Influence of specific training means and dynamics of exercise parameters in learning technical elements of women's artistic gymnastics

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Abstract

Background. The paper deals with the scientific argument which describes the influence exerted by specific training stages and the dynamics of exercise parameters whereby, ensuring an optimal relation between the practice of the technical elements, conforming with the classification program, and the international Code of Points, will contribute to exercise capacity increase and to an overall training level improvement.

Aims. The authors present the influence of a specific training program and exercise dynamics in performance artistic gymnastics. We felt that by ensuring an optimal relationship between the content of the specific training program and the number of reps on different apparatus depending on the athlete's training level and on the training objectives will help to increase the exercise capacity and improve training.

Methods. This approach has led to a case study conduct in the School Sports Club No.7 Dinamo Bucharest. The study was conducted throughout the basic stage and pre-competitive training period (05.07 - 06.09.2010), formed of 8 training microcycles, applied to one female gymnast 23 years old, senior category level. The gymnast's evolutions were registered during the preparatory training stages, using statistical-mathematical and graphical representation methods.

Results. The study points out the influence exerted by the specific training means and the effort parameters dynamics in learning the technical elements of performance artistic gymnastics. The comparative analysis of the relationship created between the training used in basic and pre-competitive mezzo-cycles highlights an increase of 9 at vaults, a diminution by 17 at uneven parallel bars, an increase of 5 at beam and an increase of 4 on the floor. As for the relationship of the reps number during the basic and pre-competitive training mezzo-cycles, the following decreases were noticed: vaults - a decrease of 39 reps, parallel uneven bars - 210 reps, beam - 84 reps and floor - 93 reps. The results of the statistical-mathematical calculations regarding the relation of the specific training means per workout and the effort volume throughout the training stages show the diminution of the arithmetical average in pre-competitive period by: 1.41 means per training session, 5 training, 56.29 total number of reps, 426 reps number during the training and significant differences between the number of means per workout and the total number of reps at $p<0.01$.

Conclusions. Ensuring an optimum relationship between the content of the specific training means and the number of reps on different apparatus, depending on the athlete's training level and the training objectives, contributes to an increased exercise capacity and improved training level.

Keywords: artistic gymnastics, exercise, means, learning, training, case study.