Add pickle juice and hypertonic saline to your hydration plan for rehydration.

The study by Julie A. Garden-Robinson, PhD, LRD* and Elizabeth H. Blodgett Salafia, PhD* at North Dakota State University evaluated the fluid intake and plasma responses following pickle juice (PJ), hypertonic saline (HS), and deionized water (DIW) ingestion. The study aimed to investigate the effects of these drinks on fluid consumption, plasma volume, sodium concentration, osmolality, and perceptual measures such as thirst, fullness, and nausea.

**Methods**

- **Participants:** 15 euhydrated, physically fit males were recruited.
- **Randomization:** Participants were randomly assigned to three testing days.
- **Interventions:** Each day, participants ingested 83 ± 8mL of PJ, HS, or DIW ad libitum.
- **Time Points:** Blood samples were collected at 15, 30, 45, and 60 minutes post-treatment drink ingestion.
- **Outcome Measures:** Fluid volume consumed, plasma sodium concentration, osmolality, and perceptual measures such as thirst, fullness, and nausea.

**Results**

- **Fluid Volume:** DIW was consumed in the greatest volume (73 ± 14mL) compared to PJ (66 ± 16mL) and HS (59 ± 11mL).
- **Sodium Concentration:** HS consumption resulted in the highest plasma sodium concentration (142 ± 5 mEq/L) compared to DIW (133 ± 9 mEq/L) and PJ (127 ± 8 mEq/L).
- **Osmolality:** HS ingestion resulted in the highest plasma osmolality (328 ± 5 mOsm/kg) compared to DIW (317 ± 6 mOsm/kg) and PJ (307 ± 4 mOsm/kg).
- **Perceptual Measures:** Subjects rated their thirst, fullness, and nausea at different time points post-ingestion compared to baseline.

**Conclusions**

- **Drink Recommendations:** PJ and HS are effective in improving fluid intake and plasma volume compared to DIW.
- **Clinical Significance:** Clinicians and athletes should consider incorporating PJ and HS into their rehydration strategies.

**Acknowledgments**

- We thank the National Athletic Trainer’s Association recommends replacing 100% of fluid lost during exercise with drinks to 0.3 to 0.7 g/L. To comply with these recommendations, our subjects would have needed to consume between 1000 and 2000mL of DIW.
- We also thank the North Dakota Athletic Trainers’ Association for partially funding this research.

**References**