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Attitudes towards exercise among substance using older adults living with HIV and chronic pain

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Abstract

Chronic pain and substance use disorders occur commonly among HIV-infected persons. Recent CDC guidelines recommend non-pharmacologic approaches over opioid medications for the management of chronic pain. This is particularly relevant for persons with substance use disorders. Structured physical activity may be an effective strategy for pain reduction. We developed a combined cognitive-behavioral therapy (CBT) + exercise intervention to reduce pain, pain-related disability and substance use and improve physical function in older HIV-infected adults with chronic pain and substance use. We employed established CBT protocols for the intervention, and sought feedback from potential end users when developing the exercise component of the intervention. A total of 27 HIV-infected adults 50 years of age participated in four focus group sessions. Transcripts were analyzed using thematic analysis. Participant demographics: mean age 54 years; male 81%; Hispanic 48%, Black 33%; treated for substance abuse in the past 52%. Exercise was seen as a desirable activity, but many participants expressed barriers to exercise including fear of pain exacerbation, low physical fitness, and lack of availability of perceived safe

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spaces for HIV-infected persons. Most participants were receptive to exercise for pain reduction, particularly modalities that provide added psychological benefits of reducing stress and anxiety. Exercise for pain management among older HIV-infected adults with chronic pain and substance use was found to be highly acceptable. However, interventions need to be tailored to the unique needs of this population to address their fears and concerns.

Keywords

older adults; pain; substance use; exercise; non-pharmacologic approaches

INTRODUCTION

In 2014, adults aged 50 and over made up 43% of all individuals living with HIV in the U.S. (CDC, 2016). This percentage is expected to grow and is largely attributable to increased long-term survival from HIV infection following the development of highly-active antiretroviral therapies (HAART). Given the increasing number of older individuals living with HIV, it is important to address the health challenges of this population, including concomitant chronic pain and substance use. Almost 50% of older adults living with HIV report experiencing chronic pain (Balderson et al., 2013) which can diminish quality-of-life across multiple domains (Merlin et al., 2012; Parker, Stein, & Jelsma, 2014; Uebelacker et al., 2015). Rates of alcohol and illicit drug use remain high among older adults living with HIV (SAMHSA, 2010).

For HIV-infected individuals with concomitant chronic pain and substance use, combining cognitive-behavioral techniques (CBT) to address pain and substance use combined with exercise therapy to address functional impairment may be effective (Hayden, van Tulder, & Tomlinson, 2005; Trafton et al., 2012). We aimed to develop an intervention that included both CBT and exercise, but first elicited feedback from prospective participants in order to determine what types of exercise therapy would be viewed as feasible and preferred. We used qualitative methods to explore participants': 1) attitudes, barriers, and motivations for engaging in exercise; 2) receptivity to exercise for pain mitigation; and 3) willingness to participate in yoga, tai chi, or Afro-Cuban dance. These exercise modalities were chosen for the ease of teaching, ability to facilitate home practice with minimal equipment, availability of certified instructors at the local level, and for both yoga and tai chi, a growing body of evidence that supports their efficacy for improving function and reducing pain among older adults (Kong et al., 2016; Saper et al., 2015; Yan et al., 2013).

METHODS

We recruited English-speaking, HIV-infected adults 50 years of age from APAIT a Division of SSG, an AIDS-service organization in Los Angeles, to participate in focus group discussions conducted at the agency site. Other inclusion criteria were: 1) pain on most days over the past three months; and 2) risky substance use as defined by the National Institutes of Health: 5 alcoholic drinks in one occasion and/or illicit or prescription drug use without a prescription or more than prescribed in the past three months. Bus tokens and \$20 gift

cards were provided as incentives for participation. This study was approved by an Institutional Review Board.

Focus groups lasted 45–60 minutes and were facilitated by a researcher with expertise in qualitative research using a standardized guide. Open-ended questions included probes to encourage discussion. Questions explored opinions about exercise (e.g., “Tell me about the things that you do for exercise. What do you like about them?”) and exercise as an intervention (e.g., “How open would you be to taking a yoga class as part of a pain reduction study? Why?”). Each exercise modality was introduced with a brief verbal description followed by a graphic handout or short video of the exercise. All discussions were audiotaped and a note taker was present at every group. Audio files were transcribed verbatim and transcripts were analyzed using line-by-line coding using Atlas.ti software (“Atlas.ti,” 2016). Two different raters independently coded each transcript and compared codes to discuss discrepancies and ensure consensus. After all transcripts were completed, codes were extracted with illustrative quotes and sorted into categories and themes. Emergent categories and themes were then organized into a hierarchical coding tree and discussed with the investigative team to ensure accurate reflection of the topics discussed in the focus groups (Hsieh & Shannon, 2005; Patton, 2002). Thematic saturation was reached after four focus groups.

RESULTS

Twenty-seven people participated in four focus groups. Participants’ ages ranged from 50–70 years. Most were male, Hispanic, had at least some college education, and had received past treatment for substance abuse (Table 1).

Attitudes, barriers, and motivations for engaging in exercise

All participants perceived health benefits to engaging in physical activity. General attitudes toward exercise were positive, although a subset of participants expressed being unable to engage in desired exercise due to physical limitations. Fear of pain exacerbation was also described as a barrier. One woman described her experience with sciatica: “If I strain too much, it gets really bad. And when it do[es] get me, it gets me for days.” A participant from a separate focus group stated that he was “afraid to try yoga... because one of my major pains is in my knee and I’m just afraid of twisting wrong.”

Other participants described low physical fitness and poor general health such as being overweight or having poor balance as barriers toward exercise. A few participants felt intimidated by the lack of appropriate exercise venues for people living with HIV. One participant stated he did not “feel safe” going to a gym because he believed that he did not fit in at “non-positive” spaces. He felt more comfortable with others who shared his “condition”. A participant in a different focus group elaborated on this idea, explaining that in a class tailored towards individuals living with HIV, he would not feel pressured or obligated to explain to the instructor or to other participants why he was in poor physical health.

Motivations for exercise were mostly centered on health benefits. Some people perceived exercise to boost the immune system to better “fight HIV”. Others spoke about the benefits related to specific medical conditions like losing weight or controlling cholesterol. For those who desired to reduce dependence on pain medications, exercise offers a non-addictive alternative. One participant explained that he was “afraid” of prescription pain medications because of past addiction. He stated: “I felt suicidal. I felt like I was walking on eggshells... so now, I don’t take any of that stuff.”

Exercise as an intervention therapy

Yoga, tai chi, and Afro-Cuban dance generated universal enthusiasm. Specific positive and negative opinions were elicited. Many participants enjoyed the added psychological benefits of stress reduction through the practice of yoga and tai chi, particularly those that felt their pain was exacerbated by stress or anxiety. One participant illustrated this point: “In a group where you’re trying to deal with pain, the slower [the exercise] the better because the pain has to do with your mind too.”

Feeling intimidated by exercise because of low physical fitness was a prevalent sentiment in all groups. Several participants stated that yoga seemed appropriate for people with low physical fitness because easier poses could be completed while sitting but others were concerned that yoga could be difficult for individuals who have difficulty bending their extremities. A number of participants also noted that the fluid movements in tai chi appeared easier to perform than yoga poses. Almost everyone agreed that any dance-based, aerobic exercise like Afro-Cuban dance was entertaining but “less meditative.” Participants also stated that dance-based activities would require a higher level of physical fitness.

DISCUSSION

Findings from this study suggest that even for older adults with HIV who use substances, experience chronic pain, and report poor overall health, exercise is viewed as a desirable activity. However, specific barriers towards exercise need to be addressed. In particular, fear of exacerbating pain presents a psychological deterrent to engaging in exercise. Exercise-based interventions will ideally address fear avoidant behaviors to maximize adherence to treatment. Interventions should also be tailored to the fitness level of participants. The perceived lack of availability of appropriate venues also emerged as a barrier to participation. Fear of stigma and discrimination may be alleviated when exercise options are offered in spaces that are perceived as safe for individuals living with HIV, such as community-based organizations that are able to offer culturally competent services.

The use of evidence-based modalities to promote health and reduce pain is encouraged, but exercise modalities that also incorporate aspects of stress or anxiety relief are preferable because they provide added psychological benefits. Others have also suggested the benefits of psychological approaches to pain management in individuals with HIV (Merlin et al., 2014). Evidence suggests that exercise produces psychological benefits such as reduced depressive symptoms (O’Brien, Nixon, Tynan, & Glazier, 2010).

Several limitations to this study warrant comment. Our findings are not generalizable outside of the participant population assembled for this study. We were limited in the amount of descriptive data we were able to collect and do not have reports of specific types of substance use. The methods sought to understand participants' opinions, so it is not known whether participants would actually experience significant pain relief from the identified exercise modalities. However, by understanding attitudes, barriers, and motivations for exercise, researchers and practitioners seeking to develop exercise interventions for this population may be able to reduce barriers to entry by tailoring the intervention to participants' specific needs. Based on the results of this study, we designed and are completing a pilot study using multi-modal behavioral interventions, including tai chi, CBT and motivational text messages, to reduce pain and substance use in this population. Results from the pilot study are forthcoming.

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Table 1

Participant demographic information (N=27)

	Mean [(SD) range]	n (%)
Age (years)	54.4 [(4.8) 50–70]	--
Sex		
Male	--	22 (81.5)
Female or transgender *	--	5 (18.5)
Race/ethnicity		
Hispanic	--	13 (48.2)
Black	--	9 (33.3)
Other **	--	5 (18.5)
Marital status		
Single	--	13 (48.2)
Married/partnered	--	8 (29.6)
Divorced/widowed	--	6 (22.2)
Highest level of education completed		
High school or lower	--	7 (25.9)
Some college or more	--	20 (74.1)
Years since HIV diagnosis	21.3 [(7.3) 5–30]	--
Been in treatment for substance abuse (yes)	--	14 (51.85)
Number of prior substance treatment episodes	4.3 [(3.5) 1–10]	--
Primary language spoken at home		
Years experiencing pain	13.9 [(11.1) 1–50]	--
Level of pain (scale: 1-least to 10-worst)	6.9 [(1.5) 4–10]	--

* female and transgender were combined because each cell had n<5

** race/ethnicity were combined for cells where n<5

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