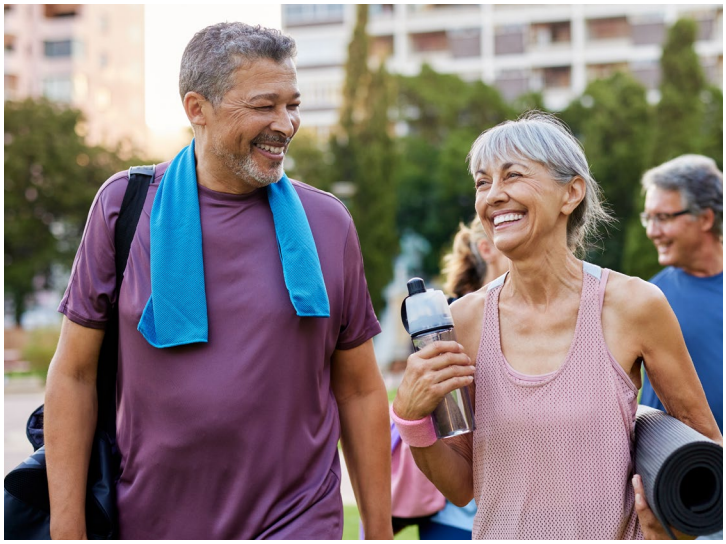
USDRN PUSH

Research Article Summary

Prevention of Urinary Stones with Hydration (PUSH): A Randomized Clinical Trial of an Adherence Intervention



What was this study about?

This study tested a special program designed to help people with kidney stones change their habits to drink more fluids (like water) every day. Kidney stones are hard crystals that form in urine (pee) and can cause a lot of pain. The PUSH study asked:

- Can a habit-changing program help people with kidney stones drink more fluids and keep doing it over time?
- Can that same program help people lower their chance of having kidney stones again?

Why did we do this study?

Doctors tell people with kidney stones to drink plenty of fluids so that stones don't come back. But drinking the recommended amount of fluids every day is hard for many people. Before this study, there was very little research showing the best way to help people drink more fluids long term or whether these programs actually prevent kidney stones.

What did we learn?

People in the study group drank more fluids and made more urine than those in the control group. However, the daily increase in the amount of urine they made was small (about 240 ml or 8 oz). About the same number of people in each group had another kidney stone, and there were no big differences between the groups in the number of new stones that formed or existing stones that got bigger. This means that even when tools, coaching, and rewards were provided, people only drank a little more than usual, and this did not lower their chance of having kidney stones again over the 2-year period.

How did we do this study?

- The study enrolled 1,658 teens and adults with a history of kidney stones and low daily urine output, meaning they did not make much urine each day. (Low daily urine output can be a sign of not drinking enough fluids.) Everyone received a "smart" water bottle to track how much they drank.
- Participants were randomly assigned to either a **study group** (which received daily drinking goals, small financial rewards, reminders, health coaching, and additional support) or a **control group** (which received the standard advice to drink more fluids).
- Over a 2-year follow-up period, we tracked kidney stone events (passing a stone or having a surgical procedure), urine volume as a measure of fluid intake, urinary symptoms, and safety issues.

What does this mean for patients and care teams?

Drinking more fluids is still important for people with kidney stones, but the habit-changing program tested in this study was not enough to lower the chances of having a stone again. Some people may need additional or different strategies, such as medications, diet changes, or more personalized support.

Learn more about this study from the full research article:
https://pubmed.ncbi.nlm.nih.gov/41864748

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