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**Corresponding author:**
Noe Crespo

ncrespo@sdsu.edu

**Author Affiliation:**
San Diego State University.

# Protocol for Impact of Tailored Mindfulness-Based Stress Reduction Interventions for Chronic Pain Management in Safety-Net Settings: A Systematic Review

Valdez, T; Lopez, ZG; Rocha, P; Toba, G; Zepeda, A; Clark, TL; Gallo, LC; Crespo, NC.

## ADMINISTRATIVE INFORMATION

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**Review Stage at time of this submission -** Completed but not published.

**Conflicts of interest -** None declared.

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**Amendments -** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 5 May 2026 and was last updated on 5 May 2026.

## INTRODUCTION

**Review question / Objective** The current review aimed to evaluate the effectiveness of interventions using either Mindfulness-Based Stress Reduction (MBSR) or Mindfulness-Based Cognitive Theory (MBCT) tailored for adult patients with chronic pain (≥12 weeks) conducted in safety-net settings (e.g., Federally Qualified Health Centers or Community Health Centers) and to describe the strategies that researchers utilized to adapt content and/or program delivery to these populations.

**Rationale** Chronic pain affects millions of U.S. adults and disproportionately impacts those with lower socioeconomic status. Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-Based Cognitive Therapy (MBCT) interventions can be effective at helping patients manage chronic pain. There is a need to evaluate the impact of tailored MBSR and MBCT interventions in safety-net settings where lower income populations receive medical care. Additionally, most of the existing literature on MBSR or MBCT for chronic pain management is based on samples that are not representative of diverse populations. Thus, a more targeted examination of the effectiveness and adaptation of mindfulness-based interventions in safety-net settings is warranted.

**Condition being studied** Chronic pain.

## METHODS

**Search strategy** Databases including PubMed, PsycINFO, Scopus, and Google Scholar. PubMed
[All Fields]
(mindfulness) OR (mindful))
AND (mindfulness-based stress reduction) OR (MBSR)
AND (mindfulness-based cognitive therapy) OR (MBCT)
AND (pain) OR (chronic pain) OR (recurring pain)

AND (underserved) OR (low-income) OR (low ses) OR (uninsured) OR (socioeconomically disadvantaged)
AND (inner city)
AND (federally-qualified health center) OR (FQHC)
AND (community health center) OR (CHC) OR (safety-net)

PsycINFO/PICOT Guided Search [All Fields]
(underserved adults OR low ses OR low-income)
AND (Mindfulness-Based Cognitive Therapy OR MBCT
AND Mindfulness-Based Stress Reduction OR MBSR)
AND (waitlist OR usual care OR treatment as usual OR placebo)
AND (improved pain OR chronic pain)
AND (randomized controlled trial OR rct OR experimental study OR trial OR pre-post)

Scopus [All Fields]
mindfulness-based stress reduction OR mbsr OR mindfulness-based cognitive therapy OR mbct OR mindful
AND chronic pain OR persistent pain
AND underserved OR low income OR low ses OR underinsured OR uninsured OR vulnerable OR socioeconomically disadvantaged
AND adults
AND randomized controlled trial OR rct OR intervention study

Google Scholar
mindfulness based stress reduction OR mbsr
AND mindfulness based cognitive therapy OR mbct
AND chronic pain OR persistent pain
AND underserved OR low income OR low ses OR medically underserved OR socioeconomically disadvantaged
AND federally qualified health centers OR community health centers
AND interventions OR randomized controlled trial.

**Participant or population** Adults aged 18 years diagnosed with chronic pain for ≥12 weeks. Recruited participants from a safety-net setting (e.g., a FQHC or CHC).

**Intervention** We included studies conducted in the U.S. that: 1) Explicitly described using principles of MBSR or MBCT or cited MBSR or MBCT literature as the basis for their mindfulness component. Mindfulness approaches could have been implemented as either a primary or complementary treatment approach (i.e., concurrent with drug treatment or additional non-pharmacological therapeutic approaches). 2) Tested the effectiveness in reducing pain symptoms using experimental or quasi-experimental study designs (e.g., randomized controlled trials, or nonrandomized trials) among adults aged 18 years diagnosed with chronic pain for ≥12 weeks. 3) Recruited participants from a safety-net setting (e.g., a FQHC or CHC). 4) Implemented on-site (e.g., at a FQHC or CHC) or through technology-based modalities (e.g., telehealth, mHealth applications, website, or other technology-based tools). 5) Included one or more of the following primary outcomes of interest: pain intensity, pain severity, pain catastrophizing, pain impact, average pain, and pain interference. We restricted inclusion to studies designating pain as a primary outcome to ensure that interventions were specifically designed and tailored to address chronic pain. Studies were excluded if they were not peer-reviewed (i.e., gray literature) and were published in languages other than English.

**Comparator** When applicable, any type of comparison group.

**Study designs to be included** Pretest-postest design, quasi-experimental, and randomized controlled trials.

**Eligibility criteria** n/a.

**Information sources** PubMed, PsycINFO/MEDLINE, Scopus, and Google scholar. Reference lists of articles identified were screened for additional relevant studies not captured in the initial database search.

**Main outcome(s)** Included one or more of the following primary outcomes of interest: pain intensity, pain severity, pain catastrophizing, pain impact, average pain, and pain interference. Pain measures need to be assessed at baseline and at least once following exposure to the mindfulness intervention. We used the mean change (change score) and mean difference (between-group) to calculate Cohen's d.

**Additional outcome(s)** n/a.

**Data management** EndNote 21 was utilized for reference management and duplicate removal. The titles and abstracts of potential articles were screened using Rayyan.

**Quality assessment / Risk of bias analysis** We rated the risk of bias and quality of evidence of the included studies using the Effective Public Health Practice Project (EPHPP) Quality Assessment Tool for Quantitative Studies. The tool evaluates

intervention design across six domains: selection bias, study design, confounders, blinding, data collection methods, and withdrawals. Reviewers rated each domain with a score of 1 (strong), 2 (moderate), or 3 (weak) and are assigned a global score based on each rating.

**Strategy of data synthesis** A narrative synthesis was used and Cohen's d effect sizes were calculated to facilitate comparison across studies (e.g., effectiveness and adaptations).

**Subgroup analysis** n/a.

**Sensitivity analysis** n/a.

**Language restriction** English.

**Country(ies) involved** United States.

**Other relevant information** n/a

**Keywords** chronic pain, safety-net, mindfulness, tailored, federally qualified health center, community health center.

**Dissemination plans** n/a.

**Contributions of each author**

Author 1 - Tania Valdez - Conceptualization, Conducted the Literature Search, Drafted the Manuscript, Methodology, Writing – Original Draft.
Email: tvaldez6728@sdsu.edu
Author 2 - Zahid Lopez - Methodology, Provided Statistical Expertise, Writing – Review and Editing.
Email: zgarcialopez2@sdsu.edu
Author 3 - Perla Rocha - Assisted with Literature Review and Risk of Bias Assessment Strategy, Writing – Review and Editing.
Email: procha5208@sdsu.edu
Author 4 - Gloria Toba - Assisted with Literature Review and Risk of Bias Assessment Strategy, Writing – Review and Editing.
Email: tobaglorias@gmail.com
Author 5 - Anthony Zepeda - Assisted with Literature Review and Risk of Bias Assessment Strategy, Writing – Review and Editing.
Email: azepeda5036@sdsu.edu
Author 6 - Taylor Clark - Conceptualization, Supervision, Writing – Review and Editing.
Email: taylyn.clark@gmail.com
Author 7 - Linda Gallo - Supervision, Writing – Review and Editing.
Email: lgallo@sdsu.edu
Author 8 - Noe Crespo - Supervision, Writing – Review and Editing.
Email: ncrespo@sdsu.edu