

Pain management nursing practice assessment in older adults with dementia

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Abstract

Aim: To assess pain management nursing practice in older adults with dementia through electronic health records (EHR).

Design: Retrospective study.

Methods: Data were collected from EHR related to pain management in older adults with dementia treated at the Acute Geriatrics Unit (AGU) of a university hospital in early 2018.

Results: EHR related to the pain of 111 patients were reviewed. Pain intensity was assessed at admission in 88% of patients and a median of 1.9 times per day of stay. A disproportionate number of the assessments (39%) occurred during the late shift. A median of 1 drug per day was administered. Pain was recorded in 28% of patients' care plans, and non-pharmacological interventions were recorded in 12%.

In conclusion, exist variability in pain management nursing practice in older adults with dementia. Admission diagnosis correlated with the analgesic administration schedule, the number of drugs administered and the number of pain nursing annotations.

KEYWORDS

acute care, comfort, dementia, nurses, nursing care, pain management

1 | INTRODUCTION

Pain and dementia are two health problems linked to ageing and two of the main causes of the reduction in quality of life in older people. Pain in older people tends to be chronic and mainly osteoarticular, although of mixed origin (Sirsch et al., 2015). The prevalence of chronic pain in older people in Spain is estimated at

25%–76% in people living in the community and as high as 83%–93% in people living in nursing homes (Sáez-López et al., 2015), due in part to the difficulty of evaluating and treating pain in the older population. This prevalence is similar to that of older people with dementia elsewhere in Europe (Achterberg et al., 2013, 2020; Corbett et al., 2014; Kruschinski et al., 2016), in Canada (Lynch, 2011) and in the United States (Patel et al., 2013).

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Managing pain in older people with dementia is complex, because their ability to recognize and express pain may be affected (Álvarez González, 2010) and because pain sometimes manifests through behaviours that can be misinterpreted or overlooked as signs of pain (Karlsson et al., 2015). Pain can unleash or increase neuropsychiatric symptoms such as agitation, restlessness and depression (Regier & Gitlin, 2018). Frequently nurses associate these symptoms more with dementia than with pain, and consequently, patients are treated with antipsychotics instead of with analgesics (Corbett et al., 2014; Gilmore-Bykovskyi & Bowers, 2013; Regier & Gitlin, 2018). The poor pain management in people with cognitive decline is associated with sleep disorders, functional disabilities, falls, depression, cognitive impairment, anxiety, restlessness, decreased physical activity, isolation, polypharmacy and malnutrition (Eiche & Schache, 2016; Kruschinski et al., 2016; Montoro-Lorite & Canalias-Reverter, 2015; Sáez-López et al., 2015; Schofield, 2018). Therefore, effective pain monitoring is needed in older people with dementia to try to lessen pain's impact on their health and well-being.

2 | BACKGROUND

For pain to be monitored effectively, it should be considered as the fifth vital sign and should be assessed systematically in all patients using validated scales adapted to patients' state and characteristics. In 1996, The American Pain Society (APS) declared pain as "the 5th vital sign" with the objective to improve pain treatment and therefore it must be evaluated alongside the other four vital signs (blood pressure, heart rate, temperature and respiratory rate). Since then, many pain management protocols have been based on this assertion and have included pain assessment in routine monitoring of vital signs, using different approaches to pain assessment (Scher et al., 2018). Despite this statement, which it has not had the expected impact on clinical practice, besides frequently, some professionals are not trained to assess and treat pain properly (Morone & Weiner, 2013).

According to the hierarchy of pain assessment techniques of Pasero and McCaffery (2011), pain assessment in patients with dementia should begin with a direct question about the presence and intensity of pain, because in mild to moderate states of dementia, person is able to describe and quantify his or her pain using simple scales such as the Numeric Rating Scale (NRS), the visual analog scale or the faces rating scale (Achterberg et al., 2013, 2020; Herr et al., 2011; Schofield, 2018). When these scales are used in patients with dementia, questions must be adapted to the level of cognitive decline, and sufficient time must be provided for the patient to process the question and formulate a response. It is also important to have the help of the caregivers (Herr et al., 2011; Sáez-López et al., 2015). In non-communicative patients, behavioural observation is recommended using scales such as Pain Assessment Checklist for Seniors with Limited Ability to Communicate (PACSLAC), Pain Assessment in Advanced Dementia (PAINAD) or DOLOPLUS 2 (Coca & Abeldaño Zuñiga, 2020; Fry & Elliott, 2018; Herr et al., 2011;

Montoro-Lorite & Canalias-Reverter, 2015, 2018; Schofield, 2018; Tsai et al., 2018). In a recent publication (Herr et al., 2019), the first step in the hierarchy is the assessment of the causes of potential pain, such as musculoskeletal or neurological problems. Once pain is detected, it is necessary to establish treatment using individualized, patient-centred pharmacological and non-pharmacological interventions (Registered Nurses' Association of Ontario (RNAO), 2013). Pharmacological therapy in older patients should aim to relieve pain and promote autonomy and functionality. The older population with dementia presents comorbidity and polypharmacy, which makes pharmacological treatment difficult due to the risk of drug interventions and greater risk of adverse effects (American Geriatrics Society, 2015 Beers Criteria Update Expert Panel, 2015; Eiche & Schache, 2016; Sáez-López et al., 2015). Non-pharmacological therapies are often used to enhance and/or supplement drug treatment (Registered Nurses' Association of Ontario (RNAO), 2013), and they need to be given by trained and experienced professionals, such as nurses, who are oriented to providing comfort (Kolcaba, 2003). In people with dementia, non-pharmacological therapies require more follow-up (Achterberg et al., 2020; Schuler, 2019; Tick et al., 2018).

After treatment, pain must be reassessed and recorded in patient's health records. Entire pain management process must be clearly recorded so that pain can be monitored and patient's response to interventions can be evaluated (Montoro-Lorite & Canalias-Reverter, 2018; Registered Nurses' Association of Ontario (RNAO), 2013). Documentation should be systematic, standardized and accessible to all professionals (Montoro-Lorite & Canalias-Reverter, 2018). Proper documentation makes it possible to formalize the process of pain assessment. It is essential for providing individualized care and ensuring the continuity of care, from a legal and a professional perspective (Herr & Garand, 2001). Moreover, it favours patient-centred care.

In recent years, progress has been made in managing pain for patients with dementia. Numerous studies have evaluated PAINAD scale in different care settings (Fry et al., 2017; Goebel et al., 2019), reviewed pharmacological and non-pharmacological treatments for pain (Schuler, 2019), and updated protocols and guidelines for pain management in older people with dementia (Herr et al., 2019; Schofield, 2018; Whitlock et al., 2017).

However, there are few studies focussed on nursing records about pain and pain management, and most of these deal with oncological pain (Song et al., 2015) or postsurgical pain (Erden et al., 2017; Heikkilä et al., 2016). A recent study reviewed records related to episodes of pain of nursing home residents with dementia in Australia (Andrews et al., 2019), but as far as we know, no study has focussed on records related to older patients' pain treated in an Acute Geriatrics Unit (AGU) from the perspective of pain as the fifth vital sign. Reviewing nursing records related to pain management enables us to view objectively what interventions nurses carried out, with what frequency and in connection to what other activities.

This study is part of a broader mixed-methods study that aims to improve nursing practice in the pain management of patients

with dementia treated in an AGU. This article presents the pre-intervention phase results. The aim of this study is to assess pain management nursing practice in older adults with dementia through electronic health records (EHR).

2.1 | Research question

The research questions were as follows: a) How and with what frequency do AGU nurses assess pain in patients with dementia? b) How do they treat patients' pain? c) Do nurses reassess pain in patients with dementia? d) What factors influence pain management nursing practice?

3 | METHODS

3.1 | Design, settings and participants

Retrospective descriptive study based on clinical practice nursing records (EHR) in the pain management of patients with dementia admitted to the AGU of a university hospital in the province of Barcelona (Spain). We reviewed EHR of patients age ≥ 65 with a dementia diagnosis (noted in the patient's discharge report), released from the AGU from January–March 2018. AGU is a specialized geriatric patient care unit that includes all patients aged ≥ 85 years and/or with cognitive impairment and/or with advanced chronic conditions and/or who are institutionalized. It consists of 24 beds and a staff of 18 Registered Nurses divided into three shifts and a ratio of one nurse for 12 patients.

3.2 | Data Collection

For data collection, a tool consisting of two sections was designed. The first section corresponded to the sociodemographic and clinical data of the patients: age, gender, length of stay (days), functional status, reason for hospitalization, surgical procedure, death, type of dementia, stage of dementia, presence of delirium during admission, analgesic administration schedule (fixed, on demand or none) and type of analgesic prescribed. We analysed the assessments for the presence of delirium (Confusion Assessment Method, CAM) and the degree of functionality (Barthel Index, BI). These data were extracted from the medical history (discharge report), the drug prescription registry and the nurse evaluation records.

A second section, where all pain-related variables were described in Table 1, was collected. For the pain variables collection, the different phases of pain management were taken into account: evaluation, treatment, re-evaluation and record keeping.

To guarantee the validity and reliability of the data, the research team established a protocol for data collection that included the definition of the variables and the way in which they would be collected. We studied clinical variables for pain intensity according to the NRS or PAINAD (the two scales used in the hospital to assess pain in adults) and the timing and frequency with which nurses assessed pain. NRS is a unidimensional tool. Asks persons to rate their pain from 0–10 and it is scored 0–10 with the anchors of 0 being “no pain” and 10 being “pain as bad as it can be.” PAINAD is an observational behavioural tool used in elderly with cognitive impairment. It consists of 5 items: breathing, facial expression, body language, negative vocalizations and consolability. Each item is rated on a scale of 0–2 for a total score from 0 (no pain)–10 (severe pain); score 1 or

TABLE 1 Description of pain variables

Baseline pain assessment	Pain value recorded during the first 24 hr of stay
Baseline pain intensity	Numeric value from 0–10 (11 means “not ratable” and was counted as “not assessed”)
Maximum pain during stay	Numeric value from 0–10 (the highest value recorded during the patient's stay). Value 11 was considered invalid
Number of pain assessments per day	The total number of pain assessments recorded per day
Pain intensity scale used during stay	Numeric Rating Score (NRS) or Pain Assessment In Advanced Dementia (PAINAD) or both
Number of drugs given per day	Total number of doses of analgesics administered per day
Care plan diagnosis	If pain appeared in the care plan as a diagnosis or potential complication
Non-pharmacological interventions	Record of non-pharmacological interventions in the care plan
Number of pain assessments >3	Extent to which pain intensity >3 was reassessed during the same shift
Percentage of nursing annotations that mentioned pain	We reviewed all nursing annotations for the patient's stay and counted how many specifically mentioned the presence or absence of pain. We excluded those that spoke of the presence or absence of unspecified discomfort

2 indicates some pain. In order to obtain information on pain variables, the registry of clinical variables registry, drug administration register, nursing clinical annotations and the patients' care plan were consulted.

We reviewed all patient care documentation about each shift over the each patient's entire length of stay. Sociodemographic data and pain variables recorded in the clinical data were analysed in an automated mode. The variables related to the prescription and administration of drugs and the nurses' clinical annotations were reviewed manually by the first author. There is no automated system for classifying clinical annotations. Nurses are not provided with a registration system with pre-existing fields, they evaluate patient pain and records pain intensity in clinical variables section. Then, they plan the care based on the result of pain evaluation and adjusted according to the needs detected in the nursing evaluation. In our AGU, according to the multidisciplinary pain protocol, pain intensity should be assessed at least once per day (late shift) and assessment frequency should be increased if pain is detected.

3.3 | Data Analysis

We conducted a descriptive analysis of the sample. Categorical variables were expressed in frequencies and percentages. Quantitative variables were presented in means and standard deviation (SD) for those with a normal distribution and median and inter-quartile range (IQR) for those with a non-normal distribution. For the bivariate analysis, we used a chi-square test (Fisher's exact test) to analyse the relationship between two categorical variables. To analyse the relationship between a categorical variable and a quantitative variable, we used the non-parametric Mann-Whitney U test (when the categorical variable had two categories) and Kruskal-Wallis test (when the categorical variable had more than two categories). Finally, to analyse the correlation between two quantitative variables, we used Spearman's correlation coefficient. For the entire statistical analysis, a confidence level of 95% was assumed ($p < .05$).

3.4 | Ethics

The study was approved by the Ethics Committee for Clinical Research of the Osona Foundation for Health Research and Education. The researchers were employed at the AGU and used their passwords codes to access EHR. Once the data were extracted, we unlinked it from patient information so that patients could not be identified. Only the research team was allowed to use the data entirely for scientific ends.

4 | RESULTS

During the first trimester of 2018, 284 patients were discharged from the AGU. Clinical records showed that 111 (39%) of these patients

had a diagnosis of dementia in their medical report (inclusion criterion), and therefore, these patients were included in the study.

The 111 patients reviewed (Table 2) had a mean age of 87 (SD 5.1) years and 56% were women. They were hospitalized for a median of 6.0 days.

TABLE 2 Description of the sociodemographic and clinical profile of patients ($n = 111$)

Variables	n (%)
Gender (Female)	62 (55.9%)
Age, mean (SD)	87.0 (5.1)
Length of stay (days), median (IQR)	6.0 (4.0–8.0)
Barthel index, median (IQR)	50 (38.8–75.0)
Reason for admission	
Infection (respiratory, urinary or abdominal)	67 (60.4%)
Fracture/Osteoarticular Problem	12 (10.8%)
Cardiovascular Problem	22 (19.8%)
Respiratory Problem	8 (7.2%)
Other	2 (1.8%)
Surgical Procedure (yes)	6 (5.4%)
Death (yes)	8 (7.2%)
Type of dementia	
Cognitive decline of unknown type	52 (46.8%)
Alzheimer	31 (27.9%)
Mixed	10 (9.0%)
Vascular Dementia	10 (9.0%)
Parkinson's	4 (3.6%)
Degenerative	2 (1.8%)
Alzheimer's or Lewy Body Dementia	2 (1.8%)
Dementia stage	
Mild	25 (22.5%)
Mild-Moderate	6 (5.2%)
Moderate	31 (27.9%)
Moderate-Severe	11 (9.9%)
Severe	25 (22.5%)
Not given	13 (11.7%)
Delirium (yes)	84 (75.7%)
Analgesic administration schedule	
Fixed	32 (30.2%)
As needed	74 (69.8%)
No prescription	5 (4.5%)
Prescribed Drugs (on demand or fixed)	
Paracetamol	106 (95.5%)
Dipyron	31 (27.9%)
Morphine chloride	24 (21.6%)
Dexketoprofen	6 (5.4%)
Tramadol	7 (6.3%)
Oxycodone	2 (1.8%)
Other (including comfort guidelines)	16 (14.4%)

Table 3 shows results related to pain management. The intensity of baseline pain was evaluated in 88% of patients. Pain intensity was assessed a median of 1.9 times per day of stay, and proportionally more of these assessments were made during the late shift (39%).

TABLE 3 Pain Management Results ($n = 111$)

Variables	n(%)
Baseline pain assessment	98 (88.3%)
Baseline pain intensity ($n = 98$)	
No Pain (NRS/PAINAD=0)	92 (93.9%)
Mild (NRS/PAINAD=1-3)	6 (6.1%)
Moderate (NRS/PAINAD=4-6)	0 (0.0%)
Intense (NRS/PAINAD >6)	0 (0.0%)
Pain intensity scale used during stay ($n = 110$)	
NRS only	26 (23.6%)
PAINAD only	4 (3.7%)
Both scales	80 (72.7%)
Maximum pain during stay, NRS ($n = 104$) ^a	
No Pain (NRS=0)	73 (70.2%)
Mild (NRS=1-3)	27 (26.0%)
Moderate (NRS=4-6)	2 (1.9%)
Intense (NRS>6)	2 (1.9%)
Maximum pain during the stay, PAINAD ($n = 84$)	
No Pain (PAINAD=0)	45 (53.5%)
Mild (PAINAD=1-3)	34 (40.5%)
Moderate (PAINAD=4-6)	4 (4.8%)
Severe (PAINAD >6)	1 (1.2%)
Number of pain assessments per day, median (IQR)	1.9 (1.5 - 2.3)
% of assessments per shift, mean (SD)	
Early	26.4(13.5)
Late	39.9 (16.5)
Night	33.8 (14.7)
Number of administrations per day, median (IQR)	0.8 (0.14-2.11)
Care plan	
Potential complication	32 (28.8%)
Diagnosis of acute pain	1 (0.9%)
Not given	78 (70.3%)
Non-pharmacological interventions recorded	
Cold application	9 (8.1%)
Position change	1 (0.9%)
End-of-life care	3 (2.7%)
Not given	98 (88.3%)
% of nursing annotations about pain, median (IQR)	18.5 (10.8-30.0)
Number of pain assessments>3	11 (0.8%)
Number of pain reassessments>3	5 (45.5%)

^aThe value 11 has been excluded.

A median of 1 drug per day were administered. Pain figured as a potential complication or as diagnosis of acute pain in 28% of nursing care plans and 12% included a record of non-pharmacological interventions (cold packs, changing positions and/or end-of-life comfort care provided at the end of life). We reviewed 2,346 annotations written in free text in patients' nursing records, of which in 592 (25.2%) nurses referred to pain. The mean percentage of nursing annotations that mentioned pain was 23.8 (SD 19.7).

Table 4 shows relationships between pain variables. There are several significant relationships between the number of drugs administered per day, gender, reason for admission, surgical procedure and the type of analgesic prescription. Patients received more drugs if they were female, if they were admitted with a diagnosis of fracture or osteoarticular problem, if they underwent a surgical procedure, if they died and if they had a fixed analgesic administration schedule. Women made up 66.7% of patients undergoing surgical procedure, 50% of deaths and 75% of those admitted for a fracture or an osteoarticular problem. Of those that had a fixed analgesic prescription, 78% were women (data not shown in table).

According to Spearman's correlation coefficient, there is an association between the maximum pain intensity according to the NRS, the number of drugs administered ($\rho = .399$; $p < .001$) and the percentage of nursing annotations about pain ($\rho = .509$; $p < .001$). The greater the pain intensity according to the NRS, the greater the number of drugs administered and the greater number of annotations about pain in the patient's nursing records (data not shown in the table). We did not find statistically significant relationship between maximum pain intensity according to PAINAD and the number of drugs administered per day or the percentage of nursing annotations about a patient mentioning pain.

Percentage of nursing annotations about pain was higher when the admission diagnosis was fracture or osteoarticular problem or when the patient had undergone surgery during hospitalization.

5 | DISCUSSION

Patients treated at the AGU during the study period were patients with a high mean age who needed help to perform basic activities of daily life and most were admitted because of an infection. Therefore, they represented a profile of patient likely to suffer from chronic pain (Achterberg et al., 2013, 2020; Corbett et al., 2014; Kruschinski et al., 2016; Lynch, 2011; Patel et al., 2013; Sáez-López et al., 2015; Sirsch et al., 2015). Moreover, patients were likely to be suffering from acute pain linked to the health problem that motivated admission to the AGU.

According to study results, the nurses of the AGU assessed the baseline pain of 88% of patients when they were admitted to the unit and reassessed a median of 1.9 times per day during their hospital stay, with a greater frequency during the late shift. These results contrast with those obtained by Andrews et al., (2019), which revealed that nurses asked about pain in only 2% of patients with dementia in a nursing home. Perhaps this is

TABLE 4 Relationship between sociodemographic and clinical variables in pain management

	<i>n</i> = 111	Analgesic prescription if necessary <i>n</i> (%)	Pain assessments per day, median (IQR)	Number of drugs given per day, median (IQR)	Percent of nursing annotations that mention pain, median (IQR)
Gender					
Male	49	39 (84.8)	1.9 (1.6–2.4)	0.4 (0–1)	16.7 (8.6–27)
Female	62	35 (58.3)	1.8 (1.4–2.2)	1.4 (0.4–2.7)	20.5 (13.1–35.9)
P-value		.003*	.263	<.001*	.087
Reason for admission					
Infection	67	53 (82.8)	1.8 (1.4–2.1)	0.8 (0.1–1.7)	17.1 (10.8–25)
Fracture/Osteoarticular problem	12	0 (0.0)	2.2 (1.9–2.5)	4.8 (3.3–5.5)	66.8 (50.8–80.5)
Cardiovascular problem	22	14 (66.7)	2.0 (1.7–2.4)	0.7 (0–2.4)	21.8 (9.8–31.8)
Respiratory problem	8	6 (85.7)	1.8 (1.5–2.1)	0.3 (0–0.6)	16.7 (9.6–25.6)
Other	2	1 (50)	1.6 (1.5–)	21.1 (0–)	21.7 (0–)
P-value		<.001*	.145	<.001*	.001*
Surgical procedure					
No	105	73 (73.0)	1.9 (1.5–2.2)	0.7 (0.1–1.9)	18.5 (10.7–28.6)
Yes	6	1 (16.7)	2.2 (1.7–2.7)	4.8 (3.2–5.4)	64.1 (34.9–84.7)
P-value		.009*	.123	.003*	.005*
Death					
No	103	69 (70.4)	1.9 (1.5–2.3)	0.7 (0.1–2.0)	18.8 (11.1–30)
Yes	8	5 (62.5)	2.0 (1.8–2.3)	1.6 (0.7–2.9)	11.8 (1.9–30.4)
P-value		.695	.500	.099	.302
Analgesic administration schedule					
Fixed	32	---	2.0 (1.8–2.4)	2.8 (1.8–4.4)	19.5 (10.2–60.2)
As needed	74	---	1.8 (1.4–2.1)	0.3 (0–1)	18.5 (11–28)
P-value		---	.053	<.001*	.266

*P-value<0.05

due to the differences between care organization in acute setting and nursing homes (e.g. patient/nurse ratio or constant monitoring). However, our results are similar to those reported by Song et al., (2015) for cancer patients in hospital setting. These differences may be due to the fact that in an acute setting, vital signs assessment – including measuring pain as the fifth vital sign – is standard nursing procedure. Even so, the AGU's person-centred care model treats pain as a geriatric syndrome and defines patient comfort as the aim of nursing care. In this context, the fact that nurses did not assess pain with the same frequency during the various shifts may indicate that pain management in the unit is less than optimal and that probably not all nurses consider the need of pain assessment in patient with dementia. The pain protocol should be revised to base nursing care on the available evidence. Several authors report that nurses lack knowledge of how to manage pain in patients with dementia and that they need continuing education (Achterberg et al., 2013; De Witt Jansen et al., 2017a, 2017b; Lichtner et al., 2016; Schofield, 2018). This suggests that the variability in practice discovered in our study may be due to lack of training.

Nurses used the validated NRS (self-report) and/or PAINAD (observational) scales for pain intensity assessment (using both scales in 72% of patients). According to best practice guidelines (Registered Nurses' Association of Ontario (RNAO), 2013), it is important to use the same tool to be able to assess the presence and intensity of pain precisely and to evaluate the patient's response to interventions. The use of both scales might be attributable to the presence of delirium during admission (76% according to the CAM scale) and the capacity of the patient with neuropsychiatric symptoms to report pain feeling. These facts could explain why nurses adapted the scale to the patient. Goebel et al., (2019) endorse the use of the PAINAD scale in patients with delirium.

Only for 12% of patients were non-pharmacological interventions listed in care plan, although that does not necessarily mean that such interventions did not occur. In older patients with dementia – a patient profile in which the ability to treat with drugs is limited – the tailored use of non-pharmacological therapies can relieve or prevent pain and decrease drug use. It would therefore be desirable to improve the recording of such interventions in order to assess their effectiveness and ensure continuity of care between shifts.

Strikingly, patients that had no pain or little pain when they were admitted to the AGU, but some patients had moderate or intense pain at some time during their stay. This finding pointed out the need for further analysis about factors that affect optimal pain management in our unit. In addition, only 45% of pain values greater than 3 led to the patient being reassessed during the same shift, meaning that nurses did not follow up on interventions they performed for pain management and they did not develop an individualized care plan that would take into account successful interventions or possible adverse effects.

In the EHR we reviewed, there was no evidence of a comprehensive pain assessment that identified the location, type and characteristics of pain. Only in some cases was the location of pain documented in the nursing annotations that were written in free text. These data are comparable to claims by Dowding et al., (2016) and Lichtner et al., (2016) that pain-related documentation is fragmented, inaccessible and poorly organized and does not provide enough information to enable professionals to carry out effective pain management. Recording all the interventions performed by the nurse in patient's nursing record is an arduous, time-consuming task. When annotations are written in free text without a specific structure, they are difficult to review. Currently, there are automated systems that make possible to classify annotations in clinical nursing records by topic. Using such system could reduce nurses' time need for recording patients' clinical course. Such system could also be useful for extracting data for research (Moen et al., 2018, 2020).

According to our analysis, the reason for hospital admission influenced the type of prescription, the number of drugs per day that were administered and the number of nursing annotations that mentioned the absence or presence of pain. According to Lichtner et al., (2016), the reason for admission influences professionals' expectations about pain and how it should be treated. A surgical patient is expected to have more pain and therefore pain in such patients tends to be treated routinely and almost exclusively with drugs according to a fixed schedule, contrasting with patients who are admitted for other reasons, such as infection (Sampson et al., 2015). Additionally, when the patient was at the end of life, nurses administered fixed pain treatment without questioning the presence of pain, which is consistent with a report by Gilmore-Bykovskiy and Bowers (2013). At the same time, the percentage of female patients who were prescribed analgesics was higher, and they also received more drugs than men. This finding might be explained by the fact that women have traditionally been considered more fragile and less pain-tolerant than men or by the fact that most of the nurses in our unit are women. The issue of gender should be investigated further due to their probably impact on pain interventions.

When patients reported more pain (NRS), more drugs were given and more nursing annotations mentioned pain were recorded. This did not occur when pain was identified through observation (PAINAD), even though PAINAD assessments showed that 47% of patients had pain, in contrast to only 30% of patients who reported pain on the NRS. According to Gilmore-Bykovskiy and Bowers (2013), in patients with dementia and difficulties reporting their pain and speaking up for

themselves, pain treatment can be delayed. This could explain our findings: nurses administered more drugs and pay more attention to pain when patients were able to report pain feeling and request painkillers.

Pain has a very negative impact on health and well-being of the person with dementia, so it is necessary to systematize pain management, based on the best available evidence to avoid variability in nurse practice and to be able to provide safe, high-quality care. For that, it is essential that pain be considered the fifth constant.

5.1 | Limitations

Data for some variable were collected manually from several information systems and by the first author. This task was very laborious, despite the apparently small sample size ($n = 111$), given that it covered a wide range of types of information, including clinical variables, annotations about the prescription and administration of drugs, clinical nursing annotations and patient care plans. When reviewing clinical annotations, it would have been very useful to have an automated system capable of classifying them by headers (Moen et al., 2018, 2020), making it possible to extract the information in a more systematic way. Even so, we tried to include all records and annotations relevant to pain and were consistent in our techniques for collecting data.

On the other hand, this study report results of a single AGU and centre, and this limits generalizability.

6 | CONCLUSION

The main conclusion is the variability in nursing practice in pain management of older people with dementia, which sure impact on nursing care quality and safety. Probably pain it is not considered by nurses the fifth constant in this population. The reason for admission and gender influenced the prescription of analgesics and the number of drugs administered. Additionally, more drugs were administered and nurses wrote more annotations about pain when patients self-reported higher intensity pain (NRS), but not when nurses observed higher intensity pain (PAINAD).

Given these outcomes, it is important to study in depth how pain scales are used to measure pain, and their frequency (taking into account that it should be considered fifth constant and measured with the same frequency as the rest of vital signs) and their impact on subsequent decision-making. It is also important to analyse barriers and facilitators that influence pain management in patients with dementia from the perspective of nurses and try to find practical, tailored solutions for the acute geriatric setting in order to guaranteed patients' well-being.

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CONFLICT OF INTEREST

The authors have no conflicts of interest to disclose.

AUTHORS CONTRIBUTION


Conception and design: Alcía Minaya-Freire, Mireia Subirana-Casacuberta, Emma Puigoriol-Juventeny, Anna Ramon-Aribau, **Data Collection:** Alcía Minaya-Freire, Emma Puigoriol-Juventeny, **Analysis and interpretation of data:** Alcía Minaya-Freire, Mireia Subirana-Casacuberta, Emma Puigoriol-Juventeny, Anna Ramon-Aribau, **Drafting the Manuscript:** Alcía Minaya-Freire, Mireia Subirana-Casacuberta, Emma Puigoriol-Juventeny, Anna Ramon-Aribau, **Final approval of the version to be published:** Alcía Minaya-Freire, Mireia Subirana-Casacuberta, Emma Puigoriol-Juventeny, Anna Ramon-Aribau.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author, [MSC]. The data are not publicly available due to their containing information that could compromise the privacy of research participants.

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REFERENCES

- Achterberg, W., Lautenbacher, S., Husebo, B., Erdal, A., & Herr, K. (2020). Pain in Dementia. *PAIN Reports*, 5, e803. <https://doi.org/10.1097/PR9.0000000000000803>
- Achterberg, W., Pieper, M. J. C., van Dalen-Kok, A. H., de Waal, M. W. M., Husebo, B. S., Lautenbacher, S., Kunz, M., Scherder, E. J. A., & Corbett, A. (2013). Pain management in patients with dementia. *Clinical Interventions in Aging*, 8, 1471–1482. <https://doi.org/10.2147/CIA.S36739>
- Álvaro González, L. C. (2010). El neurólogo frente al dolor en la demencia. *Neurología*, 30(9), 574–585. <https://doi.org/10.1016/j.nrl.2012.02.001>
- American Geriatrics Society 2015 Beers Criteria Update Expert Panel (2015). American Geriatrics Society 2015 Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. *Journal of the American Geriatrics Society*, 63(11), 2227–2246. <https://doi.org/10.1111/jgs.13702>
- Andrews, S. M., Dipnall, J. F., Tichawangana, R., Hayes, K. J., Fitzgerald, J. A., Siddall, P., Poulos, C., & Cunningham, C. (2019). An Exploration of Pain Documentation for People Living with Dementia in Aged Care Services. *Pain Management Nursing*, 20(5), 475–481. <https://doi.org/10.1016/j.pmn.2019.01.004>
- Coca, S. M., & Abeldaño Zuñiga, R. A. (2020). Instruments for pain assessment in patients with advanced dementia: A systematic review of the evidence for Latin America. *Palliative and Supportive Care*, 18(6), 741–747. <https://doi.org/10.1017/S147895151900107X>
- Corbett, A., Husebo, B. S., Achterberg, W. P., Aarsland, D., Erdal, A., & Flo, E. (2014). The importance of pain management in older people with dementia. *British Medical Bulletin*, 111(1), 139–148. <https://doi.org/10.1093/bmb/ldu023>
- De Witt Jansen, B., Brazil, K., Passmore, P., Buchanan, H., Maxwell, D., McIlfatrick, S. J., Morgan, S. M., Watson, M., & Parsons, C. (2017). Nurses' experiences of pain management for people with advanced dementia approaching the end of life: A qualitative study. *Journal of Clinical Nursing*, 26(9–10), 1234–1244. <https://doi.org/10.1111/jocn.13442>
- Dowding, D., Lichtner, V., Allcock, N., Briggs, M., James, K., Keady, J., Lasrado, R., Sampson, E. L., Swarbrick, C., & José Closs, S. (2016). Using sense-making theory to aid understanding of the recognition, assessment and management of pain in patients with dementia in acute hospital settings. *International Journal of Nursing Studies*, 53, 152–162. <https://doi.org/10.1016/j.ijnurstu.2015.08.009>
- Eiche, J., & Schache, F. (2016). Pain Management in geriatric patients. *Deutsche Medizinische Wochenschrift*, 141(9), 635–641. <https://doi.org/10.1055/s-0041-106307>
- Erden, S., Arslan, S., Deniz, S., Kaya, P., & Gezer, D. (2017). A review of postoperative pain assessment records of nurses. *Applied Nursing Research*, 38, 1–4. <https://doi.org/10.1016/j.apnr.2017.08.003>
- Fry, M., Arendts, G., & Chenoweth, L. (2017). Emergency nurses' evaluation of observational pain assessment tools for older people with cognitive impairment. *Journal of Clinical Nursing*, 26(9–10), 1281–1290. <https://doi.org/10.1111/jocn.13591>
- Fry, M., & Elliott, R. (2018). Pragmatic evaluation of an observational pain assessment scale in the emergency department: The Pain Assessment in Advanced Dementia (PAINAD) scale. *Australasian Emergency Care*, 21(4), 131–136. <https://doi.org/10.1016/j.auec.2018.09.001>
- Gilmore-Bykovskiy, A. L., & Bowers, B. J. (2013). Understanding nurses' decisions to treat pain in nursing home residents with dementia. *Research in Gerontological Nursing*, 6(2), 127–138. <https://doi.org/10.3928/19404921-20130110-02>
- Goebel, J. R., Ferolito, M., & Gorman, N. (2019). Pain screening in the older adult with delirium. *Pain Management Nursing*, 20(6), 519–525. <https://doi.org/10.1016/j.pmn.2019.07.003>
- Heikkilä, K., Peltonen, L.-M., & Salanterä, S. (2016). Postoperative pain documentation in a hospital setting: A topical review. *Scandinavian Journal of Pain*, 11(1), 77–89. <https://doi.org/10.1016/j.sjpain.2015.12.010>
- Herr, K., Coyne, P. J., Ely, E., Gélinas, C., & Manworren, R. C. B. (2019). Pain assessment in the patient unable to self-report: clinical practice recommendations in support of the aspmn 2019 position statement. *Pain Management Nursing*, 20(5), 404–417. <https://doi.org/10.1016/j.pmn.2019.07.005>
- Herr, K., Coyne, P., McCaffery, M., Manworren, R., & Merkel, S. (2011). Pain assessment in the patient unable to self-report: position statement with clinical practice recommendations. *Pain Management Nursing*, 12(4), 230–250. <https://doi.org/10.1016/j.pmn.2011.10.002>
- Herr, K., & Garand, L. (2001). Assessment and measurement of pain in older adults. *Clinics in Geriatric Medicine*, 17(3), 457–478. [https://doi.org/10.1016/S0749-0690\(05\)70080-X](https://doi.org/10.1016/S0749-0690(05)70080-X)
- Jansen, B. D. W., Brazil, K., Passmore, P., Buchanan, H., Maxwell, D., McIlfatrick, S. J., Morgan, S. M., Watson, M., & Parsons, C. (2017). Exploring healthcare assistants' role and experience in pain assessment and management for people with advanced dementia towards the end of life: A qualitative study. *BMC Palliative Care*, 16(1), 6. <https://doi.org/10.1186/s12904-017-0184-1>
- Karlsson, C. E., Ernsth Bravell, M., Ek, K., & Bergh, I. (2015). Home healthcare teams' assessments of pain in care recipients living with dementia: A Swedish exploratory study. *International Journal of Older People Nursing*, 10(3), 190–200. <https://doi.org/10.1111/opn.12072>
- Kolcaba, K. (2003). *Comfort theory and practice: A vision for holistic health care and research*. Springer Publishing Company.

- Kruschinski, C., Wiese, B., Dierks, M.-L., Hummers-Pradier, E., Schneider, N., & Junius-Walker, U. (2016). A geriatric assessment in general practice: Prevalence, location, impact and doctor-patient perceptions of pain. *BMC Family Practice*, 17, 8. <https://doi.org/10.1186/s12875-016-0409-z>
- Lichtner, V., Dowding, D., Allcock, N., Keady, J., Sampson, E. L., Briggs, M., Corbett, A., James, K., Lasrado, R., Swarbrick, C., & Closs, S. J. (2016). The assessment and management of pain in patients with dementia in hospital settings: A multi-case exploratory study from a decision making perspective. *BMC Health Services Research*, 16(1), 427. <https://doi.org/10.1186/s12913-016-1690-1>
- Lynch, M. E. (2011). The need for a canadian pain strategy. *Pain Research and Management*, 16(2), 77–80. <https://doi.org/10.1155/2011/654651>
- Moen, H., Hakala, K., Peltonen, L. M., Suhonen, H., Ginter, F., Salakoski, T., & Salanterä, S. (2020). Supporting the use of standardized nursing terminologies with automatic subject heading prediction: A comparison of sentence-level text classification methods. *Journal of the American Medical Informatics Association : JAMIA*, 27(1), 81–88. <https://doi.org/10.1093/jamia/ocz150>
- Moen, H., Hakala, K., Peltonen, L.-M., Suhonen, H., Loukasmäki, P., Salakoski, T., & Salanterä, S. (2018). Evaluation of a prototype system that automatically assigns subject headings to nursing narratives using recurrent neural network. In *Proceedings of the 9th international workshop on health text mining and information analysis* (pp. 94–100). Brussels, Belgium: Association for Computational Linguistics. <https://doi.org/10.18653/v1/W18-5611>
- Montoro-Lorite, M., & Canalias-Reverter, M. (2015). Dolor y demencia avanzada. *Revisión Bibliográfica. Gerokomos*, 26(4), 142–147.
- Montoro-Lorite, M., & Canalias-Reverter, M. (2018). Protocolos de gestión del dolor en demencia avanzada. *Enfermería Clínica*, 28(3), 194–204. <https://doi.org/10.1016/J.ENFCLI.2017.06.003>
- Morone, N. E., & Weiner, D. K. (2013). Pain as the fifth vital sign: Exposing the vital need for pain education. *Clinical Therapeutics*, 35(11), 1728–1732. <https://doi.org/10.1016/j.clinthera.2013.10.001>
- Pasero, C., & McCaffery, M. (2011). *Pain assessment and pharmacological management*. Mosby.
- Patel, K. V., Guralnik, J. M., Dansie, E. J., & Turk, D. C. (2013). Prevalence and impact of pain among older adults in the united states: findings from the 2011 national health and aging trends study. *Pain*, 154(12), 2649–2657. <https://doi.org/10.1016/j.pain.2013.07.029>
- Regier, N. G., & Gitlin, L. N. (2018). Dementia-related restlessness: Relationship to characteristics of persons with dementia and family caregivers. *International Journal of Geriatric Psychiatry*, 33(1), 185–192. <https://doi.org/10.1002/gps.4705>
- Registered Nurses' Association of Ontario (RNAO). (2013). *Assessment and Management of Pain*. Third Edition. Retrieved February 28, 2016, from www.rnao.ca/bestpractices
- Sáez-López, M. P., Sánchez-Hernández, N., Jiménez-Mola, S., Alonso-García, N., & Valverde-García, J. A. (2015). Valoración del dolor en el anciano. *Revista De La Sociedad Española Del Dolor*, 22(6), 271–274. <https://doi.org/10.4321/S1134-80462015000600008>
- Sampson, E. L., White, N., Lord, K., Leurent, B., Vickerstaff, V., Scott, S., & Jones, L. (2015). Pain, agitation, and behavioural problems in people with dementia admitted to general hospital wards: A longitudinal cohort study. *Pain*, 156(4), 675–683. <https://doi.org/10.1097/j.pain.0000000000000095>
- Scher, C., Meador, L., Van Cleave, J. H., & Reid, M. C. (2018). Moving beyond pain as the fifth vital sign and patient satisfaction scores to improve pain care in the 21st century. *Pain Management Nursing*, 19(2), 125–129. <https://doi.org/10.1016/j.pmn.2017.10.010>
- Schofield, P. (2018). The assessment of pain in older people: UK national guidelines. *Age and Ageing*, 47, i1–i22. <https://doi.org/10.1093/agein/g/afx192>
- Schuler, M. (2019). Treatment of pain in people with dementia. *Zeitschrift Fur Gerontologie Und Geriatrie*, 52(6), 607–622. <https://doi.org/10.1007/s00391-019-01578-4>
- Sirsch, E., Gnass, I., & Fischer, T. (2015). Diagnostics of pain in old age. *Perspectives on a Multidimensional Phenomenon. Schmerz*, 29(4), 339–348. <https://doi.org/10.1007/s00482-015-0026-0>
- Song, W., Eaton, L. H., Gordon, D. B., Hoyle, C., & Doorenbos, A. Z. (2015). Evaluation of evidence-based nursing pain management practice. *Pain Management Nursing*, 16(4), 456–463. <https://doi.org/10.1016/j.pmn.2014.09.001>
- Tick, H., Nielsen, A., Pelletier, K. R., Bonakdar, R., Simmons, S., Glick, R., Ratner, E., Lemmon, R. L., Wayne, P., & Zador, V. (2018). Evidence-based nonpharmacologic strategies for comprehensive pain care: the consortium pain task force white paper. *Explore*, 14(3), 177–211. <https://doi.org/10.1016/j.explore.2018.02.001>
- Tsai, I.-P.-P., Jeong, S.-Y.-S.-S., & Hunter, S. (2018). Pain assessment and management for older patients with dementia in hospitals: an integrative literature review. *Pain Management Nursing*, 19(1), 54–71. <https://doi.org/10.1016/j.pmn.2017.10.001>
- Whitlock, E. L., Diaz-Ramirez, L. G., Glymour, M. M., Boscardin, W. J., Covinsky, K. E., & Smith, A. K. (2017). Association between persistent pain and memory decline and dementia in a longitudinal cohort of elders. *JAMA Internal Medicine*, 177(8), 1146. <https://doi.org/10.1001/jamainternmed.2017.1622>

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