Applied Research of training session RPE and blood lactic acid of Elite Woman Wrestlers before Competitions

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Objective By testing and analyzing the training session RPE, blood lactic acid, urine protein, urine specific gravity and urine pH value of elite woman wrestlers, investigated variation and score differences of the elite woman wrestlers ' five indicators during the four weeks before the elite woman wrestlers championship, to provide a reference for scientific training.

Methods 12 elite woman wrestlers completed 24 special training session, 16 strength training session and 12 cardio workout session before four weeks in the elite woman wrestlers championship. The degree of fatigue of athletes in this section were scored within 5 minutes after the end of each training session using Borg 15 subscales, scores were dictated and record. Training session RPE was calculated by the training session time multiplied RPE, daily and weekly training session RPE (sRPE) was counted respectively. The blood lactic acid after intensive training and the daily urine protein, urine specific gravity , urine pH value of elite woman wrestlers were tested using EKF lactateScout appearance of portable blood lactate and blood lactic acid test strip and using Roche Miditron Junior IIsemi-automatic urine analyzer and supporting Comber 10 test M urinary ten test strip, in accordance with standard test procedures.In this study, the measured indicators were analyzed statistically by SPSS19.0 and the measured indicators were expressed as mean±standard deviation(X±S).The total amount of training sRPE that reflected the six weeks was tested by repeated measures analyzing of variance of repeated measures.Differences of the first week and the other five weeks was compared respectively, the level of significance was set up as α=0.05.The correlation of training sRPE, the blood lactic acid after intensive training, urine protein, urine specific gravity and urine pH values was tested by Pearson correlation analysis, $P < 0.05$ was set up a significant difference,$P <0.01$ was set up a very significant difference,$|r|<0.3$ was believed with no correlation.

Results The total sRPE of elite woman wrestlers decreased gradually before four weeks in the national championship.Special training session sRPE and strength training session sRPE reach a higher level respectively in the second week and the third week.The aerobic workout sRPE maintained at a lower level during four weeks. The correlation coefficient of elite woman wrestlers' sRPE、urine specific gravity and urine pH value was negative.The correlation coefficient of elite woman wrestlers' sRPE, the blood lactic acid after intensive training and urinary protein was positive, showed a different relationship. The correlation coefficient of elite woman wrestlers' sRPE, the blood lactic acid after intensive training and urine protein is$|r|>0.3$,there is a low degree of correlation.Other indicators showed no significant correlation.

Conclusions Training session RPE is a effective and operational noninvasive method of evaluating women's soccer training. The blood lactic acid after intensive training, urine protein, urine specific gravity and urine pH value is relatively sensitive indicator of reflecting the volume and the intensity of training.Five test indicators will be affectd by the athletes' different athletic level.