

Hydration Status of Female Collegiate Basketball Players

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Introduction

Water is essential to life and makes up 73% of lean body mass (1). Hydration is critical during exercise and can affect the ability to perform to full potential. Basketball is a high intensity sport and although played indoors, sweat losses can be significant (2). Failure to consume adequate fluids can lead to dehydration which can impair performance (3).

Purpose

- To analyze the pre and post-practice hydration status and fluid consumption of the CSB basketball team
- Identify if there is a difference in consumption between water and a sport drink

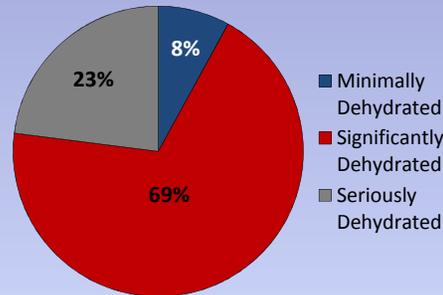
Methods

- Approval was received from the Institutional Review Board of the college and each participant (n=13) gave informed consent
- Hydration status was determined by urine specific gravity (USG) of pre and post-practice urine samples during four practices.
- All players had ad libitum water at two practices and ad libitum PowerAde at the other two practices; fluid consumption was tracked.
- Statistical analysis was done using paired t-tests.

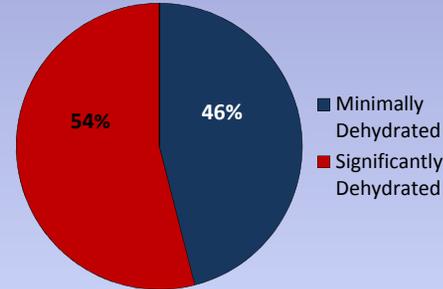
Acknowledgements

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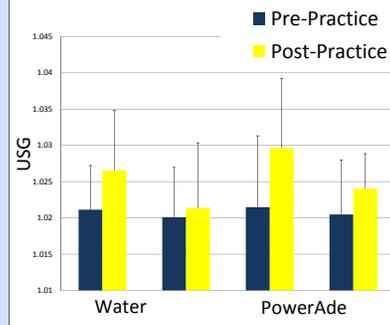
Post-Practice Hydration Status Percentages



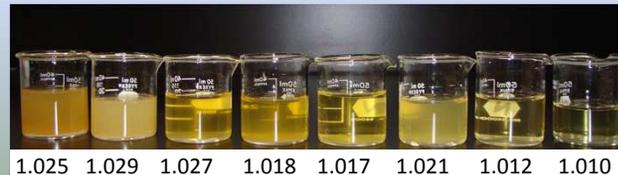
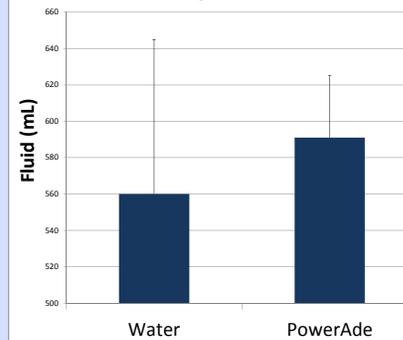
Pre-Practice Hydration Status Percentages



Average Pre and Post-Practice Urine Specific Gravity (USG)



Average Fluid Consumption during Practice



Results

- All players on average were dehydrated at the beginning of practice; 46% (n = 6) were minimally dehydrated (1.010-1.020) and 54% (n = 7) were significantly dehydrated (1.021-1.030)(1).
- Hydration status did not improve with fluid consumption during practice. On average 85% of players had a higher USG post-practice and 23% of players became seriously dehydrated (>1.030) (1).
- There was a significant difference between pre-practice USG (1.021 +/- 0.008) and post-practice USG (1.026 +/- 0.009) ($p = 0.00$).
- Average fluid intake was greater with PowerAde (591 +/- 34 mL) than in water (560 +/- 85 mL), but fluid intake was not statistically different.
- The change in pre and post-practice USG when consuming PowerAde or water was not statistically different.

Conclusion

- On average 100% of the players arrived at practice dehydrated.
- Fluid consumption during practice did not improve hydration status as USG significantly increased.
- The importance of starting practice well hydrated must be addressed with these players to prevent dehydration from occurring during practice/games so that performance is not compromised.

References

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