What Does it Mean to "Accept" Chronic Pain?
Effects of Acceptance on Treatment Outcomes in a Multimodal Pain Rehabilitation Program

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Background

- Multimodal pain rehabilitation is an evidence-based approach to address the complex nature of pain and improve functioning (Crouch et al., 2020).
- Acceptance has been shown to play an integral role in pain treatment outcomes and, specifically, to mediate treatment outcomes in pain rehabilitation (Åkerblom et al., 2015; McCracken & Eccleston, 2005).
- Pain acceptance is multidimensional with both cognitive and behavioral components (McCracken, 1999).
- This retrospective cohort study evaluated pre- to post-treatment changes in pain acceptance and the relationship between change in acceptance and other important treatment outcomes including distress, pain interference, and pain severity.

Methods

Pain rehabilitation program:

- 3-week interdisciplinary program with function-based goals
- Monday through Friday, 8 hours per day
- Group-based multimodal treatment from nursing, psychology, physical therapy, occupational therapy, and physician

Participants:

- Consecutive patients who completed the pain rehabilitation program (*N* = 83)

Primary Pain Dx	*n*	%
Back pain	40	48.2
Fibromyalgia	9	10.8
Abdominal pain	8	9.6
Arthritis	7	8.4
Neck pain	6	7.2
Other	5	6.0
Neuropathy	3	3.6
CRPS	2	2.4
Migraines/headaches	1	1.2
Knee pain	1	1.2
Central sensitization	1	1.2

Demographics

- Female (*n* = 65, 78%), Male (*n* = 18, 22%)
- White (*n* = 59, 71%), African American (*n* = 21, 25%), Asian (*n* = 2, 2%), Pacific Islander (*n* = 1, 1%)
- Average age = 54.86 years (ranging from 18 to 83 years)

Procedure

Measures:

- Measures were administered at pre-treatment and post-treatment (discharge day)
  - Chronic Pain Acceptance Questionnaire (CPAQ)
  - Brief Pain Inventory (BPI)
  - Brief Symptom Inventory (BSI-18)

Statistical analysis:

- Within-subject changes from pre- to post-treatment in pain acceptance (CPAQ total and subscale scores) were examined using paired sample *t*-tests.
- Pearson correlations were calculated to examine associations between changes in pain acceptance and changes in other treatment variables.

Results

	Pre-Treatment	Post-Treatment	
Activity Engagement	**30.9 (12.4)**	**45.4 (10.9)**	***t* = -9.6*** **
Pain Willingness	16.6 (9.0)	22.9 (10.2)	*t* = -5.2***
Pain Acceptance (Total)	59.0 (19.6)	74.5 (15.2)	*t* = -7.3***

Relation between change in pain acceptance and other treatment outcomes

Treatment Outcomes	Pain Acceptance (Total)
Depression (BSI-18)	-.49**
Anxiety (BSI-18)	-.27*
Pain Interference (BPI)	-.32**
Pain Severity (BPI)	-.40**

*$p < .05$, **$p < .01$, ***$p < .001$

Relation between changes in pain interference items and changes in pain willingness and activity engagement

Pain Interference	Pain Willingness	Activity Engagement
General activity	-.34**	-.31**
Mood	-.33**	-.34**
Walking	-.32**	-.18
Work	-.17	-.35**
Relationships	-.32**	-.26*
Sleep	-.20	-.34**
Enjoyment	-.22*	-.47**
Concentration	-.24*	-.41**
Appetite	-.23*	-.31**

*$p < .05$, **$p < .01$, ***$p < .001$

- Change in pain acceptance was related to post-treatment outcomes, including mood, pain interference and pain severity
- When examining specific domains of functioning, change in pain acceptance was significantly related to change in most of the individual pain interference items. Strength of the correlations varied by item and component of pain acceptance.
- Changes in pain willingness and activity engagement were both moderately correlated with general activity, mood, and relationships
- Only pain willingness was significantly related to walking ability
- Only activity engagement was significantly associated with work and sleep, and more strongly correlated with enjoyment of life, concentration, and appetite.

Conclusions

- Diverse patients in multidisciplinary pain rehabilitation showed significant increases in cognitive and behavioral components of pain acceptance.
- Increases in pain acceptance were associated with improvements in other important outcomes, such as distress, functioning, and pain severity.
- The shared, experiential nature of pain rehabilitation may enhance components of pain acceptance.
- Limitations of the study include a predominately female, back pain sample, and may not generalize to other populations.

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