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Meeting the Public Health Challenge of Pain in Later Life: What Role Can Senior Centers Play?

Karen R. Tobias, BS¹, Sonam D. Lama, BS¹, Samantha J. Parker, AB², Charles R. Henderson Jr., MS³, Allison J. Nickerson, MSW⁴, and M.C. Reid, MD, PhD^{*,1}

Karen R. Tobias: krtobias@gmail.com; Sonam D. Lama: sol2006@med.cornell.edu; Samantha J. Parker: samantha.parker@gmail.com; Charles R. Henderson: crh2@cornell.edu; Allison J. Nickerson: anickerson@cscs-ny.org; M.C. Reid: mcr2004@med.cornell.edu

¹Department of Medicine, Weill Cornell Medical College, New York, NY

²Tulane University School of Medicine, New Orleans, LA

³Department of Human Development, Cornell University, Ithaca, NY

⁴Council of Senior Centers and Services of New York City, New York, New York

Abstract

Background—Interest in nonpharmacologic approaches for managing pain continues to grow.

Aim—To determine the types of pain-relevant programs offered by senior centers and whether the programs varied by clients' race/ethnicity status and center size.

Design and methods—We conducted a telephone survey. Respondents were presented with a list of 15 programs (plus other) and asked: (1) whether the activity was offered and if so how often; (2) if they believed the programs had value for seniors with pain; and (3) whether the classes were advertised as a means of achieving pain relief.

Setting—New York City.

Participants/Subjects—Senior center agency staff, i.e., center directors, activity program coordinators.

Results—Of 204 center staff contacted, 195 (95.6%) participated. The most common programs offered were movement-based, including exercise (by 91.8% of the centers), dance (72.3%), walking clubs (71.8%), yoga (65.6%), and Tai Chi (53.3%) classes. Creative arts programs were also frequently offered, including music (58.5%) and fine arts (47.7%). Programs such as stress management (27%) and relaxation (26%) classes were less commonly offered. Most respondents identified movement-based programs as helpful for seniors with pain, while few identified creative arts classes as potentially beneficial. The programs/classes offered were infrequently advertised as

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*Address correspondence to: Cary Reid, MD, PhD, Division of Geriatrics and Palliative Medicine, Weill Cornell Medical College, New York, NY 10065. Phone: 212-746-1378; mcr2004@med.cornell.edu.

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a means of helping seniors manage pain, and varied by clients' race/ethnicity status and center size.

Conclusion—Programs that have potential utility for older adults with pain are commonly offered by senior centers. Future research should determine optimal strategies for engaging older adults in these programs in the senior center setting.

Keywords

Pain management; senior centers; health promotion programs; older adults; chronic pain; nonpharmacologic therapies

Introduction

A recent Institute of Medicine (IOM) report estimated that more than 100 million individuals in this country experience chronic pain (Institute of Medicine [IOM], 2011). Advancing age and minority status constitute important risk factors for underassessment and undertreatment of pain (Green et al., 2003), providing strong support for efforts to improve pain care among older populations and older minority populations in particular. The IOM report conceptualized pain as an important public health problem that must be addressed using a variety of programs, practices, and policies (IOM, 2011).

Given mounting concerns about the safety of pharmacologic treatments, particularly among older adults (Solomon et al., 2010; Swayer, Bodner, Ritchie, & Allman, 2006; Trelle et al., 2011), increasing attention has focused on the use of nonpharmacologic therapies for chronic pain (Brukenthal, 2010; Reid et al., 2008; Shengalia, Parker, Ballin, George, & Reid, 2012). Movement-based programs (e.g., exercise classes, walking clubs) have been touted as safe and effective methods of pain management (Haaz & Bartlett, 2011; Hayden, van Tulder, & Tomlinson, 2005; Mannion, Muntener, Taimela, & Dvorak, 2001; Naugle, Fillingim, & Riley, 2012). In addition, self-management educational programs such as the Arthritis Self-Help Program (Lorig, Lubeck, Kraines, Seleznick, & Holman, 2005), as well as use of individual self-management strategies such as use of relaxation and meditation techniques have been found to be helpful methods for managing pain (Baird & Sands, 2004; Morone, Greco, & Weiner, 2008; Munk, Kruger, & Zanjani, 2011). Furthermore, evidence suggests that the perception of one's pain experience can be altered with creative stimulation, and the process of pain modulation and quality of life can be improved through creative expression by means of music and art therapy (Guétin et al., 2005; McCaffery & Freeman, 2003; Mitchell, MacDonald & Knussen, 2008), as well as creative writing and drama (Baker & Mazza, 2004; Tooth, 1990).

Meeting the public health challenge of pain will require programs/initiatives that extend beyond physicians' offices and other typical healthcare settings (IOM, 2011). In prior work, we have shown that older adults are willing to (and do) participate in pain programs offered in senior centers (Beissner, Parker, Henderson & Reid, 2012; Parker et al., 2011). Since the creation of congregate nutrition programs by the U.S. Administration on Aging in 1972, senior centers have emerged as places where adults ages 60 and above can receive a nutritious meal on a daily basis and engage in health promoting activities, such as exercise

classes, as well as psychological and social support programs. Nearly 10 million older Americans access services provided by more than 15,000 senior centers nationwide (California Commission on Aging [CCOA], 2007).

While senior centers may constitute an appropriate venue in which to offer programs to address seniors' pain management needs, the types of programs currently offered at these sites remain unknown. The current study sought to address this gap by determining the types and prevalence of pain-relevant programs offered by New York City–based senior centers. We also evaluated center staff knowledge regarding possible pain-related benefits of programs provided at the participating senior centers and ascertained whether the programs were advertised as a means of helping seniors manage pain. Finally, given that the study was conducted in the multicultural environment of New York City, we determined whether the programs varied by senior center clients' race/ethnicity status and the total number of clients served annually.

Methods

Sample

We partnered with the Council of Senior Centers and Services (CSCS) of New York City. CSCS is an independent non-profit advocacy organization whose membership at the time of the study included 232 senior service agencies located in New York City (New York City Council of Senior Centers [CSCS], 2013). CSCS distributed an announcement about the study to all of its member agencies via email. Prior to conducting the actual survey, research assistants called each agency to identify the most appropriate staff member to interview regarding the programs offered at each facility (e.g., agency director or program activity coordinator). All 232 CSCS member agencies were contacted by phone and a final list of 207 centers (along with contact names) was constructed. Twenty-five organizations were excluded because they were not senior centers.

The study was approved by the Weill Cornell Institutional Review Board.

Data collection

A survey instrument was created by the New York City Persistent Pain Advisory Group (PPAG), a community-researcher partnership that seeks to improve pain care for older adults residing in New York City. PPAG members include senior center and elder services agency directors, home-care agency staff, physicians, and other healthcare providers who have experience working with older adults with diverse chronic pain disorders. A list of programs/classes perceived by PPAG as potentially helpful to older adults with chronic pain was created based on the group's collective knowledge, their direct experience delivering programs to seniors with pain problems in the community and on a review of the published literature. The survey was piloted with three senior center directors whose centers were CSCS members (and who were excluded from the sampling roster) for the purpose of ensuring question clarity and appropriateness. The instrument was revised based on feedback from the three directors.

In the telephone-administered survey, consenting respondents were first presented with a list of programs and asked whether their center offered each activity on the list, including: (1) movement-based (e.g., general exercise, dance, walking, yoga, Tai Chi), (2) creative arts (e.g., music, fine arts, visual arts), and (3) other self-management (e.g., relaxation classes, stress management, meditation) programs. Table 2 shows the list of 15 programs/classes included in the survey. Respondents were also prompted to report any other programs provided by their center that were not mentioned in the list.

When a respondent provided an affirmative response (i.e., their center offered a given program in the prescribed list or a program or class not on the list), the respondent was asked how frequently the activity was offered where response categories included (1) continually (i.e., offered on an ongoing basis throughout the year, where classes were held at least once a week), (2) at least once a year (e.g., discrete programs such as the six-week, chronic disease self-management class), and (3) infrequently (i.e., less than yearly).

Respondents who reported that their center offered a given program were also asked (1) “prior to taking this survey, had you thought of the program as being helpful for seniors with pain problems?” and (2) “to the best of your knowledge, is pain management an advertised objective of the program?” Finally, the survey included items designed to determine the characteristics of the participating centers to include the race/ethnicity of clients served, languages spoken by clients, and the average number of clients served annually.

The Cornell Survey Research Institute, a state-of-the-art survey processing center located in Ithaca, New York, conducted all of the surveys by phone between September and November, 2009.

Statistics

To examine the comparative amount of use of key activities by race/ethnicity and other characteristics of centers, we specified a race/ethnicity classification factor with 3 levels based on the predominant group served by the center (African American, Hispanic, non-Hispanic white) and excluded the small number of centers with a different predominant race/ethnicity; and a 7-level factor for program classes/activities based on the strength of the evidence for their use for pain management prevalence of use across centers. The 6 activities examined were: 1) walking clubs, 2) dance classes, 3) Tai Chi classes, 4) yoga classes, 5) music classes, and 6) relaxation training classes. A core model was specified with fixed classification factors race/ethnicity, activities, the interaction of these 2 factors, and centers as levels of a random classification factor. In additional models, factors were added for center size (3 levels: < 300, 300-899, 900+) and borough (4 levels, excluding boroughs with only very small numbers of centers). Analysis was by generalized mixed models with binomial error and logistic link function. The mixed model error structure was compound symmetry, after examination of alternative structures.

Results

Of the 204 centers contacted by phone, 195 (95.6%) participated. Table 1 shows that in 42% of the centers non-Hispanic whites were the predominant race/ethnicity group receiving

services, while one in four respondents related that Hispanics constituted the primary race/ethnicity group served by their agency. The predominant language spoken at the centers was English, followed by Spanish, while other languages included Chinese dialects (10.2%) and Russian (9.7%). Participating centers were located in all 5 New York City boroughs and provided services to more than 135,000 older adults.

The mean number of programs/activities offered at each center was 8.7 (s.d. = 3.6). Table 2 shows the programs provided and frequency of class offerings. The most common programs offered were exercise (provided by 91.8% of the centers), followed by dance classes (72.3%), and walking clubs (71.8%). A majority of the centers provided yoga (65.6%) and Tai Chi (53.3%) classes, while creative arts programs were offered by many centers, including music (58.5%) and fine arts (47.7%). Stress management classes were offered by 27.2% of the centers and relaxation classes by 26.6%. Most movement-based and creative arts programs were provided continually throughout the year, while programs such as relaxation training and stress management were offered less frequently.

The vast majority of respondents identified the movement-based programs as helpful for seniors with pain (e.g., 77.3% for dance classes to 88.1% for exercise programs). Similar results were found for the relaxation and meditation classes: 77% reported that relaxation could benefit older adults with pain, while 80% perceived meditation as an intervention that could be helpful for seniors with pain (Table 2). Respondents were least likely to report that the creative arts programs might benefit seniors with pain (Table 2).

The analyses revealed several differences in the prevalence of programs offered as a function of clients' race/ethnicity status. Centers serving predominantly non-Hispanic white (vs. Hispanic) clients were more likely to offer Tai Chi (61% vs. 43%, $p=0.03$) and music (69% vs. 51%, $p=0.04$) classes. Centers serving mostly Hispanic (versus non-Hispanic white) seniors were more likely to report the presence of walking clubs at their respective centers (85% vs. 66%, $p=0.02$). There were no between-group differences for African Americans versus non-Hispanic whites or for African Americans versus Hispanics.

The average number of clients served by each center annually was found to be independently associated with the types of programs offered. Small centers (those serving less than 300 clients annually) as compared to large centers (those serving 900 or more clients each year) were less likely to offer yoga (43% vs. 78%, $p=0.04$), walking clubs (57% vs. 82%, $p=0.03$), and dance classes (57% vs. 75%, $p=0.03$). Medium-sized centers (those serving more than 300 but less 900 clients annually) were also less likely than the larger centers to offer yoga (58% vs. 78%, $p<0.01$) and music (53% vs. 76%, $p=0.02$) classes.

Discussion

Our study documents that senior centers offer a wide range of programs that could potentially help to address pain problems among older adults. Exercise programs that involve strengthening, flexibility, endurance, and/or balance training are widely recommended for the management of musculoskeletal pain (AGS Panel on Persistent Pain in Older Persons, 2009; Hochberg et al., 2012; Schofield et al., 2013). Our study confirms that

exercise, dance, and walking clubs, which include strength, flexibility, endurance and balance enhancing components, are offered by the vast majority of New York City centers. In addition, well over half of the centers offered Tai Chi and yoga classes that may also provide substantial dividends to older persons with chronic pain (Haaz & Bartlett, 2011; Hall, Maher, Latimer & Ferreira, 2009; Wang et al., 2010). While training in the use of specific techniques such as relaxation and mediation were offered less frequently, participation in these types of programs is also recommended (CCOA, 2007; CSCS-NY, 2013). Finally, our study also confirms that a substantial number of senior centers offer creative arts programming, which through distraction and other mechanisms, may also provide benefit to seniors with diverse pain disorders (Baker & Mazza, 2004; Guetin et al., 2005; Mitchell, 2008).

Some race/ethnicity differences in the types of programs offered were identified. For example, centers serving predominantly Hispanic clients were less likely to offer Tai Chi classes as compared to those serving Asian Americans or non-Hispanic Whites. These differences likely reflect cultural preferences and are important to acknowledge, particularly when thinking about instituting new programs in a given center. In addition, the average number of clients served by each center annually was associated with the types of programs offered and may simply reflect greater resources at centers serving larger numbers of older adults.

Accessibility (most centers are neighborhood based), a focus on delivering evidence-based health promotion programs (The New York Academy of Medicine, 2010) and ability to offer low cost (or free) programs make senior centers an appealing venue to address the problem of pain in older populations. Such an approach is consonant with the National Council on Aging's initiative to promote community organizations as essential venues for addressing the health and well-being of older adults (National Council on Aging: Issue Brief, 2013). Of note, most centers reported offering the programs on an ongoing basis (where group-based classes meet at least once a week), which would allow individuals to engage regularly in the activities and presumably benefit on an ongoing basis as well. Other dividends that might accrue through participating in one or more of the programs (most of which are group based) include socialization, as well as access to other health-promotion activities and initiatives provided by the centers. The wide range of programs offered at the centers (average number of programs offered at each center was approximately 9) constitutes another advantage, given that some older adults with chronic pain may be willing to engage in exercise programs, while others may prefer different approaches (e.g., meditation, relaxation).

Although most respondents reported awareness that many programs offered at their centers could provide benefits to seniors with pain, relatively few reported that the programs were advertised with this goal in mind. We did not inquire about the reasons for not advertising programs in this manner. Given that the programs would be expected to pay dividends to individuals with diverse chronic illnesses and that the centers view their role as promoting health broadly among older adults, individualizing programs for specific subgroups (e.g., individuals with chronic pain from osteoarthritis or back pain, those with heart disease or diabetes or gait disorders) may not be considered reasonable by center staff. Furthermore, it

remains to be seen whether advertising the programs as providing benefits for individuals with chronic pain would serve to increase participation by affected individuals. However, given the potential value of these programs for older adults with pain, further research is needed to determine ways to maximize engagement in the programs by older adults with chronic pain disorders.

Implications for Nursing Practice

Healthcare professionals who work with older adults with chronic pain are well positioned to refer patients to senior centers. We suspect this happens infrequently because most healthcare professionals rarely interact with community-based agencies such as senior centers and are likely unaware of resources housed within these sites. Educational initiatives that target healthcare professionals about the availability of these programs would seem to be a prudent intervention. Healthcare professionals should learn about these programs, recognize them as potential resources, and make their patients aware of exercise and self-management programs offered by community agencies. Such an approach is consistent with the medical home model that calls for empowering patients with the requisite self-management tools to successfully manage their chronic disease (Emmi Solutions, 2013). In turn, nurses with expertise in pain management could serve as valuable resources to senior centers and similar program settings. Nurses could educate senior center staff about the value and potential benefits of various programs for senior center clients with pain and/or specific pain management needs. Nursing professionals could also collaborate with senior center staff to design, tailor and/or evaluate programs and educational interventions aimed at improving pain and pain-relevant outcomes in community-dwelling older adults. Nursing with pain management expertise could also lead these programs helping to educate older adults directly about evidence-based approaches to pain management. Programs specifically designed to help older adults manage pain in the community currently suffer from a shortage of both program leaders and leader trainers. Nurses could fill this critical gap in both education and practice. In return, they could bring back to their clinical practices a greater appreciation of the specific needs of seniors accessing these community services and available programming in the community. Forging ties between the clinical and social service agency worlds could create a pathway to the development of prevention programs, as well as self-empowerment programs.

Limitations

Our study has several limitations. Participating senior centers were limited to an urban sample of agencies and may not reflect the types of programs offered at centers located in non-urban settings. Research is needed to determine whether our results are also reflective of programming offered at centers located in non-urban settings to include rural areas. Our study did not attempt to examine the quality of the programs offered, which may vary across centers. Not all program instructors may be able to accommodate the functional limitations or needs of older adults with pain problems, thereby limiting the potential reach of various programs. Indeed, customizing program activities to the individual capacity and needs of each individual is likely to maximize participant retention and ultimately the reach of any given program. Finally, we did not inquire about the stability of the programs over time. Are

senior centers able to offer the programs over the long-term? Sustaining programs over time remains a challenge in many senior centers in the current funding environment.

Conclusion

Our study documents a high prevalence of programs at senior centers that are highly relevant for older adults with pain. The programs are low cost and readily accessible (given that most senior centers are neighborhood based), and many (e.g., various exercise classes and self-management activities) are widely recommended for the management of chronic pain (AGS Panel on Persistent Pain in Older Persons, 2009; Hochberg et al., 2012; Schofield et al., 2013). Research is needed to determine whether encouraging seniors with chronic pain to engage in health promotion programs can lead to improved pain outcomes in this rapidly expanding population.

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Table 1
Study Sample Characteristics (N=195)

	n (%)
Predominant race/ethnicity group served	
Non-Hispanic White	82 (42.0)
Hispanic American	48 (24.6)
African American	27 (13.8)
No predominant race/ethnicity group	21 (10.8)
Asian American	14 (7.2)
Other	3 (1.5)
Primary languages spoken *	
English	169 (86.6)
Spanish	92 (47.1)
Other	54 (27.7)
Chinese dialect	20 (10.2)
Russian	19 (9.7)
Number of clients served annually⁺	
< 300	26 (13.3)
300-900	52 (26.7)
>900	114 (58.5)

* Centers could report more than one primary language spoken.

⁺ Three centers did not report the number of individuals served.

Table 2
Types and Prevalence of Specific Programs Offered in New York City Senior Centers.

Specific Program	Program offered, n (%)	Offered on an ongoing basis (1 classes weekly), n (%)	Discrete programs (offered at least once a year), n (%)	Infrequently delivered programs (offered less than yearly), n (%)	Prior to survey, respondent had thought of program as helpful for seniors with pain, n (%)	Program advertised as a means of managing pain, n (%)
Movement-based						
Exercise ^a	179 (91.8)	178 (99.4)	1 (0.6)	—	152 (88.1)	58 (32.4)
Dance	141 (72.3)	135 (95.7)	6 (4.3)	—	109 (77.3)	29 (20.6)
Walking	140 (71.8)	129 (92.1)	9 (6.4)	2 (1.4)	114 (81.4)	33 (23.6)
Yoga	128 (65.6)	125 (97.7)	2 (1.6)	1 (0.7)	108 (84.3)	46 (35.9)
Tai Chi	104 (53.3)	101 (97.1)	2 (1.9)	1 (1.0)	90 (86.5)	36 (34.6)
Creative Arts						
Hand crafts	153 (78.5)	145 (94.8)	8 (3.2)	—	98 (64.1)	22 (14.4)
Music	114 (58.5)	107 (93.9)	7 (3.6)	—	54 (47.4)	4 (3.5)
Fine arts	93 (47.7)	86 (92.5)	4 (4.3)	3 (3.2)	57 (62.3)	10 (10.8)
Visual arts	65 (33.3)	58 (89.2)	6 (9.2)	1 (1.5)	30 (46.2)	5 (7.7)
Creative writing	45 (23.1)	40 (88.8)	3 (6.7)	2 (4.4)	15 (33.3)	1 (2.2)
Other ^b	23 (11.8)	21 (91.3)	1 (4.3)	1 (4.3)	8 (34.8)	—
Other Classes/Programs						
Relaxation training	52 (26.6)	34 (65.4)	10 (19.2)	8 (15.4)	40 (76.9)	12 (23.1)
Stress management	53 (27.2)	28 (52.8)	18 (33.9)	7 (13.2)	40 (75.5)	17 (32.1)
Arthritis Self-Help Class	44 (22.6)	12 (27.3)	21 (47.7)	11 (25.0)	40 (90.9)	26 (59.1)
Meditation	35 (17.9)	28 (80.0)	5 (14.3)	2 (5.7)	28 (80.0)	9 (25.7)
Massage	31 (15.9)	25 (80.6)	1 (3.2)	5 (16.1)	27 (87.1)	11 (35.5)

^a Includes strength training programs, stretching and toning classes, "Stay Well Program Fitness for Seniors," "Silver Sneakers," belly dancing classes and biking programs.

^b Includes art therapy, book club, language classes, culture classes and film critique class.