

Osteopathic Manipulative Treatment for Chronic Pain: Patient Reservations in an Underserved Community

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Background

Recent reports indicate greater than 50 million adults (20.5%) in the United States experience pain on most days or every day [1]. While literature review revealed utility of osteopathic manipulative treatment (OMT) in patients with pain [2-4] and benefits of education materials on patient consideration for OMT [5-7], studies emphasized general lack of knowledge of osteopathic medicine and continued need for education and outreach; limited studies focus on OMT in underserved communities [8-10]. This study was designed to bridge original research conducted regarding 1) OMT in pain and 2) OMT awareness and education in the general population and within underserved communities by investigating knowledge of osteopathic medicine, awareness of its benefits in chronic pain, and willingness to add OMT to the care plan after an educational intervention in patients suffering from chronic pain in an underserved community.

Hypothesis

After patient education on osteopathic medicine and OMT, investigators hypothesized patients in an underserved community suffering from chronic pain would be more likely to add OMT to their care plan.

Methods

A cross-sectional study was designed in which a survey (Figure 1) was administered by convenience sampling to patients with chronic pain at a primary care medical center within an underserved community in Erie, Pennsylvania, USA. This pilot study recruited 26 subjects. All subjects voluntarily participated in educational intervention (Figure 2A and 2B) focused on osteopathic medicine. Study outcomes measured likelihood of patients with chronic pain to add OMT to their treatment plan, before and after education intervention, in relation to location of pain, length of pain, self-reported average pain rating, knowledge of OMT, and awareness of OMT applications in chronic pain. Secondary outcomes included patient reported reservations to addition of OMT to their care plan.

1. Are you experiencing any pain? Yes No

If yes, where is your pain located? Circle all that apply.

Head	Neck	Back	Arms	Legs	Other: _____
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2. How long have you been experiencing your pain?

<1 week	1 week to 1 month	1-6 months	6 months to 1 year	1+ years
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3. How would you rate your average pain during the week? (0 = No pain, 10 = The most pain you have ever felt)

0	1	2	3	4	5	6	7	8	9	10
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4. Have you heard of osteopathic manipulative treatment?

Yes	No	Unsure
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5. Are you aware that osteopathic manipulative treatment can be used in chronic pain?

Yes	No	Unsure
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6. How likely are you to add OMT to your pain management regimen? (0 = Not likely, 10 = Very likely)

0	1	2	3	4	5	6	7	8	9	10
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7. Would you be willing to undergo osteopathic manipulative treatment for chronic pain after a brief (5 minute) education counseling session?

Yes	No
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Figure 1. Patient survey.

OSTEOPATHIC MANIPULATIVE MEDICINE (OMM) EXPLAINED

What is OMM?
In medicine, "manipulation" is defined as the therapeutic application of manual pressure or force. OMM, also called Osteopathic Manipulative Treatment (OMT), is a form of manipulation therapy.

- In the generic term used to refer to many different manipulation techniques
- Can be used to treat structural and functional issues in the bones, joints, tissues, and muscles of the body
- Uses the relationship between the neuromusculoskeletal system and the rest of the body to restore functionality and/or remove barriers to motion and healing
- Achieves and maintains patient health as part of a whole system of evaluation and treatment.

Who Uses OMM?

- Only osteopathic physicians are trained and licensed to provide OMM
- OMM is a required and foundational element of osteopathic medical school curricula. Comprehensive OMM training occurs throughout an osteopathic medical student's curriculum, as well as during clinical clerkship training
- DO graduates may also choose to pursue residency training to specialize in OMM

What are Some Benefits of OMM?

As one of many tools that DOs can utilize to care for patients, OMM:

- Can be used to treat a wide variety of common ailments, including headaches, arthritis, stress injuries, sports injuries, and pain in areas such as the lower back, neck, shoulders, and knees
- Provides a non-invasive and medication-free treatment option for patients
- Can be performed in many different environments
- Training enhances a physician's overall diagnostic skills
- Can be administered safely in combination with other medical treatments to improve outcomes

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OMM VISUALIZED

OMM is used to treat many forms of bodily dysfunction including pain, discomfort, and limited range of motion caused by illness or injury. The goal of OMM is to remove these barriers in order to achieve wellness.

APPLICATION OF OMM

OMM TECHNIQUES

Below are the 40 different OMM techniques noted in the AACOM Glossary of Osteopathic Terminology.

- Active Method
- Articular Technique
- Balanced Ligamentous Tension
- Chapman Reflex
- Cranial Method
- Compression of the Fourth Vertebra
- Counterstrain
- Direct Method
- Exaggeration Method
- Exaggeration Technique
- Facilitated Oscillatory Release Technique
- Facilitated Positional Release
- Facial Osteating
- Functional Method
- Hepatic Pump
- High Velocity/Low Amplitude Technique
- Indirect Method
- Inhibitory Pressure Technique
- Integrated Neuromusculoskeletal Release
- Ligamentous Articular Strain
- Lymphatic Pump
- Mandibular Drainage Technique
- Massage Release Technique
- Muscle Energy
- Myofascial Release
- Myofascium
- Osteopathic Cranial Manipulative Medicine
- Passive Method
- Pedal Pump
- Pelvic Vector Technique
- Praxoid Technique
- Progressive Isolation of Neuromuscular Structures
- Range of Motion Technique
- Soft Tissue Technique
- Still Technique
- Thoracic Pump
- Toggle Technique
- Traction Technique
- V-Spread Technique
- Visceral Manipulation

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Figure 2A and 2B. Patient education handout (AACOM)

Conclusions

Osteopathic manipulative treatment has potential as an adjunct to chronic pain management, especially in underserved communities. With consideration for socioeconomic factors, incorporating benefits of OMT by family physicians through principles of the interrelationship of structure and function, self-regulation, and self-healing in regard to chronic pain, as opposed to costly medications, specialty consultation, and surgical interventions, may improve quality of life in patients with chronic pain. Future studies should explore the association of patient demographics, such as age, sex, and race, with considerations for OMT in chronic pain.

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This study was determined exempt for requirement for Institutional Review Board approval by the LECOM Institutional Review Board for Protection of Human Subjects (Protocol 29-052).

Results

In this study, 100% of surveyed patients had chronic pain lasting more than one year, with 85% suffering from chronic pain in greater than one body region (Figures 3 and 4). Despite osteopathic physicians in the Erie, Pennsylvania area, less than 8% of patients surveyed had awareness of OMT. On a ten-point pain scale, ten (n=10) patients rated average pain between 1-5, while sixteen (n=16) patients rated average pain between 6-10. After OMT education, patients with lower average pain were statistically significantly more likely to consider adding OMT to their pain regimen compared to patients with higher average pain (two-tailed t-test, p=0.03, 95% confidence interval from 0.22 to 4.68) (Figure 5A and 5B, Figure 6A and 6B).

Patients were generally interested in and willing to try OMT. Patients expressed concern regarding insurance coverage of OMT.

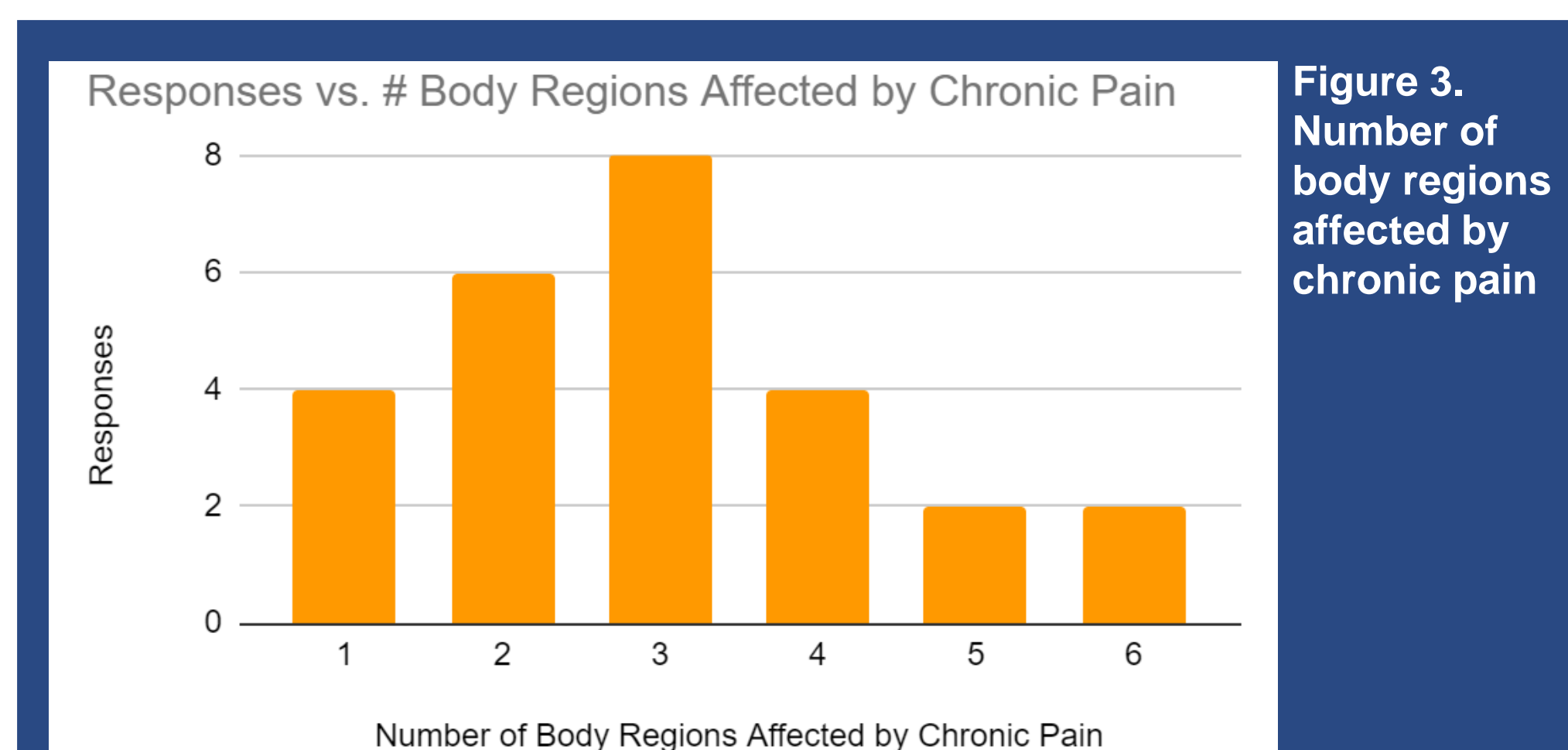


Figure 3. Number of body regions affected by chronic pain

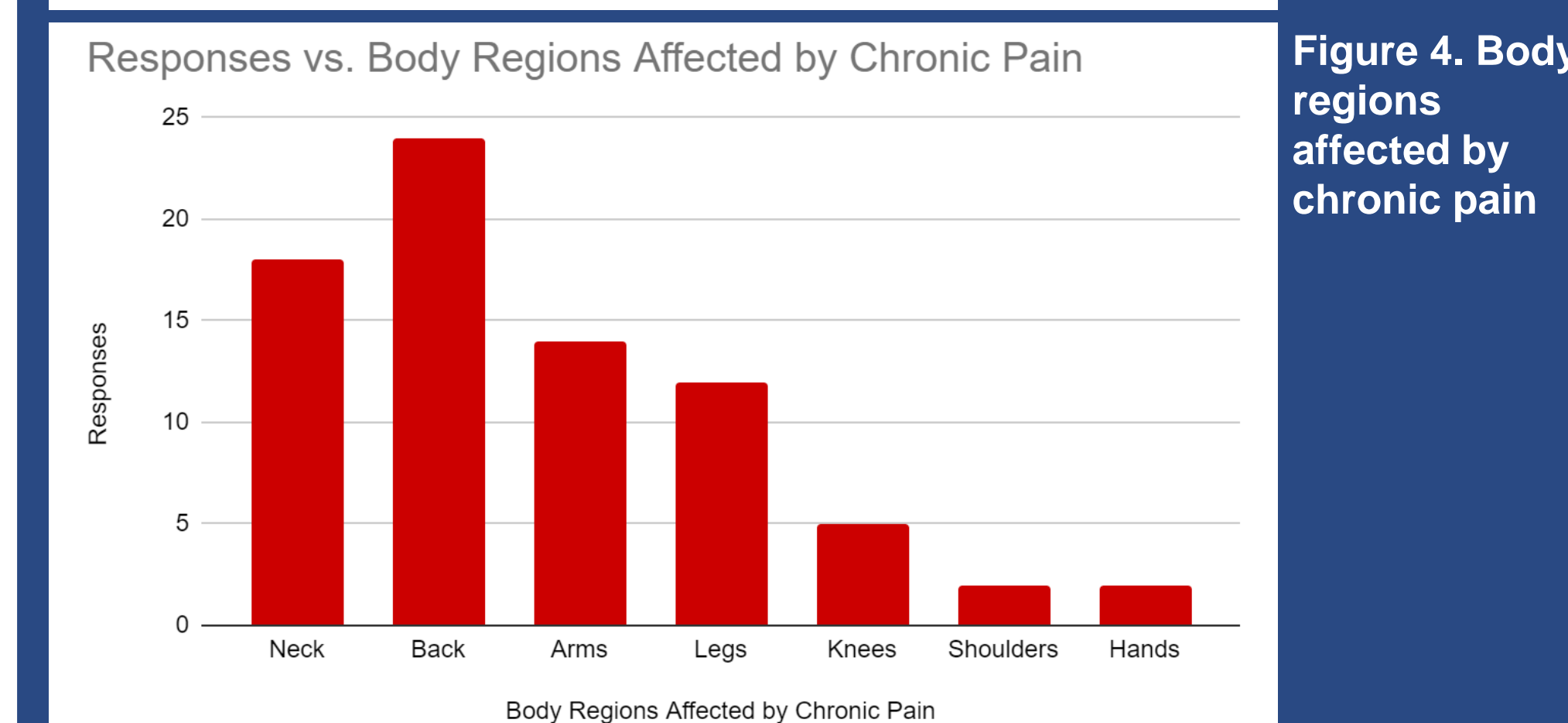


Figure 4. Body regions affected by chronic pain

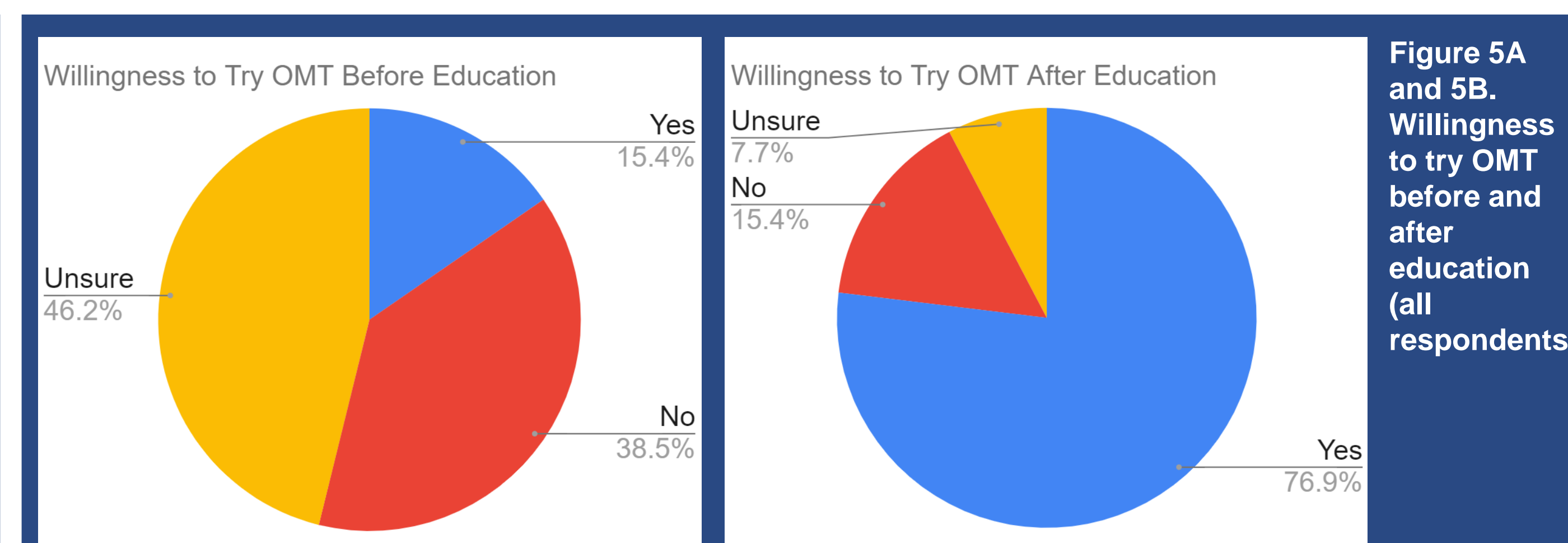


Figure 5A and 5B. Willingness to try OMT before and after education (all respondents)

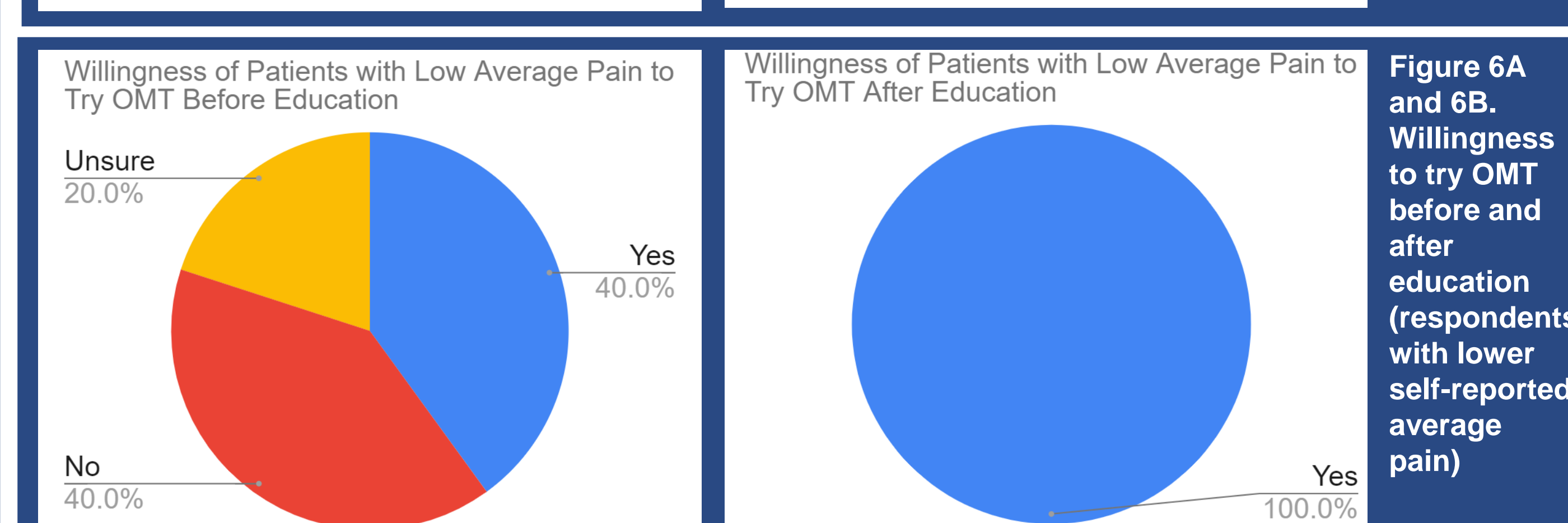


Figure 6A and 6B. Willingness to try OMT before and after education (respondents with lower self-reported average pain)

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