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Drug counselors' attitudes toward non-pharmacologic treatments for chronic pain¹

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Abstract

Objectives—To examine methadone counselors' attitudes toward individual- and group-based non-pharmacologic treatments for chronic pain.

Methods—Thirty methadone drug counselors were interviewed about their attitudes toward pain interventions and completed a survey on the perceived efficacy of and willingness to refer patients to non-pharmacologic pain treatments.

Results—Counselors reported favorable attitudes toward interventions commonly found in interdisciplinary pain management, particularly, conventional psychological approaches. On average, counselors rated cognitive-behavioral therapy (individual or group) as the treatment with the highest perceived efficacy and the one to which they were most willing to refer patients with pain. In contrast, on average, counselors rated the use of herbal medicine, aromatherapy, and magnets among the lowest in perceived efficacy and in willingness to refer patients with pain. Generally, higher perceived efficacy was associated with higher referral willingness, and scores on both dimensions were comparable across individual and group interventions.

Conclusions—Findings indicate that methadone drug counselors perceive several non-pharmacologic evidence-based pain treatments as efficacious for methadone-maintained patients with chronic pain and counselors would be willing to refer their patients to these therapies if they were available. If some of these non-pharmacologic interventions were shown to be effective in methadone maintenance treatment, they have the potential to address, at least in part, the routine under-treatment of pain in this vulnerable patient population.

Keywords

Pain; opioid-related disorders; methadone; therapy

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INTRODUCTION

The elevated rates of pain, interference in functioning due to pain, and associated psychiatric distress in patients on methadone maintenance treatment (MMT) (Jamison et al. 2000; Rosenblum et al. 2003; Peles et al. 2005; Ilgen et al. 2006; Barry et al. 2009b; Barry et al. 2011; Dhingra et al. 2013; Eyler 2013), accompanied by providers' difficulty managing pain in this patient population, underscore the need for improved MMT pain management interventions (Barry et al. 2008a; Berg et al. 2009). Whereas pharmacological interventions are central in treating different types of acute pain, non-pharmacological approaches are important in managing chronic pain (i.e., non-cancer-related pain lasting at least 3 months) (Keefe et al. 2004; Kerns et al. 2011; Roditi and Robinson 2011). However, proposed strategies for managing chronic pain in MMT have largely focused on pharmacotherapy, including the use of opioid medications (Collins and Streltzer 2003; Olsen and Alford 2006; Bailey et al. 2010; Alford et al. in press); less attention has focused on psychosocial or complementary health approaches.

While we previously examined—using a different study sample—counselors' experiences treating methadone-maintained patients with and without chronic pain (Barry et al. 2008a), we did not investigate their attitudes toward specific pain management interventions. Provider attitudes toward interventions can facilitate or impede their implementation and dissemination in clinical settings (Aarons 2005; Aarons et al. 2011). The current exploratory study aimed to solicit counselors' perceived efficacy of individual and group non-pharmacological chronic pain interventions and their willingness to refer patients with chronic pain to such treatments. In the absence of improvement with medication, education, and self-care, clinical practice guidelines issued in 2007 by the American College of Physicians/American Pain Society recommend providers consider acupuncture, massage therapy, spinal manipulation, cognitive-behavioral therapy (CBT), progressive muscular relaxation, exercise therapy, yoga, and intensive interdisciplinary rehabilitation (Chou and Huffman 2007; Chou et al. 2007). We examined attitudes toward groups as well as individual-based interventions since groups are cost-effective and commonly used in MMT programs (Kidorf et al. 2006). These data are likely to be of interest to MMT program managers who wish to develop or improve their pain management services. A mixed methods approach that incorporated both qualitative and quantitative methods was used since it facilitates an in-depth investigation of complex phenomena and allows for a detailed description of participants' subjective experiences (Curry et al. 2009; Creswell 2013).

METHODS

Participants

Participants were 30 drug counselors (10 men, 20 women) who self-identified as white (77%), African American (13%), Hispanic (7%) or other (3%), recruited from three opioid treatment programs operated by the APT Foundation, Inc., a private not-for-profit community-based organization located in New Haven, CT, which specializes in the treatment of opioid dependence. Participants had a mean age of 43.9 years ($SD = 12.7$ years) and ranged in years of clinical experience from 1 to 20 (mean years of clinical experience = 5.8, $SD = 5.2$). About one-half of the sample had a master's (53%) or doctoral (3%) degree,

17% had a 4-year degree, 13% had a 2-year degree, and the remainder (14%) had a high school diploma or GED.

Procedure

One of the authors (DTB) attended staff meetings to recruit participants. All counselors who spoke with a research assistant agreed to participate and were blind to the specific aims of the study. After completing a semi-structured interview, participants supplied demographic information. Irrespective of their interview responses, participants then rated a list of interventions with the aid of response cards (in the order specified in the measures section). The cover page of the questionnaire packet (measures described below) provided a description of the study, including potential risks and benefits. Individuals were paid \$20 for study participation. Participants were recruited between March 2010 and March 2011. This study, involving the use of survey and interview data without subject identifiers, was presented to the IRB at the Yale University School of Medicine and the APT Board; and was exempted from review per United States Department of Health and Human Services (HHS) regulation 45 CFR 6.101(b)(2).

Interviews

Clinical psychologists trained in the conduct of semi-structured interviews asked participants about their experiences treating MMT patients with chronic pain. For the purposes of this study, we focus on two questions about the “most interesting or vivid” clinical contact with a MMT patient in the past month that involved a discussion of the patient’s persistent physical pain: a) “What treatment or treatments do you think might help this person better manage their pain?” and b) “Which types of complementary or alternative interventions do you think might work as adjunctive treatment for this patient’s pain?” Interviews were audio-taped and typed up by trained transcribers.

Measures

Participants supplied demographic data (i.e., gender, racial/ethnic background, age, years of clinical experience, and highest level of education) and were provided with a list of interventions and response cards based on prior research (Barry et al. 2009a; Barry et al. 2010; Barry et al. 2012), informed that “People with persistent pain may benefit from a variety of treatments,” and asked, “If the following treatments were available to your patients with persistent pain, how willing would you be to refer them?” “Also, how effective do you think that they would be for your pain patients?” With the exception of massage therapy, heat therapy, ice therapy, chiropractic treatment, and Reiki, which were assessed only as individual-based treatments, participants rated individual and group versions of each treatment using 5-point Likert-type scales for willingness [0 (“Not willing at all”) to 4 (“Completely willing”)] and perceived efficacy [0 (“Not effective at all”) to 4 (“Completely effective”)].

The list of non-pharmacological pain interventions included: (1) “Physical Exercise,” (2) “Meditation,” (3) “Prayer or Spiritual Counseling,” (4) “Nutrition (advice about healthy food choices),” (5) “Progressive Muscular Relaxation Training (teaches patients step-by-step how to relax muscles in their bodies),” (6) “Visualization Training (teaches patients

step-by-step how to imagine scenes to help them relax),” (7) “Stress Management Training,” (8) “Sleep Hygiene Training (teaches patients strategies to help them sleep at night),” (9) “Communication Skills Training (teaches patients guidelines for communicating effectively with others),” (10) “Yoga (combines physical postures, breathing techniques, and meditation or relaxation),” (11) “Acupuncture (type of Chinese medicine that involves inserting needles on different parts of a person’s body),” (12) “Herbs/Herbal Medicine,” (13) “Hypnosis,” (14) “Massage Therapy,” (15) “Physical Therapy,” (16) “Heat Therapy,” (17) “Ice Therapy,” (18) “Chiropractic Treatment,” (19) “Tai Chi (practitioners move their bodies slowly, gently, and with awareness, while breathing deeply),” (20) “Music Therapy,” (21) “Aquatic Therapy,” (22) “Cognitive-behavioral Therapy,” (23) “Art Therapy,” (24) “Aromatherapy (uses plant oils that give off strong pleasant aromas to promote relaxation, a sense of well-being, and healing),” (25) “Magnets (magnetic patches and disks, shoe insoles, bracelets, and mattress pads are used for pain in the foot, wrist back, and other parts of the body),” and (26) “Reiki (therapists place their hands lightly on or just above the person receiving treatment, with the goal of facilitating the person’s own healing response).”

Qualitative Data Analysis

Two analysts independently reviewed the transcriptions, identified initial themes, and performed data coding using a grounded theory approach (Glaser and Strauss 1967). They then met with a clinical psychologist (MB) who has extensive experience in qualitative data analysis to review the themes; disagreements on key themes were reconciled. Rater agreement was 92%. Themes were entered into a spreadsheet, sorted to create frequencies, and retained only if they were reported by at least 10% of the participants.

RESULTS

Treatments for Pain

Table 1 shows treatments generated by counselors in response to an open-ended question regarding potentially helpful interventions for their patients with pain. On average, counselors generated 2.2 (SD = 1.3) responses. The most frequently reported treatments were psychological pain management, relaxation, and medical pain management. Less frequently reported responses were acupuncture and meditation. When probed specifically about potentially helpful adjunctive complementary health approaches, acupuncture and relaxation were the most frequently endorsed, whereas breathing techniques and prayer were among the least frequently endorsed.

Perceived Treatment Efficacy and Willingness to Refer Patients

Table 2 summarizes participants’ ratings of perceived efficacy and willingness to refer regarding individual-based and group-based non-pharmacologic pain interventions. Participants’ average ratings for perceived efficacy of individual-based treatments and willingness to refer patients were 2.8 (SD = 0.6) and 3.2 (SD = 0.6), respectively. On average, participants rated cognitive-behavioral therapy (CBT), progressive muscular relaxation, stress management, and aquatic therapy as the highest; and magnets, aromatherapy, herbal medicine, chiropractic treatment, and Reiki as the lowest, respectively, in terms of perceived efficacy of these individual-based pain interventions. Similarly, on

average, participants rated cognitive-behavioral therapy, progressive muscular relaxation, stress management, and acupuncture as the individual-based pain treatments to which they were most willing to refer pain patients; and magnets, chiropractic treatment, and hypnosis as the least.

Participants' average ratings for perceived efficacy of group-based treatments and willingness to refer patients were 2.8 (SD = 0.6) and 3.1 (SD = 0.6), respectively. On average, the highest and lowest rated ratings of efficacy for group-based pain interventions were CBT, stress management, meditation, and progressive muscular relaxation; and magnets, hypnosis, aromatherapy, and herbal medicine, respectively. Similarly, on average, participants rated CBT, stress management, nutrition, and art therapy as the group-based pain treatments to which they were most willing to refer pain patients; and magnets, hypnosis, herbal medicine, and aromatherapy as the least.

On average, perceived efficacy ($t = 0.4$, $df = 25$, $p = 0.69$) and willingness to refer patients ($t = 1.1$, $df = 26$, $p = 0.28$) did not differ statistically as a function of treatment format (i.e., individual vs. group). Higher levels of perceived efficacy were associated with higher levels of willingness to refer patients for both individual ($r = 0.7$, $p < 0.01$) and group treatments ($r = 0.8$, $p < 0.01$).

DISCUSSION

Our findings indicate that methadone counselors had positive attitudes toward multiple individual and group non-pharmacologic pain management interventions. Overall, counselors rated *mind and body practices* (National Center for Complementary and Alternative Medicine 2010)—in particular CBT—as being efficacious individual and group non-pharmacologic interventions for pain relief and the treatments to which they are most willing to refer their methadone-maintained patients with persistent pain. This is among the first studies to examine the attitudes of a key group of stakeholders, namely methadone drug counselors, in developing or improving non-pharmacologic pain treatments for opioid addicted patients.

In response to open-ended questions about helpful pain management interventions for their patients with pain, the most frequently reported were psychological pain management, relaxation, and medical pain management. Psychological treatments such as CBT have demonstrated efficacy in managing persistent pain (Kerns et al. 2011; Morley 2011; Roditi and Robinson 2011) and adhere to the recent Institute of Medicine report recommendation regarding the promotion of interventions that foster self-management of chronic pain (Institute of Medicine 2011). Thus, it is noteworthy that the three most highly ranked individual treatments in terms of perceived efficacy and referral willingness were CBT and two stress-related interventions that are commonly incorporated into CBT for pain management: progressive muscular relaxation and stress management. The high frequency of counselors' reporting medical pain management (and to a lesser degree surgical pain management) in response to an open-ended question about treatment helpfulness suggests that participants' favorable attitudes toward psychosocial interventions do not preclude them from possessing positive attitudes toward conventional medical approaches. These findings

complement those previously reported regarding the high levels of interest MMT counselors have in learning chronic pain management interventions and their positive attitude toward using manualized interventions such as CBT in clinical practice (Barry et al. 2008a; Barry et al. 2008b). The numerically lower ratings for perceived efficacy and willingness to refer patients for visualization training, communications skill training, and physical exercise—common skills training modules in CBT for chronic pain (Otis 2005)—may reflect incognizance about specific components of CBT for pain management, or, possibly, varying attitudes regarding the value of individual CBT components, and merits further investigation.

While there is currently an absence of evidence-based pain management strategies for MMT patients, research on non-addicted individuals has found that multidisciplinary treatments are more effective than standard medical management or no treatment in addressing chronic pain (Scascighini et al. 2008). Multidisciplinary pain treatments typically comprise at least three of the following: medical management, psychotherapy, relaxation techniques, physiotherapy, and vocational therapy (Scascighini et al. 2008). Counselors' responses to the open- and close-ended items indicate that they have positive attitudes toward multiple constituent components of a multidisciplinary pain management approach and would be willing to refer their patients to such interventions were they available. The finding that numerically higher percentages of counselors reported acupuncture and meditation as helpful for pain management when they were asked about “complementary or alternative interventions” as compared to “treatment” in general merits further research. It is currently unclear whether the designation of interventions as complementary or alternative versus conventional treatment influences counselor discussions of referral options with patients.

The American College of Physicians/American Pain Society 2007 clinical practice guidelines provide a context for examining provider attitudes toward pain interventions. When pain is not alleviated by medication, education, and self-care, it is recommended that providers consider acupuncture, massage therapy, spinal manipulation, CBT, progressive muscular relaxation, exercise therapy, yoga, and intensive interdisciplinary rehabilitation (Chou and Huffman 2007; Chou et al. 2007). The basis of the generally numerically lower participant ratings for physical exercise and chiropractic treatments as compared to other movement therapies is unclear and deserves further study. Of the five individual interventions that were ranked lowest on perceived efficacy, magnets, aromatherapy, herbal medicine, and Reiki lack evidence-based support for their use (Gagnier et al. 2007; Pittler et al. 2007; Lee et al. 2008; Lee et al. 2012). In contrast, hypnosis has demonstrated efficacy in treating chronic pain in non-addicted patients (Patterson and Jensen 2003; Dillworth et al. 2012). Overall, counselors rated several interventions, which were not specified in the 2007 clinical practice guidelines, high in perceived efficacy and willingness to refer.

There are several limitations that should be noted. First, these findings are based on a relatively small sample of counselors operated by one organization and may not generalize to other MMT program counselors. Our study focused on counselor reports; no independent reports of patients were conducted. Thus, the extent to which MMT patients with chronic pain view the studied interventions as efficacious or would follow up on their counselors' referrals for these treatments is currently unclear and should be further investigated.

Continued evaluation of MMT providers from differing clinical backgrounds is warranted (e.g., nurses, internists, psychiatrists) as they are likely to play important roles in developing or ameliorating pain management services in MMT. However, understanding the perspective of MMT counselors may be an important first step in being able to integrate care for MMT patients with chronic pain into the ongoing clinical practice of a methadone clinic. Given the absence of validated measures of counselors' attitudes toward pain management interventions in MMT, we developed an instrument, which although face-valid, has not been formally validated. We did not conduct inferential statistics to examine potential differences in provider attitudes on each intervention because of the small sample size, large number of interventions, and exploratory nature of this pilot study. Given the complexity and range of pain experiences and interventions, future research on MMT clinician attitudes might benefit from an examination of a larger number of providers reporting on a variety of pain-related conditions (e.g., diabetic pain, headache pain) as well as an investigation of possible differences in provider attitudes on individual interventions.

CONCLUSIONS

Despite these limitations, this study represents an initial exploration of the perceived efficacy and willingness to refer patients regarding a variety of non-pharmacologic pain treatments. Given the high levels of under-treated pain in MMT and the potential disadvantages of relying mainly on pharmacologic approaches for management of chronic pain, especially in a treatment setting where patients are addicted to opioids, these findings underscore the positive attitudes of MMT counselors toward non-pharmacologic—and, in particular, psychological—approaches for managing pain in MMT. These findings may also have implications for resource and program planning: In the absence of evidence-based treatment approaches for co-occurring chronic pain and opioid dependence, MMT program managers who wish to develop or expand pain management services might benefit from evaluating those interventions rated higher by counselors for perceived efficacy and treatment referral willingness, such as CBT or some stress-related interventions that are commonly incorporated into CBT for chronic pain, including relaxation training or stress management.

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TABLE 1

Treatments Reported as Helpful for Patients' Pain Management in Response to Open-ended Questions*

Treatments	Percentage
Treatments Reported Helpful for Pain	
Psychological Pain Management [‡]	33
Relaxation	23
Medical Pain Management	23
Physical Therapy	13
Surgical Pain Management	13
Acupuncture	10
Meditation	10
Complementary Health Approaches Reported Helpful	
Acupuncture	30
Relaxation	30
Meditation	17
Breathing Techniques	10
Prayer	10

* Based on responses from 30 counselors.

[‡]This category comprised "cognitive-behavioral therapy" (endorsed by 20%) and "psychological treatment" (endorsed by 13%).

TABLE 2

Counselors' Responses to Close-ended Items

Non-pharmacologic Treatment	Individual-based				Group-based			
	Perceived Efficacy		Willingness to Refer		Perceived Efficacy		Willingness to Refer	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Cognitive-behavioral therapy [‡]	3.4	0.7	3.8	0.4	3.3	0.7	3.7	0.5
Progressive muscular relaxation training [‡]	3.3	0.7	3.7	0.6	3.1	0.7	3.4	0.7
Stress management training	3.3	1.0	3.7	0.8	3.2	0.9	3.6	0.7
Aquatic therapy	3.3	0.9	3.4	0.9	3.0	1.0	3.4	0.9
Acupuncture [‡]	3.2	0.8	3.7	0.5	2.9	1.0	3.3	0.9
Massage therapy ^{*‡}	3.1	0.7	3.6	0.7	--	--	--	--
Physical therapy [*]	3.1	0.9	3.4	0.9	--	--	--	--
Sleep hygiene training	3.1	0.9	3.4	0.9	2.7	1.1	3.3	1.0
Nutrition or advice about healthy food choices	3.0	0.9	3.5	0.9	2.9	1.0	3.6	0.6
Heat therapy [*]	3.0	1.0	3.4	1.1	--	--	--	--
Music therapy	2.9	1.0	3.4	0.9	2.9	1.0	3.4	0.9
Meditation	2.9	0.8	3.4	0.7	3.2	0.7	3.5	0.7
Yoga [‡]	2.9	0.9	3.4	0.7	2.9	1.0	3.3	0.8
Art therapy	2.9	0.9	3.5	0.7	3.0	1.0	3.6	0.6
Prayer or spiritual counseling	2.8	1.1	3.0	1.1	2.7	1.0	3.0	1.2
Ice therapy [*]	2.8	1.1	3.1	1.2	--	--	--	--
Visualization training	2.7	1.0	3.2	0.8	2.5	0.9	3.1	0.9
Tai chi	2.7	0.9	3.0	0.9	2.5	1.0	2.9	1.0
Communication skills training	2.7	1.2	3.3	1.0	2.9	0.8	3.4	0.8
Physical exercise [‡]	2.5	1.0	3.1	1.1	2.8	1.1	3.0	1.3
Hypnosis	2.4	1.0	2.7	1.2	1.9	1.1	2.4	1.2
Reiki [*]	2.4	1.1	2.8	1.2	--	--	--	--
Chiropractic treatment ^{*‡}	2.3	1.2	2.6	1.3	--	--	--	--
Herbs/herbal medicine	2.2	1.1	2.8	1.1	2.0	1.1	2.4	1.2
Aromatherapy	2.0	1.0	2.8	1.1	2.0	1.0	2.5	1.3
Magnets	1.9	1.1	2.3	1.3	1.8	1.1	2.3	1.2

Note: Scales range from 0 to 4.

M indicates mean; SD, standard deviation.

* Group formats of these treatments were not queried.

[‡] Interventions recommended by clinical practice guidelines (Chou et al., 2007).