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How Certified Nursing Assistants Understand their Residents' Pain

by

Elizabeth Halifax

DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

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of the

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

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by
Elizabeth Halifax

Dedication

To my late friend

MK McKown

A thoroughly curious person, she listened to me, argued with me, inspired me and encouraged me. She was never able to complete her research, so now she shares mine.

Acknowledgments

My mother's education was disrupted by the bombing of London during the Second World War. She left school at the age of 14 to work in Bond Street's haut couture. My dad also left school at 14. In 1939, he joined the army at the age of 17 and remained in military service until 1948. I wish they had had access to the education I have had. I know they would be proud to read this dissertation.

This work has been touched by many, including people I knew prior to attending UCSF, but this dissertation is not a memoir... Thanks to my mentor and friend Dr. Jeanie Kayser-Jones for showing me the possibilities. I thank my dissertation advisor Dr. Meg Wallhagen for her expert guidance and advice, as well as patience and kind mentoring. She is adept in the motivation of those laboring under imposter's syndrome. Thanks also to the other members of my committee, Drs. Christine Miaskowski, Patrick Fox and Anne Hughes who showed enthusiasm and interest for my study and gave thoughtful and considered feedback at every turn.

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while I did my best to remain a perpetual student, and never gave up on me. Others who listened to and influenced my ideas include Liana Hain, Donna Borden, Colette Kelly, Heather Leutwyler, Caroline Stephens, Susan Kools, and Robert Pope.

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How Nursing Home Nursing Assistants Understand Residents' Pain

Elizabeth Halifax

Abstract

Pain is a significant problem for nursing home residents. Pain assessment is complicated by the high prevalence of cognitive loss in this population. Because licensed nurse (LN) staffing levels are low in nursing homes, the majority of resident care is performed by certified nursing assistants (CNAs) who do not have formal training or skills to assess or manage pain. CNAs' role in the assessment and management of pain in nursing home residents is not well understood, because few studies have explored this issue.

To address this gap in our knowledge, a qualitative study using Grounded Theory Methodology was undertaken. The study was conducted at two skilled nursing facilities: Memory Care Units within a large county run hospital and at a 99 bed for-profit corporate owned facility. Twenty-six individuals were interviewed (16 CNAs and 10 LNs) using semi-structured interview guides. CNAs were asked about their experiences caring for residents in pain. LNs were asked about how they perceived CNAs' role in pain management. Interviews were transcribed verbatim and analyzed using grounded theory constant comparative methods.

Both CNAs' and LNs perceived that CNAs had a role in the pain management of nursing home residents. CNAs' recognized pain by using techniques of asking and listening and by observing behaviors. They distinguished pain that they considered normal (everyday pain) from pain that they reported to LNs. As well as reporting pain,

they responded to residents who had pain by performing resident-centered care, giving physical care and providing attention to distract residents from their pain. Their ability to do this work was founded on their understanding of pain as multidimensional and their intimate knowledge of individual residents. They described their knowledge of residents as being informed by two types of knowing: *working knowledge* and *knowing residents as individuals*. Contextual factors that both promoted and hindered CNAs having a role in pain management were identified. These factors included CNAs' individual skills and experience, low levels of staffing, and working more than 40 hours a week. From this understanding of CNAs' role in pain management, implications for clinical practice and research are identified.

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CHAPTER 1: INTRODUCTION

My interest and involvement with the institutional care of older people spans more than three decades, and I can still remember the first time I saw someone in great pain. I was 18 years old, a history undergraduate working as a nursing assistant in a London mental hospital. Sylvia was a resident on a geriatric unit and had such bad contractures that any touch or movement caused her pain. This potent memory has influenced my career. Although great progress has been made in pain management since that time, pain management for nursing home residents remains inadequate. This study was driven by a need to understand why pain remains a persistent problem for older nursing home residents, especially those with cognitive impairment. The idea that “no-one has considered the important role that untrained staff could play in providing resident-focused strategies” (Schofield, 2006, p 513), reflected my experience in working closely with certified nursing assistants (CNAs). Many CNAs show great sensitivity to residents and give care that goes beyond their prescribed duties, but in my experience these efforts were not recognized or acknowledged at the institutional level. The role of CNAs in pain management is particularly important in the context of the high ratios of residents to licensed nurses (LNs) in nursing homes.

Statement of the Problem

Pain is a common problem for nursing home residents. Approximately 45% to 80% of residents have pain that affects their function and quality of life (Ferrell, 2004), and as many as 26% experience daily pain (Cervo et al., 2007). In contrast, prevalence of chronic pain amongst the general adult population ranges from 2% to 40% with a median of 15% (Gaskin & Richard, 2012). Cognitive impairment complicates pain assessment. As many as two-thirds of nursing home residents have cognitive impairment as a result of

multiple conditions, including dementias (such as Alzheimer's disease), progressive neurological diseases (such as Parkinson's), cerebral vascular accidents, developmental disabilities, and side-effects of sedation (Ferrell, Ferrell, & Rivera, 1995; World Health Organization, 2004; Centers for Medicare and Medicaid Services [CMS], 2010). In such cases, pain is often assessed using a combination of verbal report and observation for behavioral changes.

In the nursing home environment, CNAs provide 80% to 90% of residents' direct care (Rice, Coleman, Fish, Levy, & Kutner, 2004). They spend an average of 40 minutes with each resident per eight hour shift, 3 to 4 times more than LN staff (Gist & Hetzel, 2004). Thus, CNAs are possibly in the best position to recognize pain-related behavioral changes in cognitively impaired residents. However, CNAs do not usually have formal training in pain assessment.

Purpose of the Study

The role of CNAs in pain management is not well understood. A review of the literature, described in the next chapter, found research in this area to be sparse. Our understanding of CNAs' knowledge, attitudes and practice relating to pain management is extremely limited. We do not know if CNAs anticipate or assess pain, or act to relieve pain. Neither is there evidence to determine whether CNAs communicate their recognition of residents' pain so that pain can be managed. Further, we do not have an understanding of the process by which they could accomplish these things. Therefore, the specific aims of this research were to:

1. Describe how CNAs perceive their role in the management of pain in cognitively impaired nursing home residents;

2. Describe how nurse leaders within nursing homes perceive the role of CNAs in the management of pain in cognitively impaired nursing home residents and
3. Describe the contextual factors and processes that influence how CNAs interact with and react to cognitively impaired nursing home residents who have pain: how CNAs recognize, interpret and respond to residents' pain.

Background and Significance

According to the United States (U.S.) government census of 2010, the population 65 years of age and older increased 15.1% from 35.0 million to 40.3 million between 2000 and 2010, outstripping the 9.7% growth of the general population. The population over 85 years of age grew 45% from 4.2 million in 2000 to 6.1 million in 2010 (Werner, 2011). In 2009, almost 3.3 million Americans had a nursing home stay. This included 7.1% of the population who were 65 years of age and older and 21.5% of the population who were 85 years of age and older (CMS, 2010). The needs of frail and elderly nursing home residents become increasingly complex as they age. These complexities include multiple chronic illnesses and disabilities; functional dependency (with almost half of all nursing home residents requiring assistance with at least four of the five activities of daily living); cognitive impairment, and multiple medications (with over 47% of residents taking an estimated nine or more medications each day), (Ferrell et al., 1995; Jones, Dwyer, Bercovitz, & Strahan, 2009; CMS, 2010).

Many organizations have highlighted this problem, among them the Joint Commission on Accreditation of Healthcare Organizations, (now the Joint Commission) which started issuing accreditation standards in 2002, entitling nursing home residents to individualized assessment and management of pain (Joint Commission, 2009). The

Centers for Medicaid and Medicare Services (CMS) also introduced revised guidance on effective pain management for long term care surveyors (F-Tag 309) in 2009 (Planton 2010, www.geriatricpain.org).

The suffering caused by pain has consequences beyond the physical discomfort endured (Ferrell, 2004; Horgas & Dunn, 2001), and can make people feel less positive about their health overall (World Health Organization, 2004). In elderly nursing home residents, pain can lead to loss of function and independence, and the prescription of multiple analgesics with their attendant side effects and complications. Psychological effects of pain include depression, anxiety, sleep disturbance, loss of focus and concentration, loneliness and social withdrawal (Cervo et al., 2007; Last Acts, 2002).

In addition to the individual toll, these consequences of pain come with a societal and economic cost. A 2012 study estimated that 100 million non-institutionalized adults in the US were affected by persistent pain at a cost of between 560 and 635 billion dollars annually (Gaskin & Richard, 2012). Many of the other economic costs associated with pain, such as disability compensation, lost productivity and lost tax revenue, are not as relevant to the nursing home population, but the accompanying loss in quality of life due to physical and psychological factors and the stress suffered by caregivers, family members and friends witnessing their pain should not be forgotten.

Pain defined as “...whatever the person says it is, existing whenever the person says it does” (McCaffery & Pasero, 1999), relies on self-report and the use of tools that require comprehension and verbal interaction. In those with recognized cognitive impairment, research indicates that verbal reports from residents and the use of pain scales that require verbal responses can be valuable (Ferrell et al., 1995), even when we

know that language is a limited tool for describing pain (Schott, 2004). At the same time, comprehensive pain assessments are difficult in those who are reluctant to self-report; who fear being troublesome, or value stoicism; who accept their pain as their lot or God's will; or who are unable to reliably self-report due to cognitive impairment or language deficits (Cervo et al., 2007). The validity of using behaviors to assess pain has been established (Weiner, Peterson, & Keefe, 1999); therefore assessment of pain should always go beyond verbal reports, especially in those with cognitive impairment. As stated here, "behavioral observation-based assessment is best practice for patients with cognitive impairments who cannot verbalize pain complaints" (Buffum, Hutt, Chang, Craine, & Snow, 2007, p 317). Such assessments require skill, time, patience, and above all, knowledge of the resident (Cohen-Mansfield & Creedon, 2002).

Licensed nurses (LNs) are best educated to undertake pain assessments in this population, but they have onerous workloads in nursing homes (Dellefield, 2008). The dispensing of medications and completion of treatment orders, together with documentation, supervision and other duties, leaves little time to undertake comprehensive pain assessments. Ratios of LNs to residents recommended by the state of California are 1:20 (day); 1:25 (evening); and 1:30 (night). A California minimum of 3.2 nursing hours per resident day (HPRD) includes all nursing staff (registered nurses (RNs), licensed vocational nurses (LVNs) and CNAs) with no skill mix requirement. This requirement contrasts with a CMS report recommendation of 4.1 HPRD as the minimum to "prevent harm" to nursing home residents. Since 1998, RN levels are reported to have fallen 25% from 0.8 to 0.6 HPRD (Kim, Harrington, & Greene, 2009).

The majority of care given to nursing home residents in the USA is given by the 680,000 nursing home CNAs who have generally little training or education in pain assessment and management (Gist & Hetzel, 2004; Harrington, O'Meara, Kitchener, Simon, & Schnelle, 2003). The regulations for certifying nursing assistants are mandated in the Omnibus Budget Reconciliation Act (OBRA) of 1987. State training programs consist of a minimum of 75 hours of training, including 16 hours of supervised clinical training, with 12 hours of continuing education annually (Sengupta & Harris-Kojetin, 2010). High school diploma or previous work experience are not necessary prerequisites for certification. These requirements can be compared to between 100 and 500 hours of training for a manicurist, (in California an apprentice manicurist has to complete 3,200 work hours and 220 hours of classroom instruction prior to applying for a license) or 1,600 hours for a hairstylist (California Department of Consumer Affairs, 2009). Even with this limited amount of training, CNAs are expected to give intimate care and assist with activities of daily living. Because CNAs spend more time with residents than any other staff group (Hutt et al., 2008), CNAs may know the resident better than anyone else and are possibly in the best position to assess pain related behavioral changes in cognitively impaired residents.

Preview of the Dissertation Report

This dissertation begins with a description and analysis of the literature review, undertaken to explore what was known about CNAs' understanding of pain in cognitively impaired nursing home residents (Chapter II). A description of the Grounded Theory methodology, a brief overview of the conceptual framework and assumptions and a

description of the research undertaken follows in Chapter III. Findings are presented in three manuscripts prepared for publication in Chapters IV, V and VI, namely:

1. How Nursing Home Certified Nursing Assistants Understand, Perceive, Differentiate and Respond to the Pain of Residents;
2. Certified Nursing Assistants' Understanding of Pain in Nursing Home Residents: The Importance of *Knowing*;
3. The Role of Certified Nursing Assistants in Managing Nursing Home Residents' Pain: Licensed Nurses' Perception.

Chapter VII presents a synthesis of the findings and implications for research and clinical practice.

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CHAPTER II: LITERATURE REVIEW

This literature review examines what is known about certified nursing assistants' (CNAs') understanding of cognitively impaired nursing home residents' pain. A description of how the literature search was conducted and a review of the relevant literature are given. A summary of the 23 articles that were critiqued here are given in table form (Appendix K). The major issues and concerns raised by this review and the identification of gaps in the current literature are summarized in this chapter.

Literature Search

A search of the PubMed database was undertaken to evaluate English language publications since 2000 using combinations of the key MESH terms of “long term care” and “pain”. Additional searches included combinations of the terms: “nursing homes”, “pain”, “palliative care”, “education”, “nurses’ aides”, “nursing staff”, and “pain assessment”. Articles identified in this way were reviewed and selected for inclusion in the literature review if they examined nursing homes, pain assessment and management, residents who were cognitively impaired and certified nursing assistants (CNAs). Articles included in this review met at least two of these four inclusion criteria. However, because of the limited research found, studies were not required to study CNAs exclusively. Therefore, studies that examined end of life care were included because of their emphasis on pain management and assessment. This search was extended as further sources were added from relevant references cited.

The articles (representing 19 studies) that met these criteria are reviewed here. All research reviewed took place in nursing homes, with the exception of one study (Blomqvist, 2003). Research reviewed had pain management as a main theme, with the exception of one study (Boockvar, Brodie, & Lachs, 2000). Two of these studies

(Blomqvist, 2003; Kaasalainen, Stewart, Middleton, Knezacek, Hartley, Ife, & Robinson, 2011a; Kaasalainen, Stewart, Middleton, Knezacek, Hartley, Ife, & Robinson, 2011b) were conducted outside of the United States (US). These studies include participants who fit the definition of CNA used here (see appendix J): ‘a person who works under the supervision of licensed nurses to provide non-medical care’. Only nine of the studies reviewed evaluated residents with cognitive impairment. However, it can be inferred that all 19 studies included some residents with this problem because of the high prevalence of cognitive impairment in the long term care population. In the literature searched, many of the studies focused only on licensed staff. In addition, many of the studies did not differentiate between types of nursing home staff (Engle, Graney, & Chan, 2001; Molony, Kobayashi, Holleran, & Mezey, 2005). Ten articles evaluated the activities of CNAs as a distinct group.

Review of the Literature

Two broad categories emerged from this literature review: research that related to CNAs’ assessment skills and research that evaluated CNAs’ perceptions of residents’ pain. Within the category that examined CNAs’ assessment skills three themes were noted: research that introduced and evaluated interventions (assessment tools and a quality improvement initiative); studies that compared CNA’s assessment with the assessment of others; and evaluations of practice and educational needs of CNAs.

CNAs Assessment Skills

Introducing and evaluating interventions

Five studies examined how introducing interventions might influence CNAs’ ability to assess pain. Of these, four studies evaluated the use of pain assessment tools

designed for CNAs to use (Boockvar et al., 2000; Cervo et al., 2007; Cervo et al., 2009; Cervo et al., 2012; Kaasalainen, Stewart, Middleton, Knezacek, Hartley, Ife, & Robinson, 2011a; Kaasalainen, Stewart, Middleton, Knezacek, Hartley, Ife, & Robinson, 2011b; Snow et al., 2004). The fifth study (Buhr & White, 2006) implemented a multi-strategy quality improvement initiative, to improve staff knowledge, policies, and procedures related to pain assessment.

Three of these five studies identified a lack of time as a barrier to success. For example, in one study, a 58% failure to complete instruments was attributed primarily to lack of time (Boockvar et al., 2000). Buhr and White (2006) noted that gaining commitment to their research by licensed vocational nurses (LVNs) and CNAs was hindered by “the considerable demands already placed upon them” (p. 252).

These five studies do not provide sufficient evidence to determine whether introducing such interventions influence CNAs’ ability to assess pain. For example, one pain assessment tool only screened for whether the pain was present or not (Kaasalainen, Stewart, Middleton, Knezacek, Hartley, Ife, & Robinson, 2011a; Kaasalainen, Stewart, Middleton, Knezacek, Hartley, Ife, & Robinson, 2011b). None give evidence that indicates such interventions would improve resident pain management outcomes, with the exception of Cervo and colleagues (2012), who found a statistically significant reduction in pain assessment scores and use of antipsychotic medications following implementation of the study’s intervention. This phase of their study combined the use of the CNA Pain Assessment Tool with discipline specific training. The CNA training included key elements of pain management and instruction related to basic comfort and reporting pain. Three of these studies (Boockvar et al., 2000; Buhr & White, 2006; Snow

et al., 2004) conclude that CNAs are capable of contributing to the assessment of nursing home residents.

Comparing CNAs' pain assessments with other evaluations

Conclusions about the validity of CNAs' pain assessments are not possible, given the paucity of research. Only four studies compared CNAs' pain assessments to pain assessments of other individuals (Engle et al., 2001; Ersek, Polissar, & Neradilek, 2011; Fisher et al., 2002; Horgas & Dunn, 2001). One study found inconsistencies in CNAs' assessments when compared to residents' own reports (Horgas & Dunn, 2001). One study concluded that CNA assessments were more accurate than the Minimum Data Set (MDS) (Fisher et al., 2002) and another study found that compared to LNs, CNA assessments were more accurate (Engle et al., 2001). Discussion of these findings led Engle and colleagues (2001) to recommend that CNAs be involved in the completion of MDS data, as their unique knowledge of residents, acquired mostly when providing direct personnel care, may give CNAs a strong advantage when assessing residents' pain. Ersek and colleagues (2011) concluded that CNA surrogate reports were more highly correlated with resident self-reports of pain than a combination of other pain indicators (including agitation, depressive symptoms and the number of painful diagnoses). However, they also noted that, while their work supported the findings of Engle (Engle et al., 2001) and Fisher (Fisher et al., 2002), correlations were modest. Therefore, CNA surrogate reports remain an inadequate predictor of resident reported pain.

Evaluations of practice and educational needs

Five studies were found that provided insight into how CNAs assess their residents' pain; they identified barriers to good practice, and made recommendations to

improve this aspect of care (Clark, Jones, & Pennington, 2004; Ersek, Kraybill, & Hansberry, 1999; Mezinskis, Keller, & Luggen, 2004; Molony et al., 2005). Emphasis in these studies was placed on the importance in pain assessment of observing visual cues and changes in behavior. “Knowing” residents, especially those with cognitive impairment, in order to effectively evaluate and manage their pain was identified as an essential prerequisite to making these observations. Formal pain assessment tools were rarely used, and even dismissed as unhelpful by CNAs. Changing practice was difficult when residents’ characteristics and attitudes, as well as the staff’s deep-rooted beliefs and prejudices, were inflexible. CNAs’ reported feeling insecure in assessing pain and their lack of understanding and poor access to information led to feelings of isolation and inadequate pain assessment. From these studies, it is not possible to conclude what practice or educational interventions would improve CNAs’ ability to work with cognitively impaired nursing home residents in pain.

Perceptions of resident’s pain

Perception can be defined as a way of regarding, understanding, or interpreting. Six articles evaluated CNAs’ perceptions of pain. In these writings the complexity of assessing and managing pain is best illustrated. The findings from these studies have two common themes: “knowing” the resident and taking action when pain is identified.

“Knowing” the resident through spending time, giving intimate care and forming emotional attachments meant that CNAs recognized deviations from normal behaviors that indicated pain (Cohen-Mansfield & Creedon, 2002; Flacker, Won, Kiely, & Iloputaife, 2001; Mentis, Teer, & Cadogan, 2004). One study concluded that of the four groups of nursing home staff surveyed, CNAs felt the most able to influence resident’s

quality of life because of their close relationships (Kane et al., 2006). In addition, CNAs were attributed with the ability to anticipate pain (Blomqvist, 2003; Mentes, Teer, & Cadogan, 2004) as well as recognize and describe resident's pain (Wright, Varholak, & Costello, 2003). They were able to identify specific behaviors indicative of pain (Cohen-Mansfield & Creedon, 2002; Mentes, Teer, & Cadogan, 2004), especially in those residents with cognitive impairment.

CNAs were described as “taking action” to report and manage pain (Blomqvist, 2003; Mentes, Teer, & Cadogan, 2004). These actions included making sure medications were given, working gently, distracting residents, and inspecting residents for causes of pain. Despite their minimal training, some evidence exists that CNAs find themselves taking responsibility for managing their residents' pain.

Discussion: Gaps in Current Research

This review evaluated the limited amount of research on the knowledge, attitudes and practices of CNAs in understanding the pain of cognitively impaired nursing home residents. Gaps identified in this research that merit discussion include: the importance of CNAs “knowing” the resident; CNAs' ability to assess pain; the use of pain assessment tools by CNAs; the CNAs' role in anticipating and acting to relieve pain; communication; and the influence of attitudes and beliefs in assessing and managing pain.

CNAs “Knowing” the Resident

The importance of the unique relationship between the CNA and the resident and frequent references to the CNAs “knowing” the resident was a critical theme throughout these studies. Familiarity through close contact, observation and relationship-centered cues meant that CNAs were able to identify changes in residents' behaviors (Clark et al.,

2004; Cohen-Mansfield & Creedon, 2002; Flacker et al., 2001; Kaasalainen, Stewart, Middleton, Knezacek, Hartley, Ife, & Robinson, 2011b; Mentis, Teer, & Cadogan, 2004; Molony et al., 2005). They could distinguish pain related behaviors from those associated with other factors such as hunger and attention seeking (Cohen-Mansfield & Creedon, 2002; Mentis, Teer, & Cadogan, 2004). This ability was especially important in assessing pain in individuals who were cognitively impaired and/or non-verbal (Clark et al., 2004; Mezinskis et al., 2004). It was speculated that the predictive abilities of CNAs in recognizing onset of acute illness episodes was reliant on their “knowing” residents (Boockvar et al., 2000). The finding that there was a contrast in observing pain between those who did and did not know the resident supported the importance of “knowing” (Kaasalainen, Stewart, Middleton, Knezacek, Hartley, Ife, & Robinson, 2011a; Kaasalainen, Stewart, Middleton, Knezacek, Hartley, Ife, & Robinson, 2011b).

The concept of “knowing” may then be critical to understanding CNAs’ role in recognizing pain in cognitively impaired nursing home residents. In their study of the phenomenology of knowing the patient, Tanner, Benner, Chesla, and Gordon (Tanner, Benner, Chesla, & Gordon, 1993), use the term “knowing” to mean both knowing the patient’s typical pattern of responses and knowing the patient as a person (p. 275). CNAs considered that they would know a resident after one to two weeks of consistent care (Mentis, Teer, & Cadogan, 2004). Staff variously gave one to three months, one month and one week as the time needed to know a resident (Cohen-Mansfield & Creedon, 2002), but there does not appear to be a consistent definition of what “knowing” means in this context. Neither is there data supporting the idea that “knowing” facilitates more extensive or accurate recognition of pain.

CNAs' Ability to Assess Pain

With the low ratio of LNs to nursing home residents (Kim, Harrington, & Greene, 2009), the question of whether CNAs can assess residents' pain becomes essential to developing comprehensive management of residents' pain. While studies remain inconclusive, some evidence is available to support that CNAs were sensitive to recognizing and accurately describing pain in their residents, even those with cognitive impairment (Ersek et al., 2011; Wright et al., 2003). However, when CNAs' assessments of pain were directly compared to residents' self-reports agreement was poor (Horgas & Dunn, 2001).

The Use of Pain Assessment Tools by CNAs

The use of standard pain assessment tools is recommended to supplement behavioral observations, provide consistency, and clarify communication (American Geriatrics Society, 2002; Blomqvist, 2003; Clark et al., 2004; Molony et al., 2005). These tools may compensate for staff being inexperienced or unfamiliar with residents (Clark et al., 2004). The use of standard tools is especially important when staff turnover is high, as it is in many nursing homes (Lapane & Hughes, 2007). Four studies were found that had designed pain assessment tools specifically for use by CNAs (Boockvar et al., 2000; Cervo et al., 2007; Cervo et al., 2009; Cervo et al., 2012; Kaasalainen, Stewart, Middleton, Knezacek, Hartley, Ife, & Robinson, 2011a; Kaasalainen, Stewart, Middleton, Knezacek, Hartley, Ife, & Robinson, 2011b; Snow et al., 2004). The ambiguity in residents' portrayal of pain meant that CNAs were uncertain about assessing pain, and found it difficult to distinguish pain from other factors such as loneliness and depression. These findings minimized the value of formal assessment tools in the view of nursing

home staff (Clark et al., 2004). Time constraints identified in these studies (Boockvar et al., 2000; Cervo et al., 2007; Cervo et al., 2009; Cervo et al., 2012; Kaasalainen, Stewart, Middleton, Knezacek, Hartley, Ife, & Robinson, 2011a; Kaasalainen, Stewart, Middleton, Knezacek, Hartley, Ife, & Robinson, 2011b), echo other findings (Hadjistavropoulos, Von Baeyer, & Craig, 2001) and data from the National Nursing Assistant Survey (National Center for Health Statistics, 2004) in which 43.2% of CNAs considered that there was not enough time to adequately perform nonresident duties which included record keeping. Although improvements in pain assessment scores were achieved in one study (Cervo et al., 2012) whether the consistent use of pain assessment tools by CNAs would improve resident pain assessment and management, remains to be determined.

The CNAs' Role in Anticipating and Acting to Relieve Pain

Evidence that CNAs anticipate residents' pain is scant. "Care-related" pain was identified as one of the eight categories of pain recognized by caregivers, and caused distress, frustration, and conflict for the caregiver as they considered the pain inevitable (Blomqvist, 2003). However, CNAs were more optimistic than other groups of nursing home staff in believing they could influence residents' quality of life (Kane et al., 2006). They used the strategy of "working in a gentle way", conforming to the patient's instructions and pace, to minimize pain. CNAs were found to anticipate pain especially when moving residents and particularly through observing resistance to care and non-verbal vocalizations such as moaning or screaming (Mentes, Teer, & Cadogan, 2004). They acted to relieve pain by using distraction, repositioning and seeking the cause of pain by inspection. CNAs were found to recognize spiritual and emotional pain as well as physical pain, and tailored their strategies accordingly (Wright et al., 2003). Allowing

residents to vent their feelings, or providing distractions were strategies they used to relieve emotional pain. Repositioning and back rubs were examples of ways to relieve physical discomfort. In addition, CNAs also saw the need to advocate for their residents, although reporting pain to LNs was not usually their first response.

An association between care activities and pain has been identified (Lin, Lin, Shyu, & Hua, 2011; Sloane et al., 2007), and the distress and suffering for both the resident and the CNA when pain was caused by performing activities of daily living (ADLs), was significant. How CNAs deal with this pain is unclear. In only one study (Mentes, Teer, & Cadogan, 2004) were CNA techniques for alleviating pain described. The use of prophylactic analgesia was not mentioned in this research.

Communication

Communication, especially between CNAs and LNs, was identified in these studies as a necessary component of effective pain management (Mezinskis et al., 2004; Molony et al., 2005). CNAs were identified as a group with a strong desire to be heard. They were frustrated at being ignored and excluded from decision making processes, despite, in many cases knowing the resident better than anyone else (Ersek et al., 1999; Wright et al., 2003). However, an over-reliance on CNAs to give most resident care was seen as contributing to the under detection and under treatment of pain because of limitations in both their ability and communication skills (Engle et al., 2001). CNAs expressed a sense of responsibility in speaking up for their residents (Wright et al., 2003). However, it is difficult for CNAs to define and articulate what pain is given their limited formal pain education.

Effective communication takes time. Time constraints are a barrier for CNAs reporting to LNs (Engle et al., 2001). Above all, communication is influenced by the knowledge, attitudes, beliefs and culture of the people interacting. The way we communicate varies in many ways depending on our culture: in conversation style and pacing; eye contact; personal space; touch; and time orientation (Lipson & Dibble, 2005). This final theme of attitudes and beliefs is discussed below. In this literature review no studies were identified that investigated the practices by which CNAs normally communicate or fail to communicate this information.

The Influence of CNAs' Attitudes and Beliefs on Pain Assessment and Management

While pain assessment is influenced by pre-existing beliefs and attitudes about pain and resident's characteristics, a paucity of research exists on this topic. How CNAs experienced pain themselves, what training and education they had received, what work experience they had, and what their cultural influences have been, all affect the way they work with residents. Common misconceptions related to medications, particularly opioids, with fears of addiction, and over-medicating residents were cited as frequent concerns (Clark et al., 2004). Attitudes towards residents were seen to influence the way pain is managed (Blomqvist, 2003). Residents who have a history of substance abuse are often considered with less sympathy and even with suspicion when they request analgesics. Residents are considered "difficult" for many reasons: if they are resistant to care, manipulative, combative, have difficulty communicating or are perceived to be stoic or too demanding. Viewing a resident as "difficult" clearly complicates feelings of empathy and leads to discounting and filtering resident's reports of pain, as well as being

a major barrier to changing practice (Clark, Fink, Pennington, & Jones, 2006) and to effective pain management (Blomqvist, 2003).

Conclusion

Limited information is available on CNAs' understanding of cognitively impaired residents' pain. The questions of whether or how CNAs practice pain assessment and management, and how these practices affect the outcome of residents' pain is unknown. Specifically, answering questions about the influence of CNAs' characteristics, abilities, and communication methods would enlighten this field, as would a better understanding of the concept of "knowing" in this context. These questions need to be explored through both qualitative and quantitative studies. By gaining an understanding of how CNAs practice pain assessment and management for this population, it is hoped that implications for nursing practice will be identified. These implementations could improve outcomes for cognitively impaired residents in pain. Educational initiatives, changes in communication processes, and staffing assignments are examples of initiatives that may be relevant to improving nursing care, once a clearer understanding of the way CNAs work is gained from such a study.

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CHAPTER III: METHODOLOGY

This research was conducted as a qualitative study using Grounded Theory methodology to explore how certified nursing assistants (CNAs) understand pain in cognitively impaired nursing home residents. This chapter gives a brief description of Grounded Theory, as well as the theoretical constructs and assumptions which framed the study. The methodology used to determine the setting, recruitment strategy, how participants were protected, data collection, data analysis and how rigor was ensured is explained. Finally, the focus of analysis for this dissertation is presented.

Grounded Theory

Grounded Theory has a broad goal of exploring social processes that derive from human actions and interactions. From these explorations, the aim is to create theories to explain the data (Strauss & Corbin, 1998), giving researchers a way of addressing the complexities of social phenomena.

The philosophical underpinnings of grounded theory are rooted in symbolic interactionism, a broad theoretical framework, grounded in social psychology. Herbert Blumer's 1969 work "Symbolic Interactionism, Perspective and Method" (Blumer, 1969), describes the nature of symbolic interactionism using three premises: (i) That human beings act towards things on the basis of the meanings that these things have for them; (ii) That meaning is derived from or arises out of social interaction with others; and (iii) That meanings are modified through an interpretative process used by the person in dealing with the thing s/he encounters.

These theoretical perspectives - the importance of meanings, actions and intentions or how people make sense of the world around them - were incorporated into grounded theory. Therefore, Grounded Theory methodology is an appropriate choice for

this study: the social processes being studied here relate to the care of nursing home residents who experience pain and derive from the (human) actions and interactions of CNAs, licensed nurses (LNs) and residents that determine how the pain of residents with cognitive impairment is understood.

Theoretical Framework and Assumptions

This research project was informed by three theoretical frameworks: the Biopsychosocial (BPS) Model of Pain (Gatchel, 2004; D. C. Turk & Monarch, 2002); theories of pain behaviors (American Geriatrics Society, 2002; D. C. Turk, Wack, & Kerns, 1985); and Symbolic Interactionism (Blumer, 1969), which provide a social and cultural context.

The Biopsychosocial Model establishes an understanding of pain as a multidimensional concept that has sensory, behavioral, emotional and cognitive elements (Gatchel, 2004). This model reflects the reality of the complexities of pain and acknowledges the subjectivity of pain. Theories of pain behavior define the construct of behavior as an expression of an internal experience (Philippot, Feldman, & Coats, 1999). These expressions are then observed and interpreted by an external rater who makes a pain assessment (Hadjistavropoulos & Craig, 2002; Snow et al., 2004). It is difficult to accurately attribute specific behaviors, or the absence of expected behaviors, to pain. It is difficult to quantify pain by observing behaviors. However, in those individuals with cognitive impairment, changes in or absences of behavior may be the only indication that a person has pain.

These three theoretical perspectives are complimentary. The resident expresses pain through verbal or non-verbal behavior. This behavior is observed and interpreted by

an external rater who derives meaning from these social interactions with the resident and others. These interactions and behaviors take place within the context of the biopsychosocial model of pain, which allows the interpretation of observed behaviors because of the implicit understanding of pain as a subjective experience. Thus, together, these three theoretical perspectives provide a framework from which to address how CNAs understand the pain of cognitively impaired nursing home residents.

The underlying assumptions for this study were that pain is subjective and includes biological, psychological and social components and that behaviors can be interpreted as indicators of pain, especially in those whose cognitive impairment impedes communication. In addition, an assumption was made that pain is common among nursing home residents and can be treated.

Setting for the Study

This study took place at two sites, described here using pseudonyms:

1. Buena Vista (BV): four Memory Care units within a large and diverse county hospital.
2. Haverford (HF): a for-profit nursing home owned by a corporation which owns multiple nursing homes. This site has 99 bed capacity and accepts residents who are eligible for Medicare and MediCal funding.

Each site had its own distinct organization, different policies and procedures, unique staffing levels, educational resources, hiring practices and compensation. These two sites differ in ways that include their size, location, funding sources, historical background and community profile. In collecting data at both sites, the pool of potential CNA participants was more varied. Capturing a broader range of characteristics such as ethnicity,

experience as a CNA, previous work experience, working more than one job, working on units that specialized in those with cognitive loss and generalized units, added to the diversity of data gathered and made the discovery of common themes more compelling.

Recruitment Strategy

Recruitment of CNAs

CNAs from different units, working different shifts, with different levels of experience and varied backgrounds were sought for interview. The purpose of this recruitment strategy was to contrast CNAs' experiences, describing for example any differences experienced on different shifts. CNAs who had at least six months experience as a CNA and were English speaking were eligible to participate. Recruitment was conducted differently at the two sites because the opportunities and access given to the researcher varied between sites.

Buena Vista

At BV, initial contact was made at a meeting with four nurse managers of Memory Care units, organized with the help of the Palliative Care Advanced Practice Nurse familiar with the research project. This approach resulted in being granted permission to attend change of shift reports to recruit CNAs and make observations. A total of nine reports were observed. In addition the researcher attended two in-service classes on the topic of pain and dementia.

At each of these meetings the researcher was introduced by the nurse manager for that unit, the class instructor or introduced herself and gave a brief description of her study before handing out Study Information Sheets (Appendix A) which asked for contact details from those interested in participating, and gave the researcher's contact

details. Following these meetings the researcher stayed behind to answer any questions, collect contact details from those who expressed an interest in participating, and made appointments to meet individuals who agreed to participate. At report meetings where few or no CNAs participated, the researcher approached individuals or small groups of CNAs, introduced herself and handed out Study Information Sheets. Further recruitment occurred through word of mouth, when CNAs and LNs passed on information to others eligible to participate (i.e., snowball sampling).

Flyers outlining the research project and inviting CNAs to contact the researcher were left in staff break rooms on each of the four units. Extra flyers and study information sheets were given to licensed staff to pass on to eligible CNAs. No direct contact was made with the researcher from the distribution of flyers alone.

Most CNAs were recruited while attending the report meetings, but it was noted that not all CNAs attended all reports and many stayed for only part of a report. CNAs on afternoon and night shifts were less involved in reports than those on day shifts, mostly because they remained with residents during report.

CNAs who gave permission were contacted either by telephone, email or in person to make an appointment to complete informed consent and interview. A total of 24 CNAs gave their contact details to the researcher and a total of 11 were interviewed.

Haverford

As with BV, the plan at HF was to recruit CNAs at in-services and report meetings. A meeting was arranged with the facility's Director of Staff Development (DSD) to discuss the best way for the study to proceed. Unfortunately, there is no overlap between CNA shifts at this nursing home. Therefore, no report was held that involved in-

coming and out-going CNAs. The in-service schedule was in flux (possibly due to expected follow up visits from the State Surveyors who had completed a survey the previous month) and no schedule was made available to the researcher over a four month period, despite multiple requests. Because of these barriers to meeting CNAs as a group, the DSD offered to find CNAs who agreed to be interviewed after their shift on appointed days. Therefore, the five CNAs who participated at HF were introduced to the researcher by the DSD. The DSD agreed to post flyers in communal staff areas. No participants made direct contact from flyers alone.

Recruitment of Licensed Nurses

Licensed Nurses (LNs) eligible to participate in the study were English speaking employees in positions of nurse leadership at the two settings, who agreed to participate.

Buena Vista

Recruitment of LNs in leadership roles occurred in part through two meetings, the first a meeting of four Memory Care Unit nurse managers, and the second by invitation to a meeting of the Minimum Data Set (MDS) nurses. At each meeting the researcher introduced herself and gave a brief description of her study before handing out Study Information Sheets (Appendix B) which asked for contact details from those interested in participating, and gave the researcher's contact details. Other nurse leaders were approached individually by the investigator, either in person or by telephone, and given a verbal description of the study, and/or a study information sheet. Of the 18 nurse leaders approached, six nurse leaders were recruited: the four memory care unit nurse managers, the DSD and one of the MDS nurses who worked in memory care units.

Haverford

The Director of Nursing (DON) and the DSD were approached in person by the investigator, and given a verbal description of the study and a study information sheet (Appendix B). Two other LNs in leadership roles, the treatment nurse and the MDS nurse, made contact with the researcher through the DSD. A total of four LNs at Haverford participated in the study.

Protection of Participants

The University of San Francisco California's Committee on Human Research approved this study. Written permission to conduct this study was obtained from HF and approval from the Research Oversight Committee was given at BV.

Only potential CNA participants that had submitted their name to the researcher were contacted by phone or in person. Some LNs were approached in person or by telephone, but only one time if agreement to participate/be contacted again was not forthcoming. All participants signed an informed consent form (Appendices C and D). The researcher provided each participant with a description of the study, its purpose and method, any potential risks and how they would be minimized. The participant was given the choice of reading the consent form themselves, or having it read to them. The researcher provided any clarifications and answered any questions that the participant had.

The identities of those who chose and chose not to participate in the study will remain confidential. No identifying information was retained from tape recordings once they had been transcribed. Surveys and all other data collected did not contain identifying data: names and other identifying data were coded by the researcher. Access to the tape recordings, was limited to the researcher, the researcher's academic advisor and a trained

transcriptionist. Audio tapes were destroyed as soon as data were transcribed, the accuracy of the transcription verified, and the names and other identifiers were coded by the researcher. All data code keys are kept separately and securely and will be destroyed at the end of the study. Electronic data are password protected. All other data are secured by the investigator.

In reporting the findings from this study, no individual is identified. Findings are presented from the data at large. Where quotes from individual participants are used no personal or other identifying details remain to allow recognition of that individual.

Participants were interviewed in private at their work place, at a time convenient for them. The length of each interview was determined by the participant's availability. CNA interviews were conducted before and after Day and PM shifts (15:30 and 23:30 hours) and during breaks. Time was allowed prior to each interview to ask any questions or voice concerns. Several participants became tearful and emotional when talking about residents they cared for, and where appropriate, an offer to suspend or terminate the interview was made as well as an offer of additional time to talk further. Participants could decline to answer any questions and could withdraw from the study at any time.

There were no direct benefits to the individuals who participated. However, some expressed enjoyment in describing their experiences and insights and expressed satisfaction in contributing to a study that listened to the voices of CNAs, recognized their work and had the potential to contribute to improvement in the care of nursing home residents.

No costs were incurred by participants in this study. However, they each received a gift certificate of \$20 value at the end of their participation, given in recognition of their contribution to the research and their time.

Data collection procedures

Data were collected through participant interviews and a demographic questionnaire; observation at meetings with nurse leaders, end of shift report meetings and classes; observational and field notes; review of policies and procedures; and site profile questionnaires.

Interviews

A total of 26 interviews were conducted. Sixteen interviews with CNAs (11 from BV, 5 from HF) were conducted between March 23, 2012 and May 17, 2012 and ten interviews with LNs (6 from BV, 4 from HF) between March 8, 2012 and May 16, 2012. All interviews were tape recorded and observation and field notes (written and audio taped) were taken both during and after interviews. Interviews were conducted following a semi-structured, open-ended interview guide (Appendices E and F). The average length of an interview was 30 minutes with a range of 21 to 43 minutes. Interviews were shorter at HF (averaging 22 minutes for CNAs and 27 minutes for LNs) compared to BV (30 minutes for CNAs, 38 minutes for LNs). There was a planned strategy to conduct nurse leaders' interviews where possible, before the CNA interviews so as to avoid influencing the responses of CNAs who might be concerned that their participation was being discussed with management, and to prevent nurses in leadership positions from asking direct questions about what CNAs said during their interviews. This approach was reasonably successful at BV where five of the six LN interviews were conducted before

any CNA interviews. However this approach was less successful at HF where scheduling was more difficult and three of five CNA interviews were conducted first.

The CNA interviews were designed to collect data specific to the first and third aims of the study: to describe how CNAs' perceive their role in the management of pain in cognitively impaired nursing home residents and to describe the contextual factors and processes that influenced how CNAs' interact with and react to cognitively impaired nursing home residents who have pain. It was anticipated that these data would provide insight into whether CNAs anticipate, recognize and respond to pain in cognitively impaired nursing home residents, and, if so, how they do this work.

The interviews of nurse leaders were designed to meet the second aim of this study: to describe how nurse leaders within nursing homes perceive the role of CNAs in the management of pain in cognitively impaired nursing home residents. It was anticipated that these data would provide insight into the CNAs' role within the healthcare team, and in revealing the status quo, provide context for discussion of relevant nursing implications.

Demographic data

Demographic data were collected through the completion of a demographic questionnaire (Appendices G and H), either before or after the interview and through the recording of field and observational notes. Information was collected on work experience, age, place of birth and education. These demographic data were used to compare and contrast the study's sample with the CNA population at a national level as reported in the National Nursing Assistant Survey 2004-2005 (National Center for Health Statistics, 2004), and CNAs sampled in other studies.

Meetings with Nurse Leaders

Apart from interviews, the investigator met with various groups (nurse managers and MDS nurses at BV) and individual nurse leaders (Palliative Care Advanced Nurse Practitioner, Acting DON at BV and DSD at HF) on five occasions from February 28 to March 27, 2012. Observational and field notes were taken both during and after these meetings.

Observation of Reports

The investigator observed change of shift report on nine occasions from March 6, 2012 to April 24, 2012 at BV. At least two observations took place on each of the four units represented in the study. Reports are held three times each day: at 07:00, 15:00 and 23:00 hours. The researcher attended three at 07:00, five at 15:00 and one at 23:00 hours. Observational and field notes were taken during and after these meetings. The purpose of this activity was to understand how information relating to resident care is communicated to CNAs and whether CNAs are actively involved in discussions of resident care at these meetings.

CNA Training Content

To obtain an understanding of what formal training CNAs had in caring for cognitively impaired residents who experience pain, a review of CNA training content related to pain and cognitive impairment was undertaken. Content of both training to qualify as a CNA and on-going education at both sites was examined. Centers licensed by the state of California to provide CNA training in the two counties where the study was being conducted were identified. Descriptive data relating to these training centers were collected from internet sources and by telephone contact and included where possible

profit status, the cost of completing training and how many students successfully completed training. Selected text books and classes for qualifying as a CNA were reviewed. Data from the two sites included observational and field notes taken during meetings with the both site's DSDs and during two classes on pain and dementia training the researcher observed at BV. Written information including class outlines was also shared by BV's DSD.

Pain Protocols

A review of documentation, as well as policies and procedures related to pain was conducted at both sites.

Site Profile Questionnaire

A site profile questionnaire (Appendix I) was completed with the Acting DON at BV and the DON at HF. Questions related to resident census, resident payer mix, staff to resident ratios and CNA pay scales were obtained, with the purpose of providing context.

MDS Data

It was anticipated that data from the MDS 3.0 assessments would be available and used to establish the prevalence of pain and cognitive impairment in residents being cared for by the CNAs working at the two study sites. Unfortunately, neither site was able to overcome difficulties in de-identifying such data for release to the investigator.

Daily Staffing Levels

An original plan of recording publicly posted daily staffing levels was abandoned as impractical because multiple daily visits would have been required to obtain this information.

Data Analysis

In using a Grounded Theory methodology, inductive guidelines provide a plan for the gathering, synthesizing, analyzing and conceptualizing the data. The use of constant comparative analysis in this grounded theory study meant that data were reexamined throughout the life of the research project in a non-linear fashion. This approach led to the identification of codes (patterns in the data), categories and common themes that resulted in a conceptual framework of relationships among these elements (Strauss, 1987).

Analysis began as soon as data were gathered, simultaneously with coding, memo writing and theoretical sampling. Coding began with line-by-line analysis and the early conceptualization of data. Concepts, categories and themes were derived from the data and as a result, interview guides evolved during the research process to address emerging ideas. For example, the question of whether residents experienced pain with activities of daily living was added early on. Theoretical sampling was employed to fill the gaps in existing data by attempting to collect equivalent interviews at each site, and data from participants who worked in different units, on different shifts, and who had different levels of experience and varied backgrounds. Data for this study were collected and analyzed until the researcher was no longer making discoveries: there was only a reiteration of what has already been found. At this point the researcher was satisfied that a level of “saturation” was reached, indicating that data collection was complete (Strauss & Corbin, 1998). Atlas.ti software was used to organize the data for analysis.

Establishing Rigor

In order to show with clarity how findings were identified and conclusions drawn, methods for ensuring rigor were employed. Rigor ensures that researchers are accountable for their research and is the foundation for decisions made by interested parties, consumers and funders.

A number of steps were taken to ensure the rigor of this research. The aims of this research were determined following a review of the current literature to identify gaps in our understanding of how CNAs understand pain in nursing home residents with cognitive impairment. Grounded theory methods have inherent verifying components, (i.e. the use of constant comparative analysis), where connections are made in the data between codes and categories are corrective of data (Glaser & Strauss, 1967). The collection of sufficient and rich data, that can be used to accurately illuminate and illustrate findings, enhances credibility of this study.

The methodological transparency given here allows both the researcher and the reader to clearly understand the procedures used and provides an audit trail. Complete records of research procedures were maintained. Accuracy in data collection was ensured by tape recording and promptly writing memos and field notes.

Reflexivity, where the researcher examines his/her own preconceptions and biases was undertaken by the researcher who has experienced pain, both her own and others, has a mother with dementia, and had a grandmother committed to care in a mental hospital with dementia. In addition, she has a history of working in geriatric care, nursing homes, managing nursing staff including CNAs, and has devised and taught a curriculum on pain management. Through conscious reflexology, the researcher maximized her ability to

hear the voices of the participants more clearly and safeguarded against making the data fit preconceived notions (Charmaz, 2005).

Triangulation is the attempt to confirm the credibility of findings by establishing agreement between different sets of data, sources, methods or investigators by cross-referencing. In this study, triangulation was achieved through discussions with both a peer study group familiar with grounded theory methodology and the dissertation committee that focused on data analysis and interpretation. The use of multiple data sources including interviews with both CNAs and LNs, and observations of report increases the study's rigor.

This researcher made a commitment to present the findings in an accessible, convincing and understandable way in order to provide verification and honor those who have participated.

The Focus of Analysis for this Dissertation

Analyzing data from a qualitative study is successful when a researcher becomes immersed in the data. It is then that the themes within the data become apparent, and the stories to be told emerge. Three of these stories were written in manuscript form for this dissertation and are presented in the following chapters. In preparing papers to submit for publication, it is hoped that the CNAs and nurses who participated in this study will be honored, along with the dissertation committee members, and others who have helped this project come to fruition.

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CHAPTER IV: PAPER 1

How Nursing Home Certified Nursing Assistants Understand, Perceive, Differentiate and
Respond to the Pain of Residents

Elizabeth Halifax

Abstract

Background - Pain is a significant problem for nursing home residents. Pain assessment is complicated by high prevalence of cognitive loss and staffing levels consistently below recommendations. Certified nursing assistants (CNAs) perform 80% to 90% of direct resident care. However, little is known about their role in pain management.

Objective - The purpose of this paper is to describe findings related to how CNAs perceive their role in pain management.

Study Design - This qualitative Grounded Theory study was conducted at two nursing homes. Sixteen interviews with CNAs evaluated their experiences of caring for residents in pain. Interviews were conducted using a semi-structured interview guide and transcribed verbatim. Grounded Theory methods guided constant comparative analysis.

Results - CNAs' described their understanding, perceptions, and responses to pain. Strikingly, CNAs were found to differentiate between pain which they considered 'normal' (*everyday pain*), and pain that they judged significant enough to report to licensed nurses.

Conclusions - CNAs revealed a sophisticated understanding of pain, strategies to identify and interpret pain, and actions to independently mitigate pain. Further research, educational initiatives and improvements in the quality of CNAs' jobs have the potential to improve pain management for nursing home residents and make CNAs' work more meaningful.

Introduction

Approximately 42% of all nursing home residents in the United States experience persistent pain that is often unrecognized and under-treated (Last Acts, 2002). In addition, as many as two-thirds of nursing home residents have some cognitive impairment (Centers for Medicare and Medicaid Services (CMS), 2010) and may be unable to accurately report pain because of a combination of memory, comprehension and/or speech deficits (Snow et al., 2004). Certified nursing assistants (CNAs) provide 80% to 90% of residents' direct care in nursing homes (Rice, Coleman, Fish, Levy, & Kutner, 2004). They spend an average of 40 minutes with each resident per eight hour shift, three to four times more than licensed nursing staff (Gist & Hetzel, 2004). They provide intimate care, assist with activities of daily living, and often serve as the residents' main social contact. Consequently, CNAs may know the resident better than anyone else and may be in the best position to identify and interpret pain-related behavioral changes in cognitively impaired residents. However, CNAs do not have formal training in pain assessment. Licensed nurses (LNs) are educated to perform pain assessments in this population. However, they have onerous workloads in nursing homes. Dispensing medications and administering treatments, together with documentation, supervision and other duties, leaves them little time to perform comprehensive pain assessments (Dellefield, 2008). This practice-knowledge gap results in inadequate pain management, especially for residents who are cognitively impaired, and raises the question about the role of the CNA in identifying pain in this population.

When writing about pain management of older people in nursing homes, Schofield (Schofield, 2006), stated that "no-one has considered the important role that

untrained staff could play in providing resident-focused strategies” (p. 513). Indeed, only 19 studies have evaluated how CNAs understand nursing home residents’ pain. Two broad categories emerged from this research: CNAs’ perceptions of residents’ pain; and CNAs’ assessment skills (the use of pain assessment tools, comparing their assessments with other assessments, and evaluating their practice).

Of the six studies that examined CNAs’ perceptions of pain (Blomqvist, 2003)(Cohen-Mansfield & Creedon, 2002; Flacker, Won, Kiely, & Iloputaife, 2001b; Kane et al., 2006; Mentis, Teer, & Cadogan, 2004b; Wright, Varholak, & Costello, 2003) two strong common themes emerged: “knowing” the resident and taking action when pain was identified. “Knowing” the resident through spending time, giving intimate care and forming emotional attachments meant that CNAs recognized deviations from normal behaviors that indicated pain (Cohen-Mansfield & Creedon, 2002; Flacker, Won, Kiely, & Iloputaife, 2001a; Mentis, Teer, & Cadogan, 2004a). CNAs felt able to influence residents’ quality of life because of their close relationships (Kane et al., 2006). CNAs were attributed with the ability to anticipate pain (Blomqvist, 2003; Mentis, Teer, & Cadogan, 2004a) as well as recognize and describe resident’s pain (Wright et al., 2003). CNAs were described as “taking action” to report and manage pain (Blomqvist, 2003; Mentis, Teer, & Cadogan, 2004a). These actions included making sure medications were given, working gently, distracting residents, and inspecting residents for causes of pain.

In four studies that evaluated pain assessment tools designed specifically for use by CNAs in nursing homes (Cervo et al., 2007); (Cervo et al., 2009; Cervo et al., 2012; Snow, Weber et al., 2004)(Buhr & White, 2006; Kaasalainen, Stewart, Middleton, Knezacek, Hartley, Ife, & Robinson, 2011a; Kaasalainen, Stewart, Middleton, Knezacek,

Hartley, Ife, & Robinson, 2011b), the pragmatic uses of these tools were confounded by the complex nature of residents' pain and time constraints. Only one study found that implementation of CNA specific pain assessment tool improved residents' pain. This positive outcome occurred when the assessment tool was combined with educational initiatives (Cervo et al., 2012). In two of these studies (Buhr & White, 2006; Snow, Weber et al., 2004) the investigators concluded that CNAs were capable of contributing to pain assessment.

In four studies (Engle, Graney, & Chan, 2001; Fisher et al., 2002; Horgas & Dunn, 2001); (Ersek, Polissar, & Neradilek, 2011) CNAs' assessments of pain were compared with residents' reports of pain, Minimum Data Set (MDS) and licensed nurses' assessments, and a combination of pain indicators (including agitation, depression and painful diagnoses). When compared to these other assessments, CNAs' assessments were found to be generally more accurate, except when compared to resident's own reports of pain. While recommendations were made to involve CNAs in MDS assessments (Engle et al., 2001), study findings were modest and did not provide clear evidence of CNAs' abilities to understand the pain of cognitively impaired residents.

Only four studies have evaluated CNAs' practice and educational needs in relation to pain management (Clark, Jones, & Pennington, 2004; Clark, Fink, Pennington, & Jones, 2006; Ersek, Kraybill, & Hansberry, 1999; Mezinskis, Keller, & Luggen, 2004; Molony, Kobayashi, Holleran, & Mezey, 2005). In these studies emphasis was placed on the importance in pain assessment of observing visual cues and changes in behavior. Changes in practice were difficult to achieve when residents' characteristics and attitudes, as well as staffs' deep-rooted beliefs and prejudices were influential. CNAs' reported

feeling insecure in assessing pain and their lack of understanding and poor access to information were found to lead to feelings of isolation and inhibit the quality of pain assessment.

Knowledge of how CNAs understand pain in nursing home residents is incomplete and further research would be valuable in determining: what *knowing* a resident means to CNAs and how it affects the management of pain; If/how CNAs are able to *assess* residents' pain and whether pain assessment tools are helpful; what *practice or educational needs* exist; How/if CNAs *anticipate* and/or *act to relieve* residents' pain; what are CNAs' practices in *communicating* residents' pain; and how do *CNAs' attitudes and beliefs* influence pain management.

Based on these gaps in knowledge, this qualitative study was designed to explore how CNAs understand pain in nursing home residents. The purpose of this paper is to present findings on how CNAs understood residents' pain; how they perceived that pain; how they differentiated between the everyday pain that their residents experienced with routine care and activities and the pain that they reported because it was perceived as a significant change in the resident's status; and how they responded to residents' pain.

Methods

This qualitative study used Grounded Theory methodology, an approach with the broad goal of exploring social processes that derive from human actions and interactions. The ultimate aim is to evolve theories that explain data, give researchers a way to address the complexities of social phenomena (Strauss & Corbin, 1998).

The underlying assumptions of this study were that: i) pain is subjective and includes biological, psychological and social components; ii) that behaviors may be

interpreted as indicators of pain, especially in those whose cognitive impairment impedes communication; iii) pain is common among nursing home residents and; iv) treatment strategies are often effective (American Geriatrics Society, 2002b). The theory of Symbolic Interactionism framed the social and cultural context of this study. The social processes that determine how the pain of residents with cognitive impairment is understood were derived from the actions and interactions among CNAs, licensed nurses and the residents who are experiencing pain.

Settings and Participants

This study took place at two sites in an urban environment: memory care units within a large county hospital, referred to as “Buena Vista” (BV); and a corporate owned for-profit nursing home, with 99 bed capacity, referred to as “Haverford” (HF). These two sites differed in their size, location, funding sources, historical background, community profile, organization, staffing levels, compensation and union participation.

A convenience sample of 16 CNAs participated. All had worked at one of the sites for a year or more and were English speaking. Each participant received a \$20 gift certificate. This study was approved by the Research Overview Committee at BV and the University of California San Francisco’s Committee on Human Research.

Data Collection

After obtaining written informed consent, participant interviews were conducted using a semi-structured interview guide, tape recorded and transcribed verbatim. Interview questions included asking CNAs how they knew their residents had pain or were comfortable, and what they did if a resident had pain. In addition, data were collected through demographic questionnaires; field notes from observations at meetings

with nurse leaders, end of shift report meetings, classes, and interviews; review of policies and procedures; and site profile questionnaires.

Data Analysis

Grounded Theory inductive guidelines were used for the collection, synthesis, analysis, and conceptualization of the data. The use of constant comparative analysis meant data were reexamined throughout the life of the research project in a non-linear fashion. This approach led to the identification of codes (i.e. patterns in the data), categories and common themes as well as relationships among these elements (Strauss, 1987).

Ensuring Rigor

In order to demonstrate with clarity how findings were identified and conclusions were drawn, methods for ensuring rigor were employed. These approaches included methodological transparency, the collection of rich and sufficient data, and reflexivity undertaken by the researcher to examine her preconceptions and biases. Agreement was established between sets of data from different sources. For example, as themes from interview data became apparent, subsequent interviews included questions related to those themes. Data from interviews were compared and contrasted to field notes taken when observing meetings. Discussions with a peer group of qualitative researchers and the researcher's academic advisor took place at each stage of the study.

Findings

Sample Characteristics

A total of 16 interviews were conducted with CNAs, 11 from BV and 5 from HF (see Table 1). The CNAs had an average age of 45.6 years and three were male. Fourteen

were born outside the United States (US) (11 were from the Philippines, three from Central America) and had lived in the US an average of 19.9 years. Five of the CNAs had completed a bachelor's degree or higher, four had at least two years of college education; one was qualified in her country of origin as a licensed vocational nurse; four had education to 12th grade; and two had education to 9th grade. All the qualifications above high school were attained outside of the US. The average years working as a CNA was 15.4. The average years of experience at the nursing home where they were interviewed was 11.7. Compared to the HF site, CNAs at the BV site were more experienced, better educated and older. All names in this paper are pseudonyms.

The Meaning of Pain

Four themes evolved around the meaning of pain. CNAs understood pain as having biological, psychological and social components. In addition, they spoke of pain as an outcome of their work. CNAs described perceiving residents' pain primarily through asking, listening and observing behaviors. CNAs differentiated between everyday pain and pain which they reported. CNAs described responding to pain by working flexibly, giving physical care and giving attention. Pain was central to the work of these CNAs, as one describes:

Pain (is) worse if you ignore it. You have to realize the pain; you cannot hide it. You can see it. You have to help them. That's why you're here. You have to help the resident. If there is pain, you're here to help them...you cannot work if there is pain (BVCNA09, 899-91).

CNAs' Understanding of Pain

CNAs' understanding of pain was sophisticated, and went beyond the basic idea of pain as a response to stimuli, a physical feeling. CNAs appreciated psychological and social factors that contributed to their perceptions of what pain was. For example:

It could be pain, not necessarily pain physically; it could be mentally. They could be stressed. We could have pain in our love...some of the residents here are in pain, because they're depressed, you know, there are different kinds of pain... Physical pain, emotional pain, financial pain, that's just how I see pain (BVCNA01, 600-6).

CNAs described biological or physical pain in various ways, but most commonly it was synonymous with discomfort or the absence of comfort. Always described as a negative, pain was attributed to having painful diagnoses like cancer, joint disease, and contractures. CNAs spoke of their own pain, often from injuries and surgeries that they and their colleagues had endured. In describing their work as being, "...*hard on your body*" (BVCNA19, 624), the CNAs talked about exacerbating factors such as lifting, working overtime, and being short staffed. They perceived that these experiences enlightened their understanding of others' experiences.

Accepted by CNAs as "*part of our feelings in life*" (HFCNA04, 244), emotional responses to pain included feelings of sadness, sorrow, concern, and worry. They perceived their residents as feeling "bad" when they had pain as well as unhappy, afraid, lonely, and depressed. However, they differentiated these emotional responses to pain from pain that was a response to psychological distress. The most striking example of this differentiation was when CNAs spoke of the death of their residents, time after time equating their own grief with pain. As well as depression, affairs of the heart, love, and financial distress cited above, fear and loneliness were described as sources of pain. One illustration of this point was when a CNA explained the violent behavior of a resident by stating:

...he's in pain. But he really wants to go home (BVCNA23, 445-6).

When asked what “pain” meant, this CNA described how she saw the relationship between emotion and pain:

P: Pain: not comfortable, or sometimes they’re afraid... Sometimes they are lonely, yeah; I think that’s what I think for pain.

I: What do you mean? The loneliness causes the pain, or the pain makes them lonely?

P: Either way.

Pain was characterized by CNAs as a *loss of control*: when you have pain, you no longer “feel like yourself”, (BVCNA21, 442). They saw it as limiting residents’ independence, because more help was needed when they had pain. Pain was viewed as causing a disturbance of the body resulting in physical limitations and psychological distress. For example one CNA explains:

Pain, for me, is something that you cannot handle, you know, that you need help, you know... (from) somebody else...and you’re uncomfortable, you know, you’re not happy (BVCNA14, 549-51).

CNAs identified factors that exacerbated pain. Basic activities such as transferring, turning, or being too long in one position were associated with pain in some residents, as were hunger and the need to evacuate bowels. Pain was attributed to everyday activities like getting dressed, as described here:

...let’s say they are very contracted on this side and you try to put the dress on, it hurts for them (BVCNA18, 249-50).

Perhaps most unexpected was the concept that not providing adequate attention would make residents’ pain worse. In answer to the question “what do you think makes pain worse for people?” this CNA answered:

Not getting the medication, not getting the proper care, neglect, overlook of their medication, or just the thought that they’re not being taken care of, (BVCNA01, 682-4).

Ways of Perceiving Residents' Pain

CNAs identified two primary ways that they perceived resident's pain: communicating by *asking and listening* and by observing behaviors that they understood as expressions of pain.

Asking and Listening - CNAs indicated that some residents were able to tell them if they had pain. However, these residents were usually described as verbal, oriented, and alert.

More typical was the response reflected here:

For me, it's a big challenge, you know? Sometimes — dementia, you don't know what they want, where is the pain, (BVCNA09, 41-2).

Cognitive impairment complicated the recognition of pain not just because they were unable to give a verbal account. CNAs observed that residents were inconsistent in their reports, forgetful, confused, and on occasion frightened and combative at being approached. This CNA explains how residents who said they had pain were inconsistent:

...then one minute later you ask them 'are you having discomfort?' and they will say 'I'm perfectly fine'. It's a matter of (determining) if they're really in pain...because (if they are really in pain) they will get up in the chair and start walking and they would start talking, and they start (getting) aggravated — they get agitated, they get upset...they're in pain (BVCNA01, 295-301).

Communication was problematic when language barriers existed and CNAs described relying on translators and the use of picture prompts.

Despite these difficulties, CNAs described communicating with their residents about pain by *asking and listening*, because, as one CNA reported: "I know she's confused but...she can answer questions" (BVCNA14, 254). Using one-way conversations, questions with yes or no answers and listing various options, CNAs are able to determine information about a resident's pain. For example, this CNA describes

her technique of asking multiple questions of a resident with cognitive impairment: “I said is it this, is it that? Finally she just said my foot hurts” (BVCNA19, 118-9).

Pain Behaviors - To recognize residents’ pain, these CNAs relied on observing their residents and interpreting their behaviors:

(Pain is) subjective and objective...right? ...You didn’t see the pain, but you can see the patient. ...are they comfortable, or what? (BVCNA09, 250-1)

CNAs described recognizing pain primarily through residents’ *facial expressions*. Most common was the phrase ‘You can see it in their face’. Facial expressions were considered a reliable indicator, as one CNA comments:

...they just pretend they’re comfortable. They’re still in pain, I know it. See, the patient grimace, you know, you can see their face. They’re frowning, you know, they like this, but you can see there is pain in there. I say is something wrong? Can I help you? But they just look at you (BVCNA09, 73-7).

Other behaviors which CNAs identified as indicators of pain were:

- *Verbalizations/vocalizations*: mostly non-language sounds that included shouting out, yelling, screaming, crying, moaning, and cursing.
- *Body movements*: these included both stillness (rigidity) and movement (fidgeting). CNAs noted that residents sometimes responded differently to movement when in pain: “...if you cannot ask them, but you can tell how it (is) - because when they move, you know”, (BVCNA21, 162-3).
- *Changes in interpersonal interactions*: examples involved the resident getting mad; hitting out; being combative, aggravated, agitated, aggressive, or not talking.
- *Changes in activity patterns or routines*: these behaviors included general lethargy, not wanting to walk, not wanting to stay in one place, or not eating.

- *Mental status changes:* these behaviors included being upset, looking sad, crying, mood swings, and irritability.

CNAs interpreted resident's gestures, especially in those with communication difficulties, as indications of pain. They described residents pointing with fingers or with their eyes, rubbing the affected area, or nodding 'yes' and 'no' to indicate pain.

Differentiating Types of Pain

It was striking that CNAs consistently differentiated between *everyday pain* which residents experienced with normal activities and *reportable pain* which CNAs judged to be an increase in resident's pain.

Everyday Pain - In talking about pain that occurred with everyday care, CNAs described an expectation that such pain was normal. For example, one CNA estimated that four of her regular nine residents would have pain with everyday care including transfers (HFCNA03, 195). Described as most frequent when giving morning care, this pain was characterized as persistent and often identified as "stiffness" as in this example:

...it's not horrible pain for them but, you know, they're probably stiff or something from lying... (BVCNA19, 255-6)

Everyday pain was particularly apparent in residents who had contractures. This type of everyday pain was recognized in the same ways that other types of pain were recognized - everyday pain was not, then, a *silent* pain. Yet, CNAs described dealing with this everyday pain through their own interventions and not reporting it to licensed nurses.

Reportable Pain - When CNAs observed that a resident had a "new pain", in other words, not *everyday* pain that they had witnessed before, participants unanimously described that their first response was to report this change to a licensed nurse. For example, when this CNA noticed "...it's really different pain, I know if it's (not) like normal pain in

transferring” (BVCNA02, 243-6). As a consequence, this pain was brought to the attention of licensed nurses, *as well as* being recognized and responded to by CNAs.

CNAs described that their main motivation in reporting residents’ pain was to advocate for pain medication. For example:

I report it to the nurse right away and they have an order for a pain pill. If they are allowed to take a pain pill, then the nurse will give it (HFCNA04, 152-4).

CNAs expressed belief in the efficacy of medications as a solution for pain. For example: “like medicine, if you give it, you know, you’re going to feel better” (HFCNA01, 335-6).

CNAs reported confidence in being listened to by licensed staff and were assertive in advocating for their residents:

I call them (licensed nurses), ‘I want you to come here now, I want you to see my patient, what’s going on, I think he’s in pain’ (BVCNA09, 92-3).

They were clear that they felt responsible for following up on their initial report in case the licensed nurse was busy or forgot.

Responding to Residents’ in Pain

In this study, CNAs independently sought to decrease pain in ways that included working flexibly, undertaking physical interventions, and paying attention to/being present for residents. While they differentiated between pain that needed to be reported to licensed nurses and everyday pain that did not, these strategies to decrease pain were used in both cases. When reportable pain was identified, CNAs described responding to residents in pain while they were waiting for pain assessment, the administration of analgesics, or for analgesics to work.

Flexible Working - This CNA explained how she worked flexibly with residents in pain:

I slow it way down... and do a little bit at a time. But I can’t go too slow or I won’t get my work done. I do find other people will just keep rushing them

along, and pushing it ... it's not fair to them. But I try to just make it more comfortable for them. Or if there's something I can eliminate, I will, you know? (BVCNA19, 315-20)

Other CNAs described consciously working in ways that would lessen their residents' experience of pain when they gave care. These strategies included working gently, smoothly, carefully, slowly and quickly. They spoke of the need to change routines when this approach would alleviate or avoid pain. These approaches included coming back later (e.g., to allow residents to pray, wake up, allow analgesics to take effect) and breaking care down into small steps. They described changing the care they gave (e.g., a sponge bath instead of a shower, or postponing a shower). Working together, especially when transferring residents, was another important strategy to decrease residents' pain.

Physical Care - CNAs considered physical care an important part of their work. As one CNA said, "We do a lot of restorative healing" (BVCNA09, 353). Participants frequently attributed pain to residents being unsupported or in the same position too long. CNAs described re-positioning residents, and spoke about the balance between ensuring residents were out of bed long enough to benefit from social contact with putting them back to bed to provide comfort and rest.

Other physical care to decrease pain included encouraging residents to use the bathroom, especially if they suspected stomach pain, applying heat and cold, and massaging affected areas. One CNA described giving a massage:

Well, you can rub their shoulders you know if they're having pain, rub their back, you know, massage them. You know, one-on-one attention, lotion massage their hands, lay them down in a bed... (BVCNA20, 157-9)

Giving Attention - The concept of giving attention overlapped in CNAs' perceptions with physical care, as illustrated by the quote above. Giving attention in response to pain was described in two ways. CNAs expressed their view that residents needed attention and if it was not given, residents had negative feelings, often characterized as psychological or emotional pain as here:

...sometimes I think, well, psychological, emotional pain, something like that, so just like sitting with them (helps resolve pain) (BVCNA10, 239-40).

So in being present and giving attention, the resident's pain was resolved.

It's just like they need attention...So I think the way, if you talk to them and say good morning, or can I get you something, that would make them feel better..... it's a big difference for them that they know that someone cares about them. (HFCNA04, 2001-16).

CNAs described how giving attention distracted residents from focusing on pain. They did not claim that distraction resolved the pain, but frequently spoke of how re-directing residents allowed them to *forget their pain* as described here:

...even though there is pain...their mind is more thinking what's happening there around their surroundings (BVCNA21, 410-2).

I just turn on the TV. What channel do you want? You know, what's their favorite...of course they're in pain, but they focus on the TV (BVCNA02, 495-7).

When CNAs spent time with residents in this context they described talking, singing, telling jokes, giving compliments and getting residents to reminisce about family, careers, movies and travels. They redirected the resident's attention with offers of food, magazines, music, television, going to the bathroom, and a change of scene. CNAs emphasized the importance of encouraging residents to participate in social interactions which included sitting in the common room especially when music was being played,

participating in planned activities, and worship. This CNA explains how social interactions eased pain:

...so when they are in surrounding(s) with activities, then the pain not really — kind of eased some of it, because you can see people smiling at you, grinning at you, and they're singing and, you know, a lot of things going on. And then when you put them back to bed...then the pain kind of come back again (BVCNA21, 491-6).

Discussion

This study investigated the role that CNAs have in pain assessment and management. This knowledge could lead to a better understanding of CNAs' work, as well as the development of interventions that would promote optimal pain relief for residents. Findings provide insights into how CNAs understood, perceived, differentiated, and responded to pain.

Understanding Pain

The physical toll that working as a CNA takes is well documented (Graham & Dougherty, 2012). Therefore, it is not surprising that CNAs' understanding of pain was often informed by the context of their own experiences of pain. They described residents' pain as being caused by psychological and social distress (especially neglect or lack of attention) as well as emotional responses which they perceived as painful (including loneliness, fear and depression). The way CNAs' described their understanding of pain reflects the current view that pain has biological, psychological and social components (International Association for the Study of Pain, 1979); (Gatchel, Peng, Peters, Fuchs, & Turk, 2007).

Perceiving Pain

Participants reported that the recognition of pain through verbal communication was difficult. However, through a technique of *asking and listening* they had success in inferring pain. Their descriptions of communication difficulties reflected the reality that an estimated two-thirds of nursing home residents have some form of cognitive impairment (CMS, 2010).

The need to go beyond verbal reports to assess pain in those individuals with cognitive impairment is addressed in Snow and colleagues' Pain Assessment Model (2004) where the concept of pain behaviors, their expression, observation and interpretation, are set out. Identifying pain as the cause of a behavior is difficult. It is accepted that the enactment of a behavior, for example fidgeting, may not necessarily be an indication of pain. Rather, it may be the result of anxiety or boredom. In addition, the many causes of cognitive impairment in the elderly, including different types of dementia, can lead to "...idiosyncratic and unusual responses to pain..." (Hadjistavropoulos, 2005), p.140). However, the American Geriatrics Society's Panel on Persistent Pain in Older Persons (AGS, 2002), described six categories of common pain behaviors, in elderly people with cognitive impairment. These categories are: facial expressions; verbalizations/vocalizations; body movements; changes in interpersonal interactions; changes in activity patterns or routines; and mental status changes. In this study, CNAs observed pain behaviors in all of these categories. Techniques of asking and listening as well as observing and interpreting residents' behaviors were ways that CNAs assessed pain. In addition, they were able to differentiate between two types of pain.

Differentiating Pain

Consistent with previous reports (Lin, Lin, Shyu, & Hua, 2011; Sloane et al., 2007) CNAs recognized the *everyday pain* that residents experienced with routine care. They accepted it as a normal and predictable experience for them. In a study of Taiwanese nursing home residents with dementia (Lin et al., 2011), “passively received care was a major pain stimulus” (p. 1853). In another study, that videotaped 51 episodes of morning care (Sloane et al., 2007), the authors concluded that morning care “...presents considerable opportunity for the stimulation of pain and discomfort” (p. 372). In differentiating between this *everyday pain* and *reportable pain*, CNAs determined what was and what was not brought to the attention of licensed nurses.

While the CNAs from BV were better educated and had access to consistent, professional and comprehensive education in dementia and pain, no differences were found between sites in how CNAs differentiated *everyday* from *reportable* pain. In this study, CNAs were not asked why they did not report *everyday* pain, and additional research would be valuable in understanding what factors other than education and training are inhibiting the reporting of pain.

Responding to Pain

Analysis of the data identified three strategies that CNAs used to mitigate pain: flexible working, physical care, and giving attention. Evidence of flexible working (prioritizing residents’ needs rather than routines) reflected the way that these CNAs viewed their residents as individuals and strove to give resident-centered care, as opposed to being task-oriented. These CNAs favored resident-centered care despite working in nursing homes where task orientation is reinforced by completing check lists at the end of

each shift. Data related to physical interventions centered on the need to prevent discomfort by positioning. This approach may be related to managements' emphasis on preventing skin breakdown in nursing home residents (Medicare, Nursing Home Compare: www.medicare.gov). A lack of attention was described by participants as emotionally painful to residents. CNAs indicated that providing attention decreased residents' pain because it distracted residents from their pain. However, the dominant perception was that pain was forgotten rather than alleviated. Consistent with a study by Sloane and colleagues (2007) CNAs used flexibility in routine and pace to mitigate everyday pain.

A goal of pain management in nursing homes is that CNAs report perceptions or suspicions of pain to a licensed nurse. In addition all residents should have a plan of care that includes preventative measures and prophylactic medications (American Geriatrics Society, 2002a). For this intervention to be effective, licensed nurses need to have sufficient time and capacity to respond to these reports.

Several study limitations need to be acknowledged. While the sample size was relatively small, sufficient rich data were collected for a grounded theory analysis. Data were collected in one urban area. While efforts were made to interview CNAs from all 3 shifts, no night shift workers volunteered for the study. Without direct observation of CNAs caring for residents, interview data may reflect what CNAs think they *should* be doing rather than what they *are* doing. However, consistency throughout the interviews suggests that the CNAs' responses reflected their practice. Finally, it was not possible to establish the prevalence of pain or cognitive loss for residents who were cared for by CNAs.

Despite these limitations, the study had the advantage of being conducted in two facilities that differed in many ways. In collecting data at both sites, the pool of potential CNAs was more varied. Capturing a broader range of characteristics such as ethnicity, experience as a CNA, previous work experience, working on general or specialized dementia units, added to the diversity of data gathered and made the discovery of common themes more compelling.

CNAs in this study revealed a sophisticated understanding of pain, strategies to identify and interpret pain in those with cognitive impairment, the differentiation of everyday from reportable pain and actions taken to independently decrease resident's pain. Further research to explore CNAs' roles in pain management in nursing homes would be valuable as would a comprehensive review of CNA education and training, with emphasis on pain assessment and management. The expectation is that such research would lead to improved pain management for residents, by creating a better understanding of what CNAs do at work, a re-framing of the important role CNAs have, and an increased recognition of their contributions, particularly in managing pain. Resulting improvements in the quality of their jobs through better education, opportunities, compensation and benefits (in line with (Institute of Medicine, 2008)), would serve nursing home residents well and possibly help alleviate recruitment and retention deficits that have been forecast.

Table 1: Characteristics of CNA Sample

N = 16, (BV 11, HF 5)

| Gender | | Years as a CNA | | Years at BV or HF | | Age (Years) | | Years Lived in US* | | Education | | |
|--------|----|----------------|-------|-------------------|-------|-------------|-------|--------------------|-------|-----------------------|------------------------|-------------------------|
| M | F | Average | Range | Average | Range | Average | Range | Average | Range | 9 th grade | 12 th grade | >12 th grade |
| 3 | 13 | 15.4 | 4-33 | 11.7 | 1-31 | 45.6 | 27-62 | 19.9 | 7-34 | 2 | 4 | 10 |

*N=14 as two participants born in the USA

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CHAPTER V: PAPER 2

Certified Nursing Assistants' Understanding of Pain in Nursing Home Residents: The
Importance of *Knowing*

Elizabeth Halifax

Abstract

Background - Pain is a significant problem for nursing home residents. Pain assessment is difficult when 2 out of 3 residents have cognitive impairments and staffing levels are consistently below recommendations. Very little is understood about CNAs' role in pain management although they perform 80% to 90% of all resident care.

Objective - The purpose of this paper is to describe how findings revealed that CNAs' role in pain management depends on CNAs *knowing* their residents, and how CNAs define ways of *knowing* residents.

Study Design - A qualitative study using Grounded Theory methodology was conducted. Sixteen CNAs were interviewed at two nursing homes using semi-structured interview guidelines. Data was transcribed verbatim and analyzed using constant comparative methods.

Results - This paper presents findings that described how *knowing* underpins CNAs' understanding of residents' pain. *Knowing* depended on how much time CNAs spent with residents and learning about residents from others. CNAs identified two types of *knowing*: the first was working knowledge, which gave CNAs a pragmatic advantage in giving care; the second was knowing the resident as an individual, which promoted resident-centered care and meaningful work for CNAs.

Conclusions - *Knowing* a resident underpins CNAs' ability to understand, perceive, differentiate, and respond to their pain. How CNAs come to know residents is dependent on the context of the institutional realities of their assignments and workload. Further research, related to this concept of knowing, has the potential to improve pain management for nursing home residents and make CNAs' work more meaningful.

Introduction

Pain is a common problem for nursing home residents, with prevalence estimates of between 60% and 70 % (Takai, Yamamoto-Mitani, Okamoto, Koyama, & Honda, 2010). In addition, approximately two out of three nursing home residents have cognitive impairment (Centers for Medicare and Medicaid Services (CMS), 2010) which makes pain assessment and management more complex. While licensed nurses have the required education to perform pain assessments, they have onerous workloads in nursing homes (Dellefield, 2008). This workload is compounded by the fact that 97% of United States (US) nursing homes operate with staffing levels below the minimum recommended by the Centers for Medicare and Medicaid (CMS) (Kim, Harrington, & Greene, 2009).

Nursing home certified nursing assistants (CNAs) spend three to four times more time with residents than licensed nurses do (Gist & Hetzel, 2004). In the limited amount of research that has explored how CNAs understand cognitively impaired nursing home residents' pain, the concept of *knowing* is a strong theme. Findings from these studies suggest that CNAs develop familiarity with residents through close contact, observations, and relationship-centered cues that allow them to identify changes in their behavior (Clark, Jones, & Pennington, 2004; Cohen-Mansfield & Creedon, 2002; Flacker, Won, Kiely, & Iloputaife, 2001; Menten, Teer, & Cadogan, 2004; Molony, Kobayashi, Holleran, & Mezey, 2005). In addition, CNAs can distinguish pain-related behaviors from those associated with other factors such as hunger and attention seeking (Cohen-Mansfield & Creedon, 2002; Menten, Teer, & Cadogan, 2004). This distinction is especially important when assessing pain in those who are cognitively impaired and/or non-verbal (Clark et al., 2004; Mezinskas, Keller, & Luggen, 2004). However, the fact

remains that in most cases CNAs do not have formal training in pain assessment. Therefore a disconnect exists between what certification prepares CNAs to do and what CNAs do in practice. This practice-knowledge gap suggests that CNAs' ability to recognize pain in cognitively impaired nursing home residents relies on the fact that they *know* residents. However, with so little research addressing the importance of knowing for CNAs, questions remain. Existing research does not define what is meant by *knowing*, and does not draw conclusions as to whether CNAs' knowing residents contributes to the mitigation of their pain, or facilitates more extensive or accurate reports of pain.

The purpose of this paper is to describe how CNAs know their residents and how this knowledge informs pain management. It is part of a larger study that was undertaken to examine how CNAs understood pain in their cognitively impaired nursing home residents (Halifax Dissertation, 2013). Specifically, this paper explored what knowing a resident means, how CNAs' perceive knowing, and how that knowing comes about.

Background

The concepts of *knowledge* and *knowing* are complex. Within traditional epistemology, knowledge is given to be a justified belief, where justification comes from evidence involving perception, introspection, memory, reasoning, or testimony that is true (The Stanford Encyclopedia of Philosophy, 2005). Knowing is a universal concept, and nursing scholars have addressed the issue of what knowing means in the context of their profession. They emphasized the need to look beyond the traditional empiric model of knowledge, to include aesthetic, personal and ethical knowing (Carper, 1978). Benner (1984) highlighted the importance of intuition as a component of knowing by describing how intuitive judgment distinguished the expert nurse from the novice (Benner, 1984).

Sociopolitical knowing, allows the nurse to contextualize the nurse/patient relationship (Billay, Myrick, Luhanga, & Yonge, 2007). Although these ways of knowing are specific to licensed nurses, they may have application to CNAs, because of similar work in similar environments.

Methods

This qualitative study used Grounded Theory methodology, an approach with the broad goal of exploring social processes that derive from human actions and interactions. The ultimate aim is to evolve theories that explain data, giving researchers a way of addressing the complexities of social phenomena (Strauss & Corbin, 1998).

The theory of Symbolic Interactionism frames the social and cultural context of this study. The social processes being studied that determine how the pain of residents with cognitive impairment is understood are derived from the actions and interactions among CNAs, licensed nurses, and the residents who are experiencing pain. The underlying assumptions for this study were that pain is subjective and includes biological, psychological, and social dimensions and that behaviors can be interpreted as indicators of pain, especially in individuals whose cognitive impairment impedes communication.

Participants and Settings

This study took place at two sites in an urban environment: memory care units within a large county run hospital, referred to as “Buena Vista” (BV) and a corporate owned for-profit nursing home, with 99 bed capacity, referred to as “Haverford” (HF). These two sites differed in their size, location, funding sources, historical background, union affiliation and community profile.

A convenience sample of 16 CNAs participated. All had worked at one of the sites for a year or more and were English speaking. Each participant received a \$20 gift certificate. This study was approved by the University of California San Francisco's Committee on Human Research, and the Research Oversight Committee at BV.

Data Collection

After obtaining written informed consent, participants' interviews were conducted using a semi-structured interview guide, tape recorded, and transcribed verbatim. Interview questions included asking CNAs how they knew their residents had pain or were comfortable, and what they did if a resident had pain. In addition, data were collected through demographic questionnaires; field notes from observations at meetings with nurse leaders, end of shift report meetings, classes and interviews; review of policies and procedures; and site profile questionnaires.

Data Analysis

Grounded Theory inductive guidelines were used for the collection, analysis, synthesis, and conceptualization of the data. The use of constant comparative analysis meant data were reexamined throughout the life of the research project in a non-linear fashion. This approach led to the identification of codes (i.e. patterns in the data), categories, and common themes as well as relationships among these elements (Strauss, 1987).

Ensuring Rigor

In order to demonstrate with clarity how findings were identified and conclusions were drawn, methods for ensuring rigor were employed. These approaches included methodological transparency, the collection of rich and sufficient data, and reflexivity

undertaken by the researcher to examine her preconceptions and biases. Agreement was established between sets of data from different sources. For example, as themes from interview data became apparent, subsequent interviews included questions relating to those themes and data from interviews were compared and contrasted with field notes taken when observing meetings. Discussions with a peer group of qualitative researchers and the researcher's academic advisor took place at each stage of the study.

Findings

Sample Characteristics

A total of 16 interviews were conducted with CNAs, 11 from BV and 5 from HF (see Table 1). The CNAs had an average age of 45.6 years, and three were male. Fourteen were born outside the United States (US) (11 were from the Philippines, three from Central America) and had lived in the US an average of 19.9 years. Five of the CNAs had completed a bachelor's degree or higher, four had at least two years of college education; one was qualified in her country of origin as a licensed vocational nurse; four had education to 12th grade; and two had education to 9th grade. All of the qualifications above high school were attained outside of the US. The average experience working as a CNA was 15.4 years, while the average years of experience at the nursing home where they were interviewed was 11.7. Compared to the HF site, CNAs at the BV site were more experienced, better educated and older. All names in this manuscript are pseudonyms.

Knowing a Nursing Home Resident

CNAs initially characterized their understanding of the residents they cared for as intuition: they ‘just knew’ their residents had pain. However, analysis revealed two processes: ways of *knowing* and how that *knowing* was achieved.

Ways of Knowing

CNAs described two ways of “knowing” residents. *Working knowledge* was described as knowing residents in a way that made working with them efficient and successful. This *working knowledge* became the foundation for *knowing residents as individuals*, which gave a deeper understanding of the residents and their behaviors as well as meaning and satisfaction to the CNAs’ work. Both ways of knowing allowed CNAs to understand a resident’s ‘normal’ behavior and observe and interpret any changes that occurred due to issues such as pain or emotional upset.

Working Knowledge

In describing what they meant by knowing in this context, CNAs talked about understanding what a resident needed, wanted, liked, and disliked. This familiarity allowed them to recognize and anticipate the behaviors and reactions of their residents.

From head to foot — I know my resident, what they want, what they don’t like, what the kind of outfit they want, I know them (BVCNA09, 209-10).

When asked how long it took to get to know a resident in this manner, most CNAs thought that it varied depending on the resident, but generally thought that it would take a week or less. The emphasis was on knowing a resident’s routine: “I should know their routine, what do they want” (BVCNA02, 658-9). When this kind of knowing was achieved, it facilitated a good working relationship where CNAs could anticipate needs and recognize deviations from normal behaviors or mood.

Knowing the Resident as an Individual

In gaining *working knowledge* CNAs saw residents as having individual needs and routines, but with the development of a social relationship this knowledge deepened and CNAs perceived residents as discreet individuals.

I like the patients. They're fun; they're a joy [laughter], each and every one of them in their own way. They're just really unique people (BVCNA19, 613-5).

Through this understanding, emotional attachments formed and were clearly described as mutual.

I know that resident maybe five years, six years. I love this resident. He had a sense of humor. You know, when I work 16 hours, he's the only one who take care of me. (He says) 'Don't work hard, Rosa'...I'm happy, because he told that to me. My family does not say, 'how are you, where are you', but this one, I really admired this resident (BVCNA09, 300-8).

Social relationships were frequently expressed as kinship, with numerous references to residents 'being like' parents or family.

I get attached to a resident, and I love my parents, so I treat them like my parents...with love, yeah (HWCNA04, 45-6).

This comparison of residents to family humanized residents in the eyes of CNAs, providing a culture where empathy could develop: "...because if the person is in pain, I'm also in pain" (BVCNA01, 664). Illustrations of empathy included CNAs relating residents' pain to the experiences of others they knew (their children, parents, themselves). For example, this CNA compared her own experience with immobile residents:

...when I used to have a long trip to Philippines; it's hard when you're sitting in an airplane for that long. So I know how it feels if you've been sitting or lying down on one side for a long time... (HWCNA04, 143-6).

Another CNA expressed empathy for the experience of being institutionalized.

If somebody (a resident) gets upset with you, you just try to don't take it personal, because that's not a good thing... You have to think that you're going home, and they're going to be here 24 hours, you know? I always think about that... I just want to make them happy, because I'm going home at 3:30 and they're going to be here 24 hours (BVCNA14, 138-43).

Along with a deeper understanding of the resident, knowing the resident as an individual gave meaning to CNAs' work, increasing their job satisfaction. These CNAs described how connecting with residents (through love) makes their work worthwhile.

You're working for the people, working for the salary, but working with love, you're working with love, you're making good, yeah. If you're not working with love — only account for the money — you're not better (HFCNA02, 493-6). I love taking care of, you know, the people... I'm happy when I come here, not like the other people, you know, that when they go to work, 'oh, I'm going to work again', like that. But for me, when I come here, I'm happy. There's no regrets, you know? (BVCNA02, 831-8)

Both *working knowledge* and *knowing the resident as an individual* are influenced by how this *knowing* comes about.

How CNAs Come to Know Residents

CNAs frequently referred to themselves as being on the *front line* of care, and consequently well-positioned to understand their residents.

... It's like in the military with the marines. We're the front liners... We feel, we hear, we smell, everything... (BVCNA01, 538-41)

This understanding of residents' usual ways of being was accomplished mainly through interactions with residents, but also by communication with families and colleagues and from residents' records. As developing *knowing* was reliant on CNAs spending time with residents, it was found to be influenced by institutional *assignments and workload*.

Spending Time Together

Interactions between CNAs and residents allowed *knowing* to develop. As one CNA noted: "...if you are the only one dressing them every day...you know them"

(BVCNA14, 220-2). CNAs perceived that *knowing* was primarily achieved by being together and was promoted through verbal communication and bonding through touch.

Even in residents with communication impairments, verbal exchanges were valued by CNAs, for example:

...but some people, no (cannot speak) -- only you speak, but (they) understand when you say something... You say 'you feel something?' You say 'you want more juice?' 'You don't like it?' (HFCNA02, 81-4)

Such conversations were described as the first and most important step in getting to know residents.

I think communication is number one. Communication is very important for me, you know? Even if it's a difficult patient, if you talk to them, they understand, they listen to you, and you have to be friendly (BVCNA14, 135-8).

Because of the nature of their work, CNAs are involved in giving intimate care.

Touch was described as a means of knowing and being known by their residents. This CNA described bonding through touch.

...you know, when you touch them, you — like you love them already, yeah, because you have contact with them (HFCNA01, 84-6).

This quote exemplifies how residents can recognize a CNAs' touch.

I know he's in pain...he's moaning, you know?...And then I start, you know, like touching, because of the consistent assignment, then they know you (BVCNA10, 125-8).

CNAs described how touch elicited reactions from residents like moaning or grimacing which they interpreted as pain. They used touch therapeutically to relieve pain and to give comfort.

Assignments and Workload

CNAs talked about how their workload and assignments influenced how much time they were able to spend with residents, and the quality of that time. CNAs described

assignments as *regular/consistent* or *floating/relieving*. In addition they discussed the advantages or disadvantages of these positions. Workload was influenced not only by the number and acuity of the residents a CNA was assigned to care for, but by perceived short-staffing, and working more than 40 hours a week either as overtime or at a second place of work.

The definitions of a regular assignment varied between sites. At BV a *regular* CNA was someone who cared for the same group of residents 5 days a week, or for 2 or 3 days each week. These CNAs were usually more senior with longer experience at BV. At HF, a *regular* was described as a CNA who cared for assigned residents within one station (residential unit). The site had 4 stations with between 21 and 29 residents when full. CNAs were given rotating assignments within stations, so they would become familiar with all residents.

Floater or *relievers* were those CNAs who worked where they were needed to cover the absences of *regulars*. At BV they were most often given assignments within one unit of 20 or 60 residents, they were usually less senior CNAs who had worked for a shorter time at BV. At HF, being a *floater* meant that they were assigned to different stations.

Consistent assignment was a policy at BV supported by the recommendations of outside consultants with the goals described here by a nurse manager:

So we wanted to implement (consistent assignment) instead of having an institutionalized way of caring for our residents, we wanted it to be homelike, more...individualized care. (BVLN02, 266-71)

A regular assignment was described as positive because it allowed knowing to develop between both the CNAs and their residents.

...they (nurse managers) prefer us to stick with the same residents, because they (residents) get used to us, knowing our faces, and we get to learn each other's routines...I would say it's more consistent. Like I say, you know your resident, you know their behavior, and they're used to you, (BVCNA20, 32-3 and 41-2).

Few disadvantages to having consistent assignments were mentioned, although issues of sharing the burden of "difficult" residents were a concern. As this CNA explained:

"Some assignments were a little bit harder than others, so we started rotating to be fair"

(BVCNA20, 29-30).

Some CNAs preferred a floating assignment and described enjoying the variety in their work and dealing with the unexpected. However a resident being cared for by a floater was seen to be at a disadvantage.

...if it's a float that comes in, they don't know what they're doing, they're told what the resident's all about, they give them a report — each patient — however, of course, the resident will feel uneasy and they may think — they feel unsafe about not being cared for the proper way as the regular does, (BVCNA01, 442-46).

CNAs at both sites felt that short staffing was an issue at times, for example:

Well, we need more staff, because right now we're already short in staff, and I know the budget cuts. And having more staff like that, just for a few hours of their time, or even volunteers on a weekday — and it's asking too much — but that would really help a lot, (BVCNA01, 873-5).

Nurse Managers reported ratios of CNA to residents as 1:8 and 1:7 morning shift, 1:14 and 1:15 afternoon shift and 1:18 and 1:20 night shift respectively for HF and BV. CNAs expressed a sense of being rushed and unable to give residents the attention they needed.

It's hard, because like I'm telling you, we don't have sometimes enough time for them (residents), or sometimes they are calling you, like three or four at the same time (HFCNA03, 585-7).

Slow down the morning schedule...that would be nice. The morning is very stressful. You have to get a lot done in a short period of time, (BVCNA19 649-51).

One licensed nurse at HF estimated that over 90% of CNAs were working outside of HF, the majority on their days off, but others doing regular 16 hour days. CNAs at BV did not talk about working outside the facility, but CNAs were quite vocal about the difficulties of being asked to do overtime. For more junior CNAs, overtime was described as mandatory, and was taxing. As one CNA stated: “I’ve worked double shifts a lot and, whew, you know, it takes a toll on your body” (BVCNA19, 627).

Learning About the Resident from Others

CNAs got to know residents through information they gleaned from their family members and members of the interdisciplinary health care team. Some of this information was background and history, and some pertained to care planned and implemented. Sources of information included informal discussions with family members and colleagues as well as meetings and documentation.

Family members - Information from family members was not of great significance in reports from CNAs of how they came to know their residents. Many CNAs noted that family members were not present for residents, and others said that they were seldom helpful. A reticence was expressed about discussing the resident with family members. This seemed to stem from a combination of adhering to rules of confidentiality and a questioning of relative’s motives for discussing their family member. However, talking to family members who were engaged gave important information about resident’s lives before admission such as basic knowledge of their routines (including history of incontinence, bathroom use, food preferences, bed times), more complex discussions about interpreting behaviors (e.g., what it meant when a resident cried), and contextual social information about the residents’ history (e.g., what they used to do,

what they prefer to be called). For example, this CNA explained she could give better care to residents who had Alzheimer's disease if she asked family members:

...if they are incontinent...if they know how to communicate when they want to go to the bathroom, which kind of food they like, which activities they like to do, how they like to be called? (HFCNA03, 420-3)

Colleagues. CNAs reported learning about residents from co-workers, including CNAs, licensed nurses, and other members of the interdisciplinary team such as a palliative care nurse specialist, physicians, social workers and psychologists.

My fellow workers (help) a lot...very much, I mean, in the morning when we have a meeting, or during the course of the day, they communicate to me, 'hey, so-and-so needs this', or 'I did this for them', or 'you should do that', and I take their suggestions, and I listen to them, you know? It's valuable information... Since I've worked here actually, they ...have helped me go right up the ladder to get to know them (residents) quicker, (BVCNA19, 461-70)

As well as one-on-one conversations, CNAs identified accessing this information through meetings and documentation.

Definitions of report at change of shift varied between the two sites. However, at both sites it was described as relating to changes in residents' condition over the past 24 hours. At BV, a relatively new innovation involved CNAs attending and participating at some reports during the 30 minute overlap of CNAs between shifts, but attendance varied by unit and time of day. At HF, no overlap of CNAs occurred, one shift clocked out as the other arrived. Report consisted of the licensed nurse updating CNAs. Most CNAs valued reports as their opportunity to hear more specific information from licensed nurses with deeper knowledge. This report was especially important to CNAs when residents were new admissions. However, some CNAs found the reports unhelpful and a distraction from priorities.

...sometimes they (other CNAs) listen (to report), sometimes they don't. It gets so loud. I'm being honest, because there's a lot of talking going on...I report and there's no one actually watching...so I'm normally going to stay at the nursing station, so I can watch the residents (BVCNA20, 363-8)

CNAs at BV spoke of initiating rounds with each other at change of shift, generally considered very helpful. They had opportunities to participate in interdisciplinary case conferences to discuss individual residents and described these experiences as a good way to learn more about residents.

It was very interesting to hear. I learned a lot about 'Pam' in just 15 minutes that I didn't know, you know? So those meetings are great (BVCNA19, 535-7).

There were insufficient data to conclude what CNAs learn about their residents from documentation. The purpose of documentation seemed to be more an issue of compliance than information for CNAs. CNAs variously described reading residents' medical histories as an expectation for CNAs, something which they were allowed and encouraged to do, but that was not always possible because of time constraints and skill. Many did feel it was important to be familiar with the care plan, but in reality, it seemed that the documentation used by CNAs was limited to a summary ("Cardex") at HF and the Daily Nursing Care Record (commonly called the ADL sheet) at BV. Both types of documentation were effectively check lists which each CNA completed for each resident at the end of shift.

Discussion

This research was undertaken to explore how CNAs understand pain in their cognitively impaired nursing home residents. Findings from this study, presented elsewhere, suggest that CNAs have a valuable role in the pain management of nursing home residents, through perception, interpretation, and responses to pain (Halifax

Dissertation, 2013). Findings presented here suggest that *knowing* a resident underpins a CNAs' ability to understand a resident's needs, and provides insights of what *knowing* a resident means to CNAs and how *knowing* comes about.

“Knowing” has been described as ineffable (Carper, 1978), and the intuitive nature of this concept was reflected in these data with comments like “*I just know.*” However, two ways that CNAs know residents were identified: *working knowledge* and *knowing the resident as an individual*. These types of knowing grew out of resident and CNA interactions, verbal communications, bonding through touch, and learning about the resident from others (communication with family members and colleagues, attending meetings, documentation).

Having *working knowledge* by being familiar with residents' routines and preferences was found to give CNAs a pragmatic advantage when working with residents. Being able to anticipate residents' needs and preferences made giving care efficient and successful. Interestingly, it was identified as something that could be learned within a few shifts.

Knowing residents as individuals allowed CNAs to know their residents more deeply, as contextualized individuals. Learning from residents and others, CNAs saw residents as spouses, parents, and grandparents, as well as people who have worked and played. CNAs attributed qualities of kinship to residents and together they formed mutual emotional attachments that encouraged empathy, trust, and advocacy. CNAs perceived residents as feeling cared for, and felt needed and cared for too. This approach resulted in care that went beyond meeting basic physical needs, and created conditions for potentially perceiving, anticipating, and meeting residents' psychological, social, and

spiritual needs. Knowing a resident as an individual facilitates quality resident-centered care for residents and meaningful and satisfying work for CNAs.

In their phenomenological research on the development of expertise in critical care nursing, Tanner and colleagues (1993) identified *knowing* the patient as central to making skilled clinical judgments (Tanner, Benner, Chesla, & Gordon, 1993). They identified two ways of knowing: knowledge of patients' patterns and responses and knowing the patient as a person. While the participants in the two studies were different, the ways of knowing identified are similar. This commonality lends credibility to the findings related to CNAs, and support the finding that their perceptions and responses to residents' pain was underpinned by their *knowing*.

Intuitive knowledge in nursing practice was found to play a major role in competent care (Billay et al., 2007). As described in this paper, CNAs' *knowing* goes beyond a dependence on the empiric knowledge of 'how to' undertake given tasks. Knowing allows them to meet the needs of individuals using intuition and reason with knowledge gained from social relationships they have formed. Their work is artful and creative.

Developing both types of *knowing* depends on spending time with and learning about residents from others. These findings are supported by previous nursing home studies that included CNAs (Cohen-Mansfield & Creedon, 2002; Flacker, Won, Kiely, & Iloputaife, 2001; Mentis, Teer, & Cadogan et al., 2004), where a common theme of *knowing* was identified. Knowing a resident through spending time, giving intimate care, and forming emotional attachments allowed CNAs to recognize deviations from normal behaviors that indicated pain. Spending time together in this context is situated within the institutional realities of assignment and workload. Whether a CNA worked with the same

residents each shift influenced the development of *knowing*. Consistent assignments were favored at both BV and HF. Nationally however, less than half of CNAs surveyed reported having a consistent assignment (National Center for Health Statistics, 2004). The number of residents CNAs care for during each shift affects the amount of time they spend with each resident. CNA staffing at HF was reported by the state survey to be 2.1 hours per resident day (HPRD), much below average, and 3.25 HPRD (well above average) at BV. These data compare to the California state CNA staffing average of 2.68 HPRD (Medicare, Nursing Home Compare: www.medicare.gov). CNAs at both sites reported feeling rushed, stressed, and having too little time with each resident. Developing knowing could be impacted by fatigue and stress caused by working more than 40 hours a week. CNAs described overtime as burdensome, and low rates of pay at HF (reported by nurse manager as \$14/hour) compared to BV (reported by nurse manager as \$25/hour) may account for the high number of HF CNAs estimated to be working more than one job.

Several study limitations need to be acknowledged. The sample size was relatively small, but sufficient rich data were collected for a grounded theory analysis. Data were collected in one urban area. While efforts were made to interview CNAs from all three shifts, no night shift workers volunteered for the study. Without direct observation of CNAs caring for residents, interview data may reflect CNAs giving what they perceive to be the *right* answers rather than reflecting their actual experience. However, consistency throughout the interviews suggests that CNAs' responses reflected their experience. Finally, data were not collected on residents who were cared for by

CNAs and so it is not possible to describe how the prevalence of pain and/or cognitive loss in residents affected *knowing* a resident.

Despite these limitations, the study had the advantage of being conducted in two facilities that differed in many ways that included staffing levels and compensation. In collecting data at both sites, the pool of potential CNA participants was more varied. Capturing a broader range of characteristics such as ethnicity, experience as a CNA, previous work experience, and working on general or specialized dementia units, added to the diversity of data gathered and made the discovery of common themes more compelling.

The advantages of CNAs knowing their residents appear clear from the findings: CNAs who know their residents are able to practice resident-centered care, with all the benefits that has for residents. In addition, CNAs find working with residents who they understand as unique individuals meaningful.

The findings from this study would suggest that nursing home management should encourage and facilitate knowing through:

- *Assignment* Making assignments consistent (having the same CNAs work with the same residents) within the context of a well-balanced workload allowing for residents' differing acuity and the skill-mix needed to care for them, would help CNAs to come to know their residents. Facilities could go further, and some do, matching residents with CNAs by commonalities and preferences (for example language, culture and background).
- *Training* Offering education to develop expertise in knowing residents would also be helpful, with the promotion of activities and exercises that develop trust and empathy,

which could involve residents as appropriate (e.g. reminiscing, trust games, sharing music).

- *Improving the quality of CNA jobs* Strategies to avoid staff shortages, onerous levels of overtime, and adequate wages to prevent the economic necessity of working more than 40 hours per week, could improve the quality of CNAs' jobs.

Given the importance of *knowing* to the care of residents, further research in this area, including direct observation of CNAs at work, would be valuable to explore what ways of *knowing* (working knowledge or knowing the resident as an individual) influence pain management, and what factors (for example training, environment, CNA characteristics) influence how knowing comes about. In nursing homes, where an estimated two-thirds of residents are cognitively impaired, knowing the resident in order to manage pain and support clinical judgments may be especially significant.

Table 1: Characteristics of CNA Sample (n=16)

| Gender | | Years as a CNA | | Years at BV or HF | | Age (Years) | | Years Lived in US* | | Education | | |
|--------|----|----------------|-------|-------------------|-------|-------------|-------|--------------------|-------|-----------------------|------------------------|-------------------------|
| M | F | Average | Range | Average | Range | Average | Range | Average | Range | 9 th grade | 12 th grade | >12 th grade |
| 3 | 13 | 15.4 | 4-33 | 11.7 | 1-31 | 45.6 | 27-62 | 19.9 | 7-34 | 2 | 4 | 10 |

*N=14 as two participants born in the USA

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CHAPTER VI: PAPER 3

The Role of Certified Nursing Assistants in Managing Nursing Home Residents' Pain:
Licensed Nurses' Perceptions

Elizabeth Halifax

Abstract

Background - Pain of nursing home residents, especially those with cognitive loss, is inadequate. Nurse staffing levels are consistently lower than recommendations, especially for licensed nurses (LNs), and the majority of care is performed by certified nursing assistants (CNAs). Our understanding of CNAs' role in managing the pain of nursing home residents is limited.

Objective - The purpose of this paper is to describe LNs' perceptions of CNAs' role in pain management.

Study Design - A qualitative Grounded Theory study was undertaken at two nursing homes, where 10 interviews were conducted with LNs in leadership positions. A semi-structured interview guide was used and interviews were tape recorded and transcribed verbatim. Analysis used grounded theory methods of constant comparative analysis.

Results - LNs perceived CNAs to have a positive role in pain management. CNAs' reports often initiated pain assessments and LNs were respectful and appreciative of CNA input. However, their reliance on CNAs may have evolved as a reaction to inadequate staffing.

Conclusion – It is important to understand the work CNAs do, and how it impacts pain management. Further research would be valuable to explore how LNs understand CNAs' work, how much they rely on CNAs' insights and reports of resident pain, and what communication strategies are used.

Introduction

Pain is a significant problem for nursing home residents with estimates showing that between 45% and 80% of residents have chronic pain (Reynolds, Hanson, De Vellis, Henderson, & Steinhauser, 2008). The under treatment of pain is a concern for major organizations including: The Centers for Medicare and Medicaid Services, (2009); The Institute of Medicine, (2008); and The Joint Commission, (2009). However, assessing pain in this population is complicated: residents have multiple chronic illnesses and disabilities. In addition, an estimated two-thirds have impaired cognition (Jones, Dwyer, Bercovitz, & Strahan, 2009). Furthermore, comprehensive pain assessments take time.

Currently, nursing care in nursing homes is provided by licensed nurses (LNs) (i.e., registered, licensed vocational/ practical nurses) and certified nursing assistants (CNAs). The LNs are responsible for the clinical care of residents, including pain management. In addition, they dispense medications, complete treatment orders, and document care, as well as perform managerial and supervisory duties (Dellefield, 2008). However, LN staffing levels are low. In California, where this study was conducted, the median total hours per resident day (HPRD: the number of staff hours per day divided by the number of residents) is 3.26, with LNs contributing 0.30 HPRD to CNAs' 2.96 HPRD (Harrington, 2002). This calculation means LNs have a median of 18 minutes every 24 hours per resident to provide care. Therefore, the majority of care given to residents is provided by CNAs. They may be the first or only individuals to witness pain behaviors or hear about the pain of residents for whom they care.

While no studies have evaluated how LNs perceive the role of CNAs in pain management, a limited amount of data suggest that CNAs find themselves taking

responsibility for managing their residents' pain, despite their minimal training which rarely includes issues related to pain assessment (Sengupta & Harris-Kojetin, 2010). Through spending time, giving intimate care and forming emotional attachments to residents, CNAs recognize deviations from normal behaviors that indicate pain (Cohen-Mansfield & Creedon, 2002; Flacker, Won, Kiely, & Iloputaife, 2001; Mentes, Teer, & Cadogan, 2004). In addition, CNAs have the ability to anticipate pain (Blomqvist, 2003; Mentes et al., 2004) as well as recognize and describe resident's pain (Wright, Varholak, & Costello, 2003). They were able to identify specific behaviors indicative of pain (Cohen-Mansfield & Creedon, 2002; Mentes et al., 2004), especially in those residents with cognitive impairment. CNAs were described as "taking action" to report and manage pain (Blomqvist, 2003; Mentes et al., 2004). These actions included making sure medications were given, working gently, distracting residents, and inspecting residents for causes of pain. From this research, little is revealed about how licensed nurses, who are ultimately responsible for residents clinical care, recognize or value such contributions by CNAs to pain management.

The purpose of this paper is to describe how nursing home LNs perceived CNAs' role in the management of residents' pain. It is part of a larger study that was undertaken to examine how CNAs understood pain in their cognitively impaired residents and to better understand their role in pain management (Halifax Dissertation, 2013). This paper describes LNs' perceptions of how CNAs' individual skills and experience, their familiarity with residents, their ability to identify residents' pain, and their place as members of the pain management team influence pain management.

Methods

This qualitative study used Grounded Theory methodology, an approach with the broad goal of exploring social processes that derive from human actions and interactions. The ultimate aim is to evolve theories that explain the data, giving researchers a way of addressing the complexities of social phenomena (Strauss & Corbin, 1998).

The theory of Symbolic Interactionism frames the social and cultural context of this study. The social processes being studied that determine how the pain of residents with cognitive impairment is understood are derived from the actions and interactions of CNAs, LNs, and residents who are experiencing pain. The underlying assumptions for this study were that pain is subjective and includes biological, psychological, and social components and that behaviors can be interpreted as indicators of pain, especially in those whose cognitive impairment impedes communication.

Settings and Participants

This study took place at two sites in an urban environment: memory care units within a large county run hospital, referred to as “Buena Vista” (BV), and a corporate owned for-profit nursing home, with 99 bed capacity, referred to as “Haverford” (HF). These two sites differed in their size, location, funding sources, historical background and community profile, as well as organization, staffing levels, union affiliation, and compensation.

A convenience sample of 10 LNs participated. All had worked at one of the sites for six years or more and were English speaking. All supervised or managed CNAs. Each participant received a \$20 gift certificate in acknowledgement of their time. Approval

was obtained from the University of California San Francisco's Committee on Human Research, and the Research Oversight Committee at BV.

Data Collection

After obtaining written informed consent, participant interviews were conducted using a semi-structured interview guide, tape recorded and transcribed verbatim. Interview questions included asking LNs what role they thought CNAs had in recognizing and reporting pain, and how they thought CNAs responded or acted when they recognized residents' pain. In addition, data were collected through demographic questionnaires; field notes from observations at meetings with nurse leaders, end of shift report meetings, classes and interviews; review of policies and procedures; and site profile questionnaires.

Data Analysis

Grounded Theory inductive guidelines were used for the collection, synthesis, analysis, and conceptualization of the data. The use of constant comparative analysis meant data were reexamined throughout the life of the research project in a non-linear fashion. This approach led to the identification of codes (i.e. patterns in the data) and categories as well as common themes and relationships among these elements (Strauss, 1987).

Ensuring Rigor

Methods for ensuring rigor included methodological transparency, the collection of rich and sufficient data, and reflexivity undertaken by the researcher to examine her preconceptions and biases. Agreement was established between sets of data from different sources. For example, member-checking between LNs was undertaken and data

from interviews were compared and contrasted to field notes taken when observing meetings. Discussions with a peer group of qualitative researchers and the researcher's academic advisor took place at each stage of the study.

Findings

Sample Characteristics

All ten LNs interviewed held leadership roles within their settings. All were women. Seven were registered nurses (RNs) and three were licensed vocational nurses (LVNs). The average age of the participants was 55.1 years. Only one was born in the United States (US). Seven were from the Philippines, and two were from South America. Those born outside the US had lived here an average of 27 years. Three had completed education to Master's level; four had a Bachelor of Science in Nursing. Their average experience as a LN was 24.7 years, and the time they had worked in the nursing home where they were interviewed averaged 20.9 years. Variations between the two sites included the fact that participants from BV were more experienced and had higher levels of education, (See Table 1).

Licensed Nurses' Perceptions of CNAs' Role in Pain Management

Participants appreciated the unique position that CNAs held in being 'the first' to know if a resident had pain. However, perceptions of how CNAs contributed to the management of pain varied depending on how the LN viewed an individual CNA's attributes and background.

...some people (CNAs) are more sophisticated...have a larger background and pool of that information (to identify pain cues) (BV01, 101-2).

Participants identified positive attributes of CNAs that informed pain management. They described appreciating CNAs who had experience, in part because it meant they had

accumulated skills. For example, in responding to the question ‘what helps a CNA recognize pain?’ this LN responded: “...the skills that they got from their experience and years that they’re working” (HF02, 619). In describing the general work of a CNA, LNs identified specific skills and qualities that were valued and helped in the management of pain. They included communication skills, a positive attitude, being flexible in working, compassion, and empathy. For example, in describing how it was necessary to have a vocation to work effectively as a CNA, this LN stated that “You have to have empathy with the people to work (as a CNA)” (HW04, 219). CNAs’ need to take a holistic approach was emphasized, with LNs appreciating it when CNAs looked beyond basic physical needs, not, for example, over-focusing on bowel movements. As one nurse noted “I don’t want this to be a poo-poo-pee report” (BV03, 470). Another LN told of how a resident was sedated because she would scream every morning when she got up until her CNA realized that she was afraid of her own reflection in the mirror next to her bed.

Whilst experience was valued, participants recognized the dangers of burnout amongst CNAs and the possibility of them becoming desensitized to residents’ behaviors. One nurse manager addressed this point when she described CNAs missing pain cues:

I think that sometimes if they hear it day after day after day, they may not be as proactive as I’d like (BV01, 56-7).

Another described how over familiarity could lead to the acceptance of behaviors:

...when there’s a patient that becomes combative, or maybe that’s been her behavior in the past... (It’s) like they’re used to it, like they will say, ‘oh, she’s been like that, you know’ (HF01, 206-9).

At the same time the nurses described how CNAs could contribute to pain management by identifying residents’ pain and working with the team. These contributions were perceived to be underpinned by the CNAs’ familiarity with the

residents, a familiarity that was acquired through social interactions with residents, colleagues, family members, and friends. Familiarity was in turn influenced by work assignments, and workload.

Familiarity

The LNs credited CNAs with knowing their residents well and having a unique perspective which allowed them to identify changes in residents' behaviors.

They know the resident better than I do, than any other disciplines in the resident care team, because they see the resident's reaction day by day in response to their care. So even the facial expression, you know, their body reaction to care, that's how they identify that if there are changes, then that's one of the things that they will look at 'is she in pain?' (BVLN02, 52-7).

This familiarity was seen as coming about through social interactions between residents and CNAs afforded by consistent assignments (CNAs caring for the same residents each shift). Workload, which determined how much time CNAs had to spend with individual residents, as well as background information about residents that CNAs obtained from colleagues, family members, and documentation, also influenced familiarity.

Assignments Management at both sites favored consistently assigning the same CNAs to the same residents as much as possible. These policies varied, with BV assigning specific residents and HF, groups of residents. The policy was explained at both sites as a means to promote familiarity between residents and CNAs.

... (CNAs) take care of them five days a week, eight hours a day, or sometimes even more...so just by looking, you know, there's something wrong...having consistent assignment really, really helps in assessing the resident (BV03, 168-174).

In talking about the advantages of a consistent assignment, this nurse manager explained how knowing a resident can help in identifying pain:

...you have to go to each person kind of individually. So, like when I go to 'Elizabeth', 'Elizabeth' may actually tell me she's in pain, or demonstrate she's in pain. But with some cultures, they believe in being stoic and so you may not get the read you think you are looking for. And so there's a need to look a little deeper, (BV01, 371-6).

It was mentioned at both sites that consistent assignment was also favored by residents:

"We try...to rotate them (CNA assignment), but basically the residents want them to be their CNA" (HFLN02, 274-5). By introducing consistent assignment this nurse manager explains:

...we're meeting the needs of the resident more. That's one of their concerns, you know, brought up in the resident satisfaction survey (BV03, 205-7).

Further support for consistent assignment came from the idea that it was beneficial for those with dementia, "...we identify that fairly early on in dementia that it was best to have the consistent caregiver" (BV01, 143-4), and that it resulted in residents being more settled:

...the patients are calmer if they have the same staff all the time. And so that prompted our...permanent assignments (BV07, 432-3).

Consistent assignments were described as helping with the management of residents described as 'difficult'. This nurse manager said that in her experience familiarity made dealing with such difficulties easier over time.

...day after day, and then months, it gets easier. So even though they're (residents) difficult, they're (CNAs are) used to it (BV03, 241-3).

Nurses reported that CNAs without a consistent assignment, known as "floaters", were disadvantaged because they lacked familiarity with residents. For example:

...it can be very difficult for floats...who aren't familiar with the residents...if you don't know the detail of the residents' daily routine, then that would be a hindrance (BV02, 258-62).

Burden of Work It was estimated that over 90% of CNAs at one site worked two jobs and that this was driven by economic necessity. “Some of them are working seven days a week” (HFLN02, 106). This amount of work was seen to affect CNAs’ job performance.

“I do discourage them to work double job, because sometimes their work is affected” (HF02, 127-8)

If CNAs were going to another job after work, it meant it was hard to cover shifts with overtime. This unavailability led to short staffing or relying on CNAs to repeatedly work overtime. LNs described the effect of short staffing, stating for example:

Sometimes short staffing is...It’s a big one. Like, you know, you (CNAs) have a lot of residents to cover...you’re in a rush and maybe there’s — the residents probably are manifesting something that you could miss (BVLN03, 361-6).

...if you are in a hurry, you might tend to...you don’t really want to ignore it (pain indicators) — you might miss it, because you may get distracted with other things (BVLN02, 275-7).

These examples show that being short staffed, which resulted in each CNA being assigned more residents to care for, is perceived to impact the ability to recognize pain.

Sources of Information In addition to building familiarity with residents through consistent assignments, LNs viewed CNAs as learning about their residents from various sources including meetings (report and care conferences), medical records, and family members.

While definitions of report varied between the two sites, it was described at both sites as relating to changes in residents’ condition over the past 24 hours, and a place where CNAs could learn from colleagues about residents. At BV, a relatively new innovation involved CNAs attending and participating at some reports during the 30 minute overlap of CNAs between shifts, but attendance varied by unit and time of day. Attendance was thought to help CNAs recognize pain, for example, “I think the

conversation at change-of-shift really helps” (BVLN04, 239-40). At HF no overlap of CNAs occurred. One shift clocked out as the other arrived, therefore report consisted of the LN updating CNAs, although it was noted that report was given only if time allowed.

In case conferences or interdisciplinary team meetings held at BV, LNs viewed CNAs as necessary contributors.

So they’re part of the interdisciplinary care planning team that we do every week...So we ask (for) their feedback (BVLN03, 505-7)

However, CNAs were not always able to leave their duties to attend.

I struggle with that, because it’s really important for them to join, but sometimes they’re so busy, so I just tell them just drop (in for) five minutes and just give us your input...and so if they’re not able to stay in the meeting — the whole meeting, we’ll just update them (BVLN04, 216-20).

CNAs do have access to medical records. However, data from this study were not conclusive in determining whether medical records were viewed by LNs as a resource for CNAs, with responses varying from the definite “no”, because “basically it’s not their education” (HFLN02, 696) to a laissez faire attitude (they could look in the chart if they wanted) to a positive response:

...we encourage them to look at the chart and read what’s going on with the patient, so they get more familiar with the condition of the patient (HFLN03, 176-8).

Family members were viewed as a source of information for CNAs about residents that would promote familiarity.

Sometimes family members can help...I have an experience also that the family member is telling the CNA, you know, “if she’s like this, she might be in pain” (HFLN02, 624-30).

They rely a lot on information that we get from the discharge facility — or if they’re coming from home, from the family. And we try to meet as soon as possible with the family when they come from home, so that we know their routine (BVLN04, 216-20).

Familiarity with residents was perceived as essential in CNAs' role in contributing to pain management by identifying residents' pain and being part of the team. Development of familiarity was affected by the way assignments were made, the burden of work and whether information was available and accessed.

Identifying Residents' Pain

CNAs were seen to identify residents' pain by observing changes in behavior. For example:

They're (CNAs are) familiar with the routine of the resident, what the resident likes or dislikes, so (a) simple reaction by a resident (means)...they already know if the resident is uncomfortable or if the resident needs something (BVLN02, 196-9).

While residents' verbal self reports of pain were considered important in recognizing residents' pain, there were sometimes characterized as unreliable, or absent in those with dementia who are "not going to tell you if they're in pain" (BVLN07, 292). Pain behaviors were described as facial expressions; change in level of cooperation (such as being combative or resisting care); sounds (such as crying and moaning); decreased mobility; body language (such as restlessness or fidgeting); or changes in mood (not eating, wanting to be left alone).

Some LNs considered it part of a CNAs' role to differentiate behaviors, "it's the kind of balance...if it is behavioral or if it's a pain, they (CNAs) have to assess that" (HF03, 116-8). CNAs were sometimes attributed with being able to differentiate behaviors related to pain from other behaviors.

Well, sometimes, you know, a resident will have a behavior that's really resistant and they (CNAs) can recognize the difference between the behavior and when the residents are in pain (BVLN08, 202-4).

However, LNs also described CNAs as being limited in their ability to interpret behaviors. For example, CNAs' insights were described as superficial, only knowing "there's something wrong with their patient" (HFLN04, 102-3). Not all CNAs were seen to have the skills to differentiate behaviors, and, in this example, were considered to misinterpret behaviors.

If they're (residents are) just restless...they (CNAs) said... 'this resident is really restless, I think they need something to calm him down' instead of saying...that he might be in pain (BV04, 250-2).

At both sites, LNs spoke about the need to train CNAs specifically to help them to recognize pain, attribute changes of behavior to pain and differentiate pain behaviors from other behaviors. However, the sites differed in that LNs at BV described their training program as effective and comprehensive, covering topics of pain and dementia as a regular part of in-service training. At HF, it was difficult to establish what on-going training was happening.

Working with the Team

CNAs were viewed by these licensed nurses as a part of the pain management team. They valued CNAs' verbal reports of residents' pain, consulted them for their input in planning and administering care and appreciated that they implemented comfort measures.

In the process of managing pain, the CNAs' report was often perceived as the first step in pain assessment.

...getting information from the bottom up...that's where we're going to have our best success (BV01, 281-3)

Thus, LNs described relying on CNAs' reports of changes in residents' condition. When CNAs noticed changes in residents, "...they come to the charge nurses or their team

leaders right away” (BV02, 93-4). Such reports were valued and respected. Further, the nurses described consulting CNAs throughout the pain management process: when assessing pain daily, when giving treatments, at change of shift report, when completing Minimum Data Set (MDS) assessments, when writing care plans, and during case conferences. For example:

Usually the MDS (nurse) go to talk to them individually about patients, how they handle these patients during care, and how could they prevent this patient from suffering from pain. So my MDS (nurse) usually goes to each CNA and do some kind of assessment, what are the needs or help the patient needed (HF01, 493-7). (CNAs are) the important part of that (care planning meeting), because they’re the ones that are, you know, involved with taking care of the residents (BV03, 517-8).

This LN described the importance of CNAs’ input for residents who could not express themselves verbally.

...when I do my MDS assessments...I go to the CNA and I (ask them), ‘have you noticed any discomfort in your residents and how — why did you say your resident has a discomfort or pain?’ (BV08, 60-4)

At BV CNAs were encouraged to advocate for their residents, “I wanted to empower the CNAs. That’s why I wanted them to do the report” (BV03, 435-6). This nurse manager describes how CNAs became more involved in pain management:

...they are more involved, and they say what they think, and how they think it could work...and I really appreciate that. And if I am not getting any feedback, I ask them... ‘So what do you think? How we can help him?’ or ‘what do you notice?’ or I try to get their feedback. And I always ask them, you know, for interventions, ‘what do you think will work?’ (BV04, 545-560)

LN also identified actions that CNAs took to provide comfort to residents, because as this nurse stated, “...we are inculcating, you know, medication is not the first thing to do if the patient is in pain” (HF02, 578-80). These comfort measures included: checking for incontinence, repositioning, and distraction. Repositioning included getting

residents out of bed or putting them back to bed. This nurse noted: “It can be as simple (an) intervention as providing support or devices, like pillows for example, to keep their position comfortable” (BVLN02, 208-9). Various distraction techniques were recognized and included being present, encouraging residents to engage socially, and offering options. In *being present* CNAs’ company was described as a distraction.

...just the presence of the CNA and talking to them (residents) and just being there, you know, sometimes singing and, you know, that probably eases them and makes them, you know, a little comfortable (BVLN03, 836-9).

Encouraging residents to engage in activities was described as helping residents forget their pain:

...distraction sometimes with conversations and sometimes finding activities...I know one of the residents benefits very much from activities; she forgets all about her pain when she’s engaged in Bingo and other activities (BVLN04, 177-80).

Offering options to residents like going to the bathroom and offering food or drink were also perceived as distractions which brought comfort.

CNAs’ verbal reports of residents’ pain were valued, but LNs did not consider CNAs’ documentation to be reliable or relevant to pain management. This documentation consisted of a checklist related to activities of daily living and written notations of any changes in the resident or their care. LNs described CNAs’ documentation as inaccurate, incomplete, and often done without thought. This point was exemplified by the following comment:

...they know their patient very well...they tell you the right thing...but when you look at their coding, it’s wrong...that’s why I said probably you guys charting it at the end of the day...you just want to go home and copy the day charting (HF03, 317-22).

Another nurse manager voiced her skepticism about what is documented in this example.

...they just copy without really looking...I was looking at the reports and said '...are you really sure that you're doing this exercise on the night shift? Because I don't think this resident would allow you to exercise him on the night shift'. So sometimes it could be just paper compliance, which is no good (BVLN03, 760-6).

Discussion

The purpose of this paper was to describe how nursing home LNs perceived the role of CNAs in managing residents' pain. LNs described factors which influenced CNAs' ability to manage pain: their individual characteristics (i.e., skills, experience, qualities), and familiarity with residents. They recognized that CNAs were able to identify residents' pain and considered them part of the pain management team. Other findings from this study presented elsewhere, support that CNAs have a valuable role in the management of nursing home residents' pain, especially those with cognitive impairment, through their perceptions, interpretations, and responses to indicators of pain (Halifax Dissertation, 2013).

The data presented here describes LNs as relying on CNAs to initiate and participate in pain management. CNAs' reports of resident's pain were often viewed as the first step in the process of pain assessment. In addition, because of their familiarity with residents, CNAs' opinions were sought by nurses. CNAs' efforts to decrease pain were recognized and appreciated. This reliance on CNAs in managing residents' pain may be due to the inadequate staffing levels and staff mix that LNs labor under. A positive correlation between the number of LNs (particularly RNs) and the quality of care in nursing homes was established previously (Harrington, O'Meara, Kitchener, Simon, & Schnelle, 2003). Levels of RN staffing in nursing homes has declined 25% since 1998 (Kim, Harrington, & Greene, 2009). Staffing levels were found to be below CMS

recommendations in 97% of US nursing homes, and this is without allowing for a measure of residents' dependency which is estimated to further increase staffing needs (Kim et al., 2009). Therefore, LNs do not provide care independently, even in areas like pain assessment for which they have responsibility; they must rely on CNAs.

While these data suggest that CNAs contribute to pain management, nurses identified limitations in CNAs' skills. This finding is not surprising, given the lack of formal training CNAs receive. The education which underpins certification for nursing assistants requires a minimum of 75 hours of training and no prerequisites for qualifications or experience. CNA training has been criticized for covering too much material in too little time and focusing on tasks at the expense of communication and relational skills (Sengupta & Harris-Kojetin, 2010). These certification requirements are minimal when compared to the 3,200 work hours required to qualifying as a manicurist in California (California Department of Consumer Affairs, 2009). Without adequate training to fulfill the role they are undertaking, there are limitations in CNAs' contributions to pain management, which may contribute to the poor recognition and under treatment of pain in these settings.

Inadequate staffing levels and the accompanying lack of time is certainly a barrier to communication (Engle, Graney, & Chan, 2001). Findings from Kane and colleagues, (2006), support the inclusion of CNAs in formal care planning and pain assessments. They concluded that CNAs believe they can make a difference when involved in this way. However, Wright and colleagues (2003) noted that a general failure existed in including and updating CNAs. At the same time, having inadequate information about residents was found to be stressful for CNAs (Lapane & Hughes, 2007). This research,

together with findings that conclude that good communications and interpersonal relationships between nursing staff improve the working environment (Dellefield, 2008), suggests that better communication and working relationships between CNAs and LNs would have multiple benefits.

The data presented in this paper supports that improving both working conditions for nursing staff and the working relationship between CNAs and LNs could benefit nursing home residents who have pain. Having too few staff to get everything done well is a major cause of stress identified by both CNAs and LNs (Lapane & Hughes, 2007). Reducing the burden of work could be achieved by increasing nursing staff ratios, especially those of RNs, to at least meet CMS recommendations of 4.1 HPRD and by calculating staffing levels with reference to resident case-mix and dependency (Kim et al., 2009). Improved pay and benefits may also reduce the need for overtime or a second job, attract better trained and experienced staff, and could result in increased staff retention, important in an industry with high turnover rates (Lapane & Hughes, 2007).

Given LNs' reliance on CNAs, pain management could also be promoted by improving the CNA/LN working relationship, especially through communication, training, and assignments. Good communication is vital to working together for the benefit of residents. Improvements in communication could include CNAs' regular participation at reports and case conferences, the provision of extra staff cover, to allow CNAs to attend meetings/trainings, and information sessions for CNAs when residents have an MDS assessment/new care plan. Improved training for CNAs, particularly in areas of pain, cognitive loss, and communication (including what to report and how to report to nurses and in meetings) and training for licensed nurses on how to supervise,

manage, motivate, and include CNAs in pain management, would be beneficial. The adoption of consistent assignment for CNAs as a standard, to promote familiarity with residents and supervisors would optimize CNAs' ability to recognizing pain.

Several study limitations need to be acknowledged. The sample size was relatively small, but sufficient rich data were collected for a grounded theory analysis. Data were collected in one urban area. Without direct observation of LNs interacting with CNAs, interview data may reflect what LNs think they *should* perceive rather than what they *do* perceive. Finally, data were not collected on residents that were cared for at these sites and so it was not possible to describe how the prevalence of factors such as pain and cognitive loss affected perceptions of pain management.

This study had the advantage of being conducted in two facilities that differed in many ways, making the discovery of common themes more compelling. By interviewing both LNs and CNAs about the same phenomena, different perspectives served to validate findings.

With evidence that the management of nursing home residents' pain is inadequate, it is important to understand the work CNAs do and how it impacts pain management. Further research to explore how much LNs understand about what CNAs do, and how much they rely on CNAs' insights and reports of resident pain could inform pain management. Collecting data through direct observation of CNAs and LNs working together would be valuable, and could enlighten strategies of communication between these two groups.

In summary, the findings from LNs presented here support CNAs having a positive role in identifying and responding to residents' pain. However, they also suggest

their role has evolved in reaction to the situation of inadequate staffing, and although positive, does not meet the needs of residents in pain.

Table 1: Characteristics of licensed nurse (LN) Sample (n=10)

| Gender | | Years as LN | | Years at BV or HF | | Age (years) | | Years lived in US* | | Education | | |
|--------|----|-------------|-------|-------------------|-------|-------------|-------|--------------------|-------|-----------|--------|-----|
| M | F | Average | Range | Average | Range | Average | Range | Average | Range | MA | RN/BSN | LVN |
| 0 | 10 | 24.7 | 10-36 | 20.9 | 6-36 | 55.1 | 41-61 | 27.0 | 10-37 | 3 | 6 | 1 |

*N=9 as one participant born in US

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CHAPTER VII: SYNTHESIS

The purpose of this dissertation was to understand if CNAs and LNs perceived CNAs to have a role in pain management, to describe that role, and to determine what contextual factors influenced CNAs' roles. The narratives provided by both the CNA and LN participants, as discussed in these three papers, indicate that CNAs' were perceived to have a role in the pain management of nursing home residents. This study identified some of the contextual factors that influenced the processes of understanding, recognizing, differentiating, and responding to pain. The purpose of this chapter is to present a synthesis of the findings from the study, and discuss their significance. A brief reflection on how the existing literature and theoretical constructs informed the study is followed by a summary of the findings and a review of the study's limitations. The chapter concludes with implications for clinical practice and directions for future research.

Literature and Theory: Informing the Study

Literature Review

In reviewing the existing literature it was apparent that our understanding of CNAs' role in pain management is incomplete. Studies that evaluated CNAs' assessment skills did this by comparing their skills with other assessments, evaluating practice and educational needs, and introducing interventions (mainly assessment tools). Conclusions from these studies were limited. However, a lack of time was identified as a barrier to the effective use of tools and from this research CNAs were identified as being capable of contributing to residents' pain assessment. Other studies examined CNAs' perceptions of pain and from these studies themes of "knowing" and taking action when residents had pain were identified.

Theoretical Constructs

This research was informed by three theoretical frameworks. These were: the Biopsychosocial (BPS) Model of Pain (Gatchel, 2004; D. C. Turk & Monarch, 2002); theories of pain behaviors (American Geriatrics Society, 2002; D. C. Turk, Wack, & Kerns, 1985); and Symbolic Interactionism (Blumer, 1969). The recognition of pain as a multidimensional concept informed the design of the study, particularly the interview questionnaires. In addition, these theories guided analysis by helping to identify the many ways pain was defined in the data, and revealing CNAs' understanding of pain as having biological, psychological and social dimensions. The concept that behavior can be an expression of pain is inextricably linked with Symbolic Interactionism, in that the expression of behavior observed and interpreted by another person is a social interaction. A potential limitation of using symbolic interactionism exists in framing interactions between those with and without cognitive impairment (like CNAs and residents in this study), because differences in the view of a shared social world and mutual understanding may become apparent where one participant has cognitive impairment. However, interaction by observing a behavior and interpreting that behavior based on knowing a person's usual behavior was perceived to be important in assessing residents' pain, especially when cognitive loss was present. These concepts informed the design and analysis of the study. For example, in thinking about how to formulate interview questions the researcher's unique interactions with participants were considered, as part of an exercise in reflexivity.

The Study's Themes and Findings

The findings from the three papers reported in this dissertation are presented here as a synthesis of the role of CNAs in pain management, and the identification of factors

that influenced this role. Each section highlights the unique contributions this study makes to our knowledge of this subject.

The Role of CNAs in Pain Management

Both CNA and LN participants described CNAs as having a role in pain management. CNAs' ability to recognize pain was founded on their understanding of what 'pain' meant to them, and their *knowing* residents. Although *knowing* was identified as a theme in earlier literature exploring CNAs' role in pain management, data from this study described CNAs as recognizing two ways of *knowing*: working knowledge and knowing the resident as an individual. Working knowledge meant that CNAs understood what residents needed, wanted, liked, and disliked. This knowledge allowed them to recognize and anticipate behaviors and reactions of residents and gave them a pragmatic advantage when performing care. CNAs came to know a resident as an individual through a social relationship. These relationships were described as mutual and were expressed through kinship. They allowed understanding and empathy to develop and deepen, and were viewed as facilitating resident-centered care and made CNAs' work meaningful and satisfying. The acquisition of both types of knowing was described as especially important where residents had cognitive loss.

Pain was recognized through CNAs' social interactions with residents, themselves and others (colleagues and family/friends of residents). Once recognized, CNAs distinguished pain as either *everyday* pain or *reportable* pain. The concept of pain occurring with regular care was noted in previous studies. However, in this study, CNAs described pain as dichotomous; pain was either *everyday* pain or *reportable* pain. CNAs described everyday pain as 'normal'. They had an expectation that it would occur in

some residents with activities of daily living or movement. Reportable pain was characterized as a new pain or pain which had become worse. This type of pain was reported to the LN for a higher level of assessment and management. LNs valued and appreciated these reports. CNAs responded to both types of pain by striving to give residents comfort and relief from pain by working flexibly, giving physical care and providing attention.

Influencing Factors

Many factors influenced the role that CNAs had in pain management. Some influenced how individual CNAs came to know their residents. These factors included training, access to information, and being included as part of the team. LNs considered CNAs' contributions to pain management as inconsistent and dependent on their individual attributes, skills and experience. Other contextual factors proved influential in determining how much time CNAs spent with residents and the quality of care they administered. These factors included working more than 40 hours a week (due to overtime or second jobs) and being short staffed. Lack of time was a thread throughout these data with descriptions of being rushed and stressed impacting residents' care.

Study Limitations

While the aims of this study were met, several limitations need to be acknowledged. The stated aims were to describe CNAs' role in the pain management of *cognitively impaired* residents. However, the inability to access data describing residents cared for by participating CNAs, meant that the specific focus on residents with pain and cognitive loss relied on information from participants' narratives alone. The sample size was small, and the length of interviews was limited by the time participants had available.

However, a sufficient amount of rich data was available for the purpose of analysis. It was not practical to directly observe interactions between residents, CNAs, and LNs, and interview data may have been limited by reflecting what participants thought the researcher wanted to hear rather than what their actual experiences were.

Implications for Clinical Practice

Despite these limitations, the findings from this study have implications for clinical practice. Consistent assignments, improved communication, educational initiatives, and improved working conditions may improve the pain management of nursing home residents. The standard use of consistent assignment in nursing homes would give greater opportunity for *knowing* to develop between CNAs and residents. Communication between CNAs and LNs could be improved by the inclusion of CNAs in meetings that discuss resident care, allowing CNAs to both contribute and receive information. There is perhaps a need to look at implementing a system whereby CNAs are updated on the condition of and plan of care for residents who they regularly work with, on admission, annually, or when there is a change of status (in line with MDS assessments). A need exists to provide staff coverage to facilitate CNAs' attendance at such meetings.

Findings from this study suggest that there are a number of ways that educational initiatives, both for CNAs and LNs could lead to improvements in pain management. For CNAs, more comprehensive certification training and continuing education, on topics of pain, dementia, and communication in particular, would be beneficial. Continuing education could promote *knowing*, through activities like trust games and reminiscing

with residents. LNs working in nursing homes should have incentives to undertake specialized training in gerontology, and be trained to manage and motivate CNAs.

Improved staffing levels, pay, and benefits for CNAs' and LNs' working in nursing homes would reduce the needs for overtime and second jobs, attract more highly qualified staff, and could reduce staff turnover.

Future Research

Further understanding of what CNAs do at work would be useful in designing strategies to improve resident care. Particularly valuable would be research in the areas of CNAs' attitudes and beliefs about residents' pain, what communication patterns exist between CNAs and LNs, and how these affect care, and more research on how CNAs anticipate, recognize, interpret, and respond to residents' pain. It would be optimal to conduct qualitative research which included direct observations of CNAs at work with residents and LNs. Quantitative methods would also make valuable contributions to this knowledge, as large national and state data bases (e.g. MDS data) with pertinent information exist.

Finally, the issues of improving nursing home resident care often devolve to cost implications, but there are no numbers attached to issues like improving staffing levels. We need these financial data if we are going to advocate for quality care for nursing home residents.

APPENDICES

Study Information Sheet

Exploring how Certified Nursing Assistants (CNAs) recognize pain in nursing home residents with communication deficits

Elizabeth Halifax, RN: (415) 613 8551, elizabeth.halifax@ucsf.edu

Elizabeth Halifax, a doctoral student in the school of nursing at University of California, San Francisco and Professor Margaret Wallhagen are studying how certified nursing assistants (CNAs) recognize pain in nursing home residents with communication deficits. It is hoped that findings from this study may help improve pain management for residents like these.

Here's what would happen if you decided to take part in this study:

Elizabeth Halifax will interview you for no more than 60 minutes. You will be asked questions about your experience working with residents that have difficulty telling us that they have pain (because of memory loss or other changes in the way they think), and individuals that you have cared for. You will also be asked about your education and cultural background.

It is possible that a second interview will be requested and you may be asked a few further brief questions

All interviews will be audio-taped. Only members of the research team will hear what you said.

Taking part in this study is voluntary. You can decline to answer questions, or stop taking part in the study at any time

No over-time payment will be awarded for participation.

All those who participate will receive a gift certificate of \$20 value at the end of their participation in the interview, in recognition of their contribution to the research and for giving of their time.

If you think you might be interested in participating in the study, you can:

- Give Elizabeth Halifax your name, telephone number and /or email address. She will contact you, and set up a time to talk.
- Or you can call Elizabeth Halifax at (415) 613 8551 or email her at elizabeth.halifax@ucsf.edu

Exploring how Certified Nursing Assistants (CNAs) recognize pain in nursing home residents
with communication deficits

If you would like to participate in this study, please complete the details below, and return this page to Elizabeth Halifax, or your unit nurse manager.

Permission to contact me:

Name: _____

Telephone number: _____

Email address: _____

Shift: AM/Day/PM

Study Information Sheet

Exploring how Certified Nursing Assistants (CNAs) recognize pain in nursing home residents with communication deficits

Elizabeth Halifax, RN: (415) 613 8551, elizabeth.halifax@ucsf.edu

Elizabeth Halifax, a doctoral student in the school of nursing at University of California, San Francisco and Professor Margaret Wallhagen are studying how certified nursing assistants (CNAs) recognize pain in nursing home residents with communication deficits. It is hoped that findings from this study may help improve pain management for residents like these.

As part of the study, we want to interview licensed nurses in positions of leadership about how they perceive CNAs' role in recognizing and reporting pain in residents that have communication deficits.

Here's what would happen if you decided to take part in this study:

Elizabeth Halifax will interview you for no more than 60 minutes. You will be asked questions about how you perceive CNAs' role in recognizing and reporting pain with residents that have difficulty telling us that they have pain (because of memory loss or other changes in the way they think). You will also be asked about your education and cultural background.

It is possible that a second interview will be requested and you may be asked a few further brief questions

All interviews will be audio-taped. Only members of the research team will hear what you said.

Taking part in this study is voluntary. You can decline to answer questions, or stop taking part in the study at any time

No over-time payment will be awarded for participation.

All those who participate will receive a gift certificate of \$20 value at the end of their interview, in recognition of their contribution to the research and for giving of their time.

If you think you might be interested in participating in the study, you can:

- Give Elizabeth Halifax your name, telephone number and /or email address. She will contact you, and set up a time to talk.
- Or you can call Elizabeth Halifax at (415) 613 8551 or email her at elizabeth.halifax@ucsf.edu

Permission to contact me:

Name: _____

Telephone number: _____

Email address: _____

University of California, San Francisco (UCSF)

Consent to Take Part in a Research Study

Study Title: Exploring how Certified Nursing Assistants' (CNAs') recognize pain in nursing home residents with communication deficits

This is a research study about how CNAs recognize pain in nursing home residents. The study researchers, Elizabeth Halifax, RN, a doctoral student and Margaret Wallhagen, PhD, RN, from the UCSF Department of Department of Physiological Nursing will explain this study to you.

Research studies include only people who choose to take part. Please take your time to make your decision about participating, and discuss your decision with your family or friends if you wish. If you have any questions, you may ask the researchers.

You are being asked to take part in this study because you have experience working with nursing home residents with communication difficulties.

Why is this study being done? The purpose of this study is to understand how CNAs recognize pain in nursing home residents with communication deficits.

How many people will take part in this study? The researchers will be interviewing up to 30 CNAs from two nursing homes.

What will happen if I take part in this study?

1. Ms. Halifax will interview you in a private space for no longer than 60 minutes, at a time convenient to you. It is possible that Ms. Halifax may contact you a second time, to ask a few further questions.
2. During the interview you will talk about your experience working with residents who have difficulty telling us that they have pain (because of memory loss or other changes in the way they think). You will also ask about individuals that you have cared for, your education and cultural background.
3. The interviews will be tape recorded. The recordings will be typed into a computer, and all names will be removed. All tapes will be destroyed once they are transcribed and checked for accuracy.

4. Ms Halifax will also be making hand written notes to record her observations and thoughts during the study. These notes will remain confidential.

How long will I be in this study?

You will be in this study just for the time it takes for the interview (no more than one hour), and any brief follow-up questions.

Can I stop being in the study?

You can stop being in the study at any time, by letting the researcher know.

What risks or discomforts can I expect from the study?

1. The time spent in the study may be an inconvenience to you.
2. It is possible that talking about this subject may make you uncomfortable or frustrated. You may decline to answer any questions or discontinue the interview at any time.
3. If during the interview you say something that makes the interviewer suspect elder abuse has occurred, she is required to report this to the State of California Ombudsman Office.
4. Although every effort will be made to maintain confidentiality, there is always a slight risk it may be breached.

What other choices do I have if I don't take part in this study?

You are free to choose not to take part in this study. If you choose not to take part there will be no penalty to you.

Will Information about me be kept private?

Whilst every effort will be made to maintain your privacy, it cannot be guaranteed. Your personal information may be given out if required by law. If information from this study is published or presented at scientific meetings, your name and other personal information will not be used.

UCSF's Committee on Human research may look at and/or copy your research records for research, quality assurance and data analysis.

Are there any benefits to taking part in this study?

There will be no direct benefit to you from participating in this study. Your information however, may improve the pain management of residents who have communication deficits.

What are the costs of taking part in this study?

There will be no cost to you for taking part in this study.

University of California, San Francisco (UCSF)

Consent to Take Part in a Research Study

Study Title: Exploring how Certified Nursing Assistants' (CNAs') recognize pain in nursing home residents with communication deficits

This is a research study about how CNAs recognize pain in nursing home residents. The study researchers, Elizabeth Halifax, RN, a doctoral student and Margaret Wallhagen, PhD, RN, from the UCSF Department of Department of Physiological Nursing will explain this study to you.

Research studies include only people who choose to take part. Please take your time to make your decision about participating, and discuss your decision with your family or friends if you wish. If you have any questions, you may ask the researchers.

You are being asked to take part in this study because you have experience working with CNAs and nursing home residents with communication difficulties.

Why is this study being done? The purpose of this study is to understand how CNAs recognize pain in nursing home residents with communication deficits.

How many people will take part in this study? The researchers will be interviewing up to 20 licensed nurses from 2 nursing homes.

What will happen if I take part in this study?

If you agree to take part in this study the following will occur:

5. You will meet privately with Ms. Halifax, for no longer than 60 minutes, at a time convenient to you. It is possible that Ms. Halifax may contact you a second time, to ask a few further questions.
6. During the interview you will talk about your experience working with CNAs and your perceptions about how CNAs recognize pain in residents. You will also be asked about your education and cultural background.
7. The interviews will be tape recorded. The recordings will be typed into a computer, and all names will be removed. All tapes will be destroyed once they are transcribed and checked for accuracy.
8. Ms Halifax will also be making hand written notes to record her observations and thoughts during the study. These notes will remain confidential.

How long will I be in this study?

You will be in this study just for the time it takes for the interview (no more than one hour), and any brief follow-up questions.

Can I stop being in the study?

You can stop being in the study at any time, by letting the researcher know.

What risks or discomforts can I expect from the study?

5. The time spent in the study may be an inconvenience to you.
6. It is possible that talking about this subject may make you uncomfortable or frustrated. You may decline to answer any questions or discontinue the interview at any time.
7. If during the interview you say something that makes the interviewer suspect elder abuse has occurred, she is required to report this to the State of California Ombudsman Office.
8. Although every effort will be made to maintain confidentiality, there is always a slight risk it may be breached.

What other choices do I have if I don't take part in this study?

You are free to choose not to take part in this study. If you choose not to take part there will be no penalty to you.

Will Information about me be kept private?

Whilst every effort will be made to maintain your privacy, it cannot be guaranteed. Your personal information may be given out if required by law. If information from this study is published or presented at scientific meetings, your name and other personal information will not be used.

UCSF's Committee on Human research may look at and/or copy your research records for research, quality assurance and data analysis.

Are there any benefits to taking part in this study?

There will be no direct benefit to you from participating in this study. Your information however, may improve the pain management of residents who have communication deficits.

What are the costs of taking part in this study?

There will be no cost to you for taking part in this study.

Will I be paid for taking part in this study?

Interview Guide, Certified Nursing Assistants

Introduction

Thank you for agreeing to talk to me today.

As you know, I am interested in finding out how CNAs recognize pain in residents who have difficulty telling us what they need (because of memory loss or other changes in the way they think). I want to know what your views are on this, and hope you can tell me what your experience has been caring for residents with problems like dementia.

There are no right or wrong answers to these questions, I value all your comments.

I want to make sure that you know I am tape recording this interview.

Before we begin, do you have any questions about this interview or my research?

Questions

1. Tell me, what brought you to this work as a CNA in a nursing home?
2. Tell me about some of the residents you care for who are difficult to communicate with/understand (like residents who have dementia).
3. How do you know when residents have pain?
4. How do you know when residents are comfortable?
5. If you are working with a resident that you think is in pain what do you do?
6. How do licensed nurses respond when you tell them that a resident is in pain?
7. What does the word “pain” make you think of?
8. What is it like for you when someone you know has pain?
9. Tell me what you believe makes pain worse.

10. Tell me what you believe makes pain better.
11. Do you think that a person's spiritual or religious beliefs affect how they deal with pain?
12. How does how well you know a resident effect your ability to recognize their pain?
13. How does knowing a resident's family and/or friends help you care for them?
14. Are there changes that you think would help you care for residents that have pain?
15. Would you recommend becoming a CNA to someone like yourself?

In Conclusion

16. Do you have anything else you would like to say?

Further probing questions which may be used:

1. Can you tell me more about that?
2. Can you give me an example of that?
3. What did that mean to you?

Interview Guide, Licensed Nurses

Introduction

Thank you for agreeing to talk to me today.

As you know, I am interested in finding out how CNAs recognize pain in nursing home residents. I want to know what your views are on this, and hope you can tell me what your perceptions of the CNAs' role in recognizing and reporting pain are.

There are no right or wrong answers to these questions, I value all your comments.

I want to make sure that you know I am tape recording this interview.

Before we begin, do you have any questions about this interview or my research?

Questions

1. What role do the CNAs you work with have in recognizing and reporting residents' pain?
2. How do you think CNAs know that residents have pain, especially in those residents who have difficulty telling us they have pain?
3. How do you think that a CNA's ability to recognize pain depends upon how well they know a resident?
4. How do you think CNAs respond or act when they recognize that a resident has pain?
5. What do you think helps a CNA recognize a resident's pain?
6. What do you think may hinder a CNA recognizing a resident's pain?
7. Do you think that a person's spiritual or religious beliefs affect how they deal with pain?
8. How do licensed nurses at your work place involve or consult with CNAs about residents' comfort or pain?

When undertaking pain assessments?

When doing MDS assessments?

At hand-over reports?

When writing care plans?

9. What experience, skills and personal characteristics do you think make a good CNA?
10. Do you have anything else you would like to say?

Further probing questions which may be used:

4. Can you tell me more about that?
5. Can you give me an example of that?
6. What did that mean to you?

Demographic Information, Certified Nursing Assistants

Code:

Please complete the following questions.

All answers will be kept confidential. Remember, you do not have to answer any question if you do not want to.

1. How long have you worked as a CNA?
2. How long have you worked at this nursing home?
3. Which unit(s) do you regularly work on?
4. Which shift(s) do you usually work?
5. Do you work anywhere else?
6. What year were you born?
7. Where were you born?
8. If you were born outside of the USA, how long have you lived here?
9. What race/ethnicity do you identify with?
10. Who do you live with?
11. What is the highest level of education that you have completed?

Thank you.

Demographic Information, Licensed Nurses

Code:

Please complete the following questions.

All answers will be kept confidential. Remember, you do not have to answer any question if you do not want to.

1. How many years of experience as a licensed nurse do you have?
2. What is your job title?
3. What are your main responsibilities?
4. How long have you worked at this nursing home?
5. Approximately what hours do you usually work?
6. Do you work anywhere else?
7. Was this the career you started with?
8. What year were you born?
9. Where were you born?
10. If you were born outside of the USA, how long have you lived here?
11. What race/ethnicity do you identify with?
12. Who do you live with?
13. What is the highest level of education that you have completed?

Thank you.

Site Profile

Answers to the following questions will allow me to describe the place where my research has been conducted. The name of this facility will remain confidential. If information from this study is published or presented at scientific meetings, the name of this facility will not be used.

Thanks.

What is the average resident census?

What is the payer mix of your residents ?

- Private Insurance
- Other private pay
- MediCal
- Medicare
- Other

What is the average ratio of CNAs to resident?

- On the day shift
- On the late shift
- On the nightshift

What is the average ratio of LVNs to residents?

- On the day shift
- On the late shift
- On the nightshift

What is the average ratio of RNs to residents?

- On the day shift
- On the late shift
- On the nightshift

Are your nursing staff members of a trade union organization?

What are your pay scales for CNAs?

What CNA turnover do you experience?

What do you require from a candidate applying to be a CNA at this facility?

Terms and Definitions

Pain has been defined here as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of sensory damage” (International Association for the Study of Pain, 1979).

Nursing home The term nursing home is used here to describe institutions where residents are provided with room, board, help with activities of daily living and recreational activities. In addition to nursing care, limited medical care and rehabilitation services may be provided. Nursing homes that receive Medicare and Medicaid reimbursement are federally certified, state licensed and subject to regular surveys (Centers for Medicare and Medicaid Services, 2009). The phrase “long term care” is also used in some research presented here, and may be used interchangeably with the term nursing home.

Minimum Data Set (MDS) The MDS is a mandatory assessment of all residents in nursing homes that receive Medicare or Medicaid funding. It is a comprehensive physical, social and psychological clinical assessment. The assessment is performed, usually by a registered nurse, on admission, then quarterly, and when a significant change in a resident’s health status (as defined by the MDS guidelines) is detected. Completed MDS data generates resident assessment protocols (RAPs) which give guidance on what aspects of the resident’s care requires further attention.

Studies reviewed here and collecting data prior to October 2010, would have used MDS (version 2.0) which addressed pain frequency and intensity and asked staff to note whether pain is present in any of 10 sites listed. No RAP specific to pain exists in MDS 2.0. The CMS review

of MDS concluded that “There is clear evidence that MDS 2.0 does not support good pain assessment and management” (Centers for Medicare and Medicaid Services, 2008). There has been extensive debate about the validity of MDS data including whether the person completing the forms knows the resident well enough to undertake the assessment; whether the findings are used for planning residents’ care; or whether they are completed simply to satisfy paper compliance (Fisher et al., 2002). MDS 3.0, implemented in October 2010, has an expanded pain assessment. (Note: do any of the included studies use MDS after 10/10?)

Certified nursing assistants (CNAs), Patient Care Assistants (PCAs) or nursing assistants (NAs)
Requirements for certification differ by state. Both certified nursing assistant (CNA) and nursing assistant (NA) are used interchangeably within this dissertation to describe those who help nurses by providing non-medical assistance to patients, such as help with bathing, dressing, and using the bathroom. As unlicensed personnel, they are always required to work under the supervision of a licensed nurse (California Board of registered nursing: <http://www.rn.ca.gov/pdfs/regulations>).

Licensed nurse (LN) The term licensed nurse used here includes Registered Nurses, Licensed Vocational Nurses (LVNs) and Licensed Practical Nurses (LPNs). Some LNs are referred to by their title: DON (Director of Nursing); DSD (Director of Staff Development); MDS Nurse (someone who undertakes MDS assessments).

Shifts Most nursing homes have 3 shifts and although the start and finish times vary, they are usually divided into day or early shift (~07.00-15.00 hours), afternoon or PM shift (~15.00-23.00 hours) and night or AM shift (~23.00-7.00 hours).

Cognitive impairment The term cognitive impairment is used throughout this paper to identify those nursing home residents who may have difficulty reporting or be unable to report their pain. This includes not only residents with dementia and Alzheimer's disease, but also those suffering from progressive neurological disease such as multiple sclerosis and Parkinson's disease, those who have suffered a cerebral vascular accident, who are developmentally disabled, imminently dying or sedated.

Behaviors The word "behavior" is used to refer to expressions or actions which may indicate the presence of pain. They include, but are not limited to: facial expressions; vocalizations; body movements; body posture; changes in interpersonal interaction; changes in activity or routine; and mental status changes.

Appendix K. Summary of Articles Reviewed: CNAs' Understanding of Pain in Nursing Home Residents

| First Author/year | Blomqvist, 2003 | Boockvar, 2000 | Buhr, 2006 |
|---------------------------|--|---|---|
| Title | Older People in Persistent Pain: Nursing and Paramedical Staff Perceptions and Pain Management | Nursing Assistants Detect Behavior Changes in Nursing Home Residents that Precede Acute Illness: Development and Validation of an Illness Warning Instrument | Quality Improvement Initiative for Chronic Pain Assessment and Management in the Nursing Home: A Pilot Study |
| N | 52 | 97 | 155 |
| Sample Description | 35 NAs; 13 RNs; 4 OT/Physical therapists. | 23 CNAs and 74 nursing home residents from one non-profit nursing home. | 70 CNAs; 25 LNs; 40 residents; 20 family members, all from 4 non profit religious affiliated homes. |
| Design/Methodology | Qualitative, using on-going comparative data analysis. | Development and piloting of a tool. Quantitative analysis of the relationship between resident status change and acute illness. | Quality improvement strategy with implementation and evaluation of interventions. |
| Data Sources/Measurements | Interviews | Illness warning instrument, documented physical exam and laboratory test results. Predictive validity (using mixed logistic regression) interobserver agreement and convergent validity. | Before and after questionnaires to measure educational programs; chart audits; and interviews with family and residents to measure satisfaction. |
| Major Findings | Identification of 8 types of pain perception, including real, care-related, and endured pain. | CNAs detected 53% of the 19 cases of acute illness at a median interval of 5 days prior to there being a documentary record of illness in the chart. Findings demonstrate that CNAs' observations are reproducible and predicatively valid for important clinical outcomes. | Improved post intervention test scores for staff (CNAs' increased from 59-75%). Pain documentation improved in 8 of 9 items. No change in the overall satisfaction of residents and families. |

Appendix K. Summary of Articles Reviewed: CNAs' Understanding of Pain in Nursing Home Residents

| First Author/year | Cervo, 2007 | Cervo, 2009 | Cervo, 2012 |
|---------------------------|---|---|---|
| Title | Use of the Certified Nursing Assistant Pain assessment Tool (CPAT) in Nursing Home Residents with Dementia | Pain Assessment in Nursing Home Residents With Dementia: Psychometric Properties and Clinical Utility of the CNA Pain assessment Tool (CPAT) | The Role of the CNA Pain Assessment Tool (CPAT) in the Pain Management of Nursing home Residents with Dementia |
| N | 105 | 145 | 215 |
| Sample Description | Nursing home residents with dementia from 2 sites. | Nursing home residents with dementia from 3 nursing homes. | Nursing home residents with dementia from 3 nursing homes. |
| Design/Methodology | Quantitative: two phase development of CNA Pain Assessment tool (CPAT) piloted by CNAs. | Quantitative: CNAs completed CPAT and rated ease of use. | Quantitative: Comparative analysis of measures pre and post intervention. |
| Data Sources/Measurements | 24,527 assessments using phase 1 and 2 tools. Statistical analysis included measuring associations between items using odds ratios, P values, and Bowker's test for symmetry. | CPAT, Likert scale and the Discomfort Scale – Dementia of Alzheimer Type (DS-DAT). Inter-rater reliability, test-retest reliability, construct and criterion reliability. | Non-randomized pre/post intervention comparisons using descriptive statistics summaries. |
| Major Findings | No statistically significant improvements in residents' function, behavior or medication use were found following the implementation of the CPAT. | Degree of reliability, validity, clinical utility and feasibility of CPAT were found. No improvements in resident's function and quality of life were determined. | Reduction in falls (21%, but not statistically significant). Significant reduction in Anti psychotic medication use. CPAT scores reduced post intervention. |

Appendix K. Summary of Articles Reviewed: CNAs' Understanding of Pain in Nursing Home Residents

| First Author/year | Clark, 2004 | Clark, 2006 | Cohen-Mansfield, 2002 |
|---------------------------|--|---|--|
| Title | Pain Assessment Practices with Nursing Home Residents | Nurses' Reflections on Pain Management in a Nursing Home Setting | Nursing Staff Members' Perceptions of Pain Indicators in Persons with Severe Dementia. |
| N | >63 | 103 | 72 |
| Sample Description | 21 focus groups of between 3 and 20 participants. Eight groups were of LNs, 6 unlicensed, 6 mixed from 12 NHs in Colorado. | Nursing home staff (22 CNAs) from 12 Colorado nursing homes. | 24 NAs; 20 LNs; plus focus group participants from 3 NHs. |
| Design/Methodology | Qualitative continuous analysis and coding using Atlas/Ti software. | An evaluation of perceptions of NH staff who took part in study. Qualitative descriptive data analysis and organization with Atlas Ti software. | Coding, categorizing and thematic analysis of qualitative data and ranking of responses to surveys. |
| Data Sources/Measurements | Focus group data | Interview data. | Interviews, surveys and focus groups. Interrater agreement. |
| Major Findings | 4 main themes identified: uncertainty in pain assessment; relationship centered cues to resident's pain; behavioral and visual cues to pain; resident characteristics and attitudes. | Some changes in practice, attitudes and knowledge of pain. There was a general improvement in staff's sensitivity to residents' pain. | Identification of 22 resident behaviors related to pain and staff agreement on recognizing these in residents unable to self-report. |

Appendix K. Summary of Articles Reviewed: CNAs' Understanding of Pain in Nursing Home Residents

| First Author/year | Ersek, 1999 | Ersek, 2011 | Engle, 2001 |
|---------------------------|--|--|--|
| Title | Investigating the Educational Needs of Licensed Nursing Staff and Certified Nursing Assistants in Nursing Homes Regarding End-of-Life Care | Development of a Composite Pain Measure for Persons with Advanced Dementia: Exploratory Analyses in Self-Reporting Nursing Home Residents | Accuracy and Bias of Licensed Practical Nurse and Nursing Assistant Ratings of Nursing Home Residents' Pain |
| N | 224 | 326 | 252 |
| Sample Description | 88 LNs and 136 CNAs from five nursing homes, both non-profit and for profit. | Residents with documented pain, from 24 nursing homes in a Pacific coast state. | 252 residents from 2 county funded nursing homes. LVNs and CNAs who cared for those residents. |
| Design/Methodology | Qualitative thematic analysis. Descriptive statistical analysis of Likert scores. | Quantitative: testing combinations of pain related variables to predict self-reports of usual or worst pain intensity in verbal nursing home residents. | Quantitative: Pain assessment from residents, LVNs, CNAs and MDS were collected and analyzed for agreement and bias (race, gender, mental status, function, depression and disruptive behavior). |
| Data Sources/Measurements | Telephone interviews, focus groups, and surveys with Likert scales. | Surrogate pain reports from CNAs, self-reports of pain, Iowa Pain Thermometer, Checklist of Nonverbal Pain Indicators, Cornell Scale for Depression in Dementia, Pittsburgh Agitation Scale, number of painful diagnoses, MDS pain data. | Interviews with residents, CNAs and LVNs; MDS data; observations. Kappa coefficients, paired data <i>t</i> tests, independent samples <i>t</i> tests, correlation coefficients. |
| Major Findings | Qualitative data themes included grief at loss of resident, CNAs feeling excluded in care decisions, and the need for improved CNA training. Likert scores reflected CNAs confidence in giving end-of-life care. | Multiple indicators do not perform better than a single measure. CNA surrogate report scores correlated most with self-reports of pain. | LVNs and CNAs significantly underestimated residents' weekly pain intensity and frequency and daily pain intensity. CNAs were more accurate than LVNs at estimating pain intensity. LVNs and CNAs were not biased for factors examined |

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|--|--|--|--|

Appendix K. Summary of Articles Reviewed: CNAs' Understanding of Pain in Nursing Home Residents

| First Author/year | Fisher, 2002 | Flacker, 2001 | Horgas, 2001 |
|---------------------------|--|--|---|
| Title | Pain Assessment and Management in Cognitively Impaired Nursing Home Residents: Association of Certified Nursing Assistant Pain Report, Minimum Data Set Pain Report and Analgesic Medication Use | Differing Perceptions of End-of-Life Care in Long Term Care | Pain in Nursing Home Residents: Comparison of Residents' Self-Report and Nursing Assistant Perceptions |
| N | 97 | 60 | 61 |
| Sample Description | 57 residents (defined as cognitively impaired by MMSE assessment) and 40 CNAs from 3 nursing homes. | 13 physicians; 24 LNs and 23 CNAs from one religiously affiliated home in Boston. | 45 residents and 16 CNAs who had cared for those residents at a for-profit nursing home in the Midwest. |
| Design/Methodology | Quantitative: Correlational study | Quantitative measures and analysis. | Quantitative: comparative analysis of 45 resident-NA dyads. |
| Data Sources/Measurements | MMSE, PPQ (a 3 question pain proxy questionnaire); MDS data; analgesic medication records. Correlation measurements | Structured interviews relating to 27 recent deaths with Likert scale scores. Descriptive statistics for each professional group. | MDS data; Geriatric depression scale; Philadelphia Geriatric Well Being Scale; pain rating questionnaires completed by residents and NAs. Analysis of congruence included Kappa, chi-square analyses and correlation coefficients. |
| Major Findings | The MDS and PPQ data did not correlate. Strong correlation between PPQ and medication record. | NAs perceived the residents to have more pain than other professional groups. | No significant associations were found between resident and CNA ratings. Pain was under detected in 38.8% of residents and over reported in 24.4%. Results were not related to residents' age, sex, diagnoses, or cognitive impairment. |

Appendix K. Summary of Articles Reviewed: CNAs' Understanding of Pain in Nursing Home Residents

| First Author/year | Kaasalainen, 2011 (a) | Kaasalainen, 2011, (b) | Kane, 2012 |
|---------------------------|---|--|--|
| Title | Development and Evaluation of the Pain Assessment in Communicatively Impaired (PACI) tool: part I | Development and Evaluation of the Pain Assessment in Communicatively Impaired (PACI) tool: part II | Nursing Home Staff's Perceived Ability to Influence Quality of Life |
| N | 12 | 64 | 192 |
| Sample Description | 5 RNs, 4 LPNs and 3 special care aides from a LTC facility in Canada. | 14 Long term care residents with varied communication abilities, 50 staff members (20 special care aides (SCAs); 20 RNs; and 10 therapists). | LN's; CNAs (n=91); social workers; activity directors from 4 cities in 3 states. |
| Design/Methodology | Ethnography | Qualitative and quantitative methods: psychometric testing of the PACI tool using 60 video events of residents in pain assessed by research and NH staff. | Quantitative analysis, including ANOVA measurements. |
| Data Sources/Measurements | Interviews | Residents assessed for stage of dementia, mental status, communication ability. 60 video tapes. Convergent validity testing, inter-rater reliability testing and Kappa analysis. | Questionnaire, with 1-10 scales for 17 quality of life (QOL) items and questions relating to attitudes and beliefs. |
| Major Findings | The identification of a list of behaviors that caregivers perceived as indicating pain. | Demonstrated reliability and validity of the PACI tool to screen for the presence or absence of pain in residents with multiple levels of communication, whether or not a participant knew the resident. SCAs would benefit from training in recognizing non-verbal expressions of pain. | CNAs were seen as most optimistic re influencing or making a difference in residents' QOL, less so with residents with cognitive loss. |

Appendix K. Summary of Articles Reviewed: CNAs' Understanding of Pain in Nursing Home Residents

| First Author/year | Mentes, 2004 | Mezinskis, 2004 | Molony, 2005 |
|---------------------------|--|---|--|
| Title | The Pain Experience of Cognitively Impaired Nursing Home Residents: Perceptions of Family Members and Certified Nursing Assistants | Assessment of Pain in the Cognitively Impaired Older Adult in Long –Term Care | Assessing Pain as a Fifth Vital Sign in Long-Term Care Facilities |
| N | 47 | 467 | >207 |
| Sample Description | 20 Residents with moderate-severe cognitive loss and >1 pain related diagnosis; 16 family members or friends; 11CNAs from 2 non-profit NHs. | 35 RNs, 41 LVNs, 84 CNAs and 307 residents with a diagnosis of dementia, >1 chronic painful illness from 14 long term care facilities, in 3 Midwest states. | Staff from 60 LTC facilities including LNs, CNAs, social workers and primary care providers. |
| Design/Methodology | Qualitative methodology, using inductive coding, and the identification of categories and themes. | Quantitative | Delphi survey technique to determine expert consensus. |
| Data Sources/Measurements | Interviews, analyzed using Strauss's methodology. | Questionnaires, chart review, medication record and MDS data. Linear regression for dichotomous and continuous variables. | Three rounds of questions elicited 541 responses. Frequency of selection, mean Likert and priority scores. Analysis of qualitative data. |
| Major Findings | Four main themes identified from CNAs: the importance of “knowing” resident; relying on facial expressions as pain cues; anticipating pain and actions taken when resident has pain. | CNAs relied on informal pain assessment. Residents with communication impairments received fewer pain medications. | Consensus was reached at 99% identifying the three most significant indicators of pain as being: resident's report; pain intensity as measured on a scale; and resident's response to touch or movement. |

Appendix K. Summary of Articles Reviewed: CNAs' Understanding of Pain in Nursing Home Residents

| First Author/year | Snow, 2004 | Wright, 2003 | |
|---------------------------|---|--|--|
| Title | NOPPAIN: A Nursing Assistant-Administered Pain Assessment Instrument for Use in Dementia | Voices from the Margin: The Nurse Aide's Role in Pain Management of Institutionalized Elders | |
| N | 21 | 22 | |
| Sample Description | NAs from a temporary nurse agency | NAs at a multi-level extended care facility. | |
| Design/Methodology | Quantitative study to investigate validity of tool using paired NAs' NOPPAIN assessments of video data depicting simulated resident pain. | Qualitative, identifying themes from data | |
| Data Sources/Measurements | 6 videos for observation and interpretation, NOPPAIN global pain assessment rating, weighted Kappa analysis, Bradley-Terry model for paired comparison. | 5 Focus groups with discussion based on pre-specified questions, facilitated by trained CNAs | |
| Major Findings | Comparison between the NAs' and videos' global pain assessment had a weighted kappa of 0.87 (exemplary agreement). Paired comparisons indicated a borderline goodness of fit of the Bradley-Terry model of comparisons. 82-100% of all other comparisons were in agreement. | NAs felt ignored, desired further training and to be included in decision making process. Data supported that NAs recognized and could describe pain well. | |

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