

Relationship between hydration enhancement and blood pressure: More is better.

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The goal of this study was to assess the relationship between long-term increases in hydration status and resting blood pressure. Total body water (TBW), intracellular body water (ICW), extracellular body water (ECW), and percentage of total body water by weight (TBW%) were assessed via electrical bio-impedance (**MultiScan 5000, BodyStat, Ltd**) in 40 undergraduate students during two laboratory sessions:

An initial hydration assessment session (Session 1) and during a follow-up session 3 days later (Session 2). Following the initial body water assessment, all participants were given six 1-liter bottles of commercially available water and instructed to consume two bottles (2 liters) of water per day in addition to their normal daily fluid intake.

During the follow-up session, body water was again assessed as well as resting blood pressure (SBP, DBP) via an automated blood pressure monitor (Colin Medical, Inc). Change scores were computed (Session 2 – Session 1) for each of the body water measures.

Pearson correlational analyses revealed significant inverse relationships between Session 2 resting SBP and changes in ECW ($r = -0.31, p < .05$), ICW ($r = -0.40, p < .05$), TBW ($r = -0.39, p < .05$), and TBW% ($r = -0.49, p < .01$). Changes in body water were not significantly related to DBP at Session 2, although change in TBW% was marginally significantly related to DBP ($r = -0.30, p = .06$) and all other correlations were in the same direction as those for SBP. The results of this study therefore suggest that long-term hydration enhancement may facilitate a reduction in resting blood pressure.