

IMPACT OF FLUID RESTRICTION AND AD LIBITUM SPORTS DRINKS AND WATER INTAKE ON SKILL PERFORMANCE OF ELITE ADOLESCENT BASKETBALL PLAYERS

Carvalho PR^I, Teixeira VH^{II}, Oliveira B^{II}

PURPOSE

To determine the effect of fluid restriction and *ad libitum* water and sports drinks consumption on basketball performance, and correlate the athlete's knowledge about hydration and fluid replacement issues with their behavior in a real situation.

METHODS

Twelve 14 to 15 years' old players underwent, in a cross-over design study, three separate 2-h training sessions in the following conditions: No fluid ingestion allowed (NF); *Ad libitum* ingestion of water (W); *Ad libitum* ingestion of a commercial 8% carbohydrate-electrolyte sports beverage (CSB). After each session subjects performed a set of basketball drills. Body weight (at the beginning and at the final of sessions), rating of perceived exertion (RPE), urine color and beverage acceptability were determined. Athletes also respond to a survey with questions about their knowledge and behaviors regarding hydration and fluid replacement.

RESULTS

The percentage of weight lost was significantly higher in NF (2.46 ± 0.87) compared with other two conditions (W: 1.08 ± 0.67 , $P < 0.01$; CSB: 0.65 ± 0.62 , $P < 0.001$) and in W vs. CSB condition ($P < 0.05$). RPE was higher in NF (16.8 ± 1.96) compared with W (14.2 ± 1.99 ; $P < 0.01$) and CSB (13.3 ± 2.06 ; $P < 0.01$) trials. There were no significant differences in basketball performance, urine color and beverage acceptability between conditions. Athletes' knowledge was positively correlated with self-reported behaviors ($r = 0.75$; $P < 0.05$) and fluid intake ($r = 0.76$; $P < 0.05$) during sessions.

CONCLUSION

Fluid restriction didn't impaired performance but increase athletes' perceived exertion and body mass lost. The athletes' with more knowledge about hydration issues had better self-reported behaviors and ingested more fluids during training sessions.

^I Futebol Clube do Porto

^{II} Faculdade de Ciências da
Nutrição e Alimentação da
Universidade do Porto

email:
pedro.carvalho@portosad.pt