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## BARRIERS AND FACILITATORS TO CHRONIC PAIN SELF-MANAGEMENT: A QUALITATIVE STUDY OF PRIMARY CARE PATIENTS WITH COMORBID MUSCULOSKELETAL PAIN AND DEPRESSION

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### Abstract

**OBJECTIVE**—To identify barriers and facilitators to self-management of chronic musculoskeletal pain among patients with comorbid pain and depression.

**DESIGN**—A qualitative study using focus group methodology

**SETTING**—Veteran Affairs (VA) and University primary care clinics

**PATIENTS**—Recruited after participation in a clinical trial

**INTERVENTION**—The Stepped Care for Affective Disorders and Musculoskeletal Pain (SCAMP) trial tested an intervention of optimized anti-depressant therapy combined with a pain self-management program versus usual care for primary care patients with comorbid chronic pain and depression.

**OUTCOME MEASURES**—Thematic content analysis from focus group data was used to identify patient-perceived barriers and facilitators to self-management of chronic musculoskeletal pain.

**RESULTS**—Patients (N = 18) were 27 to 84 years old (M = 54.8), 61% women, 72% White, and 22% Black. Barriers to pain self-management included: 1) lack of support from friends and family; 2) limited resources (e.g. transportation, financial); 3) depression; 4) ineffectiveness of pain-relief strategies; 5) time constraints and other life priorities; 6) avoiding activity because of fear of pain exacerbation; 7) lack of tailoring strategies to meet personal needs; 8) not being able to maintain the use of strategies after study completion; 9) physical limitations; and 10) difficult patient-physician interactions. Facilitators to improve pain self-management included 1) encouragement from nurse

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care managers; 2) improving depression with treatment; 3) supportive family and friends; and 4) providing a menu of different self-management strategies to use.

**CONCLUSIONS**—Future research is needed to confirm these findings and to design interventions that capitalize on the facilitators identified while at the same time addressing the barriers to pain self-management.

### Keywords

self-management; chronic pain; depression; primary care

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## INTRODUCTION

Chronic pain affects over 50 million Americans [1], and musculoskeletal pain is especially common. Chronic pain is a leading cause of disability [2] and leads to an estimated \$100 billion dollars a year in health care costs [3]. Numerous studies have documented inadequate pain management in a variety of settings [4–7]. The best outcomes have been observed in multidisciplinary pain clinics, but services are not widely available [8]. As a result, most patients with chronic pain are managed in primary care.

Self-management, defined as “the ability to manage the symptoms, treatment, physical and psychosocial consequences and life-style changes inherent in living with a chronic condition [9],” is key modality in the treatment of chronic pain. Reviews have documented the effectiveness of self-management strategies for chronic pain. For example, a systematic review by Newman et al. [10] found strong evidence from clinical trials that self-management programs are effective in improving the symptoms for both low back pain and osteoarthritis, with possible secondary benefits in reducing psychological distress. Furthermore, back pain outcomes may be more dependent on effective self-management than on diagnostic approaches or other treatments [11]. Not only does self-management appear to hold promise for the treatment of chronic pain, but the Institute of Medicine has identified self-management as a means to promote health care system improvements in the U.S. [12].

During the past two decades, several pain self-management programs have been developed for primary care patients. One such program is the Arthritis Self-Management Program which trains both professionals and lay leaders to implement a standardized program for patients and community members living with chronic pain [13]. The premise of self-management programs is to teach skills that patients can use to better manage their pain on their own and to encourage participation with providers in deciding their treatment plan [14]. Self-management programs differ from passive dissemination of patient education materials (e.g., self-help books or pamphlets) through their emphasis on patient skill development, which serves to increase confidence or self-efficacy to manage symptoms and to make lifestyle changes to improve their health [15,16]. In collaboration with providers, patient self-managers actively manage their pain symptoms [13,16]. That is, the patient learns to communicate with providers about preferences for different treatments, seeks and practices self-management strategies, and evaluates the strategies’ benefits before seeking other therapies. Enhancing patient self-management skills has shown to decrease pain severity and improve functional status [17–21].

Successful development of self-management skills may be more challenging for patients who also experience depression—a comorbid condition present in 30% to 50% of patients with chronic pain [22,23]. Comorbid depression may interfere with patients’ ability to self-manage their pain [24] leading to reduced self-efficacy and lower expectations of self-management efforts. However, there is a paucity of research on pain self-management among patients with medical and psychiatric comorbidity [25].

Little is known about the challenges patients face, particularly when pain is accompanied by depression, in learning and applying self-management skills. Although some studies [26–28] have identified barriers to effective self-management, the literature is significantly limited on the potential facilitators to self-management. Therefore, the primary objective of this study was to identify perceptions of barriers and facilitators to effective self-management of chronic musculoskeletal pain for patients also experiencing comorbid depression. By identifying facilitators and barriers, we hope to inform the delivery of future pain self-management programs, as well as increase the effectiveness of these interventions.

## METHODS

### Study Design, Rationale, and Sample

We conducted a qualitative study of four focus groups of patients from the Roudebush Veterans Affairs (VA) Medical Center and Indiana University (IU) primary care clinics in Indianapolis, IN. Study participants (N = 18) were recruited after their participation in a randomized clinical trial called: “Stepped-Care for Affective Disorders and Musculoskeletal Pain” (SCAMP) Study. We employed qualitative methodology for several reasons. First, we sought to complement the quantitative data collected during the SCAMP trial to help explain reasons underlying the impact of the intervention and examine why particular aspects may have worked and did not work; quantitative data alone from SCAMP does not provide the same level of understanding. Second, we believed that a qualitative approach would provide the richest possible data by allowing patients to explain in their own words their experiences with SCAMP, particularly with respect to patients’ perceptions of barriers/facilitators related to using pain self-management strategies. Third, detailed qualitative data elicited from this study, coupled with the quantitative data from SCAMP, will work in tandem to help to inform future pain self-management interventions.

Of the 18 participants, 11 were recruited from IU and 7 from the VA. The SCAMP study design, hypotheses, and intervention details have been described elsewhere [29]. In brief, SCAMP was designed to test the effectiveness of a stepped-care approach to deliver a combined medication and behavioral intervention for primary care patients with chronic musculoskeletal pain and depression. Specifically, the intervention consisted of 12 weeks of optimized antidepressant therapy according to a medication algorithm (Step 1); followed by a 6-session pain self-management program (Step 2) delivered over 12 additional weeks. Patients received six sessions, with the specific elements outlined in Table 1. Patients were scheduled to receive one-half of the self-management elements via telephone and one-half in-person. However, the mode of delivery of the individual elements was variable depending on the patient. Due to patient convenience and preference, more of the self-management elements were delivered via telephone. The self-management sessions were based on social cognitive theory [30] focusing on increasing self-efficacy and social support to self-manage pain. Nurse care managers (supervised by two study physicians) delivered all aspects of the intervention during in-person visits and via telephone calls.

To be included in the SCAMP trial, patients had musculoskeletal pain of the low back, hip, or knee. Their pain had to be: 1) persistent for 3 months or longer despite conventional analgesic treatment (i.e., prior use of at least two different analgesics); 2) of at least moderate severity, defined as a Brief Pain Inventory score of 5 or greater [31] and 3) musculoskeletal in nature according to International Statistical Classification of Diseases and Related Health Problems (ICD-9) diagnoses of low back pain, osteoarthritis, knee pain, hip pain, or leg pain. We did not exclude patients with other co-existing musculoskeletal conditions (e.g., fibromyalgia or chronic widespread pain). In addition to chronic musculoskeletal pain, patients enrolled met criteria for coexisting clinical depression at baseline. Clinical depression was defined as a

Patient Health Questionnaire-9 (PHQ-9) score  $\geq 10$  and endorsement of depressed mood and/or anhedonia [32]. PHQ-9 scores  $\geq 10$  equate to at least moderately severe depression.

Excluded individuals were those who: 1) did not speak English; 2) had moderately severe cognitive impairment [33]; 3) had bipolar disorder or schizophrenia; 4) had a current disability claim being adjudicated for pain; 5) had a positive screen for alcohol or drug dependence; 6) currently pregnant or planning to become pregnant; or 7) had an anticipated life expectancy  $\leq 12$  months.

### Participant recruitment for focus groups

All patients (N = 101) who completed the 12-month SCAMP trial intervention were eligible for participation in the current study. At the SCAMP trial close-out survey, participants were asked if they were interested in participating in a focus group. Study research assistants then contacted potential participants via telephone to confirm interest in the study, explore availability to participate, and schedule a meeting time. Those patients willing to participate completed written informed consent at the beginning of the focus group. The time between patients' close-out from the trial and participation in a focus groups was relatively short (i.e.,  $< 6$  months) in order to optimize recall of their experiences with the pain self-management program. Upon completion of the session, participants received \$40 for their time and travel expenses. The Institutional Review Boards of Indiana University-Purdue University Indianapolis and the Research and Development Committee of Roudebush VAMC approved the study.

### Focus Group Protocol

Focus groups were stratified by gender and clinic site (VA vs. University) to group people who were unfamiliar with one another, but who had similar characteristics and experiences to foster empathy with one another and enhance self-disclosure. In each session, 3 to 6 patients participated. An experienced moderator (KAN) facilitated the sessions, guided by semi-structured questions (listed in Table 2) addressing self-management strategies introduced during the trial.

The lead author (MB) constructed the initial set of questions. To refine the focus group script and decide on the final set of questions, a series of meetings was convened among an interdisciplinary research team. The team included two physician-researchers with expertise in primary care research, chronic pain, and depression; a health psychologist with experience in pain self-management interventions; an educator with experience in moderating focus groups and qualitative analysis of data; and a researcher with a doctorate in communication and expertise in patient-provider communication. The focus group guide was piloted internally among members of the research team to finalize the specific wording, phrasing, and the sequence of the questions prior to conducting the focus groups with study participants. Open ended questions, combined with a series of probing questions, were designed to elicit perceived barriers and facilitators to the use of pain self-management strategies. In addition, because study participants suffered from comorbid pain and depression, we asked questions related to patients' perceptions of the pain and depression relationship. Other questions focused on the self-management strategies that participants used and found helpful (as well as not helpful) for pain relief and improvement of function.

To enhance reliability of data collection and continuity of data analysis, the same moderator facilitated all four focus groups. For quality assurance, two note-takers (MJB and DLS) were present during the focus groups to record relevant gestures and behaviors that might contradict the spoken words. Sessions were both audio- and video-recorded. The audio-tapes were professionally transcribed. The video-tapes were used for quality assurance reasons as well as

capturing both verbal and nonverbal communication. Each group met for two hours in a conference room at the Roudebush VAMC. Immediately after each focus group, the moderator and note-takers met to discuss overall impressions and specific comments that were noteworthy. These discussions were used iteratively to inform subsequent focus groups and to detect potential gaps in content. Arrangements were made for participants requiring transportation assistance and refreshments were provided.

### Data Analysis

In order to analyze the data, five members of the research team first read each transcript independently and created a preliminary list of salient and noteworthy participant quotes. Second, each researcher created a preliminary list of themes reflected in the data. Third, identified quotes and the preliminary themes were reviewed and discussed among team members during biweekly meetings to formalize an agreed upon code list. Discrepancies in the choice of codes were resolved iteratively by consensus. Next, final coding of the data was done independently by three members of the research team and then compared during the biweekly meetings. During this process, particular attention was paid to themes marked by recurrence, repetition, and emphasis [34]. Coding and analysis were facilitated by the qualitative data software, MAX.QDA 2007. All members reached agreement on final themes, which remained stable and consistent across all four focus groups. Finally, data were summarized, grouped into conceptual themes, and analyzed using standard qualitative techniques. [35–37].

Our analysis focused on perceived barriers and facilitators to pain self-management. We also identified self-management strategies in general as well as those that patients found most effective. Coded text was further examined by counting the number of times barriers and facilitators and specific self-management practices were mentioned as an indicator of relevance within and across groups. Four focus groups yielded a wide range of responses, and during the analytic process we reached theoretical saturation.

## RESULTS

Of 123 patients randomized to the SCAMP intervention, 101 patients completed the 12-month trial and were potentially eligible for this study. A random sample of 52 patients was contacted via telephone until at least 4 participants per focus group had been scheduled. Among the patients contacted, 18 refused participation, 14 could not be scheduled for logistical reasons, and 2 were “no-shows.” The primary reason that patients refused was being “too busy.” There were no sociodemographic or clinical differences between those who participated and those who did not.

All 18 participants had completed the pain self-management program component of the SCAMP trial intervention. Focus group participants ranged in age from 27 to 84 years (mean age = 54.8). Sixty-one percent were women, 72% were white, and 22% were African American. In terms of depression diagnosis, three-quarters of participants met DSM-IV criteria for major depression. The mean Hopkins Symptom Checklist-20 for depression was 1.89 (on a 0–4 scale), representing moderately severe depressive symptoms. Likewise, the mean Brief Pain Inventory severity and interference scores of 6.15 and 6.97 (on 0–10 scale) respectively represent moderately severe pain. On average, participants had experienced pain for 8 years, with 61.1% suffering from back pain and 38.9% having pain in the hip or knee.

We focused on the broad themes of barriers and facilitators to pain self-management and identified 12 unique barriers and 10 facilitators, as summarized in Table 3. We also identified self-management practices used by participants; some of which were promoted by the SCAMP

trial nurse care managers, according to a written protocol, while other strategies were developed by patients on their own.

### Barriers to pain self-management

Focus group participants reported multiple barriers to the use of pain self-management. We did not observe distinct differences in perceived barriers by gender or clinic site. The most frequently reported barriers are discussed below.

**Pain is disabling and interferes with self-management practices**—The most common complaint voiced by participants was the debilitating physical effects of pain and how these limitations interfered with self-management practices. To illustrate, one participant stated: *“A lot of those things I love to do, but I can’t do. Like, I love to walk. I use to walk every evening; and, now, I’m like, it takes me forever to go down three blocks and back. ‘Cause I gotta stop and rest these silly legs.”* Other participants mentioned that the strengthening exercises and walking recommended as part of the SCAMP program *“were not possible...not everyone can do those.”*

**Patients fear they will hurt more if they engage in exercise and physical activity**—Many patients expressed fear that engaging in activity would exacerbate their pain. One patient said: *“There have been times I have been in pain, and I don’t want to exercise. I don’t want to end up hurting myself.”* While minimizing bed rest and increasing activity were goals of the self-management program, one patient countered by saying: *“I think for me, sleep is the only thing that I can do to really keep from hurting, I mean you know, where I don’t have to deal with it, you know, it’s kinda like I can actually take my pain and I can throw it away. And it’s gone, for this period of time.”* Another woman said: *“My joints are deteriorating at a really bad rate, and there is no way I can do that (be active).”*

**Patients perceive their PCPs prescribe medications as the sole modality to relieve pain**—Focus group participants mentioned that they had not received instruction in pain self-management strategies from their primary care physicians (PCPs). Instead, participants reported that their PCPs almost exclusively relied on analgesics to treat their patients’ pain. *“My doctor just wants to push prescription after prescription, and I didn’t want to hide the pain, I wanted to fix it. So, you know, the different techniques, like the relaxation exercise, working, and gardening, anything... I didn’t want to take a whole bunch of medicine,”* said one patient. Another patient complained: *“Well, he just wanted to keep piling medication on top of medication. There’s got to be an easier answer.”*

**Depression and stress negatively affect self-management**—Depression as a barrier to self-management was mentioned in each focus group. One patient said: *“Well, I mean, when you are depressed, you just don’t want to do nothing. You just want to... I just want to lay there and just wallow in my pity.”* She went on to say: *“I had no hope. I had come to the point where this was, forever. I wasn’t gonna get any better. That is a real tough place to be.”* This sentiment was echoed by another patient: *“And down in the hole was where you were focusing on how bad you hurt, and it felt like you were the only one with pain.”* Stress was also mentioned as interfering with self-management. One participant said: *“Yeah, it will interfere with it (pain self-management). I mean, when you are stressed out, you concentrate on what is causing the stress.”*

**Patients report that some self-management practices do not work or are not tailored to them**—Some patients were either not interested (e.g., *“I really didn’t get into it very much”*) in the self-management practices prescribed during the SCAMP trial or felt that the practices were not effective in relieving their pain. For example one patient stated: *“But as*



far as the relaxation, like during the day trying to do the deep breathing or, you know, muscle relaxation, or any of that, I don't know, I just... I cannot shut it down. I just... I cannot relax." Some strategies simply did not help relieve a person's pain. One patient stated: "I could use it (deep breathing) a lot, but it just never helped my problem at all." While relaxation was ineffective for some patients, others reported that the exercises did not effectively relieve their pain.

#### **The lack of social support interfered with the use of pain self-management—**

Patients mentioned not having the support of those around them, either at work or at home. One patient complained of a lack of support from her boss: "All of these supervisors, they want you moving and doing stuff. I'd like to say, 'Well, my back starts stiffening up or starts aching, I gotta find time to stretch.' Sometimes they are not real understanding in that." Others did not have support from family: "...you don't have other people supporting you, like a husband, significant other, brother or sister, or your children, you know, it falls on you."

**Other barriers to pain self-management—**While not widely discussed, some participants cited additional barriers to pain self management, including simply not having the time to engage in self-management practices, lack of self-discipline ("lazy" or "too tired"), and limited financial resources for transportation to and from physician or physical therapy appointments.

### **Facilitators to pain self management**

Perceived facilitators to use pain self-management are listed in Table 3. The most frequently mentioned facilitators are discussed below.

**The relief of depression symptoms helped patients engage in pain self-management—**Effective treatment of patients' depression was the most frequently cited facilitator to pain self-management. One patient declared: "The depression went away and I was able to do more." Several participants touted the benefits of anti-depressant therapy: "...the medication that got me from this deep depression where I could deal with anything." Another patient said, "Okay, so once you got out of the depression, you were able to, start to think about strategies to help your pain." Additional benefits of depression treatment mentioned were improved mental "focus"; greater desire or motivation to do things; more positive outlook, and better sleep. One man said "Life is fun again...it makes pain more manageable."

**Having the support of others facilitated the use of pain self-management practices—**While lack of support was perceived as a barrier to self-management, the presence of support from family, friends, and study nurse care managers was frequently cited as a help to patients in their efforts to execute their self-management practices. One patient said that her family "knows my situation" because they struggle with pain too. She went onto say, "It makes a world of difference...nothing works better than support." In addition to friends and family, some patients pointed to the value of peer support groups, which serve to "provide advice, compare notes, share the research that has been done... because you realize you're not the only one." Somewhat surprisingly, several participants mentioned pets as a motivator to self-management.

Study nurse care managers were also viewed as strong sources of support. One patient said, "she can get me back on track" and provide "positive reinforcement." Another participant mentioned that the nurse care managers helped her overcome the pessimism associated with chronic pain and depression. This patient said: "I was so bad off one time, and I pitied myself.

*But she pulled me out of that.*” Patients reported relying on the care manager support. One participant said, *“You need that backbone.”*

**To motivate themselves, patients would sometimes compare their health to that of others**—Several participants mentioned that being able to compare themselves to others helped to put their pain in perspective. One veteran said: *“Somebody is a hell of a lot worse than I am. And, you get talking to them and think: ‘Hell, if they can get through life, I can.’*” A woman mentioned that she has a foster brother *“who makes my pain look like a hangnail.”* This comparison helped her not to dwell as much on her pain.

## DISCUSSION

In this study, we identified patient perceived barriers and facilitators to pain self-management for primary care patients with comorbid musculoskeletal pain and depression. Prior to the study, all patients had participated in a 12-month clinical trial testing the effectiveness of a stepped care intervention that combined anti-depressant treatment and a 6-session self-management program. The most frequently reported barriers to the use of pain self-management included the disabling effects of pain, how PCP’s use medications as the sole modality to relieve pain and do not discuss other self-management practices, the negative effects of depression and stress, fear that exercise and activity exacerbates pain, the lack of efficacy of some self-management practices, and the lack of social support. Other perceived barriers included the lack of tailoring strategies for a particular individual, time constraints, lack of patient motivation or discipline, and limited financial or transportation resources.

The most commonly patient perceived facilitators to the use of pain self-management were the treatment and relief of depression symptoms, having support from family, friends, care managers, and co-workers (e.g. social support), comparing one’s pain with that of others (i.e., social comparison), being a proactive patient, having a positive attitude and using positive thinking/affirmations, setting and achieving goals, and having a menu of self-management strategies from which to choose.

Interestingly, some issues such as depression and social support were viewed as both barriers and facilitators. For example, untreated or suboptimal treatment of depression interfered with the use of self-management practices, while the effective treatment of depression facilitated their use. Likewise, lack of social support hindered patients’ use of self-management strategies, while the presence of social support facilitated self-management. For example, families have been found to both prevent and facilitate the adoption of self-management practice. [38]

Other studies have assessed patient perceived barriers to self-management for chronic illness [26,28] in general and chronic pain [27] specifically. Jerant et al. [26] found both the physical (e.g. pain, fatigue) and emotional (e.g. depression) limitations associated with chronic illness, financial constraints, lack of family/social support, and inadequate communication with providers as common barriers to self-management for chronic illness. In a mixed-methods study, Bayliss et al. [28] identified similar barriers, but identified two additional barriers. First, one chronic disease may be exacerbated by the symptoms of or the treatment for another chronic disease. Second, patients experience difficulty taking multiple medications. The authors concluded that many of these barriers were directly related to medical comorbidity.

A study by Austrian et al. [27] focused more narrowly on barriers to exercise and relaxation among older adults with chronic pain and found transportation, time conflicts, treatment efficacy concerns, and pain-related disability to be the most problematic. As in these previous studies, patients in our study perceived multiple barriers to using self-management practices. The study identified several barriers (physical limitations, depression, lack of efficacy of some



practices, lack of social support, financial constraints, and transportation problems) that corroborate previous findings and extend them to a group of primary care patients with comorbid pain and depression.

The unique barriers identified in this study included patients' perceptions that their providers almost exclusively rely on and prescribe medications to relieve pain, fear that exercise and activity will exacerbate pain, lack of tailoring self-management practices specifically to meet patient needs (i.e., "one size does not fit all"), and lack of some strategies' effectiveness in relieving pain. While depression has been found in previous studies to interfere with self-management [24,39,40], depression was a pervasive issue discussed in each focus group and mentioned frequently as both a barrier when untreated and a facilitator when effectively treated.

One explanation for the frequent mention of depression in our focus groups may be that all patients in our study had previously participated in a clinical trial targeting chronic pain with comorbid depression. Nonetheless, this finding highlights the central role depression management plays in engaging patients in pain self-management. In a previous analysis of SCAMP trial data, Damush et al. [24] found that baseline depression severity substantially decreased the use of exercise as a pain management strategy. In a follow-up study, we found that the SCAMP intervention (anti-depressants and a pain self-management program) increased self-management behaviors at 12 months. [41] Consistent with our findings, other studies [39,40] have found that depression negatively impacts self-management for chronic illness. Conversely, several patients mentioned that effective treatment of their depression allowed them to "focus" better on self-management practices to relieve their pain.

Previous studies have identified facilitators to patient self-management for chronic diseases such as diabetes and HIV. [38,42] For instance, support from providers can play a central role in patient self management. In addition to offering emotional support, providers can help equip patients with self-management skills such as symptom management tools, goal setting and planning, effective communication, and accessing health information and resources. A key emergent finding in our study was that patients reported feeling supported, encouraged, and listened to by the SCAMP nurse care managers. [43]

Religious beliefs have also been identified as a facilitator to pain self-management. For example, Carbone et al. [38] found that strong religious faith facilitated the adoption of self-management practices among Latinos with diabetes. In our study, only one participant mentioned religion: an African-American woman who shared that a strong belief in God helped her to relieve her pain ("I put it in God's hands"). While religion was not often mentioned, several participants reported the support of family and friends was critical to their adoption of self-management, which is consistent with previous findings. [38]

Our study has some limitations. Although a small sample size is appropriate for our methodology and optimal for yielding the rich, detailed qualitative data in this study, it is also possible that we were not able to capture all possible perspectives on what makes self-management more or less difficult for patients. The focus group methodology allowed us to glean insights into patients' individual experiences and perceptions of the SCAMP intervention that might not have been achieved using other research methods. Because only 18 of 52 patients randomly contacted for the study participated, we cannot rule out the possibility of self-selection bias. Those who declined participation may have had more negative experiences with self-management, which may have led to a discussion of different facilitators, and, in particular, additional barriers not revealed here.

Similarly, patients who did not complete the trial and thus were not eligible for focus group recruitment, may have had different perceptions, particularly of barriers, than did those who completed the trial. However, we found no differences in sociodemographic and clinical

characteristics among those who refused or did not participate. Furthermore, the 18 participants did not demonstrate the best outcomes in the SCAMP trial, thus suggesting that selection bias was minimal. Finally, it is important to note that the factors that may prevent participation in pain self-management treatment may differ from those that emerged from this study simply as a function of the exposure of our sample to a self-management intervention.

Despite these limitations, our findings have several important implications. First, according to Glasgow [44], identifying barriers and “needs” is helpful in the development and implementation of successful self-management programs for patients with chronic illness. Second, because self-management practices are believed to promote physical and emotional health, providers should be aware of what interferes with or helps patients engage in these activities. Third, the effective treatment of depression should be a goal to optimize outcomes from self-management interventions. Fourth, educational interventions need to be developed to equip providers with brief, yet tailored according to preferences, self-management tips they can deliver to patients during their regular primary care visits. Fifth, the fact that some reviews have found current self-management programs may have weaker effect sizes for chronic pain than for several other chronic medical disorders [45,46] implies that modifications that better address barriers and facilitators may be needed. Finally, given the cross-cutting relevance of patient self-management, the barriers and facilitators identified in this study may apply, not only to the management of chronic musculoskeletal pain, but also to the care of patients with many other chronic conditions.

## CONCLUSIONS

In conclusion, our study identified a variety of patient perceived barriers and facilitators to self-management to relieve chronic musculoskeletal pain. Future studies should consider ways to capitalize on the facilitators identified while at the same time addressing the barriers to pain self-management. Our next study will consider participant involvement in a self-management program (e.g., treatment enactment, number of self-management sessions attended, and number of nurse care manager contacts), adherence to medications, and participants’ response to the intervention to evaluate whether different themes emerge in those more or less engaged or those who improve or fail to improve. In addition, unanswered questions remain including: 1) what elements of self-management lead to the best outcomes; 2) how to best integrate these elements into primary care practice, and 3) whom should be targeted for these strategies. Future research should seek to replicate these findings with a different sample and setting in order to determine whether additional facilitators and barriers can be identified, in an effort to develop an optimally effective, individually tailored self-management program.

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**Table 1**

## Pain Self-Management Program Topics

Overview of self-management and pain	Pain management
Factors influencing pain	Changing your outlook with positive thinking
Planning--goal setting	Distraction
Feedback and problem solving	Identifying pain triggers
Dealing with negative emotions, fears	Handling pain flare-ups
Physical activities—stretching, strengthening, walking	Working with health care providers and employers Evaluating non-traditional treatments
Relaxation/deep breathing Tips for better sleep	Good body mechanics and attention to posture

**Table 2**

## Focus Group Guide

<ul style="list-style-type: none"> <li>• What difficulties (if any) has your pain caused in your life? <ul style="list-style-type: none"> <li>– Can you share with us some of the challenges you have faced in managing (coping with, dealing with) your pain?</li> <li>– What about some of the successes you have had in managing your pain better?</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Think of some of the ways or strategies the SCAMP Pain Study taught you to better deal with (manage) your pain?</li> </ul>
<ul style="list-style-type: none"> <li>• Which of these strategies did you find particularly helpful to better manage your pain? <ul style="list-style-type: none"> <li>– Why did you find these helpful (relieve pain, improve activity or both)?</li> <li>– How did they help?</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Which of these strategies did you not find helpful? <ul style="list-style-type: none"> <li>– Why?</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• What were some of the challenges that you faced in using these strategies to better manage your pain?</li> </ul>
<ul style="list-style-type: none"> <li>• Do you think stress or mood problems (such as depression) made using these strategies more difficult?</li> </ul>
<ul style="list-style-type: none"> <li>• What are some things that made these strategies easy to use regularly?</li> </ul>
<ul style="list-style-type: none"> <li>• Has anyone learned other ways to manage/deal with your pain that we have not discussed today?</li> </ul>
<ul style="list-style-type: none"> <li>• Let's say that this discussion was going to be shared with your doctors with the goal to help them better treat your pain, what would you like to tell them?</li> </ul>



**Table 3**

Barriers and facilitators to using pain self-management strategies \*

<b>Barriers</b>	<b>Facilitators</b>
Pain interferes with self-management	Improving depression after treatment
Over-reliance on medications	Supportive family and friends
Limitations related to depression	Support groups with peers
Lack of tailoring to meet patient needs	Support from nurse care managers
Fear of activity	Social comparison
Ineffective pain relief from some strategies	Being a proactive patient
Lack of care manager support after study done	Positive thinking
Stressors	Positive affirmations
Time constraints	Improving one's self-esteem
Lack of motivation or self-discipline	Goal setting and achieving goals
Lack of support from friends, family, or employers	Providing a menu of different strategies to use
Limited resources (e.g. transportation, financial)	

\* Barriers and facilitators are listed from most frequently (top) to less frequently (bottom) reported by participants.