Drinking Hydrogen Water Enhances Endurance & Relieves Psychometric Fatigue(Canadian Journal of Physiology and Pharmacology, 2019)

📌 What's it about?

- Tested whether drinking hydrogen-rich water (H2W) before exercise reduces perceived fatigue and improves endurance in both untrained and trained individuals

👥 Who was studied?

- Two separate experiments, both using cycle ergometers (stationary bikes)
- Experiment 1: 99 healthy, non-trained participants — measured psychometric (mental/perceived) fatigue after mild exercise
- Experiment 2: 60 trained participants — measured endurance and fatigue during moderate exercise
- Mixed ages (young adults through middle-aged and older adults)

🧪 How was it done?

- Randomized, double-blind, placebo-controlled design — strong methodology
- In Experiment 1, all participants first did a session with placebo only, then were split to drink either H2W or placebo 30 min before the second session
- In Experiment 2, trained participants drank H2W 10 min before exercise
- Fatigue was measured using Visual Analogue Scales (VAS) and Borg's Scale (standard self-reported effort/fatigue tools)
- Endurance measured via VO_2 max (maximal oxygen consumption)

📊 Key Results

- ✅ Psychometric fatigue was significantly reduced in the H2W group after mild exercise in non-trained participants
- ✅ Participants who started with higher fatigue scores were more sensitive to H2W's effects
- ✅ In trained participants, both endurance (VO_2 max) and fatigue (Borg's scale) were significantly improved in the H2W group

✅ Conclusion

- Drinking H2W just before exercise showed both anti-fatigue and endurance-enhancing effects
- The proposed mechanism: H2 acts as an antioxidant, reducing reactive oxygen species (ROS) that cause muscle damage and fatigue during exercise

🧠 Bottom Line A reasonably well-designed study with a decent sample size (159 total participants). The results are promising — especially the VO_2 max improvement in trained athletes. However, the subjective fatigue measures and potential industry ties mean it should be interpreted with cautious optimism pending independent replication.

To Read The Full Study Please CLICK HERE