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Barriers and facilitators to yoga use in a population of individuals with self-reported chronic low back pain: A qualitative approach

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A B S T R A C T

Yoga has been found to be efficacious in treating chronic low back pain, yet biomedical treatments are most commonly used for pain. Promoting yoga as part of integrative care would reduce exclusive reliance on high-cost, higher-risk biomedical treatments. Attitudes toward yoga play a role in consideration of it as a treatment. The current study examined attitudes toward yoga in adults with chronic low back pain and compared these results to those found in a 2009 general population study. Participants completed a semi-structured interview where they responded to items about perceptions of potential barriers and facilitators to trying yoga. Participant responses were analyzed qualitatively and several common themes emerged. Themes identified by participants indicated there is mixed information about yoga in the public domain and that clarification of what yoga is, how it can be beneficial, and what it requires one to do physically may help promote its use.

1. Introduction

The practice of yoga originated in India thousands of years ago with traditional goals of uniting mind, body, and spirit for physical and mental well-being [9]. Yoga has been traditionally defined as a combination of physical movements, coordinated, intentional breathing techniques, and mindful awareness [9]. The National Center for Complementary and Alternative Medicine (NCCAM) defines yoga as a mind-body practice that combines breathing, physical movements, and meditation or relaxation techniques to benefit health and well-being [21] and yoga is becoming increasingly recognized in the United States (U.S.) as an activity with both psychological and physiological benefits [8,22] In fact, yoga is beginning to be considered a viable integrative treatment for a variety of physiological conditions [2]. Positive effects (i.e., decreases in physical symptoms) for yoga have been found for such conditions as diabetes, multiple sclerosis, kidney disease, breast cancer, heart disease, and chronic pain (see review in Ref. [22]). The current study is focused on yoga's potential to be considered a possible integrative treatment in a population of individuals with self-reported chronic low back pain.

Chronic low back pain has been established as a significant public health problem in the US, one that costs significant amounts of money in both treatment costs and lost productivity [16]. More than 80% of the American population will experience low back pain at some point in their life [23] and chronic low back pain is the second most common cause of disability status in American adults [4] and one of the most common reasons that individuals seek consultation from their primary care providers [19]. Traditional biomedical treatments (e.g., medication and surgery) for chronic low back pain are expensive (with estimated annual costs of $62.5 billion and $4.7 billion, respectively [13], often do not result in long-term improvement of pain, and pose high risks for significant side effects [6,11,13,29].Therefore, it is important to provide treatments for chronic low back pain that are not only effective, safe, and cost-effective, but also to provide individuals with multiple treatment options, rather than requiring them to rely solely on expensive, invasive procedures with potentially serious side effects.

Yet, the use of complementary and/or alternative medicine (CAM) as part of integrative care for chronic low back pain is not yet considered to be widely acceptable in the US. In recent years, however, the treatment of chronic pain conditions with CAM techniques has increased in acceptance and popularity [10,17,28]. It is estimated that approximately 6% of Americans with chronic low back pain have utilized at least one CAM technique in an effort to treat their pain [17]. Early empirical evidence suggests that yoga is a CAM treatment that is feasible and efficacious for treating chronic

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low back pain in adults, when compared to control groups and medical treatment as usual [12,15,18,27].

Even with research demonstrating its benefits, individuals may have attitudes toward yoga that play a significant role in determining whether or not they will be open to trying it, in general, or as a treatment for chronic low back pain. These attitudes may be influenced by such variables as age, gender, ethnicity, culture, geography, and previous experience. A simple lack of knowledge about yoga or other CAM treatments often contributes to misperceptions about and lack of participation in such treatments. This may be especially true for yoga, as its origins and background are often misunderstood. For example, yoga is frequently considered by non-practitioners to be a form of religion and this has been noted by non-practitioners as a barrier to participation [1]. Individuals with chronic pain, in particular, may be afraid that a movement-based therapy would exacerbate their pain, and therefore be less willing to try it.

In 2009, Atkinson and Permuth-Levine conducted a qualitative study examining the perceived benefits of and barriers to yoga in a general population. Results of this study demonstrated perceived benefits tended to center around the themes of health promotion and wellness, disease prevention, and social/psychological benefits [1]. Individuals noted barriers to practicing yoga, such as, time (e.g., long duration of class), cost (e.g., buying own equipment), perceived negative health effects (e.g., difficulty for people with certain physical conditions), and other negative pre-existing conceptions (e.g., lack of aerobic challenge, religious conflicts [1]. In spite of suggested barriers, individuals with any previous yoga experience tended to recognize the potential benefits of yoga, whether or not these benefits applied directly to them. Since research examining barriers and motivators to yoga practice has been conducted in general, but never in a specific chronic pain population, it is important to assess what obstacles individuals with chronic low back pain perceive as preventing them from engaging in a potentially beneficial treatment and how these might be different from those perceived by a general population.

2. Methods and materials

2.1. Participants

Participants were 102 community-residing adults, ages 19 to 84 (mean age = 50.5 years), who self-reported having chronic low back pain (pain resulting from an injury or condition that is significant and has lasted at least six months). Participants were recruited as part of a larger study from a collegiate town in western Alabama via publicly distributed flyers, announcements in local newsletters, and in-person recruitment at a number of community sites. An incentive of $10 was paid to participants for completion of the entire study. Recruitment was limited to participants who were without significant cognitive deficit, able to communicate in English, and who were not reporting acute pain (defined as temporary pain resulting from a specific injury) as a primary pain source. There were no exclusions based on sex or ethnicity.

2.2. Measures

Participants were asked to respond to a semi-structured interview. They provided information on their age, sex, ethnicity, marital status, and level of education as part of the interview. Participants were also asked to provide information about their pain history (including pain duration and intensity), level of exercise, previous yoga experience, and attitudes towards yoga. The majority of information included in the interview was used for descriptive purposes, aiding in describing general participant characteristics as well as in gathering qualitative information related to participants' attitudes toward yoga. The two main items considered for qualitative analysis in the current study addressed participants' opinions about what might motivate or prevent someone from trying yoga and were worded “What might motivate someone to try yoga?” and “What might prevent someone from trying yoga?” respectively. An additional item assessing participants' perceptions of yoga as harmful or beneficial in the context of having chronic low back pain was also included. This item asked participants to respond to the statement, worded “Given my chronic pain condition, if I practiced yoga, it would be,” using a scale of 1 (Harmful) to 7 (Beneficial).

As part of the larger study, participants also completed the Pain Catastrophizing Scale [25], the Tampa Scale for Kinesiophobia [20], and the Beliefs About Yoga Scale [24].

2.3. Procedure

Participants were either recruited on-site at one of the participating community locations or saw a flyer and scheduled an appointment via phone or e-mail. All participants completed the study in person with a researcher associated with the University of Alabama Pain Research Lab. After giving informed consent participants completed the semi-structured in-person interview, along with other measures administered for purposes of the larger study. At the completion of the interview session, participants were compensated $10 for their time and effort in completing measures and responding to interview questions.

3. Analytic approach

A qualitative analysis of two open-ended items on the study interview, those directly asking about potential barriers and facilitators to yoga practice was conducted utilizing the thematic approach described by Braun and Clarke [5]. This technique is widely used in psychological research and involves the identification of patterned responses (themes) in the data by designated coders. The goal of these qualitative questions was to explore the opinions of adults with chronic low back pain related to what might motivate or prevent someone from trying yoga.

Qualitative analytic steps included: (1) preparing the data for analysis; (2) initial reading of interview responses; (3) re-reading of the interview responses with annotations of potential coding themes; (4) sorting items of interest into proto-themes; (5) examining the proto-themes and attempting initial definitions; (6) axial coding; and (7) constructing the final form of each theme [5]. First, items of interest were reviewed for each participant by 2 coders (primary author and research assistant). The coding team then independently reviewed the participant responses to the first item (facilitators) and the second item (barriers), coding separate responses according to thematic interpretation. After coding all of the responses, each coder sorted the codes into potential themes the coding team then met to discuss and compare the independently identified themes. This occurred for four rounds of coding, where themes were narrowed further in each round. New themes and refinements to identified ones were discussed initially by the two-person coding team at regularly scheduled meetings. The analysis team kept detailed notes as part of an audit trail, documenting each step of the coding process to help document analytic decisions [3]. A senior member of the research team reviewed final identified codes developed by the coding team as a means of facilitating rigor and trustworthiness in the qualitative data [7].

Participant answers to one additional Likert item assessing beliefs about yoga's potential to be harmful or helpful in the context of chronic pain were also analyzed to provide a greater understanding of their expressed perceived barriers and facilitators.