Fall 12-1-2021

Maintaining Physical Activity During COVID-19: The Influence of Psychosocial Variables in Individuals with Back Pain

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What factors contribute to the highly individualistic pain trajectories among people with persistent low back pain?

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Analyzed how psychosocial variables from a survey taken prior to COVID-19 lockdown varied between individuals who had adaptive vs. maladaptive pain management responses during lockdown.

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Positive pain management adaption was associated with lower depression, lower negative affect, and a greater duration of symptoms. Also trended towards better physical and environmental quality of life.

Overview and Background

- Stressor events, such as COVID-19, may trigger adaptive or maladaptive pain management strategies among individuals with persistent low back pain (LBP).
- For individuals with persistent LBP, **physical activity (PA)** has been shown to be a beneficial pain management strategy.

Methods

- 25 individuals with persistent LBP (age 22.4 (3.4) years, 7m, 18f) from an existing longitudinal cohort.
- Participants completed a baseline survey prior to COVID-19.
- The survey quantified demographics, pain severity, frequency, and duration. Additionally, the Physical Activity Scale, the WHOQOL-Bref physical, psychological, social, and environmental quality of life subscales, the Fear Avoidance Beliefs Questionnaire, the Hospital Anxiety and Depression Scale, and the Trait Affect scale.
- Participants completed follow-up surveys for 18 months.
- **During COVID-19 lockdown (5/'20-1/'21), a Likert-type question was added to the follow-up surveys to assess the impact of COVID-19 on PA.**
- The cohort was dichotomized into individuals reporting the same or more PA (MPA) and those reporting less PA (LPA).
- Baseline characteristics compared using independent t-tests, Mann-Whitney U tests and effect sizes (Cohen's d).

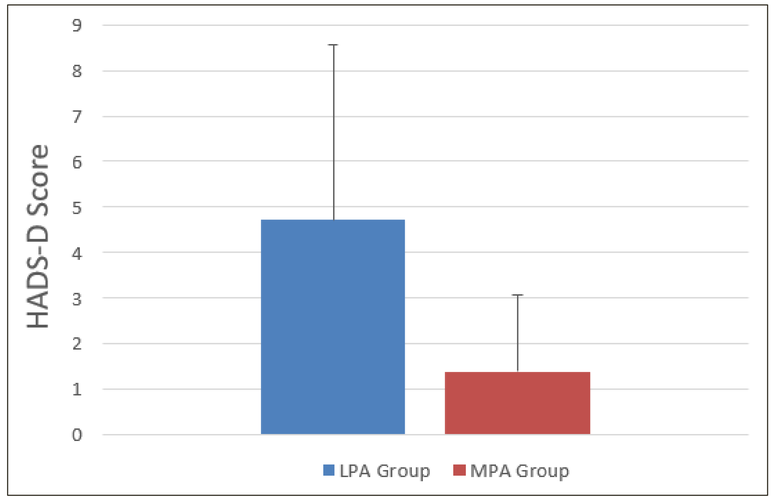

Figure 1: Comparison of depression, using the Hospital Anxiety and Depression Scale (HADS-D), between individuals reporting more physical activity (MPA) versus less physical activity (LPA).

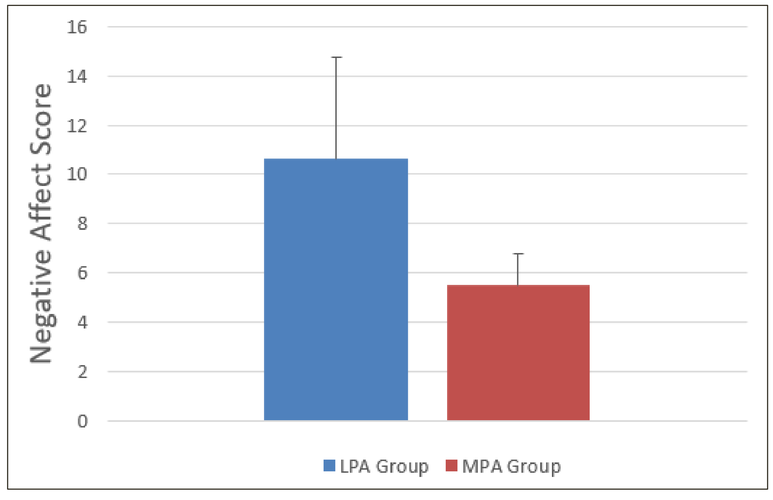

Figure 2: Comparison of Negative affect (fatigue domain) between individuals reporting more physical activity (MPA) versus less physical activity (LPA).

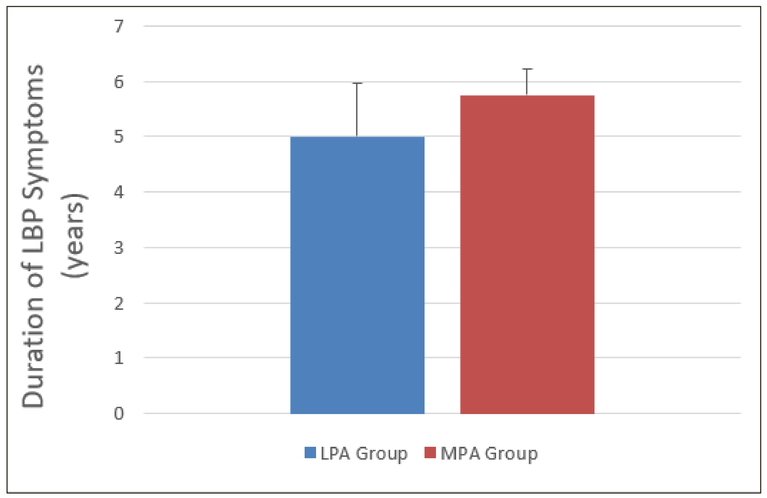

Figure 3: Comparison of duration of low back pain symptoms between individuals reporting more physical activity (MPA) versus less physical activity (LPA).

Results

- LPA group n = 17, MPA group n = 8.
- Depression scores lower in the MPA group (p=0.006, d=1.12, figure 1)
- MPA group had lower negative affect (fatigue domain) (p=0.038, d=0.86, figure 2).
- The MPA group had greater duration of LBP symptoms (p=0.015, d=1.16, figure 3).
- MPA group trended towards higher physical quality of life (p=0.101, d=0.79) and higher environmental quality of life (p=0.057, d=0.96) at baseline.

Acknowledgements

This study was supported by funding from NICHD (K01 HD092612)
IRB approval number: 1617H094