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# "We're all in this together": A qualitative study of predominantly low income minority participants in a yoga trial for chronic low back pain

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ABSTRACT

*Objective:* To explore the experiences of low-income minority adults taking part in a yoga dosing trial for chronic low back pain.
*Design:* Individual semi-structured interviews were conducted with nineteen participants recruited from a randomized yoga dosing trial for predominantly low-income minority adults with chronic low back pain. Interviews discussed the impact of yoga on low back pain and emotions; other perceived advantages or disadvantages of the intervention; and facilitators and barriers to practicing yoga. Interviews were audio taped and transcribed, coded using ATLAS.ti software, and analyzed with inductive and deductive thematic analysis methods.
*Setting:* Boston Medical Center, Boston, MA, USA.
*Results:* Participants viewed yoga as a means of pain relief and attributed improved mood, greater ability to manage stress, and enhanced relaxation to yoga. Overall, participants felt empowered to self-manage their pain. Some found yoga to be helpful in being mindful of their emotions and accepting of their pain. Trust in the yoga instructors was a commonly cited facilitator for yoga class attendance. Lack of time, motivation, and fear of injury were reported barriers to yoga practice.
*Conclusions:* Yoga is a multidimensional treatment for low back pain that has the potential to favorably impact health in a predominantly low-income minority population.


## 1. Introduction

Chronic low back pain (cLBP) is a complex condition.[1] Psychosocial factors may play a significant role in how well a person with low back pain (LBP) functions and copes with their pain.[2,3] Socioeconomic disparities can often exacerbate the severity of cLBP and limit access to treatment.[4–9] Patients are often not fully satisfied with conventional treatments and seek out alternative therapies, such as yoga.[10,11] A growing body of research supports yoga's effectiveness for reducing cLBP intensity and improving back-related function.[12–25] Yoga has also been shown to improve psychosocial outcomes,[26] suggesting it may be particularly advantageous as a holistic treatment for complex conditions such as cLBP. Although yoga was used by about 9.5% of adults in 2012,[27] yoga use among minorities and individuals with lower socioeconomic status is less common.[28,29] Similarly, participants in yoga for cLBP trials have been predominantly white middle-class adults.[13,14,17–20] Few yoga trials have enrolled a diverse lower income population with cLBP.[16,21]

Two randomized yoga trials for cLBP have reported qualitative findings on participants' yoga experiences.[12,30] Galantino et al. found that participants were motivated to attend yoga classes by the social aspect of the intervention.[12] They also perceived relaxation and new awareness as a result of yoga. In another study, Sherman et al. reported that stress reduction, increased awareness, improved self-efficacy, and an appreciation for the importance of breathing emerged as perceived benefits of yoga practice.[30] Neither of these studies included a discussion of perceived barriers and facilitators to yoga practice and both enrolled a predominantly white population.[12,30]

In a non-randomized study, Combs and Thorn interviewed adults with cLBP to collect information on perceived facilitators and barriers to yoga use.[31] Perceived facilitators included positive

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expectations about the effects of yoga and the ability to practice yoga with a friend. Participants commonly cited fear of injury, lack of motivation, time constraints, and financial difficulties as perceived barriers. A study by Atkinson and Permuth-Levine found that participants taking a non-disease specific community yoga class contributed positive relationships with their instructor facilitated attendance.[32] The interviewed samples for both studies did not report race, ethnicity, or income of interviewees therefore it is unknown how these findings relate to an underserved population.

Other qualitative studies have evaluated yoga as a treatment for other forms of chronic pain. For example, Tul et al. interviewed chronic pain patients in Canada[33] and Cramer et al. analyzed participant interviews after a yoga program for chronic neck pain in Germany.[34] Both studies reported body awareness, pain acceptance, and increased control over health as major themes discussed by participants. Furthermore, participants with chronic neck pain perceived improved coping mechanisms and reflected on the social benefits of yoga.[34] Given the limited qualitative literature on yoga for chronic pain conditions, it is unclear if participants with cLBP would have distinct experiences different from those with other types of chronic pain.

The current available literature does not include qualitative research that describes the experience of a diverse lower income population with cLBP enrolled in a yoga study. Given the disproportionate impact of cLBP and known challenges with treatment adherence in underserved populations,[6,35,36] more research is needed to understand the experience of yoga for cLBP in this population. Thus, the current qualitative study aimed to investigate the following in a predominantly low-income minority adult population with cLBP: (1) impact of yoga on cLBP and other physical conditions; (2) nonphysical effects of yoga; and (3) barriers and facilitators to yoga practice.

## 2. Methods

This qualitative study was embedded in a 12-week randomized trial comparing once- versus twice-weekly hatha yoga classes in 95 predominantly low-income minority adults with cLBP.[21] Participants were recruited through Boston Medical Center, an urban safety-net hospital, and five affiliated community health centers. Participants were recruited from patient populations made up of primarily low income minorities and were not screened based on socioeconomic status. A detailed description of the yoga intervention has been described elsewhere.[21] Yoga classes were taught by 200-h certified yoga instructors who received extensive training on a cLBP-specific hatha yoga protocol that included yoga poses, breathing techniques, and relaxation. Classes were supplemented by home practice aided by an audio CD and accompanying handbook. Participants were encouraged to keep home practice logs which were collected each week by the yoga instructors.

Of the 95 participants in the parent dosing study, 62 (65%) indicated willingness to be contacted for additional research opportunities. After completing the yoga intervention, research staff contacted all 62 participants. Nineteen (31%) of these individuals agreed to be interviewed for the current study.

### 2.1. Data collection

Interviews took place one to three months after completing the 12-week yoga intervention. All participants signed a written consent form prior to the interview. Interviewers (JEK and DD) each had two years of previous experience with qualitative research at the time the interviews were conducted and were not involved in administering the yoga intervention. Interviewers used a semi-structured guide developed by a team with experience leading clinical qualitative research (RP), conducting yoga trials for LBP (RBS), and conducting interviews (RP, JEK, and DD). The interview guide was designed to elicit responses regarding motivations, expectations, perceptions, experiences, and perceived barriers and facilitators to yoga practice. Participants were asked open-ended questions such as: "What was your experience like in yoga class?"; "How did your back feel during and after yoga?"; and "What made it harder for you to attend yoga classes?" Questions allowed for open discussion, and participants were encouraged to direct the conversation, focusing on those aspects of the intervention that they considered to be most relevant.

Interviews were conducted in a private office at Boston Medical Center and typically lasted 30–60 min. Each interview was audio recorded and transcribed verbatim. Each participant received a gift certificate worth $25 as compensation for participating in the interviews.

### 2.2. Data analysis

An initial code list was developed based upon participant written responses to open-ended questions administered as part of the parent dosing study as well as unpublished focus group data from a previous pilot study.[16,21] Following transcription, each team member read the first four interviews, drafted a summary of predominant themes, and met to compare findings. A revised code list was then developed using a combination of deductive and inductive approaches, allowing both broad researcher observations and direct participant quotes to guide its development. The two interviewers served as the lead coders, and two research assistants (CML and MEG) double-coded every third interview. As line-by-line coding of transcripts progressed, the research team met weekly to update the code list and assure that codes were being used reliably. ATLAS.ti qualitative data analysis software was used for managing the coding process. Ultimately, line-by-line codes were grouped into larger categories. Themes were developed after reviewing code frequencies and merging the highest code yields into distinct thematic categories.

## 3. Results

Participants' mean age was 49 years old and most were female (Table 1). The majority were non-Hispanic black, employed, and had public health insurance. About half had an annual household income of $30,000 or less. On average, participants experienced significant improvements in LBP intensity and back-related function during the 12-week yoga intervention. Most participants attended 75% or more of their prescribed yoga classes. There were no meaningful differences between interviewed participants and those that declined to participate.

Four main themes arose from interviews regarding perceptions of the yoga experience: (1) physical effects; (2) psychological effects; (3) body awareness; and (4) facilitators and barriers to yoga practice.

### 3.1. Physical effects

Central topics regarding the physical effects of yoga were cLBP relief, perceived importance of the stretching aspects of yoga postures, and the advantages of yoga for other physical conditions. All participants experienced back pain relief that they attributed to yoga practice. While some perceived long-term pain relief, two participants stated that they experienced pain relief only during yoga practice and the few hours following practice. Regardless of whether pain relief was described as long-lasting or short-term, all participants recognized the importance of maintaining regular