

Brief Tablet-Based Mindfulness Intervention for Acute Pain in Orthopedic Imaging Waiting Rooms

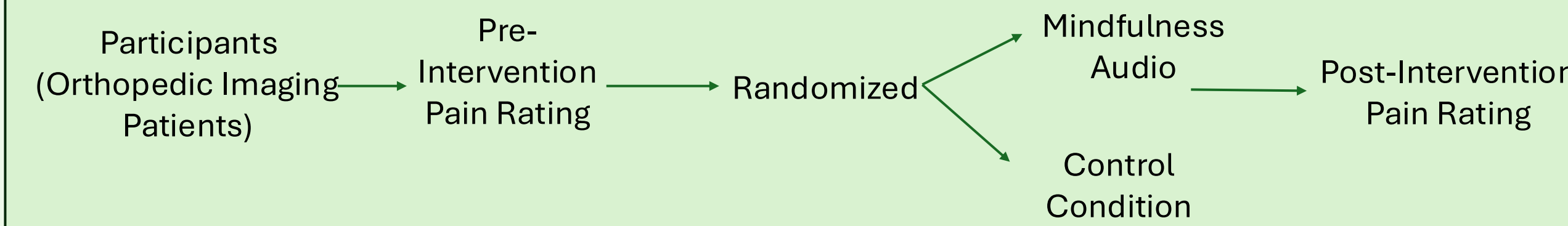
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Background and Introduction

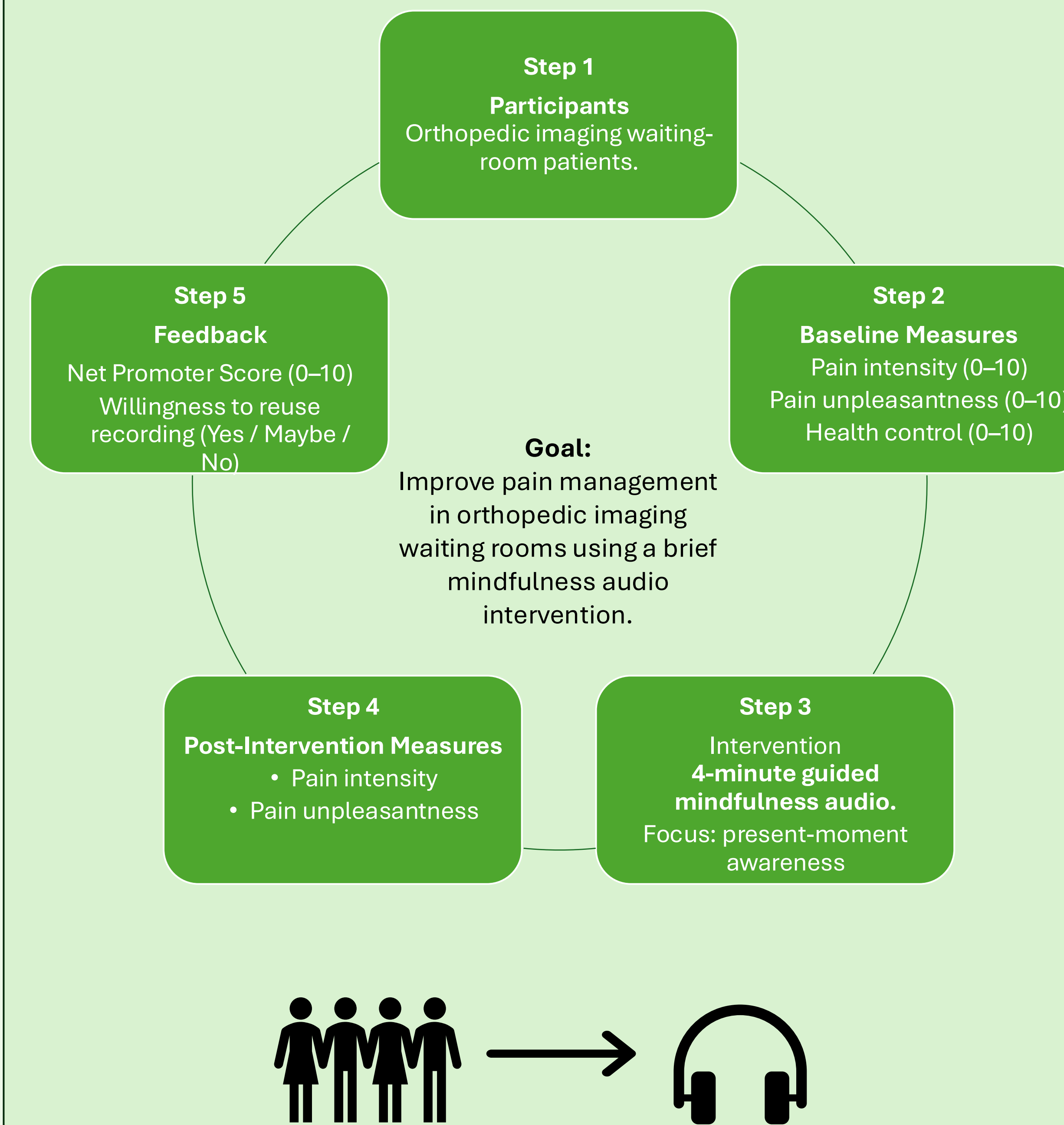
Mindfulness-based approaches are increasingly used as **non-pharmacologic strategies** for pain management.

- **Pain is multidimensional**, involving both **sensory intensity** and **affective unpleasantness**, thus psychological factors can influence how pain is perceived and processed.
- **Brief cognitive or attentional interventions**, including mindfulness practices, may **alter pain appraisal and reduce perceived discomfort**.
- **Short, guided mindfulness audio recordings** may provide a **practical and scalable intervention** for pain support in **outpatient or waiting-room settings**
- **Research Gap**
- It remains **unclear whether a brief 4-minute mindfulness recording can produce immediate reductions in acute pain perception**.
- **Study Purpose**
- Examine whether a **4-minute mindfulness audio intervention** reduces
 - **Self-reported pain intensity**
 - **Pain unpleasantness**
- **Additional Measures**
- **Perceived control over health**
- **Chronic pain status**
- **Participant satisfaction with the intervention**
- **Hypothesis**
- Participants would report:
 - **Decreased pain intensity and unpleasantness** after the intervention
 - **Willingness to reuse or recommend** the mindfulness recording

Methods



Procedural Flow



Results

- 86 orthopedic imaging patients complete both pre- and post- intervention pain assessments.
- Participants reported moderate baseline pain intensity prior to the intervention (M= 5.37, Median=6).
- After listening to the 4-minute mindfulness recording, mean pain intensity decreased to 5.03 (Median= 5).
- A paired-samples t-test showed a statistically significant reduction in pain intensity following the intervention (p= 0.003).
- The average decrease in pain intensity was 0.34 points on the 0-10 pain scale.
- The pain 95% confidence interval for the difference ranged 0.12 to 0.56, indicating a reliable reduction in pain.
- The intervention demonstrated a small-to-moderate effect size (Cohen's d=0.33).

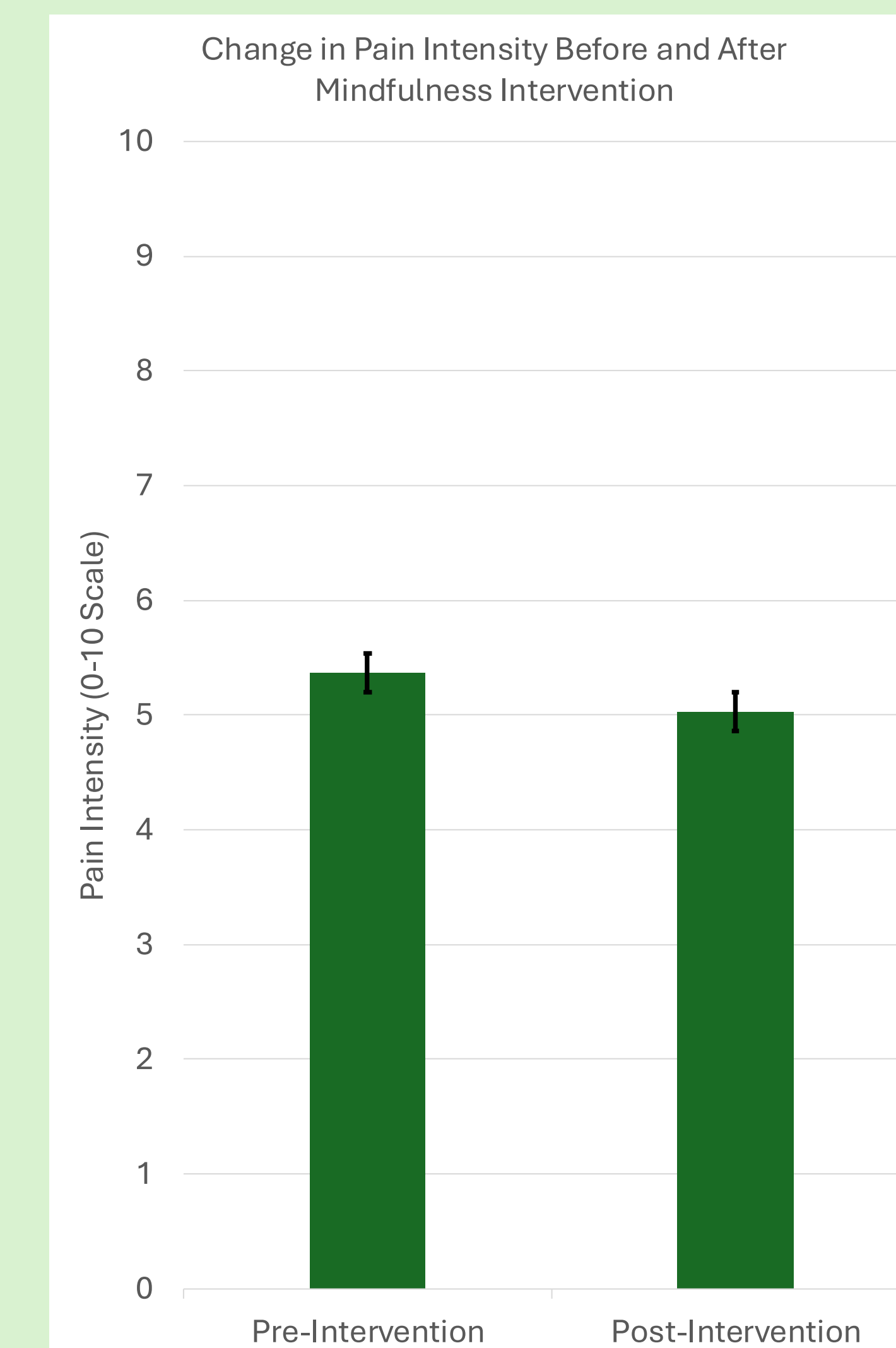


Fig. 1 Mean pain intensity before and after the mindfulness intervention. Error bars represent standard error.

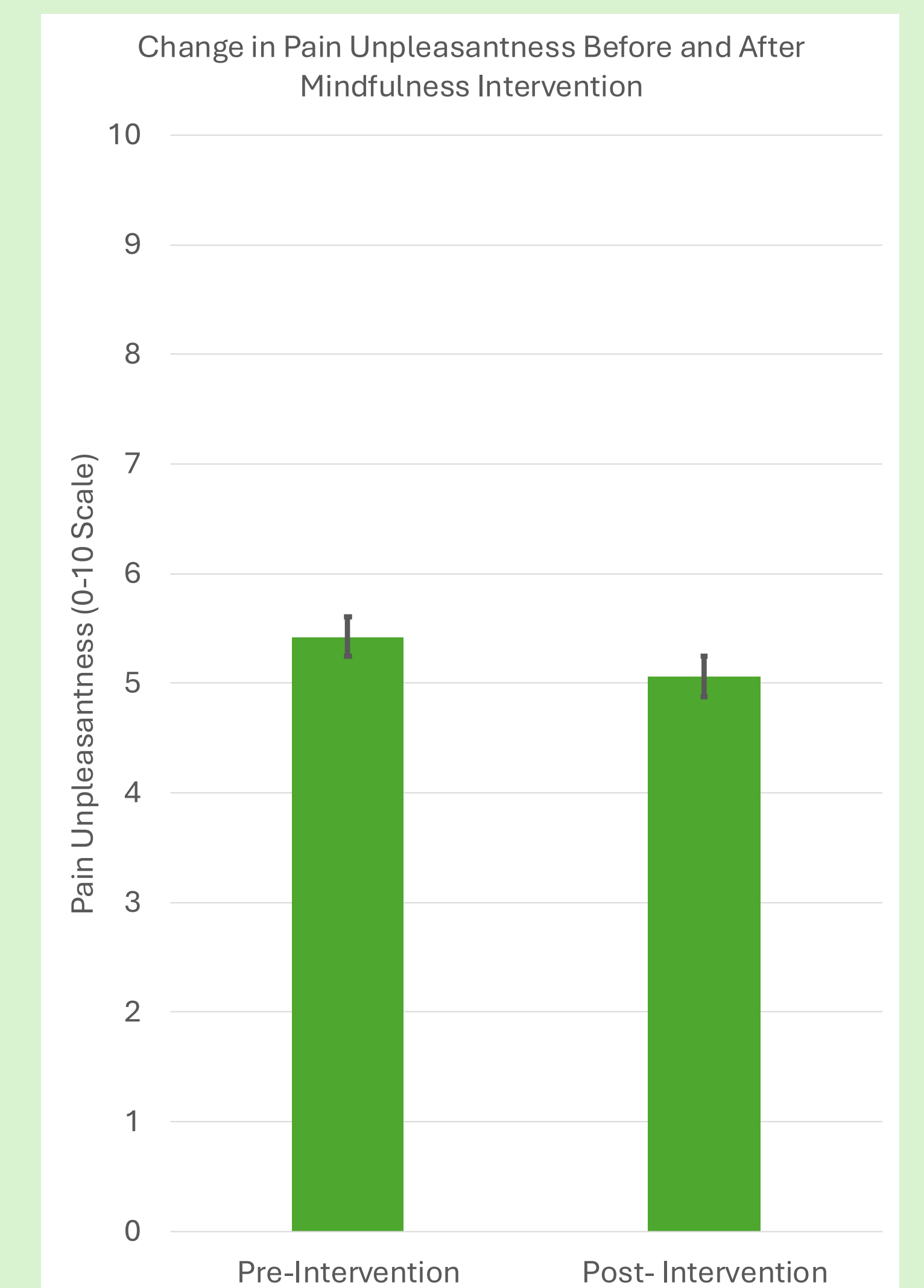


Fig.2 Mean pain unpleasantness before and after the mindfulness intervention.

Conclusions

- A brief, four-minute tablet-based mindfulness intervention was feasible in an orthopedic imaging waiting-room setting.
- Participants reported significant reductions in pain intensity and unpleasantness following the intervention.
- Brief mindfulness recordings may represent a low-cost, scalable approach for improving patient comfort in clinical waiting areas.
- Further research should evaluate long-term outcomes and broader clinical implementation.

Acknowledgments

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References

