Pilot Study: Assessing Chair Yoga Therapy Compliance in Chronic Pain Patients

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Introduction

- Chronic pain affects over 30% of the global population, imposing substantial personal and economic burdens.[1]
- Multifaceted treatment plans, including pharmacological, physical rehabilitation, and interventional strategies, are recommended; however, barriers to care persist.[2]
- This pilot prospective cohort study evaluated the feasibility of chair yoga therapy—a nonpharmacological, breath-centric intervention—for managing chronic pain and anxiety.

Aims and Objectives

- Primary objective: Assess compliance of chair yoga therapy (breathing-centric exercises) at home.
  - Compliance= sessions twice a week
- Secondary objective: Assess how levels of pain and anxiety may change from baseline.
- Primary endpoints:
  - Patient compliance. Self-reported pain and anxiety diary entries submitted via Qualtrics
  - The patient will answer a scientifically validated set of questions assessing barriers to compliance on the last day they use chair yoga therapy exercises
- Secondary endpoint: Patient-reported pain and anxiety levels. Pain and anxiety levels will be recorded before the minimally invasive procedure in the clinic and as part of the pain diary entries before and after each chair yoga session.

Methods

- 12 chronic pain patients at the Corwell Health William Beaumont University Pain Center completed baseline pain (PEG) and anxiety (GAD-7) assessments before receiving tailored chair yoga instruction.
- Participants recorded post-session pain and anxiety levels in clinic and via Qualtrics before and after self-led home sessions.
- Pre- and post-session scores were analyzed using paired t-tests using the MEANS procedure calculated using SAS software

Table 1: Order of Events

In-Office (Day 1)	1. Provide consent form 2. Chair yoga therapy session (breathing-centric exercises) 3. Participant will be provided with a refresher how-to sheet 4. Patient will rate their pain using the PEG scale and will rate their anxiety using the GAD-7 tool via paper handouts 5. Minimally invasive procedure
At-Home (4 weeks)	1. Participant fills out the pain diary 2. On the last day of self-reporting chair yoga therapy exercise, participants answer the additional questions assessing barriers to compliance

Results

- Median pre-intervention PEG and GAD-7 scores were 6.2 and 6.0, respectively.
- Post-intervention, median PEG scores increased slightly to 6.4, while GAD-7 scores modestly decreased to 5.0.
- Median changes in both scores were 0.0
- No statistically significant differences (pain: p = 0.8125; anxiety: p = 0.5000).

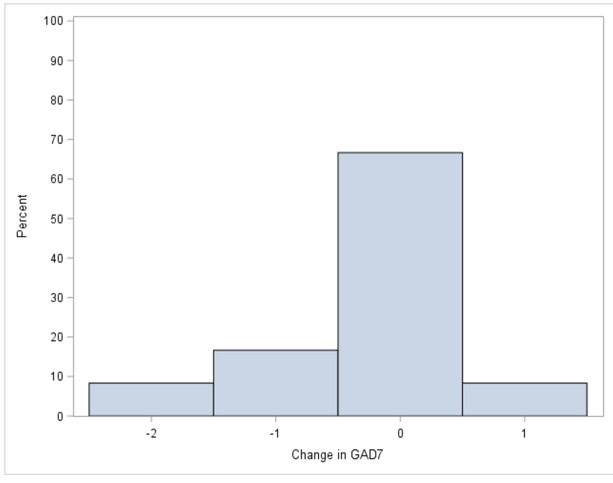

Figure 1: Change in Generalized Anxiety Disorder-7 (GAD-7) Across Cohort (%)

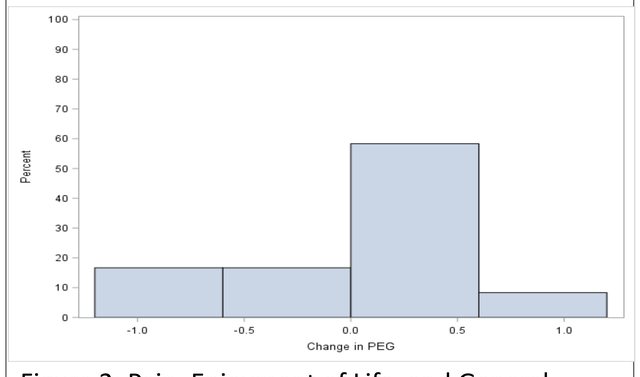

Figure 2: Pain, Enjoyment of Life, and General Activity (PEG) Across Cohort (%)

Table 2: The MEANS Procedure Across Cohort

Variable	Label	N	Minimum	Lower Quartile	Median	Upper Quartile	Maximum	Std Dev
Pre_PEG	Pre PEG	12	1.3	3.4	6.2	7.7	8.7	2.6
Pre_GAD7	Pre GAD7	12	0.0	3.5	6.0	8.0	21.0	5.6
Post_PEG	Post PEG	12	0.7	3.2	6.4	7.5	9.8	2.9
Post_GAD7	Post GAD7	12	0.0	3.0	5.0	8.0	21.0	5.6
GAD_Change[1]	Change in GAD7	12	-2.0	-0.5	0.0	0.0	1.0	0.8
PEG_Change[2]	Change in PEG	12	-1.0	-0.3	0.0	0.0	1.1	0.6

[1]Signed-Rank p-value = 0.5000
[2]Signed-Rank p-value = 0.8125

Conclusions

- Chair yoga therapy showed minimal impact on pain and anxiety levels within this cohort, likely due to low compliance with survey submissions and limited follow-up.
- These findings highlight challenges in engaging patients with nonpharmacological interventions and emphasize the need for improved follow-up strategies.
- Future research should explore alternative approaches to better evaluate the role of chair yoga in chronic pain management.

References

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2. Schwan J, Sclafani J, Tawfik VL. Chronic Pain Management in the Elderly. Anesthesiol Clin. 2019;37(3):547-560. doi:10.1016/j.anclin.2019.04.012

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