

# The Effects of Patient Education on Familiarity, Willingness to Try, and Readiness to adopt Nonpharmacological Modalities for Persistent Non-cancer Pain Management : A Quality Improvement Project

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## Introduction

- Opioid analgesics are commonly used to treat persistent non-cancer pain (PNCP).
- While beneficial for acute and subacute pain, long-term use could contribute to misuse, abuse, addictions, and overdose which could lead to unintended death.
- Many adult patients with PNCP are unaware about nonpharmacological modalities (NPMs) and its beneficial effects for PNCP
- This lack of familiarity (knowledge) may be a key contributor to NPMs under prescription (by providers) and underutilized (by patients) for persistent pain management.

### Barriers to NPMs utilization:

- Lack of familiarity
- Access to NPMs (including financial challenges)
- Patients' beliefs and attitudes

## Purpose

- Implement a structured NPM education program to facilitate the use of these modalities
- The AIMS were to determine the effectiveness of program on patients:
  1. Familiarity with NPMs
  2. Willingness to Try (WTT)
  3. Readiness to Adopt NPMs (RTA)

## Methods

- One group pre-test/post-test QI design
- Convenient sample was used which consisted of 22 adult patients with PNCP > 3 months with nociceptive pain, able to understand the English language, receiving care from an interventional pain clinic (See Table 1).
- A 10-week education program featuring 15 NPM classes was implemented on a weekly basis (See Table 2).
- Participation in the classes were voluntary.

	N=22	(%)
<b>Age in years</b>		
Mean (SD)	48.14 (10.2)	
Median	46	
Range	26 - 70	
<b>Gender</b>		
Male	6	27.3
Female	16	72.7
<b>Race</b>		
Caucasian	10	45.5
African American	12	54.5
<b>Education</b>		
No high school diploma	2	9.1
High school diploma	8	36.4
Some college	10	45.5
Associates degree	1	4.5
Master's degree	1	4.5
<b>Religious / Spirituality</b>		
Yes	15	68.2
No	6	27.3
Undecided	1	4.5
<b>Employment</b>		
Both Disabled & Retired	1	4.5
Retired (Not working)	1	4.5
Disabled (Not working)	8	36.4
Unemployed	5	22.7
Employed (Part-time)	6	27.3
Employed (Full time)	1	4.5

### Outcome Measures and Analyses:

- Knowledge – Frequency counts
- Willingness to Try – IQR/Median
- Readiness to Adopt –IQR / Median

Patients responded to questions from an adapted version of the Complementary and Alternative Medicine (CAM) questionnaire about the 15 modalities in table 2. The number of NPMs participants were familiar with was assessed using frequency counts, willingness to try was assessed using a 5-point Likert scale from 1= Very unwilling to 5= Very willing, and readiness to adopt was assessed using a 5-point Likert scale from 1= Strongly disagree to 5= Strongly agree.

## Results

### Participation and Attendance

- 54% attended only 2 classes, 22% attended ≥6 classes
- 82% attended manipulation/body classes
- 63% attended mind/body classes
- 32% attended energy/natural/biological classes
- More females attended natural/biological classes compared to males
- 1 participant decreased her daily dose of opioids after completing all 15 classes

## Results (cont.)

- High attenders reported familiarity with >10 NPMs upon completion of the program
- All participants endorsed a 4 or greater (willing to very willing) on their WTT scores after each class
- Notable shift from 1 and 1.5 for CBT and acupuncture to 4 (willing to try) after the program
- Participants were undecided about healing touch and PNE after the classes
- 6 participants reported using of 1-2 NPMs after the program (PT, relaxation, mindfulness, medication)
- Most of the participants response before the program was 3 (undecided) to the readiness to adopt question
- After the program, most of the participants responded with a 5 (strongly agree) indicating a readiness to adopt

Table 2. NPMs Categories

NPMs Classes	Total Participants per class
Manipulation/body	
Chiropractor	11
Massage therapy	11
Physical therapy/Body Mech	9
Heat/Cold therapy	8
Mind/body medicine	
Mindfulness	6
CBT	6
Relaxation	4
Movement	5
Yoga	3
Spirituality/ Prayer	3
Meditation	3
PNE	8
Energy medicine	
Acupuncture	5
Healing touch	4
Natural/biological	
Aromatherapy	3

Table 3. Participants response to Willingness to Try (WTT) questionnaire Pre-Post Intervention

NPMs	N=22	Median Response	IQR (Q1-Q3)
<b>Chiropractor</b>			
Pre	11		
Post		3	1 (2-3)
<b>Massage</b>			
Pre	11		
Post		5	1 (4-5)
<b>Physical Therapy</b>			
Pre	9		
Post		3	2 (2-4)
<b>Heat/Cold Therapy</b>			
Pre	9		
Post		5	0 (5-5)
<b>PNE</b>			
Pre	8		
Post		3	1 (3-4)
<b>CBT</b>			
Pre	8		
Post		2	1.5 (1.25-1.75)
<b>Mindfulness</b>			
Pre	8		
Post		3	1 (3-4)
<b>Movement</b>			
Pre	6		
Post		1.5	1 (1-2)
<b>Yoga</b>			
Pre	6		
Post		4	1.25 (3-4.25)
<b>Spirituality/ Prayer</b>			
Pre	6		
Post		2	1.25 (1-2.25)
<b>Meditation</b>			
Pre	5		
Post		4	1.25 (3-4.25)
<b>Acupuncture</b>			
Pre	5		
Post		3	0.75 (3-3.75)
<b>Healing Touch</b>			
Pre	5		
Post		4	1 (4-5)

Note. NPM=Nonpharmacological modalities, CBT=Cognitive Behavioral Therapy, PNE=Pain Neuroscience. WTT scores administered via Likert Scale (1=Very Unwilling, 2=Unwilling, 3=Undecided, 4=Willing, 5=Very Willing).

## Conclusions

- NPM education can influence patients' willingness to adopt some modalities for persistent pain management
- NPM education can encourage self-management skills
- Nurses and providers can play a key role in facilitating discussions with patients about their pain management regimen and NPMs that are most appropriate, beneficial, and align with their individual treatment goals
- Providing patient education about NPMs may influence patients overall use of opioid analgesics for PNCP

**Key References:** Dowell, D., Haegerich, T. M., & Chou, R. (2016, April 19). CDC guidelines for prescribing opioids for chronic pain-United States, 2016. *The Journal of the American Medical Association*, 315(15), 1624-1645; Cosio, D., & Lin, E. H. (2015). Effects of a pain education program in complementary and alternative medicine treatment utilization at a VA medical center. *Complementary Therapies in Medicine*, 23, 413-422; Mehl-Madrona, L., Mainguy, B., & Plummer, J. (2016). Integration of complementary and alternative medicine therapies into primary-care pain management for opiate reduction in a rural setting. *The Journal of Alternative and Complementary Medicine*, 22(8), 621-626.



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