



Background

- The escalating prevalence of non-alcoholic fatty liver disease (NAFLD) and its association with obesity present a significant public health crisis, affecting 25% of adults worldwide.^{1,2}
- Currently, no licensed drug is available for the treatment of NAFLD.
- Although physical exercise is recognized as a crucial component in the management of NAFLD³, there is a lack of specific exercise prescription guidelines.
- Opting for longer exercise sessions with fewer days per week might achieve a similar therapeutic response for NAFLD patients, accommodating busy modern lifestyles and improving exercise program adherence.

Objectives

This study aims to investigate the comparative effectiveness of different exercise frequencies (once-a-week vs. thrice-a-week) in reducing liver fat among obese adults with NAFLD.

Methods

- A three-arm RCT will be conducted on obese adults diagnosed with NAFLD (defined as >5% intrahepatic triglycerides assessed by 1H-MR spectroscopy).
- Participants will be assigned to either a once-a-week or thrice-a-week exercise group, or a control group. The intervention will consist of a 4-month period of brisk walking exercise or a general health education.
- Outcome measures, including liver fat levels, body anthropometry, psychological measures, and health-related quality of life, will be assessed at baseline, 4 months, and 10 months.
- Data analysis will be performed using generalized estimating equations and linear contrasts.

Hypotheses

- We hypothesize that both the once-a-week and thrice-a-week brisk walking groups will experience greater improvements in reducing liver fat compared to the usual care control group.
- We also hypothesize that brisk walking once a week, with the same weekly exercise volume, may have comparable benefits in reducing liver fat and improving non-alcoholic fatty liver disease (NAFLD) as brisk walking three times a week.

Discussion

- The study aims to provide evidence on the comparative benefits of different exercise frequencies, with a focus on evaluating efficacy and sustainability.
- The findings will enhance the understanding of optimal exercise frequency for reducing liver fat in NAFLD patients, enabling practitioners to refine exercise guidelines tailored to their specific needs.
- Ultimately, this research may contribute to the development of effective strategies for the prevention and management of NAFLD, addressing the urgent public health challenge it poses.

References

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