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Assessment and Management of Pain in the Elderly

Due to the high prevalence of musculoskeletal disorders, cancer, and other medical conditions in elderly patients, pain is a significant concern for this age group and their caregivers. Despite the frequent experience of pain in this population, few assessment and management techniques have been developed and tested to treat pain in the elderly. To provide effective pain relief, medical-surgical nurses must know how to adapt assessment and management techniques for elderly patients.

Mrs. R. is an 87-year-old widow residing independently in a continuing care retirement community. She has a past medical history of lumbar stenosis, osteoarthritis, acquired spinal stenosis, diverticulosis with occasional flares, esophageal strictures, and ETOH abuse. She lives alone, follows a diverticulitis diet, and is ambulatory and independent in activities of daily living (ADLs). Her weight is 123.5 pounds and has been stable over the past 5 years. She is alert and oriented, and continent of bowel and bladder but complains of frequent constipation. She takes a sleeping pill at night to help her fall asleep. Her closest relative is a sister-in-law who lives in a nearby state.

The patient presented to the ambulatory health clinic complaining of right-sided sciatic pain. She was seen by the physician and prescribed Darvocet® N-100 every 4 hours for pain, physical therapy, ultrasound, and heat and sent back to her apartment. She returned to the clinic the next day with increasing pain and decreasing ability to perform her ADLs. A bone scan revealed a sacral fracture. She was admitted to a nursing home and prescribed bedrest, ultrasound, heat, and physical therapy. Multiple pain treatments were prescribed and sequentially discontinued when found ineffective, including: Tylox®, morphine sulfate contin., Demerol®, morphine, Valium®, Flexeril®, and a transelectrical nerve stimulation (TENS) unit. In spite of the multiple interventions, her pain persisted.

The Problem of Pain in the Elderly

Pain is a significant problem for many elderly persons. The elderly are more susceptible to the experience of pain than any other population group because of the high prevalence of musculoskeletal disorders such as arthritis and osteoporosis, as well as surgical procedures, phantom pain, pressure ulcers, cancer, and other medical conditions in this age group (Ferrell, 1991). Population-based studies have estimated that 25% to 50% of community-dwelling elderly people suffer important pain problems (Anderson & Worm-Pedersen, 1987; Brattberg, Mats, & Anders, 1989; Crook, Rideout, & Brown, 1984). In one study (Crook et al., 1984) of 500 randomly selected households, 16% of the respondents, aged 18 to 105, reported a significant painful problem in the preceding 2 weeks. In this study, the incidence of pain was twice as great (250 per 1,000 versus 125 per 1,000) in those over age 60 than those 60 and younger.

Pain may be more prevalent among nursing home residents versus

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community-based elderly. Approximately 45% to 80% of these patients have reported pain, with the most common source being musculoskeletal causes, especially osteoarthritis (Crook et al., 1984).

Despite the high prevalence of significant pain in the elderly population, most research on pain control has been conducted on younger population groups and many of the interventions used in younger populations have not been tested with the elderly. Consequently, most current methods of pain control have not been tested rigorously under controlled conditions on persons aged 65 years and older. Pain management approaches do not necessarily take into account normative changes of aging, such as altered medication metabolism. Further, many elderly have multiple diseases, complicating pain management. For some older adults, decreased ability to identify and verbalize pain, isolation, and multiple or inconsistent providers inhibit effective pain management. The case study illustrates that because of these and other factors, pain assessment and manage-

ment in the elderly is often a matter of trial and error. Unfortunately, this approach typically leaves patients in severe pain for extended periods of time. Effective pain relief may be given to elderly patients, provided that nurses base assessment and management on pain management standards and guidelines and make appropriate adaptations for the special needs of older adults. No discussion of pain management in this population is complete without addressing the significant gaps in knowledge that exist regarding this clinical problem.

Assessment Factors

Pain is a multidimensional phenomenon that is influenced by numerous factors. Pain also is subjectively experienced. The health care professional's assessment of pain is based on the patient's subjective reports. Self-reporting is influenced by the personality of the reporter (Ferrell, 1991). Hence, the pain experience comprises the social, cultural, physiological, and psychological characteristics of each individual. Moreover, health care professionals not only take into account the patient's report but judge that against the patient's personality, past medical history, and their own perceived notions about pain. Such interpretation results in undermedication of 60% of acute-care patients and 83% of community-dwelling patients (Lindley, Dalton, & Fields, 1990).

There are several barriers to appropriately assessing pain in older adults. Elderly individuals may experience pain but do not report it for a number of reasons: fear of treatment, refusal to give in, and expectations that pain is a part of aging (Greenlee, 1991). Fear of over-medication is a major concern that prevents many elderly individuals from revealing their pain status (U.S. Department of Health and Human Services [DHHS], 1992). Furthermore, some elderly individuals fear that they will become addicted if they manage their pain with narcotics. However, in one study only 4 out of 12,000 acutely hospitalized patients developed dependencies (Porter & Jick, 1990). Memory

problems, the presence of depression, and sensory problems add to the difficulty of pain assessment in the elderly (Ferrell, 1991).

Nurses rely on both verbal and nonverbal reports to assess pain. Aphasia, paraplegias, and other sensorimotor problems can prevent elderly patients from showing a full and accurate description of their pain experience. The elderly may manifest pain in atypical or unusual ways as compared to other age groups (Wachter-Shikora, 1983). For example, pain expression may take the form of confusion in an otherwise alert and oriented older adult. Social withdrawal and anergy due to pain may mimic depression.

Ethnic, cultural, and spiritual factors play a role in patients' total responses to pain. There is considerable variation between and within ethnic, cultural, and social groups. Pain expression ranges from stoic to histrionic and may fill other needs, such as attention-seeking. Awareness of these factors is helpful in assessing, evaluating, and understanding the patient's response to pain. The elderly patient's family may be helpful in interpreting and understanding the patient's response to pain (Donovan & Girton, 1984; Ferrell, 1991). Older adults may acknowledge pain to their children or other loved ones but deny pain to staff in order "to not bother them." Table 1 lists the important points in assessing pain.

Pain assessment is even more difficult with cognitively-impaired adults. Between two and five million individuals suffer from dementia in the United States. By the year 2000, this number is estimated to increase by 60% (Marzinski, 1991). With cognitive impairment, verbal and nonverbal cues may be unreliable for assessing pain. Marzinski (1991) performed a pain assessment on 60 nursing home residents diagnosed with chronic organic brain syndrome, 24 of whom had known painful conditions. Only three of the residents exhibited what were commonly known as "pain behaviors," such as increased pulse, increased blood pressure, and diaphoresis. Changes in the usual behaviors of

Table 1.
Protocol for Assessment and Management of Pain Among Elderly Patients

<p>I. Assessment of Elderly Individual's Experience With Pain</p> <p>A. Physical Assessment & History</p> <ol style="list-style-type: none"> 1. Present pain experience, including physical, psychological, spiritual and cultural implications. 2. Description of pain (intensity, quality, onset, duration, manner of expressing pain, aggravating factors, what relieves pain). 3. Quantification of pain (use pain assessment tools such as visual or verbal analogue scale). 4. Effect of pain on other systems (mobility, sleep, nutrition, bowel and bladder, cognition). 5. Presence of other conditions preventing pain control. 6. Past pain experience. 7. Past treatment successes and failures. <p>B. Goal-setting</p> <ol style="list-style-type: none"> 1. Determine tolerable level of pain and sedation with individual. 2. Determine tolerable activity level. <p>II. Management of Pain</p> <p>A. Pharmacological & Non-Pharmacological Management of Pain</p> <ol style="list-style-type: none"> 1. With physician determine most appropriate medication and most effective route of administration. 2. Determine need for adjuvant therapies (anticonvulsants, muscle relaxants, anxiolytics, antidepressants). 3. Administer medication on routine basis (not PRN). 4. Determine need for alternate or additional pain management (TENS, heat/cold, massage, biofeedback, acupuncture, stress/relaxation, distraction). <p>B. Provide Staff Training & Counseling</p> <ol style="list-style-type: none"> 1. Dispel myths surrounding pain experience and malingerers. 2. Provide training on elderly pain experience. 3. Remember that pain is what the experiencing person says it is. <p>C. Provide Continual Evaluation of Effectiveness of Pain Control Treatments</p>
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Katz Index of Activities of Daily Living (Katz, Ford, Moskowitz, Jackson, & Jaffe, 1963) and the Instrumental Activities of Daily Living (IADL) by Lawton and Brody (1969) are commonly used tools to assess function in the elderly (Forman & Stratton, 1991). In combination with other pain assessment tools, these tools are useful adjuncts in assessing pain and pain management outcomes for the elderly.

The National Consensus Panel (DHHS, 1992) offered the following suggestions for comprehensive pain assessment:

- Significant previous and/or ongoing instances of pain and its effect on the patient.
- Previously used methods for pain control that the patient has found either helpful or unhelpful.
- The patient's attitude toward and use of opioid, anxiolytic, or other medications, including any history or fear of substance abuse or addiction.
- The patient's typical coping response to pain or stress.
- Family expectations and beliefs about pain and stress.
- Ways the patient shows pain.
- The patient's knowledge, expectations, and preferences for pain management.

Numerous investigators have documented that physicians and nurses lack information regarding pain assessment and often have an inaccurate knowledge base regarding pain control (Ferrell, 1991). One study by Dudley and Holm (1984) measured selected nursing characteristics such as socio-demographic variables against the assessment of pain and psychological distress. The results of the study indicated that nurses were able to assess psychological distress more effectively than pain, and may not be assessing and identifying pain as necessary. Another study (Taylor, 1984) examined nurses' ability to distinguish chronic from acute pain. The results indicated that nurses attribute less intense pain when the patient has no signs of pathology and when the condition is chronic.

Distinguishing acute from

cognitively-impaired older adult patients are possible signs of pain. For example, an elderly individual may awaken during the night or begin wandering. Behavioral alterations in conjunction with known painful conditions should alert nurses to the possibility of pain in these patients.

Several pain assessment instruments are currently available to aid in the assessment and quantification of pain. These include a visual analogue scale, the Initial Pain Assessment Tool (McCaffery & Beebe, 1989), and the McGill Pain Questionnaire (McGuire, 1988). The instruments allow patients to quantify their pain experiences and enable nurses to measure the effectiveness of pain interventions using consistent, quantifiable outcomes. However, a major limitation in using pain assessment tools with elderly

adults is that they were developed and standardized on younger patients (Marzinski, 1991). Thus, commonly used tools may be unreliable or even invalid for many older adults.

A consensus panel of the Agency for Health Care Policy and Research (DHHS, 1992) recommends that pain assessment instruments should be chosen with regard to the individual's age, physical, emotional, and cognitive condition as well as the available time and knowledge of the nurse administering the instrument. Furthermore, they recommend continued quality assurance by the facility to gauge the validity of the tool with the specific patient populations served.

Pain commonly and consistently has been associated with activity restriction in the elderly (Moss, Lawton, & Glicksman, 1991). The

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chronic and chronic malignant pain is important because subsequent treatments vary markedly. Acute pain has a distinct onset, short duration, and has direct physiologic consequences, such as increased pulse, increased blood pressure, diaphoresis, and pupil changes (Ferrell & Schneider, 1988; LeResche & Dworkin, 1988; McGuire, 1988). Chronic pain, often of musculoskeletal origin, lasts longer than 6 months. Because of the increased duration of symptoms such as increased blood pressure, increased pulse, and diaphoresis, physiological changes are generally absent and will be more subjective (Ferrell, 1991). The onset of chronic pain will not be distinct and may increase or decrease in severity throughout its course.

Pain has several consequences in the elderly. Williamson and Schulz (1992) demonstrated that chronic pain was associated with

higher degrees of depression in the elderly. Increased depression may be related to the functional deficits that frequently accompany chronic pain. In the elderly, pain commonly causes inactivity (Moss et al., 1991). This can eventually result in disuse, weakness, and atrophy of the muscles (Simon, 1989) and further activity limitations (Greenlee, 1991). Further, the presence of pain may result in alterations in body temperature, respiratory distress, and urinary frequency. These factors, or in combination with depression, may cause sleep problems in the elderly individual. Ferrell, Ferrell, and Osterweil (1990) reported that pain may result in decreased socialization, increased health utilization, and a worsening of medical conditions such as depression or respiratory disorders.

Managing Pain

There have been few studies in which pain management strategies have been examined in older people (Ferrell, 1991). The data presently available suggest that professionals rely on pharmacologic as well as adjuvant and alternative management strategies. However, because the research investigating pain treatments has been conducted on younger populations, there are numerous unanswered questions about providing the most effective treatment. Research on specific pain management strategies for the elderly is overdue.

Acute pain control measures developed for a younger population are used widely for the elderly patients in acute care settings. No studies could be found on managing pain in long-term care settings. However, both acute and chronic pain are significant problems in the long-term care setting and these patients may benefit from the generalization of management strategies developed for younger adults in the acute care setting, until the appropriate research is conducted.

The pharmacologic management of pain in the elderly is complicated by a number of factors. The physiological function and health status of the elderly individ-

ual may impair drug absorption, distribution, metabolism, and elimination (Greenlee, 1991). Further, elderly patients typically take more than one medication at a time, increasing the risk of interactive side effects (Miller & Lelievre, 1982).

The route of administration and dosing schedules may take on special significance in the elderly population because of both normal and pathological changes of aging. For example, oral pain medications may not be appropriate in elderly patients with absorption disorders of the stomach or intestines. Intramuscular medications may be poorly absorbed in an elderly patient with poor muscle tone. In addition, for the purpose of ascertaining the most therapeutic drug levels to combat pain, it is recommended that pain medications should not be prescribed PRN (Forman & Stratton, 1991).

Nonsteroidal anti-inflammatory drugs (NSAIDs) have been used frequently to treat pain in the elderly. Medications such as aspirin and naproxen fall into this category. These drugs inhibit prostaglandin synthesis, which produces the desired pain relief. However prostacyclin and thromboxane also are lowered, which can result in peptic ulcer disease, renal insufficiency, or bleeding disorders (Ferrell, 1991). Normal and pathological changes of aging place the elderly at increased risk for these side effects (Forman & Stratton, 1991). In addition, diminished renal function may cause a build-up of salicylate and its derivatives. Salicylate intoxication may be quite difficult to detect in the elderly individual. It is important to be alert for nonspecific signs and symptoms of dizziness, confusion, drowsiness, nausea and vomiting, and changes in behavior as possible indicators of salicylate intoxication. Regardless of the risk of bleeding from NSAIDs, the administration of a routine antacid is not recommended (because of the possibility of subsequent electrolyte disturbance) unless the elderly patient has a history of gastrointestinal complaints from the administration of a NSAID or a his-

tory of peptic ulcer disease (Forman & Stratton, 1991).

Opioids, alone and in combination with NSAID's and other therapies, have been used to treat pain in the elderly. Studies have shown that older adults are more sensitive to opioids than younger people (Ferrell, 1991). Greenlee (1991) stated that the elderly are more susceptible to opiate side effects, such as orthostatic hypotension, respiratory depression, pruritus, nausea and vomiting, urinary retention, and constipation. Opioids also may impair cognitive function (Ferrell, 1991).

Some specific opioids are particularly problematic for the elderly population. Propoxyphene (Darvon[®]) is generally not recommended since it is no more effective than aspirin or acetaminophen in the elderly and has a high risk of addiction and renal injury (Beaver, 1988). Pentazocine (Talwin[®]) frequently causes delirium and agitation in the elderly (Ferrell, 1991; Hanks, 1987). Methadone should not be used because of the propensity for drug accumulation (Ferrell, 1991).

The use of morphine and hydro-morphone HCL (Dilaudid[®]) is preferable in the elderly because the short half-life decreases delayed toxicity (McCaffery & Beebe, 1989). However, morphine is cleared from the body more slowly resulting in an increased duration of the analgesic effect. In fact, the elderly respond to morphine as if they received three to four times the dosage given to younger patients (Kaiko, Wallenstein, Rogers, Grabinski, & Houde, 1982). Morphine is available in many formulations with new dosing recommendations and sustained-release preparations (Forman & Stratton, 1991). Meperidine (Demerol) should not be used as an oral analgesic due to its relatively poor oral bioavailability (Forman & Stratton, 1991). Meperidine also may cause agitation and confusion because of one of its metabolites, normeperidine (Forman & Stratton, 1991).

The agonist/antagonist category consists of agents that, in addition to having opioid activity, also depress the pain impulse at the

spinal cord level by interacting with opioid receptors. Drugs in this category include nalbuphine (Nubain[®]) and buprenorphine HCL (Buprenex[®]). However, these medications may cause confusion and hallucinations in the elderly. This category may induce withdrawal in patients receiving agonists and may reverse the effect of the agonist if given in combination with other narcotics.

Kaiko and colleagues (1982) recommended that no matter which narcotic is chosen, titrating the dose and altering the dosing frequency is often necessary in elderly patients. The general rule to follow in this population is to "start low and go slow." Several drug manuals are available that provide guidelines for drug equivalences and titration in population groups. A study done by Belville and colleagues (1971) and later repeated by Kaiko and colleagues (1982) showed that titrating the dose of morphine to the age of the patient may be the most effective method in obtaining control of the pain.

Alternative and Adjunctive Treatments

Local therapies are an effective yet under-used treatment for pain (Forman & Stratton, 1991). The application of medication to the area of pain may indeed control the pain while preventing the systematic side effects of NSAIDs and opioids. Another alternative treatment that has recently gained attention is patient-controlled analgesia (PCA). No research reports were found on the effectiveness or use of this treatment in the elderly population. PCA allows patients to control the time and amount of pain medication they receive. Caution should be exercised when prescribing this treatment for the elderly. Proper control of PCA relies on the person having fully functioning cognitive status both at baseline and after the administration of the analgesic medication. It may be wise to test the patient's response to the analgesia prior to the prescription of PCA as the side effects of the medication may prevent successful use of the PCA.

Besides NSAIDs and opioids,

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other pharmacologic agents have been useful in conjunction with these medications to treat pain and its subsequent consequences in the elderly. These medications may be given specifically to treat the cause of the pain or its consequences. Walker, Akinsanya, Davis, and Marcer (1990) examined the pain and coping experiences of 190 elderly patients. They measured the presence or absence of anxiety and depression, and found that many factors influenced the mood of community-dwelling patients in addition to pain control. Such factors included regrets about the past, being occupied with thoughts and problems, and other personal issues including bereavement. Consequently, antidepressants and anxiolytics may be beneficial in treating the depression and anxiety associated with pain. Attending to these other conditions allows the treatment of pain to progress

more effectively. Other medications used to treat symptoms and consequences of pain include anti-convulsants and skeletal muscle relaxants.

Nonpharmacological methods may be appropriate in treating pain, independently or in conjunction with pharmacological methods. Transelectrical nerve stimulation (TENS), biofeedback, hypnosis, distraction, and heat or cold massage are a few of the nonpharmacological treatments available. Knowledge and training are essential in order to use these measures correctly. Nurses and therapists trained in these methods may find them useful in treating acute and chronic pain.

Mrs. R. had a rocky course. The primary nurse continued to work closely with the resident and physician over the following weeks, trying new opioids and administration methods, adjunct therapies, and finally a TENS unit. The patient's pain was greatly reduced with the TENS unit and the continued opioid therapy. The patient's pain eventually reduced to approximately a "3" on a scale of 1 to 10 and her discharge was planned for the following Monday.

Assessing and managing pain in the elderly population is of great importance but remains understudied. The end result is a trial and error approach that generally leaves patients with significant pain for extended periods of time. Research studying pain assessment and management with older adults and the range of settings in which they reside is a major priority in the field of pain management and gerontology. Medical-surgical nurses can play a pivotal role in identifying unanswered questions, advocating for more and better research, and disseminating current and future pain management guidelines for those who care for the elderly. The understanding that current practice occurs without an adequate knowledge base should underscore the need for future initiatives. ■

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