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REVIEW

Opioids in the Elderly Patients with Cognitive Impairment: A Narrative Review

M. Rekatsina · A. Paladini · O. Viswanath · I. Urits · D. Myrcik · J. Pergolizzi · F. Breve · G. Varrassi

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ABSTRACT

Introduction: Assessment and management of pain in elderly people with cognitive impairment is particularly challenging. Physiological changes due to aging as well as comorbidities and polypharmacy are responsible for a complex clinical approach. Concomitantly, in cognitive impairment, including advanced dementia, changes in the central nervous system along with changes in the peripheral nervous system due to aging have a significant impact on pain perception. Sometimes clinicians decide to prescribe opioids to relieve pain, also without a clear indication. This review aims to investigate the effect of opioids in elderly patients with cognitive impairment.

Methods: A literature search of PubMed/Medline, Scopus, and Cochrane databases was conducted using keyword searches to generate lists of articles that were screened for relevance by title and abstract to give a final list of articles for full-text review. Further articles were identified by scanning the reference lists of the full-text articles.

Discussion: This review discusses the complex physiological and pharmacological changes in the elderly as well as the neurological changes that affect pain perception in this population. Additionally, it focuses on cognitive impairment and pain in Alzheimer's disease and other dementias, the pain assessment in the elderly with cognitive impairment as well as the safety of opioid use in the elderly. Information regarding opioid prescription in nursing homes and recorded indications for opioid use, type and dosing of opioids, and compliance of

M. Rekatsina
Mid and South, Essex University Hospitals Group, Orsett Hospital, Grays RM16 3EU, Essex, UK

A. Paladini
Department MESVA, University of L'Aquila, 67100 L'Aquila, Italy

O. Viswanath
Department of Anesthesiology, Creighton University School of Medicine, Omaha, NE, USA

O. Viswanath · I. Urits
Department of Anesthesiology, Louisiana State University Health Shreveport, Shreveport, LA, USA

I. Urits
Southcoast Physician Group Pain Medicine, Southcoast Health, Wareham, MA, USA

D. Myrcik
Department of Internal Medicine, Silesian University of Medicine, 42-600 Byton, Poland

J. Pergolizzi · F. Breve
NEMA Research Group, Naples, FL, USA

G. Varrassi (✉)
Paolo Procacci Foundation, 00193 Rome, Italy
e-mail: giuvarr@gmail.com

G. Varrassi
NEMA Research Group (European Chapter), Naples, FL, USA

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treatment in advanced dementia are also provided.
Conclusions: Opioid prescription in the elderly population with cognitive impairment is particularly complex. All healthcare professionals involved in the care of such patients need to be aware of the challenges and strive to ensure analgesic use is guided by appropriate and accurate pain assessment.

Keywords: Aging; Elderly; Pain; Opioids; Dementia; Cognitive impairment

Key Summary Points

Cognitive impairment is a growing burden for healthcare systems, as a consequence of the increased aging of populations.

Frequently elderly people have concomitant health problems, with high prevalence of chronic pain.

Management of chronic pain in multimorbid patients with cognitive impairments is not an easy task, especially when the use of opioids is necessary.

This review points out many problems that physicians in charge of the care of elderly people with cognitive impairment are requested to deal with while caring for those patients.

INTRODUCTION

The world's population is aging rapidly. Life expectancy has risen dramatically in recent decades [59]. In Europe, the number of persons over the age of 65 is expected to rise from 17.4% in 2010 to 29.5% in 2060. Furthermore, people aged 80 years and older will rise, nearly tripling to 12% by 2060 [19]. For the first time in recorded history, the majority of people worldwide can now expect to live into their 60s and beyond [19]. A major source of worry is that aging is associated with a rise in disease load and disability, particularly dementia.

Chronic pain is a serious problem in primary care, impacting more than half of the elderly population [8, 16]. The situation is considerably worse among patients referred to pain clinics [43] with up to 80% of nursing home residents affected [73]. Pain management is being more acknowledged as a critical therapeutic concern in adults with cognitive impairment [12, 13]. There is a link between chronic pain and neurodegenerative processes, including cognitive decline [77]. The inability to articulate the presence of pain creates conditions in which pain may be overlooked, under-reported, underestimated, misdiagnosed, and undertreated, imposing a significant influence on health and quality of life in this group of individuals [1].

Proper pain management is essential for everyone, but it is especially crucial for older patients with cognitive impairment [51]. As a result of a diminished ability to verbalize pain and because some healthcare practitioners hold incorrect attitudes about pain, this group is delicate and prone to unrelieved suffering [42]. However, the assessment of pain in advanced dementia is extremely challenging and complex, which frequently leads to undertreatment and inadequate pain management in the care home context [69].

To date, there are only a few randomized clinical trials reporting of opioid therapy in elderly patients with cognitive impairments. This review aims to investigate through a literature search strategy the efficacy and tolerability of opioid use in elderly people with cognitive impairments and dementia.

METHODS

In November 2021, we searched PubMed/Medline, Scopus, and Cochrane databases to identify relevant articles using a combination of the

following search terms: "opioids", "cognitive impairment", "dementia", "elderly", "old", "assessment" in various combinations. We used the Scale for the Assessment of Narrative Review Articles (SANRA) criteria [2]. The primary search was supplemented with a secondary search using the bibliographies of the articles retrieved. Only full-length original articles were accepted.

We scanned 1392 articles for inclusion, and we narrowed our focus to studies including information about pain in the elderly with cognitive impairment or dementia, pain assessment, opioid use in this group, safety, and tolerability as well as cognitive impact and neurological alterations. All retrieved articles were initially reviewed for inclusion by title and abstract by two authors (MR, GV). We included articles referring to pain (acute or chronic) in adults with dementia or cognitive impairment and opioids used.

This narrative review article is based on previously conducted studies and does not contain any studies with human participants or animals performed by any of the authors. Hence, it does not need any approval from ethics committees.

RESULTS

The main findings of our research are summarized in Table 1. We found different aspects of great interest, both related to physiological modifications and responses to drugs in the elderly with cognitive impairments.

Physiological Changes in the Elderly

Neurological Changes Affecting Pain Perception in the Elderly

Oxidative stress, chronic inflammation, alterations in energy metabolism, and mitochondrial malfunction in stress response contribute to neurodegeneration [62] and cognitive decline in elderly individuals [10]. Elderly

Table 1 Summary of the review findings

Physiological modifications in the elderly	Neurological changes affecting pain perception	Age-related changes in pharmacokinetics	Opioid-related pharmacokinetics in the elderly	Cognitive impairment (Alzheimer's disease, vascular dementia, Parkinson's disease)	Concomitant use of other dugs
Main indications for opioids use in patients with cognitive impairment	Cancer	Non-cancer pain (most frequently musculoskeletal problems and osteoarthritis)			
Most used tools for pain assessment in elderly patients with cognitive impairment	PACSLAC	PAINAD	MOBID and MOBID2	Abbey Pain Scale	
Safety of opioid use in elderly patients	Neurological adverse events	Gastrointestinal side effects (especially opioid-induced constipation, OIC)	Important adverse events (increased hip fractures, renal failure)		

people are more vulnerable to long-term pain development and additionally drugs that target peripheral sensitization appear to be less effective [10]. Different pain processing and treatment responses are caused by pathologic alterations, like gliosis and cell death, in areas of the brain implicated in pain perception and analgesia [73]. Additionally, the effectiveness of descending pain inhibitory systems, particularly the endogenous opioid component, appears to degrade with age [73]. In older age, hyperalgesia is more frequent and recovery from peripheral nerve injury appears to be slower [73], while nociceptors might have very little role in both acute and chronic pain sensation [73]. The density of unmyelinated fibers in the peripheral nervous system reduces significantly, delaying nerve conduction and altering pain perception [78]. As part of normal aging, there is a reduction of brain volume especially in the prefrontal cortex and hippocampus, which are important regions for pain perception [63]. The aforementioned changes are expected to interact with brain alterations that appear to be produced by chronic pain, such as thalamic volume reduction linked with pain duration [63], and decreased functioning of endogenous pain modulatory mechanisms [11].

Age-Related Changes in Pharmacokinetics

The aging process is marked by structural and functional changes that affect all organ systems and result in decreased homeostatic capacity [45]. Although a system's function may be maintained while resting, a decrease in functional reserve is accountable for an increased vulnerability to stress [45]. Reduced homeostatic ability impacts different regulatory systems in different subjects, explaining at least some of the increasing interindividual variability that occurs as people age [45]. Drug absorption, distribution, metabolism, and excretion are all altered to variable degrees by the aging process and disorders that are usually associated with aging [19]. Gastric acid production, drug bioavailability, small bowel surface, splanchnic blood flow, and first-pass metabolism are all lowered, and all processes might affect absorption [19]. The increasing proportion of body fat, the decreased total body water, the decreased lean body mass, and higher alpha-1-acid glycoprotein levels all influence medication distribution. Hypoalbuminemia is caused by malnutrition and proteinuria, and it also plays a role in drug distribution [19]. Liver illnesses, the typical physiological effects of aging on the liver, and polypharmacy can all have an impact on metabolism [19]. Finally, poor renal function and renal illness have an impact on medication elimination [19]. All these alterations result in a longer plasma elimination half-life [45] and an increased risk of adverse responses to water-soluble drugs [27].

Opioid-Related Pharmacokinetics in the Elderly

It is critical to emphasize the differences in pharmacokinetics, hepatic, and renal impairment between the most often used opioids. Morphine acts through its active metabolite morphine-6-glucoronide (M6G), while morphine-3-glucoronide (M3G) is an inactive metabolite. Both metabolites and converted in the liver and eliminated by the kidney. They are secreted through the urine, resulting in metabolite buildup and potential poisoning in renal impairment [29]. Oxycodone acts through various active metabolites and hydromorphone only through one glucuronide, which is neuroexcitatory; all might accumulate in renal failure [27]. Fentanyl is significantly metabolized to norfentanyl in the liver, its active metabolite, along with other inactive metabolites [27]. As 75% of metabolites are eliminated by urine, during renal impairment, fentanyl's clearance is decreased, and its half-life is extended. Buprenorphine is metabolized in the liver into norbuprenorphine, buprenorphine-3-glucuronide, and norbuprenorphine glucuronide [27, 52, 53]. Two-thirds of the parent medication is eliminated by the biliary system, while the renal system also plays a role. Although hepatic impairment prolongs the drug's half-life, the low activity of the metabolites has little therapeutic significance; however, close monitoring is advised. On the contrary, during renal impairment, no dose reduction is required [27].

Definition of Cognitive Impairment and Dementia

Cognitive impairment is a prevalent condition in the elderly. Mild cognitive impairment is described as cognitive decline that is greater than expected for an individual's age and education level but is interfering significantly with daily living activities. Dementia, on the other hand, is more severe and widespread, with a major impact on daily function [10]. Fourteen percent of people over the age of 70 have enough cognitive impairment to be diagnosed as dementia [58] and an equal amount had a milder clinical picture but unmistakable cognitive impairment [54].

Cognitive Impairment and Pain in Alzheimer's Disease and Other Dementias

The neurodegeneration that occurs in Alzheimer's disease (AD) affects major areas involved in the medial pathway (the affective-motivational component) of pain, including the medial nuclei of the thalamus, hypothalamus, cingulate, and insula. The lateral pathway (sensory-discriminative dimension) of pain is relatively well preserved [7, 66]. The perception of acute pain is intact; however, the experience of chronic pain may be altered [56], and a decrease in the autonomic response of pain has also been described [5]. The prefrontal lobe is similarly impacted by neurodegeneration in AD, resulting in an altered reaction to analgesics. This effect is especially pronounced when the connections between the prefrontal lobes and the remainder of the brain are severely disrupted, resulting in greater analgesic requirements [4]. Alterations in the blood–brain barrier that occur during dementia might also affect the action of centrally acting pain drugs like opioids [3].

Pain perception may be enhanced in vascular dementia (VaD) due to white matter lesions in the pathways ascending to the thalamus (e.g., the spinothalamic tract) [38]. The increased levels of pain in patients with dementia compared to patients without dementia are reported by a few studies [67, 68, 76]. Patients with mild to moderate AD and mixed AD and VaD are less likely to report pain compared to patients with subjective cognitive impairment [6].

Assessment of Pain in the Elderly with Cognitive Impairment

Because of the patient's unwillingness to complain, atypical pain presentations, various comorbidities, and cognitive loss, pain in cognitive impairment and dementia is often poorly or incorrectly diagnosed [15]. The need for more time to analyze any topic, the difficulty of hearing and understanding, the memory deficiency, and acute confusion (delirium) may all impede the assessment [31]. Self-assessment scales are considered the gold standard for pain assessment, but the presence of cognitive impairment is likely to reduce the reliability of these measures [12].

A recent European survey on current practices, assessment tools usage, guidelines and policies development identified 17 pain assessment scales (including different versions of scales) that are used worldwide and are looking into pain in the elderly with dementia [22]. The most frequently used tools are PACSLAC (Pain Assessment Checklist for Seniors with Limited Ability to Communicate—including three variations [26]) and PAINAD (Pain Assessment in Advanced Dementia) [22, 80]. These population-specific tools, developed by experts in dementia, are recognized as international scales with good psychometric qualities and clinical utility. MOBID (Mobilization-Observation-Behavior-Intensity-Dementia Pain Scale) [35] and MOBID2 are validated scales [22], while the Abbey Pain Scale lacks such validity and internal reliability but it is used widely in the UK and Australia as a useful, easy-to-use clinical tool [22]. A survey in European countries highlighted that despite these tools being easy to use, they are difficulty to interpret as they rely on facial expressions of pain and additionally there is lack of education in using them [82]. Other tools such as the Disability Distress Scale (DisDat), Pade, Universal Pain Assessment Tool (Paine), Doloplus, NoPain, Pain Assessment

Scale for Seniors with Severe Dementia (Pacslac), Checklist of Nonverbal pain indicators (CNPI), Assessment of Discomfort in Dementia (ADD), Bolton Pain Assessment Tool (BPAT), Numerical Rating Scale (NRS), Visual Analogue Scale (VAS), Verbal Rating Scale (VRS), and the Faces Rating Scale (FRS) are also being used to assess pain in the population with advanced dementia [69].

It is critical to note that pain management strategies are troublesome in dementia for a variety of reasons. Firstly, there is little evidence that pain produces distinct signs and behaviors, and this can be an important limitation when assessing pain in people with moderate to severe communication impairments. Secondly, people with communication challenges appear to have distinct patterns of distress indicators and behaviors that are similar independent of the cause (e.g., anxiety, frustration, and rage) and would promote the use of an analgesic [60].

Safety of Opioid Use in the Elderly

The neurological adverse effects of opioids, such as drowsiness, confusion, hallucinations, and loss of cognition, are a major concern in the elderly. Most opioids carry the possibility of such side effects, especially when taken at large doses for long periods and/or when patients have severe renal failure [27]. The tolerability of opioids is critical in older people compared to their younger counterparts because side effects such as sleepiness, dizziness, and motor imbalance have more catastrophic repercussions in the older fragile patients who are already at a higher risk of falling [27]. Indeed, a recent study found that consuming opioids increases the incidence of hip fracture in the elderly with AD [71]. The risk was low while using light opioids, medium when using buprenorphine, and high when using strong opioids. Increased stomach pH, decreased gastric and intestinal motility, and decreased enzyme activity and absorption all contribute to longer colon transit times, constipation, and gastrointestinal problems in elderly people [27]. With low-dose transdermal buprenorphine with a low dose of oxycodone taken orally there were no central nervous system problems [28]. Furthermore, buprenorphine and transdermally administered fentanyl were found to cause less constipation than morphine and oxymorphone, deeming them preferable to other opioids when constipation is difficult to treat [61].

The accumulation of metabolites from certain opioids, such as morphine, is crucial to notice in older individuals with impaired hepatic and renal function. For all opioids except buprenorphine, the half-life of the active drug and metabolites is increased in patients with renal failure and the elderly; consequently, doses should be reduced, longer time intervals should be utilized between them, and creatinine clearance should be monitored [18, 75].

Another side effect of high-dose opioids is respiratory depression, which is more common in elderly people. This effect is mediated by the μ-opioid receptor, to which agonists such as morphine and fentanyl have a distinct dose-dependent effect [14]. Morphine, oxycodone, hydromorphone, fentanyl, and methadone all cause a dose-dependent reduction in breathing, culminating in apnea at large doses. Because of the receptor's intrinsic analgesic activity, buprenorphine has a well-defined ceiling impact for respiratory depression [79] and can be reversed with opioid antagonists, such as naloxone [14].

It is especially critical to emphasize the impact of opioids on the immune system, as they cause progressive immunosuppression [23]. Morphine is the most immunosuppressive of these drugs [46].

Drug interactions and protein binding are two more critical safety concerns. Some opioids are processed by CYP P450 isoenzymes, with variability dictated mostly by genetic polymorphisms, which may explain high rates of adverse effects or little effectiveness in afflicted persons. This is true for oxycodone and tramadol, both of which are metabolized by CYP 2D6, as well as buprenorphine, which is metabolized by CYP 3A4 [36, 37]. In terms of protein binding, buprenorphine appears to be the safest choice for older persons since it binds to α- and β-globulins rather than albumin, reducing the possibility of drug–drug

interactions due to protein binding for this medication [74, 81].

Pneumonia was also linked to opiate usage in older people with AD. The danger was greatest during the first 2 months of usage. Buprenorphine was not related to an increased risk when compared to mild opioids, but powerful opioids were. The risk was greater for individuals taking 50 morphine milligram equivalents (MME) per day compared to those taking 50 MME per day [32]. If opioid medication is required, risk-mitigation techniques should be examined.

A study that looked at the relationship between opioid usage and dementia-related neuropathology found that increased exposure did not result in larger neuropathologic alterations, as it did with nonsteroidal anti-inflammatory drugs (NSAIDs) [20].

A further burden in using opioid treatment in the elderly is the concomitant use of anticholinergic drugs. Long-term use of such drugs may result in cognitive impairment and worsening of cognitive functions, further aggravating the neurological adverse effects of the opioids [44]. Additionally, urinary retention and nausea might be exacerbated, as they are a consequence of the anticholinergic effect of opioid treatment [9].

Pharmacological therapy should take into account physiological changes, high comorbidity, and medication interactions, which are common in the elderly [73].

Opioid Prescription in Nursing Homes

Among studies investigating the use of opioids in elderly patients with cognitive impairment, there is a great variation in prevalence. In a cross-sectional study done in the USA, one in every three long-term residents received an opioid, and one in every seven had long-term opioid treatment [34]. Cognitive impairment was associated with less frequent opioid use after adjusting for pain-related diseases, disabilities, and depressive symptoms. However, the assessed degree of pain did not explain the association [49, 50], suggesting that the pain of home care clients with cognitive impairment may not be handled adequately [49, 50]. Another recent observational study found that home care residents with and without dementia use opioids for long periods of pain, primarily for non-malignant musculoskeletal disorders such as vertebral osteoporotic fractures, degenerative spinal disorders, and osteoarthritis [49, 50]. The prevalence of daily opioid usage was 9.3%, with a duration of more than a year [49, 50]. Interestingly, according to another study, the incidence of opioid usage grew by 35% among the elderly with dementia but only by 13% among the elderly without dementia between 2000 and 2015 [39]. Similar studies indicate that opiate usage in the elderly with dementia is common and about twice as prevalent as in the elderly without dementia (one-third vs one-sixth) [41]. It is concerning that, despite the very common usage of powerful prescription opioids in nursing home residents with severe dementia, the pain was still present in two out of every three patients [30]. In the same study, one in five residents with severe dementia were administered opioids, while four out of five were still in pain [30].

A cross-sectional record audit of vocally communicative nursing care patients in the USA found that people without a dementia diagnosis were considerably more likely to have an opioid medicine order [48]. Notably, only 60% of nursing home clients with dementia who died from cancer received opioids during their stay in the facility. Patients in nursing homes who are severely cognitively handicapped and require opioids are at significant risk of developing untreated advanced cancer pain [47]. Several studies from Northern Europe suggest that a great amount of nursing home (NH) residents with advanced dementia receive strong opioids, 19.3% in Norway in 2019 [30], 17.9% in Norway in 2011 [65], 27.8% in Denmark in 2010 [40], and 13.5% in Finland in 2011 [57]. In a study conducted on NH residents in Norway, despite prevalent prescription of strong opioids (almost 20%), the dosage was relatively low on average but almost 80% of the NH residents with prescribed strong opioids still showed signs of pain [30]. In the community, overall long-term opioid usage was statistically significantly higher in people without AD than in those suffering with the disease (9% vs 7%,

respectively). However, among opioid users in general, the prevalence of long-term opioid usage was statistically significantly greater in patients with AD compared to those without AD (approx. 34% vs 32%), while in patients with AD the use of transdermal opioids was more than twice as common (13% vs 6%) [33].

Recorded Indications for Opioids Use in Advanced Dementia

Opioids are used to treat cancer and non-cancer pain, as well as acute and chronic pain in elderly adults with severe dementia. A recent observational study revealed that most opioid indications were non-malignant disorders (musculoskeletal problems such as vertebral osteoporotic fractures, degenerative spinal illnesses, and osteoarthritis being the most frequent) and only 3.2% for cancer-related pain [49, 50]. Interestingly, fewer than one in eight patients of the research group used opioids for neuropathic pain, while other unusual indications included cardiovascular illness, surgery, various neurologic disorders, mental problems, gastrointestinal complaints, and decubitus ulcers [27, 49, 50].

Compliance to Treatment

The degree of non-adherence in the elderly is estimated at between 40% and 75%, and it can be due to overdose or underuse. In the mistaken notion that taking more than the authorized amount will have a larger positive impact, older people may take more than the suggested dose. Individuals who suffer with cognitive deterioration or who are taking multiple drugs might be more susceptible to skip a dose. Underuse is the most common problem; incorrect medication discontinuance may occur in up to 40% of patients, especially during the first year of being offered pain management [64]. To promote adherence in older individuals, a variety of techniques can be utilized such as better communication between physician and patient, as well as educational interventions, caregiver involvement, and patient family support [17].

Opioid Type and Dosing

The type of used opioids and their dosages are summarized in Table 2. It is interesting to note that there is a wide variability.

In a study on prevalence of opioid use in care home residents, strong opioids like fentanyl, morphine, or oxycodone were used by approximately one-fifth of the study population while buprenorphine was the most used opioid (around 60%), with the dose ranging from 5 to 20 μg/h and median dose 10 μg/h. It is worth mentioning that buprenorphine was the most often used opioid among dementia-affected opioid users [49, 50]. This was followed by the use of codeine combined with paracetamol (approximately 15% and dose range 30–180 mg and median dose 79 mg). Oxycodone was used by a similar percentage of patients with the dose ranging from 5 to 120 mg and median daily dose 17.5 mg, while tramadol by approximately 7% (dose range 50–300 mg and median daily dose 100 mg). Stronger opioids like transdermally administered fentanyl (dose range 12–75 μg/h and median dose 18.5 μg/h) and morphine (dose range 8–20 mg and median daily dose 10 mg) were used by around 2% of the patients. Hydromorphone was not used [49, 50]. Approximately one in three patients

Table 2 Opioid type and dosing used in the elderly with cognitive impairment

	Dose range	Median daily dose
Morphine	8–20 mg	10 mg
Oxycodone	5–120 mg	17.5 mg
Buprenorphine	10 μg/h	5–20 μg/h
Codeine ± paracetamol	30–180 mg	79 mg
Transdermally administered fentanyl	12–75 μg/h	18.5 μg/h
Tramadol	50–300 mg	100 mg
Hydromorphone	Not used	Not used

Source: [49, 50]

switched from one opioid to another throughout the follow-up period.

As a result of deteriorating organ function and other physiological changes in the elderly, smaller starting dosages of analgesics and shorter dosing intervals are indicated [70]. As non-cancer pain treatment alternatives are expanding, there are currently various oral sustained release and patch treatments available offering sustained-release or steady-state administration over intermittent dosing of an opioid (or any drug). This maintains a steady plasma level of the drug within a therapeutic range and protects from peaks, excess adverse effects, or inadequate pain relief [27].

According to the literature, one-third of nursing home residents with severe dementia were prescribed less than or equal to the lowest dosage of fentanyl patches (12 μg/h) or buprenorphine (5 or 10 μg/h) [30]. In another study, nursing home residents (approx. 19%) and home-living patients with dementia (approx. 11%) used buprenorphine and fentanyl patches, whereas these were used by only 2.4% of home-living patients without dementia [40]. Long-term opioid usage was highly related to transdermal opioids in those with AD [33]. A randomized, placebo-controlled trial (DEP.-PAIN.DEM) on the tolerability of buprenorphine transdermal system in nursing home patients with advanced dementia found that active buprenorphine 5 g/h had a significantly higher risk of discontinuation than placebo in people with advanced dementia and depression, primarily due to psychiatric and neurological adverse events. During the first week of therapy, daytime activities decreased dramatically. Concurrent usage of antidepressants lowered buprenorphine tolerance even further [21].

A prospective, observational pilot study with low-dose orally administered prolonged-release oxycodone/naloxone for chronic severe pain in elderly patients with cognitive impairment and significant impairment in daily functioning found that the aforementioned combination was effective in improving pain and other dementia-related symptoms, had a favorable safety and tolerability profile, and did not worsen bowel function. There were also significant improvements in everyday functioning and neuropsychiatric symptoms [55].

A study on the efficacy and tolerability of tapentadol extended-release for the treatment of non-malignant chronic low back pain in older people found that when the dose is titrated to the optimal level, the medicine retains efficacy and tolerability. It reduced pain by 50% in 58% of senior patients and improved quality of life and sleep, but global cognitive and sustained attention tasks remained steady or improved. It is crucial to note, however, that 25% of the research sample terminated therapy owing to adverse effects during titration [24]. Prior to this study, the "TaPE study", which focused on anxiety, depression, cognitive status, and life quality, had also confirmed that low doses of tapentadol in the long-term management of chronic musculoskeletal pain in the elderly, adequately titrated according to patients' responses, are safe and effective. Only a few mild side effects were seen at the start of treatment, and with goal-directed and sufficient patients, information therapy adherence remained high throughout the trial period [72]. Tapentadol proved beneficial for pain and is well tolerated in patients with Parkinson's disease in a retrospective study. Cognitive and motor skills were stable or improved during therapy. Mood and overall quality of life increased as well. The research, however, did not include people with Parkinson's disease dementia [25].

Limitations

This is not an exhaustive review of the current evidence. However, it provides the clinician with an insight into pain perception in the elderly population with cognitive impairment, along with significant information regarding pain assessment and evidence regarding current opioid prescription practice.

CONCLUSIONS

This review focuses on eradicating the misconception among some healthcare professionals that elderly people, especially those affected by

cognitive decline, have a reduced perception of pain. Standardized instruments can improve physician–patient communication and understanding of the patient's pain experience, while physiological changes must be considered when prescribing drugs for elderly patients. Additionally, specific changes that appear in patients with dementia should be considered when assessing and treating pain. When prescribing opioids, the gold standard is to start at a low dose and cautiously titrate as a result of polypharmacy and concomitant diseases. Specific guidelines focusing on specific pathophysiological changes in the elderly with cognitive impairment are needed to ensure adequate treatment of chronic pain conditions and ensure personalized and focused pain management.

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Data Availability. This is a narrative review of literature; hence no new data were generated.

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