

# Hydration Status of Malaysian Athletes during Singapore SEA Games 2015

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## **Aim**

The aim of this study was to present the hydration status of Malaysian athletes during Singapore SEA Games 2015 as measured by Urine Specific Gravity (USG). The assessment also assisted the nutritionist and dietitian in providing effective hydration plan for optimal sporting performance throughout the competition period.

## **Method**

Total athletes involved in this study were 157 (female=79, male=78) from 11 sports (athletics, boxing, golf, hockey, netball, sailing, sepak takraw, silat, taekwondo, tennis and wushu) which was further divided into 5 categories (combat, endurance, racquet, skill and team). Athletes were briefed regarding urine collection protocol and urine containers were given prior to their departure to Singapore. Morning urine samples were collected from athletes' room and analysed using Atago Digital Pen PRO Refractometer in the unit of Brix (%) which were then converted to Specific Gravity (SG). USG value of higher than 1.020 indicates dehydration.

## **Result**

Mean USG value for all sports decreased significantly ( $p=0.001, p<0.05$ ) from day 1 ( $1.018\pm 0.008$ ) to day 3 ( $1.015\pm 0.007$ ). Mean USG was highest for boxing ( $1.030\pm 0.003$ ) and lowest for hockey ( $1.010\pm 0.005$ ). Boxing ( $1.030\pm 0.003$ ), silat ( $1.026\pm 0.004$ ) and taekwondo ( $1.024\pm 0.008$ ) showed mean USG value higher than 1.020. Mean USG of combat sports ( $1.023\pm 0.008$ ) was highest ( $p<0.05$ ) as compared to other sports categories. No significant difference in the mean USG between genders as well as daily temperature and humidity recorded throughout the competition period.

## **Conclusion**

All sports except boxing and silat showed improvement in their hydration status toward the end of competition. Boxing athletes were consistently dehydrated throughout competition period as they were practising weight making strategy to qualify for their respective event. This scenario was similar to the other combat sports (weight category) such as taekwondo and silat where they tend to practice acute weight loss methods in requiring desired weight for their individual category.

## **Keywords**

SEAGAMES 2015, hydration status, urine specific gravity, monitoring tools