Conflict of Interest Disclosure

Author's Conflicts of Interest:

Marian Wilson, No Conflict of Interest
Gaps in access to non-opioid options persist

NEW CDC RECOMMENDATIONS

- Nonpharmacologic, non-opioid pharmacologic therapies preferred for chronic pain.
- Combine opioids with non-opioid pharmacologic therapies.
- Primary care providers can incorporate CBT elements into care.
- Taper dose when no clinically meaningful improvements noted greater than benefits; opioids not needed.
- Discuss risks/benefits at initiation.

HEROIN DEATHS RISING

National Overdose Deaths
Prescription Opiates (left) and Heroin (right)

What do we know about peer support for persistent pain?

HOW WILL WE DETERMINE EFFECTIVENESS?
Session objectives

- Assess current literature for what is known on peer support for pain
- Identify appropriate measurements to test new interventions for pain
- Understand how peer support can be used as an adjunct to usual pain care

Peer support literature review

- Peer support can be helpful: Improved A1C levels in diabetics, chronic disease outcomes. (Lofig et al., 2008; Philis-Tsimikas et al., 2011)
- Literature focuses on experiences and preferences – people seem to like peer support, it influences outlooks, knowledge and empowerment.
- Mixed reviews comparing layperson/peers with clinician-led groups – some outcomes are better with clinicians (eating disorders), some are equivalent (depressive symptoms). (Stice et al., 2013; Pfeiffer et al., 2011)

Gaps in knowledge

- Separating peer support from peer-leader effect is difficult.
- Separating peer effects from program content is difficult.
- Little pain-specific literature.

What is the essential ingredient?
Defining peer support

Peer support = "lay individuals with experiential knowledge who extend natural (embedded) social networks and complement professional health services." Dennis 2003, concept analysis

Peer programs provide emotional/appraisal support in addition to information:

- **Emotional** = "caring, encouragement, attentive listening, reassurance, and avoiding criticism"
- **Appraisal** = "motivation to persist and endure, encouragement to keep going," reassurances, assistance in overcoming frustration.

Matthias et al., 2016

AN EXEMPLAR


- **Primary outcome:** PEG and PROMIS pain interference.
- **Secondary:** Anxiety, depression, self-efficacy, social support, catastrophizing, pain centrality.
- 10 Peer Coaches, assigned 2 participants each.
- 3 hour training - meet 2x monthly, review pain self-management program content.

High retention of coaches and participants, all measurements improved. Largest effects: self-efficacy and centrality (degree to which a person views pain as dominant feature of life/identity).

Study setting

- Coeur d'Alene, ID
- Newly urbanized
- 44K
- Serves large rural, poor population
- Pain specialists
- Few CBT/pain experts
- Chronic pain with opioid misuse referred to NA
- Limited ongoing pain support
Community hospital established ED Pain Program
• Discourages repeat visits for persistent pain
• Prior research noted undertreated symptoms after ED encounters
• Increased pharmacy break-ins

Study setting

Intervention development
Peer-led support group based on cognitive behavioral therapy techniques includes:
• 8 sessions, 1.5 hours every week
• Group activities, discussions, and goal-setting
• Topics: healthy relationships, challenging and replacing negative thoughts, tracking pain triggers

Ron Weaver founder/director

Intervention follows framework of self-management
The tasks individuals must undertake to live with chronic health conditions. (Lorig & Holman, 2003)
Study purpose

- Determine whether improvements on pain and related measurements could be detected after engaging in the 8-week peer-led program.
- Evaluate the feasibility and acceptability of the program for future refinement.

Study design

- Prospective, randomized controlled trial design with repeated measures
- 12 wait-list control group participants were compared to 14 treatment group participants on pain measurements pre- and post-enrollment in the 8-week intervention.
- 2 focus groups to collect qualitative data on participant perspectives regarding the program.

Measuring success

<table>
<thead>
<tr>
<th>Pain</th>
<th>PEG Pain Intensity/Pain Interference with Enjoyment + Activity</th>
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<tbody>
<tr>
<td>Social Support</td>
<td>Multidimensional Scale of Perceived Social Support (Family, Friends, SO)</td>
</tr>
<tr>
<td>Catastrophic Thinking</td>
<td>Pain Catastrophizing Scale</td>
</tr>
<tr>
<td>Pain Self-efficacy Questionnaire</td>
<td></td>
</tr>
<tr>
<td>Current Opioid Misuse Measure (COMM)</td>
<td></td>
</tr>
<tr>
<td>Program Satisfaction Survey</td>
<td></td>
</tr>
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</table>

College of Nursing
Data analysis plan

- **Number Needed to Treat**
  - Clinically meaningful improvement = 30% improvement in scores for pain/function. 
  - Ostelo et al., 2008
- **Repeated measures ANOVA** for treatment effects.
- **Content analysis** for transcribed focus groups/participant perspectives.

### Characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Mean</th>
<th>SD</th>
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<tr>
<td>Age</td>
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<td>9.92</td>
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<td>Range</td>
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<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>14</td>
<td>53.8</td>
</tr>
<tr>
<td>Male</td>
<td>12</td>
<td>46.2</td>
</tr>
<tr>
<td>Education Level</td>
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<td>High School/GED</td>
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<td>15.4</td>
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<tr>
<td>Some College</td>
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<td>19.2</td>
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<td>2-Yr College Degree</td>
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<td>19.2</td>
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<td>4-Yr College Degree</td>
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<td>Master's Degree</td>
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<td>15.4</td>
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<tr>
<td>Family Status/Race</td>
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<td></td>
</tr>
<tr>
<td>Married w/o Children</td>
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<td>15.4</td>
</tr>
<tr>
<td>Married w/ Children</td>
<td>11</td>
<td>50.9</td>
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<tr>
<td>White/Caucasian</td>
<td>21</td>
<td>96.2</td>
</tr>
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</table>

Main findings

**Pain Intensity**
Clinically significant improvements were found in <1% of the control group versus 43% of the treatment group.
Absolute risk reduction of 34%.
Number Needed to Treat analysis resulted in NNT = 3
(95% CI = 1.54 – 23.53).

3 people need to participate for every 1 to receive benefit.
Main findings

Pain Interference with Enjoyment of Life
Clinically significant improvements were found in 58% of the control group versus 93% of the treatment group with an absolute risk reduction of 34%.
Number Needed to Treat analysis resulted in NNT = 3 (95% CI = 1.53 – 28.26).  
3 people need to participate for every 1 to receive benefit.

Pain Interference with General Activity
Clinically significant improvements were found in 58% of the control group versus 71% of the treatment group with an absolute risk reduction of 13%.
NNT = 8 (95% CI = 2.01 – 4.26).
8 people need to participate for every 1 to receive benefit.

Pain Intensity and Interference PEG
No significant between group differences were detected with mixed ANOVA for treatment effects.
Paired t-tests did find significant improvements for treatment group only (p<.001). Cohen’s d = 1.26, large effect.

Pain Catastrophizing Scale
No significant between group differences were detected with mixed ANOVA.
Paired t-tests did find significant improvements for treatment group only (p<.01). Cohen’s d = .79, large effect.
Pain Catastrophizing Scale: Rumination (p = .016)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all</th>
<th>To a slight degree</th>
<th>To a moderate degree</th>
<th>To a great degree</th>
<th>All the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can’t seem to keep it out of my mind</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I keep thinking about how much it hurts</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I keep thinking about how badly I want the pain to stop</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Pain Catastrophizing Scale: Helplessness (p = .003)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all</th>
<th>To a slight degree</th>
<th>To a moderate degree</th>
<th>To a great degree</th>
<th>All the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>I worry all the time about whether the pain will end.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>It’s terrible and I think it’s never going to get any better.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I feel I can’t stand it anymore.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Pain Self-efficacy

No significant between group differences were detected with mixed ANOVA.

Paired t-tests did not find significant improvements for either group.
Social Support

No significant between group differences were detected with mixed ANOVA.
Paired t-tests did not find significant improvements for either group.

Opioid Misuse

No significant between group differences were detected with mixed ANOVA.
Paired t-tests did not find significant improvements for either group – control group greater reduction. Underpowered 5%.

Important findings

Baseline mean COMM scores were >9 for treatment (10.5, SD 6.2) and control (9.6, SD 5.3) groups, indicating high-risk of opioid misuse behaviors and did not improve significantly over time.

Top Items:

In the past 30 days, how often have you trouble with thinking clearly or had memory problems?

In the past 30 days, how often have you gotten angry with people?
Iatrogenic opioid misuse

Patients abuse or become addicted to an opioid prescribed for a legitimate pain complaint.

“There is currently no satisfactory means of distinguishing true addiction from problematic behaviors caused by...factors other than addiction. One of the great difficulties of quantifying, recognizing, and treating iatrogenic opioid addiction is the subjective nature of the judgment...”

Ballantyne & LaForge, 2007

Positive themes: Learning new tools for cognitive restructuring

“I liked the concept of, um, it doesn’t always have to be a bad day, even though your pain load might be a 7 or 8. You know, that doesn’t have to be – I never even had that in my mind. It was always going to be a bad day. So I – I loved that concept.”

“Well, what the program does is it – it helps us get to this endpoint...which was to write down the plan so that we can go to that written-down plan and not do the things that we don’t want to do like maybe take more meds. Maybe do something else. So we have it written down.”

Positive themes: Having a supportive group experience

“I think it’s important that we know we’re not alone. We’re not the only person. It’s not just in our head.”

“I like the feedback we get from each other because it just makes me feel, like he said, not so – alone.”

“To me, we’ve developed some safety with each other and are trustworthy of being able to open up to that person without a judgment...this group to me is strong...meaningful. It’s a friendship.”
Program improvement themes: Increasing sessions and time for discussion

“I’m kind of worried about keeping this fresh in my mind, you know? ‘Cause this is over now. And now, you know, I’m going to have to rely on myself. Have a group once a month that we meet.”

“More time for sessions and more sessions.”

“Yeah, time was – was real limiting…more meetings.”

“I sometimes felt there was more time spent on review and less time on discussion. I’m hoping that the further support groups would be more discussion, more individual, more feedback.”

Limitations and strengths

- Small sample, underpowered, one community, some knew leader, not blinded
- Self-report, social desirability
- Cannot separate program content effects from leader effects
- Needs replication with larger sample, other settings, diverse populations for confidence and to reduce potential Type 1 errors from multiple t-tests
- Testing program content with other group leaders is necessary to assure transferability and generalizability of findings
- Did not measure for lasting effects
- Low attrition – participants liked it!
- Low missing data – compliant, eager participants
- Measurements likely to show improvements align with expectations
- Smaller than desired effects for self-efficacy, support – can be clinically meaningful
- Can be used for future larger trials
Implications for program use and development

- Peer support viable means of improving access to CBT techniques
- Pain intensity and interference with mood is promising
- Potential mechanisms that can reduce pain perceptions – catastrophic thinking, rumination
- Add content to address opioid use, social support, pain self-efficacy and pain interference with activity
- Add mood measurements and content
- Consider suggestions from participants with ideas for improvement: time, content

Program may target catastrophizers – individuals who tend to magnify or exaggerate the threat value or seriousness of the pain sensations (i.e., “I’m afraid that my pain might get worse”).

Catastrophizing is currently defined as: “an exaggerated negative mental set brought to bear during actual or anticipated painful experience.”

Sullivan et al., 2001

Compare to Matthias et al. qualitative study of Veterans peer support

Analysis revealed three elements peer coaches and patients linked to benefits:
1) making interpersonal connections
2) providing/receiving encouragement and support
3) facilitating the use of pain self-management strategies.

Facilitators to participation were:
1) having a shared identity as veterans
2) being partnered with a person who also has chronic pain
3) support from the study staff.

Barriers were:
1) logistical challenges
2) challenges to motivation and engagement in the intervention.

Conclusions

A peer-led education and support group was well-received and led to improvements in reported pain intensity and interference with life enjoyment.

Participants valued the group setting and newly acquired tools to address negative thought patterns.

How do study findings align with your experiences?
What innovations can you imagine next?

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