

The Chronic Low Back Pain Epidemic in Older Adults in America

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Abstract

Chronic low back pain is a debilitating condition affecting millions of Americans annually. Older-adult populations suffer a high prevalence of this continually painful state, and further face a unique set of challenges to manage short- and long-term biopsychosocial functioning. As the population ages, and the proportion of older adults grow, it is essential to explore and develop the most effective interdisciplinary strategies to care for older adults who are chronic pain sufferers. In this Commentary, we highlight some of the special challenges that the older-adult population encounters, and their influence on pain management strategies.

Keywords: Low back pain; Chronic pain; Biopsychosocial; America; Older adults

Commentary

Chronic low back pain (CLBP) is a widely prevalent condition affecting more than 25 million Americans [1]. In a recent 2014 report by the National Health Interview Survey (NHIS), it was noted that low back pain was the most prevalent reported pain site, exceeding joint conditions, headache/migraines, neck, and facial, or jaw pain [2]. Roughly one third (34%) of adults aged 65-74, and adults aged 75 and over (34.9%), reported low back pain in the last 3-months [2]. As the population ages, CLBP reports are expected to rise, further necessitating the need to develop interdisciplinary pain management strategies for this growing part of the population [3].

In addition to CLBP, older adult populations often have multiple conditions that can complicate and limit traditional pain management therapies. As a result, they face distinctive challenges regarding healthcare regimens, including adherence, physical ability, psychological and social conditions, age-related mental decline, age-related physical decline, and pharmacological intake concerns. Furthermore, general physical decline due to aging often limits the patient's ability to participate in physical interventions, such as exercise and more vigorous physical therapies. Often, simple stretching techniques or light exercise may not be a viable option [4]. Additionally, psychosocial status must be evaluated for adherence and well-being. Chronic pain patients often experience depression, anxiety, and sleep disorders [5], as well as dementia, Alzheimer's, and other ailments that can impede proper care.

Medications are widely prescribed to help combat pain, particularly when these physical limitations are present. On average, older Americans consume multiple medications daily [6]. The large volume of prescription medication consumption certainly influences the available and appropriate treatment options to both avoid side-effects and maintain good quality-of-life. Considering these astonishing figures, it is vital to develop comprehensive, interdisciplinary preventive measures and pain management strategies in order to account for the unique concerns of the older-adult population. This

Commentary aims to highlight some of the special challenges the older-adult population faces, and the importance of implementing interdisciplinary treatment strategies.

Medications

Medications, including opioids, non-steroid anti-inflammatory medications (NSAIDs), anti-depressants, over-the-counter (OTC) analgesics like acetaminophen or ibuprofen, steroid injections, topical agents, are all commonly used. Each type of medication presents unique challenges and benefits for the patient and prescriber. In one study, Macfarlane and colleagues (2009) noted that, of the 2,206 older-adult participants evaluated, nearly all (87%) were currently taking at least one prescription, and more than one third (36%) were taking 5 or more medications [6]. Additionally, older adults are particularly susceptible to age-related physical changes, such as decreased kidney and liver functioning, and decreases in body weight, that can lengthen the amount of time the drugs are present in the system [6]. It is also important to note that medications used to treat pain can often have sedative effects, and that patients should be carefully monitored, especially if they are participating in physical activity [7].

Physical interventions

Older adults face an increased risk of injury resulting from psychosocial ailments and physical deconditioning measures because of the aging process. Moreover, there is an increased risk for "fall-related" injuries among the older population. Risk factors, such as anxiety, cognitive deficiencies, depression, declining vision, decreased physical activity, weakening neuromuscular factors, osteoarthritis, and increased psychotropic medication and diuretic consumption, can all contribute to sustaining a fall-related injury [8-10]. A study conducted by Hulla et al. provided an example of new important issues of chronic pain and "fall-risk," by revealing that older adults with CLBP performed more poorly in balance-activities and various psychosocial dimensions, relative to their demographically-matched counterparts without CLBP [11]. Relatedly, in regards to exercise in aiding in the management of chronic pain in the older-adult population, a study by Stubbs et al. demonstrated that adequate exercise can have an influence in reducing falls in older adults by enhancing psychosocial and

physical functioning [12]. Physical exercise has shown efficacy in treating CLBP, but many older adults face: physical limitations; disabilities; weaker cardiovascular systems; and deteriorating bone, joints, and connective tissues that limit or prevent engaging in regular activity [4]. Older adults also tend to rate exercise less favorably, possibly due to discomfort or limited ability, fear-avoidance behaviors, and kinesiophobia [6]. Fear avoidance is a term used to represent the emotions and avoidant behaviors that result from a fear that exercise or movement can cause pain that may worsen the condition. Previous research has shown fear avoidance to have a negative relationship with physical performance outcomes [13-15]. Furthermore, these behaviors can predict, at least in part, chronic disability or episodes of pain the following year [16,17].

Pain management programs such as Functional Restoration (FR) were established for CLBP patients facing debilitating effects of an overall "pain syndrome" and diminished quality-of-life [18, 19]. This interdisciplinary approach is aimed at tailoring treatment to individual-patient needs in order to promote maximum rehabilitation in both physical and psychosocial areas, using a combination of cognitive behavioral therapy (CBT), physical conditioning, and psychosocial evaluations that are carefully monitored by a team of health-care professionals [18-20]. This approach has been shown to be highly effective, both therapeutically and in terms of cost effectiveness [21-23]. Other forms of physical modalities for pain management that have been studied and displayed to have some promising results in aiding pain relief include myofascial-release therapy, chiropractic care, and exercise to improve coordination/stabilization, strength/resistance, and cardiovascular training groups [24-26].

Myofascial-release therapies relieve tension by applying pressure on trigger points (in a massage or reflexology style) by a certified health professional [27,28]. These activities can be self-administered at home with proper materials (foam rollers, massage sticks, balls), and following instruction from one's therapist or health professional [29]. Generally, the technique requires slow, sustained pressure applied to the affected area(s) [29]. This technique has shown efficacy in reducing pain and increasing quality of life and physical functioning [24,30]. It is important to note, though, that this technique may not be suitable for all, because the pressure and/or massage style could exacerbate bleeding disorders, injuries, or other health conditions in older adults [29].

Chiropractic care is a commonly practiced complementary medicine technique for managing chronic pain [31]. Although chiropractic work can increase flexibility, decrease pain, and be convenient for older adults, side-effects include headache, tiredness, discomfort, and temporary or worsening pain [32]. Acupuncture is another commonly practiced pain treatment strategy that is being explored for treating chronic pain [33]. The extent of its effects, however, is unknown, and requires more research; and one study noted the placebo effect could be an important "driving factor" in the treatment regimen [34]. However, alone as monotherapies, this, as well as the other techniques just reviewed, are not as effective as interdisciplinary care such as FR [18].

Cognitive and social concerns

Older adults must also manage cognitive changes (age-related or otherwise) as a vital part of their treatment. Strategies include: keeping track of exercises to avoid exhaustion, overexertion, or injury; monitoring proper medication intake; meeting nutritional needs; and mental and social stimulation. Age-related cognitive decline can be

detrimental to a healthy regimen, and may contribute to misuse and poor adherence to pain management strategies. For instance, forgetting to take medications or mis-reading labels can lead to potentially dangerous situations, including adverse drug reactions [35]. Additionally, conditions such as dementia and Alzheimer's present unique adherence complications in multiple biopsychosocial domains, and can be particularly challenging for both patients and caregivers [5].

Chronic pain populations also have a high incidence of depression and anxiety [36]. Depression can lead to, or exacerbate, adherence problems, medication misuse, social withdrawal, and contribute to the bidirectional relationship between chronic pain and psychological well-being [37]. Furthermore, reduced range-of-motion can result from the effects of pain, causing further muscle stiffness and fear-avoidance behaviors. Previous research has shown this fear to exacerbate depressive symptoms and lead to social isolation and a diminished quality-of-life [38-40]. Particularly among chronic pain patients, it may be daunting to venture out to social gatherings or activities. The resulting lack of social support can be detrimental. Indeed, social support is important, especially due to the large proportion of pain patients who become depressed. Engaging in social situations can lead to higher satisfaction, increased quality-of-life, decreased anxiety and depression symptoms, and be encouraging to participate in healthy physical and psychological behaviors and activities [41].

Summary and Conclusion

The increasing older-adult population in the U.S. faces unique and complex challenges when dealing with CLBP, that require careful monitoring, and individualized treatment care-plans. Using a biopsychosocial approach has stimulated the use of effective interdisciplinary pain management programs, such as FR. These biopsychosocial interdisciplinary approaches allow for both customization of treatment strategies and methods that concentrate on the "whole person," rather than merely focusing on the pain-nociceptor site alone. Older adults can sometimes neglect the psychosocial and physical (muscular strength, endurance, and flexibility) aspects of their well-being and can easily become isolated or withdrawn when suffering with chronic pain issues. However, an interdisciplinary approach, such as FR, requires that the pain condition be noticed, reported, and diagnosed. Pain is often undertreated and often goes undiagnosed. Biopsychosocial evaluations should occur to assess the multifaceted components of the pain condition, and then develop a tailored-plan to address the physical and psychosocial aspects in order to produce an optimal outcome. We must remember to address reported pain conscientiously, avoiding "guesswork" and self-diagnosis. It is important to monitor pain sufferers, particularly older adults, and attempt to engage them in physical, psychological, and social stimulation wherever possible and reasonable.

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