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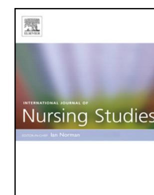

The effectiveness of a nurse practitioner-led pain management team in long-term care: A mixed methods study

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ABSTRACT

Background: Considering the high rates of pain as well as its under-management in long-term care (LTC) settings, research is needed to explore innovations in pain management that take into account limited resource realities. It has been suggested that nurse practitioners, working within an inter-professional model, could potentially address the under-management of pain in LTC.

Objectives: This study evaluated the effectiveness of implementing a nurse practitioner-led, inter-professional pain management team in LTC in improving (a) pain-related resident outcomes; (b) clinical practice behaviours (e.g., documentation of pain assessments, use of non-pharmacological and pharmacological interventions); and, (c) quality of pain medication prescribing practices.

Methods: A mixed method design was used to evaluate a nurse practitioner-led pain management team, including both a quantitative and qualitative component. Using a controlled before-after study, six LTC homes were allocated to one of three groups: 1) a nurse practitioner-led pain team (full intervention); 2) nurse practitioner but no pain management team (partial intervention); or, 3) no nurse practitioner, no pain management team (control group). In total, 345 LTC residents were recruited to participate in the study; 139 residents for the full intervention group, 108 for the partial intervention group, and 98 residents for the control group. Data was collected in Canada from 2010 to 2012.

Results: Implementing a nurse practitioner-led pain team in LTC significantly reduced residents' pain and improved functional status compared to usual care without access to a nurse practitioner. Positive changes in clinical practice behaviours (e.g., assessing pain, developing care plans related to pain management, documenting effectiveness of pain interventions) occurred over the intervention period for both the nurse practitioner-led pain team and nurse practitioner-only groups; these changes did not occur to the same extent, if at all, in the control group. Qualitative analysis highlighted the perceived benefits of LTC staff about having access to a nurse practitioner and benefits of the pain team, along with barriers to managing pain in LTC.

Conclusions: The findings from this study showed that implementing a nurse practitioner-led pain team can significantly improve resident pain and functional status as well as clinical practice behaviours of LTC staff. LTC homes should employ a nurse practitioner, ideally located onsite as opposed to an offsite consultative role, to enhance inter-professional collaboration and facilitate more consistent and timely access to pain management.

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Contribution of this paper

What is already known about this topic

- Pain management in long-term care has been recognized as a problem worldwide.
- Nurse practitioners (NPs) are emerging members of the health-care team in long-term care and there is evidence that supports their effectiveness.
- Limited research has been done to explore the NP role in pain management in long-term care, especially within an interprofessional context.

What this paper adds

- Implementing a nurse practitioner-led pain team can significantly improve resident pain and functional status as well as clinical practice behaviours of LTC staff.
- The NP is viewed positively by the health-care team and nursing managers in long-term care.

1. Introduction

Pain management in long-term care (LTC) has been recognized as a serious challenge worldwide with approximately 40–83% of older adults experiencing pain (Moulin et al., 2002; Proctor and Hirdes, 2001; Zwakhalen et al., 2009). Older adults in LTC often have numerous medical conditions, such as osteoarthritis, musculoskeletal conditions, cancer, post stroke, diabetic neuropathy; that require complex medical care and contribute to pain (Swafford et al., 2009). Despite these high rates of pain in older adults, pain is frequently undertreated (Kaasalainen et al., 1998; Won et al., 2004). Unresolved pain has both physical and psychological consequences, including: weight loss, sleep disturbance, decreased functional abilities, impaired mobility, depression, anxiety, behavioural disturbance, and decreased quality of life (Mezinskis et al., 2004). Hence, the problem of untreated pain warrants attention.

A variety of barriers to effective pain management in LTC have been identified in the literature, including lack of assessment tools, poor documentation, lack of interdisciplinary collaboration, poor nurse/physician communication, poor knowledge transfer, limited time, and resident and family knowledge and attitudes (Tarzian and Hoffman, 2004; Jones et al., 2004; Stevenson et al., 2006). In addition to these, assessing and managing pain of non-verbal residents, such as those with cognitive impairment, is also a major barrier to effective pain management (Mentes et al., 2004). Kaasalainen et al. (1998) demonstrated that residents with dementia in LTC are prescribed and administered significantly less pain medication than are residents without dementia.

Limited physician services in many North American LTC homes and other resource limitations (e.g., limited registered nurses, lower skill mix care models) are considered to be responsible, at least in part, for the under-management of pain in this setting (Hadjistavropoulos et al., 2009). A recent model that took into account both resource realities and high clinical standards proposed that the nurse practitioner (NP) was an untapped resource that could help address pain under-management in LTC, especially in homes where on-site physician services are relatively limited (Hadjistavropoulos et al., 2009). NPs are in an optimal position to improve pain management for LTC residents given their scope of practice and advanced skill level. Within their scope of practice, NPs can obtain medical histories, perform physical examinations, diagnose and treat health problems, order and interpret laboratory tests and x-rays, prescribe medications and treatments, provide education, and case manage and coordinate services, all of which are important tasks in pain management (College of Nurses of Ontario, 2008). In Canada, Federal legislation has recently changed to allow NPs to prescribe many controlled substances. Each province and territory are in the process of deciding which substances can be prescribed by an NP.

NPs have the potential to address barriers to pain management including lack of: knowledge, physician onsite coverage, appropriate assessment tools, prescribing of effective pain medications, interprofessional collaboration and continuity of care, and physician trust in LTC nurses, that have been identified in previous research (Kaasalainen et al., 2007a; Martin et al., 2005). In light of the current inadequacies of the LTC system and the potential for the NP to improve resident care, pilot work was conducted to help delineate the NP role in LTC around pain management (Kaasalainen et al., 2007b, 2010). All NPs within a large Canadian province were surveyed and they reported that they spent 79% of their time engaged in clinical activities and most of them (80%) reported using pain assessment tools (Kaasalainen et al., 2007b). McAiney et al. (2008) found that one of the most common reasons for NP referral was for medical care (32%), which included pain management among other issues.

Perceptions of the NP role by health care team members (i.e., licensed nurses, personal support workers, physiotherapists, pharmacists, physicians) and administrators appear to be quite positive (Kaasalainen et al., 2010). That is, team members viewed NPs as being beneficial in providing thorough assessments, consistent care, more time with residents, efficient ordering of pain medications and tests, and timely follow-up with resident pain concerns (Kaasalainen et al., 2010). Musclow et al. (2002) identified both interprofessional (IP) collaboration and the presence of an NP on the team as methods of improving pain management in acute care. Similarly, we argue here that improving IP collaboration within a care model that is led by an NP would address barriers to effective pain management and build organizational capacity. Hence, a rigorous evaluation of this NP care model is needed to examine its effectiveness in improving the quality and efficiency of pain management services in LTC.

2. Study purpose

The purpose of this study was to evaluate an NP-led, IP pain management team in LTC. In addition to the NP, the team included onsite pharmacists, physicians, licensed nurses, personal support workers, social workers, and physiotherapists. The NP worked with each intervention facility to help build capacity among the team and other staff by facilitating the implementation of pain protocols and assessment tools, and provide case management and service coordination for residents when needed. Specifically, we sought to evaluate the effectiveness of the implementation of the NP-led pain management team in improving resident outcomes (i.e., pain, functional status, depression, agitation) and health care provider outcomes (i.e., documentation of pain assessments, use of non-pharmacological and pharmacological interventions, quality of pain medication prescribing). We also explored staff perceptions of the implementation of the NP-led pain management team.

3. Methods

3.1. Design

Due to the complexity of evaluating health services interventions, such as the implementation of an NP-led pain management team in LTC, a mixed method design was used to examine the interplay among the LTC context, implementation of the NP-led

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