



Chronic Pain among Older Adults

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Abstract

Management of chronic conditions costs 66 % of total health care expenses. Chronic pain is one of the most common chronic physical symptoms that affect older adults. Purpose: The purpose of this review is to provide information about chronic pain among people who are older than 65 years, about its adverse physical and psychosocial effects, diversity of its prevalence, and pain management options and barriers to effective management. Recent published articles relating to seniors' chronic pain, pain prevalence among older adults, side effects of pain, pain management and factors that affect chronic pain management and barriers to sufficient chronic pain management were collected by searching CINAHL, ProQuest Central, and PubMed databases in November 2016. The review revealed that chronic pain has significant undesirable effects on older adults' quality of life and their physical activity. Several factors were found to contribute to inadequacy in pain management. Current chronic pain management modalities include pharmacological and nonpharmacological options, both of which can contribute to a decrease in older adults' and caregivers' suffering. The success of these strategies is influenced by several factors that relate to patients' physiological, physical, and psychosocial circumstances. Despite current advancements in health care, chronic pain among older adults is still undertreated. The intent of pain management modalities is not limited to a decrease in pain level but also includes the improvement of function and quality of life.

Key Words: Chronic pain, Older adults, Pain management

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Introduction

Worldwide, chronic conditions are the major leading causes of death among people who are more than 65 years old (U.S. Census Bureau, 2015). In the United States, about two thirds of older adults have at least one chronic condition with an approximate cost of 66 % of their total health care expenses (Centers

for Disease Control and Prevention, 2013). Chronic pain is one of the most common chronic physical conditions that affect older adults (The American Academy of Pain Medicine [AAPM], 2016). Chronic pain is a serious and complex condition and impacts older people functionally, psychosocially, economically, and emotionally (Onubogu, 2014; Tai-Seale, Bolin, Bao, & Street, 2011; Tse, Wan, & Wong, 2013). Unfortunately, untreated chronic pain could negatively impact the progress of successful aging (Tse, et al., 2013).

International Association for the Study of Pain [IASP] defined pain as "An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage" (IASP, 2012). Chronic pain is the persistent experience of pain resulting from continuous stimulation of the nervous system for long periods of time (AAPM, 2016).

The prevalence of pain among older adults is highly diverse in the present literature (Abdulla, et al., 2013; Chen, et al., 2016). This variation could be

related to many factors based on the subjectivity of pain experience, variation in types and locations of pain, and variations in methods, dates, and settings of studies (Abdulla, et al., 2013). In 2011, one global report suggested that among global populations more than 1.5 billion peoples were suffering from chronic pain (Global Industry Analysts, 2011). While among the adult population of the USA, the estimated incidence of chronic pain in 2011 was about 100 million adults with estimated costs of \$560 to \$635 billion in US dollars (Institute of Medicine, 2011).

There are several types of chronic pain that upset seniors' lives. These types include, but are not limited to, different types of headache, back and neck pain, cancer related pain, fibromyalgia, joint pain, shoulder pain, and abdominal pain (AAPM, 2016; Tai-Seale, et al., 2011; Takai, Yamamoto-Mitani, Abe, & Suzuki, 2015; Tse, Wan, & Ho, 2011).

Literature review purpose

This review intends to provide information regarding chronic pain among older adults. It emphasizes factors that contribute to chronic pain incidence among seniors. It also highlights the unpleasant physical and psychosocial impacts on the older adults' well-being. Moreover, it addresses some the available management options that relieve the intensity of chronic pain and help older adults to be active and productive. Finally, it describes the perceived barriers and obstacles that could disable the success of pain management modalities.

Literature review significance

In general, chronic conditions among older adults impose significant burdens on their lives. Describing what is known about a common chronic condition, like chronic pain, is crucial. This review highlights the importance of addressing this condition that impact on seniors' progress to achieve successful aging. Current literature argues that clinicians ignore the chronic pain assessment and management among older patients as a priority in their health care practice (Tai-Seale, et al., 2011). Moreover, seniors' chronic pain treatments are still insufficient and inadequate (Tai-Seale, et al., 2011).

Among older adults, engagement in physical activities helps them to age successfully (Hooyman, & Kiyak, 2008). Studies found that chronic pain limits older people's self-care management, physical activities, and social involvement (Krein, Heisler, Piette, Butchart, & Kerr, 2007). Thus to keep older adults active, clinicians should focus on addressing

chronic pain as a serious issue during health care provision. Moreover, poor pain management in seniors may create a feeling of helplessness and a failure to cope (Kim, 2016). This may lead them to attempt suicide in order to stop their suffering (Kim, 2016). Thus, implementing effective pain management strategies that relieve chronic pain could maintain the meaningfulness and quality of life among older adults. Another serious issue resulting from poor chronic pain management is that the patients' need for long-term facilities increases. These facilities charge high fees, increasing the financial burden on seniors and their families.

Literature review searching strategies

As mentioned above, the main purpose here is to review the most recent published works that address chronic pain among older people. To achieve this goal, recent published articles relating to seniors' chronic pain, pain prevalence among older adults, side effects of pain, pain management and factors that affect chronic pain management, and barriers to sufficient chronic pain management were collected by searching CINAHL, ProQuest Central, and PubMed databases in November 2016. The research includes studies written in English published in the last 5 years that targeted older adults with persistent pain. Key words that were used include: pain, chronic pain, persistent pain, management, older, and seniors. Contributing factors of chronic pain incidence among older adults

This review found that chronic pain incidence among older adults varies widely. However, in a recent survey conducted by Hawkins et al. (2013), the reported chronic pain incidence among 15909 older American adults was about 58 percent. This percent is relatively high. However, this review revealed that the variance of chronic pain incidence is related to other factors such as gender, age, ethnicity, life style, and physiological wellness. Parmelee, et al. (2011) conducted a study with a total sample of 363 Americans aged above 65 exploring the association between chronic pain incidence and the participants' races and genders. The study included 94 African Americans and 269 White Americans. The study's findings suggested that females from both ethnic groups, African and White Americans, reported higher levels of chronic pain severity and disability. Regarding the racial difference, the reported levels of chronic pain severity and disability among African Americans were greater than those among Whites.

The relationship between the serum level of active vitamin D and incidence of chronic pain was explored by a recent Australian study conducted by Hirani, et al. (2015) on a sample of 1511 men age 70 years and older. The study revealed that older men with low active vitamin D in the blood had a highly significant incidence of chronic pain. Another significant result by the same study revealed that there was a positive association between active vitamin D deficiency and the number of pain locations. Researchers argued that deficiency in the serum level of vitamin D could relate to insufficient sun light exposure among older people (Hirani, et al., 2015).

Moreover, this review revealed other studies that addressed factors contributing to chronic pain incidence among seniors. These include Onubogu's study (2014) that found that the number of morbidities were positively associated with chronic pain incidence among older people. Consistent with the previous studies, Onubogu (2014) found older women have more chronic pain than older men (Onubogu, 2014). Another study examined the association between chronic pain and seniors' body weight. The results showed a positive association between chronic pain and larger body weight (Fowler-Brown, et al., 2013).

Burdens of chronic pain

Central to the entire topic of chronic pain management is the adverse impacts of chronic pain on elder people's lives. This review found many articles that consider persistent pain to have negative outcomes. Overall, these impacts could be divided into physical or psychosocial impacts.

Physical burdens

Some researchers reported that older people's physical mobility and function declined because of the presence of persistent physical pain (Chang, Wray, Sessanna, & Peng, 2011; Pereira, et al., 2014; Tse, et al., 2013). Limited physical mobility could develop serious complications that burdens successful aging among older populations (Hooyman, & Kiyak, 2008). Recently, a descriptive study of 420 older adults who have chronic pain explored the negative changes experienced as result of chronic pain. The majority of participants reported that chronic pain limits their physical function and activity in their daily lives (Pereira, et al., 2014). This finding is consistent with Tse, et al.'s (2013) study, which found the same relationship between chronic pain and the levels of physical activity and mobility (Tse, et al., 2013). In this study, researchers argued

that reduced physical activity may alter older adults' lives by increasing the possibility of drowsiness and incidences of falling down, as well as increased rate of skin breakdown and other disabilities (Tse, et al., 2013).

Positive association between chronic pain intensity and poor physical activity was also found in a secondary data analysis study, which was conducted by Fowler-Brown, et al., (2013) to explore the impact of chronic pain on disability and physical functions among older adults. Researchers utilized a large data sample of 765 older adults aged 64 years or more in Boston.

Krein, et al. (2007) conducted a study to explore the impact of older adults' chronic pain experience on their self-management functions and the potential effect of their confidence to maintain physically active life styles. The study showed that older adults who reported chronic pain (60 %) had lower confidence in their ability to remain active than others who had no pain. Another significant result from the same study was that older people with chronic pain reported a lower ability to individually perform three specific activities: participating in exercises, adherence to a medication regimen, and maintaining regular meal plans.

Psychosocial burdens

This review found many studies' supporting evidence of chronic pain's negative impacts on older adults' psychological wellbeing (Baker, et al., 2011; Onubogu, 2014; Pereira, et al., 2014; Tse, et al., 2013). Poor psychological wellbeing could contribute to mental illnesses, a suppressed immune system, and unhealthy coping mechanisms (Tse, et al., 2013). Furthermore, mental wellness was found to be influenced by chronic pain. Researchers found a significant increase in depression symptoms, anxiety level, sadness, and suicide attempts among the elderly who had greater chronic pain intensity (Onubogu, 2014; Pereira, et al., 2014; Tse, et al., 2013).

A recent related study was conducted in Korea by Kim (2016) with a relatively large sample of older adults, 8500 participants found a strong association between chronic pain among seniors and suicide attempts. Twenty five percent of older adults, who had chronic conditions including pain, reported at least one suicide attempt. Seniors who had severe chronic pain demonstrated four times the suicidal behaviors compared to those without chronic pain (Kim, 2016).

Quality of life among older adults was found to be burdened by chronic pain (Hawkins et al., 2013;

Tse, et al., 2013). Studies such as Hawkins et al. (2013) showed the significant negative effects of chronic pain on seniors' quality of life. Hawkins et al. (2013) conducted a study with a large number of older Americans, 15909. The study assessed the impact of three types of chronic pain on the participants' quality of life: arthritis, sciatica, and back pain. Overall, the study found that chronic pain strongly reduced both the physical and mental parameters of participants' quality of life. However, chronic pain had a greater impact on the physical parameters of quality of life than on mental ones.

Chronic pain management options

While this review found many burdens of chronic pain, it also yielded many solutions that can mitigate these burdens including pain management options that alleviate seniors' suffering, improve their quality of life, and maintain their physical functions. The two main categories of chronic pain management are pharmacological and non-pharmacological strategies.

Pharmacological strategies

Using medications as chronic pain relievers is common among older adults (Haigh, 2011). Several drugs can be used, such as opioids, paracetamol, nonsteroidal anti-inflammatory, anti-epileptic and anti-depressants adjuvants, and topical drugs (Hall, 2016; Makris, Abrams, Gurland, & Reid, 2014). Drugs are found effective in decreasing pain level and maintaining the functional and physical activities among older people (Haigh, 2011).

Despite the effectiveness of medication in pain treatment, there are several side effects reported among older patients that could make them withdraw from the drug regimen. Some examples of these side effects are: nausea, vomiting, somnolence, constipation, gastric ulcer or bleeding, and renal or liver impairment (Haigh, 2011; Makris, et al., 2014). Researchers found that older people are more likely to experience physical drugs' side effects than other age cohorts. This could be related to their incompliance with drug doses or a normal decline in the vital organs' physiological functions with advanced aging (Chang, et al., 2011). On the other hand, the older cohort is less likely to experience the mental side effects compared to the other age cohorts, like drug abuse (Haigh, 2011). However, many of these adverse effects can be minimized or prevented (Makris, et al., 2014).

Non-pharmacological strategies

Many patients, caregivers, and clinicians have concerns about side effects associated with drugs used to control chronic pain in the elderly. This

could be a driving force to explore other options (Makris, et al., 2014; Park, & Hughes, 2012; Tse, et al., 2013). These options are drug-free and could be used parallel with the pain killers. Evidence from the integration of these strategies with pain medication have emerged in the literature (Crawford, Lee, & Bingham, 2014; Park, & Hughes, 2012; Tse, et al., 2013).

These strategies include physiotherapy, massage, acupuncture and acupressure, counseling, cryotherapy, music interventions, distraction and relaxation techniques, and transcutaneous electric nerve stimulation (Bradt, Norris, Shim, Gracely, & Gerrity, 2016; Crawford, et al., 2014; Giemza, et al., 2014; Park, & Hughes, 2012; Takai, et al., 2015). Several studies showed a significant decline in the level of chronic pain among older adults after using of non-pharmacological strategies (Makris, et al., 2014; Takai, et al., 2015). Moreover, these strategies were found to be safe and to help older adults improve their physical functions (Makris, et al., 2014; Tse, et al., 2013).

Barriers of chronic pain management

In spite of the current health care development, chronic pain control among older adults is still inadequate (Park, H., Park, E., & Park, J., 2015; Tai-Seale, et al., 2011). This is related to several barriers. Reviewed here are several studies that aimed to address these barriers. These barriers could be classified under three main categories: barriers related to health care consumers, barriers related to health care providers, and barriers related to the health care system and relevant legislations.

Clinicians' support and encouragement can significantly facilitate the chronic pain discussion between elderly patients and health care providers (Tai-Seale, et al., 2011). However, this review revealed that some health care providers undervalue chronic pain assessment and management during regular clinical visits of older adults. For example, Tai-Seale, et al. (2011) conducted a study to describe how chronic pain is assessed and treated in the primary health care facility in the USA. Researchers revised data that included 385 routine clinic visits of 366 older adults. This study revealed that less than half of these visits included some pain discussions. However, about 55 % of these discussions were initiated by the patients themselves. Moreover, the study revealed that clinicians give the subject of pain only a short period of time; on average each visit included a pain discussion of only 3.4 minutes with an average of 1.5 minutes spent on explanations from the physician (Tai-Seale, et al. 2011). The short time

spent discussing older patients' chronic pain reflects an inadequate respect of chronic pain among older adults.

Park, et al. (2015) suggested three categories of barriers. The first category was related to the patients themselves. Patients' knowledge deficit, nonadherence to a pain management regimen, use of traditional pain management strategies instead of medical ones, and lack of sufficient finances are factors that hinder pain control. The second category of barriers is related to clinicians and includes lack of knowledge, lack of awareness about the importance of chronic pain management among older adults, and lack of confidence in their ability to address this issue. The last category asserted by the study included factors on the organizational level. This included a lack of well trained professional workforces and time shortages, insufficient health care policies, and an absence of practical guidelines and standards for pain control practice (Park, H., Park, E., & Park, J., 2015).

Additionally, the lack of older adults' willingness to disclose their feelings of pain is a serious obstacle for pain control. In a study with 72 older adults, researchers found that about two thirds of participants (67%) suffer from chronic pain without seeking health care management. This low level of health care seeking was positively significantly associated with many participants' characteristics such as age (>75 years have significantly lower level of disclosure), lower educational levels, living alone, and low pain intensity (Cornally, & McCarthy, 2011).

Moreover, this review yielded other pain management barriers related to seniors' conditions such as physiological changes that normally occur with advanced aging like decreasing liver and kidney functions (Makris, et al., 2014), multiplicity of diseases associated with advanced aging (Pereira, et al., 2014; Makris, et al., 2014), the misbelieving that pain is a normal condition with aging (Makris, et al., 2014; Hall, 2016), presence of physical or cognitive disabilities (Makris, et al., 2014; Hall, 2016), nonadherence to a treatment regimen (Markotic, et al., 2013), concerns about pain relieving drug addiction and dependency, and an increase in the risk of drug interaction with advanced aging and polypharmacy (Chang, et al., 2011; Hall, 2016; Makris, et al., 2014; Hall, 2016).

Conclusion

In conclusion, this review focuses on serious chronic pain conditions among elderly adults. It highlights the definition of chronic pain and its

prevalence in addition to the burdens placed on seniors' lives. These burdens include physical disabilities, functional limitations, poor quality of life, increased health care cost, and impaired psychosocial wellbeing. However, it also discusses some effective strategies that emerged from the studies in the reviewed articles. In terms of chronic pain management, this review found several options that could be effective in controlling pain among older populations. However, this review revealed some obstacles faced by those seeking pain management.

In general, this review has important clinical implications regarding the topic of chronic pain among older adults. Professionals should consider seniors' chronic pain as a serious condition that may affect health care outcomes. The variations of chronic pain incidence could guide professionals to be more aware about the frailty and sensitivity of the elderly and consider this variation in care provision. The lifestyle modifications of older adults should be also considered. And finally, all interventions that contribute to effective chronic pain management should be applied.

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