number of days of the disease, the number of kilometers at a special rate of 800 meters, the number of kilometers in the tempo of endurance (1,500 m), the number of kilometers in general endurance, total mileage and number of hours of specialized round trips. Achievement of limiting sports performance for runners 2 (3,000 m steeplechase) was influenced by predictors: the number of training days at higher altitude, mileage at special tempo, mileage at ANP level, mileage in general endurance, mileage of sloping slopes, kilometers, the number of hours of specialized circular training. By analyzing the dynamics of the training load (MIKRO, MEZO, MAKRO) and seasonal maxims (winter and summer), we described the way in which limit sports performance was achieved. We observe that multiple linear regression methods can describe sport training models by identifying and predicting training load predictors. From the results of the analysis of the models of sports training, we emphasize the finding in the identification of 4 predictors on the edge of the track spectrum (800 m, 3 000 m steeplechase) despite the gender difference of the research group (n=2, male / female).

Key words: elite runners, limit sport performance, retrospective analysis, general and special training indicators