

# Pain management skills of regional nurses caring for older people with Dementia: A needs analysis

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An exploratory survey of the pain management education needs of 197 nurses working with older people with dementia was undertaken in a regional area of Queensland, Australia. The analysis indicated that nurses in this setting might not have the knowledge base to manage pain effectively; and that respondents have essentially negative perceptions of the availability and appropriateness of current pain management education programs. Consistent with non-metropolitan nurses generally, respondents expressed a preference for pain management education that had a significant face-to-face component allied with ongoing mentorship and support on completion of the program. The obstacles to attending such programs were also typical of the problems facing regional and rural nurses throughout Australia. These were identified as: inability to pay for courses; lack of information on what is available; distance to travel to education; and a perceived lack of employer support due to an inability to replace those staff attending education. Positive aspects include the degree to which participants were responsive and interested in dementia pain management and their access to, and acceptance of, non-medical pain therapies. The findings suggest a definite need for a dementia pain management program for aged care nurses, specifically tailored to their needs and to the constraints of the regional practice setting.

**Key words:** Pain management, dementia, nursing education

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## Introduction

This study was prompted by anecdotal reports that suggested that nurses working in aged care settings in a regional area of Queensland were often not educationally prepared to manage pain in the cognitively impaired older person, particularly those with dementia. In addition, it was anecdotally reported that pain relief was often inadequate where older people with dementia (OPWD) were concerned, prompting questions regarding client outcomes in these situations. This paper reports the results of a needs analysis of the pain management skills of regional nurses caring for OPWD.

## Pain management in residential aged care

Pain is not a normal part of the ageing process; rather, it is related to concurrent disease states such as cancer and arthritis (Forrest 1995). However, the literature clearly identifies that pain is common among older people, with an estimated 45% to 83% of nursing home residents experiencing substantial pain (Parmalee et al 1993; Forrest 1995). So while pain should never be considered normal in a healthy older person, they do suffer comparatively more pain from chronic conditions than the rest of the population (Sloman et al 2001). Moreover, up to 60% of nursing home residents also have dementia (Jorm 2001). It is important to note that residents with dementia are no different from their cognitively intact peers in their potential to experience pain from physiological or emotional causes (Parmalee et al 1993).

It is therefore unfortunate that OPWD are especially at risk for unidentified and under-treated pain (Horgas & Tsai 1998). Research suggests that barriers to effective pain management in this population are related to the clinician's lack of knowledge and skill in pain management, and the misconception that OPWD do not experience pain or cannot report its presence accurately, leading to an underestimation of pain (Miller et al 2000). The fear that nursing home residents may become addicted to pain medication has been identified as a barrier (Kovach et al 1999). Another significant barrier to adequate pain management is that, generally, pain medication in residential settings is frequently administered on an 'as required' basis rather than at regular intervals (Horgas & Tsai 1998). This simple "round the clock"

approach is often overlooked, particularly in OPWD who may be unable to ask for pain relief and may not have an advocate to ask on their behalf.

Advocacy is a fundamental role of the nurse (Koch 2005). This overall lack of knowledge and skill in pain management may inhibit the nurse being an effective advocate for the OPWD. Not being able to clearly articulate the OPWD's pain responses or present a set of data that is easy to interpret may make it more difficult to influence other health team members or family on behalf of the OPWD (McClellan 2003).

## **The regional context and dementia care**

One reason pain management is a priority in non-metropolitan Australia is the disproportionate number of older people in residential care in provincial areas. In the provincial area of Toowoomba, for example, the aged are over-represented on a per capita basis in the city itself and its immediate environs (Australian Institute of Health & Welfare 1998), with the third highest percentage of aged persons (12.5%) in the State of Queensland (Australian Bureau of Statistics 1997). The experience of the project team in both aged and palliative care contexts in Toowoomba suggests that many OPWD and concurrent chronic disease experience pain that is not adequately managed. It is this recognition that has provided the impetus for this study.

## **Problem statement**

Pain is most poorly managed in those who are the most defenceless (Ross & Crook 1998). From an ethical viewpoint, it is therefore important that pain is recognised and well managed in OPWD, as they are amongst the most vulnerable groups in the health care system. From a clinical point of view, pain in OPWD can also lead to significant behavioural problems if not adequately treated and tends to result in over-use of psychotropic medication (Kovach et al 1999). Pre-emptive pain management strategies may result in less behavioural problems. Optimum pain relief confers a greater sense of control to the older person, resulting in a greater degree of functional competence, less depression, and more sleep (Forrest 1995). Adequate pain management therefore results in an increased quality of life and sense of well-being for a sample of the population who, although they cannot demand it, have an equal right to quality health care (Wallhagen & Brod 1997).

## **Research design**

This project analysed the pain management education needs of registered (RN), enrolled (EN) and unlicensed (AIN) nurses who work in the regional aged care setting and care for OPWD on a regular basis. A survey tool was developed in consultation with an expert reference group comprising aged care nurses (registered, enrolled and unlicensed) and specialist palliative care nurses. Ethical approval was obtained from the University of Southern Queensland.

## **Research questions**

With regard to the residents of aged care facilities in the Toowoomba region with dementia:

1. What knowledge of pain management in OPWD do nurses have?
2. What are nurses' perceptions of the availability and suitability of current pain management education and training programs?
3. What factors unique to the aged care setting in Toowoomba should be considered when planning pain management education programs for nurses?

## **Sampling method**

All the directors of the 21 aged care facilities in the region were contacted to request permission to conduct the study. A flyer explaining the study was then posted in consenting facilities, and a questionnaire and plain language statement and consent forms were distributed to potential participants. A reminder notice and questionnaire were distributed to non-respondents three weeks after initial contact with the participants.

## **Data collection**

The questionnaire consisted of 40 items assessing demographics, pain knowledge, pain management, and perceptions of pain education. The tool was piloted with equal numbers of RNs, ENs and AINs (n = 15), drawn from a similar population to those targeted in the main study, for relevance and comprehensibility. A modified version of the Toronto Pain Management Inventory (TPMI) was used to assess participants' knowledge of pain management (Watt-Watson et al 2001). To assess the test-retest reliability of the modified TPMI, a separate study was conducted by Neville (2003) using 36 RNs. The Pearson Correlation Coefficient found the test-retest reliability was good for RNs (0.75;  $p < 0.001$ ).

## **Data analysis**

The results were entered onto an SPSS (version 11) database. Means and standard deviations were calculated for continuous data while frequencies were tabulated for nominal data. A series of one-way ANOVAs were conducted where appropriate, to elicit differences in responses from varying levels of staff. Where the ANOVA was significant, a post-hoc analysis (Tukey's HSD) was conducted to determine where the differences between RNs, ENs and AINs occurred. In Queensland, ENs are able to obtain endorsement to administer a range of medications, which specifically excludes opiates but does include a range of non-opiate pain relieving medications such as non-steroidal anti-inflammatory drugs and paracetamol. Therefore T-tests were conducted to determine any differences between those ENs who had obtained a medication endorsement and RNs on the questions that were relevant to this group. An alpha level of  $p < 0.05$  was utilised, unless otherwise stated.

## **Results**

Thirteen of the 21 facilities agreed to participate in the study. Reasons given for non-participation included being too busy with other projects and no residents with dementia. Four hundred and eighteen staff members were subsequently invited to respond to the survey. Of these, 197 participants completed the questionnaire, which produced an overall participant response rate of 47%.

**Table 1: Respondents' clinical practice regarding pain management in OPWD**

How often do:	Never		Rarely		Sometimes		Often		Always	
	n	%	n	%	n	%	n	%	n	%
You agree with OPWD statement about pain	0	0	5	3	49	25	75	38	64	33
You agree with a colleague's management of OPWD pain	0	0	10	5	66	34	105	53	11	6
OPWD tell you voluntarily they have pain	8	4	68	35	89	45	22	11	5	3
OPWD voluntarily ask for pain relief	26	13	104	53	49	25	11	6	2	1
You believe standardised pain rating scales are useful in OPWD	19	10	60	31	52	26	25	13	12	6
You use a standardised pain rating scale in OPWD	32	16	35	18	61	31	31	16	25	13
You believe standardised pain rating scales are useful in OPWD	49	25	61	31	61	31	17	9	2	1
You distract OPWD rather than give pain medication	16	8	44	22	87	44	28	14	9	5

### Demographics

Of the 197 participants who completed the questionnaire, 8 were male and 183 were female. Six respondents did not indicate their gender. The participants' ages ranged from 17 to 65 years with an average age of 42.2 years (SD = 11.41). On average, participants had been caring for OPWD for 8 years and 6 months (SD = 7 years and 8 months). One hundred and twenty participants (51%) were AINs, 19 (10%) were ENs, and 55 (28%) were RNs. Of the 120 AINs, 82 (68%) had completed either a Certificate III or IV in Aged Care, 18 (15%) were enrolled in a nursing degree, and 4 (3%) were enrolled in a Certificate IV in Aged Care. Of the 19 ENs, 11 (58%) were Medication Endorsed (EEN) and three (16%) were enrolled in a nursing degree. A total of 45 (82%) of the 55 RNs were hospital trained, while 14 (25%) had a nursing degree, 16 (29%) had postgraduate tertiary qualifications, and 6 (11%) were involved in further study. This was not a surprising outcome because the Australian aged care nursing workforce is predominantly unlicensed females (Australian Institute of Health & Welfare 2001).

### Knowledge

Respondents were asked a series of questions that assessed their knowledge of dementia pain management. While many participants did not answer the question asking whether OPWD experience pain (reasons being they did not know or felt unqualified to answer the question), the majority of those that did respond (28%, 56) believed that between 91% and 100% of OPWD do experience

pain; and the majority (44%, 86) also believed that OPWD will verbalise at least 'some pain' to indicate their pain management is ineffective. The majority of participants (39%, 77) also believed that 'some pain' is necessary before the next dose of pain relief is offered; and a further 17% (33) believed that 'a lot of pain' is necessary before pain medication is administered. The majority of participants (54%, 107) could not estimate the percentage of OPWD who were taking strong pain medication such as morphine who were likely to become addicted; but in general, RN respondents were more likely than AINs to believe that addiction would occur in OPWD.

In considering these results it should be noted that when participants were asked for their perceptions of the adequacy of their knowledge base with regard to OPWD, the majority (52%, 103) responded that their current knowledge was "average". A total of 26% (52) felt that their current knowledge was either "not at all adequate" or "a little adequate". The ANOVA for this question revealed a significant difference [ $F(2,189) = 6.041, p = 0.003$ ] in means between the three groups. The Tukey's HSD revealed that the EN mean ( $M = 2.47$ ) was less than the RN mean ( $p = 0.003, M = 3.23$ ), while the AIN mean ( $M = 2.91$ ) is equal to both the RN mean and the AIN mean. That is, in general the ENs felt their knowledge was less adequate than the RNs.

### Clinical practice

A series of questions elicited respondents' standard clinical practice in relation to dementia pain management. These are outlined in Table 1.

**Table 2: Respondent's perception of competence in pain management in OPWD**

How competent do you feel in the following areas?	Not at all		A little		Average		Quite		Very	
	n	%	n	%	n	%	n	%	n	%
Managing pain	6	3	38	19	97	49	42	21	10	5
Using standardised pain management tools	14	7	44	22	79	40	43	22	9	5
Dealing with medically prescribed pain therapies	22	11	34	17	78	40	38	19	18	9
Alternative/complementary therapies	17	9	49	25	68	35	38	19	17	9
Conditions that cause chronic pain	8	4	54	27	70	36	48	24	13	7
Influences on resident's perceptions of pain	11	6	56	29	81	41	35	18	9	5

There was generally agreement amongst RNs, ENs and AINs with regard to their clinical practice, except that AINs were less likely to agree with an OPWD's statement about their pain than RNs, and AINs were also less likely to agree with their colleagues that an OPWD experienced pain.

### Competence

Respondents were asked to indicate on a 5-point Likert scale their perceptions of their competence in pain management. The results are presented in Table 2. Overall, there were no significant differences between the ratings of competence between ENs and AINs on these items; however, the RNs on all items rated themselves as more competent in overall pain knowledge and management than the other two groups.

### Education programmes and resources

The majority of participants (41%, 80) responded that they had attended a pain management in-service once or twice in the past year. Thirty percent (59) had not received any in-service in the past year or they did not know whether they had received in-service (21%, 41). With respect to formal education programs exploring the management of pain in OPWD, the majority of participants (66%, 130) responded that they were not aware of any, or that those available were not adequate for their needs. Of the total of 80 respondents who had attended formal and/or informal pain management programs, 92% (74) believed that their education or in-service was helpful for their nursing practice. The majority of participants (60%, 117) believed that if other staff attended a seminar or workshop outside of the facility, that new information would be disseminated adequately amongst staff who did not attend.

Thirty one percent (61) of participants did not know whether there was a pain management resource person in their facility concerning OPWD. Despite the existence of at least one active pain group for nurses in the local area, 68% (134) of the participants

**Table 3: Preferred mode and obstacles to education**

	Response	n	%
Delivery mode	Face to face	183	92.9
	Distance education course with qualification	134	68.0
	Mentor in metropolitan or provincial hospital	117	59.4
	Clinical practice in major centre	112	56.9
	Video conferencing with major centre	107	54.3
	Rural nurse network	99	50.3
Obstacles	Can't afford unpaid leave	141	71.6
	Lack of information about courses available	120	60.9
	Lack the time	112	56.9
	Relief staff not available for backfill	99	50.3
	Family commitments	86	43.7
	Difficult to access due to distance	78	36.9
	Employer could not/would not provide leave	52	26.4

**Table 4: Factors that influence the delivery of education related to pain management in OPWD in Toowoomba**

Response	n	%
Responsive and interested staff	180	91.4
High proportion of persons with dementia	171	86.8
Access to and acceptance of alternative therapies	162	82.2
Lack of availability of chronic pain specialist	159	80.7
Good dissemination of information within the area	155	78.7
Availability of facilities for education purposes	135	68.5
Large number of facilities close together	105	53.3

responded that they were not aware of any appropriate interest groups. Similarly, 64% (125) of respondents believed that their facility did not provide them with enough information, support, and resources to keep up to date with pain management in the OPWD.

### The ideal education programme

The participants were asked to identify from a list of current educational delivery modes which mode they preferred. This list was used in other studies examining educational issues for nurses (Hegney et al 1997; McCarthy et al 2002). They were also asked to identify obstacles to accessing education. These are outlined in Table 3.

### The regional context

An important consideration in designing educational programmes to meet the participants' needs is to assess their perception of significant local factors that enhance or impede the delivery of an educational package. The responses to this question are outlined in Table 4.

### Discussion

The demographic profile of the participants was consistent with the profile of regional nurses throughout Australia (McCarthy & Hegney 2001). That is, the majority are female with an average age of about 42 years. They received their pre-registration or enrolment training in the hospital setting, and have worked in regional settings for a considerable length of time. It is therefore likely that any educational programmes developed from this study will have applicability throughout regional and rural Australia.

### Theoretical and clinical skill issues

Participants believed that a large proportion of OPWD experience pain, but were less convinced that their verbalisation of pain actually indicated they were experiencing it. It is important to note that OPWD do not verbalise their pain in conventional ways, nor do they often voluntarily request pain relief. The results of this study concur with the other research literature in that a significant difficulty posed by cognitively impaired people relative to pain management is that their responses to pain may be altered, unrecognised or not acknowledged (Rutledge & Donalson 1998).

### **Rating pain in older people with dementia**

While many of the participants believed that their residents experienced pain and that they could competently manage that pain, it appears that they do not have the knowledge base to manage pain effectively. Managing pain is not simply the measurement of physiological discomfort. It is a holistic view of the physical, social, cultural, and spiritual dimensions of the pain experience and the way in which this affects the person's normal activities of daily living (Krulwich et al 2000). Despite the availability of psychometrically sound rating scales to measure pain, a significant number of participants were either not aware of these or did not use them routinely to justify their pain management interventions – principally because they did not consider them useful. Pain rating scales, such as the Visual Analogue Scale, the McGill Pain Questionnaire or the Wong-Baker Faces Scale, are widely used by health professionals to determine the aetiology and severity of the pain experience and to tailor interventions to relieve it. Unfortunately, standardized pain rating scales require the person in pain to be able to process and interpret thoughts, generally relying on their ability to describe the pain experience verbally (Parke 1998). Approximately 33% of cognitively impaired people are unable to be usefully rated by way of these tools (Krulwich et al 2000). This is complicated by their problems with memory and the concurrent use of the chemical and mechanical restraints that may mask their usual responses to pain (Parke 1998).

Pain and discomfort, however, can be objectively observed and managed regardless of the cognitively impaired person's inability to verbalise their needs coherently (Hurley et al 1992). While each person is an individual and it is not possible to generalise pain cues to all cognitively impaired older people, research investigating pain responses in these people indicates that there are overt behaviours such as restlessness, aggression, whimpering and grimacing that reliably indicate discomfort and whether it has been relieved (Kovach et al 1999).

### **Aged care nurses and pain management**

Given the prevalence of co-morbidities leading to pain in the OPWD, it is reasonable to expect nurses working in aged care to be skilled in pain management. However, the research literature and this study have demonstrated significant knowledge deficits in this context. Registered nurses in the aged care setting, for example, know less than their acute and palliative care counterparts about pain management (Sloman et al 2001). The respondents in this study do not seem familiar with the central tenets of good palliative care – that pain is what the client says it is, that it is more effective to prevent pain than treat pain that has already occurred, and that drug addiction is not to be feared. This study corroborates the research literature in that the pain management strategies of registered nurses in aged care settings are less likely to result in the administration of analgesics; in fact, cognitively impaired clients are less likely than cognitively intact clients to receive any form of pain relief from registered nurses (Kaasalainen et al 1998). This present study also demonstrates that unlicensed nursing

personnel, while more likely to acknowledge the presence of pain in the older person with dementia, are even less likely than registered nurses to take action to relieve it.

### **Pain management education programs**

Participants in this study had a general lack of awareness of the availability and suitability of current pain management education programs. For example, more than half had not received an in-service on pain management in the OPWD, or did not know if they had been delivered in their facility. Moreover, there appears to be a significant lack of resource persons available for pain management issues; a lack of knowledge of local interest groups; and a lack of knowledge regarding the availability of specific formal and informal education programs. Those respondents who had received pain management education, however, indicated that it was useful to their practice.

Consistent with regional and rural nurses generally, respondents preferred education that had a significant face-to-face component and which offered continued mentorship and support on completion of the program (McCarthy & Hegney 2001). The obstacles to attending such programs were also typical of the problems facing rural nurses throughout Australia: inability to pay for courses; lack of information on what is available; distance to travel to education; and lack of employer support such as an inability to replace those staff attending training (McCarthy & Hegney 2001).

The responses to this survey indicate there are several factors typical of regional areas that must be considered in any educational strategy for these nurses. Respondents cited the region's responsive and interested staff as the most significant issue, along with the high proportion of OPWD in the area; access to and acceptance of non-medical pain therapies; and the lack of a chronic pain specialist in the region. Factors that also need to be considered include the relative proximity of the facilities to each other, which facilitates communication about pain management; and the large number of high quality facilities available for educational purposes.

### **Conclusion**

This study has demonstrated a definite need for a pain management education program tailored to the needs of regional aged care nurses caring for older people with dementia. The problems encountered in this study are not insurmountable, and the response rate and the issues raised by respondents support the notion that aged care nurses would welcome pain management education tailored to their needs and would willingly apply that education to enhance nursing care.

### **References**

- Australian Bureau of Statistics 1997 *Census of population and housing: selected social and housing characteristics for statistical local areas, Queensland*. Australian Government Publishing Service, Canberra
- Australian Institute of Health and Welfare 1998 *Health in rural and remote Australia*. Australian Institute of Health and Welfare, Canberra
- Australian Institute of Health and Welfare 2001 *Nursing labour force 1999*. Australian Institute of Health and Welfare, Canberra
- Forrest J 1995 Assessment of acute and chronic pain in older adults. *Journal of Gerontological Nursing* 21(10): 15-20

- Hegney D, Pearson A, McCarthy A 1997 *The role and function of the rural nurse in Australia*. Royal College of Nursing, Australia, Melbourne
- Horgas AL, Tsai P 1998 Analgesic drug prescription and use in cognitively impaired nursing home residents. *Nursing Research* 47(4): 235-242
- Hurley AC, Volicer BJ, Hanrahan PA, Houde S, Volicer L 1992 Assessment of discomfort in advanced Alzheimer patients. *Research in Nursing and Health* 15(5): 369-377
- Jorm A 2001 *Dementia: a major health problem for Australia*. Alzheimer's Association of Australia, Perth
- Kaasalainen S, Middleton J, Knezacek S, Hartley T, Stewart N, Ife C, Robinson L 1998 Pain and cognitive status in the institutionalized elderly: perceptions and interventions. *Journal of Gerontological Nursing* 24(8): 24-31, 50-51
- Koch T 2005 Community-based nursing practice. In: Crisp J, Taylor C (eds). *Potter & Perry's Fundamentals of Nursing*. Elsevier, Sydney
- Kovach CR, Weissman DE, Griffie J, Matson S, Muchka S 1999 Assessment and treatment of discomfort for people with late-stage dementia. *Journal of Pain Symptom Management* 18(6): 412-419
- Krulewicz H, London MR, Skakel VJ, Lundstedt GJ, Thomason H, Brummel-Smith K 2000 Assessment of pain in cognitively impaired older adults: a comparison of pain assessment tools and their use by nonprofessional caregivers. *Journal of the American Geriatrics Society* 48(12): 1607-1611
- McCarthy A, Hegney D 2001 A review of the educational needs of nurses administering cancer chemotherapy in rural and remote areas of Queensland. *Cancer Forum* 25(1): 17-20
- McCarthy A, Hegney D, Brown L, Gilbar P, Brodribb TR, Swales J 2002 Chemotherapy nursing practice in rural and remote areas of Queensland. *Australian Journal of Cancer Nursing* 2(2): 4-11
- McClellan WJ 2003 Pain in clients with dementia: advocacy, ethics and treatment. *Nursing and Residential Care* 5(10): 481-483
- Miller LL, Nelson LL, Mezey M 2000 Comfort and pain relief in dementia: awakening a new beneficence. *Journal of Gerontological Nursing* 26(9): 55-56
- Neville CC 2003 Reliability of the Toronto pain management inventory (modified version). University of Southern Queensland, Toowoomba, unpublished study
- Parke B 1998 Gerontological nurses' ways of knowing: realizing the presence of pain in cognitively impaired older adults. *Journal of Gerontological Nursing* 24(6): 21-28
- Parmalee PA, Smith B, Katz IR 1993 Pain complaints and cognitive status among elderly institution residents. *Journal of the American Geriatrics Society* 41: 517-522
- Ross MM, Crook J 1998 Elderly recipients of home nursing services: pain, disability and functional competence. *Journal of Advanced Nursing* 27(6): 1117-1126
- Rutledge DN, Donalson NE 2003 *Pain assessment and documentation part II: special population of adults*. Retrieved 2003 from Cinahl Information System 1998 on the World Wide Web <http://www.cinahl.com/jrnls/OJCI/ojci01.htm>
- Sloman R, Ahern M, Wright A, Brown L 2001 Nurses' knowledge of pain in the elderly. *Journal of Pain and Symptom Management* 21(4): 317-322
- Wallhagen MI, Brod M 1997 Perceived control and well-being in Parkinson's disease. *Western Journal of Nursing Research* 19(1): 11-31
- Watt-Watson J, Stevens B, Garfinkel P, Steiner D, Gallop R 2001 Relationship between nurses' pain knowledge and pain management outcomes for their postoperative cardiac patients. *Journal of Advanced Nursing* 36(4): 535-545