Request #: 498 - KHS - Publication/Article

Ultrasound Measurements of Subcutaneous Fat Thickness Are Robust Against Hydration Changes

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Background

Data are already collected and manuscript is in the second round of peer-review ("minor revision" status). One of the reviewers questioned the validity of our a priori power analysis and wants us to report post-hoc power. Although I disagree with this, I would like to get a statistical opinion on what we did to this point (verify our stats), as well as assistance with calculating and reporting the observed power. Also, the same reviewer requested reporting of standard error of measurement, technical error, and minimal detectable difference. See attachment for the reviewer's specific comments.

Sample

Already collected: fat thickness measurements via ultrasound at various body locations under 4 conditions (baseline, post-hyperhydration, baseline2, post-dehydration). N = 11 (see statistical analysis and results sections of attached manuscript)

Hypothesis

hypothesis: acute hydration change (dehydration or hyperhydration) will not significantly alter the ultrasound measurement of subcutaneous fat thickness.

Progress

manuscript attached below

Request

1) review of previous stats (particularly our a-priori power analysis); 2) assistance with post-hoc (observed) power analysis and reporting to satisfy the reviewer's request (or a solid justification for not reporting observed power); 3) assistance calculating and reporting ICCs, standard error of measurement, technical error, minimal detectable difference and/or whether these measures of reliability are appropriate even though an intervention (dehydration and hyperhydration) were involved.

Timeline

The editor's letter said that they would like our revision as soon as possible. I think that a revision submitted within < 4 weeks would be acceptable.