Chiropractic Care for Migraine: A Pilot Randomized Clinical Trial

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BACKGROUND

- Migraine is a leading cause of disability worldwide.
- People with migraine often seek complementary and integrative health approaches.
- Chiropractic care, including spinal manipulation, may be a promising integrative health treatment option for migraine due to the relationship between migraine and neck pain and muscular tension.
- No prior studies have investigated multimodal chiropractic care for migraines.

OBJECTIVE

- Conduct a pilot randomized controlled trial (RCT) evaluating chiropractic care (CC) + enhanced usual care (EUC) versus EUC alone for adult women with episodic migraine.

METHODS

- Design: 2-arm pilot RCT
- Subjects: 60 women aged 20-55 w/ episodic migraine
- Chiropractic Care Intervention: 10 sessions over 14 weeks (see below)
- Enhanced Usual Care: Usual medical care and migraine education literature
- Primary outcomes: Feasibility of recruitment, retention, protocol adherence, and safety monitoring.
- Secondary outcomes: Changes in migraine days and changes in the Migraine Disability Assessment Test (MIDAS)

Multimodal Chiropractic Care Intervention

- Developed by a team of chiropractors and validated using the Delphi method with an expert panel of chiropractors
- Protocol components:
  1. Posture correction and spinal stabilization exercises
  2. Manual and instrumented soft tissue relaxation / release techniques
  3. Manual spinal manipulation and joint mobilization
  4. Breathing and relaxation techniques
  5. Education
  6. Stretches
  7. Ergonomic and lifestyle modifications / advice

Data Analysis

- For both groups, we calculated the percentage of individuals completing migraine logs
- For the CC+EUC group, we calculated and the percentage of individuals attending at least 75% of the chiropractic visit
- We estimated the effect of treatment assignment on number of migraine days in each outcome assessment using a linear mixed-effects model; similar analyses were performed for the MIDAS

RESULTS

- Mean age = 36.4 years (range: 21 to 55 years);
- Mean migraine frequency during run-in = 7.6 migraine days (standard deviation (SD) = 2.2).

Primary Outcome: Feasibility of recruitment, retention and adherence to the protocol, and adverse events

Recruitment

- Recruitment of participants lasted 20 months instead of intended 12 months.

Retention + Adherence

- 93% of participants completed the migraine logs
- 83% of those in the CC+EUC group attended at least 75% of scheduled chiropractic visits.

Adverse Events

- 98 non-serious adverse events with 39 events among 11 EUC participants and 5 events among 15 EUC+CC participants
- CC+EUC more likely to report musculoskeletal complaints (31.0%) compared in the EUC (6.3%).

RESULTS (cont.)

Main Clinical Outcome: Effect on migraine days

- Those randomized to CC+EUC experienced a larger change in number of days with migraine from run-in to the initial follow-up compared to those randomized to EUC alone. (between-group difference in change = -1.93; 95% CI: -3.45, -0.04).

Secondary Outcome: Effects on quality of life

- Those in the CC+EUC group experienced greater improvements in MIDAS than those in EUC:

CONCLUSIONS

- Most, but not all pre-specified feasibility criteria were met, but deficits are remediable.
- Preliminary data support positive effects of migraine frequency and disability
- A definitive trial of multimodal chiropractic care for migraine is warranted.

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