THE PAIN CUES OF COGNITIVELY IMPAIRED ELDERLY PEOPLE: AN ETHNOSCIENTIFIC STUDY OF GERONTOLOGICAL NURSES' PERSPECTIVES

By

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Abstract

The Pain Cues of Cognitively Impaired Elderly People: An Ethnoscientific Study of Gerontological Nurses' Perspectives.

Many gaps exist in our ability to detect and assess pain in cognitively impaired elderly people. In this study, an ethnoscientific approach was used to access gerontological nurses' knowledge of pain in the cognitively impaired elderly. In keeping with an ethnoscientific approach, judgement sampling, a non-probability method for selection of knowledgable informants was used to select six gerontological nurse participants. All informants were over the age of thirty and had between six and fifteen years of experience working with cognitively impaired elderly people.

Two data collection procedures were used; story telling interviews and retrospective chart reviews. The story telling interviews involved a systematic exploration of gerontological nurses' observations and perceptions caring for cognitively impaired elderly people in pain. Formal elicitation procedures were used as the framework for the interviews. As such, both the questions and the answers were discovered by the nurse informants.

The second data source, retrospective chart reviews, focused on the written language other nurses used to describe pain. The chart review was intended

to give breadth to the data that was collected in the interviews. Twenty-one charts of cognitively impaired elderly people were reviewed, sixteen were included in the study and five were excluded. A process of constant comparative analysis was used to determine the meanings nurses attached to the words and phrases they used to describe their observations.

The findings from this study revealed that nurses use three pain cue groupings, overt behaviour, appearance and sounds. In addition, the findings revealed that the gerontological nurses in this study were able to integrate "knowing the patient" with knowing by intuitive perception. Together, each method of knowing enhanced the nurses ability to infer that pain was a problem for an impaired elder.

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Chapter One

Introduction

Pain is a universal human experience which has the potential to affect the quality of an individual's life. Clinicians, researchers and scholars have been struggling to understand the phenomenon of pain for centuries. This study was designed to contribute to our understanding of pain problems in a growing population of cognitively impaired elderly people. The findings generated from this study have important application in the detection of pain and its management in this population.

Background to the Problem

Elderly people tend to suffer from a variety of painful conditions, many of which are chronic and degenerative in nature (Ferrell, 1991). The prevalence of pain in the elderly is estimated to range from 45% to 80%, with a predominance of chronic musculo-skeletal problems like osteo-arthritic conditions (Ferrell, Ferrell & Osterweil, 1990; Marzinski, 1991; Roy & Thomas, 1986).

The number of elderly people living in Canada is growing. "Demographic projections for the year 2011 indicate that people aged 65 and older will constitute slightly over 15% of the Canadian population in comparison to 10.7% in 1986" (Beckingham, 1993, p8).

Some elderly people are cognitively impaired. The prevalence of moderate to severe cognitive impairment in populations over age sixty-five is estimated to be between four and seven percent. The incidence of cognitive impairment sharply increases to fifteen percent in those who are over the age of eighty-five (Chenitz, Stone & Salisbury, 1991; Forbes, Jackson & Kraus, 1987; Katzman, 1986). As a subgroup of the elderly population, it is reasonable to assume that many cognitively impaired elderly also experience pain. As the elderly population in Canada increases, the numbers of cognitively impaired elderly people will increase with a corresponding increase in the number of impaired elders who experience pain.

A review of the literature on pain in the cognitively impaired elderly yields descriptive information but no scientific research specific to this group. The pain research available has focused primarily on the development of tools to measure the intensity of pain in adults, who can articulate their experience, or in young children. Related research on chronic pain in adults and pain assessment in infants and neonates has some limited value in helping us understand the pain experience of the cognitively impaired elderly. Yet, because of the differences between these populations, it was felt that an

ethnoscientific study of nurses caring for cognitively impaired elderly people would make a significant contribution in determining the most appropriate ways of assessing their pain.

Statement of Problem

The problem of detecting and assessing pain in the cognitively impaired elderly was the major focus of this ethnoscientific study. The detection of pain through accurate assessment is hindered in the elderly by several factors. These factors are the subjective nature of pain, the lack of appropriate assessment tools, nurses' lack of knowledge, misunderstandings about pain perception in relation to aging and the chronic long term nature of pain. In addition, pain in the elderly is often experienced concurrently with depression and sensory impairments (McCaffery & Beebe, 1989; Watt-Watson, 1987; Watt-Watson & Donovan, 1992). In the cognitively impaired elderly the difficulty of detecting pain is further compounded by co-existing factors such as aphasia, chemical and/or mechanical restraints, altered states of consciousness, and also memory loss and loss of intellectual functioning.

Existing pain assessment tools rely heavily on a person's ability to describe his or her experience. This is a significant drawback when attempting to

assess pain in the cognitively impaired elderly as they cannot verbally express their pain experience in ways that are understandable. In addition, the tools that are available for assessing pain are too difficult for cognitively impaired elderly people to understand, even if they can respond, and therefore are not useful. The detection of pain in this group remains problematic and as a result many cognitively impaired elderly live in pain which, if detected, could be relieved. Although many gaps remain in our ability to detect and assess pain in this group, some gerontological nurses have an ability to detect, assess and manage pain problems in cognitively impaired elderly people. It appears that this ability is not consciously known or readily taught to other nurses.

The focus of this investigation is nurses' perspectives because of: (a) their role and responsibility for ensuring that the most appropriate care is provided in the most timely way, and (b) their observed abilities to assess and manage pain problems in cognitively impaired elderly people. The nurses' observations are pivotal in prompting comfort through accurate assessment and implementation of pain management strategies. Currently there is no accepted nursing method to identify the presence of pain in the cognitively impaired elderly. In this study, an

ethnoscientific approach was used to access gerontological nurses' knowledge of pain in the cognitively impaired elderly. By identifying the knowledge held by some gerontological nurses, it may be possible to create a knowledge base whereby other nurses can be taught how to identify and assess pain in this group.

Purpose

The purpose of this ethnoscientific study was to determine the cues that gerontological nurses use to infer that pain is a problem for a cognitively impaired elderly person.

Research Question

What are the cues that gerontological nurses use to infer that pain is a problem for a cognitively impaired elderly person?

Definition of Terms

A number of key terms used in this study are defined as:

Cues: Signs, symptoms, verbal and nonverbal behaviour of a cognitively impaired elder that are used to infer existence of pain along with all other pertinent information related to chart documentation, level of participation in activities of daily living/social activities, and use of family descriptions of past pain behaviour.

Gerontological Nurse: By title and position a Registered Nurse, Nursing Assistant, Continuing Care Aide, or Licensed Practical Nurse who has the skill and knowledge necessary to care for a cognitively impaired elderly person in a long term care facility.

Pain: "An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage" (International Association for the Study of Pain, 1986, p. S217).

Pain Behaviour: All forms of observable expression, verbal and nonverbal, generated by the individual that reflects the presence of and their response to a stimulus that initiates a pain experience.

Elderly: It is acknowledged the term "elderly" holds both positive and negative connotations. Terms such as "older adult" are recognized as less value laden. Still, the term elderly was chosen for this investigation because it most suited the population over 65 years of age. It was the term most commonly used by nurses working in long term care facilities at the time of this investigation.

Cognitively impaired elderly person: An individual, aged 65 years or older, who has "acquired a persistent intellectual impairment with compromise in

mental activity: language, memory, visuospatial skills, personality/affect and cognition" (Shapira, Schlesinger & Cummings, 1986, p 699).

Assumptions

1. All people have the capacity to experience pain.
2. Pain exists in people who can verbally express when "it hurts", as well as in people who are cognitively impaired and cannot verbally express when "it hurts" (McCaffery & Beebe, 1989).
3. Aging does not affect the ability to feel pain.
4. Pain involves both the body and the mind.

Conceptual Framework

The conceptual framework for this study is an expansion of Loeser and Egan's (1989) description of a pain experience (See Figure One: Domains of the Pain Experience).

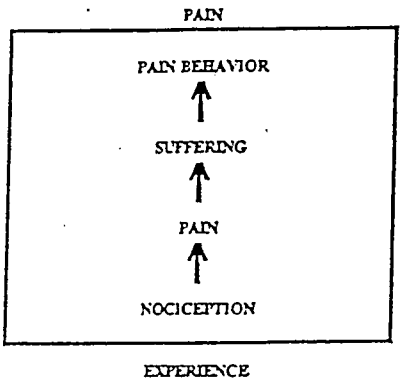

Figure One: Domains of the Pain Experience (Loeser & Egan, 1989).

Loeser and Egan characterize the pain experience of all people as involving four domains: nociception, pain, suffering, and pain behaviour. The domains of nociception, pain, and suffering are thought of as "personal, private, internal events whose existence can only be inferred" (p. 5).

Nociception is the stimulus that initiates the pain experience. It occurs at the cellular level, involves thermal, chemical, and/or mechanical tissue injury and results in the stimulation of peripheral pain receptors, known as nociceptors (Loeser & Egan, 1989). Peripheral nociceptors transmit the "pain" impulse along A-delta or C-fibers. "A-delta fibers are responsible for the transmission of sharp, well-localized pain sensation. C-fibers are responsible for transmission of dull, burning or diffuse pain sensations" (Watt-Watson & Donovan, 1992, p. 402).

Perception of the nociceptive impulse into the nervous system results in the sensation of pain (Donovan, 1989; International Association for the Study of Pain (IASP), 1986; Loeser & Egan, 1989). This marks the beginning of the second domain. "It [pain] is unquestionably a sensation in a part or parts of a body, but is also always unpleasant" (IASP, 1986, p. S217). Pain is a subjective experience, existing whenever the experiencing person says it does

(McCaffery & Beebe, 1989). The perceived pain can be modulated by various factors, such as past experiences, meaning of the pain event, past coping strategies, culture and personal factors such as fatigue or sadness.

The sensation and perception of pain leads to the personal experience of suffering, the third domain in Loeser & Egan's (1989) description of a pain experience. Suffering is defined as a subjective, negative affective response (Copp, 1974; Davitz & Davitz, 1981; Loeser & Egan, 1989). Suffering involves physical experiences with psychological and spiritual associations (Watson, 1989). The degree of suffering experienced by a person in pain is influenced by the sensation and perception of the pain and its relationship to the psychological and spiritual meaning of the event.

Pain behaviour is the final domain of Loeser and Egan's (1989) description of a pain experience. Pain behaviours, as previously defined, include all forms of observable behaviours that reflect the presence of and response to nociception. Behaviours of the pain sufferer are the only direct access to the pain experience that the nurse has (Donovan, 1989; Loeser & Egan, 1989).

Loeser and Egan's (1989) description of a pain

experience has been expanded by this investigator to incorporate pain assessment. In conceptualizing the traditional pain assessment approach, (See Figure Two: Traditional Pain Assessment) the nurse initiates the assessment process following the patient's verbal declaration of pain.

The nurse is the person on the health care team providing direct care that includes assessing and implementing pain management strategies. Each nurse brings nursing education/training, theoretical knowledge, personal experiences, experiential knowledge, culture, values and beliefs to the situation (Griepp, 1992). These variables can enhance or impede the nurse's interaction with anyone in pain. The nurse will or will not believe the person's report of pain and this decision will influence the clinical judgement of the nurse.

Clinical judgement is a complex intellectual process of decision making that includes formulating interpretations regarding what action to take. Action refers to the interventions the nurse chooses or does not choose to implement. To take no action is perceived in the traditional approach to pain assessment as a conscious decision not to initiate nursing interventions. Both the actions and the non-actions are the result of clinical judgement.

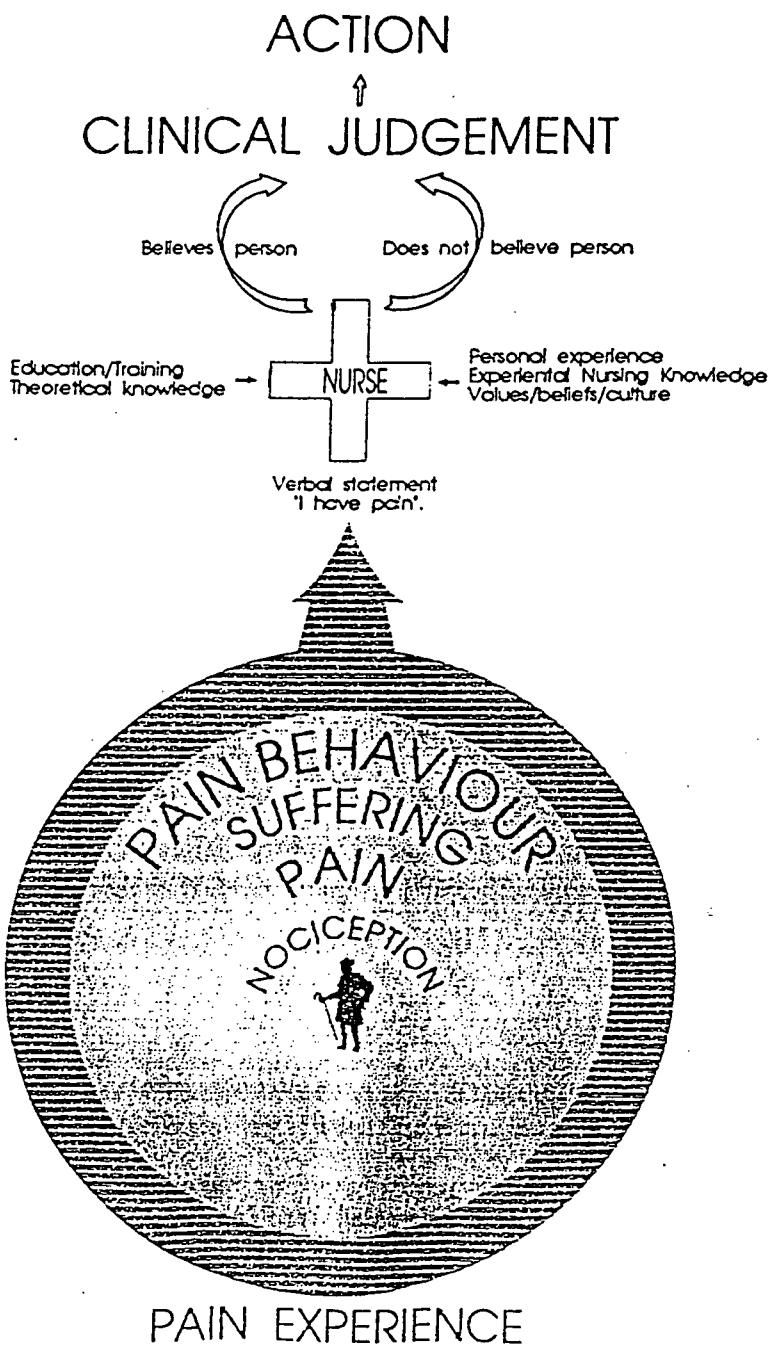

Figure Two: Traditional Pain Assessment

For the purposes of this study it is assumed that pain in the cognitively impaired elderly involves the four domains, nociception, pain, suffering, and pain behaviours as outlined by Loeser and Egan (1989). However, since a verbal declaration will not be the event that triggers a nursing assessment, a second conceptualization is used as a framework to illustrate pain assessment in the cognitively impaired elderly. (See Figure Three: Pain Assessment Cognitively Impaired Elderly).

Cognitively impaired elderly people are unable to give reliable verbal information about their experience. They cannot verbally express their pain experience in ways that are understood. Consequently, cognitively impaired elderly people do not verbally report, "I have pain." Because cognitively impaired elderly people do not state they have pain nor do they validate the nurses' "hunch," it is conceivable that nurses' assessment of pain could be incomplete or, worse, not initiated.

Because of the absence of reliable verbal cues, clinical judgement is complex when assessing pain in the cognitively impaired elderly. Pain assessment in this group relies, to a greater degree, on formulating interpretations regarding what to observe in a situation and making inferential decisions about the

meaning of clinical data (Spross & Braggerly, 1989).

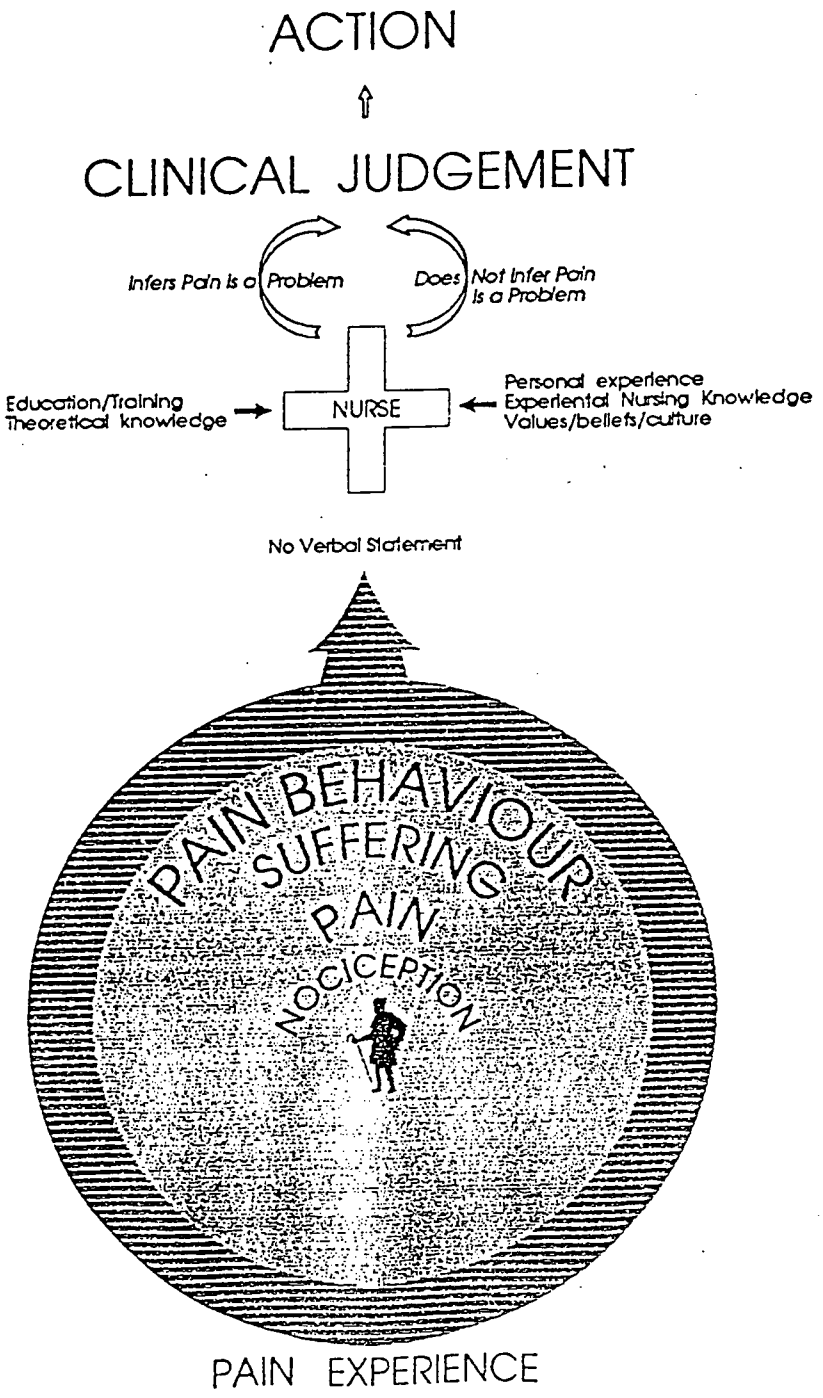

Figure Three: Pain Assessment-Cognitively Impaired Elderly

In the traditional model, the patient validates the meaning nurses give to what they observe. This is not so with cognitively impaired elderly people. Clinical data are derived from observing, evaluating behaviours and other cues, as well as making inferences.

The subjective and invisible nature of pain dictates the need for nurses to go beyond what is accepted practice in order to deal effectively with pain problems in the cognitively impaired elderly. To make inferences about a cognitively impaired elderly person's pain and suffering, the nurse must rely on "intuitive instincts, and also what is observed, both verbally and nonverbally" (Dudley & Holm, 1984, p. 185). Together, the pain behaviours and other cues enable the nurse to infer that pain is or is not a problem for a cognitively impaired elderly person.

Thus, Loeser and Egan's (1989) description of a pain experience orients us to: (a) the notion that pain in all people involves four domains, nociception, pain, suffering, and pain behaviour, and (b) the point at which the pain assessment process begins. When comparing traditional pain assessment (Figure Two) with pain assessment in the cognitively impaired elderly (Figure Three), the reader can see that the expected verbal cue "I have pain," which precipitates nursing

assessment of pain is not present with cognitively impaired elderly people. Without the conventional cue, "I have pain," nurses must use inferential diagnostic reasoning and clinical judgement to decide what action they will or will not take. This study helped identify the pain cues of cognitively impaired elderly people through the observations nurses make and the inferential diagnostic reasoning they use to determine that pain is a problem for a cognitively impaired elderly person.

Significance of the study

Comfort and control of pain are important goals for nursing practice. Regardless of time, setting, language, or culture, responding to the pain experience of the elderly is central to gerontological nursing. This study has provided a clearer understanding of how cognitively impaired elderly people express their pain by systematically capturing the knowledge held by some gerontological nurses. In addition, the findings from this study lay the necessary ground work for future development of a nursing assessment tool specific to the cognitively impaired elderly.

Summary

This chapter has introduced the problem of pain in the elderly, the purpose of the study, the research question, definitions, and the significance of the

problem from the perspective of nursing and the cognitively impaired elderly. The conceptual framework offers a description of the relationship between a person in pain and key variables affecting the nurse's assessment. Extension of Loeser & Egan's (1989) description of a pain experience provides direction for and clarity to nurses' pain assessment process for the cognitively impaired elderly.

In the following chapter, relevant background literature is provided. This research literature is reviewed and discussed to provide a background for what is already known and to establish the rationale for the study. Chapter Three describes the process used to implement the methodology of the study. Findings from the data are presented in Chapter Four. Chapter Five offers an interpretation of the findings as they were presented in Chapter Four. The discussion in Chapter Five is presented within the context of the literature reviewed. A summary of the study and the implications of the results for nursing practice, education, and research will form the conclusions expressed in Chapter Six.

Chapter Two

Review of the Literature

Introduction

The literature on pain predominantly discusses assessment and management of acute and chronic pain in cognitively able adults, young children and infants. A search of the literature has yielded limited descriptive information but no scientific research on pain assessment in the cognitively impaired elderly. This review will focus on pain assessment in adults with chronic degenerative problems and infants who are developmentally unable to articulate their pain experience. Descriptive information on pain assessment in the cognitively impaired elderly concludes this chapter. The information drawn from these sources provided the base for determining the applicability of borrowing this research to develop a method of assessing pain in the cognitively impaired elderly. As well, the literature review placed this study in the context of available pain research.

Pain Assessment

The pain assessment literature has focused primarily on methods to measure pain. Most often the words "assessment" and "measurement" are used interchangeably with a variety of scales.

The scales that have been developed to measure

pain experiences have frequently been the focus of studies to determine their reliability and validity (Melzack, 1983; Melzack & Wall, 1982). These scales can be classified as descriptive, visual, numerical and behaviourial. Historically, pain researchers and clinicians have relied on the patient's self-report to measure pain (Le Resche & Dworkin, 1988). The most commonly used self-report methods are numerical or verbal category scales. Each scale attempts to quantify the patient's subjective experience of pain. To date, these scales have measured pain as a specific sensory quality varying only in intensity. Tests to determine their applicability for assessing pain in the cognitively impaired elderly are lacking; however their utility is problematic and needs to be investigated if they are to be for use in this population of people.

Melzack and Wall (1982) attempted to capture the multidimensional aspect of pain in the development of the McGill Pain Questionnaire. This tool has gained wide use in clinical practice. However, language skill and/or intellectual understanding are prerequisites for all self report tools including the McGill Pain Questionnaire.

Behavioral scales and observational procedures are also identified in the literature as methods for

assessing pain (Fordyce, 1983; McCaffery & Beebe, 1989; McDaniel, Anderson, Bradley, Young, Turner, Agudelo, & Keefe, 1986). Fordyce (1983) postulates that "the nature of the pain, its intensity, impact, and even its very existence are discernable only by something the suffering person says or does: pain behaviour" (p. 145). As a result Fordyce offers a behaviour based approach to pain assessment in the form of an Activity Pattern Indicator (API) to measure verbal and nonverbal behaviour. The behavioral domains included in the API are:

1. Pain behaviours: Visible or audible indicators of suffering or limited functions;
2. Functional impairments: Indicators of alterations or limitations in performance of life demands;
3. Health care utilization: Included are medication consumption and number of hospitalizations; and
4. Associated or "ripple effect" problems: Examples being depression, toxicity and cognitive dysfunctions related to over medication consumption or the inability to work.

Fordyce (1983) concluded that in "clinical pain, one

cannot measure "pain". One can measure only pain behaviour or analogues thereof" (p 52).

In a series of four studies, McDaniel et al. (1986) attempted to test the reliability and validity of a behavioral pain observation method for assessing the pain of rheumatoid arthritis (RA) patients. The behavioral observation method included three categories of behaviour:

1. Position: Standing, sitting, reclining;
2. Movement: Pacing, shifting; and
3. Pain: guarding, bracing, grimacing, sighing, rigidity, passive rubbing, active rubbing and self-stimulation.

Subjects in all four studies were cognitively intact adults, able to articulate their experience and validate the investigators' observations. McDaniel and colleagues concluded that "the behaviourial observation method provides useful and relatively objective information regarding RA pain" (p179). The authors were able to support claims of reliability and validity for the behavioral observation method.

Other researchers have investigated nonverbal behaviours to measure chronic pain (Craig & Prkachin, 1983; Le Resche & Dworkin, 1988; Turk & Flor, 1987; Vlaeyen, Van Eek, Groenman & Schuerman, 1987). The results of these studies have yielded an impressive

array of behaviours believed to be associated with pain. The behaviours observed can be categorized as posture, which includes standing, sitting or reclining; facial expressions, such as grimacing, specific configurations of fear, sadness, and disgust; verbalizations, such as self-reports or complaints of pain, asking for help and repeated requests for analgesics; vocalizations, which are heard as sighing, crying, groaning, moaning, and other non-language sounds; functional ability as evidenced by an increase or decrease in mobility, a decline in activity, tolerance, and endurance, with a proportional increase in fatigue. The usefulness of these studies is affected by the fact that the subjects for each study were adults who could articulate their experience and confirm or deny the researchers' conclusions. Cognitively impaired adults over age sixty-five were not included in the samples. Further, not all pain behaviours identified in these studies were appropriate measures for assessing pain in the cognitively impaired elderly, as some of the behaviours used to measure pain required skills, knowledge and abilities that are beyond the capacities of cognitively impaired elderly people.

In a review article by Turk and Flor (1987), the

validity and utility of a "pain behaviour construct" was explored. After review of the available research, Turk and Flor concluded that, "when specific observable pain behaviours are monitored in a clinical setting and subjective pain ratings are obtained concurrently, . . . the exact timing and context of the assessment as well as type of behaviour assessed seem to be crucial" (p. 285). Similarly, the use of existing behavioural observation tools for assessing pain in the cognitively impaired elderly may not have the same reliability and validity as demonstrated with other population not only because the type of pain, the pain behaviours being measured, but also the timing and context of the assessments differ. So, the accuracy and appropriateness of using existing behavioural observational methods cannot be guaranteed for assessing pain in the cognitively impaired elderly. However, observable pain behaviours may be the only viable source of data from the cognitively impaired elderly. Identification of the pain behaviours of cognitively impaired elderly through the intuitive knowledge of gerontological nurses provides the base information needed to validate the use of a pain behaviour construct within this group.

Comparative Studies with Infants

In considering pain assessment in the cognitively impaired elderly, the usefulness of comparisons drawn with infants was explored. Like the cognitively impaired elderly, infants cannot use language to tell their pain experiences (McGrath, 1987). "Health professionals and parents must rely on either the infants' behaviours or their bodies' physiological changes in order to assess their pain" (p. 149).

Research on pain in infants has been conducted around painful procedures such as heelsticks, circumcision, tissue trauma and immunizations (Davis & Calhoon, 1989; Franck, 1986; Fuller, Horii, & Conner, 1989; Mills, 1989; Shapiro, 1989). These studies have shown that infants' responses to acute pain may include general body movements, specific facial expressions, and crying patterns. Anand, Phil and Hickey (1987), in a review of pain and its effects in the human neonate and fetus, classify behavioral changes associated with pain into four areas: simple motor responses, facial expressions, crying and complex behaviourial responses. Other potential indicators of infant pain have been identified as increased heart rate, increased respiratory rate and changes in transcutaneous oxygen levels (Fuller, Horii & Conner, 1989). Much of the research on pain in infants has

been associated with acute pain experiences and in situations where physical indicators are easily assessed. Little of this research was concerned with the pain producing chronic health problems afflicting the cognitively impaired elderly. As such, use of the behavioural categories of infants in acute pain may were not appropriate for understanding and assessing pain in the cognitively impaired elderly.

Mills (1989) attempted to describe the behaviours of infants in prolonged pain. In addition to those listed by Fuller et al. (1989), Mills concluded that infant/parent interaction decreased in infants with prolonged pain compared with those without pain. Since pain associated with chronic health problems is usually prolonged, these conclusions may be more applicable to the issue of assessing pain in the cognitively impaired elderly.

Descriptive Information: Cognitively Impaired Elderly

Cognitive impairment in relation to pain in the elderly has been reported in the literature as: (a) a condition that may mask the presentation of pain, (b) a condition exacerbated because of the presence of pain, and/or (c) a related variable requiring evaluation when assessing pain in the cognitively impaired elderly (Ferrell, 1991; Ferrell, Ferrell & Osterweil 1990; Marzinski, 1991; Roy & Thomas, 1986). The literature

on assessing pain as a symptom for cognitively impaired elderly people has focused attention on observational procedures and behaviourial indicators (Herr & Mobily, 1991; Hurley, Volicer, Hanrahan, Houde, Volicer, 1992; Marzinski, 1991; Parke, 1992). The available knowledge regarding behavioural indicators is descriptive, based on the clinical observations of the authors, and is not the result of research.

The behaviourial indicators described in the literature can be categorized according to nurses' observations of non-verbal behaviour, including vocalizations and mobilization; precipitating, alleviating, and aggravating factors; and the impact of the pain experience on activities of daily living, such as appetite, participation in social events and tolerance for activities. To this researcher's knowledge no information is available in the literature that:

1. Systematically validates the descriptive behaviours identified in the literature as potential indicators of pain in the cognitively impaired elderly;
2. Identifies specific assessment tools for measuring the efficacy of pain management strategies for cognitively impaired elderly, or;

3. Explains the significance and/or relationship of external factors, such as the type of pain experienced or the timing and the context of the assessments, to the behaviours cited in the literature as potential indicators of pain in the cognitively impaired elderly.

Therefore, this current study was designed to provide a systematic method of collecting and analyzing information that could ultimately support or refute the current descriptive information available.

Summary

The literature presented attempts to place the current study within the context of available pain assessment research. The use of behavioural observation methods appears to be a valid and reliable measure of pain in adults who are able to give self-reports and confirm the researcher's conclusions. However, the use of existing behavioural observational tools and the application of existing behavioural indicators for assessing the pain experience of cognitively impaired elderly people has not been demonstrated. Differences in the characteristics of the populations, the pain experience and the assessment processes studied make the appropriateness of transferring what is known from different populations to the cognitively impaired elderly questionable.

This study was designed to gain knowledge of pain assessment in the cognitively impaired elderly by determining how gerontological nurses infer that pain is a problem for cognitively impaired elderly people. Chapter Three will describe the method used to gather and analyze data on pain that is specific to cognitively impaired elderly people.

Chapter Three

Method

Introduction

Traditional methods for detecting and assessing pain rely upon the person's self report. Cognitively impaired elderly cannot provide a verbal self report of their pain. Therefore, other ways must be used to assess their pain. It is believed that the culture of gerontological nursing in long term care facilities has embedded within it knowledge about the pain experience of cognitively impaired elderly people.

An ethnoscience design was chosen to guide this investigation because it permits the researcher to obtain "insights into the meaning of particular things and events as understood by the participants of the culture" (Evaneshko & Kay, 1982, p49). The ethnoscientific approach facilitates cultural understanding from the subject's point of view (Leininger, 1978; 1985; Ragucci, 1972; Robertson & Boyle, 1984). This method concentrates on clarifying how people interpret their world from the way they talk about their experience (Leininger, 1978). Consequently, this study was designed to identify the cues gerontological nurses use to identify pain in cognitively impaired elderly people and to access nurses' knowledge in relation to how cognitively

impaired elderly people express their pain.

In this chapter the selection of participants, data collection procedures and method of data analysis are discussed. This chapter concludes with the strategies used by the researcher to maintain rigor for the investigation and a description of ethical consideration.

Selection of Participants

Nurses who were acknowledged by others as having the ability to identify pain problems in cognitively impaired elderly people were the informants chosen for this study. All nurse informants were selected from a long term care facility providing residential care services to physically and mentally frail people. The elderly people living in the facility had a relatively stable chronic illness and/or a functional disability requiring continuous nursing supervision.

Guidance for identifying appropriate informants was drawn from Spradley (1979). Spradley has suggested that thorough enculturation and current involvement in the culture are pivotal in the determination of good informants. Thorough enculturation can occur through education and experience. "An informant should have at least a year of full time involvement in a cultural scene. If it is a part-time interest . . . three to four years involvement is needed" (p48).

The criteria for informant selection in this study included: 1) greater than one year full time or four years part time experience working in a long term care facility; 2) being educated as either Registered Nurse, Nursing Assistant, Continuing Care Aid or Licensed Practical Nurse; 3) being considered part of the health care team by the facility; 4) providing nursing care to a cognitively impaired elderly person in pain; 5) being identified by a Nurse Administrator or designate, Head Nurse, Director of Care, Clinical Nurse Specialist or a nurse peer as having knowledge about pain assessment in the cognitively impaired elderly.

Sample

Judgement sampling as identified by Evaneshko and Kay (1982) was the method used to select six nurse informants to participate in the study. Judgement sampling involves the use of certain criteria for the selection of informants. This type of sampling method was chosen because "the nature of cultural data precludes the necessity of large [numbers of] randomly-selected informants ..., only a small number of key informants need be interviewed as cultural knowledge is shared by the group" (Evaneshko & Kay, 1982, p50). This method of sampling allowed the researcher to go to the source of the information needed for the study.

A two step process was used to recruit nurse informants. In step one, the facility Clinical Nurse Specialist (CNS) for gerontology, in collaboration with the nursing supervisor, identified potential nurse informants. Each potential nurse informant was recognized as having the clinical knowledge necessary to identify pain problems in the cognitively impaired elderly. The CNS distributed the information letter and contacted each potential informant to determine if they would agree to being contacted by the researcher.

In step two, the researcher contacted the potential nurse informants to provide full disclosure of the study. Consent to participate was signed by all informants at the beginning of the first interview meeting.

Three Registered Nurses and three Nursing Assistants were interviewed. All informants were over the age of thirty, three were over the age of fifty. Each was employed in the same facility for more than two years. Three of the nurses had greater than eleven years experience at the facility with which they were currently employed. All had between six and fifteen years of experience working with cognitively impaired elderly people, with the exception of one nurse who had greater than fifteen years experience working with cognitively impaired elderly people. All Registered

Nurses held a diploma and were currently registered in the province of British Columbia. Each Nursing Assistant had taken a recognized nursing assistant course and had a certificate of completion. One Registered Nurse held a British diploma of Advanced Nursing Studies. A second Registered Nurse had a Public Health Diploma. All informants were english speaking Canadian citizens with diverse cultural backgrounds. The cultural backgrounds included: English, Jamaican, German and Filipino.

Data Collection Procedures

Two interviews with each participant and a retrospective chart review were the two methods of data collection used in this investigation.

Interview method

The initial interview was used to elicit information and generate culturally relevant questions (Robertson & Boyle, 1984). The interview involved a systematic exploration of gerontological nurses' observations, perceptions and reflections of caring for cognitively impaired elderly people in pain.

Formal Elicitation Procedures (FEP) were used as the framework for the interviews. FEP's required that both the questions and the answers be discovered by the informants (Evaneshko & Kay, 1982; Spradley, 1972, 1979). As a result, questions differed between

informants because they were "continually [being] modified, explained, elaborated and redirected as necessary to get at comprehensive understanding" (Evaneshko & Kay, 1982, p50). The researcher came to the interview with a list of broad questions to be used as triggers to initiate discussion (See Appendix A: Question Guide).

The initial interview had two parts. In Part One, nurse informants were asked to speak about a current experience caring for a cognitively impaired elderly person in pain. In Part Two, nurse informants were asked to speak about the past experiences they had caring for cognitively impaired elderly people in pain. An attempt was made to have the nurse informants remember and discuss a range of experiences. It was necessary to elicit a wide range of pain stories to obtain the maximum variation of how nurses perceive that pain presents in cognitively impaired elderly people. Obtaining maximum variation was important for this study because these stories were used to gain access to the range of pain cues that nurse informants use to infer pain problems.

The clinical experiences nurse informants shared ranged between subtle and more extreme cases of cognitively impaired elderly in pain. The current experience was used to ground the data in existing

practice as well as contrast and compare it to memories of past experiences. The contrasting and comparing was necessary to gain a more comprehensive description of how nurses perceive pain cues in the cognitively impaired elderly.

In Part Two of the initial interview, nurse informants were asked to think of the most uncomfortable cognitively impaired elderly person they had provided care for, make a mental picture of the person, and then describe him or her (Hurley, Volicer, Hanrahan, Houde & Volicer, 1992). Trigger questions were used to stimulate the informants' memory of past experiences caring for that person in order to recollect the pain cues they perceived. Nurse informants were asked to compare their story to the current experience they described in Part One of the interview.

Nurse informants were then asked to describe other situations involving pain in the cognitively impaired elderly. Depending on the content of the stories, the researcher probed to elicit a range of stories depicting varying degrees of pain suffering. The pain cues described were compared to the current situation. The comparisons demonstrated similarities and differences in the cues identified. The researcher then used this data to identify patterns, relationships

and central themes from the story data. The identification of patterns, relationships and central themes was necessary to develop a classification system of culturally relevant terms. The meanings the informants gave to their observations provided insight into their understanding of the pain experience of cognitively impaired elderly people.

A second interview occurred with nurse informants to verify, elaborate and challenge the emerging categories, relationships and patterns identified in the analysis by the researcher. All interviews were tape recorded and transcribed verbatim.

Retrospective chart review method

Although participant interviews were the main source of data for this study, patient charts were used as a second data source. The retrospective chart review focused on the written language that nurse informants used when documenting their observations of pain in cognitively impaired elderly people. The goal of the retrospective chart review was to identify culturally relevant written words other nurses use to describe pain. The chart review was intended to give breadth to the data that was collected in the interviews.

The researcher conducted the retrospective chart review to specifically identify pain descriptors.

Pain descriptors are defined as the words, terms, and or phrases that form the written language nurses use when documenting their observations of pain in cognitively impaired elderly people.

The procedure for the retrospective chart review involved: (a) identifying the charts of cognitively impaired elderly people with a documented incidence of pain in either the problem list or nursing care plan and (b) reviewing and examining the recordings made by nurses dating back one year from the date of the chart review. Charts meeting the above criteria were identified for the researcher by the Clinical Nurse Specialist.

Twenty-one charts of cognitively impaired elderly people were reviewed, but only sixteen were included in the study. Five were excluded from the study for the following reasons: (a) three residents were under the age of sixty-five and (b) two residents were considered not impaired sufficiently to be perceived as cognitively impaired by the nursing staff. All areas of the chart containing nursing documentation were reviewed. This included nursing assessment, progress notes, kardex, careplan and medication profile.

Data Analysis

The data analysis phase of this study began at the onset of data collection and continued throughout the

study. A process of constant comparative analysis was initiated after the first interview and chart review (Goetz & LeCompte, 1984). The process of constant comparative analysis enabled the researcher to understand the words, phrases, perceptions, cognitions, and interpretations nurse informants have of cognitively impaired elderly people in pain (Goetz & LeCompte, 1984; Leininger, 1978, 1985; Spradley, 1980).

At the beginning of the study, the researcher was attempting to identify only the pain cues that nurses use to infer pain in the cognitively impaired elderly. However, as nurse informants were telling their stories, the researcher began to realize the words spoken by the informants were only meaningful in light of the context in which the words were spoken. It became clear from the constant comparative analysis process that the utility of pain cues would be depend on the meanings the words and phrases held for nurse informants. The words, in isolation of the context they were spoken in, would not further our understanding of pain in the cognitively impaired elderly. Consequently, the data analysis phase for this study had two goals.

The first goal was to identify the words nurses use to label their observations. The words nurses used to label their observations became the pain cues. The

second goal was to determine the meanings nurses attached to the words and phrases they used to describe their observations when inferring that pain was a problem for a cognitively impaired elderly person. To achieve both goals the researcher utilized a four step process (Goetz & LeCompte, 1984).

The four step data analysis process involved: (a) identifying broad categories of pain cues, (b) grouping words and/or phrases associated with the broad categories, (c) determining the attributes of each pain cue within the broader category and finally, (d) reviewing the pain cues for similarities and differences between the broad categories.

Pain cues were the unit of analysis for this investigation. The interview data and the retrospective chart review data were reviewed for key words and/or phrases. Broad groupings emerged from the sorting of the words and phrases. Further comparing, contrasting, aggregating and ordering of the data resulted in the identification of three broad categories of pain cues. In the process of sorting and ordering the data, patterns, relationships, and culturally relevant labels emerged, which gave insight into the pain cues that gerontological nurses used in their decision making processes.

The interviews and the retrospective chart review

each provided a unique way of understanding how nurse informants perceive and know when a cognitively impaired elderly person is in pain. Obtaining a variety of pain stories was important for the analysis phase because it provided the researcher with an opportunity to learn about the variations of pain these nurses felt were present in cognitively impaired elderly people.

Strategies to Achieve Rigor

The strategies to achieve rigor in this investigation are grouped under the headings of credibility and auditability (Guba & Lincoln, 1984; Sandelowski, 1986).

Credibility

Credibility was ensured through informant selection procedures, multiple interviews, the use of triangulating data sources, and by bracketing the researcher's own understanding and knowledge of pain in the cognitively impaired elderly.

During the selection of participants, steps were taken to ensure that nurse informants had knowledge and current experience. The data collection procedures were intended to capture a variety of the nurse informants' experiences caring for cognitively impaired elderly people in pain.

The use of two interviews helped to establish

rapport between the researcher and nurse informants, facilitating the sharing of information and allowing the researcher to validate the interpretations and conclusions drawn from the data analysis phase.

Triangulating data sources allowed the researcher to cross check the data each approach provided as well as gain a greater representation of data.

The researcher's own skill and knowledge on pain in the cognitively impaired elderly is acknowledged. The risk of researcher bias was addressed by: (a) having an awareness that the researcher's knowledge may potentially threaten or limit access to the nurse informant's knowledge and information, and (b) attempting to openly set aside the pain knowledge held by the researcher. This was done by employing a process of bracketing during the data collection and analysis phases of the investigation (Lamb & Huttlinger, 1989). Bracketing was accomplished through the use of a journal to record personal impressions, ideas, and feelings that occurred following each interview with nurse informants. The journal was used throughout data analysis to maintain awareness of the distinct data provided by the nurse informants and the pre-existing knowledge of the researcher.

Auditability

Auditability as proposed by Guba and Lincoln (1984) requires that the researcher demonstrate evidence of a clear decision trail. The decision trail clearly justifies what was actually done and why. Consequently, another researcher can follow the process of the study. This would include the investigators thinking, their decisions and the implementation of the methodology. Auditability in this study is established primarily by the logic of the researcher's decisions, which are made explicit in the writing of this report.

Ethical Considerations

The following steps were taken to protect the nurse informants and cognitively impaired elderly involved in this investigation:

1) Procedures were followed and approval obtained from U.B.C. Behavioral Sciences Screening Committee and the facility's Research Review Committee. In addition, a letter was sent to the administration of the facility explaining the purpose of the study and asking for permission to complete the study in the facility (See Appendix B).

2) All potential nurse informants were initially contacted by the facility administration or their designate. Once the participant agreed to have their name given to the researcher, the researcher contacted

the potential participant directly to give full disclosure about the study and seek their consent to participate in the study.

3) A letter was presented to each nurse informant explaining the purpose of the study, the procedure for data collection, and that their participation was voluntary (see Appendix C).

4) All participants were told verbally and in writing that participation was voluntary, that they may withdraw from the study at any time, that there would be no monetary compensation and that no risks were anticipated with participating.

5) A written consent was obtained from all nurse participants (see Appendix D).

6) Taped materials were kept confidential. Each nurse informant was assigned a code number. The code number was used to identify the tape recordings and the transcripts. No identifying information was obtained during the chart review.

7) Storage of data: All recordings and transcripts are stored in a locked cabinet in the researcher's work area. The researcher transcribed the taped recordings, so only the researcher/student and two faculty advisors had access to the recordings and transcripts. Tapes and transcriptions will be destroyed when all scholarly work is completed.

Summary

The methodology selected to guide this investigation was based on an ethnoscientific design giving access to the culturally based, intuitive knowledge of gerontological nurse informants. In keeping with this approach, judgement sampling, a non-probability method for selection of knowledgeable informants was used to select six gerontological nurse informants. The procedures for data collection centred on indepth story telling by nurse informants of cognitively impaired elderly people in pain. All stories were audiotaped and transcribed verbatim over a two week period. The transcripts were analyzed using a constant comparative method of data analysis. The retrospective chart review data was combined with the interview data to uncover both the written and spoken language of nurse informants. Together these data sources were used to group the pain cues gerontological nurses use when inferring pain problems in the cognitively impaired elderly. The stories described by the nurse informants form the findings for this study and are presented in the next chapter.

Chapter Four

Findings

Introduction

This chapter presents the researcher's interpretation of two data sets: nurses' written accounts of cognitively impaired elderly people in pain, and the stories nurse informants told about pain in the cognitively impaired elderly. The first, the written accounts discovered in the retrospective chart review, rarely contained descriptive data to indicate what events, observations, or pain cues lead the nurses to conclude that pain was the problem. Most often, the nurses only recorded that the individual was experiencing pain. When descriptive data was recorded in the chart, the recorded words were the same words nurse informants spoke when telling their stories of cognitively impaired elders in pain. Consequently, most of the data contained within the chart did not provide new information. Nevertheless, the recorded words describing pain are reflected in the findings reported in a later section of this chapter.

The second data set, stories told by nurses, was the main source of data used to identify pain cues. The researcher believed that all nurse informants shared similar knowledge of gerontological nursing and experiences caring for cognitively impaired elderly

people. Shared knowledge and experience enabled the nurse informants to develop a common language and cultural understanding of pain. The researcher believed that nurse informants' experiential knowledge held important covert information about pain in cognitively impaired elderly people. As a method of data collection, storytelling allowed the researcher access to this information, which would address the question of this study.

The purpose of the study directed the researcher to search for pain cues in the analysis. However, in the process of analyzing the data for pain cues, the researcher discovered that the pain cues, in isolation from the context by which nurses used the cues, were meaningless. As a result, this chapter will present the pain cue findings within the context of "how" the nurses used the cues. The nurses' clinical reasoning process is revealed in "how" they used the cues to realize a cognitively impaired elderly person was in pain. Consequently, the findings are organized and presented in a manner that reflects the knowledge nurse informants' have about pain in cognitively impaired elderly people.

The findings are presented in three sections. Section One explains the difficulty nurses experienced

recognizing pain. Section Two focuses on the reasoning process nurse informants used to make inferences about pain, and finally, Section Three will present the pain cues nurse informants used to reason pain problems.

The Problem of Pain Recognition

All nurse informants held the view that pain was a common and pervasive problem in cognitively impaired elderly people. However, in spite of this view, nurse informants reported that recognizing pain in this population was a difficult clinical challenge. The difficulty was attributed to individual variation and the inability of cognitively impaired elderly people to confirm their pain experience.

Individual variation

Individual variation was a central feature in all the stories. According to nurse informants, individual variation occurred in: (a) the way cognitively impaired elderly people expressed their pain and (b) the type of pain they experienced (See Figure 4: The Problem of Pain Recognition).

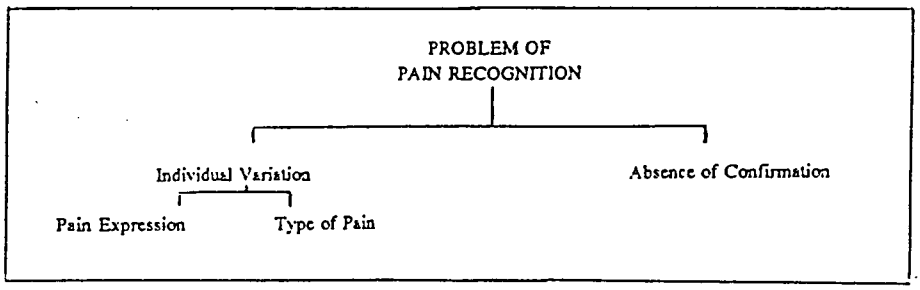

Figure 4: The Problem of Pain Recognition

For the first component of "individual variation," pain expression ranged from extreme, which was described as loud and overt, to the more subtle, as with the silent sufferer whom nurses described as quiet and withdrawn. The "silent sufferer" was described by one nurse as looking "normal":

> . . . they can get used to the pain, after having it so long. I mean people get used to things I think and they can look like normal and yet still have pain.

This was contrasted with someone who was quite demonstrative, even though, in no way verbal:

> [This elderly woman] never cries out when she is moved but she will bite in the arm or pinch as the nurse or caregiver tries to lift her out of the bed. But she never cries out or tells us that she has pain. I know for a fact that she would have pain in her position.

In the first account, the nurse inferred that pain of long duration becomes part of the cognitively impaired elderly person's life experience, which suggested that pain is no longer expressed in ways that would assist the nurse to recognize it. Paradoxically, the second account illustrated the expression of pain as overt and out of the normal range of accepted behaviour. Each account is different, but each account represented pain to the nurse informants. Together, the accounts illustrate variation.

Individual variation in pain expression emerged

again, when nurse informants characterized cognitively impaired elderly people in pain. All nurse informants made reference to the same set of cues. However, the combination of cues nurses used varied among the stories, suggesting that cues for pain are individually defined for each specific elder. As an example, all nurse informants spoke of moaning and groaning, but some informants spoke of moaning and groaning in combination with repetitive movements. Other nurse informants spoke of moaning and groaning in combination with shaking the bed rails, taking clothes off, or moving the jaw in a chewing-like motion. Still others described cognitively impaired elderly people in pain as resisting care, grimacing, shivering and shuddering, or as having a flushed complexion, perspiring and looking worried.

In contrast, when nurse informants were asked to tell stories of cognitively impaired elderly people who were not experiencing pain, their stories focused on the absence of the same set and combination of cues. Further, these elders were described as being "connected with the outside world," and "knowing what was happening." One nurse described the difference this way:

> . . . if they are able to move they will even give you a little hug. But if they are not feeling well, they just sort of lie there and give no response at all.

In this account, the elder's interest in affection and ability to reciprocate affection indicated to the nurse that no pain was being experienced.

The "type of pain" experienced by cognitively impaired elderly people was the second way individual variation occurred (See Figure 4: The Problem of Pain Recognition). During an initial review of the findings, it appeared that nurse informants spoke of five distinct types of pain: spiritual pain, mental pain, emotional pain, physical pain, and pain related to unresolved issues of living. However, after careful analysis, spiritual, mental, emotional and pain associated with "unresolved issues of living" proved closely interrelated. The following account illustrates how nurse informants distinguished physical pain from what they recognized as "something" different:

> Besides physical pain, there is also spiritual pain. Many people who come to us haven't resolved their issues of living. It's hard to know in the elderly, what type of pain they are experiencing because you have [both the] physical pain and the emotional pain of years past.

As in this account, the findings indicate cognitively impaired elderly people experience more than physical pain. It is however, difficult to determine with confidence that there were four other distinct types of non-physical pain experienced by this

group of people. There is an indication, however, that physical pain is distinguished from something different, possibly another kind of pain, which nurse informants referred to and named differently.

Absence of confirmation

Absence of confirmation was the second factor identified by nurse informants as complicating pain recognition in cognitively impaired elderly people (See Figure 4: The Problem of Pain Recognition). Nurses spoke of individuals who "say nothing" to indicate either that they were in pain or that they were comfortable and not in pain. Reliable verbal confirmation from cognitively impaired elders was absent in all the stories told by nurse informants.

The absence of confirmation was portrayed in a story about an elderly man who developed gangrene in his foot. The nurse informant described the man as groaning and moaning with laboured respirations. He appeared tense and would not eat. The man "wouldn't say either way" if he had or did not have pain. In the absence of confirmation, the nurse interpreted her observations as pain. She employed a variety of strategies to decrease his pain assuming it was from his foot and then looked for a decrease in the groaning, moaning and laboured respirations, which she had labelled as pain cues. In the course of events, a

nursing assistant reported that the man had had a large bowel movement (BM). The nurse concluded by stating:

> His breathing improved, he slept and his moaning stopped. So you really have to assess the whole person when you are dealing with behaviour, groaning and pain symptoms because it isn't always what you think it is.

As illustrated in this account, the absence of confirmation had a significant impact on nurses' ability to know with assurance that the man's behaviour, as interpreted by the nurse, was due to pain. It is clear that even after careful thought and deliberation, the behaviour and sounds made by cognitively impaired elderly people can easily be misinterpreted by nurses.

In another account, a nurse gave the "it isn't always what you think it is" theme further depth:

> Mainly she screams. Lots of us suspect she has pain at the moment, but we can't pin down exactly what it is. Her legs are quite contracted so it is quite possible that she has lots of spasms in her legs, but there seems to be some abdominal pain too. Sometimes when she screams you can be quite convinced that she is in agonizing pain. Then you realize the lady next to her has the radio on or the lights on, or what ever. She stops screaming as soon as you find out what it is. It's difficult to tie down. Lots of us feel she is definitely in some kind of pain.

In this account, screaming is the elderly person's form of communicating that something is wrong. The elder could not confirm her experience or immediate needs in a way the nurse would clearly understand the meaning of

her scream. Consequently, without confirmation the nurse continued to wonder if the problem was pain.

Even when cognitively impaired elderly people had the ability to speak, the nurses were not confident that an elder's response was reliable. In one story, a nurse asked an elder if he was experiencing pain and the elder responded, "you are being mean to me." From this nurse's perspective, the elder's response was a "totally inappropriate thing to say." This response, therefore did not confirm the nurses suspicions and so she continued to wonder if the elder was experiencing pain.

The finding that cognitively impaired elderly people are unable to contribute to the problem solving process by affirming their pain experience clearly makes the detection and assessment of pain by nurses difficult. The absence of such information has lead the nurses in this study to seek out alternate ways of understand their observations.

Reasoning Pain Problems: The Making of Inferences

Despite the difficulty they encountered in recognizing pain, the nurses speculated and made inferences based on their observations. To reason pain problems, nurse informants noticed a change in the elders' status and took steps to confirm that the change represented pain.

Change in the elder's status

A combination of factors, which varied from story to story, represented a change in the elder's status. In some stories nurses spoke of a change in the cognitively impaired elder's behaviour, while in other stories, they spoke of a change in the elder's appearance and/or the sounds they made.

Not every nurse could clearly articulate the changes they observed, but all emphatically stated that the change represented something was "wrong" or "different" with the impaired elder. For example, one nurse explained:

> Her face is really flushed and you know she doesn't have a temperature. So she is communicating something is wrong. She looks different. I think sometimes when you look carefully you see pain.

In this account, the informant noticed a change in the elderly person's appearance. The flushed face represented "something was wrong" and was attributed, not to an increase in body temperature, but to pain.

In other examples, nurse informants spoke of "internally feeling something is wrong" or "it is my instinct that says something is wrong." This was illustrated in the following account:

> You know if you work with certain residents over the years. If something is different about them, somehow you just pick it up. You can internally feel something is wrong. I guess I work with them day in and day out, you know it is my instinct that says, "well,

so and so doesn't look right."

In another account a nurse stated:

> If you are used to the individual you know there is something different. If something is different about them, somehow you just pick it up. You internally feel something is wrong because she is not being herself.

The accounts show the importance of knowing the elder. The nurses' ability to identify the change was attributed to knowing the elder. Frequency of contact and duration of contact facilitated the nurses' ability to identify changes in the elders' status.

Each nurse talked about "knowing" a cognitively impaired elderly person by being with them "over the years" or "working with them so much of the time." Knowing a cognitively impaired elderly person meant the nurses were familiar with the elder's individual characteristics, preferences, likes and dislikes. Knowing the cognitively impaired elderly person gave the nurses the knowledge necessary to realize when subtle changes had occurred, thereby enabling them to make inferences about pain.

Confirming the presence of pain

Confirming, part of nurses' reasoning process, involved substantiating that the changes they observed represented pain. Confirming the presence of pain involved: (a) assimilating other kinds of information into their assessment process, (b) using a process of

trial and error, and (c) consulting interdisciplinary team members to reach consensus.

"Assimilating other relevant information" included: the elderly person's diagnoses and medical history, the nurses' knowledge of pathophysiology and, the nurses' personal experience with painful conditions. Together this additional information enabled the nurse to learn the meaning of the pain cues.

Nurse informants reported having greater confidence in making inferences about pain problems when they had information about the elder's "diagnoses" and "medical history." If the diagnosis caused pain, the nurses assumed the cognitively impaired elderly person afflicted with the condition also would experience pain. To fully appreciate the implications of the diagnoses, nurse informants indicated that knowledge of the "pathophysiology" was important. As one nurse informant explained:

> Another thing I use too is the [my] certain understanding of the physiological disease. Like arthritis or if someone has gangreneous toes, you know they are quite likely to have pain. So you look for the signs.

In this account, the nurse took direction from her knowledge of the disease process and looked for symptoms of pain.

In addition, nurses' "personal experience" with

the same or similar diagnoses enabled them to more fully appreciate the elder's experience. Appreciation for the elder's situation gave the nurses greater confidence to make inferences about pain. One informant suggested that:

> . . . most of them have arthritis or bursitis or rheumatism and if you've ever had a touch of it yourself, you know what they are going through. I have had a touch of it in my shoulder. I can only lie on that side for so long. These people are getting turned every two or three hours. They are pretty sore and uncomfortable by that time.

In this account, the nurse related her personal experience with pain to the elder's experience with pain. This enabled the nurse to empathize, but more importantly, to recognize the elder's situation as painful.

The process of "trial and error" involved identifying pain cues, implementing one or more treatment intervention(s), and observing the cognitively impaired elders' response to the interventions. Many times nurse informants reported that they would administer a treatment and look for a return to what they had identified as the elder's usual or expected status. An intervention was effective when the pain cues subsided and the elder's expected status reemerged. Thus, the nurses made inferences about pain retrospectively from the elder's response to nursing interventions.

In the process of trial and error, the nurses reported going through "a list of things" to confirm the presence of pain. This is illustrated by the following excerpt:

> They let you know something is wrong even if they can't say anything. So you go check it out. Reposition them and try to make them comfortable. If they continue to make noises or gestures you know that's not a good position. You look for red areas. You know they have been lying too long on that side or maybe they have their arm pinned under them. You can't always tell really. It's just that you are hoping you get the right thing.

In this account, the process of trial and error involved reading the cognitively impaired person's specific pain cues, getting the intervention right, and then using that knowledge again with the same person or with a different person. "Getting it right" indicated that the treatment or intervention tried was effective. In a similar story, another nurse informant stated, "She grimaces a lot but again she will do that if she doesn't like the porridge too. So it is just a trial and error approach." In both accounts, the nurses kept on trying, hoping to get it right.

All nursing interventions used by informants to confirm the presence of pain were role specific. Consequently, Registered Nurses primarily used the administration of analgesics to confirm the presence of pain. One nurse told a story of an elderly woman diagnosed with gangrenous toes. Initially, the elderly

woman received no analgesic:

> After she had a couple of doses of the analgesia I remember being totally struck by her face. It seemed really wrinkled and screwed up. Then there was this sort of calm relaxed look about her face and I thought, ah she was in pain, there was no doubt.

Still another nurse reported:

> One of the things we are doing now is to give her analgesics to see if there is a difference in her behaviour afterwards. It seems that there is a change for a while afterwards. She is calmer and more relaxed.

In each account, the nurse informants described how they administered analgesics to the elderly person suspected of experiencing pain and then monitored the elder's response to the treatment. The absence of pain cues, following the administration of the medication, indicated an improvement in the elder's condition. Retrospectively, each nurse concluded that pain was present and was successfully treated.

Nursing assistants primarily used comfort care interventions such as repositioning, touch, or conversation to distract the elder who experienced pain. As one informant explained:

> Sometimes I rub the area. Touch is important. Talking to them can help too. I think it is soothing. They [elders] can get a message by the way you talk to them.

Other nursing assistants simply stated they "just report to the R.N., because she is the team leader."

"Consulting the health care team" emerged from the data as the final method nurse informants used to confirm their suspicions of pain in cognitively impaired elders. In all situations, nurse informants reported discussing their perceptions and observations with other nurses and health care professionals. Everyone did not always agree, but there was a concerted effort to get ideas from other nurses, as well as physicians, pharmacists, and physiotherapists. Through multidisciplinary discussion, a consensus would be reached about the presence of pain. To illustrate collaboration, one nurse stated:

> . . . well, I often talk to others about it to see what their opinions are. It is always interesting to talk to someone who is new to the situation. Others may see something I haven't seen or haven't been observant to.

The nurse recognized her need to collaborate with others to solve pain problems. In such instances, nurses felt that consensus about their interpretations made them more confident that they had reached accurate conclusions.

Pain Cues of Cognitively Impaired Elderly People

The pain cues identified in this study have been organized into three major groupings: overt behaviour, sounds, and appearance. The grouping of pain cues has provided a framework for viewing and understanding the meaning that nurses gave to the cues. The groupings

meaning that nurses gave to the cues. The groupings cannot be considered conclusive because the meaning, type, and number of pain cues are dependent upon the cognitively impaired person's expression of pain. However, the grouping of pain cues can serve as an example of what, in this segment of the population, would suggest pain.

The majority of stories told by nurse informants were about cognitively impaired elderly people's responses to nursing care. Through the delivery of nursing care, the elder's change in status was recognized and interpreted as pain cues by nurse informants. This was particularly true for the nursing assistants who bathed, fed, moved and repositioned cognitively impaired elderly people. All pain cue groupings represent a change in either overt behaviour, sounds or appearance.

Overt behaviour

Overt behaviour pain cues were organized into three subgroups: aggressive behaviour, restlessness/agitation, and activities of daily living (See Figure 5: Overt Behaviour Pain Cues).

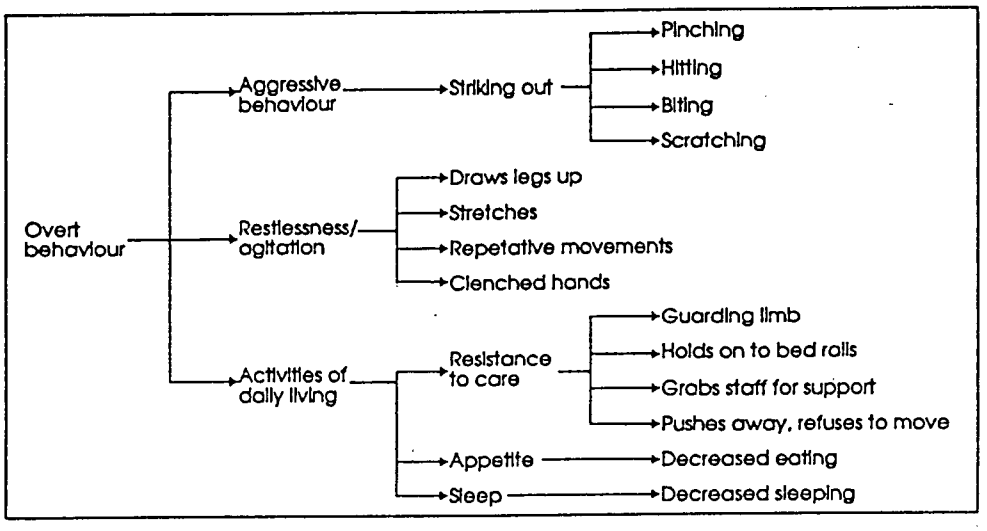

Figure 5: Overt Behaviour Pain Cues

The first subgroup, aggressive behaviour, included striking out, which involved pinching, hitting, biting, and scratching. As an example one nurse informant stated, "although they won't talk, they will hit you or they will push your hands away." In another example the nurse reported:

> She doesn't want to be moved. [She shows] she is uncooperative by pinching or biting the staff, . . . these people are physically aggressive and assertive.

In this remark, the aggressive behaviours represented uncooperativeness, which the nurse interpreted as pain.

Nurses reported being able to differentiate reasons for aggression. For example, one nurse spoke of being able to distinguish anger-behaviour from pain-behaviour:

> Okay, one way for me to know the anger from the pain is when I'm doing something, caring for this person. Lets say, for example, there is something wrong with their legs and I touch their legs. If they strike and hit me, then right away I know it's not anger, it's pain that she is striking out at or reacting to. Anger, if it's just anger there is a difference, the difference is in the face. The anger can be in the eyes, you can tell different things by a person's eyes.

In this account, the nurse understood the meaning of the elder's striking out behaviour by associating knowledge of the elder's physical condition with the striking out behaviour. Consequently, the informant concluded that the nursing care had exacerbated the pain experience. As a result, striking out represented pain to the nurse.

Similarly, nurses distinguished fear behaviour from pain behaviour. In the following example, the nurse interpreted the cognitively impaired elderly person's fear as self-protective behaviour, thereby distinguishing pain behaviour from fear behaviour.

> The ones that are afraid will strike out a little. Like I say, it is a defensive mechanism. Like, "you're not going to hurt me." I don't think they are trying to hurt anyone in the nursing staff but they do occasionally. Sometimes we're in the wrong place at the wrong time and we get slugged in the face or something.

Nurse informants defined the second subgroup, restlessness and agitation, as a type of physical

activity: drawing the legs up, stretching, repetitive movements and clenched hands. Each type of physical activity occurred randomly without association to nursing care. One informant explained:

> Residents will move around alot. Sometimes they will pull at their clothes and sometimes they open and close their hands. That is their way to say they have pain.

Overt behaviour pain cues also included changes in activities of daily living (See Figure 5). Activities of daily living reflected a change in the elders' usual pattern of functional ability. As an example, one nurse informant reported:

> If they are not sleeping and I figure they should be, you know, if they are normally a good eater and now they are not drinking right, they might not be able to tell you "no", but they turn their mouth away and I think, "what's wrong? Something is up here." Things like that.

In their accounts, the nurse informants spoke specifically of elders who resisted care by guarding a limb, holding on to bed rails, grabbing staff for support, and pushing or refusing to move.

Sounds

Sounds, the second group of pain cues, are organized as verbalizations and vocalizations (See Figure 6: Sound Pain Cues).

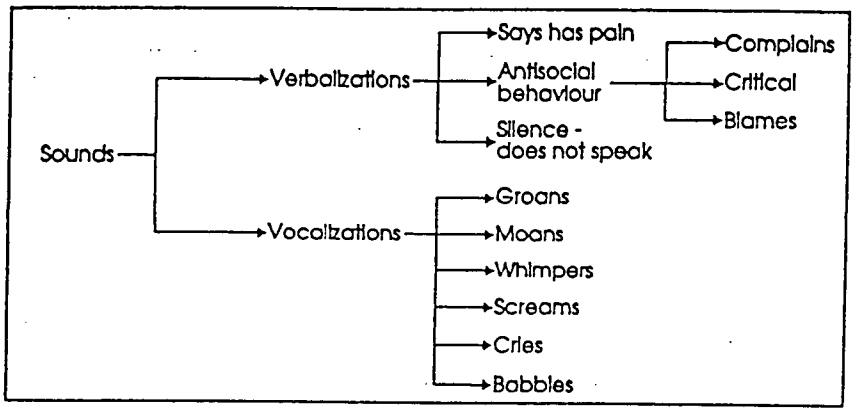

Figure 6: Sound Pain Cues

Verbalizations occurred primarily when staff caregivers provided nursing care or when informants asked the impaired elders "if they had pain." As noted earlier, the nurses generally perceived that the information given by cognitively impaired elderly people able to speak was unreliable.

A subset of cognitively impaired elderly people who are able to speak was portrayed by informants as exhibiting antisocial behaviour. Nurse informants defined antisocial behaviour as: complaining, critical of nursing care and blaming the nurses for situations that were out of the nurse's control. In these cases, nurses understood the irritable nature of the verbalizations to mean pain, even when the elder did not affirm the nurse's conclusion.

Nurse informants named vocalizations as groans, moans, whimpers, screams, cries and babbles and always interpreted a negative quality to the sound. Vocalizations occurred while staff caregivers provided nursing care and when the elders were alone without anyone near them. Nurses reported that pitch and volume of a sound enabled them to differentiate between the sounds they heard. One informant explained:

> She moans different degrees of moans. . . Volume and loudness are the same thing, so it's in the pitch. The pitch is heartfelt, from deep down inside, like a whimper or a moan when there is pain.

The nurse informant recognized pain in the elder by the quality of the sound, specifically the pitch of the sound. Another nurse informant reported that she was able to distinguish between a fear-scream and a scream communicating pain:

> Well, the fear and the nightmare scream is a shrill screech. With a pain sound, it doesn't have that fear sound to it. It is more subdued, a lower type of a sound I would say.

The findings indicate that nurses are able to distinguish the meaning of sounds made by cognitively impaired elderly people in pain. To understand the meaning of the sound, distinguishing the characteristics of the sound appeared important, as elderly people make sounds for reasons other than pain.

Appearance

The third group of pain cues, appearance, is represented by facial expressions and body language (See Figure 7: Appearance Pain Cues).

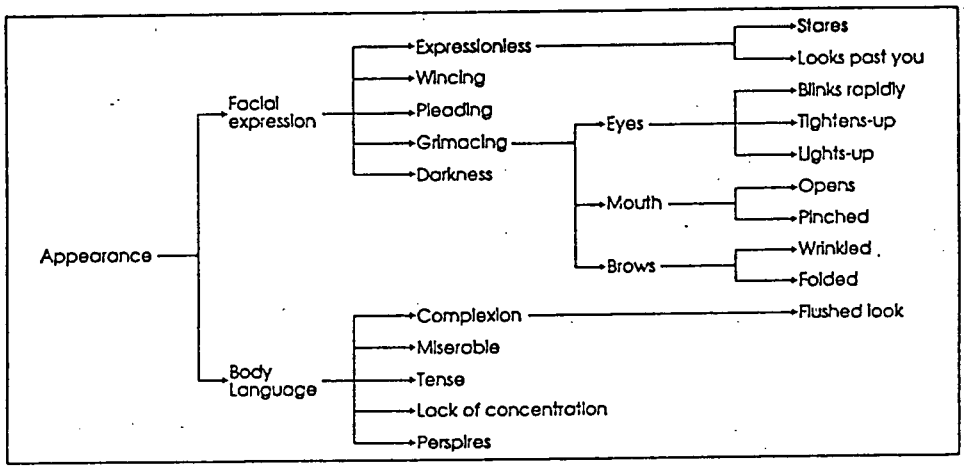

Figure 7: Appearance Pain Cues

The facial expressions in Figure 7 represented a negative affect, which emanated predominately from the eyes, mouth and brows, particularly with grimacing. The eyes, mouth, and eyebrows changed in a variety of ways: tightening, lightening-up or opening; pinched, wrinkled or folded.

Nurse informants described darkness as "a clouding" of the facial features, as this story illustrates:

> She was in pain and somebody brought in a two month old baby. She saw the baby and right away you could see the expression on her face. It was totally different. She was a

> totally different person. She didn't talk but I'm sure in her subconscious it reminded her of her daughter. When the baby was taken away the pained look, not physical pain but mind pain, came back. Right away you could tell by her face. . . . It was unreal. The expression in the face tells us a lot. I mean right away the eyes tell you. There are no tears but there is a darkening. A very dark look. No noises, the mouth becomes withdrawn. It tells me the person is saddened by what they are seeing. I wish I had a camera.

This informant seemed to be describing a lightening and then a darkening in the facial expression of a cognitively impaired person in pain. When the researcher asked, "What would you like the camera to capture?", the informant responded:

> I would like the camera to capture the expression. Like from pleasure to pain and then back again from pain to pleasure. I see it in the mouth. I see it in the eyes."

The nurse informant went on to describe the eyes as tightening and squinting, the mouth as being pinched or wrinkled.

In contrast to negative affective expressions, nurse informants described some cognitively impaired elderly people as "expressionless". Elders described as expressionless had "a look". One nurse informant explained:

> Guess that look of not being able to concentrate on anything else. It is reflected in the eyes of the person. They kind of look past you and there is hope for just some relief of the pain.

Elders appearing "expressionless" were characterized as staring and "looking past the nurse." The message the elder communicated to the nurse was "pleading", "a hope for relief."

The "silent sufferer" described earlier, was another example of the expressionless, withdrawn person. One nurse informant stated, "she just lies there and stares a lot," and another said, "she was quietly in pain." These descriptions further illustrate how varied the appearance of pain can be in cognitively impaired elderly people.

Body language, the second subgroup, consisted of the elder's overall appearance (See Figure 7). Nurse informants described elders in pain as tense, miserable, unhappy or as lacking the ability to concentrate. In some situations, the nurse informants used more objective descriptors, such as a flushed complexion, the hands clenched, or the elder perspiring. In all, body language communicated a negative message, which nurse informants interpreted as distress related to pain.

Summary

The difficulty of recognizing pain in the cognitively impaired elderly was a central theme in the data analysis. Individual variation and the absence of confirmation impeded the nurses' ability to know when

cognitively impaired elderly people were in pain. As a result, the nurse informants in this study made inferential diagnoses about pain. To make inferences, the nurse informants noticed a change in the elder, searched for a meaning to explain their observations and then developed ways to validate their hunches and confirm the presence of pain.

Nurses reported confirming their hunches about pain by assimilating information, using a process of trial and error, and team consensus. In this way, nurses made inferences and confirmed the pain problems of cognitively impaired elderly individuals retrospectively.

The gerontological nurses in this study used cues to identify pain in cognitively impaired elderly people. The findings indicated that pain cues represented a combination of changes in overt behaviours (aggressive behaviour, restlessness/agitation, and activities of daily living), sounds (verbalization and vocalization), and appearance (facial expressions and body language). Together, the pain cue groupings were not mutually exclusive but represented a sampling of presenting behaviours that ultimately provided direction for nurses' assessment of pain in this population of people.

Clearly, the findings of this study indicate gerontological nurses have found creative ways to detect, assess and corroborate the presence of pain in cognitively impaired elderly people. How the nurses in this study used cues in their clinical reasoning process will provide the foundation for discussing these findings.

Chapter Five will place the current findings within the context of existing knowledge. The meaning gerontological nurses give to pain cues provides new insight into how some nurses realize when a cognitively impaired elderly person is experiencing pain. The interpretive discussion to follow is supported by the conceptual framework described in Chapter One. The concept of nurses' "knowing" provides a framework to clarify how the nurses in this study think about and reason pain problems in cognitively impaired elderly.

Chapter Five

Discussion of the Findings

Introduction

This chapter will discuss the findings of the study as reported in Chapter Four. The purpose of the discussion is to provide explanation regarding nurses' knowledge of pain cues and how nurses used cues to infer pain was present in cognitively impaired elderly people.

In Chapter Two, the literature review established that little was known about pain in cognitively impaired elderly people. The information that was available was descriptive in nature and only captured the authors' perspectives. However, this literature served as a base for discussing this study's findings on nurses' knowledge of pain cues.

The conceptual framework supporting this study oriented us to: (a) the subjective and invisible nature of pain, (b) the absence of rational verbal pain cues from cognitively impaired elderly people, and (c) the need for nurses to make observations and formulate interpretations in order to gain meaning from clinical data (See Figure Three: Pain Assessment Cognitively Impaired Elderly People, p.13). Consequently, it was expected that identifying pain in cognitively impaired elderly people was a difficult task for nurses to do.

Still, some gerontological nurses were able to realize when a cognitively impaired elderly person was experiencing pain. This study sought to capture that knowledge in ways that could be shared and learned. Additional research and theoretical knowledge provided a base from which to understand the "way" these nurses became able to identify when impaired elders were in pain. The nursing literature on "knowing" provided the necessary structure to discuss the special features of these gerontological nurses' ways of knowing. As such, nurses' knowledge of pain cues and nurses' way of knowing pain was present are used to provide the organizational framework for discussing how the nurses in this study used pain cues.

Nurses' Knowledge of Pain Cues

The findings of this study have affirmed the behaviourial indicators of pain described in the initial literature review (Herr & Mobily, 1991; Marzinski, 1991; Mobily & Herr, 1992). The behaviourial indicators included: verbal and non-verbal behaviour, mobilization, and the impact of the pain experience on activities of daily living.

In comparing the findings of this study to the findings from other studies (Herr & Mobily, 1991; Marzinski, 1991; Mobily & Herr, 1992), differences have also emerged. The primary difference was in the

way the other authors grouped pain cues. For example, Herr and Mobily (1991) spoke of "general observations", which combined facial expressions, vocalizations and observed body movements. Herr and Mobily did not make a distinction between vocalizations and verbalizations as did the nurses in this study. Differentiating the sounds made by impaired elders has clinical significance because sounds were the impaired elders' way of communicating "something is wrong". In some cases, the sounds cued the nurse to investigate and search out reasons to explain what was "wrong". In addition, this study provided greater descriptive detail on the changes of the facial features of cognitively impaired elderly people in pain. The descriptive detail offered facilitated visualizing the appearance of elders in pain.

Marzinski (1991) came at the issue of pain in the demented elderly through the nursing assessment process and determined that "behaviours" were indicators of pain. Marzinski named the indicators as "pain behaviours", but did not delineate between the behaviours. This study adds to the work of Marzinski by further delineating potential pain behaviours as aggression, restlessness/agitation, and changes in activities in daily living (See Figure 4: Overt Behaviour Pain Cues, p.61).

Hurley et al., (1992) assessed discomfort in advanced Alzheimer's patients. All the pain cue groupings reported by the nruses in this study were included in Hurley's study. However, Hurley's study provided an expanded repertoire of cues, which included noisy breathing, negative vocalizations, various facial expressions, frown, relaxed body language, tense body language, and fidgeting.

The idea that nurses use varied groups of pain cues is a significant finding because the use of varied pain cue groupings supports the notion that pain cues in isolation of context is less meaningful. When pain cues are understood within the context of an elders' situation, the pain cues have more clinical meaning and significance for pain assessment. This points to the idea that no one cue or one combination of cues, outside a particular situation, is solely indicative of pain. This, therefore, directs nurses to use other information in combination with pain cues to search for answers to explain their observations.

There was a high degree of similarity overall between the pain cues described in the literature and those described by the nurses in this study. In addition to supporting existing literature the findings from this study has: (a) contributed greater detail to the existing description of pain cues, (b) categorized

some of the pain cues differently, (c) encouraged nurses to look beyond one set of pain cues, and (d) suggested that nurses use pain cues within the context of the elders' situation when identifying pain.

Nurses' Way of Realizing Pain was Present

Gerontological nurses' way of realizing pain was present was hardly accidental. The nurses in this study were skilled at listening and understanding.

For nurses to realize pain was present, two ways of "knowing" were in operation, knowing by "knowing the person," and "knowing by intuitive perception" (See Figure 8: Realizing Pain is Present).

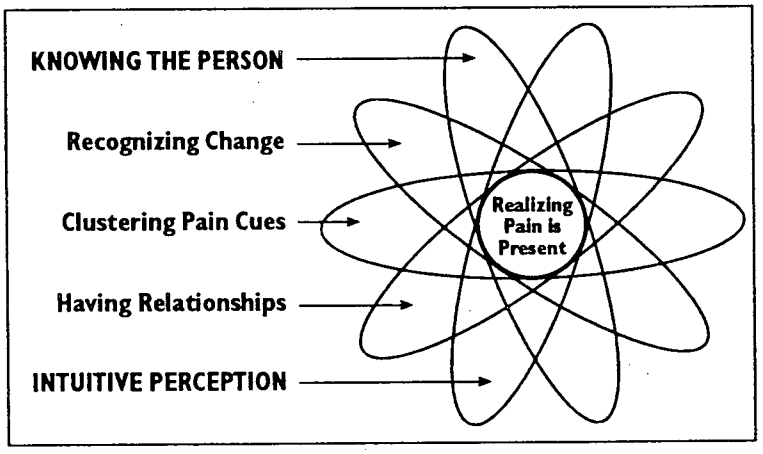

Figure 8: Realizing Pain is Present

Knowing, by "knowing the person" permitted the nurses to recognize change and cluster individually defined pain cues. Nurses' ability to recognize change and

cluster pain cues was enhanced through the development of relationships.

As illustrated in Figure 8, to know an elder was in pain required that the nurses integrate and incorporate into their clinical reasoning process, "knowing the person" and knowing by "intuitive perception". No one element in isolation could explain how the nurses in this study realized pain was present. It is necessary to consider the elements as a whole, interrelated and connected, to form one unit. It is the unit as a whole that gives understanding to the way gerontological nurses in this study realized pain was present in cognitively impaired elderly people. To understand the whole, it is useful to discuss each element.

Knowing the Patient

To "know" a cognitively impaired elderly person was to be familiar with their particular personal characteristics, regular patterns, preferences, likes and dislikes. It was through the process of being familiar with the elderly person that the nurses were able to recognize when something was different or wrong. To the nurse informants, familiarity was the base for "knowing" a cognitively impaired elderly person. Knowing, by "knowing the person," centres on those particular things that are meaningful to the

individual.

Knowing the person was important to realize pain was present because each cognitively impaired elderly person provided nurses with their own set of pain cues. No matter how the pain experience was presented, whether subtle or extreme, nurses were required to learn the meaning of the cues because the elder could not verbally say what they wanted the nurse to know. Consequently, to know the cognitively impaired elderly person meant the nurse would: (a) know when a change in the elders' status occurred and (b) understand what the elder intended when he or she behaved in a certain way.

The nurse informants attributed "knowing" the elderly person to "spending years caring for them." Working with and caring for an elderly person over time provided the nurses opportunity to learn the elder's usual patterns of responding to a variety of situations. "Spending time" with the elder gave historical context to the nurses' observations. Consequently, to learn the elder's usual patterns of responding and to understand the meaning of those response patterns, repeated exposure and frequency of experiences with the same elderly person were required. The greater the duration of time spent with an elder, the more opportunity the nurse had to learn the

particular idiosyncrasies of that elderly person. As such, knowing by "knowing the person", enabled the nurses to recognize change and cluster pain cues.

Recognizing change

To the nurses, recognizing change meant "something was wrong" with the elderly person. The conceptual framework indicated that no verbal declaration such as, "I have pain" was made by cognitively impaired elderly people (See Figure Three: Pain Assessment Cognitively Impaired Elderly Person, p. 13). However, the findings suggest that change was the mechanism that initiated the clinical reasoning process and triggered the nurses to assess for pain. As such, for the cognitively impaired elderly described in this study, the notion of "change" replaced the verbal declaration "I have pain".

The variation described by nurse informants indicated that pain in cognitively impaired elderly people was highly individual. The finding that each elder presented with his or her own set of pain cues makes the generalizability of one set of pain cues for all cognitively impaired elderly individuals inappropriate. However, the notion of "change" may be a generalizable characteristic of pain indicators.

Clustering pain cues

In this study, the accuracy of predicting pain was based on the nurse's ability to cluster cues into

recognizable patterns, which Carnevali and Thomas (1993) refer to as cue clustering. "The capacity to coalesce salient cues in relevant patterns is crucial to efficient and effective diagnosing" (p. 55). The capacity to coalesce cues comes from nursing knowledge and clinical experience (Carnevali & Thomas, 1993).

The process of cue clustering moves the nurse toward a particular diagnostic label. In a particular situation, nurses will recall a pattern of cues that is synonymous with a specific diagnostic label. The pattern of cues once linked to a diagnostic label will become the "recognition features" for a specific condition or phenomena (Carnevali & Thomas, 1993).

In this study, clusters of individually defined cues became the "recognition features" for pain in cognitively impaired elderly people. The "recognition features" for pain are derived from the pain cue groupings: overt behaviour, appearance, and sounds.

Nurses' ability to cluster individually defined pain cues enabled them to make inferential diagnoses of pain. Collectively, the nurses agreed that they were able to cluster pain cues because they: (a) had many experiences caring for cognitively impaired elderly people in pain and (b) held specific and individual knowledge of the person for whom they cared, which was gained from having long-standing, affectionate

relationships with that person.

Having relationships

Knowing, by knowing another as a person comes about through involvement and connection with others in the context of relationships (Carper, 1978; Tanner, et al, 1993). The development of relationships with impaired elders was central to the nurses' ability to form hypotheses about the meaning of cue clusters in order to infer that pain was a problem.

The nurses in this study shared events and experiences with elders over long periods of time. Contact over long periods of time lead to the development of emotional relationships that became attachments. To nurse informants, their attachments with elders gave them the ability to comprehend meaning and achieve a sense of understanding about specific events.

Relationships with cognitively impaired elders enabled the nurses to develop the capacity to empathize. The capacity to empathize required that nurses become involved and engaged with the people in their care (Carper, 1978). Nurses in this study were engaged with the elders in their care when they spoke of understanding the discomfort experienced by elders with diagnoses known to be painful.

In addition, the nurses repeatedly spoke of their

own personal pain experience. For example, when nurses spoke of "having a touch of arthritis, bursitis or rheumatism, you know what they are going through," they were speaking from a point of empathy. Clearly, the nurses' own personal experiences granted them insight into the elder's experience. The exchange of experiences, coupled with empathy, implied to the researcher that relationships existed between the nurses and the elders. This is illustrated by an informant who stated, "when you've been with them for so long you just know."

Close affective relationships developed when the nurses provided intimate care to the elders. Nurses gained understanding of elders as people through conversations with family members and by having access to biographical information on the impaired elder's life and the contributions they made prior to their dementing illness.

Horwitz and Shindelman (1983) have suggested that close affective relationships are the norm in caregiving. They describe the affective relationship as involving past and current closeness, shared activities and confiding in one another. Although the nurses in this study did not report having conversations with or confiding in cognitively impaired elderly people, they all reported sharing intimate

activities with the elder while providing personal care. Collectively, the nurses expressed a closeness that was evident in the emotions they expressed, and the affectionate gesturing with hugs and smiles that occurred between the nurses and the elders. Hence, through the development of relationships, nurses were able to: (a) make claims about their observations, and (b) say what was different about a clinical situation. Consequently, relationships with impaired elders gave strength to the inferences nurses made about pain.

According to Tanner, Benner, Chesla, and Gordon (1993), the phenomenology of "knowing the patient" involves knowledge of the patient's usual pattern of responses and knowledge of the patient as a person. Knowing the patient's usual pattern of responses involved: "(1) responses to therapeutic measures; (2) routines and habits; (3) coping resources; (4) physical capacities and endurance; and (5) body topology and characteristics" (p. 275). Although this study found that nurses included knowledge of an elder's usual pattern of responses to their clinical reasoning processes, the nurses described and labelled different patterns from those described by Tanner et al. The nurses in this study spoke of knowing the elder's usual pattern of responses but only in terms of functional ability and usual patterns of behaviour.

Functional ability included aspects of activities of daily living such as eating, sleeping, and participating in dressing; mobilizing, which would include the elder's willingness to reposition in bed, or move to a chair from a bed; and interest in socializing with others on the unit, which would involve participating in conversations and social activities with volunteers, family members and other staff caregivers. Further, the nurses in this study described the pattern of responses within the context of change from an expected or usual pattern to one that was atypical for the elder. An atypical pattern indicated pain to the nurses.

In addition, the gerontological nurses' sense of "knowing the patient" was associated with the: (a) duration of time spent caring for a given individual and (b) development of relationships that became attachments. This is in contrast to the nurses in Tanner's study, who made an association to change but the context of the change was not connected to an affective relationship with the patient that developed over time spent with the patient. As a result, the findings from this study expand the work of Tanner et al., (1993) from the critical care nurses' way of "knowing the patient," to the gerontological nurses' way of "knowing the patient." The special features of

gerontological nurses' way of "knowing the person" made it possible for nurses to realize pain was present in cognitively impaired elderly people.

Intuitive Perception

Knowing by intuitive perception is a process that enables the nurse to gain immediate understanding without the ability to verbally give reason or rationale (Benner & Tanner, 1987; Schraeder & Fisher, 1987). Intuitive perception is knowledge that is embedded in practice and develops through previous encounters with similar situations (Benner & Wrubel, 1982). For the nurses in this study, intuitive perception developed from having many relationships and experiences with many different cognitively impaired elderly people in pain. In essence, intuitive perception is knowing by diversity, where as "knowing the person" is based in knowing the particular.

In this study, nurses had the ability to rapidly recognize subtle changes without being able to clearly verbalize their perceptions, suggesting that they knew more about the cognitively impaired elderly person than they could say. For example, nurses talked about "a feeling inside" that something was wrong, or that they "just picked up" the pain cues. In other examples, the nurses reported that their "instincts" tell them, or that they "internally feel something is wrong because

the person is not being herself." It was not easy for the nurses to describe how they were able to grasp the meaning of a situation for an impaired elderly person.

It appeared that the nurses, in part, realized pain was present because they were able to learn and remember the "recognition features" of pain across cases. The nurses then associated those "recognition features" (when appropriate) to new clinical situations. Therefore, the notion of intuitive perception as implied by the nurses in this study, was rooted in exposure to multiple and concurrent clinical experiences.

Nurses' ability to cluster pain cues illustrated the interplay between knowing the person and intuitive perception. For example, as stated earlier, a cognitively impaired elderly person will provide nurses with their own set of pain cues. As a result, knowing by "knowing the person" is essential to clustering individually defined pain cues in order to make inferential diagnoses of pain. However, nurses' ability to cluster cues is heighten when they integrate learning from past clinical experience to new clinical experiences.

To make sense of the pain cues and their intuitive perceptions, nurses pulled in other information. Other types of information included the

cognitively impaired elder's diagnoses, knowledge of the pathophysiology of diseases known to be painful and their own experience with painful conditions. This additional information gave further meaning to the pain cues nurses observed in cognitively impaired elderly people.

Summary

This chapter has discussed the findings of the current study in relation to the theoretical perspectives of other authors. The purpose of this discussion was to explain and provide clarity to the findings while placing this study within the context of existing knowledge and research.

Nurses' knowledge of pain cues was not easily articulated nor were their problem solving approaches traditional. Nurses' proficiency in problem solving pain issues for cognitively impaired elders was rooted in their ability to practice from a wide base of knowledge, which was grounded in the context of relationships. It is clear from the findings that this breadth of knowledge comes from a variety sources and takes time to acquire.

It was evident that the gerontological nurses in this study used a complex clinical reasoning process. The clinical reasoning process incorporated knowing, by "knowing the person" and knowing by intuitive

intuitive perception. Knowing, by "knowing the person" involved recognizing change, clustering cues, and having relationships with elders. Intuitive perception was reflective of knowledge embedded within clinical practice.

The literature presented in this chapter augments much of this study's findings but also leaves some questions unanswered. Chapter Six will provide the summary, conclusions and the implications of this study. An attempt will be made to further define the unanswered questions by offering future direction for nursing practice, education and research.

Chapter Six

Summary, Conclusions, and Implications

Summary

The purpose of this study was to determine the cues that gerontological nurses use to infer that pain is a problem for cognitively impaired elderly people. Motivation for this study arose from the observation that: (a) some gerontological nurses hold the specialized skill and knowledge that is necessary to recognize pain, and (b) a better understanding of the knowledge held by those gerontological nurses could provide information that could be shared and thus, would improve the quality of care provided to cognitively impaired people who suffer pain. The researcher held that gerontological nurses' knowledge of pain was embedded in the culture of the long term care facilities that employ gerontological nurses.

Literature was reviewed to identify the current status of knowledge on pain assessment in cognitively impaired elderly people. Clearly, little was known about pain in this population of elderly people. As a result, related literature on pain in infants and young children was reviewed. Unfortunately, population differences made the utilization of this pain literature inappropriate.

The method, an ethnoscience design of qualitative

research, was appropriate for this study because it allowed the researcher access to the cultural knowledge held by gerontological nurses through their written and spoken language. Two data sources, storytelling interviews and retrospective chart reviews, provided the data necessary to identify how some gerontological nurses detected pain in cognitively impaired elderly people.

The interviews were designed to permit systematic exploration of gerontological nurses' perceptions of cognitively impaired elderly people in pain, which ultimately lead to the discovery of pain cues. Six nurses, three Registered Nurses and three Nursing Assistants were interviewed. Each had greater than two years experience working in the same facility. All had between six and fifteen years of experience working with the cognitively impaired elderly. The long term care facility that employed the nurse informants provided residential care services to physically and mentally frail elderly people. The facility was located in Greater Vancouver. All interviews were audiotaped and transcribed verbatim. The major themes that emerged from the data were verified with the participants.

The retrospective chart reviews were designed to add breadth to the potential number of pain cues

identified by the nurses in the interviews. Twenty-one charts were reviewed, but only sixteen were included in the study. Five charts were excluded from the study because they did not meet the established inclusion criteria. Unfortunately, the retrospective chart reviews did not yield useful information beyond what was gleaned from the interviews. Consequently, the primary data source for this study became the stories nurses told.

A process of constant comparative analysis permitted the researcher to: (a) identify the words nurses used to label their observations, and (b) determine the meanings nurses attached to the words they used to describe their observations when inferring pain was a problem for cognitively impaired elderly people. The pain cues identified in this study are grouped as overt behaviour, sounds, and appearance. Each group of cues represented a change in the elder's status. These observable changes, referred to as pain cues, were elder specific.

The findings revealed that pain recognition in cognitively impaired elderly people was a difficult clinical challenge because of: (a) individual variation in the presentation of pain cues and (b) the absence of confirmation. However, the nurses in this study responded to the challenge by adopting a

complicated clinical reasoning process. The clinical reasoning process involved integrating two types of knowing; knowing by "knowing the patient" and knowing by intuitive perception. Knowing by "knowing the patient" focused on the nurses' knowledge of a particular individual. In contrast, knowing by intuitive perception focused on knowledge by diversity, which the nurses gained from having many clinical experiences with many different cognitively impaired elderly. Both, "knowing the patient" and knowing by intuitive perception facilitated the nurses' ability to make inferential diagnoses of pain.

The findings from this study are generally congruent with the anecdotal recordings reported in the descriptive literature. This study has generally affirmed that nurses recognize and infer pain problems according to how a cognitively impaired elderly person behaves, appears, and/or by the sounds he or she makes. In keeping with the limits inherent in a small qualitative study, generalizability of the findings are limited to those who participated in this study.

Conclusions

Three primary conclusions are suggested by the findings from this study. First, in the midst of tremendous variation and in the absence of confirmation, experienced gerontological nurses are

able to realize when a cognitively impaired elderly person is in pain. Nurses make inferences about pain by recognizing change, clustering cues, and having relationships with cognitively impaired elderly people over time. As well, they apply learning from past clinical experience to new situations.

Secondly, the pain cues nurses used to infer pain can be grouped as overt behaviour, appearance and sounds. However, the cues that represent pain are individually defined, may overlap more than one group, and are meaningful only in the context of the impaired elder's experience. Consequently, pain cues in isolation of context do not seem to be reliable and valid indicators. It seems likely that no single set of cues can universally represent pain in this population.

Thirdly, individually relevant pain cues often represent a change in the elder's status. Therefore, the notion of change seems to be a distinguishing characteristic of cues indicative of pain. As such, the notion of change may be a generalizable characteristic of pain in cognitively impaired elderly people.

Implications for Nursing Practice

Clinical practice

From the perspective of direct clinical practice,

the findings give direction for nursing assessment of pain problems. A pain experience is not static and simultaneously affects several aspects of an elder's life. Consequently, nurses' assessment of pain must be ongoing and include physical, mental, and social well being.

The finding that pain cues are individually defined according to an elder's experience requires that nurses utilize a framework for decision making in practice that is "resident" or client focused. It would follow that in clinical practice, nurses would move away from standardized pain assessment and treatment plans to individualized approaches that were based in the context of the elder's experience.

When clinical decisions are made about pain issues, it is essential to accurately communicate information to all levels of staff caregivers, on all shifts. This would enhance the quality of care provided to older adults and move staff caregivers toward a collaborative practice that improves continuity of care.

New and improved pain assessment data collection tools could facilitate communication by enabling nurses to acquire and consistently document, relevant and timely information. Assisting staff caregivers to collect appropriate information would facilitate the

nurses' ability to make comparisons between the elder's typical and atypical behaviours. A process of comparative analysis would support effective problem solving and ensure that timely adjustments were made to the care plan.

Administrative practice

From a nursing administrative perspective, the findings from this study have implications for the: (a) organization of nursing care delivery systems, (b) creation of infrastructures to promote communication and (c) implementation of a documentation system for nurses to record their observations. Each system has an impact on nurses' ability to acquire the pertinent information necessary for problem solving pain issues.

Currently, nursing care delivery systems in many long term care facilities have incorporated staff caregiver rotation among large numbers of elders living on the unit, some as frequently as every week. This type of rotation does not foster knowing by "knowing the person", which includes the development of close affective relationships, because the staff caregivers are not with the elder for a sustained period of time.

Care delivery systems that authorize staff caregivers to remain with a group of elders for an extended period of time would promote knowing by "knowing the patient". As is evident from the findings

of this study, knowing the patient enhances pain assessment. Nurses would be in a better position to grasp the meaning of changes and behaviourial cues in a more timely manner.

Organizing care through the establishment of permanent teams would foster "knowing the patient". However, a new challenge emerges when care delivery on a unit is established in a permanent team format. The challenge is to balance opportunities to "know the patient" with opportunities to cultivate intuitive perception from experience with different cognitively impaired elderly people in pain. A solution to the challenge of balancing knowing the particular with knowing by diversity is through team membership. Teams consisting of members who know the idiosyncrasies of particular elders and members who are expert by virtue of experience with elders in pain would bring the advantages of knowing the patient and knowing by intuitive perception together into a single collaborative team.

Infrastructures that enable the exchange of relevant information are needed to improve communication on the nursing unit. Such infrastructures might include regularly scheduled care conferences, nursing care rounds and resident care reviews. Sharing experiences and expertise encourages consistency in

care plan development, fosters learning, and ensures that the most appropriate information for promoting comfort is available and shared with all relevant staff caregivers.

The finding that nurses record only the diagnosis of pain and not the factors supporting their diagnosis implied to the researcher that communication through documentation only may be inadequate to foster consistent care delivery. This points to the need for a nursing assessment data base tool. A nursing assessment data base tool for pain would: (a) promote more accurate, relevant, and consistent data collection, (b) support novice nurse practitioners in their skill development, (c) ensure that each nurse used the same set of pain cue indicators to measure the effectiveness of interventions, and (d) foster similar interpretation of pain cues amongst nurses caring for the same group of elders.

Implications for Nursing Education

Curriculum development

It is generally accepted that elderly people suffer from a variety of painful conditions. As such, the special features of assessing cognitively impaired elderly people for pain should be added to the current curricula. Nursing educators have a role to heighten students' awareness for the high incidence of pain in

the cognitively impaired elderly. It follows then, that students would be oriented toward a standard for gerontological nursing practice that is proactive and focused on individualized approaches to pain assessment in this population of people.

Classroom time and practical experience are both necessary to develop skills that will improve care for cognitively impaired elders in pain. Classroom time directed toward understanding the concept of pain and other theoretical underpinnings is necessary for nursing students to gain the full benefit of their clinical experiences. Seminar discussions provide a useful format for students to debrief from clinical experiences, hear other students' questions, and test some of their own ideas and learning. Nursing students need to be encouraged to clinically analyze what they observe in practice and hear from other students. Practical experience for nursing students must permit opportunities for students to work with experts in the field, as knowledge held by gerontological nurses is not easily accessible in print.

In addition, students need to be encouraged to bring their own personal and professional experiential knowledge to practice. From the study findings, nurses who were able to relate personal experiences to clinical practice spoke of having greater empathy and

foresight to recognize pain in the non-verbal older adult. Prior professional experiential learning needs to be given credibility and incorporated into new clinical learning.

Facility based inservice programming

With regard to continuing education, the findings from this study suggest that staff caregivers in long term care facilities would benefit from education on pain assessment and management in the elderly. Many facilities have formal and informal educational opportunities for staff. However, with an increase in workload, it is becoming a challenge for staff to attend in-service education during their working shift. As a result facilities need to be creative and develop opportunities for learning that are not burdensome to the staff caregiver. Examples of such opportunities could be nursing rounds during lunch hours, clinical conferencing facilitated by expert clinicians, and self learning modules for motivated staff learners.

Implications for Nursing Research

Several findings in the current study raised questions that can only be answered by future research. First, it would be useful to conduct the identical study in another long term care facility. Replicating the study in another facility would help determine if the cultural knowledge held by the nurses in the

current facility is consistent with that of gerontological nurses in other long term care facilities. It would be useful to know if the pain cues and strategies identified in this study's findings held true as a common understanding for all nurses working in long term care. Having the findings of this study replicated would further strengthen the validity of this study's conclusions.

Secondly, more studies are needed to confirm the pain cue categories and to confirm the generalizability of change as a characteristic of pain in the cognitively impaired elderly.

Thirdly, the nurses in this study consistently spoke of physical pain, but also referred to a non-physical pain experience, which they named either spiritual, mental, or emotional. Research is needed to explore the non-physical pain experiences of cognitively impaired elderly people. It is important to understand the experiences in greater detail to ensure that appropriate nursing interventions are applied to the appropriate pain experience.

Finally, research is needed to understand the impact of current care delivery systems on nurses' abilities to recognize and manage pain problems. If we accept the finding that nurses are better able to recognize pain in the cognitively impaired elderly when

they develop relationships with the elders in their care, the care delivery system as it currently exists discourages the development of such relationships. Investigating the current care delivery systems in relation to clinical outcomes seems particularly important in the present climate of fiscal restraint.

In conclusion, the findings from this study have contributed to our understanding of pain in cognitively impaired elderly people. Gerontological nurses who have participated in this study are clearly knowledgeable and have a wealth of information, much of which has not yet been reflected in our practice literature. Discovering the knowledge held by gerontological nurses can assist other nurses in learning and promoting comfort measures in cognitively impaired elderly people. Continued research is necessary to reveal the special features of gerontological nurses' ways of knowing.

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Appendix A

QUESTION GUIDE

PART ONE: Current Experience

1. I'm interested in learning how nurses identify pain in the cognitively impaired elderly, how you see things. I want to understand things from your point of view.

2. Who are you caring for right now that is cognitively impaired and in your opinion in pain? Tell me about them.

3. What made you feel (resident) was in pain?

4. What kinds of things did you see/hear that made you believe (resident) was in pain?

5. What are you looking for when you are assessing (resident) for pain?

6. Have you seen this often in other cognitively impaired people?

7. How do you normally recognize a cognitively impaired person is in pain?

8. What does it mean when you see (behaviours)?

9. Could you describe how this situation is different from other situations where residents behaviours are not pain related?

PART TWO: Past Pain Stories

1. Think of the most uncomfortable cognitively impaired elderly person you ave provided care for. Think of the most extreme case. Make a mental picture of that person. (pause give time to remember) Tell me about that person.

2. What things stand out in your mind?

3. Could you describe how this situation is different from the situation with (resident).

4. Can you think of another resident that fits this picture? How are they different. How are they similar? (repeat)

5. How do you pick up information when it is more subtle?

6. How normal can a cognitively impaired elderly person look and still be in pain?

7. When you sense a resident is in pain, how do you confirm your hunch?

8. Is there anything else you would like to tell me?

9. In your opinion who else do you work with that is knowledgable about pain in the cognitively impaired elderly?

DEMOGRAPHIC NURSE INFORMANT DATA

A. Age: 19-24 _____, 25-30 _____
31-35 _____, 36-40 _____
41-45 _____, 36-50 _____
51-55 _____, 56-60 _____
> 60 _____

Gender: Male _____, Female _____

Cultural Background_____.

B. Position within the facility: RN _____, LPN _____
NA _____, Other _____

C. Level of nursing education: No formal training ___
Diploma _____
Baccalaureate _____
Graduate Degree _____
NA Certificate _____
Other _____

D. Number of years employed in the facility:
less than 1___
2 to 5 _____
6 to 10 _____
greater than 11 _____

E. Years of experience working with cognitively impaired elderly:
4 to 6 _____, 6 to 10 ___
11 to 15 _____
greater than 15 _____

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Title: The Pain Cues of Cognitively Impaired Elderly: An Ethnoscientific Study of Gerontological Nurses' Perspectives.

Investigator: Belinda Parke, RN, BSN
Faculty Advisor: Ann Marie Hughes, RN, Ed.D.

This is to certify that I,_____ agree to participate as a volunteer in the above named study. The purpose of the study is to investigate how nurses infer that pain is a problem for a cognitively impaired elderly person.

I have read the letter of explanation and understand the purpose of the study. I agree to be interviewed on two occasions and that each interview will be tape recorded.

I understand that there are no risks associated with this study and that I am free to refuse to answer any questions or to withdraw from the study at any time. I have had the opportunity to ask any questions I wish of the researcher and all the questions I have asked have been answered to my satisfaction.

I understand that there is no monetary compensation but that the information gained may lead to development of assessment techniques that could allow all nurses to more easily assess pain in the cognitively impaired elderly.

I understand that information from this study will be used in presentations and publications, but in ways that confidentiality will be maintained.

I acknowledge receipt of a copy of this consent.

Signed_____ Date_____