Age-Related Differences in Water and Sodium Handling Following Commercial Hydration Beverage Ingestion

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ABSTRACT
Advancing age is associated with alterations in renal function. In particular, water, electrolyte, and glucose handling. Glucose-containing oral rehydration beverages are ideal choices for older adults (6) and alternative commercial hydration beverages are available. PURPOSE: To investigate age-related differences in fluid retention and free water (CH₂O) and sodium clearance (CNa+) after ingestion of water and 4 hydration beverages. METHODS: We hypothesized that fluid retention would be greater in O compared to Y adults, (2) increased fluid retention in O would be mediated by glucose absorption and/or CH₂O retention; (3) older adults may be better able to retain beverages with lower NaCl loads than young adults, and (2) amino acid-based beverages may be equally efficacious for promoting fluid retention compared to those containing glucose.

RESULTS

Table 1. Beverage Composition (mean ± SEM)

Table 2. Subject Characteristics (mean ± SEM)

Table 3. Beverage Composition (mean ± SEM)

CONCLUSIONS

1. Beverage retention was greater in older compared to young adults, likely due to lower GFR and reduced CNa+

2. Beverages with higher NaCl concentrations had a lower CH₂O and improved fluid retention, but not older adults

3. Older adults may be better able to retain beverages with lower NaCl loads than young adults

4. Amino acid-based beverages may be equally efficacious for promoting fluid retention compared to those containing glucose.

REFERENCES


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