Chronic Pain in Older Adults

ABSTRACT
Despite the sophisticated pharmaceutical agents and technologies available today, many people, including older adults, continue to experience chronic pain. Inadequately treated chronic pain can seriously affect one’s quality of life. Health care providers are only beginning to understand the structural and functional changes that occur in older adults with chronic pain, but recent research suggests that nurses and other health professionals need to become aware of the unique needs of older adults who live with chronic pain. When health professionals lack specific knowledge of pain management in older adults, patients may suffer needlessly.

Approximately 116 million American adults experience chronic pain; this number totals more than those with diabetes, heart disease, and cancer combined (American Academy of Pain Medicine [AAPN], n.d.; Institute of Medicine [IOM], 2011). Chronic pain differs from acute pain in important ways. Whereas acute pain is a sensation triggered in the nervous system to communicate possible injury and the need to act to reduce the chance of injury, chronic pain persists, with pain signals firing in the nervous system for weeks, months, and even years (AAPN, n.d.). Chronic pain is usually diagnosed after 3 to 6 months of persistent pain (Johannes, Le, Zhou, Johnston, & Dworkin, 2010). Chronic pain may be a result of conditions such as back injury, arthritis, cancer, autoimmune disorders, or serious infections, but sometimes people experience chronic pain in the absence of any past injury or evidence of body damage.

Many chronic pain conditions affect older adults, defined as those 65 and older, although the definitions of older can be arbitrary (Abeles et al., 1998). In addition to the common issues mentioned above, older adults may also experience chronic pain as a result of peripheral vascular disease, neuropathies, and complications of herpes zoster (Herr, 2002). Chronic pain is a huge
public health problem, with up to $635 billion spent annually in the United States for medical treatment and lost productivity (IOM, 2011). Despite the new pharmaceutical agents and advanced technologies available for the treatment of pain today, more than half of all hospitalized patients experience pain in the last days of their lives, with 50% to 75% of patients with cancer experiencing moderate to severe pain as they are dying (AAPN, n.d.).

With increased longevity in our society, many older adults live with chronic pain for years. If chronic pain is inadequately treated, there may be deleterious effects that are far reaching, including decreased energy, difficulty concentrating, serious loss of sleep, depression, physical disability, decreased immunity, and impaired quality of life (AAPN, n.d.; Papaleontiou et al., 2010; Weiner, Rudy, Morrow, Slaboda, & Lieber, 2006; Wittink et al., 2006).

**RESEARCH IN OLDER ADULTS WITH CHRONIC PAIN**

We are only beginning to understand the structural and functional changes that occur in older adults with chronic pain. Researchers speculate that brain changes in those with chronic pain result partly from a limited pattern of stimulation of circuits that are preoccupied with a continuous pain loop that may crowd out other activity. In addition, continuous stimulation of the pathway releases more of the neurotransmitter glutamate, which can be toxic (Roehr, 2011). Buckalew et al. (2010) were the first to conduct a study to examine differences in brain structure and function of older adults with chronic disabling pain. Through magnetic resonance imaging of 16 cognitively intact adults older than 65, they found significant structural and functional differences in the brains of those with disabling chronic low back pain (CLBP) and those without it. In adults with CLBP, there was significantly lower white matter integrity of the splenium of the corpus callosum, which integrates motor, sensory, and cognitive activity between the left and right hemispheres. Findings suggest the brain may be the vulnerable system leading to disability in older adults with CLBP and may also be an important target for interventions such as cognitive-behavioral therapies. It is not clear, however, whether the observed changes in brain structure are the result of chronic pain or a cause of the pain, or both (Buckalew et al., 2010).

The research literature related to chronic pain has not consistently determined whether older adults with chronic pain react distinctly “differently” from younger adults with chronic pain (Wittink et al., 2006). Some authors have suggested that opioid agents are underused as a treatment for chronic pain in older adults, their pain, and thus be better adjusted (Wittink et al., 2006). Overall, the researchers concluded that older adults exhibit greater physical disability and less psychosocial impairment.

The relationship between chronic pain and depression is well established, but research suggests there are differences between older and younger adults in this pain-depression relationship. Wittink et al. (2006) compared depression scores on the SF-36 mental health scale for older and younger patients with chronic pain. A score of 52 or lower on the scale was considered the cut-off for probable depression. The researchers found that 47% of the younger group and 39% of the older group scored 52 or less. This suggests the prevalence of probable depression is high in both groups but lower among older adults. This difference might be explained by the greater psychosocial resources of the older adults.

**OLDER ADULTS MAY BE HESITANT TO REPORT PAIN FOR FEAR OF BEING SEEN AS WEAK, OR THEY MAY INTERPRET IT DIFFERENTLY BECAUSE THEY HAVE LIVED WITH IT FOR SO LONG.**

## CLINICAL MANAGEMENT OF CHRONIC PAIN IN OLDER ADULTS

The clinical management of chronic pain in older adults is often suboptimal, ranging from inadequate use of analgesic agents to exposing older adults to potentially life-threatening toxicities, overdoses, or drug interactions (Arntstein, 2010). Since recent research suggests chronic pain in older adults may differ from that in younger adults, it is important to question assumptions about treatment of chronic pain in older adults. For example, nurses may assume chronic pain is a normal part of aging. It is now known that this is not true and that the causes of pain, as well as its severity, should be carefully assessed in older adults. Nurses may need to devise new approaches to the assessment of pain, as older adults may be hesitant to report pain for fear of being seen as weak, or they may interpret it differently because they have lived with it for so long.

Some authors have suggested that opioid agents are underused as a treatment for chronic pain in older adults,
possibly because both nurses and physicians doubt the value and safety of such agents for this population (Arnstein, 2010; Papaleontiou et al., 2010). Health care professionals also hesitate to prescribe opioid agents because of the concern that the medication will create confusion or respiratory depression. However, it is important to recognize that pain itself can cause confusion—the same problem one is trying to treat. When mental status declines, health care professionals may have a tendency to assume it is from the opioid agents, but it could be from other medications, low blood pressure, metabolic changes, or a number of other causes.

Current research indicates that adults 65 and older are as likely as those younger than 65 to benefit from treatment with opioid agents. A meta-analysis of older adults with chronic pain and no significant comorbidity showed that short-term use of opioid agents was associated with reduction in pain intensity, better physical functioning, and moderately improved sleep (Papaleontiou et al., 2010). Regarding the concern that opioid agents should be avoided because of tendency for addiction, it is important to recognize that abuse and misuse behaviors are negatively associated with older age (Papaleontiou et al., 2010). However, additional research is needed to substantiate this, as most of the studies reviewed were short term and frequently excluded people with a history of substance abuse, which is a known risk factor for opioid abuse.

Clinicians need to know whether non-opioid analgesic agents are comparable to opioid therapy in terms of safety and efficacy in older adults. Nonsteroidal anti-inflammatory agents (NSAIDs), the most commonly prescribed class of analgesic medications, have potentially serious gastrointestinal and cardiovascular side effects. New guidelines call for minimizing use of NSAIDs in treatment of chronic noncancer pain in older adults because of the significant risks associated with these medications (Papaleontiou et al., 2010). These guidelines recommend that clinicians consider opioid therapy for older patients who have persistent and substantial pain or experience impairment of function due to pain. Very little research has been done on this, but preliminary results suggest that short-term outcomes of opioid therapy are comparable to non-opioid analgesic agents (Papaleontiou et al., 2010). More comparative research studies are needed, including comparing opioid and non-opioid analgesic agents with nonpharmacological treatments.

Nonpharmacological approaches for pain treatment are important to consider in people of any age but should never be overlooked for older adults. Age and long-held chronic conditions may affect the processing of pain medications, and alternative treatments may be very helpful with fewer side effects. Additionally, many older adults welcome playing an active role in their own pain management, and using approaches such as application of heat or cold, exercise, relaxation, and other strategies is an important component to a comprehensive pain management plan (Bruckenthal, 2010).

In developing a comprehensive pain plan for pain management, depression, which is common in older adults experiencing multiple life changes, should be considered. The Beck Depression Inventory is a widely used measure for assessment of depression and may be useful in assessing depression in older adults (Segal, Coidlidge, Cahill, & O’Riley, 2008). Alternatively, depression may be assessed briefly and effectively by simply asking the older adult two questions: “a) during the past month have you often been bothered by feeling down, depressed, or hopeless? and b) during the past month have you often been bothered by little interest or pleasure in doing things?” (Arroll, Khin, & Kerse, 2003, p. 1144). When chronic pain and depression are concurrent, it must be understood that they often have a reciprocal relationship and it may be difficult to initially determine which came first. Knowing that older adults may actually have greater psychosocial resources to draw on should motivate nurses to explore other options for addressing pain that take advantage of these resources for more effective comprehensive care (López-López, Montorio, Izal, & Velasco, 2008).

Another consideration in the treatment of pain in older adults is what to do for those with dementia. Certainly pain must be assessed and treated, but the assumption has always been that the treatment of pain should be guided by the same principles used for those without cognitive impairment. New research suggests that individuals with advanced dementia have disruption of the placebo-psychological component of a treatment that results in reduced treatment expectancy and thus may require larger doses of analgesic agents to achieve similar treatment outcomes (Benedetti et al., 2006). Careful assessment and titration of medication doses are critically important for the best pain management outcomes for older adults with dementia.

THE CHALLENGE OF MANAGING CHRONIC PAIN FOR HOSPITALIZED OLDER ADULTS

The following true experience exemplifies many of the challenges faced by older adults with a history of chronic pain who are admitted to the hospital. The person’s name and details have been modified to protect confidentiality.

Harriet, a 70-year-old woman, was admitted to a medical floor in a large teaching hospital to investigate a marked increase in her back pain as well as episodes of confusion. At the time of the admission interview, Harriet was alert and oriented, moaning that her back pain was 10 out of 10 on the pain scale, exclaiming, “It’s excruciating!” Harriet said that her back pain was due to “a bad disc” and “spinal arthritis” for the past 10 years and that she took Celebrex® (celecoxib) and Percocet® (oxy-
The resident physician was suspicious of delirium and afraid of ordering opioid agents for pain since they have been known to contribute to delirium (Alagiakrishnan & Wiens, 2004). However, because the nurse understood the complete picture, she approached the physician with the suggestion that perhaps the acetyaminophen in the Percocet had concealed the fever until now and something was “brewing” and that the delirium was a response to pain, not opioid agents. While waiting for other tests to confirm or deny a diagnosis, the nurse made the case for aggressive pain treatment for Harriet. The physician agreed and ordered 5 mg of intravenous morphine to be given every 2 hours as needed. The physician also reordered the patient’s home dose of Celebrex. After two doses of morphine and a dose of Celebrex, Harriet was more comfortable, alert, and oriented, with no signs of delirium. Her daughters remained by her side when the physician came in to explain the diagnosis of an infected spinal abscess—the reason for Harriet’s increased pain and confusion. Harriet was treated with antibiotic and opioid agents for pain and was discharged from the hospital within a few days.

Without the nurse’s specific knowledge of pain management in older adults, Harriet may have suffered needlessly until tests confirmed the spinal abscess. Even following the diagnosis, a fear of administering opioid agents may have kept clinicians from treating her pain aggressively. Delirium may have continued, contributing to other complications that may have inhibited Harriet’s optimal recovery and return to her usual quality of life.

CONCLUSIONS AND IMPLICATIONS

The incident described above suggests the intense need for more education in pain management for clinicians; for example, of 133 accredited U.S. medical schools, only 7 have required courses on pain management (Roehr, 2011). It is estimated that physicians receive only 11 hours of pain education in 4 years of training (IOM, 2011). In a survey of primary care physicians by Cayea, Perera, and Weiner (2006), the majority of physicians did not feel very confident in their ability to diagnose contributors of CLBP. Furthermore, no relationship was found between knowledge scores and confidence ratings. Nursing schools fare no better, with few having adequate pain management content in their curricula (Plaisance & Logan, 2006).

Where do we go from here? Understanding pain and its implications for care of older adults is becoming increasingly important for clinicians as the population ages. There is a need for evidence-based guidelines to effectively and safely treat pain in older adults. An interdisciplinary team consisting of the nurse, primary care provider, and perhaps a mental health professional may be necessary to provide the multifaceted care required for optimal outcomes. A geriatrician, rehabilitation therapist, and pain specialist may be beneficial as well. Pain education for clinicians must become a priority; without it, unnecessary suffering may be the outcome.

REFERENCES


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