

## **Efficiency of a hydration plan on hydration level of elite female hockey players**

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Dehydration is one of the well-known factors that impair sports performance. It may lead to increased risk of developing thermoregulatory abnormalities. Therefore, consumption of appropriate fluid volumes during outdoor training is important. Good hydration status enhances performance and helps maintain homeostasis of the body. The purpose of this study was to evaluate the effectiveness of a hydration plan on hydration level of female national hockey players in Sri Lanka.

Sixteen elite female hockey players who represent the Sri Lankan national hockey team were selected for the study. A self-administered questionnaire was given to gather the information about awareness of hydration and thermoregulatory abnormalities. Evaluations and examinations were carried out during their daily practice sessions. Pre tests were conducted to assess their baseline hydration levels. Hydration plan was commenced with regular intervals of water breaks and it continued for five days a week for three weeks. A hydration fluid that constituted 6% - 8% carbohydrate and 0.5% NaCl was introduced according to the individuals' fluid requirement to replace their fluid losses. Pretest and post tests were routinely conducted to determine their total body weight loss (fluid loss), fluid intake and urine volumes. Furthermore, urine color was assessed. Fluid consumptions of individuals were measured using calibrated water bottles. Climatic factors such as temperature (WBGT), relative humidity (RH) and wind speed (Kmph) were monitored during the study period.

Within the confines of this study, mean weight loss (fluid loss) among players was less ( $0.09 \pm 0.043 \text{Kg}$ ) than the pretest amounts ( $0.12 \pm 0.075 \text{Kg}$ ) and mean fluid intake was significantly increased ( $0.85 \text{L} \pm 0.12$ ) than the pretest ( $0.77 \text{L} \pm 0.151$ ) ( $p=0.000$ ). Mean sweat loss was lesser ( $0.12 \text{L} \pm 0.08$ ) than the pretest amounts ( $0.68 \text{L} \pm 0.25$ ) ( $p=0.000$ ). Average sweat rate was higher ( $0.38 \pm 0.072$  liters/h) than the pretest ( $0.31 \pm 0.09$  liters/h) ( $p=0.003$ ). Urine color observations showed 100% hydrated status of all the players.

The proposed hydration plan significantly improved the hydration status of athletes, which produced an increase in the fluid intake, reduction in sweating and improvement in dehydration status of athletes.