

No Change in Uric Acid or Blood Pressure After 6 Months of Daily Consumption of Sugar Sweetened Beverages

Theodore J Angelopoulos², Joshua Lowndes¹, James Rippe¹

1 - Rippe Lifestyle Institute, Celebration, FL, 2 – Emory & Henry College, Emory, VA

Introduction

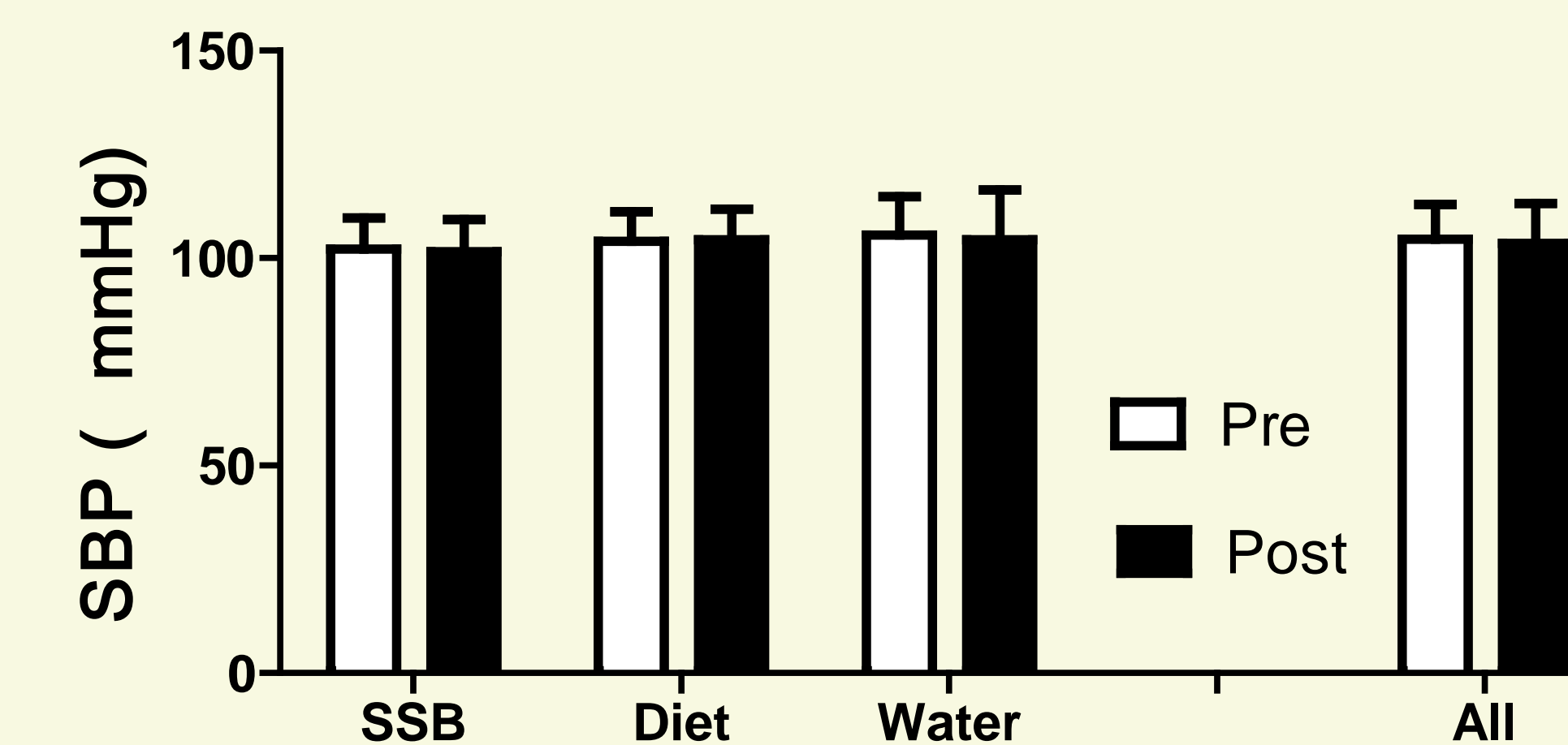
- Sugar Sweetened Beverages (SSB) are the primary source of fructose containing sugars in the American diet.
- These sugars have been alleged by some to play a role in the development of obesity and associated cardiometabolic disorders.
- One such line of evidence is an animal model of fructose-induced hyperuricemia, which in turn may promote the development of insulin resistance and hypertension.
- However, the implication of this experimental model for humans is uncertain because of impractically high doses of fructose used and because humans rarely consume pure fructose in isolation from other sugars or macronutrients.

Methods

- All participants (n=66) were apparently healthy and weight stable (no change in weight >3% initial body weight in the past 3 months)
 - Mean age= 32.8 ± 8.6 years
- Participants followed the ADA Exchange Diet for six-months designed to maintain body-weight.
- As part of the diet participants were required to consume two 12oz servings per day of the type of beverage to which they were randomly assigned
 - SSB (average American intake)
 - Diet beverages (Diet)
 - Water only Control group.
- Dietary compliance was checked weekly at first and then biweekly and triweekly as time went on.
- Participants were withdrawn if dietary compliance was under the minimally acceptable level and/or if beverage consumption was not at 90% of the prescribed level for 2 consecutive weeks.
- Before and after the intervention all participants had resting blood pressure measured using standard procedures and provided fasting blood samples for the measurement of uric acid.
- Data were analyzed via ANOVA with Repeated Measures
- Data Presented are means ± S.D. and were analyzed using SPSS V 18.0

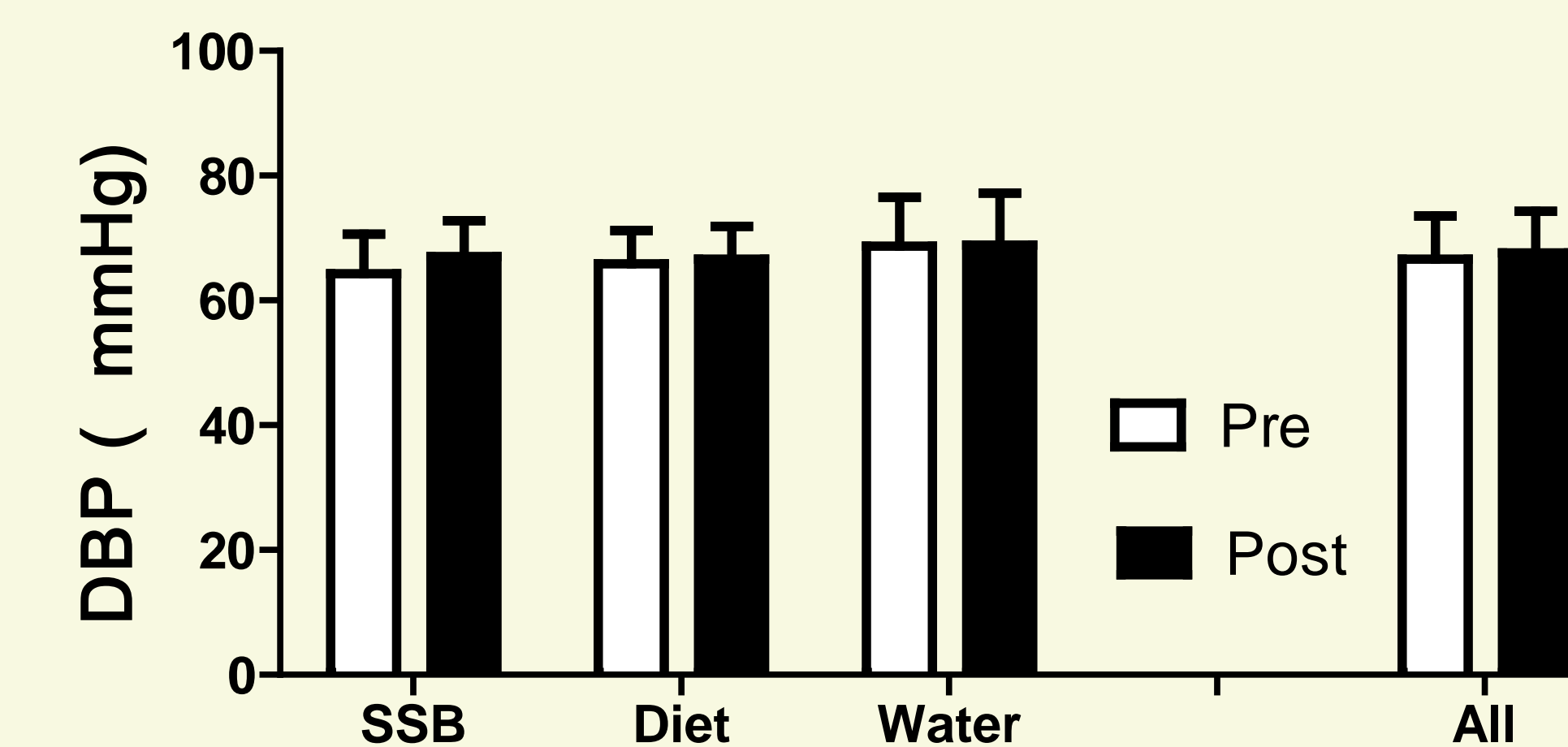
Results

Systolic Blood Pressure



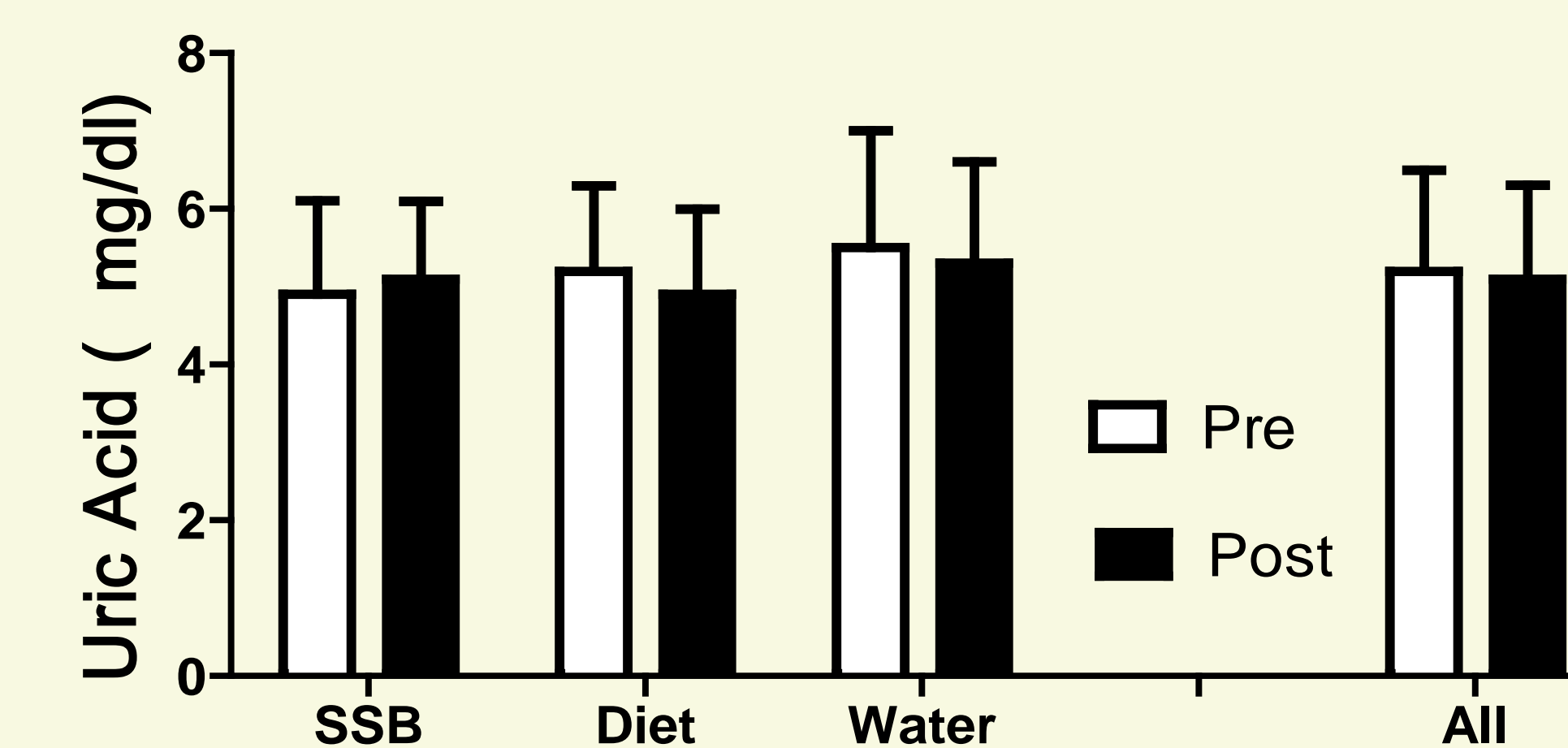
Time $p > 0.05$
Interaction $p > 0.05$

Diastolic Blood Pressure



Time $p > 0.05$
Interaction $p > 0.05$

Fasting Uric Acid



Time $p > 0.05$
Interaction $p > 0.05$

Discussion & Conclusion

- These data suggest that typical levels of SSB consumption do not promote hyperuricemia or changes in blood pressure. This is further evidence that the results of experimental animal models should be extrapolated to humans with extreme caution.

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