

Building community empowerment: perceived control in a pilot study of acute low-back pain

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BACKGROUND

- Low-Back Pain (LBP) is the leading cause of disability for individuals and societies worldwide¹.
- Most prior work examining predictors of chronic pain impact is primarily limited to biological and psychological factors.
- A better understanding of social risk factors for LBP can help improve effectiveness and equity of LBP interventions.
- Ultimately, this research is part of a pain equity program with the objective of reducing the burden of pain for all.

AIM

To characterize social factors, sleep, and pain among participants of a community-based pilot study of adults with acute LBP, with a focus on perceived community control².

METHODS

Data: A community-based convenience sample was recruited from Durham and Kannapolis, NC, USA, between February-November 2022, and followed-up at 3 months. (n=110).

Eligibility criteria: Non-pregnant adults aged 18+ with acute LBP (<4 weeks at screening and ≥30 days without LBP before onset) without systemic inflammatory or autoimmune conditions, non-skin cancer, spine/low-back surgery or trauma, and spinal defects.

Measures: Sleep was measured by the Pittsburgh Sleep Quality Index (PSQI³). Pain measures were pain intensity, pain interference, and PEG scale⁴ at baseline and follow-up, baseline bothersome pain sites, and transition to chronic LBP at 3 months. Perceived individual and community control were measured per Israel et al., 1994².

Approach: We used descriptive statistics to characterize social factors, sleep, and pain, overall and by levels of perceived community control². Social factors included age, sex assigned at birth, self-reported race, and socioeconomic position (education, insurance, financial wellbeing).

RESULTS

Perceived community control = 5 items, 5-25 total score, each scored 1-5 where 1 = strongly agree and 5 = strongly disagree and lower scores meaning higher control. (Cronbach's alpha = 0.71, 95%CI 0.62, 0.78).

Median (interquartile range [IQR]) perceived community control = (11,15)

- 40 adults (36%) with "low control" (scores ≥15 score)
- 58 adults (53%) with "medium control" (scores 10-14)
- 12 adults (11%) with "high control" (scores 5-9).

People with high perceived community control also had, on average, higher perceived individual control, better perceived neighborhood walkability, lower number of sites with bothersome comorbid pain, higher sleep quality, higher proportion with male sex, White race, and higher socioeconomic position.

Characteristics	Level	High control (5-9)	Medium control (10-14)	Low control (≥15)
	N (%)	12 (11%)	58 (53%)	40 (36%)
Perceived individual control	Low control	0 (0%)	7 (12%)	8 (20%)
	High control	12 (100%)	51 (88%)	32 (80%)
# of pain sites	0	10 (83%)	48 (83%)	31 (78%)
bothered a lot	1	2 (17%)	8 (14%)	8 (20%)
(0-4, past 4 weeks)	2	0 (0%)	1 (2%)	1 (2%)
	3	0 (0%)	1 (2%)	0 (0%)
walkability	Median (IQR)	22 (19, 28)	27 (23, 30)	28 (24, 33)
Global PSQI Score	No	6 (50%)	15 (26%)	11 (28%)
≥ 5 (baseline)	Yes	6 (50%)	43 (74%)	29 (72%)
Sex assigned at birth	Male	8 (67%)	21 (36%)	15 (38%)
	Female	4 (33%)	37 (64%)	25 (62%)
Education	<HS/HS grad/GED	0 (0%)	2 (3%)	5 (12%)
	Some college/AA degree	3 (25%)	29 (50%)	13 (32%)
	BA/BS or higher	9 (75%)	27 (47%)	22 (55%)
Financial wellbeing	Live comfortably	9 (75%)	23 (43%)	20 (61%)
	Meet basic expenses w/ a little extra	3 (25%)	26 (49%)	9 (27%)
	Just meet basic expenses	0 (0%)	4 (8%)	4 (12%)
Insurance type	Private	7 (64%)	25 (45%)	16 (43%)
	Medicaid	0 (0%)	1 (2%)	0 (0%)
	Medicare	2 (18%)	19 (34%)	12 (32%)
	Other public insurance	2 (18%)	6 (11%)	5 (14%)
	Uninsured	0 (0%)	3 (5%)	4 (11%)
	Unsure	0 (0%)	2 (4%)	0 (0%)
Self-reported race	Asian	0 (0%)	1 (2%)	0 (0%)
	Black	2 (17%)	10 (17%)	8 (20%)
	Multiracial	0 (0%)	4 (7%)	1 (2%)
	White	10 (83%)	42 (72%)	30 (75%)
	Unknown	0 (0%)	1 (2%)	1 (2%)

CONCLUSIONS

The overall sample was predominantly

- White race (n=89, 68%)
- Higher socioeconomic position (e.g., 7% with >than high school [HS]/HS diploma/GED, 8% "just meet basic expenses", 8% uninsured).

DISCUSSION

- Community-based research with an equity focus may need to include active recruitment outreach to include a higher proportion of participants with minoritized race, ethnicity, and lower income.
- Reference values for community control are needed (e.g., pain free, general population and/or no LBP populations)

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Higher community control should be further explored as a potentially modifiable social construct that may help to reduce pain impact.