Structure and evolution trends of the external load in uneven bars. Analysis of the rotations in competition routines

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Although the Artistic Gymnastics is referred as a sport associated to high volumes and intensities of training, there are few objective studies to support these conclusions. Purpose of the present study was to characterize and evaluate external load trends in high level uneven bars routine, based on the rotations analysis. Through the observational methodology, we constructed and validated an observation category comprising thirteen variables considered as indicators of the external load in uneven bars. We observed 83 uneven bars routines from world championships and Olympic games finals between 1989 and 2004. As main results we observed significant increases in forward and backward rotations in support, in longitudinal rotations in support, direct rotations of 360º and in “in bar” elements with longitudinal rotation. We may conclude that: a) gymnasts executed much more backward than forward rotations on the transversal axis in support and in aerial phase; b) volume of the rotations on the longitudinal axis in support position presented a big evolution, increasing the complexity of the movements; d) In the present gymnasts don’t execute any longitudinal rotation in hang position.

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