Educating student nurses about chronic pain

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Certificate of Authorship/Originality

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

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ABSTRACT

This thesis explores the issue of educating student nurses about chronic pain. Chronic illness is a substantial health and disability issue across the globe. Chronic pain is a particularly prevalent chronic health experience, with estimates that between a quarter and a half of the world's population, experience some degree of chronic pain. A good deal of knowledge about the causes and treatment of various types of pain have developed in recent years. However, patients believe that their pain is not adequately treated by health professionals. The prevalence of chronic pain, concerns about the inadequate management of it, and the leading role that nurses play in assessing patients and providing treatment, make it timely to explore chronic pain in relation to nursing education.

This study focussed on exploring how student nurses think about and may respond to patients experiencing chronic pain. A number of misconceptions had previously been identified as being held by health professionals, and having the potential to detrimentally impact on their response to patients (McCaffery & Pasero, 1999). This research was designed to explore the extent to which those misconceptions about patients with chronic pain were held by student nurses during their pre-registration education. This phenomenon had not previously been researched.

The findings of the study suggest that attitudes and knowledge of student nurses about patients with chronic pain are inadequate. Further exploration of the findings suggests that the views held by student nurses are not positively addressed to any significant extent during the course of their undergraduate education. It is argued that ensuring appropriate knowledge is taught to students and linked to practice may play a substantial role in improving the practise of nurses and the experience of patients with chronic illness.

CHAPTER ONE - INTRODUCTION

Health care provision and practice

The provision of health care is a major and growing concern across the world, especially in relation to chronic illness and disability (World Health Organisation, 2002). There is increasing pressure to ensure that resources are used wisely to enable people to stay well and to be supported as they experience illness or disability. Within this context it is timely to explore how professionals are equipped during the course of their initial (undergraduate) professional education to work in this context. We live in an age where there is an abundance of information available about the causes and treatment of all manner of health care needs. Vast amounts of resources are expended in exploring new threats to health and developing innovative ways of responding to them. However, the development of new knowledge is not always reflected in practice, and the reasons for this and how undergraduate health professional education may address them, especially in relation to chronic illness and disability, warrants some investigation.

Nurses play a significant role in the planning, implementation and evaluation of health care and often have closer and more ongoing contact with patients than other members of the health care team (R. Davis & Magilvy, 2000; Hunter, 2000; Pilowsky, 1988). Nurses constantly work with patients who are experiencing pain (Wood, 2002). Changes to health care provision in many countries have seen the responsibility for overseeing the care of patients with chronic conditions move from the medical profession to nurses (Bodenheimer, MacGregor & Stothart, 2005). It is therefore essential that nurses have a sound appreciation of chronicity from a technical perspective and also of the contextual and interpersonal dynamics that patients and health professionals experience.

Chronic health issues

As the population of the world continues to grow and age, the prevalence of chronic health issues, and the impact of them on people and society, will intensify (R. Davis & Magilvy, 2000; Nolan & Nolan, 1999). As a result, chronic health issues and how they are treated will become an increasingly important issue. Chronic pain is one of the most prevalent chronic health issues that people live with and also one of the most common reasons for them to seek health care (Ashburn & Staats, 1999; Carey et al., 1995; Elliott, Smith, Penny, Smith & Chambers, 1999; Sieppert, 1996) and nurses play a considerable role in this care. However, the practice of professionals has not changed significantly in the light of new knowledge about the causes and treatment of pain (Ferrell, McCaffery, & Rhiner, 1992).

Nurses have been reported to have particular misconceptions which may negatively influence the way in which they assess and treat patients experiencing chronic pain (McCaffery & Pasero, 1999). The apparent inadequate treatment of chronic pain despite the wide range of knowledge and expertise about it suggests that gaps between theory and practice need to be investigated, and that exploring this in relation to undergraduate education is timely. This appropriately involves considering the knowledge and beliefs of nurses, the context in which they learn and practise and how research articulates with practice.

The education and practice of nurses

There has been an enormous increase in research within the health care disciplines. Alongside this an expectation that health professionals will base their practice on sound evidence has also developed. However, there are indications that health professionals do not change their practice significantly even if they are aware of research findings (C. Allen, Glasziou & Del Mar, 1999; Cape & Richardson, 2000; S. Rogers et al., 2000; Strong, Tooth & Unruh, 1999). A number of factors may contribute to this reluctance on behalf of health professionals to change their practice. These include resource limitations, contextual constraints imposed by the environments in which they work and cultural pressures from within their professional groups (Fagerberg, 2004). However, the content and process of their undergraduate education has also been identified as having an impact on their reluctance to change and develop their practice in the light of new knowledge and evidence, and therefore contribute to discrepancies between theory and practice (Upton, 1999).

The disparity between theory and practice has been discussed in relation to nursing education for a number of years. Traditionally, the education of nurses was based on an apprenticeship model of practical education. This approach meant that the majority of students' time was taken up by carrying out tasks as member of the workforce with little attention to knowledge development (Ben-Zur, Yagil, & Spitzer, 1999). The disadvantage of this approach to education was that the learning process was not designed in a way that linked theory with practice. In the 1940s specific theoretical components or 'blocks' were introduced into nursing curricula. These were designed in an attempt to provide theoretical learning to support clinical experience. In recent years nursing education has moved from being based primarily in clinical environments to higher education. This move was defended as ensuring there was a greater focus on learning and saw the emergence of curricula which were 'product-driven', with an emphasis on what the student was able to do at the end of the course, and described in behavioural terms. These developments were associated with asserting nursing as a profession in its own right and were characterised by a strong emphasis on empirical knowledge (K. E. Ferguson & Jinks, 1994; MacLean, 1992). This empiricist focus has had a significant impact on what is taught to nurses and has led to a tremendous increase in the amount of nursing research that is undertaken and inclusion of this knowledge into nursing curricula. The recent focus on evidence-based practice within the health disciplines (Lloyd, 2000) has also contributed to the priority that is placed on research-based knowledge in nursing education. This empiricist focus is also evident in the process of nursing education with the emphasis on scientific knowing reflected in curricula designed around behaviourally measurable learning (R. A. Ferguson & Day, 2005; MacLean, 1992). These empiricist ways of identifying and conveying knowledge support the notion of nursing as a science that applies knowledge. However, empirical approaches to the content and process of educating health professionals does not correspond well with the notion of nursing as an art, with interpersonal interaction at its centre (Rycroft-Malone et al., 2004). Nor are empirical approaches well equipped to address the complexities of health and disability experiences which are essentially subjective in nature and not well served by purely scientific analysis. This particularly true in the case of chronic health and disability issues.

Previous research

A range of previous research has provided insight into the education of health professionals and how this may impact on their practice. These areas of inquiry informed the development of this study and the discussion of the findings. For example, previous studies have investigated the influence of socialisation and curricula on the development of attitudes and knowledge of students in the health disciplines (Cribb & Bignold, 1999; Papadakis,1998) and the gaps that exist between theory and practice within them (Lloyd, 2000). The social and political environment in which health professionals and patients experience chronicity has been identified as influencing the assessment and treatment of patients (S. French, 1994; Paris, 1993; Novack, Suchman, Clark & Epstein, 1997; Westbrook, Nordholm & McGee, 1984). Nurses frequently work with people experiencing chronicity and the knowledge and attitudes that they bring to their interactions, has been shown to influence the wellbeing and experience of those patients (McCracken, Klock, Mingay, Asbury & Sinclair, 1997; Sherwood, Adams-McNeill, Starck, Nieto & Thompson,, 2000).

In recent years a substantial amount of research into chronic pain and how health professionals relate to patients has emerged. McCaffery and Pasero (1999) identified eight misconceptions that they believe impact on the treatment of patients with chronic non-malignant pain. They define these misconceptions as beliefs, values, attitudes and exaggerated fears. This study was designed to explore those misconceptions in relation to nursing education.

This study

Experiences in clinical practice motivated this study. As a student nurse, I met a patient who had been admitted to hospital with the potential diagnosis of a pain syndrome. Over a number of years she had consulted several health professionals and had become increasingly disabled. I was concerned by the general attitude amongst my colleagues that this patient was not experiencing 'real' pain. I spent some time reading through her long and complicated file and discovered that, for the first few years, the professionals she had seen regularly communicated with one another with a degree of concern for her general wellbeing as they set about investigating, managing and discussing possible causes of her pain. Part way through her file there was a letter written from one health professional to a colleague which included two comments in which he questioned the patient's mental stability. In particular, he questioned the appropriateness of what she had worn to an appointment with him, noting to his colleagues that she was wearing clothing that was, in his opinion, too heavy for the weather of the day and he suggested this may reflect mental instability. He also noted that he had watched her getting out of the car and, from his point of view, she had been more guarded and restricted in her movement than she needed to be. He implied that this may mean she was giving more meaning to her pain than her physical condition warranted. From that point on in the patient's file the language and manner in which these same professionals communicated about her with one another changed dramatically. They increasingly questioned her physical illness and discussed that, in the absence of obvious pathology, her experience of pain was primarily a feature of the state of her mental health.

I have observed nursing colleagues on many occasions discussing the pain that patients are experiencing, making judgements about the cause and severity of the pain, and debating appropriate treatments. More recently in my nursing practice I met another patient who was experiencing chronic pain and, while the health professionals around her accepted she was in pain, they were convinced that it was not as severe as the patient thought. They suggested her social and mental wellbeing were the reason for her pain being so severe, and attributed her symptoms to an inability to cope with stress in her life. While the practitioners who worked with her regularly dealt with patients experiencing chronic, complex, and often terminal pain, and generally managed this well, they had difficulty treating the pain that this patient experienced. They discussed on several occasions whether or not the pain was real and even considered administering placebos to try and 'prove' whether it existed.

This study explored the undergraduate education of student nurses with regard to a prevalent health and disability issue - chronic pain - and considered the findings with regard to how practice may be positively influenced during the course of undergraduate education. The study primarily aimed to identify what student nurses know and believe about patients experiencing chronic pain, and how the education they receive equips them to practise. A research tool was designed to gather evidence about the existence and development of conceptions of people with this type of pain amongst student nurses across three years of undergraduate education. The tool was based on misconceptions of patients with chronic pain that had been previously documented in a text book by McCaffery and Pasero (1999).

The text book in which these misconceptions are documented is frequently referenced in this work as the source of those misconceptions. The depth and breadth of information relevant to nursing practice within the book is also evident as it referenced in relation to commentary about nurses and patients as they experience chronic pain. In these instances other references are often presented to add further support. The frequent referrals to this text book in this thesis indicates its status as a major work in the field of pain management, which draws on a wide range of literature and debate to discuss current issues. It has not been used as a secondary reference.

Misconceptions in relation to patients experiencing various types of pain had previously been identified and the prevalence of some of these misconceptions, and the subsequent impact of them on the treatment of patients, had been studied in some contexts. However, at the time of embarking on this study, there was no evidence in available peer-reviewed and published literature that the prevalence and development of the misconceptions about people experiencing chronic pain had been researched in the context of undergraduate nursing education and practice, or in relation to any specific sociopolitical context.

This study was located in New Zealand as that was where I was working at the time; the research was conducted in, but is not about, New Zealand. However, two contextual issues make the findings of the study potentially transferable to other Western environments. The first of these is the sociopolitical setting. Social and political contexts impact on patients and professionals and New Zealand provides a strong example of a neoliberal environment. The second contextual issue that may enable transferability is that nursing education within the country conforms to a national standard.

While the motivation for the study was based on my personal experience, and therefore intimately linked to practice, my observation was that quantitative information was most likely to be valued when trying to draw attention to potential deficits in knowledge and practice. This belief led me to decide to design a study with a strong quantitative emphasis. This is reflected in the design of the questionnaire and the analysis of the results. The choice of the APA (5th edition) referencing style was made because of its prevalence within the health disciplines. It is hoped that taking such an approach will make the information in this work accessible and transferable for professionals and educators. However, one disadvantage of this strategy is that practitioners are not particularly obvious in the text because the language does not reflect the 'first person'. In order for practice to develop and the experience of patients to improve health professionals must take the information provided by research and integrate it into their thinking and action.

This study explored misconceptions about patients with chronic pain held by student nurses during the course of their undergraduate education. As a result it has some relevance to and association with various fields of enquiry within nursing and education. However, the study did not explicitly set out to investigate or make common on these other fields such as curriculum design or delivery.

The structure of this thesis

Following this Introduction which outlines the aim of the study, Chapter two reviews relevant literature. This review considers the concept of pain, relevant contextual issues for patients, practitioners and health professional educators and the structure and process of education in nursing and other health disciplines. Chronic illness is considered throughout this thesis as a cause of disability (Ahmad, 2000), and chronic pain as a specific example of chronicity. The literature review concludes with a summary of an analysis of nursing curricula that was undertaken in the process of developing this study. This analysis provides an overview of the two curricula from which the sample for this study was drawn.

The detailed research questions and the design of the study are outlined in Chapter three. This chapter also includes a detailed explanation of the tools that were developed to gather data in this study as they were specifically designed for this purpose.

The results of the data that were gathered are presented in Chapter four, in relation to the research questions identified in the previous chapter. Details of the process of analysis are also included.

The discussion emerges in Chapter five, which is designed to link the literature review, presented in chapter two, with the findings that were presented in the results chapter. Links are made with previous research, and educational issues relevant to nursing education and practice are identified.

The final chapter concludes the study by summarising the previous chapters and commenting on some limitations within the design of the study. Major points from the discussion in the previous chapter are summarised as recommendations for nursing education, and opportunities for further research are identified.

Summary

This thesis explores the education of student nurses in relation to one particular health care practice issue – that of responding to patients experiencing chronic pain. Chronic illness is the largest resource issue facing health care provision across the globe and pain is the most common reason for people to seek help from health professionals. While knowledge about the causes and treatment of chronic pain has increased significantly in recent times, this has not been reflected in the practice of health professionals, nor in their initial professional education. The exploration of the education of student nurses in relation to patients experiencing chronic pain is timely as it has the potential to influence the education of students in relation to prevalent and significant health issues (chronic illness, disability and pain). It also has the potential to engage with and contribute to the debate about how health professional education may be developed in order to positively impact on the practice of nurses, and therefore the lived experience of patients.

CHAPTER TWO - LITERATURE REVIEW

Introduction

This literature review presents background and relevant evidence from nursing and health professional education research to support this study. As chronic health problems and disabilities become more prevalent (R. Davis & Magilvy, 2000) it is timely to investigate the role health professionals have in working with people who are living with these issues. Previous research has identified that nurses frequently work with people experiencing chronicity (Coyle, 1987; Lisson, 1987) and that the knowledge and attitudes that they bring to their interactions influence the wellbeing and experience of those patients (McCracken et al., 1997; Sherwood et al., 2000). Other studies have investigated the influence of socialisation and curricula on the development of attitudes, knowledge and practice of students in the health disciplines (Cribb & Bignold, 1999; Papadakis,1998). The social and political environment in which health professionals and patients experience chronicity has also been identified as influencing the assessment and treatment of patients (Ballard, 1994; Westbrook et al., 1984).

Chronic pain is a particularly common example of chronicity (Ashburn & Staats, 1999) and is also one about which nurses have been shown to have particular misconceptions which may negatively influence the way in which they assess and treat patients (McCaffery & Pasero, 1999). The apparent inadequate treatment of chronic pain, in spite of the wide range of knowledge and expertise about it, suggests that the actual practice of nurses needs to be investigated. This logically involves considering the knowledge and attitudes of nurses and the context in which they learn and practise.

This chapter begins by explaining the prevalence of chronic health problems and their significance, and by identifying chronic pain as a particularly common and important health and disability issue. The experience of chronic pain within the context of Western medical health care, specifically the New Zealand health environment, is explored. Evidence that health professionals do not manage chronic pain successfully, despite considerable advances in knowledge and treatment, is then identified and possible causes of this poor response are outlined. The misconceptions documented by McCaffery and Pasero (1999) as representing inaccurate knowledge and attitudes of health professionals towards people with chronic pain are presented. These misconceptions, which are considered to underlie the inadequate treatment of people with chronic pain, are explained, and ways in which health professionals may develop these misconceptions during the educational process of preparing them to practise in the health disciplines is explored. Socialisation and curriculum are identified as the two main factors in the educational process, and the influence of both of these on the development of knowledge, attitudes and misconceptions about chronic pain, and therefore the persistence of inadequate treatment, is discussed. A discourse analysis of specific curriculum events within nursing education courses in New Zealand is included as an example of this process.

Pain

Pain is a universal part of human experience (Costantini, Viterbori & Flego, 2002; Cupples, 1992; Slack & Faut-Callahan, 1991; Stendig-Lindberg, 1998) and is defined as being an emotional and sensory experience resulting from actual or potential damage to the body (Merskey & Bogduk, 1994). It is has been recommended, and is widely accepted, that nurses should rely on patients to define the existence and severity of pain (McCaffery & Beebe, 1994). Chronic pain is defined as pain which has been present for a significant length of time, is disabling (Gronblad, Hurri & Kouri, 1997; Rintala, Loubser, Castro, Hart & Fuhrer, 1998; R. A. Scudds & Li, 1997; Simon, 1996) and may interfere with physical functioning (C. K. Cain, Francis, Plone, Emerich & Lindner, 1997; Chapman & Gavrin, 1999; Fordyce, 1997; B. Price, 1996; R. J. & Robertson, 1998; A. P. Vallerand, 1998). While chronic pain is common, increasing in prevalence and a leading cause of disability (Arnstein, 2003; A. H. Vallerand, 2003), the experience of it is complex for health professionals and patients alike and not well understood or managed. This is partly because models of diagnosis and treatment that are used for other categories of pain are not appropriate for describing or responding to chronic pain.

Types of pain

The pain that people experience may be divided into categories. These determine how the pain is defined by patients, treated by health professionals and responded to by society. Acute pain is generally caused by some kind of trauma such as surgery or injury. The cause of acute pain is obvious, and the experience of it may be severe, but generally it can be treated effectively. Once the trauma has been resolved, the pain subsides. This is a type of pain that is easy for people to recognise and the treatment of it is well understood by professionals. Because the origin of acute pain is obvious, it is usually remedied in a short period of time and does not normally continue to be a problem for patients, professionals or resource agencies.

Pain which is related to terminal illness is also quite well understood by patients and health professionals. As with acute pain, there is an obvious or understandable cause. The desire to ensure people do not suffer needlessly underpins the response of professionals to people with terminal pain. As a result, this pain is treated in a more comprehensive manner than other types of pain, partly because there is less concern about potential negative effects of treatment if the patient is already seriously unwell (McCaffery & Ferrell, 1992; 1996; Melzack, 1990; Weinstein et al., 2000a, 2000b). The role of the professional treating a patient with terminal pain is simply to make them as comfortable as possible.

Procedural pain is experienced by patients during treatment or diagnostic investigations. This category of pain has always existed but has only recently received recognition in nursing texts (McCaffery & Pasero, 1999). Procedural pain poses a fundamental conflict for health professionals and patients, as health care is generally associated with the concept of giving comfort, rather than causing pain. There is considerable evidence that this type of pain is poorly understood and managed by health professionals (Madjar, 1998).

Chronic pain

Chronic pain, like procedural pain, is often unrecognised and inadequately treated by health professionals. It is a long-term experience of pain which often continues beyond the presence of identifiable causes of trauma, making the cause of it more difficult to isolate than other types of pain (McCaffery & Pasero, 1999). Chronic pain, by definition, is not usually cured but is often manageable. This means that the level of pain is able to be controlled to some degree even though it is not possible to eliminate the pain completely. The concept of chronic pain is difficult for many health professionals to understand because generally they are educated in, and work in, clinical settings, where they see patients who are experiencing acute pain. As a result, it is common for them to treat chronic pain as if it were acute (Seers & Friedli, 1996). The acute pain model dictates that “people with moderate-severe pain will manifest behaviour and/or physiologic signs of pain” (McCaffery & Ferrell, 1996, p. 185). However, chronic pain, unlike acute pain, is rarely announced by obvious physiological responses (J. R. Gardner & Sandhu, 1997). McCaffery and Pasero (1999) state, “The saddest story in all of pain management may well be about chronic non-malignant pain (CNP). More people have CNP than any other type of pain” (p. 471).

Chronic pain is a common cause of disability (Chapman & Gavrin, 1999; B. Price, 1996) and is experienced by an increasing number of people (Burckhardt, 1990; R. Davis & Magilvy, 2000; Hitchcock, Ferrell & McCaffery, 1994). It is difficult to know what percentage of the population experiences chronic pain. However, previous studies have estimated that approximately 45% of the population may experience this type of pain (Elliott et al., 1999; Von Korff, Dworkin & LeResche, 1990). In the United States it has been estimated that 25% of the population experiences pain more than 50% of the time (J. F. Wilson, Brockopp, Kryst, Steger & Witt, 1992), and a World Health Organisation study reported that approximately 22% of people experience persistent pain (Gureje, Von Korff, Simon & Gater, 1998). These studies have generally been based on samples of patients enrolled in health care organisations and, therefore, the estimations of how many people experience chronic pain do not include those who are not engaging health professionals (Crook, Rideout & Browne, 1984).

Despite the prevalence of chronic pain, there is evidence that it is not effectively treated by health professionals (Hitchcock, et al.,1994; McCaffery & Beebe, 1994; McCaffery & Pasero, 1999; Ogle, Mavis & Rohrer, 1997), and that the community feels it is not well managed (Norton, Asmundson, Norton & Craig, 1999; Rothman & Wagner, 2003).

Chronic pain syndrome

Many people with severe pain manage their lifestyles in spite of their pain (Astin, Lawton & Hirst, 1996; Bates, Rankin-Hill & Sanchez-Ayendez, 1997; Risdon, Eccleston, Crombez & McCracken, 2003; Teske, Daut & Cleeland, 1983) while others stop searching for cures and lead satisfying lives despite constant pain (Howell, 1994). A small proportion of patients with chronic pain display maladaptive behaviour (Wall & Melzack, 1989) which is referred to as chronic pain syndrome (CPS) (McCaffery & Pasero, 1999). CPS is a psychosocial disorder and is characterised by the experience of chronic pain becoming the central focus of the patient's life. Patients with this disorder engage in dependent relationships with family members and health professionals. These patients tend to be depressed, anxious and no longer able to maintain employment or other responsibilities. Patients with CPS frequently seek radical interventions such as surgery (McCaffery & Pasero), despite the limited likelihood of success. Some of these maladaptive behaviours may be iatrogenic (learned behaviours). These may result from previous inadequate symptom management (Bates et al., 1997), suggestions by health professionals that symptoms must be observable, or an inaccurate belief that the pain may be able to be cured. Responses of health professionals that are founded on their own concerns about treating complex or demanding patients may also contribute to the behaviour of patients (Mathers, Jones & Hannay, 1995). The features of CPS should not be used to define patients with chronic pain in general because only a small proportion of people with chronic pain have this maladaptive response to it.

Management of pain

While knowledge about pain, and specifically chronic pain, has continued to advance and become widely available since the 1980s, this has not led to an overall improvement in the way patients experiencing it are treated or understood (McCaffery & Ferrell, 1997; Slack & Faut-Callahan, 1991). It is estimated that the knowledge and resources exist to adequately manage 90% of the pain that people experience

(McCaffery & Pasero, 1999). However, studies into the treatment of patients with cancer, widely considered to be the area in which pain is best managed (McCaffery & Ferrell, 1992, 1996; Melzack, 1990; Weinstein et al., 2000a, 2000b), report that on average 50% of patients who are dying of cancer do not have their pain well managed (McCaffery & Pasero). These same authors present evidence that as few as 20% of patients experiencing acute pain associated with surgery will have their pain adequately managed.

The reasons why pain is not effectively managed have been grouped into three main areas; the health care system, health professionals and patients (McCaffery & Pasero, 1999). The health care system encompasses the cultural contexts of patients and professionals, the processes for diagnosing and treating pain and the general environment in which health care is offered. The practice of health professionals contributes to inadequate pain management because deficits in knowledge, skill, attitudes and values towards pain and people who experience it, influence practitioners. Patients also pose barriers to the effective management of pain. In particular they have been found to have fears about medication and addiction (Gunnarsdottir, Donovan & Ward, 2003; McCaffery & Pasero). Concerns that members of the public have about health care can be directly related to the inaccurate and inadequate knowledge that is held by health professionals (R. M. Christensen, 1998; S. French, 1994; Friedman, 1990). If the causes of inadequate pain management within the health care context and professional practices of health disciplines can be addressed, then the barriers which patients present to effective treatment are likely to be resolved (Paris, 1993).

Patients' experiences of pain

Given the prevalence of chronic pain in the community, and the assertions by the nursing profession that it respects a holistic view of health and health care, it may be considered reasonable for patients to expect that this type of pain is well understood and effectively treated by nurses (Allcock & Standen, 2001; Montes-Sandoval, 1999). While there is a good deal of literature available to professionals about causes and treatment of pain, there appears to be minimal information published which gives insights into the experiences of patients who live with chronic pain (Carson & Mitchell, 1998). However, we do know that patients have been found to believe that their experiences of pain are not well understood or even believed. Patients have been found to live in fear of not being believed when they discuss chronic pain with nurses (McHugh & Gavin, 2001).

Contextual issues and pain management

The contextual issues which impact on pain management include those factors in wider society which influence patients and practitioners, such as social and political values. Neoliberal values currently prevail in many environments in which health care is based on the principles of Western medicine (Lupton, 1994), and key concepts within this perspective are outlined below. These values map readily onto those presented in the scientific paradigm on which the education of medical health professionals and developments in practice are founded. These influences can be seen in the New Zealand health care environment, in which this study was conducted, and also in relation to chronic health and disability issues, particularly chronic pain.

Neoliberalism

There has been a resurgence of liberal ideals in many Western nations in recent years. Within the neoliberal environment, social and economic policies are designed to encourage free market trade and individualism (Olssen, 2002; Wellard, 1998). There are obvious links between neoliberalism and empiricism. While empiricism has a much longer history and tradition, components of it such as valuing objectivity and measurement as objects of truth, are appropriated and promoted within neoliberalism. Health care, a major cost to the economy, has been redefined and evaluated according to business principles. This has led to major restructuring of health service provision in nations such as New Zealand, which had previously based its health care system on the principles of the welfare state, and offered free and unlimited health care to members of the community (Ovretveit, 1996). From a neoliberal perspective people are seen to be most worthy of health care if they will, as a result, be able to contribute to society (Lupton, 1994). Contribution to society is demonstrated when people are engaged in producing or consuming commodities which is essential in order for people to be viewed as having a valued social role within the community.

Chronicity in the context of neoliberalism

The tensions that patients and practitioners encounter as they experience chronic pain are a result of their contexts, which include social, political and cultural components. Objective and scientific approaches to health care practice and health care provision prevail in many Western societies. New Zealand is an example of such a society, and neoliberal values can be identified in the health care that is provided, which focuses on the medical model. Chronicity and disability are by nature complex and dynamic, and therefore not easily reconciled within a health care environment based primarily on neoliberal values, as they cannot be quantified or totally cured.

Health care provision within a neoliberal environment

Two themes in health professional practice and research predominate within the neoliberal environment. These are the concepts of evidence-based practice and managed care, both of them have been identified as being prevalent in New Zealand as clinicians, managers and policy makers focus on the cost of health care (Short & Palmer, 2000). Health professional disciplines, such as nursing and medicine, have embraced the concept of evidence-based practice because it is appropriate within the sociopolitical climate in which they need to quantify the care and treatment they offer (Luker, Hogg, Austin, Ferguson & Smith, 1998). It also relates to the scientific paradigm on which modern developments in the disciplines are based (Lloyd, 2000). Health provision organisations have responded to the sociopolitical environment by adopting managed care.

Evidence-based practice is an approach to health care practice that identifies treatments according to their proven merit. The notion of evidence-based practice in health care has existed for a long time. Traditionally the concept of evidence centred on the practice-based expertise of professionals. In recent years evidence has come to mean the information provided by empirical research and specifically that from randomised controlled trials, which became popular following the investigation of drug treatments for tuberculosis in the United Kingdom in the 1940s, (Frommer & Rubin, 2000). The evidence-based approach is seen as particularly ‘scientific’ and often the value placed on the evidence is in direct proportion to the scientific/empirical nature of the research. Evidence is valued according to a hierarchy of research with randomised controlled trials considered to provide the highest standard of evidence (Frommer & Rubin, 2000; Moerman, 1998). The advantage of this approach to health care is that treatments are investigated and evaluated. However, the proportion of health care intervention which is based on evidence varies greatly across disciplines and clinical environments (Ellis, Mulligan, Rowe & Sackett, 1995; Ezzo et al., 2001; Michaud, McGowan, van der Jagt, Wells & Tugwell, 1998; Morales Suarez-Varela, et al., 1999; Nordin-Johansson & Asplund, 2000). Not all areas of health care lend themselves towards empirical research (Frommer & Rubin, 2000) and even when evidence for practice is available, it may not be evidence that is transferable across clinical settings or patient populations (Gill et al., 1996; Norman, 1999; Spear, Heath-Chiozzi & Huff, 2001). The predominant use of randomised controlled trials to decide what treatment should be given to patients has also been questioned on the basis that it challenges the notion of individualised care in the name of containing costs and resources (Mant, 1999). This argument is based on the fundamental belief that quality health care practice centres on professionals making complex and informed decisions for individual patients in any given situation. Therefore, presenting particular approaches to practice as being the most efficient or effective option devalues the role of the practitioner to make an individualised judgment about the best course of treatment for particular patients. Such a view reduces health care practice to the blanket application of scientific facts and ignores the complex human interaction and professional judgments that are involved.

Managed care is a system in which the care offered to clients is based on stating a range of contracted services they may access. This approach to the measurement of illness and cure emphasises empirical decision-making, focuses on the scientific paradigm (Hafferty & Light, 1995; Litchfield, 1998; Luker et al., 1998) and, as a result, has similarities with the concept of evidence-based practice. The advantage of managed care is that treatments are evaluated and costs may be contained. However, managed care has been criticised for being primarily based on economic concerns rather than meeting health care needs (Alston, 1997; Chenoweth, 1997; Gillett, 1998; Litchfield).

Within a neoliberal environment, services are offered by organisations that have a business-oriented approach and, as a result, the concepts of profit motives and risk management feature in the design, management, and evaluation of health care (Galvin, 2002; Short & Palmer, 2000). When making a financial profit becomes a goal of health care providers, there is a risk that treatments will be evaluated primarily according to their cost effectiveness. This may mean that health care is rationed in such a way that more expensive treatments are offered to those people who are most likely to contribute to society on a financial level. The concept of risk management creates an environment in which health issues are constructed according to risk and this may lead to patients being apportioned blame for their illness, injury or disability (Crawford, 1977; Galvin; Roberson, 1992). If the patient is deemed to be in some way responsible for their illness, injury or failure to recover, then this may be seen as a legitimate reason to limit the care that is available to them.

The New Zealand social and political environment

Political reform within New Zealand society, and its impact on health care provision, have been described as unique, due to the continuity with which it occurred during the 1990s and its impact on social and cultural contexts (A. L. Bloom, 2000). The reforms which have taken place in recent years have seen the application of market theory to health care and have been described as the most radical in the world (Malcolm, 2000). This approach has been criticised on the grounds that market theory is not appropriately applied to health care as it does not produce a generic product; it is likely to be unprofitable; services are not exchangeable or refundable, and that the pressure to measure outcomes and success is not well suited to health care provision (Somjen, 2000).

Within the New Zealand health care environment, as in other comparable nations, historically the political power has predominantly rested with medical practitioners. As a result, doctors may be considered agents of social control as they are cast as gate keepers, lobbying and making decisions about what services should be available and which patients are entitled to them (Alexander, 2000; Dew & Kirkman, 2002). However, during the processes of recent reform there has been a shift in the power base within the New Zealand health care sector. These developments have limited the involvement of medical clinicians in decision-making processes in favour of managers with strong business credentials (Alexander, 2000), emphasising neoliberal values.

Karen Poutasi (2000), formerly the Director General of Health in New Zealand has suggested that there are a number of lessons to be learning about health reform from the New Zealand experience. She notes that it is important to appreciate that health is a complex issue for people and the communities in which they live, that there is no one single answer, that culture and history must be considered, and that people and flexibility are important. The design and implementation of health services need to address the needs of people and the communities of which they are a part.

Sociopolitical context and chronic pain

Views about pain have been informed by cultural and social values throughout history. In some societies pain has been considered a necessary part of the human condition which builds character. It has also been viewed as a legitimate punishment and a trial to be endured, often with some spiritual significance (Lisson, 1987). Current Western health care contexts see health professionals responding to pain differently, according to the identified causes, but usually within the medical model with its emphasis on observation, assessment and application of science (Eccleston et al., 1997; Illich, 1975). The traditional biomedical understanding of pain is summarised by Duncan (2000) as including three main concepts: that pain is a physical sensation, that pain is a symptom which assists in the diagnosis of pathology and that alleviating pain as much as possible is an ethical issue within medical practice. Terminal pain is commonly considered within Western culture and medicine to be unnecessary and worthy of radical treatment. Concerns about addiction or other side-effects are over-ruled by the moral concern to keep people comfortable. Acute pain is viewed as legitimate, as it relates to specific trauma. Aggressive treatment is recommended for this type of pain (McCaffery & Pasero, 1999) and justified on the basis that it is short-term and curable. Within Western cultural contexts, the expression of pain and emotions associated with it are not encouraged (Bates et al., 1997), and so, when there is an obvious cause of pain, as in the case of terminal or acute pain, health professionals are culturally bound to treat it.

The response to chronic pain is much more complex as there may not be an identifiable cause. In an analysis of two studies that investigated the impact of the cultural background of professionals and patients as they dealt with chronic pain "working on a problem" (Bates et al., 1997, p. 1445), was identified as an attitude in itself, which demonstrates a cultural value found in white middle-class America, which also values "remaining stoic and non-expressive in the face of pain and adversity" (Bates et al 1997., p. 1445). An example of how cultural groups respond to pain may be found in the life and work of the Mexican painter Frida Kahlo. Frida experienced chronic disabling pain and expressing and representing her pain was a major part of her art and her persona. While such an approach may be considered inappropriate in Western cultural environments, her artistic brilliance was considered to be directly related to this experience (Alcantara & Egnolff, 2001; Herrera, 2002). Her experience and expression of chronic pain, far from being considered indulgent or a burden on society, were celebrated as part of her unique character.

The New Zealand health environment

Elements of a neoliberal approach to health care are present when care is rationed, when contracts are made between health care funders, providers and patients, and when the concept of risk management and primarily objective measures of treatment outcomes are used. A brief outline of the treatment offered to patients with pain in New Zealand illustrates these elements.

The Accident Compensation Corporation (ACC) is the main provider of injury rehabilitation in New Zealand, and as a result, is specifically involved in funding treatment of patients experiencing pain. At the end of 2002, ACC identified chronic pain as a major rehabilitation issue and set research priorities for investigating it, in collaboration with The Health Research Council of New Zealand, (McLea, 2003). The concept of people contributing to society is evident in the aim of ACC, which refers to returning people to work or independence as quickly as possible (Accident Compensation Corporation, 2003). As a funder of injury treatment, ACC has the power to define how injuries should be treated and this is done by constructing treatment profiles for specific injuries, which in effect ration the care that is provided. Health care providers (health practitioners) are informed that treatment profiles should not impact on professional judgment; however, if more treatments are required than outlined in the profile, they must seek permission to continue the treatment. The use of patient profiles to define treatment for patients is an example of managed care and effectively constitutes a contract with providers. ACC also contracts with newly injured patients who are required to sign a contract in which they undertake to follow the prescribed care (Moon, 2003). The contract releases ACC from any further liability for the treatment of the injury, once the contracted treatment has been provided, illustrating the concept of risk management in the provision of health care (Bates et al., 1997).

The multidisciplinary or interdisciplinary approach to health care, which sees professionals from a range of disciplines coming together to pool their expertise to provide and evaluate patient care, is common in modern health care and exemplifies the concepts of evidence-based practice, managed care and biomedicine (Bates et al., 1997). ACC uses such a system to review patients. This approach is common in the treatment of chronic pain around the world (Hubbard, Tracy, Morgan & McKinney, 1996; S. M. Walker & Cousins, 1997), including New Zealand, where the pain service at Auckland Hospital identifies itself as one of the first multidisciplinary pain services in the world (Auckland Regional Pain Service, 2003). A demonstration of the neoliberal approach to the evaluation of multidisciplinary pain centres is present in assertions that objective measures are essential to demonstrate the effectiveness of pain management treatments, rather than relying on patients to report that their pain is improving (Flor, Fydrich & Turk 1992). This underlines one of the most dramatic tensions in the management of pain and, particularly, chronic pain. While pain is defined as a subjective experience (McCaffery & Pasero, 1999; International Association for the Study of Pain, 1991), the sociopolitical environment in which health care is offered, and the scientific basis from which health professionals work (Lloyd, 2000) place a high value on objectivity.

Despite the apparently value-free and scientific philosophy of health care, which is perpetuated within an evidence-based and managed care approach to health professional practice and health care provision, funding organisations respond to the social and political imperatives within society. Changes to the name of the agency that administers the ACC scheme, and the legislation which supports it, have reflected developments in the social and political context of health care in New Zealand. Initially the scheme was set up in the 1970s as a government commission. In a move, that reflected the economic rationalism of the mid 1980s, its name was changed from the Accident Compensation Commission to the Accident Compensation Corporation. More recently the scheme has been referred to in legislation as an insurance plan. However, there is some evidence that ACC may not always be objective or accountable. For example, sensitive issues, which have attracted a good deal of public interest and sympathy, have led to compensation being paid with less proof of harm than in other situations (Hood, 2001), demonstrating the impact of the social and political context on the practice of funding agencies within New Zealand. It is not surprising that people experiencing chronic pain in the New Zealand environment do not always feel that their care is well managed by ACC (Moon, 2003).

Nursing practice in the New Zealand health environment

The resource constraints which resulted from health reforms in New Zealand have been identified as having an impact on nursing practice. Reduced staffing levels and increasing pressure on practitioners have been blamed for poor practice and errors leading to death and injury of patients along with increased stress amongst nursing staff (Brinkman & Caughley, 2004; M. Cain, 2005; Rolls, 2005). This has led to an environment where nurses are kept busy and often expected to consider the financial implications of the clinical decisions that they make.

Views of chronicity and disability

The increasing prevalence of chronic pain, pain-related disability, and the social impact of it, along with the relationship that exists between patients and practitioners, signal the need to consider how disability may be viewed from a sociological perspective. People who contribute financially or socially to the community, such as parents, employees, taxpayers and employers, are considered to hold roles which are valued by society. Less-valued positions are held by those people who may be considered a burden on society, such as criminals, patients, or beneficiaries (Foucault, 1974). The concept of social roles and value was extended to people with disabilities by Wolfensberger (1972). He listed nine historical misconceptions of people with disabilities which include seeing them as objects of dread, pity and charity, and being sick, subhuman or holy innocents.

Two opposing sociological views of people with disabilities, which appear in the disability literature, are those of personal tragedy and social oppression. The personal tragedy model sees the person with the illness or disability as having suffered some loss or misfortune (possibly attracting one of the historical misconceptions presented above) and being in need of sympathetic support. The patient with a chronic health condition has a reason for not being able to participate in society; therefore, they have a less-valued social role (Wolfensberger, 1972). The patient may be seen as a burden on society and also be held responsible for their illness (Finerman & Bennett, 1995; Hansson, Bostrom & Harms-Ringdahl, 2001). The health professional who views chronic pain and disability from this perspective will see the patient as a helpless victim of their situation and base their response on sympathy.

The social oppression perspective on disability sees the person as being disabled by their social and environmental context (Ballard, 1994; Eccleston, Williams & Rogers, 1997; Harlan & Robert, 1998; Oliver, 1996; Penrose, 1999; Ruiz, 1995; Thorne & McCormick, 1997; Zajicek-Farber, 1998). Within this view disability is an experience that is impacted on by the environment in which the person lives as well as by internal or physiological conditions. For example, the difficulty a person who uses a wheelchair may face when accessing public transport is considered not to be so much about their need to use a wheelchair, but more about the inaccessibility of public transport, and therefore a social environment that is oppressive. Bury (1986) asserts that both medical knowledge and practice are socially constructed and that, in the 1960s and

70s, the illness experience began to be presented in literature as a social construction, with the medical profession seen as having the most power to define the experience. The health professional who views chronic pain and disability as the result of social oppression will see the patient as part of a wider environment, and understand that their own experience as a person and a professional may impact on the assessment and treatment they offer (Clarke et al., 1996; Paterson, 2001; Wainapel, 1999).

Within the neoliberal approach to health, people living with disability or chronic illness are constructed as a burden on the community because they are not contributing to society. This may lead to situations where health professionals are positioned as decision makers about what constitutes disability and also gate-keepers who may be expected to limit access to health and disability services for those who are not making an adequate contribution (Bates et al., 1997; Finerman & Bennett, 1995; Fordyce, 1997; Galvin, 2002).

Assessment, treatment and evaluation of chronic pain

The values of Western medicine and neoliberal environments require health practitioners to identify objective information in the assessment of patients and the evaluation of health care that is provided (Galvin, 2002). There is evidence that such an objective approach is not appropriate when dealing with pain in general, and even less appropriate in the management of chronic pain For example it has been found that health professionals regularly assess pain and evaluate the treatment of it in terms that are different to those of the patients involved (Eccleston et al., 1997). These same objective values lead health professionals to treat pain by separating the symptoms from the person who is experiencing them. This has led to a behaviourist approach to pain management which has focused on reducing the expression of pain, but not necessarily reducing the pain that patients experience.

Health professionals tend to consider pain as a symptom that needs to be supported by evidence (Eccleston et al., 1997; McCaffery & Pasero, 1999; Salmon & Manyade, 1996; Teske et al., 1983; Wall & Melzack, 1989), even though chronic pain is not necessarily accompanied by physiological evidence of tissue damage, or expressions of pain (Bates & Rankin-Hill, 1994; J. R. Gardner & Sandhu, 1997; Portenoy & Kanner, 1996; P. Smith, 1999). Chronic pain patients frequently do not display behaviour that communicates that they are in pain (Howarth, 2002; Teske et al., 1983; Turner & Clancy, 1986). In fact many patients actively seek to conceal that they are in pain (Burns, Kubilusm, Bruehl & Harden, 2001; Jacox, 1979; Niv & Kreitler, 2001; Wall & Melzack, 1989; Wilkie & Keefe, 1991). For patients with chronic pain, the dynamic and subjective experience of pain is the basis of their experience, and the interactions they have with health professionals is of great importance to them (J. Reid, Ewan & Lowy, 1991; Seers & Friedli, 1996). The differences between the perspectives of patients and professionals can be seen in the different views they have about assessment and evaluation of chronic pain.

This search by health professionals for objectivity is demonstrated in attempts to quantify pain and is further illustrated in studies that have investigated how first impressions and the appearance of patients, such as physical attractiveness, impact on the judgement of professionals (Grevitt, Pande, O'Dowd & Webb, 1998; Hadjistavropoulus, Hadjistavropoulus & Craig, 1995; Poole & Craig, 1992; Teske et al., 1983). There is evidence that professionals treat patients differently once clear pathology is found which can account for the pain that they experience, and assume that, when there is no obvious cause of pain, it either does not exist or is not very severe (Halfens, Evers & Abu-Saad, 1990; A. G. Taylor, Skelton & Butcher, 1984; Turk & Okifuji, 1997), particularly when the pain is chronic. Assessment of chronic pain is a particular challenge for professionals, as it is a situation in which they have to rely on the information from the patient, more than observable symptoms, in order to provide an assessment of their condition (McCaffery & Pasero, 1999). Most commonly health professionals rate pain as being less significant than the patients who are experiencing it (S. T. Brown, Bowman & Eason, 1999; Brunier, Carson & Harrison, 1995; Chuk, 2002; Gaston-Johansson, 1984; Hall-Lord, Larsson & Steen, 1999; McCaffery & Ferrell, 1996, 1997; Nash, Edwards & Nebauer, 1993; Rochman, 1998; Simon, 1996; Teske et al.; Weiner, Peterson & Keefe, 1999). However, relatively minor experiences of pain can impact considerably on patients. In studies where patients have been asked to rate their pain on a scale of 1 (minor pain) to 10 (severe pain), scores of 4-5 were found to impact on the daily functioning patients, and scores of 6-7 were found to interfere with enjoyment of life (Cleeland, 1984; McCaffery & Pasero, 1999; Syrjala, 1993; R. Twycross, Harcourt & Bergl, 1996). The search for objective evidence to confirm the existence of pain is further complicated, and the subjective nature of it confirmed, by the tendency of patients' current level of pain to cloud their memory of pain they have previously experienced (Eich, Reeves, Jaeger & Graff-Radford, 1985).

In the 1970s it was widely believed within the medical context that pain was not a particularly important symptom (McCaffery & Pasero, 1999) and relieving it was seen as a humane and moral act rather than clinically imperative. Within this environment, interventions for pain were deemed successful when the patients' expression of pain was altered. This led to a focus on managing the behaviour of patients rather than the pain itself (J. L. Christensen, 1993; Gamsa, 1994; MacDonald, 2000; Vlaeyen et al., 1990). However, effective management of pain requires attention be paid to reducing pain as well as addressing any concurrent psychological factors (Arnstein, Caudill, Mandle, Norris & Beasley, 1999). It has been suggested that "Acute pain patients, are generally not held responsible for the existence and elimination of their pain. It appears that chronic pain patients are held to a different standard because biomedicine has not found a clear way to alleviate chronic pain" (Bates et al., 1997, p. 1443).

The evaluation of treatment for chronic pain also demonstrates clear differences between the understandings and perspectives of patients and professionals. Evaluations of treatment undertaken from a professional perspective identify reduced use of services, return to work and the reduction in symptoms of pain as measures of success in treatment (Flor et al., 1992). In many studies the concept of patient satisfaction is also presented as an evaluation of treatment (McCracken, et al., 1997), but such feedback has been criticised for asking questions that mean more to professionals than patients (K. Price & Cheek 1996b; B. Williams, 1994). For patients, the ability to manage pain, being well informed (Roth, Horowitz & Bachman, 1998), and being treated with respect by health professionals, are identified as being more significant than the actual reduction of pain (Chapman & Gavrin, 1999; McCracken et al., 1997; Sherwood et al., 2000).

The subjective nature of pain and the objective context of health care provision and health care practice create a tension between professionals and patients about the assessment, treatment and evaluation of chronic pain (Chuk, 2002: Eccleston et al., 1997). This leads to different expectations and specifically sees health professionals place value on the objective evidence and changes in behaviour of patients, while patients experience pain from a subjective perspective, (Bates et al., 1997; McCaffery & Pasero, 1999) and are concerned about the management rather than alleviation of pain, and the relationships that they have with health professionals.

Health professionals and pain management

A wide range of factors contribute to the inadequate management of pain by health professionals. Skills, knowledge and practice contexts, along with attitudes and values of health professionals, can all impact on inadequate treatment of patients experiencing chronic pain.

The impact of knowledge on practice

Knowledge deficits of health professionals have been directly linked to the inadequate care of patients (Strong et al., 1999). Despite the emphasis which is placed on evidence-based practice, there are many examples in medicine of knowledge not leading to a change in practice (S. Rogers et al., 2000). Treating cardiac patients with aspirin and giving thrombolic medication to people who have had heart attacks (Cape & Richardson, 2000) are just two examples of treatments which were not offered, as there was a mismatch between common accepted medical practice and the evidence from research. Using bedrest as a treatment following surgery began to be criticised in research in the 1940s, as serious complications were identified, yet it continued to be regularly prescribed (C. Allen, Glasziou & Del Mar, 1999). Another example of knowledge not leading to a change in practice is that it was not until 1996 that the Federal Drug Administration (FDA) in America declared that acupuncture was no longer considered experimental, despite its 2500 year history and evidence of its effectiveness (Elsberry, 1998). Fears about addiction are one of the most common barriers to effective pain management for people with chronic pain (Carr, 2005; McCaffery & Pasero, 1999). Research about this issue is readily available and has consistently shown that there is a minimal risk of people with chronic pain who are being treated with opioids, becoming addicted to the medication. However, this continues to be a major issue which directly impacts on the care of patients (McCaffery & Pasero, 1999; Melzack, 1990) and is another example of knowledge not changing practice.

Knowledge about pain has increased dramatically in recent decades and this is particularly true in the case of chronic pain (McCaffery & Pasero, 1999). The science of pain management is relatively new and not all causes of pain have been identified. However, even when mechanisms of pain are explained, this knowledge does not necessarily change the practice of health professionals. One example of this is the chronic pain known as phantom pain. Phantom pain, which is experienced when a part of the body is amputated and yet messages about it experiencing pain continue to be sent to the brain, was long considered to be psychological in nature. However, recently the mechanism underlying this type of pain has been discovered, and there are now generally accepted treatments to eliminate the development of this type of chronic pain. These interventions focus on ensuring the sensation of pain from the part of the body is entirely controlled prior to surgery (McCaffery & Pasero, 1999).

The belief that pain itself does not cause any particular long-term damage to the body has long existed. Knowledge about pain has progressed and proven that pain does have a negative effect on the body. McCaffery and Pasero (1999) outlined how different body systems respond to unrelieved pain, and the detrimental impact of it. The response of the endocrine system and general metabolism to the stress of unrelieved pain leads to an altered metabolism of fat, carbohydrate, protein, and hyperglycaemia. Increased heart rate and blood pressure place stress on the cardiovascular system and are present when pain is unrelieved, along with hypercoagulation, which poses an obvious threat to life. Respiratory complications can develop in patients with unrelieved pain, especially if the pain limits their mobility or makes it uncomfortable for them to breathe. Unrelieved pain causes impaired gastro-intestinal function, and prolonged stress is associated with ulceration and other complications. The musculoskeletal response to pain is to limit movement in order to protect the body from further injury. This can lead to other complications such as injuries and contractures. Poorly managed pain experiences have been linked to reduced quality of life and heightened response to future pain experiences. The two complications most commonly associated with chronic pain are impaired cognitive function and suppressed immune system capability (McCaffery & Pasero), while all of these physiological, cognitive and behavioural responses can be linked to a variety of stressors on the human body. When they are caused by pain, health professionals have the ability to identify the causes of the stress, relieve them and prevent potentially severe consequences.

Personal and professional culture

Health professionals bring values and beliefs with them to their practice. These include personal and professional cultures which interact with the wider sociopolitical context in which they practise, to influence their interactions with patients. Professional culture and values of individual health practitioners have been found to have an impact upon interactions between professionals and people experiencing chronic pain (Bates et al., 1997).

Professional culture is demonstrated in the way society views the group of practitioners within a discipline, the rituals and practices the group approves for itself, and specific values which underpin the development and identity of the profession (Holland, 1993). Professional groups are afforded particular roles and powers by societies of which they are a part (Illich, Zola, McKnight, Caplan & Sharken, 1977). The influence of medicine within society may be seen from two sociological perspectives. The first is to view it as an institution of expertise which is benevolent, needed by society, and exercising legitimate power as it works to make people 'normal'. Medicine may also be seen as an organisation which maintains its occupational control by developing esoteric knowledge which it uses to position and maintain itself in an elite situation (Lupton, 1994; 1995).

Practitioners also bring beliefs and values from their individual cultural heritage to their practice. The behaviour of Australian health professionals has been found to reflect the sociopolitical context in which they live (Galvin, 2002; Westbrook et al., 1984). Studies have found that the background of medical students impacts on their ethical and moral decision-making (Bonham, 2001; Green et al., 2003; Hipshman, 1999), and on the manner in which they interact with patients (Paris, 1993; J. Price, Price, Williams & Hoffenberg, 1998). This is an important issue as patients with chronic pain most frequently evaluate the care that they receive according to the attitudes, rather than the skills and knowledge, that they perceive in health professionals (Chapman & Gavrin, 1999; McCracken, et al., 1997; Sherwood et al., 2000).

Interactions with patients with chronic pain

Despite the existence of stereotypes of people with chronic illnesses and disabilities as being dependent and inactive (S. French, 1994) there is evidence that many people in this situation are active and otherwise healthy. In overviewing 'insider' research in the field of chronicity, Thorne and Paterson (2000) point out that research based on the experience of patients with chronic illness presents them as active and thinking analysts. In a review of 300 nursing publications, Dluhy (1995) identified demands and challenges, emotional and cognitive responses, day-to-day tasks of living with illness, being chronically ill in the culture of a healthy society, changing patterns with family and health care providers and potential life outcomes as themes for patients. Patients who manage their lives in spite of the presence of chronic pain may either choose to no longer engage health professionals in their care, or to be very selective about those that they have contact with (Crook et al., 1984; C. Richardson & Poole, 2001; Smeltzer, Dolen, Robinson-Smith, & Zimmerman, 2005;). Establishing a positive relationship with health professionals based on equitable power relations and dynamics is particularly important for people with chronic health issues, as they often have ongoing relationships with those who treat them (Bates et al., 1997; B. Price, 1996; J. Reid et al., 1991; Seers & Friedli, 1996).

Patients with chronic pain feel pressure to prove that the pain they experience is real when they interact with health professionals. They feel a responsibility to provide the evidence that the pain exists, so that health professionals may be able to find a cause and validate it (Johansson, Hamberg, Westman & Lindgren, 1999). There is also pressure on them to explain the pain in the terms that the professionals will understand (K. Price & Cheek, 1996b). This again raises the issue of using objective measures to assess a subjective experience, as patients with chronic pain often do not demonstrate behavioural (McCaffery & Pasero, 1999) or physiological signs of pain (J. R. Gardner & Sandhu, 1997; Puig, Laorden, Miralles, Olaso & 1982; Van Cleve, Johnson & Pothier, 1996). Medical professionals believe that signs and symptoms are necessary to validate the existence of pain (Eccleston et al., 1997; Turk & Okifuji, 1997) and this may lead to patients learning that they need to demonstrate identifiable pain behaviour (Kleinman, 1988; McCaffery & Pasero, 1999), and then risk being considered malingerers or accused of exaggerating their pain. In a study of the experience of 75 people with chronic non-malignant pain, and how it impacted on their lives, Seers and Friedli (1996) identified that patients experience the need to feel that professionals believed that they were in pain. In addition to being believed, finding a cause for pain, and having pain legitimated, are vital tasks for patients. In a study that followed 52 Australian women with Repetition Strain Injuries (RSI) similar issues were identified. This has been termed the "burden of proof" (J. Reid et al., 1991, p. 601) which rests with patients as they interact with, and receive treatment from, health professionals.

Patients with chronic pain report difficulties in relationships with health professionals. Studies of people with chronic pain in Australia (J. Reid et al., 1991) and the United Kingdom (Seers & Friedli, 1996; J. Walker, Holloway & Sofaer, 1999) found that encounters with health professionals, especially medical specialists, were adversarial by nature and likely to cause harm to patients. In an English study, in which interactions between 105 women with chronic pain and doctors were observed over a period of time, difficulties in establishing rapport between medical staff and patients were identified (Selfe, Matthews & Stones,1998). That study noted that the consultation styles of practitioners, which include a mix of technical expertise and behavioural skills, may be a factor in the treatment the patient experiences. These themes have also been confirmed in the New Zealand context and with specific reference to chronic pain. In an investigation into problems women with chronic pain faced as they accessed health services, Grace (1995) discovered that communication with general practitioners and specialists was a problem. The matters which were identified as being in urgent need of attention were the abilities of practitioners to: treat patients respectfully as partners in their own care; listen, and dialogue; not be patronising or dismissive; consider the social context of patients; and provide information.

Beliefs, values, attitudes and stereotypes

The consistent poor management of pain by practitioners, despite advances in knowledge about pain, and effective treatment of it, has led researchers to investigate what underlies the response of health professionals towards people in pain. This has included exploration of attitudes, values and beliefs of health professionals, and how these impact on the treatment of patients. The concepts of attitudes, values, beliefs and stereotypes refer to the affective responses that people have to issues, and impact on how they interact with one another. While these terms are often used interchangeably in scientific literature (Von Sydow & Reimer, 1998) the differences between them are briefly outlined below.

Beliefs represent what people *know*, even though they may not be accurate. Values represent what people *feel*, and may reflect social and cultural norms (S. French, 1994). For example, a nurse may believe that people with chronic pain are depressed. This is inaccurate knowledge but it is a belief, as it represents what the practitioner *knows* about such patients. If the nurse is practising in a cultural environment in which the expression of pain is not encouraged, then they will value particular behaviour from patients such as remaining stoic and not expressing their pain (Bates et al., 1997). If the nurse in this situation is faced with a patient who has chronic pain, and is very vocal about the severity of their pain and the need for treatment, then the nurse may develop a negative attitude toward the patient.

Attitudes may be defined as the combination of beliefs and values (S. French, 1994) or as learned approaches to responding to objects or individuals (Selfe, Van Vugt & Stones, 1998), and are evident in language and non-verbal behaviour. The attitudes that people hold may serve a number of purposes, including organising thinking, enabling interaction with others, self-esteem and identity. The attitudes that health professionals hold are developed during the process of education and play a part in maintaining approval of their professional group (Selfe, Matthews & Stones, 1998). The reasons why attitudes of health professionals towards people with disabilities are important to consider are outlined by Paris (1993). These relate to the power of health professionals in the wider community. Specific mention is made of attitudes negatively affecting patients' self-concept, the funding and availability of disability services and attitudes that are passed onto new practitioners and the general public. There is also evidence that negative attitudes and values held by health professionals have a detrimental effect on the care and treatment that they provide to patients (S. French, 1994; Novack et al.,, 1997; Paris, 1993). The attitudes that practitioners hold about people with disabilities and chronic illnesses impact on they respond to those patients (Cervantez Thompson, Emrich, & Moore, 2003).

Stereotypes are generalisations about groups of people and are usually negative. Professional groups within the health disciplines have been found to have stereotypes of people with specific conditions (Lisson, 1987; Nordin, Cedraschi & Skovron, 1998; Poole & Craig, 1992; Roush, 1986) which impact on the manner in which they respond to patients and treat their symptoms. Stereotypes have been found to have the effect of strengthening negative attitudes towards people with disabilities (S. French, 1994). Generalising the characteristics of a person with chronic pain syndrome to all people with chronic pain is an example of a stereotype.

Research into attitudes has been criticised for not being able to predict the behaviour of practitioners and on the grounds that they cannot be measured directly and may vary over time (Henerson, Morris & Fitz-Gibbon, 1987; Selfe, Van Vugt & Stones, 1998). In addition, contextual issues such as peer pressure and social norms impact on behaviour as well as attitudes (S. French, 1994). Researchers exploring attitudes within the health disciplines have identified these weaknesses, and noted that analysing general attitudes cannot reliably predict specific behaviour. There is, however, evidence that specific situations can be explored to uncover specific attitudes which are likely to reflect the behaviour of practitioners in the clinical setting (S. French, 1994; Selfe, Van Vugt & Stones, 1998).

Misconceptions about chronic non-malignant pain

One of the most prolific writers and researchers in the field of pain and pain management is Margo McCaffery. In collaboration with colleagues (McCaffery & Beebe, 1994; McCaffery & Pasero, 1999) she has documented a number of misconceptions held by health professionals about people experiencing pain. These misconceptions are presented as beliefs, values, attitudes and "exaggerated fears" (McCaffery & Pasero, 1999, p. 31) that are commonly held by health professionals. Evidence that they are incorrect is the basis for them being referred to as misconceptions. There are several sets of misconceptions relating to the assessment and treatment of patients with various kinds of pain. The misconceptions identified as being held by health professionals towards people experiencing chronic non-malignant pain (CNP) are:

(McCaffery & Pasero, 1999)

1. Because of the chronicity of pain, patients are less sensitive and better able to tolerate pain
2. Pain for which there is no known organic cause is a symptom of psychological disturbance
3. If the patient's pain occurs or increases soon after a traumatic life event (e.g., a divorce or death in the family), this stress is probably what caused or increased the pain
4. Patients who are awaiting litigation after an injury or who receive worker's compensation are very likely to exaggerate their pain for financial gain or may be malingerers
5. A patient who 'exaggerates' his or her pain and/or has a greater decrease in function than can be explained by the physical cause is consciously trying to manipulate others or obtain secondary gains
6. If the patient is depressed, especially if there is no known cause for pain, then the depression is causing his or her pain. The pain would subside if the depression could be effectively treated
7. Opioids are totally inappropriate for all patients with CNP [chronic non-malignant pain]. People with chronic pain who have been taking opioids for months or years are narcotic addicts
8. When patients with CNP are non-compliant, it is probably because they do not want to give up their pain.

(p. 469-470).

The first misconception, that patients with chronic pain have an increased tolerance to pain, is based on the belief that the body becomes used to managing pain. This is shown by McCaffery and Pasero to be incorrect, as there is evidence that patients who experience chronic pain have a reduced tolerance to pain due to decreased levels of endorphins (Sinatra, Hord & Ginsberg, 1992) and that the experience of pain can have a long-term impact on the body (Fearon, McGrath & Achat, 1996; Taddio, Katz & Ilersich, 1996; Van Cleve et al., 1997). Patients with chronic pain also have been found to be more sensitive to pain than other people due to the effect of chronic pain on neurotransmitters (Ward et al., 1982).

The second misconception is the widely held belief amongst health practitioners that chronic pain is a symptom of psychological disturbance. This misconception is evident when professionals who cannot find a clear cause of symptoms, which is often the case in chronic pain, default to attributing symptoms to psychological causes (Covington, 2000; R. Davis & Magilvy, 2000; Eisendrath, 1995; McCaffery & Pasero, 1999; Polatin, Kinney, Gatchel, Lillo & Mayer, 1993). This response has been identified as being particularly prevalent amongst health professionals in the Australasian context (Sikorski, Stampfer, Cole & Wheatley, 1996; Truchon, 2001; Westbrook et al., 1984). The attitude of health professionals towards people with chronic pain has been found to be more positive if pathology or physiological evidence is found to support the symptoms (Selfe, Matthews & Stones, 1998). However, there is mounting support that physiological signs and pathology are not accurate indicators of pain (McCaffery & Pasero; Van Cleve et al., 1996).

The third misconception is that stressful life events can cause or increase chronic pain, and is closely related to the previous misconception. Traumatic life events cause stress and this may predispose people to experiencing some sort of health crisis, but there is no evidence that they cause chronic pain (Eisendrath, 1995; McCaffery & Pasero, 1999; Truchon, 2001). It is possible that traumatic life events make it more difficult to cope with existing health issues, and that people who have been experiencing pain prior to the traumatic event may subsequently have more difficulty coping with them.

The fourth misconception about patients with chronic pain is that those who receive compensation may exaggerate their pain. Numerous studies have disproved this belief (McCaffery & Pasero,1999) Current evidence shows that there is no significant increase in the degree of pain patients report, when compared to whether or not they are applying for compensation or are involved in any kind of litigation relating to their chronic pain (Covington, 2000, Hansson et al., 2001; McCaffery & Pasero, 1999; Melzack, Katz & Jeans, 1985; Solomon & Tunks, 1991;Truchon, 2001). The prevalence of concerns amongst health professionals in relation to this misconception is evident in reports outlining the percentage of patients with particular conditions who may be considered malingerers (Mittenberg, Patton, Canyock & Condit, 2002) and other reports about the effect of compensation on patients experiencing pain (Rainville, Sobel, Hartigan & Wright, 1997). This misconception has also been identified as being particularly prevalent in the Australasian context (Strong et al., 1999).

The fifth misconception about patients with chronic pain is that they consciously manipulate others by exaggerating their pain and it is believed to be widely held by health professionals (McGuire, Harvey & Shores, 2001). This misconception may demonstrate the presence of differences in cultural and professional socialisation between patients and professionals (McCaffery & Pasero, 1999; Moore, Miller, Weinstein, Dworkin & Liou, 1986; Teasell & Merskey, 1997). Previous studies have found that it is extremely rare for patients with chronic pain to misrepresent their symptoms (Eisendrath, 1995). Some patients with chronic pain (those who develop chronic pain syndrome) may demonstrate maladaptive behaviours such as seeking advice from many different health practitioners and having co-dependent relationships with those professionals. However, this may be behaviour which patients have learnt because health professionals are suspicious about whether or not their pain is real. Therefore they exaggerate their symptoms to prove that they are in pain (McCaffery & Pasero, 1999; Moon, 2003).

The sixth misconception is that people with chronic pain are depressed. Some studies suggest that chronic pain is a subcategory of depressive illness (Blumer & Heilbronn, 1982; Eisendrath, 1995; Romano & Turner, 1985). There is, however, some evidence that people with medical conditions are inclined to experience depression (Averill, Novy, Nelson & Berry, 1996; Romano & Turner, 1985). This is considered to be related to the stress of managing the condition, rather than being the cause of it (Blackburn-Munro & Blackburn-Munro, 2001; McCaffery & Pasero, 1999; Polatin et al., 1993; R. E. Taylor, Creed & Hughes, 1997; Truchon, 2001). Health professionals in the Australasian environment have been found to be more likely to consider people with chronic or disabling conditions to be depressed than those from other parts of the world (Truchon; Westbrook et al., 1984).

The seventh misconception, the belief that patients with chronic pain are at risk of becoming addicted to opioids, is commonly held by both health professionals and patients, and is a leading cause in the poor management of pain (Crompton & Athanasos, 2003; Ferrell et al., 1992; McCaffery & Ferrell, 1992,1996; McCaffery & Pasero, 1999; Melzack, 1990; Lander, 1990; Weinstein et al., 2000b). This issue has been researched in a number of studies and it is widely reported that the risk of addiction to opioids in patients who are prescribed them for the management of pain is less than 1% (Lander, 1990; McCaffery & Pasero; Wall & Melzack, 1989). The lack of understanding amongst health professionals of the difference between physical tolerance and dependence, and emotional addiction is considered to be the main contributor to this misconception and therefore the inadequate management of pain

(Clarke et al., 1996; Friedman, 1990; Melzack 1990; Portenoy & Kanner, 1996). In addition, the fundamental desire amongst health disciplines to 'first do no harm' may also contribute to reluctance to prescribe and administer opioids (Lasch et al., 2002). If professionals believe that patients may become addicted, this ethical imperative will pose a further dilemma for them.

The eighth and final misconception about people with chronic pain identified by McCaffery and Pasero (1999) is that patients who are non-compliant are somehow dependent on their symptoms and do not want to give them up. Such a view can be linked to the trend in some health care environments, such as those in Australia and New Zealand, to blame people for their condition (Galvin, 2002). This suggests that patients have some kind of maladaptive approach to their experience of pain. However, studies into the compliance of patients suggest that they are generally compliant, and if they are not, then they may choose not to follow treatments for sound reasons, such as not seeing any benefit from them or experiencing side-effects (G. E. Holmes & Karst, 1990; McCaffery & Pasero, 1999; Turk & Rudy, 1991). This is particularly understandable if the treatments focus on managing their behaviour, rather than managing the pain that they experience.

The response of health professionals to people with chronic pain

A number of elements, including concepts of expertise and power dynamics, impact on the understanding that health professionals have of chronic pain, and their interactions with patients. A lack of knowledge about chronic pain, personal and professional cultures and the failure to alter existing practice to incorporate new knowledge, contributes to poor management. A series of misconceptions that health professionals have about people experiencing chronic pain have been identified (McCaffery & Pasero, 1999), and reflect negative attitudes, values and beliefs that influence the inadequate management of chronic pain by health professionals.

The nature of nursing practice

Nursing practice has been defined has having a number of elements such as specialist knowledge and practice, interpersonal interaction and professional accountability. In recent times the development of nurse clinician, nurse practitioner and other advanced practice roles have highlighted the focus on specialist skills and knowledge. These developments are evident in the increasing prevalence of technology in nursing practice (Shivas, 2005) and the value placed on nurses 'being busy' (Chant, Jenkinson, Randle & Russell, 2002; M. Cooke, 1996) which, from a sociopolitical context, equates with efficiency and value. These developments have been criticised for threatening humane health care practice (Darbyshire, 1999). Alongside, or perhaps in reaction to, these developments there has also been a resurgence of interest in the interaction that takes place between patients and nurses. The differences between these elements may be thought of in terms of advanced practice and knowledge focussing on nurses 'doing things to' (D. Brown, McWilliam & Ward-Griffin, 2006) patients, while the notion of interaction in the health care encounter may be framed as nurses 'being with' patients.

Koch (1994) defined good nursing care as providing individualised attention to patients. 'Being with' includes concepts of relationship and being connected with patients in a personal sense and this interaction having therapeutic value in and of itself. The interactions that are described in terms of 'being with' patients include notions of intimacy (A. Williams, 2001), emotional engagement (A. Henderson, 2001), presence and connectedness (Engebretson, 2002; Fredriksson, 1999; Hines, 1992), listening and responding (Zeitz, 1999) seeking meaning (Newshan, 1998) and providing comfort and caring (Hegedus, 1999). The term 'being with' has been adopted to describe projects which are designed to enable nurses to understand the lived experiences of patients, for example the "Being with Patients Project" (B. Reid, 2004).

Relationships between health professionals and patients have been identified as having meaning (Moerman, 2002) and the potential to positively impact on patient care. These effects have been described according to the language and behaviour of the professionals impacting on the physiological response of the patient (Benedetti, 2002; M. A. Brown, Buddle & Martin, 2001).

The concepts encapsulated within the notion of 'being with' are important to consider within the context of this study as they have been identified as being particularly important for nurses working with patients who are experiencing chronic pain. Newshan (1998) suggests that good pain management requires that both patients and nurses have an appreciation of meaning in relation to the pain and treatment of it.

Knowledge and attitudes of nurses

Nurses and medical practitioners are the two groups of health professionals with whom patients experiencing chronic health issues, specifically chronic pain, are most likely to interact (Clarke et al., 1996; R. Davis & Magilvy, 2000). The role of nurses in the management of pain is particularly important as they are often responsible for the assessment of patients, administration of pain relief interventions and the evaluation of their effectiveness (Coyle, 1987; Lisson, 1987; Pilowsky, 1988). Nurses are also regularly responsible for deciding which, if any, pain relief measures are offered to patients, and are often involved in the design and evaluation of health care services (R. Davis & Magilvy). In addition, nurses have been found to endorse dominant constructions of chronic illnesses (Wellard, 1998). The management of pain is considered to be one of the most important technical and moral tasks of nurses (Hunter, 2000). However, the widespread lack of knowledge that nurses have about pain management, and the attitudes, values and misconceptions that they have about pain and the people who experience it, have a detrimental impact on their practice (Lisson, 1987; McCaffery & Pasero, 1999; Vortherms, Ryan & Ward, 1992).

Research has identified knowledge deficits amongst nurses about pain in general, and chronic pain specifically, and resulting deficiencies in nursing practice regarding pain management for more than 20 years (Brunier et al., 1995). In a study of the knowledge, attitudes and clinical pain management practice of 150 nurses in five different countries, McCaffery and Ferrell (1995) identified knowledge deficits that were likely to impact on the care of patients. They observed that the longer a nation had been deliberately engaged in educating professionals and the public about pain management, the better informed the nurses were. A lack of knowledge about pain management and assessment was also identified in a study of 318 nurses in Canada (J. Hamilton & Edgar, 1992). That study found a lack of understanding of the differences between chronic and acute pain to be prevalent, as well as poor knowledge about pain management interventions. In a study of the knowledge and attitudes of 120 nurses about pain management Clarke et al. (1996) discovered that knowledge about the differences between acute and chronic pain were inadequately addressed in the education of nurses and identified "… a persistence of inaccurate, negative attitudes about patients in pain" (p. 26).

Another study investigated the knowledge and attitudes of 514 nurses in hospital settings about pain and identified a lack of knowledge of basic pain principles, the use of opioid medication to treat pain and differences between chronic and acute pain (Brunier et al., 1995). The findings of this study emphasised the impact of education on the knowledge of nurses about pain and pain management. Nurses educated in Canada, the United Kingdom and North America demonstrated a greater knowledge of pain management than those educated in the Philippines. Nurses who had been educated in a university setting, or who had recently attended a course on pain management, also demonstrated greater knowledge than others in the sample. Serious gaps in the attitudes and knowledge of nurses about pain management were identified and these included a strong tendency for nurses to disbelieve that pain could, and should, be relieved, believing that it was acceptable just to reduce pain. "Very few of the nurses felt strongly that patients can and should be maintained in a pain-free state" (Brunier et al., p. 441). It is generally accepted that nurses should believe patients' self-report about their level of pain. However, this study demonstrated that this was not evident in practice, as 27% of nurses felt that they should not believe the patients' assessment of their pain, while another 44% of them believed that medical and nursing staff make more valid assessments of pain than patients do. Lack of understanding about the nature of chronic pain and how it differs from acute pain was also highlighted in that study in the comment that “One of the reasons for the inadequate treatment of pain is the knowledge and attitude deficits of clinicians” (Brunier et al., p. 444).

Health professional education

The process of undergraduate education prepares students for practice and equips them with the knowledge, skills and attitudes that they will use to interact with patients (Papadakis, 1998; Robins, Gruppen, Alexander, Fantone & Davis, 1997; Wolf, Balson, Faucett & Randall, 1989). It is therefore an important component in the management of chronic pain. Educational literature within the health professions includes explorations and debate about and curriculum. For the purposes of this study the notions of socialisation and curriculum are treated as two major components within the process of undergraduate education of health professionals. Identifying these two elements does not imply that socialisation and curriculum are concepts of equal stature. The wider educational debate about the power of curriculum to socialise students, and that curriculum is therefore a subcategory of socialisation, is acknowledged. However they are not interrogated with a view to their relative relationship or interdependencies as this would be beyond the scope of this literature review.

The values (Lindeman, 2000), professional identity and attitudes (Holinger, 1999) of the discipline are conveyed to students through the process of socialisation that takes place as students interact with one another, educators and patients during their education (Clark, 2004; Cribb & Bignold, 1999; Papadakis,1998; Skelton, 1998). The overt curriculum represents the knowledge and skills that are conveyed to students, and is evident in the documented goals and learning outcomes of the course of study.

Socialisation

Socialisation is the process by which people learn and internalise the social values of a group or community. This process is influenced by factors that are present before birth and continues throughout life (Jones, Blair, Hartery & Jones, 1998; Gelder, Lopez-Ibor, Jose & Andreasen, 2003).

The socialisation of new members into a group is one of the ways Schein (1992) suggests that professional culture is perpetuated, and social control within a professional group is maintained. It is during the process of socialisation into their chosen discipline that students develop attitudes that will guide their responses to patients.

The history of where and how nursing education is provided may provide some insight into socialising influences. It may be argued that nursing education initially developed within the limitations that medicine placed upon it. This is demonstrated by the emphasis that was placed on ensuring that it did not invade the professional territory of doctors (Bridges, 1990; Dixon, 1990). The provision of undergraduate education within higher education may be seen as one of the initiatives nursing has taken to demonstrate its independence as a professional group and to develop its own field of scholarship and expertise (Barton, 1998).

Nursing has journeyed along a path of asserting its identity as a profession and is now accepted to varying degrees as being a discipline in its own right (Keogh, 1997). Numerous authors have defined the elements that characterise a profession. Generally they include; having a unique body of knowledge (which is based on and generates its own research), a commitment to the wellbeing of society, ethical and moral codes of practice, autonomy in practice and education that is offered within the higher education sector (Girard, 2005; Yam, 2004). The process of education of students within professions has also been identified as having a deliberate socialising effect (Liaschenko & Peter, 2004).

The process of socialisation begins before students enter professional education, and is demonstrated in the beliefs that they have about the role and status of the discipline. The process of socialisation during health professional education occurs as students are exposed to role-models and contextual factors. Following graduation, practitioners are further socialised into the discipline by the rituals and traditions that the group defines for its members.

Socialisation and society

Education is a major site of socialisation and may begin during compulsory schooling. In some countries, such as Singapore, education for citizenship is an explicit and detailed part of the school curriculum (Chew, 1998). Cultural and nationalistic values may also be evident in health professional education. An example of this is presented in a paper by Young and Bowen (1999) where sound practice as a physician is linked to loyalty to one's country (USA) and good citizenship, which the authors state should ideally be demonstrated in spreading humanitarian policy through tours of duty in the armed forces. The images that are portrayed in society of health professionals, or the observed behaviour of practitioners, may also impact on the concept a student entering the health disciplines has of a graduate in their field. The political and social values of the society influence people before they begin their professional education, and shape their beliefs about the role and status of practitioners. In a society such as New Zealand, which values neoliberal principles, the role of health professionals is cast within the scientific medical paradigm.

It is common for medical and nursing students to enter their professional education with clear views on their role as professionals, and research has shown that they believe that they are going to learn to cure and care for people (Callahan, 1998; J. Price et al., 1998; Merrill, Lorimor, Thornby & Woods, 1998). The focus on cure, and measurable and quantifiable health care, is a problem for people with chronic pain, as there is often no diagnosis or cure for the pain that they experience (Astin et al., 1996; Luker et al., 1998). When students enter their professional education with existing ideas about how they will practise, or on the goals of the discipline, the process of socialisation has begun, even prior to the course of study commencing.

Socialisation during the process of health professional education

The socialisation of students into the health disciplines actively begins in medical and nursing schools (Baszanger, 1985; S. W. Bloom, 1989; Graham & Wealthall, 1999; Maheux & Beland, 1987; Melia, 1984; Rentschler & Spegman, 1996; A. P. Williams, Domnick-Pierre, Vayda, Stevenson & Burke, 1990). It is during the course of undergraduate education that students in the health professions acquire the beliefs and attitudes that are sanctioned by their chosen profession (Merrill et al. 1998). Exposure to role-models in the clinical setting is the primary way in which this socialisation occurs. Socialisation is accepted as part of the educational process within the health professions (Howkins & Ewens, 1999; Nesler, Hanner, Melburg & McGowan, 2001), and in the case of midwifery education is considered to be essential, in order to convey the art of practice and other essential values (Benoit, 1989).

However, the behaviour students observe in their teachers may differ from what they have been taught is appropriate and professional (Papadakis, 1998), and the tension that this creates for students may be a challenge for them (Wolf et al., 1989). The recent trend of people entering medical school from other disciplines in America (Swick, Szenas, Danoff & Whitcomb, 1999) and Australia (Hamilton, 1999) is seen as having the potential to reduce the power of socialisation in medical education. This has led to suggestions that there is now more reason than ever to be explicit about the attitudes and values that medical students require in order to practise effectively as health professionals (MacLeod & McCullough, 1994).

The power of socialisation within nursing education was one of the reasons for moving nursing education from hospitals into the tertiary education sector in New Zealand. Glass (1997) found that some nurses, who had originally been trained in the hospital system, found the experience of education in the polytechnic sector to be empowering. However, nurses educated in the tertiary education environment became quickly enculturated into the values of the clinical environment once they graduated and started practising (Perry, 1987).

The impact of role-models on the attitudes of student health professionals was illustrated in a report on a study of students enrolled in medical education in Queensland (J. Price et al., 1998). That study suggested that undergraduate medical education may have a negative impact on attitudes and asserted that in the first five years of medical education attitudes develop significantly, and that there is minimal change subsequently. After the fifth year of medical study, attitudes of the students were seen to be so close to those of their teachers that further development was not obvious. In another study, of fourth year medical students, Royston (1997) suggested that while it is common for students to take on the attitudes of their teachers, students are also able to critically evaluate the attitudes that their teachers have towards patients, and choose to follow them or not.

Socialisation following graduation

Socialisation continues beyond graduation as practitioners continue to be influenced by role-models within their professional group, and the social and political context in which they work and interact with patients (du Toit, 1995; Newman, Papadopoulos & Sigsworth, 1998). Rules, rituals and language are the hallmarks of professionalism or professional culture (S. Martin, 1999; Schein, 1997; Schon, 1983). Various organisations and professional groups within society have traditions of socialising their members and those that they come into contact with. These groups may be identified by their elite vocabulary, rituals, limited membership and clear rules for belonging. Some groups use class and gender divisions to define and maintain territory (Hall, 2005). The military (Shulimson, 1996) law, and medicine (Hafferty, 1991; Hafferty & Light, 1995; Pringle, 1998), are examples of professional groups which have a particular culture, and which actively socialise their members. The power of professional groups to maintain authority, marginalise other knowledge and participate in surveillance is particularly obvious in health care (Pryce, 2000) and can be seen in physical structures such as architecture (Morrall & Hazelton, 2000; Pryce), as well as in rituals of examination and treatment (Heartfield, 1996). Beliefs about 'typical patients' along with social class, education, views and practice styles impact on the therapist/patient relationship, demonstrating the concept of group culture at work in groups of health professionals (Nordin et al., 1998; Roush, 1986). Practices such as the wearing of uniforms serve to unite and identify professional groups, but also place obvious status barriers between patients and practitioners (Roush, 1986).

Curriculum

Curriculum has been defined within the health professions as a course of study (Dorland, 2003) and within this context is usually used to refer to a predetermined and agreed list of content that is expected to be covered. The emphasis within this study is on nursing curriculum and it is explored here with particular reference to nursing education and within the wider sphere of health professional education literature. As with the concept of socialisation, curriculum is not investigated here with a view to interrogating or contributing to wider educational debate. However, the substantial literature about curriculum enquiry is acknowledged.

Within nursing education curricula have been debated in recent years with reference to the notions of content, product and process (Ben-Zur et al., 1999). A product-driven curriculum is considered to focus on the finished product – what the student will be able to do when they graduate. A content-driven curriculum is one that focuses on the information that the student needs to acquire during the course of their education. A process-driven curriculum emphasises the learning experience, the ability to think critically and develop practice.

The content of curriculum and the processes used to deliver it are believed to impact on the attitudes of students (Kumashiro, 2000; Orr, 2002). The content of the curriculum within the health professions has been found to have a direct impact on the knowledge and attitudes that professionals have about managing pain (Vortherms et al., 1992). The values of those offering education and of the curriculum being taught are presented in all resources that students see during their education. This suggests that educators may influence the attitudes and values of their students by the content and processes within the curriculum (Leggat, 1998), as well as through the socialising process of role-modelling.

Curriculum content

One of the greatest challenges for health professional educators lies in deciding what is to be taught, when there is such a vast amount of content that may be deemed necessary (Bligh, 1998; Higgins, 1994). There are estimates that more than two million articles are published per year within medicine alone (Frommer & Rubin, 2000). As a result curriculum developers are faced with large increases in the volume of knowledge available in the health disciplines and this often leads to curricula having an emphasis on content rather than the processes of learning and practice. Health professional educators must manage the tension between teaching skills and knowledge traditionally linked with the health disciplines and other components, such as social science and problem solving skills (Ben-Zur et al., 1999; MacLeod & McCullough, 1994).

Curriculum also needs to be designed to prepare students to meet the expectations of employers, registration bodies and the wider community (Adamson, Cant & Atyeo, 2000). Some educators have made attempts to restructure the curriculum offered in the education of health professionals and to address specific needs in the development of attitudes and interpersonal skills. One example of this was the increase in popularity of critical pedagogy in some areas of nursing education in the 1980s. This led to some curricula changing to extend from having a primary focus on science and to incorporate social and contextual issues. This was born of a desire to equip students to respond to the political dimensions impacting on health, education and the provision of health care, and was referred to as a 'curriculum revolution' within nursing education (Bevis, 1993; J. Harden, 1996; H. Jackson, 1994; Rentschler & Spegman, 1996; Spence, 1994).

However, neoliberal values, which stress the need for measurable outcomes in health care, also extend to the educational environment and demand objective outcomes from educational processes, making the curriculum which is offered to health professionals particularly vulnerable to social and political context.

The impact of sociopolitical context on the curriculum of health professional education was demonstrated in an overview of curriculum developments in medical schools in the United States (Seifer, 1998). That study noted the impact that initiatives, such as managed care, can have in affecting the skills and attitudes that health professionals acquire during their education.

The increasing emphasis on technology and bureaucracy in health care has the potential to lead to an emphasis on knowledge and techniques within health professional education. Affective skills, which are difficult to quantify and assess, are considered less valuable (Ten Cate & De Haes, 2000), and therefore attitudes and values are less likely to be included in the curriculum. Duke (1996) noted that nursing students with problems in the clinical area that did not affect their psychomotor skills often passed assessments because the practical skills were easy to describe, observe and assess, while the affective skills were not. Health professional educators have attempted to extend curricula to include interpersonal skills, attitudes and values. However, the huge volume of science-based material which is necessary in the health sciences, the pressure for measurable and achievable learning outcomes and pressures on resources (Greenhalgh, 2001) have made this difficult to realise (Kurtz, Johnson & Rice, 1989; Lennox & Diggens, 1999).

Curriculum processes

The means of bringing the curriculum to students is another element to be considered in the design of health professional education. Historically, nursing education has been firmly based on the behaviourist paradigm with its focus on training students to behave in prescribed ways, think in a linear fashion and believe in absolute notions of right and wrong (Boychuk Duchscher, 1999). This model has seen the curriculum defined according to the content that is communicated to students, the skills-based outcomes that are produced (Romyn, 2001) and the number of hours of learning that students completed.

More recently, critical and emancipatory philosophies have become more popular and the value of measuring learning according to the number of hours involved has been challenged (Rolfe, Ringland & Pearson, 2004). As a result, process-driven approaches to organising the curriculum, which focus on the method and manner of student learning, aim to ensure that students integrate their knowledge (R. M. Harden, Davis & Crosby, 1997) and are able to transfer it to other settings, have become common. The desire to promote deep understanding, rather than surface learning, is also a feature of process-driven the curriculum (Bligh, 1998; Creedy & Hand, 1994; Higgins, 1994; Wellard & Bethune, 1996). Problem Based Learning (PBL) is one example of an approach to learning which focuses on the process of students engaging with the content and constructing their own meaning as they solve problems, and has become particularly popular in the health disciplines.

A further development has been the debate about the competencies and capabilities of graduates in the health disciplines. Within higher education differences have been identified between the concepts of competence and capability. Competencies have been defined as knowledge and skills that are essential for practice and capabilities (or graduate attributes) have been defined as the ability of students and graduates to adapt to environments and develop their practice. Technical clinical skills and scientific knowledge are examples of competencies while critical thinking, problem solving and reflection are examples of capabilities (Barrie, 2004; Clegg, 2003; Fraser & Greenhalgh, 2001; Hart, Bowden & Watters, 1999).

However, the notion of competence has particular currency within nursing practice. This is related to, but not always the same as, the concept of competence as it is defined within higher education and curriculum development (McLean, Monger & Lally, 2005). Within nursing the concept of competence relates to verifying the ability of the individual to carry out specific aspects of practice. The need to identify and verify competence became popular during the 1980s as part of the professionalisation of nursing, and in response to pressure to demonstrate its accountability (Utley-Smith, 2004; Verma, Paterson & Medves, 2006). However, defining health care practice and the core elements of knowledge and proficiency is complex and there are wide variations between and within countries, and across disciplines (Verma et al; Childs, 2005). Many professional groups have struggled with developing and implementing systems for monitoring the professional competence of practitioners once they have qualified (Pearson, Fitzgerald, Walsh & Borbasi. 2002), and nursing is no exception.

Competencies for nurses have been identified by governing agencies in many countries, including New Zealand (Nursing Council of New Zealand, 2004). These competencies list expectations of registered nurses in relation to professional behaviour and knowledge, and may be considered the benchmark for newly qualified practitioners. However, in addition to these nationally recognised competencies, there are other requirements for verifying levels of competence within nursing. These are often related to specific areas or 'scopes' of practice and include a list of expected knowledge and skills, along with requirements for regular professional development or updating. Expectations that nurses should attain post-registration competencies are often referred to as credentialing (Wilkinson, 1998). Credentialing has been criticised for creating status and cultural distinctions within nursing and minimising the basic professional skills and competence of professionals within the discipline (Coulthard, 1998; Grealish, 1998; Wilkinson).

Curriculum, chronicity and chronic pain

One of the ways of evaluating the learning that students experience in a given subject is to identify where and how it is taught in the curriculum for a particular course. The International Association for the Study of Pain (IASP) designed a curriculum for teaching health professionals about pain (International Association for the Study of Pain, 1991). Despite this, teaching about disability (Smeltzer et al., 2005) pain, and chronic pain in particular, has been found to be lacking in health professional courses. A study of Finnish medical teaching faculties found that teaching about pain was not obvious in the written documentation of any course, although education about pain was provided to some students in an inconsistent fashion (Poyhia & Kalso, 1999). Goodrich (2006) observed that pain management is not well covered in many pre-registration nursing courses and that this is a barrier to effective pain management. Similarly, Lennox and Diggens (1999) considered the knowledge and attitudes medical students in Australia should have, in order to equip them to work with people with disabilities. They found that these attitudes were generally taught in a haphazard manner and were not clearly identified within curricula.

Some educators have developed specific curricula and processes to teach students about chronicity and disability. The need to specifically address these issues in health professional education has been highlighted by studies that have demonstrated that the attitudes of students towards people with disabilities could be changed during the course of their education, if specific strategies were implemented (S. French, 1994). French, having reviewed many courses, advocated having disabled people teaching students about disability, and enabling students to have contact with people with disabilities in an equitable manner in which they interact in a natural environment. This approach has been implemented at the University of Sydney, where a 30-hour community-based clinical component was added to the nursing education course

(Johnston & Dixon, 1998). Students interacted with people who had disabilities in their own environment and away from the illness and disabling contexts of hospitals and health provision agencies. One of the results of this curriculum innovation was that students changed their attitudes towards working with people with disabilities, and became more interested in working in that sector once they had qualified (Johnston & Dixon). Also in Australia, a study of the knowledge of pain in newly graduated occupational therapists (Strong et al., 1999) concluded that specific education and curriculum interventions impacted positively on the knowledge and attitudes of students towards people experiencing chronic pain. Again in Australia, Darbyshire (1994) has advocated using the art of Frida Kahlo to encourage student nurses to develop an appreciation of the lived experience of patients who experience pain and disability. The use of art and sound in nursing courses has been advocated as a way of ensuring that aspects of humanities and authenticity are included in preparing student nurses for practice (R. L. Smith et al., 2004).

The influence of health professional education

The education of health professionals has a significant part to play in addressing how people with chronic, disabling pain are treated. The educational process contributes to the development of the knowledge, skills and values students will use when they interact with patients. The curriculum and the process of socialisation have been identified as two of the main factors in the education of health professionals. Attitudes and values are conveyed to students by educators, who act as role-models and socialise students into the health disciplines. The content and process of the curriculum present students with the knowledge and attitudes they will use as a foundation on which to base their future practice. Students' appreciation of interpersonal skills and the subjective nature of health and disability experiences may be influenced by the wider sociopolitical and professional cultural environment in which this education is offered. The recent moves to include social sciences and interpersonal skills in the education of health professionals have the potential to improve interactions between practitioners and people with chronic pain (Seers & Friedli, 1996).

Gaps between theory and practice

The education of health professionals has been criticised for contributing to gaps that exist between theory and practice (Fealy, 1997). The move of nursing education from clinical based learning to higher education may have addressed the need to assert nursing as a discipline in its own right. However, it may have also contributed to there being a difference between what practitioners know and what they do. One explanation for this is that teachers based in academic environments may lose sight of the complex and dynamic reality of practising in a clinical environment. Another explanation for the theory-practice gap may be that the pressure in academic environments to produce research may detract from focusing on current clinical issues. Yet another criticism of higher education as a venue for health professional education may be that it is difficult for students to integrate their learning in the classroom to the clinical environment (Chant et al., 2002; Closs & Cheater, 1994; Winch, Henderson. & Creedy, 2005).

The existence of nursing-specific knowledge and expertise is not in dispute. However, there is concern that nurses may have difficulty applying their knowledge in clinical settings. A number of barriers to the integration of evidence into practice have been suggested (Nagy, Lumby, McKinley & Macfarlane, 2001). Nurses have been found to lack the confidence to explore and analyse research. They have also been found to experience challenges to implementing theory within their practice environments. (Nilsson Kajermo, Nordstrom, Krusebrant & Lutzen, 2001). Efforts to incorporate theory into practice have been hindered by the culture of institutions, colleagues within nursing and attitudes and power dynamics within and across other health professional groups (Holleman, Eilens, van Vliet & van Achterberg, 2006; Rycroft-Malone et al., 2004). Health professionals often rank evidence and place the greatest value on empirical knowledge (Evans, 2003; Upton, 1999) and this bears little resemblance to the reality of practice for nurses, making some types of research seem irrelevant to nurses (B. French, 2005).

Nursing education in New Zealand and chronicity

A discourse analysis of three health professional education curricula in New Zealand, including two nursing courses, was carried out in preparation for this research project (Shaw, 2002). Discourse analysis is popular within nursing as an interpretative method for exploring how power and knowledge are constructed through the written and spoken word (Crowe, 2005). The analysis aimed to explore how students were introduced to the concept of chronicity. Both of the nursing courses included a course component which all students completed by the end of the second year (fourth semester) of study. These components involved students interacting with people with disabilities, or with chronic health conditions, and then being assessed about what they had learnt. They were designed to introduce students to the concept of chronicity in general and did not specifically address chronic pain. The curriculum goals and the student information from the course components were analysed. Three discourses were identified as a result of the analysis; bioscience, professional expertise and social interaction and chronicity. Results from the curriculum analysis of these two nursing courses are presented below. Language directly from the text is presented in *italics*.

The discourse of bioscience

Nursing education has been found to present students with constructs for viewing the human body that are based on either a social or mechanical entity (C. Brown & Seddon, 1996). This biomedical representation of the body as a machine presents students with the understanding that health and disability issues are essentially mechanical faults, which can be repaired by the application of science. Within biomedical discourses people are often referred to as objects (Hillyer, 1993) and defined as "organs, diseases and modes of treatment, and in highly scientized and specialized terminology" (Lane & Lawler, 1997, p. 263).

Bioscience was evident in both of the nursing curricula which were analysed in this study, and was particularly demonstrated in information given to students which instructed them to *'review and document'* their *'pathophysiological knowledge'* of *'the person's chronic illness'*. The curriculum documents from one course also referred students to the *'clinical status'* and *'limitations'* of the patient. The documents from both of these courses presented the professional in the position of gathering information from the patient, analysing it, and making a decision about it, based on their own knowledge and the wider body of knowledge that is bioscience. This was clearly illustrated in one of the courses within which students were required to compare the information that patients gave about their condition with information in text books.

Acute health care environments predominate within biomedical discourses because of the emphasis on diagnosis and cure. The emphasis on defining health issues within an acute frame was evident in one of the courses in this analysis when chronicity was viewed within the context of exacerbation of chronic symptoms. This learning took place within an acute clinical setting and was positioned alongside the acquisition of technical skills, such as the administration of medication, and learning about specific pathophysiology, such as epilepsy and diabetes. Balancing interpersonal and technical elements of practice has long been a struggle for nursing (Traynor, 1999) and can be a particular challenge within environments that have such a strong emphasis on acute health care.

Monitoring the health and behaviour of patients has been identified with bioscientific discourses and identified as a dilemma for nursing (Sandelowski, 2000). Monitoring behaviour is encouraged when students are required to observe patients. Monitoring patients was evident within these nursing courses when students were encouraged to read or access information about patients without involving the patients themselves. This was demonstrated in comments such as *'read your patient's notes (both the clinical notes and observations) and make a plan of care for your patient each day'*. One course defined the role of the nurse according to specific behaviours such as planning, documenting and delivering care, which positioned the professional as '*doing things to'* patients rather than '*engaging with'* them. The role of patients was also presented from a particularly behavioural perspective in one course that suggested patients needed to *'adapt'* to or *'overcome'* their chronic illness or disability.

The discourse of expertise

Both of the courses being analysed here represented health professionals (students) as the expert, with specific knowledge and technical expertise, and the patient as lacking in expertise. It is common for health professionals to be presented as experts according to Ragan, Beck and White (1995) who state that "Particularly in Western medicine, patients have been socialised to view their medical caregivers as omniscient dispensers of both medication and medical wisdom" (p. 186). Expertise may include knowledge, such as information about bioscience, as well as social components such as elevated status in relation to patients. In an analysis of two qualitative studies of women living with chronic illness, the providers of health care were presented as having expertise about the patient's body (Tang & Anderson, 1999) in advance of any expertise that the patient may have had. The nursing courses that were analysed in this study presented professionals as having expertise about the health or disability issue that the patient was experiencing, as students were encouraged to make judgements about the limitations and experiences of patients. The patient was seen as having some expertise about their personal health experience, but the students were positioned to evaluate it. This was evident in statements in the text which asked students to *'critique the experience'* of the patient.

In the courses that were analysed here, the patient did not have any voice at all in the assessment process. Patients worked with students to help them appreciate the concept of chronic illness, but this was limited to talking with students, giving them information and answering questions. The patients were not involved in the assessment of the students' learning, or in evaluating the learning process. This suggests that patients were considered not only to lack expertise about their health or disability issue, but also about what students might have learnt during the educational process, of which they were a key part. Students are generally assessment-driven (Higgins, 1994) and as such they consider the assessment task to be the most important part of the learning process. Whether or not patients are included in the assessment process conveys a message to students about the value of patients' views.

The discourse of treating chronicity

Within this discourse patients are positioned in relation to their illness, health professionals and society as a whole. The model, which each of these courses used to teach students about chronicity, included ensuring they spent time with people with chronic illnesses. This process gives value to interactions between health professionals and patients in the context of chronicity and is particularly empowering for people with disabilities (S. French, 1994). Within both courses the information for students stressed the need to treat patients with respect. This was evident in information that told students they were to act in an *'appropriate'* manner towards patients. A strong emphasis on the nature of the interaction with patients was evident in the course information for students that referred to empathy, promoting individuality, trust, limitations of the role of the professional and the power health professionals have to *'inflict their values'* on clients. Being aware of the person and the knowledge surrounding their health was also a common theme demonstrated by the use of words such as *'understand', 'sensitive'* and *'negotiate'*. The *'honour and privilege'* of working with patients was evident throughout the information about the content and process of the learning for both courses. The value of positive interaction between health professionals and patients is important because patients need to experience human support and feel respected before they share their experiences honestly (Paulson, Danielson & Norberg, 1999; Peter & Watt-Watson, 2002). The need to identify the interaction between professionals and people with chronic pain, as an important part of practice, was highlighted by Sherwood et al. (2000) following a study of 241 patients.

"Satisfaction was most likely when providers effectively addressed pain control with the patient as an informed partner. Patients expressed dissatisfaction, even when pain was relieved, when providers appeared uncaring, were slow to respond or lacked knowledge and skill" (Sherwood et al., p. 486).

The context of patients interacting with people other than health professionals was also evident in both courses. Patients were presented as part of family and wider social networks. However, the concept of chronicity was at times presented as a cost to society, specifically in the course where students were encouraged to follow-up services that patients used, and find out what support was offered and what the challenges were in offering such services. The efficient use of limited resources is emphasised within health care discourses, as a result of the current prevalence of economic rationalism (or neoliberalism) as a discourse within post-industrial Western economies (Traynor, 1996).

Discourses in curriculum

The discourse analysis of the curriculum goals and the student information from the course component designed to introduce students to concepts of chronicity in the two nursing courses, identified three discourses which represent current themes in the education of nurses in New Zealand. The discourses of biomedicine, expertise and interactions between health professionals and patients, identified in this analysis, can also be identified as themes in the misconceptions about people with chronic pain (McCaffery & Pasero, 1999) and how they come to exist. The biomedical discourse is evident in the misconceptions relating to diagnosis of pain. The beliefs that patients tend to exaggerate their pain and be non-compliant relate to the discourses of expertise, social interaction and chronicity, and the misconceptions about the tendency of patients to manipulate others and seek secondary gain. The power of nursing education to impact on negative attitudes of practitioners towards people experiencing chronic pain has been previously identified. It has been suggested that "...contemporary nursing education, itself, with its emphasis on science, technology and speed in the clinical setting can foster dehumanising attitudes and perceptions vis-à-vis pain control" (Lisson, 1987, p. 657).

Summary

This chapter has presented an overview of currently available literature to demonstrate that chronicity is increasingly a challenge for people and communities around the world. Chronic pain is a common form of chronicity and one which, despite the amount of information available to practitioners, is not well managed.

Research has explored the context in which professionals and patients experience chronic pain, and identified sociopolitical contexts as influencing the understandings and expectations of both patients and professionals. The sociopolitical paradigm (neoliberalism) which predominates in post-industrialised Western Economies has a tendency to view chronic health conditions with regard to their potential cost to society. Within this context, people with chronic health issues which are complex to treat or incurable, may be blamed for their condition.

The interactions that take place between health professionals and patients are a key feature in the assessment, treatment and evaluation of chronic pain. Previous research has identified power dynamics between health professionals and patients, and differences in the understanding of the concept of expertise as particular challenges (D. Brown et al., 2006; Chant et al., 2002; S. Henderson, 2003).

Research also exists demonstrating how the education of health professionals equips them with the knowledge and attitudes that they will use to respond to patients once they graduate. The process of socialisation is a key aspect in the education of health professionals, and has been reported to be largely responsible for the attitudes students graduate with. Curriculum has also been identified as one of the key components in the educational process, as it defines the knowledge that graduates will acquire. A range of misconceptions about people with various types of pain (McCaffery & Beebe,1994; McCaffery & Pasero, 1999) is reported to be widely held by health professionals and include elements of inadequate and incorrect knowledge and inappropriate attitudes.

Some of these misconceptions have been researched within various groups of health professionals. However, there is no evidence in currently available, peer-reviewed and published studies that the particular misconceptions about people experiencing chronic non-malignant pain have been investigated or more specifically, that the impact of undergraduate nursing education on the development of these misconceptions has been explored. The aim of this study was to investigate conceptions about chronic pain, that student nurses hold, and how they may develop during the course of undergraduate education.

CHAPTER THREE - METHOD

Introduction

This study explored the conceptions that student nurses have of people experiencing chronic pain, and sought to identify factors which might influence any development of these during the course of three years of undergraduate study. This chapter outlines the method of the study which followed a process of developing and administering a questionnaire and then analysing the data. A series of interviews was then undertaken and the data from them also analysed.

This chapter begins by presenting the research questions before outlining the design of the study, the sample and instruments, and the procedure that was undertaken to gain ethical approval. The chapter continues with an explanation of the process that was used for gathering data and finishes with a summary of the processes utilised for analysing it. Detailed information about the analysis of the data is presented in the following chapter along with the results.

The research questions

Following the exploration of current issues in relation to the education of health professionals, particularly nurses, and the assessment and treatment of chronic pain, the following research questions were identified for this study.

The main research question was:

> What conceptions do student nurses have of people experiencing chronic pain, what influences them, and do they change during the course of undergraduate education?

Three components were identified within the main question, and detailed questions in relation to each of these were defined:

A) What conceptions do student nurses have of people with chronic pain?

  1) Do student nurses hold generally positive or negative views of people with chronic pain?
  2) To what extent do student nurses hold the misconceptions about people with chronic pain identified by McCaffery and Pasero (1999)?

B) What influences the conceptions that student nurses have of people with chronic pain?

3) Does the presence of pathology impact on student nurses' conceptions of patients with chronic pain?
4) Do student nurses' personal experiences of chronic pain impact on the conceptions they hold of patients with chronic pain?
5) Does the educational setting impact on the conceptions held by student nurses towards people with chronic pain?
6) Is there a difference between the conceptions that student nurses and nursing educators have of people experiencing chronic pain?
7) Does social interaction influence student nurses' learning about chronic pain?

C) Do student nurses' conceptions of people with chronic pain change during the course of undergraduate education?

8) Do students' general views of people with chronic pain change during the course of undergraduate education?
9) Does a course component designed to introduce students to chronic illness impact on the conceptions that they have of people with chronic pain?
10) Do student nurses develop misconceptions about people with chronic pain (McCaffery & Pasero, 1999) during the course of their undergraduate education?

The design

A cross-sectional design was selected to examine the research questions. The design included gathering data from participants at three specific points across three-year courses of undergraduate study. The use of longitudinal studies is generally considered rigorous for analysing a group over a period of time. However, the cross-sectional approach may provide sound data if it is well designed, and has been presented as an example of an appropriate method for exploring the influence of socialisation on the development of professionalism in nursing students during their course of study (Polit, Beck & Hungler, 2001). Such designs are frequently used in nursing research, and are particularly common in the investigation of phenomena within three and four year undergraduate nursing courses (Polit & Hungler, 1995). One of the criticisms of cross-sectional designs is that they may not present an accurate picture of any one cohort, as the context in which groups exist changes over time. However, it is likely that employing a longitudinal study, following a cohort of students through a three-year undergraduate nursing course, could involve the complexity of curriculum redevelopment and change occurring during the three year period, and this would make it difficult to identify the curriculum which was being analysed. However, the nationally prescribed content and the components of the courses included in this study did not change during the data collection phase of this research. The cross-sectional design also had the advantage of enabling data to be collected from the full range of participants in the sample in a relatively short period of time. This was an efficient and appropriate manner of conducting this study given time and resource constraints.

Both qualitative and quantitative methods were used in this study. The subjective nature of pain, and the complex character of interpersonal interactions that take place between patients and health professionals, lend themselves to qualitative approaches. However, information regarding the prevalence of particular misconceptions about people with chronic pain is appropriately gathered using quantitative methods, which also suit the context of medical and nursing professionals. These practitioners frequently come from a tradition that favours quantitative methods (Lamb-Havard, 1997; Lloyd, 2000), and this is demonstrated by the current focus on evidence-based practice within the health disciplines. As a result, research which incorporates a quantitative component is common in the field of health professional education.

The focus on scientific approaches to knowledge within the health disciplines has led to a situation where evidence is ranked in a hierarchical manner. The empirical evidence provided by randomised controlled trials is considered to be the most valuable (Evans, 2003; Upton, 1999). This system of ranking evidence has been criticised for leading to an over-emphasis on empirical knowledge to the point that even a badly designed randomised-controlled trial is considered to be more valuable than a well-designed study from any other paradigm (Grossman & Mackenzie, 2005). The emphasis on empirical studies is often unhelpful for practitioners as such research is designed to answer very limited questions (Block, 1995) and often bears little resemblance to the complex world of practice (French, 2005). It has been argued that for research to impact on practice the information it provides must be transferable to clinical situations (Gill et al., 1996; Norman, 1999; Spear, Heath-Chiozzi & Huff, 2001). This study was designed around realisitic clinical situations in the hope that the insights gained may be easily linked back to the practice environment.

A questionnaire was designed specifically for this study and used to gather all of the quantitative, and some qualitative, data. A small number of interviews were carried out to gather further qualitative data.

The sample

The population for this study was educators and students involved at three stages of undergraduate nursing education in New Zealand during 2002. Undergraduate nursing education in that country currently consists of three years (six semesters) of full-time academic study, including a considerable component of clinical hours. Students engaged in semester one were identified as participants with the intention of exploring the notions about chronicity that they brought with them, or developed in the first few weeks of the course. Students completing semester four were included as, by this stage, they had completed the course component designed to introduce them to working with people experiencing chronic health issues. This course component did not specifically teach students about chronic pain but involved them spending time with patients experiencing chronic illnesses or disabilities. Semester six students were incorporated in the sample as they were about to graduate.

One of the research questions asked whether there were differences between conceptions held by students and their educators. This question was a response to evidence in the literature that the socialisation process had an impact on the knowledge and responses of students. In order to explore this, educators from these three stages in the courses were included with the hope of identifying any possible similarities between students, and those who teach them. While educators are intimately involved in the education of student nurses the study was primarily about the student nurses themselves.

In 2002 there were 16 providers of undergraduate nursing education in New Zealand, all offering courses that were approved and audited by the Nursing Council of New Zealand. Undergraduate degrees have been the benchmark for pre-registration in New Zealand since 1996 (Lusk, Russell, Rodgers, & Wilson-Barnett, 2001). External monitoring by the nursing council ensures that all students cover the same content and complete the required number of clinical and theory hours prior to graduation. Auckland is the largest city in New Zealand and has a larger proportion of students and educators engaged in undergraduate nursing education than other cities in the country. Four nursing degree courses were being offered within the city in 2002, and educators and students from two of these were identified as participants in this study. These were the same two courses on which a discourse analysis of the curriculum regarding the teaching of chronicity had previously been undertaken in preparation for this study (Shaw, 2002). A summary of the findings of that analysis is included in the previous chapter.

This sample may be described as a convenience sample as it was made up of participants most easily accessible to the researcher. Potential concerns about the representativeness of the sample, often an issue in convenience samples (Polit & Hungler, 1995), were minimised in two ways. Firstly, as mentioned above, there is a good deal of similarity between all undergraduate nursing courses offered across the country as they include the same content, and are monitored by the same central body. Secondly, the number of participants was a substantial proportion of those engaged in the three specific stages of undergraduate nursing education in New Zealand during 2002.

All participants completed the questionnaire, which included a section designed to give consent to be interviewed. Therefore the sample included those who completed the questionnaire, and a small subgroup of those who were then interviewed.

The questionnaire sample

There were a total of 442 students enrolled in semesters one, four and six of the two courses included in the study in 2002. A total of 435 (98%) of these students were approached to participate in the study, and 430 did so. The remaining seven students were not present. Course leaders identified educators who taught students in the courses. The total number of educators identified across the two institutions and sent questionnaires by mail was 43.

Table 1

Number of students enrolled in undergraduate nursing courses in 2002

	Total	Semester one	Semester four	Semester Six
Number of students in New Zealand in 2002	6658	1331*	1092*	906*
Number of students in Auckland in 2002	1170	240*	190*	155*
Number of students enrolled in the two institutions in this study in 2002				
Institution one	305	130	95	80
Institution two	137	58	40	39
Total	442	188	135	119

*Statistics about the number of students enrolled in various semesters are not formally collected. These numbers have been calculated by taking the number of students enrolled in undergraduate nursing education, as reported by the Ministry of Education in July 2002, and estimating how many of them would be enrolled in each semester.

The interview sample - students

Following preliminary analysis of the data from the completed questionnaires, a sample of participants was identified to be interviewed. A total of 65 student participants gave consent to be interviewed by completing the appropriate section at the end of the questionnaire. This group included 32 participants who had experienced chronic pain themselves *and* also knew well someone else who had, five who had neither experienced chronic pain themselves n*or* knew anyone well who had, and 28 who had either experienced chronic pain *or* knew well someone who had. This group was sorted randomly into a single list and then their details checked. A total of 21 participants who had consented to be interviewed had either given incomplete or illegible contact details, or had specified dates when they would be available for interview which were unable to be accommodated, reducing the group to 44. The first 12 students appearing on the random list for each semester, totalling 36, were contacted to arrange an interview. At this point, several students withdrew the consent they had earlier given to be interviewed, some of them because they had no memory of the study and others because they were busy preparing for end of semester examinations and did not want to be distracted from that. A total of 11 students agreed to be interviewed, all from institution one. Participants were offered either face to face or telephone interviews. Two of them chose to be interviewed face to face as this was more convenient for them, and the remaining nine were interviewed by phone.

The interview sample - educators

Eleven of the educators who completed the questionnaires gave consent to be interviewed. Three of these were not followed up as, subsequent to completing the consent form and questionnaire, they had enrolled in a postgraduate course component taught by the researcher and interviewing may have put them in a dependent relationship. A further four potential interviewees had either given incomplete contact details, or were unable to be contacted. The remaining four participants were followed up and interviewed, either in person or over the phone, as was convenient for them. All of the four educators who were interviewed came from institution one.

The instruments

Research into beliefs, values and attitudes traditionally involves the use of either interviews or questionnaires to gather data. Both approaches were used in this study, and the rationale and development of each is outlined below.

The questionnaire

A questionnaire was chosen as the primary tool for gathering data for this study because of the ease with which it could be administered across a large sample in a relatively short period of time (Polit & Hungler, 1995). Details of the development and administration of the questionnaire are outlined later in this chapter. Other advantages of using questionnaires are that they present information to participants in a standardised manner, and enable them to maintain anonymity. Disadvantages of using a questionnaire in such a study include concerns that participants will not complete all of the items in a long questionnaire, the risk of a low response rate and the possibility that questions may not appear relevant to the participants and therefore result in meaningless data (H. S. Wilson, 1987). While some previous studies into misconceptions about pain, outlined in the previous chapter, have included the use of questionnaires, those tools were not considered appropriate for this study. The concerns about these existing tools were that they were generally long and complex, explored broad concepts of pain rather than looking specifically at chronic pain and included language which is not well understood in the New Zealand context. They also contained identified weaknesses, such as a failure to include questions about the personal experience of participants with chronic pain.

The questionnaire used in this study (see Appendix 3) included four main elements. The first was a vignette which was used to introduce the participants to a realistic clinical situation. Secondly, an item presented participants with a range of positive and negative adjectives to describe the patient in the vignette. The third element was a series of items designed to frame each of the misconceptions identified by McCaffery and Pasero (1999) into relatively neutral statements with Likert scales to accompany them. The fourth and final element comprised three items designed to gather information about participants' knowledge and experience of chronic pain. The details and rationale for using each of these elements in the design of the questionnaire is presented below.

The vignettes

A vignette is defined by Polit and Hungler (1995) as "a brief description of an event, person, or situation to which respondents are asked to react" (p. 656). Many researchers have used vignettes to explore attitudes, beliefs and misconceptions held by health professionals. They are particularly common in nursing research, particularly in studies exploring attitudes and beliefs (Kodadek & Feeg, 2002). Vignettes are also commonly used in the process of nursing education as they assist students to make links to patients and clinical environments (Van Eerden, 2001). Studies investigating the development of attitudes in Australian medical students during their education (J. Price et al., 1998), the diagnosis and treatment of mental disorders in Singapore (Parker, Mahendran, Yeo. Loh, & Jorm, 1999) and the impact of cultural heritage on attitudes of African medical students (Hipshman, 1999) have used vignettes. Likewise, vignettes have been used to explore the impact of specific educational courses on ethics (Malek, Geller & Sugarman, 2000) and ethical judgements (Skipper & Hyman, 1993). Studies designed to investigate attitudes of medical practitioners towards illness (Forsythe, Calnan & Wall, 1999), the impact of labelling people with psychiatric illnesses (Arkar & Eker, 1994) and comparisons of attitudes of the general public with those of health professionals in Australia towards illness (Jorm, Korten, Jacomb, Christensen & Henderson, 1999) have also included vignettes. Vignettes have been used to elicit responses of nurses towards patients with particular health issues, including pain, and are considered particularly appropriate for exploring attitudes of practitioners, and used instead of observations for gathering data (Blondeau, Roy, Dumont, Godin, & Martineau, 2005; Chuk, 2002; Gould, 1996). Vignettes, which had minor differences between them, were used by Schigelone and Fitzgerald (2004), to explore the support that medical students gave to patients making medical decisions. Videotaped vignettes have become popular (Polit & Hungler, 1995) and were used in a Michigan based study to uncover attitudes of medical social work students towards people experiencing pain (Kurtz et al., 1989).

The strength of vignettes in research about clinical issues is that links are made to real practice, and as a result this process is considered more valid than asking participants to respond to true/false or multiple choice questions (Gould; McCaffery & Ferrell, 1996). The use of vignettes has been found to increase response rates (Hoffman, 1998) and ensure that all participants have a similar understanding of the information as they present details to participants in a structured manner (Gould; Hoffman; Skipper & Hyman, 1993). They have been described as a useful tool for exploring beliefs and intended behaviour within the health disciplines (Blondeau et al., 2005; Schigelone & Fitzgerald, 2004).

The use of vignettes has some potential disadvantages. They have been criticised for evoking responses that may reflect personal experiences. However, such responses, it could be argued, are precisely the sorts of things that will influence practitioners in real-life situations. In response to the criticisms of vignettes Schigelone and Fitzgerald (2004) took care not to invoke stereotypes when designing vignettes and also designed their study to include some interviews in order to provide a degree of triangulation (LoBiondo-Wood & Haber, 1994; Polit & Beck, 2004). Both of these approaches were also utilised within this study.

The vignettes for this study were designed to present a realistic clinical picture that nurses in New Zealand may regularly encounter in practice. Three vignettes were included in this study (J1, J2, J3). In each of these the same basic clinical picture was presented. The basic vignette (J1) was:

> *J is a 22 year old woman who comes to the clinic in which you are working. J has had ongoing back pain for six months. J injured her back when she and a colleague both fell while lifting a heavy patient. She has been treated by a physiotherapist who feels that there is no longer any obvious cause of her back pain. She has not continued with the exercises that were prescribed to strengthen her back. She feels that exercises make her back more painful and asks if she could be given stronger medication to manage her pain. Being on*

> *a benefit is financially challenging for her and causing her significant stress and she is in dispute with an insurance company about injury compensation. J's long term relationship has ended within the last four weeks.*

The basic vignette was designed to present a picture of an apparently fit and healthy person who had been injured. The age and sex of the person in the vignette and the cause of the injury were designed to represent a demographic which would be familiar to the majority of potential participants. The rest of the vignette was designed to allude to each of the misconceptions (McCaffery & Pasero, 1999) without giving specific details. The strategy of encouraging respondents to consider information relative to each misconception was designed to initiate thinking prior to answering the items that followed. The lack of specific findings or clinical judgements about the clinical picture was deliberate, in order to ensure that the vignette presented a clinical case, but did not give any clear direction.

Slight variations in the vignettes were designed to elicit possible differences in responses towards patients according to whether or not specific pathology had been identified. In the first variation of the vignette (J2) a phrase was added following the statement about medication that read *"The physiotherapist has recommended an MRI scan to look for the cause of her continuing pain".* The aim in adding this variation was to see whether a suggestion of possible pathology would impact on the responses of participants. Previous research had identified this as having a major impact on the attitudes and responses of health professionals towards people with chronic pain (McCaffery & Pasero, 1999; Melzack, 1990). In the second variation (J3) the statement; *"J has had an MRI scan. The preliminary results suggest that there is a 'mass' in her spine*" was added. This was designed to explore whether the addition of an almost certain pathology would change the responses of participants. The decision to include reference to a 'mass' was made to suggest that cancer, or some other very serious pathology, might be involved. When some terminal or very serious condition is evident, the misconceptions that health professionals have about people experiencing pain are less prevalent, and as a result malignant pain is managed more effectively than non-malignant chronic pain (McCaffery & Pasero, 1999; Melzack, 1990).

The adjective item

The item in the questionnaire which followed the vignette presented participants with a range of adjectives (see Appendix 3, section one of each questionnaire). The words in this item were chosen to include a range of positive and negative connotations/attributes of patients, and were listed randomly. Participants were asked to identify the words which represented their first impression of J. The item was designed to enable them to consolidate their first impression of the patient in the vignette. This was positioned early in the questionnaire, following feedback from the trial, because previous research had suggested that health professionals make judgements about patients early in the therapeutic encounter, and that these judgements impact on their response to, and treatment of, patients (Short, 1993).

The misconception items

Eight of the items in the questionnaire were designed to elicit responses to the misconceptions that McCaffery & Pasero (1999) documented as being held by health professionals towards people with chronic pain (see Appendix 3, section 2 of the questionnaires). Items were constructed to frame the misconceptions in terms that were as neutral as possible, and directly related to the vignettes in order to elicit responses to the misconceptions from participants.

Table 2

Misconception items

	Misconception*	Questionnaire item
1	Because of the chronicity of pain, patients are less sensitive and better able to tolerate pain.	J's experience of pain should increase her tolerance to pain.
2	Pain for which there is no known organic cause is a symptom of psychological disturbance (i.e., psychogenic pain).	J's continuing pain is probably related to psychological disturbance.
3	If the patient's pain occurs or increases soon after a traumatic life event (e.g., a divorce or death in the family), this stress is probably what caused or increased the pain.	The increase in J's back pain is probably related to the stress in her life.
4	Patients who are awaiting litigation after an injury or who receive worker's compensation are very likely to exaggerate their pain for financial gain or may be malingerers.	J is likely to be exaggerating her pain to support her claim for financial compensation.
5	A patient who 'exaggerates' his or her pain and/or has a greater decrease in function than can be explained by the physical cause is consciously trying to manipulate others or obtain secondary gains.	J is probably exaggerating her pain to manipulate others.

6	If the patient is depressed, especially if there is no physical cause for pain, then depression is causing his or her pain. The pain would subside if the depression could be effectively treated.	If J was depressed treating the depression would make the pain subside.
7	Opioids are totally inappropriate for all patients with CNP [chronic non-malignant pain]. People with chronic pain who have been taking opioids for months or years are narcotic addicts.	J should not be given morphine to manage her pain as she may become addicted.
8	When patients with CNP [chronic non-malignant pain] are non-compliant, it is probably because they do not want to give up their pain.	J probably doesn't comply with the exercises the physiotherapist has prescribed for her because for some reason she doesn't want to give up her pain.

*McCaffery and Pasero 1999 p 469-470.

A tool had to be included for recording the responses of the participants to the misconception items. Scales are used in questionnaires to assign a score or code responses of participants to specific items, and are particularly common in research about attitudes, motives and perceptions (Polit & Hungler, 1995). Vignettes are often accompanied by a semantic differential or Likert scale, which have been used as tools to measure attitudes of health professionals, controversial issues in medical practice, the impact of attitudes in medical education, and ideology (Blondeau et al., 2005; Rezler, 1976; Von Sydow & Reimer, 1998). Such tools have the benefits of being reasonably easy to construct, administer, score and interpret. A major disadvantage of such an approach is that respondents may choose to give false answers in order to be seen as correct (Blondeau et al., 2005; Rezler). Careful attention was paid to anonymity in the administration and consent stages of this study to address this. If the potential disadvantages of using such scales can be overcome with good design, these tools have the added advantage of adding a component of quantifiability to the design of the study (Bowles, 1986; Rezler).

The semantic differential model uses attitude positions in between a series of adjectives and antonyms, and is considered to be a valuable tool where people may have a strong emotional response to the items, but not well thought out opinions. Such scales have been developed and validated to measure attitudes of women towards menopause (Bowles, 1986) and attitudes of student nurses towards teaching and learning methods (Vaughan, 1990). The challenges with semantic differential scales relate to the need to ensure the adjectives are appropriate for the concepts being explored (Polit & Hungler, 1995). In studies exploring pain and disability, possible variances in the understanding participants have of language has been identified as a weakness (R. M. Christensen, 1998; Gaston-Johansson, 1984). For this reason a Likert, rather than a semantic differential scale was used in the design of this study.

Likert scales are frequently used to explore the attitudes of health professionals, particularly in nursing research (Polit & Hungler, 1995) and are designed to present the participants with a choice of responses to each question or comment. The range of responses is described according to a level of agreement, and is the same or similar for all items in the questionnaire. Likert scales have been used to explore whether doctors interacting with patients focused on their own needs or those of their patients (de Monchy, Richardson, Brown & Harden, 1988), and the impact of labelling on psychiatric patients (Arkar & Eker, 1994). In previous research particularly relevant to this study, Likert scales have been used to assess the attitudes of health professionals towards pain and the use of medication amongst a large sample of practitioners (Weinstein et al., 2000b).

The number of points on a Likert scale varies between studies. Many researchers favour the use of an odd number of points on the scale (usually five or seven points) as this enables the respondent to make a neutral response. The disadvantage of such a design is that it may encourage participants to sit in the middle of the scale rather than identify a clear response (Polit & Hungler, 1995). These concerns have led some researchers to favour an even numbered scale which does not include a neutral position, or to modify the scale in some other way (Albaum, 1997). Five-point Likert scales usually have points described as ‘strongly agree’, ‘agree’, ‘neutral’, ‘disagree’ and ‘strongly disagree’. Seven-point Likert scales add the points ‘somewhat agree’ and ‘somewhat disagree’ either side of the neutral position, and have been linked to improved validity when compared to five-point scales (Flamer, 1983). Another advantage of a seven-point scale is that it gives participants more scope in which to respond than a five-point scale, and this may increase the likelihood of their responses reflecting their practice. Increased reliability has been associated with higher numbers of points on Likert scales (Rasmussen, 1989).

This study used a seven-point Likert scale to record responses of participants to the eight items related to commonly held misconceptions about people experiencing chronic pain. The seven-point design was chosen following feedback from the trial to give participants a wide range of potential responses, and a clear middle point on the scale. The misconception items were constructed using simple, short statements to limit the potential for varied understandings. This also had the advantage of being an appropriate way in which to deal with possibly objectionable items or items which participants may have felt sensitive about answering (Polit et al., 2001).

Other items

Three other items were included in the questionnaire, in addition to the adjective and misconception items.

Two of these items, requiring yes/no answers, asked the participants if they, or anyone they knew well, had experienced chronic pain (see Appendix 3 section 3, question 10 of the questionnaires). This was done in response to discussions of limitations in previous research about misconceptions of health professionals towards patients experiencing pain, which have made reference to the need to explore how the participants' own experience of pain may impact on their responses to patients (Rochman, 1998).

The final item in the questionnaire asked participants to explain other ways in which they had learnt about chronic pain, and was structured as a short answer item with a space to write a response (see Appendix 3, section 3, question 11of the questionnaires). This item was included to give participants the opportunity to identify the things they thought had contributed to their understanding of chronic pain.

The process of developing the questionnaire

A draft questionnaire was developed following discussion with practitioners, educators, researchers and health professional students about how to outline a relevant clinical situation, how items intended to present the misconceptions should be phrased, and what other general questions should be asked (Polit & Hungler, 1995; Lander, 1990). The draft questionnaire (Appendix 1) presented the misconception items with five-point Likert scales as the first items requiring responses from participants. In April 2002 the draft questionnaire was trialled simultaneously with 60 first year health science students who were not enrolled in a nursing course, but were students in one of the institutions in which the study was based. These students were divided into three groups. Each student was given a questionnaire with one version of the vignette (J1, J2, or J3), and the questionnaire was administered to them during a scheduled tutorial session for one of their standard course components. These students understood that this was a trial questionnaire, gave their consent to participate, and agreed not to discuss the study with other students.

Analysis of the data from the trial questionnaire was carried out to establish the internal consistency of the eight misconception items. Cronbach's alpha was found to be 0.7184. In addition to this, preliminary analysis raised issues about the construction of the Likert scales. Many responses on the Likert scales were difficult to interpret and code because participants positioned their response between items on the scale.

Discussions took place with the staff who had administered the trial questionnaires, and a group of students who agreed to discuss the trial with the researcher. These discussions focused on discovering how the items had been understood (Crombie & Davies, 1996), and checking the clarity of the instructions and layout of the questionnaire. Students who had participated in the trial reported that having the points on the Likert scale positioned on a single line made it less likely that their responses would clearly identify a single position on the scale. It was agreed that having more points on the scales and designing them in such a way that it was harder to choose more than one position would encourage clearer responses. It was also agreed that the item which was designed to ask participants about their first impression of the patient was better placed immediately after the vignette and prior to the misconception items and that three of the adjective items were confusing or duplicated other adjectives.

Following this feedback and analysis, minor alterations were also made to the format and organisation of the questionnaire in order to ensure clarity, and encourage a greater response rate (Abbott & Sapsford, 1997). The presentation of the questionnaire was refined by using a clear and easily read typeface on A4 paper. The need to ensure the instructions were short, clear and easy to follow, that no abbreviations were used, and that the items were not split between pages, were addressed (McColl et al., 2001; Newall, 1993). The Likert scales were redesigned in light of the feedback received from the trial.

The questionnaire was restructured according to the outline recommended by Polgar and Thomas (2000), so that the first page included the instructions, demographic details, such as the institution and semester that participants associated with, and whether they were students or educators, the vignette and the adjective item. The repositioning of the adjective item at the beginning of the questionnaire is supported by the advice that specific items should follow more general ones (McColl et al., 2001). The second page included the eight items directly related to the misconceptions and the associated Likert scales. The third and final page included the items about experience and knowledge of chronic pain, and the option to complete the consent to participate in an interview.

The study focussed on investigating the misconceptions about people with non-malignant chronic pain that had previously been identified by McCaffery and Pasero (1999). However, the word 'misconceptions' was not used on the questionnaire or in the consent or participant information sheets, as it had the potential to lead the participants and could have compounded the tendency of participants in self-report designs, such as questionnaires, to give socially appropriate answers (Polit & Hungler, 1995). The concept of 'notions' of chronicity was used in this study to incorporate attitudes, values and beliefs that may impact on thinking, judgement and practice, and to provide a concept with which to define the study which was more neutral than that of 'conceptions' or 'misconceptions'.

The interviews

The major advantage of using interviews to gather data is that a degree of flexibility is available to the researcher as they interact with the participants. This may enable them to follow-up themes or specific issues during the course of the interviews and, as a result, the collection of rich data is more closely associated with interviews than questionnaires (Henerson, Morris & Fitz-Gibbon, 1987). The disadvantages of interviews are that they are often time-consuming to carry out and analyse (H. S. Wilson, 1987) and participants may feel some social pressure to answer questions in a particular way (Polgar & Thomas, 2000).

Interviews with a small sample of participants, who had completed the questionnaire and given consent to be interviewed, were undertaken. A semi-structured approach was used in which a schedule of questions was followed in all interviews but participants were able to respond in their own way and to lead the conversation (Polgar & Thomas, 2000). The two interview schedules, one for students and one for educators, can be found in Appendix 2 and were designed to relate to the items in the questionnaire. The interview schedules included questions for both groups about how they defined chronic pain, what personal experiences they had of chronic pain, and how they thought people in the community perceive people who complain of chronic pain. The students were also asked what experiences they had of others experiencing chronic pain and how they thought their understanding of chronic pain would impact on their practice. The educators were asked additional questions about any experiences they had of caring for people with chronic pain and what they wanted to convey to students when they teach them about chronic pain.

The value of interviews in this study was their potential to explore some of themes identified in the initial analysis of the questionnaire data in greater detail.

Validity and reliability

As the primary tool for gathering data was a questionnaire, which had been designed specifically for this study, the validity and reliability of it needed to be established. The content validity was addressed by seeking advice from non-participant experts, including practitioners and educators, about the relevance and appropriateness of the vignettes and the questionnaire items (Blondeau et al., 2005; Corley, Elswick, Gorman & Clor, 2001; Polit et al., 2001). Chuk (2002) and Lander (1990) used this process to validate vignettes in studies about the attitudes of health professionals towards pain management and Blondeau et al. (2005) used it when developing a tool to explore the attitudes of physicians and pharmacists towards the sedation of terminally ill patients. This process of seeking feedback about content validity ensured that the vignettes included language and concepts relevant to the New Zealand context, as one of the reasons for designing a new questionnaire was to ensure the research tool was relevant to the context of the participants. The process of trialing the questionnaire with a group of students and seeking feedback from them was also designed to contribute to the validity of the research tool.

The items in the interview schedules were similar to the items in the questionnaire, adding a degree of triangulation to the design and therefore a further indicator of validity. Gould (1996) lists three processes as being essential to ensuring internal validity when using vignettes. These are: using existing literature about the phenomenon being explored to create the vignette, consulting an expert panel about the design of the vignette and ensuring the associated questionnaire items are trialled. All of these processes were used in the design of this study.

The concept of reliability relates to the reproducibility of the findings yielded by the tool (Polgar & Thomas, 2000) and is essential for assessing the quality, accuracy and adequacy of the findings in a quantitative study. Reliability within studies that have a quantitative component may be considered from the perspectives of stability, internal consistency or equivalence. The reliability of the questionnaire used in this study was considered in relation to the internal consistency of the items. The calculation of Cronbach's alpha (or coefficient alpha) is considered to be one of the most sophisticated and widely used methods for measuring the internal consistency and therefore the reliability of measures which have a psychometric component (Polit et al., 2001). Chronbach's alpha was used to measure the internal consistency of the eight misconception items in the questionnaire (n=430) with a result of 0.7953. This score increased between the time of the questionnaire being trialled and used in the study. A reliability coefficient with a score above 0.70 is considered significant, and a score between 0.85 and 0.95 is considered to be ideal (Polit et al., 2001).

Procedure

Ethical considerations

The research proposal, including the rationale and details of the design and analysis, were submitted to ethics committees in the two institutions from which the sample was derived. Standard information regarding storage and access to data was included in the proposal. Three types of participant information sheets and consent forms were prepared, one for the individual participants, one for the Vice Chancellor and Head of Nursing in one institution and another for the Vice Chancellor, Dean of Health and Heads of School in the other institution. The second institution was chosen as a site for trialling the questionnaire and therefore permission from a Head of School for a health discipline other than nursing was sought in order to conduct the trial. The proposal also included a draft questionnaire and reference to the intention to consider using interviews following the preliminary analysis of the questionnaire. The details of approval by both committees were included in all participant information sheets and consent forms.

Maintaining the anonymity and confidentiality of participants in this study was important for two reasons and the strategies for doing this were outlined in the ethics application. Firstly, it was important to maintain anonymity of the participants to increase the likelihood that their responses to the questionnaire bore resemblance to their beliefs and behaviour (Foddy, 1993; Henerson et al., 1987; Rezler, 1976). Fears around issues of social control are a potential factor (Foddy), as participants may have concerns that they will be judged, or their practice and learning assessed by their answers. Secondly, the researcher is involved in processing student complaints and appeals and providing professional development for staff within one of the institutions in the study. The need for participants to be assured of anonymity and confidentiality was essential to ensure they did not perceive themselves to be in a dependent relationship with the researcher at a later date. In order to ensure anonymity an independent research assistant was engaged to administer the questionnaire to participants in this study. The participant information sheet assured participants of anonymity. Participants were only identified to the researcher if they gave consent and contact details in order to be interviewed.

Administration of the questionnaire

A research assistant was engaged to meet with student participants to explain the study, give out the participant information sheets, consent forms and questionnaires (Appendix 3) and then stay and collect the completed consent forms and questionnaires. Following negotiation with course leaders and teachers, arrangements were made for the research assistant to meet with groups of students during regularly scheduled classes and in their usual venue (both clinical and campus settings) and to use 20-30 minutes of the class time to explain the study, gain consent and collect the data. This process was utilised in an attempt to maximise the response rate as the return rate from postal questionnaires is often low, even when follow-up measures are employed (Polit & Hungler, 1995). In addition to this, there was a concern that as data were being collected at the end of the semester students were likely to be busy preparing for examinations and weary of filling in forms such as course evaluations.

These problems have been recognised by researchers exploring the ethical reasoning of nursing students (Nolan & Markert, 2002). The completed consent forms were collected in a manner that ensured they could not be linked to specific questionnaires, to maintain the anonymity of the participants.

Anecdotal evidence from students indicated that this was a particularly effective way of gathering data. These students commented that they felt that they were too frequently asked to provide data for research and that this is a low priority for them, especially at the end of the semester. They stated that having a research assistant involved in collecting the data enabled them to engage with a person and this added to their likelihood of participating in this study.

Due to the scheduling of clinical teaching, it was not possible to arrange to meet the educators in a group setting so the questionnaires were mailed to them with return stamped addressed envelopes included along with the participant information sheets and the consent form. Those who did not return questionnaires were followed up by phone. This prompting did not lead to completion of additional questionnaires due to the timing of the data collection at the end of the semester.

The interviews

The gathering of qualitative data in this study involved one-to-one interviews, conducted by the researcher, which were recorded in note form according to the questions in the interview schedule. A reflexive approach was also adopted where notes were kept about any other issues that arose in the conversation, any links between the quantitative and qualitative responses of the individual participants and any information (verbal or paraverbal) that may have provided depth of meaning to the responses (Abbott & Sapsford, 1999). The data (text) was then organised according to whether the respondent was an educator or a student and in relation to the semester with which they identified.

Analysis

All data from the questionnaires were loaded into SPSS for Windows (Version 11.0). Participants were allocated a code which identified the institution and the semester which they had indicated and the version of the vignette which had been in their questionnaire. Assignment of a unique number to each participant enabled cross-referencing of all electronic data with original questionnaires. The responses to the misconception items were coded as follows: 1=strongly agree, 2=agree, 3=somewhat agree, 4=undecided, 5=somewhat disagree, 6=disagree, 7=strongly disagree. Ratings that received higher numerical coding correspond with more accurate responses towards people with chronic pain, demonstrating the misconceptions are less strongly held while lower scores on the misconception items corresponded with the degree to which the misconception is held and therefore inaccurate responses towards people with chronic pain.

The analysis of Likert data requires that points on the scale have values placed upon them. This has potential to engage a number of debates. Firstly, the value placed on the ‘neutral’ or ‘undecided’ response may be considered problematic (Hodge & Gillispie, 2003). It is possible to argue that this response could be coded as having no value at all and therefore be recorded as zero. In this study the ‘undecided’ responses did not feature strongly in the data analysis as the focus of the study was to explore the degree to which misconceptions were held or not held. Participants who responded to an item by identifying a point on the scale which included the word ‘disagree’ (points 5-7) were considered to hold the appropriate misconception to a lesser degree than those that answered by identifying a point which included the word ‘agree’ in the description (points 1-3).

Another potential debate in the analysis of Likert data relates to the classification of the data (eg: ordinal, interval or ratio). The measurement argument requires that parametric statistics be applied to numerical (interval and ratio) data (Dawis, 1987). Parametric tests assume that within the population there is a profile of standard variances. The statistics argument holds that ordinal data should not be analysed using numerical analysis as it is not appropriate (Jakobsson, 2004). However, Nanna and Sawilowsky (1998) argue that Likert scales lend themselves to providing data that is not likely to represent a normal distribution. The perspective that was adopted for this study was that arguments about the type of data and therefore the analysis of it was less important than interpreting the data in meaningful ways.

Descriptive statistics were used to identify frequencies and central tendencies and summarise the responses to the misconception items. In addition, a total misconception score for each participant was calculated by adding together the responses to the misconception items. Bivariate analysis (Pearson’s correlations) were also used to analyse the quantitative data. There were very few instances in which data was missing from the Likert scales and therefore this did not have an impact on the results (Downey & King, 1998).

The analysis of qualitative data in this study was hampered by the poor quality of the data. The lack of interest in, and understanding of the topic, and the process of being interviewed amongst those who participated in the study has been mentioned earlier. This led to a situation where the data provided during the interviews lacked depth. Polgar and Thomas (1995) categorise qualitative studies according to whether they are descriptive or theoretical. They further define descriptive studies as ethnographies and give grounded theory as their example of theoretical studies. Such distinctions are of little help in analysing the data from this study as the qualitative data did not stand alone, nor was it of a sufficient quality to apply either a purely theoretical or detailed descriptive analysis.

The major challenges in analysing qualitative data are the potential volume of data and the lack of clear pre-determined processes. However the basic elements of gathering and organising data, and eliciting meaning, are common (Polit & Hungler, 1995). The process of gathering the qualitative data is outlined in the section of this chapter which explains the procedures for carrying out the research.

The process of eliciting meaning of the qualitative data in this study centred around carefully reading and re-reading the text to identify themes and then checking them against other data both within and across the interviews (Penney & Wellard, 2007; Wellard & Rushton, 2002). A process of constant comparison (Fitzpatrick & Boulton, 1994) was used as concepts were identified, coded and checked against other interviews. Themes emerged from patterns and repeated concepts in the data. These were investigated in relation to other data and the research questions themselves. The frequency with which these themes appeared was recorded using what may be described as a process of qualitative content analysis (Krippendorf, 1980; Polit & Hungler, 1995). The notes which recorded impressions and paraverbal communication during the interviews were used to help intuit meaning within the text. While the quality of the qualitative data in this study was disappointing it served to support data from the quantitative component of the design without substantially altering the findings.

Further details of the analysis that was undertaken to address each research question are incorporated into the following chapter where the results of the study are presented.

Summary

This cross-sectional study utilised a questionnaire and interviews to gather data from a large convenience sample of students and educators engaged in semesters one, four and six of undergraduate nursing education in New Zealand during 2002. The questionnaire, which included a vignette and collected data using Likert scales and short answer items, was designed specifically for the study and was trialled with a group of students from a discipline other than nursing prior to being refined and presented to the participants in the study. A research assistant met with potential student participants and presented them with the participant information sheet and consent form and collected the completed questionnaires. Educators were approached by mail to participate in the study. Particular attention was paid to ensuring the anonymity of participants during the process of designing the study and gathering the data. The questionnaires included an opportunity for participants to consent to being interviewed and a small number of interviews took place to explore responses participants had made to the items in the questionnaire and some themes in the data in more depth. The data gathered during the interviews was somewhat quality impoverished. However, it did not detract from the findings. Analysis of the data focused on exploring the research questions identified for the study and the specific details of this with regard to each question are included in the following chapter.

CHAPTER FOUR - RESULTS

Introduction

The results of this study are presented in this chapter which begins with an explanation of the response rates for the questionnaires and interviews. The greatest volume of data, which was largely quantitative in nature, was collected from students who completed the questionnaires. The sample of educators completing the questionnaires was relatively small by comparison. Qualitative interview data were collected from a small group of educators and students who completed the questionnaire and gave consent to be interviewed. This disparity in the size of the groups within the sample meant that components within the data lent themselves to varying degrees of analysis.

The detailed research questions, presented in the previous chapter, are used as headings for sections in this chapter. Each section begins with an explanation of the process of analysis that was used to address the question and then the results of the quantitative data are presented.

Themes in the qualitative data are summarised at the end of this chapter, rather than under the headings relating to the research questions, to distinguish their significance from the data gathered by the questionnaire.

A large component of the quantitative data relates to participants' scores on the misconception items within the questionnaire. The items were designed to gather data about the degree to which misconceptions about people with chronic pain (McCaffery & Pasero, 1999) were held. This data was collected using seven-point Likert scales. These scales were designed, and data coded and collated, in such a way that the lower the score the more strongly the misconception was held and the higher the score the less strongly the misconception was held. As a result, higher scores on the misconception items in the results in this study demonstrated more positive and technically accurate responses towards patients.

Response rate

Questionnaire

A total of 435 students were approached to participate in this study and 430 completed questionnaires were returned. This is a response rate of 99%, representing approximately 74% of students enrolled in semesters one, four and six of undergraduate nursing education in Auckland, and 13% of those enrolled in the whole of New Zealand in 2002 (refer to Table 1 in previous chapter).

Table 3

Sample of students completing questionnaires according to institution, semester and vignette

	Semester 1			Semester 4			Semester 6		
	n=188			*n=111*			*n=131*		
Vignette	J1	J2	J3	J1	J2	J3	J1	J2	J3
	n=61	n=59	n=68	n=39	n=36	n=36	n=45	n=37	n=49
Institution 1	44	48	58	27	24	24	34	24	40
Institution 2	17	11	10	12	12	12	11	13	9

A total of 43 educators were approached to participate in the study and 12 completed questionnaires were returned. This is a response rate of 28%.

Table 4

Sample of educators completing questionnaires according to institution and semester

	Number in institution 1	Number in institution 2	Number in sample
Semester one	2		2
Semester four	4*	1*	4
Semester six	1*	1*	1
Semester not defined	3	2	5
Total			12

* One lecturer from each institution identified themselves as teaching semester 4 and 6

Interviews

Following the process of identifying and following up potential interview participants, outlined in the previous chapter, eleven students and four educators were interviewed. The small number of participants involved in this part of the study was disappointing given the large number who had completed the questionnaires. The quality of the data provided during the interviews was also disappointing. Anecdotal information suggested that this related to the time that had elapsed since the first part of the study, impressions that pain was not an important subject and the timing of the interviews at the end of semester. Some of these contributing factors can be identified in reasons why participants chose not to be interviewed (see page 64). Despite the paucity of the data it was included in the study with the hope that it may provide insights to the thinking and action of students and educators. There is a clear need to design a thorough qualitative study that explores more deeply student nurses' and practising nurses' experiences and attitudes to chronic pain. The current study is a necessary first step to establish the extent and the nature of misconceptions (as detailed on page 151).

Table 5

Number of students interviewed

	Semester 1	Semester 4	Semester 6	Total
Institution 1	2	5	4	11

Table 6

Number of educators interviewed

	Semester 1	Semester 4	Semester 6	Total
Institution 1	1	3*	1*	4*

*One educator taught both semester 4 and 6 students

The research questions

1) *Do student nurses hold generally positive or negative views of people with chronic pain?*

The first item in the questionnaire presented students with a list of adjectives and asked them to circle those that described their first impressions of the patient in the vignette. The list consisted of 21 adjectives; 10 with negative and 11 with positive connotations. The frequency scores for the positive and negative adjectives across the sample of students completing the questionnaire were analysed. A total of 421 student participants responded to this item, most identifying multiple adjectives. The majority of responses, details of which are outlined below, were negative.

Table 7

Summary of student responses to adjectives n = 421

Category of adjective	Frequency of responses
Positive	29%
Negative	71%

Table 8

Summary of student responses to positive and negative adjectives

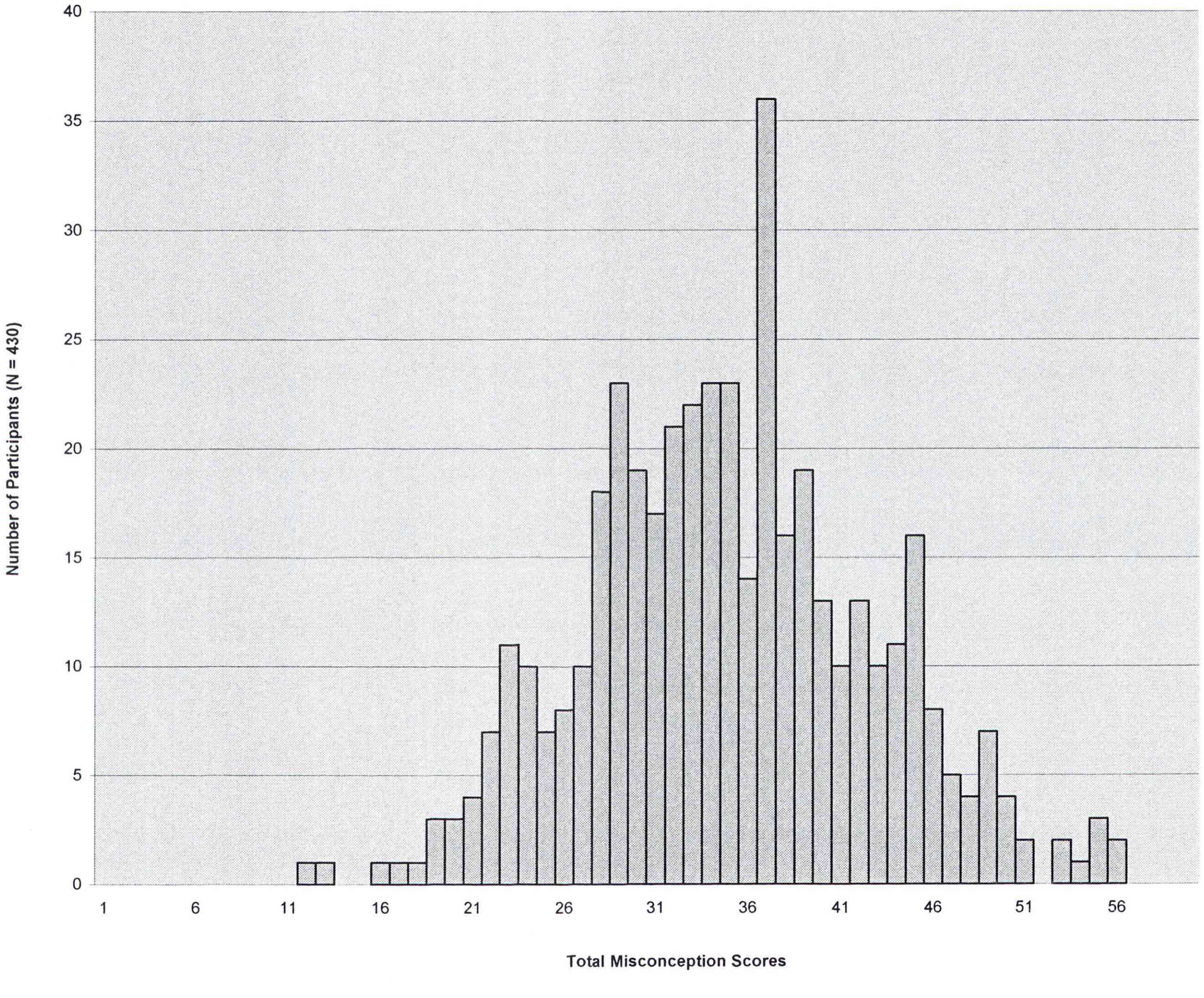
Adjective	Total number of responses to each adjective	% of Responses	% of students responding
Positive adjectives			
Adaptable	18	1.62	4.27
Assertive	45	4.45	10.69
Coping	57	5.64	13.54
Honest	76	7.52	18.05
Independent	26	2.57	6.18
Motivated	15	1.48	3.56
Resourceful	6	0.59	1.43
Responsible	32	3.16	7.60
Secure	5	0.49	1.19
Stoic	8	0.79	1.90
Trustworthy	4	0.39	0.95
Negative adjectives			
Denying	51	5.04	12.11
Dependent	91	9.00	21.62
Depressed	249	24.65	59.14
Dishonest	9	0.89	2.13
Fragile	127	12.50	30.17
Insecure	70	6.93	16.63
Lazy	38	3.76	9.03
Malingering	16	1.58	3.80
Manipulative	14	1.38	3.33
Passive	44	4.35	10.55

2) To what extent do student nurses hold the misconceptions about people with chronic pain identified by McCaffery and Pasero (1999)?

Items 2-9 in the questionnaire asked participants to rank their response to statements representing the eight misconceptions of people with chronic pain identified by McCaffery and Pasero (1999) on Likert scales. There were seven response options on the scales for the misconception items which, for the purpose of analysis, were coded strongly agree (1) to strongly disagree (7). A total misconception score was calculated for all participants by adding the scores of the individual misconception items. A total of 10 students failed to respond to one or more of the misconception items. In these cases a zero was recorded as the score for the relevant item prior to the total misconception scores being calculated. The range of potential total misconception scores for participants who responded to each misconception item was 8-56.

Analysis of the total misconception scores provided insight into the extent to which the misconceptions were held by the student nurses in the study. The actual range of total misconception scores for the 430 student participants completing the questionnaire was 12-56 (see figure 1). The mean total misconception score for the student participants was 34.88 (SD 7.81).

Figure 1 **Range of Total Misconception Scores**



A total of eight students had total misconception scores between 12 and 19. This group included six students from semester one, one from semester four and one from semester six. Four of these students reported that they had some personal experience of chronic pain and four of them that they did not. The semester six student did not respond to four of the eight misconception items and rated those they did respond to as 'undecided'. The semester four student scored 'agree' on all of the items apart from the one related to manipulative behaviour on which they scored 'somewhat disagree'. The misconception scores of participants in this group did not appear to be related to the vignettes as two participants had been presented with the J1 vignette, three with the J2 vignette and one with the J3 vignette. The majority of the students with the lowest total misconception scores were from semester one.

A total of eight students had total misconception scores between 53 and 56. This group included two students from semester one, one from semester four and five from semester six. As with the group who had the lowest misconception scores, half of them reported that they had a personal experience of chronic pain and half of them that they did not. The items relating to manipulation and compliance received the highest score from all participants within this group; all scored 'strongly disagree'. Of this group the misconceptions relating to tolerance of pain and compensation each had one student score the item 'disagree'; the three misconception items relating to psychological disturbance, stress and depression all had two participants in this group score 'disagree'. The misconception regarding addiction received the lowest overall score across this group with three of the eight participants scoring 'disagree' on it. The misconception scores of participants in this group did not appear to be related to the vignettes as two students had been presented with the J1 vignette, two with the J2, and four with the J3 version of the questionnaire. The majority of participants with the highest misconception scores (and therefore the most accurate and appropriate responses to patients) were from semester six.

For the purpose of analysis the misconception items were grouped according to whether they represented knowledge about causes and treatment of chronic pain or attitudes about the behaviour of patients experiencing this type of pain (see Table 9 and Appendix 4). The items relating to knowledge included conceptions about the causes and treatment of patients experiencing pain. Items relating to psychological impairment, stress and depression were associated with causes of pain. Items relating to tolerance to pain and addiction to opioids were associated with the treatment of patients experiencing pain. The items relating to attitudes towards people with chronic pain identified behaviours of patients and specifically referred to compensation, manipulative behaviour and non-compliance/dependent behaviour.

Misconceptions relating to the causes of chronic pain

Psychological impairment

Less than half of the students in the study (40.79%) did not hold the misconception that chronic pain is caused by psychological impairment. The majority of the students (59.21%) either strongly held this misconception or gave an undecided response to this item (see Table 9).

Stress

The majority of the students participating in this study (68.44%) demonstrated that they held this misconception to a considerable extent, while a further 11.48% were undecided. Only a fifth of the students demonstrated that they did not strongly hold this misconception (see Table 9). This was the most strongly held misconception and demonstrated a high degree of inaccurate knowledge amongst student nurses in this study about the causes of chronic pain.

Depression

The majority of the participating students (64.57%) provided responses that demonstrated that they either believed that depression was a cause of chronic pain or that they were unsure about its role in the cause of this type of pain. Only 35.43% of the students demonstrated the accurate belief that depression does not cause chronic pain (see Table 9).

Misconceptions relating to the treatment of chronic pain

Tolerance to pain

More than half of the students participating in this study (61.54%) demonstrated the accurate belief that patients with chronic pain do not become tolerant to pain. The remaining students (38.46%) demonstrated that they did not understand this concept or that they strongly held the misconception (see Table 9).

Addiction to opioids

Almost half of the students in the study (44.98%) demonstrated that they did not hold the misconception that patients with chronic pain are at risk of becoming addicted to opioid medication. A further 37.29% demonstrated that they held this misconception to a substantial degree, while the remaining 17.73% provided a neutral response to the item (see Table 9).

Misconceptions relating to the behaviour of patients with chronic pain

Compensation and exaggeration

Just over a half of the students (51.86%) demonstrated that they did not hold this misconception to any great extent. The remaining students (48.14%) demonstrated that they held this misconception to some degree or were undecided and therefore held an inappropriate attitude towards people experiencing chronic pain (see Table 9).

Manipulative behaviour

More than half of the students (65.26%) demonstrated that they did not hold this misconception to any great extent. Correspondingly, only 14.45% of the students demonstrated that they did believe that patients with chronic pain are deliberately manipulative (see Table 9). This was the misconception that students were least likely to hold.

Compliance and dependence

Almost half of the students (41.56%) demonstrated that they either held misconceptions about patients with chronic pain being dependent and non-compliant, or that they were unsure. However, 58.44% of students demonstrated that they did not hold this misconception (see Table 9).

Table 9

Summary of student responses to specific misconception items (refer to appendix 4 for more details)

Misconception item	Number of respondents	Mean scores		Misconception held to some extent Score: strongly agree, agree, somewhat agree (score 1,2,3 on Likert scale)		Relatively neutral response to misconception item Score: undecided (score 4 on Likert scale)		Misconception not held to great extent Score: somewhat disagree, disagree, strongly disagree (score 6,78 on Likert scale)	
	N=	Mean	SD	No	%	No	%	No	%
Misconception items relating to causes of chronic pain									
Psychological impairment	429	4.13	1.53	183	42.65	71	16.56	175	40.79
Stress	428	3.43	1.38	293	68.44	49	11.48	86	20.08
Depression	429	4.03	1.35	202	47.08	75	17.49	152	35.43
Misconception items relating to treatment of chronic pain									
Tolerance to pain	424	4.72	1.70	132	31.12	31	7.34	261	61.54
Addiction to opioids	429	4.19	1.69	160	37.29	76	17.73	193	44.98
Misconception items relating to behaviour of patients with chronic pain									
Compensation and exaggeration	430	4.65	1.49	96	22.32	111	25.82	223	51.86
Manipulative behaviour	429	5.04	1.33	62	14.45	87	20.29	280	65.26
Compliance and dependence	426	4.84	1.47	84	19.71	93	21.85	249	58.44

3) Does the presence of pathology impact on student nurses' conceptions of patients with chronic pain?

The impact of the presence of pathology on the responses of the student nurses completing the questionnaire was analysed by correlating the three different vignettes that were presented to participants with the responses to the positive and negative adjectives and the total misconception score. There was a significant correlation between the total misconception score of student participants and the J3 vignette (r = 0.10*), which presented a provisional diagnosis of significant pathology. No other significant correlations between the vignettes and the total misconception scores were identified. Therefore the differences between the vignettes do not feature in the findings relating to any of the other research questions.

Three specific misconception items significantly correlated with the J3 vignette (see Table 10). No significant correlations were found between the J1 and J2 vignettes and any of the misconception items.

Table 10

Correlation between specific misconception scores and vignettes

Vignette	J1 no obvious suggestion of pathology	J2 some suggestion of pathology	J3 provisional diagnosis of significant pathology
Psychological impairment	-0.09	-0.04	0.13**
Compensation & exaggeration	-0.05	-0.09	0.13**
Manipulative behaviour	-0.02	-0.07	0.10*

** Correlation is significant at the 0.01 level
* Correlation is significant at the 0.05 level

The significant correlations that were identified between the adjectives and the vignettes (see Table 11) showed a generally positive trend in response to positive adjectives and a generally negative trend in negative adjectives with increasing suggestion of pathology.

Table 11

Correlation between adjectives and vignettes

Vignette	J1 no obvious suggestion of pathology	J2 some suggestion of pathology	J3 provisional diagnosis of significant pathology
Positive adjectives			
Independent	-0.13**	0.03	0.09*
Motivated	-0.13**	0.03	0.10*
Responsible	-0.16**	0.02	0.13**
Negative adjectives			
Depressed	0.17**	-0.12**	-0.04
Insecure	0.11*	-0.08	-0.02
Passive	0.00	0.12**	-0.12**

** Correlation is significant at the 0.01 level
* Correlation is significant at the 0.05 level

4) Do student nurses' personal experiences of chronic pain impact on the conceptions they hold of patients with chronic pain?

The possible influence of students' personal experiences of chronic pain on their conceptions of patients experiencing chronic pain was analysed by correlating the responses to the item in the questionnaire which asked whether or not they had personal experience of chronic pain with their total misconception score and the adjective responses. Students who had had personal experience of chronic pain held both the highest and lowest total misconception scores.

There was no significant correlation (Pearson's *r*) between those who responded that they had experienced chronic pain themselves and the total misconception scores. There was one significant correlation between those students who responded they had some experience of chronic pain and the responses to the adjectives, which was a -0.10* correlation with the 'assertive' item in the list of adjectives. However, the large size of the sample and the relatively low correlation of only one item suggests this finding may have more statistical than social significance.

5) Does the educational setting impact on the conceptions held by student nurses towards people with chronic pain?

The possible impact of the educational environment was analysed by correlating total misconception scores of students in the two institutions. No significant correlation was found.

6) Is there a difference between the conceptions that student nurses and nursing educators have of people experiencing chronic pain?

Possible differences between the conceptions of students and educators about chronic pain were analysed by comparing the range and mean of the total misconception scores of educators with student respondents. The educators had a smaller range of total misconception scores than the students and they were at the higher end of the scale. The mean total misconception scores were higher for the educators than the students.

Figure 2 **Total Misconception Scores - Educators**

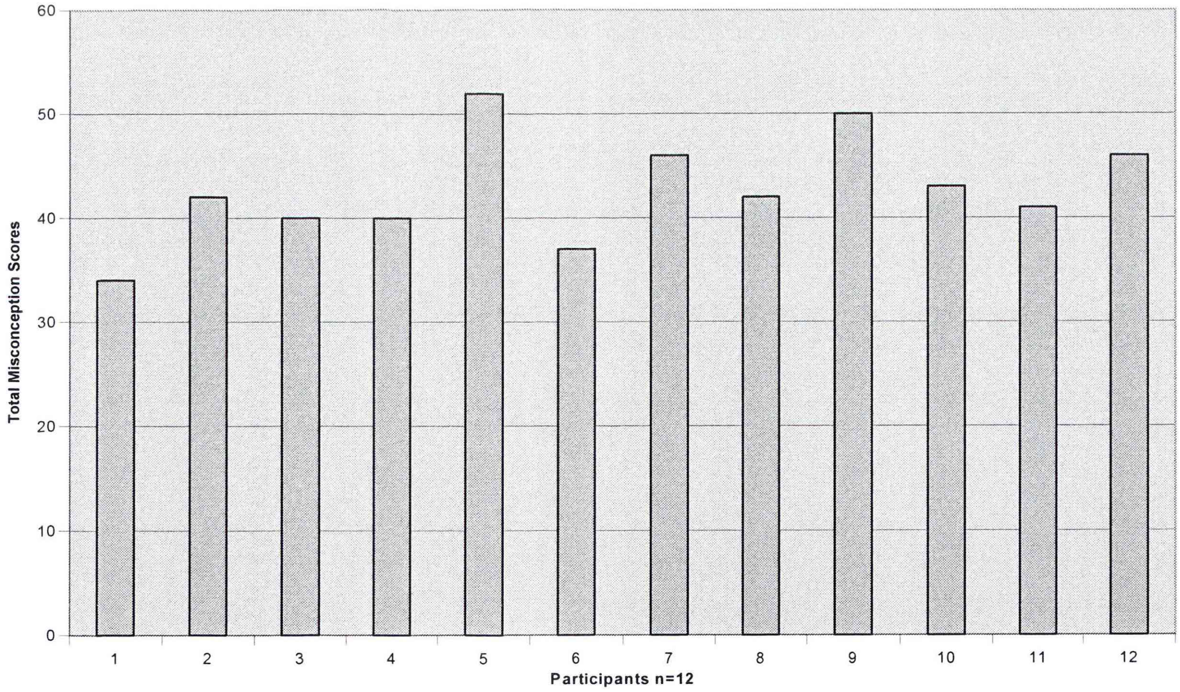


Table 12

Comparison of range and mean of total misconception scores between students and educators

	Range of total misconception scores	Mean of total misconception score	Standard Deviation
Students n = 430	12-56	34.88	7.81
Educators n = 12	34-52	42.75	5.11

The frequency scores for the positive and negative adjectives across the sample of students completing the questionnaire were analysed. All 12 of the educators completing questionnaires responded to this item, most identifying multiple adjectives. There were a total of 35 responses. The majority of responses, details of which are outlined below, (table 13) were negative.

Table 13

Summary of educators responses to positive and negative adjectives

Adjective	Total number of responses to each adjective	% of Responses	% of educators responding
Positive adjectives			
Assertive	4	11.4	33.3
Coping	2	5.7	16.7
Honest	3	8.5	25.0
Motivated	1	2.8	8.3
Responsible	3	8.5	25.0
Negative adjectives			
Dependent	3	8.5	25.0
Depressed	6	17.1	50.0
Fragile	9	25.7	75.0
Insecure	4	11.4	33.3

7) Does social interaction influence student nurses' learning about chronic pain?

One of the items in the questionnaire asked participants where they had learnt about chronic pain. The answers that participants gave to this question were analysed for information that identified engaging with patients, colleagues or educators as having some impact on their learning about chronic pain, and this was then correlated with total misconception scores. The greatest majority of students (*n*=320) had total misconception scores of less than 40, suggesting that they averaged an 'undecided' response on each of the misconception items. Only 18.40% of these students identified social interaction as contributing to their learning about chronic pain. A total of 110 students had total misconception scores in the range of 40-56, consistent with an average across the individual misconception items of 'somewhat disagree', 'disagree' and 'strongly disagree' positions on the Likert scale and therefore the most accurate responses. Of this group, 40.0% identified some social interaction in the process of learning about chronic pain. The majority of these students were in semesters four and six.

Table 14

Ranges of total misconception scores in relation to semester and the identified social component of learning about chronic pain

Total Misconception Scores & Semester	Respondents		Social component		Total
	Number	%	Number	%	
< 40 semester 1	169	52.8			
< 40 semester 4	78	24.3	59	18.4	320
< 40 semester 6	73	22.8			
40-48 semester 1	15	17.6			
40-48 semester 4	28	32.9	28	32.0	85
40-48 semester 6	42	49.4			
48-56 semester 1	4	16.0			
48-56 semester 4	5	20.0	16	64.0	25
48-56 semester 6	16	64.0			
Total	430				430
Summary of Total Misconception Scores in 40-56 range					
40-56 semester 1	19	17.2			
40-56 semester 4	33	29.9	44	40.0	110
40-56 semester 6	58	52.7			

8) Do student nurses’ general views of people with chronic pain change during the course of undergraduate education?

The percentage of students from the three semesters responding to individual adjectives was analysed.

Of the 11 positive adjectives, the response of students towards eight of these appeared with increasing frequency across the semesters. This trend was most evident between semesters one and four. An increasing likelihood of students identifying the positive connotations/attributes of honesty, resourcefulness, responsibility, stoicism and trustworthiness in the patient continued into semester six. Of the 10 negative adjectives, the response of students towards seven of these showed a decreasing trend across the semesters. This trend was most evident between semesters one and four. A decreasing likelihood of students identifying the negative connotations/attributes of denial, dependence, insecurity, laziness and manipulation in the patient continued into semester six (see Table 15).

Table 15

Summary of % of students in each semester responding to each adjective

	Semester one	Semester four	Semester six
Positive adjectives			
Adaptable	2.12	7.20	4.57
Assertive	9.04	13.50	9.92
Coping	14.36	16.20	12.21
Honest	17.02	18.00	19.08
Independent	13.29	8.10	11.44
Motivated	5.31	0.90	6.10
Resourceful	3.72	4.50	4.57
Responsible	6.38	9.90	13.73
Secure	1.06	0.90	0.76
Stoic	1.59	1.80	7.63
Trustworthy	0.00	2.70	3.81
Negative adjectives			
Denying	18.08	9.00	5.34
Dependent	31.38	23.40	20.60
Depressed	61.16	50.40	58.77
Dishonest	6.38	0.00	2.28
Fragile	35.10	47.70	35.11
Insecure	43.08	25.20	22.13

Lazy	12.76	6.30	5.34
Malingering	0.53	4.50	2.28
Manipulative	4.25	3.60	3.05
Passive	13.29	4.50	10.68

9) Does a course component designed to introduce students to chronic illness impact on the conceptions that they have of people with chronic pain?

The course component designed to introduce students to chronic illness was completed by the end of semester four. The mean total misconception scores of students were considered in relation to the semester in which they were enrolled. These scores increased each semester with the greatest increase being between semesters one and four.

Table 16

Mean total misconception scores as a function of semester

Semester	Mean total misconception score	Standard Deviation
Semester one students *n = 188*	31.67	7.00
Semester four students *n = 111*	36.10	6.69
Semester six students *n = 131*	38.46	8.01

Subsequent analysis showed that total misconception scores for students in semesters four and six were significantly higher than those of students in semester one.

Table 17

Analysis of Variance (ANOVA) of Total Misconception Scores versus semester

Source of Variance	SS	df	Mean square	F	P
Between groups	3782.136	2	1891.068	35.974	.000
Within groups	22446.506	427	52.568		
Total	26228.642	429			

A univariate analysis of variance of total misconception scores using SPSS for Windows (Version 11.0) was undertaken to identify the possible interactions between vignette, institution and semester. The analysis was performed with total misconception score as the dependent variable and semester, vignette and institution as the independent variables. This revealed a main effect for semester but no interactions.

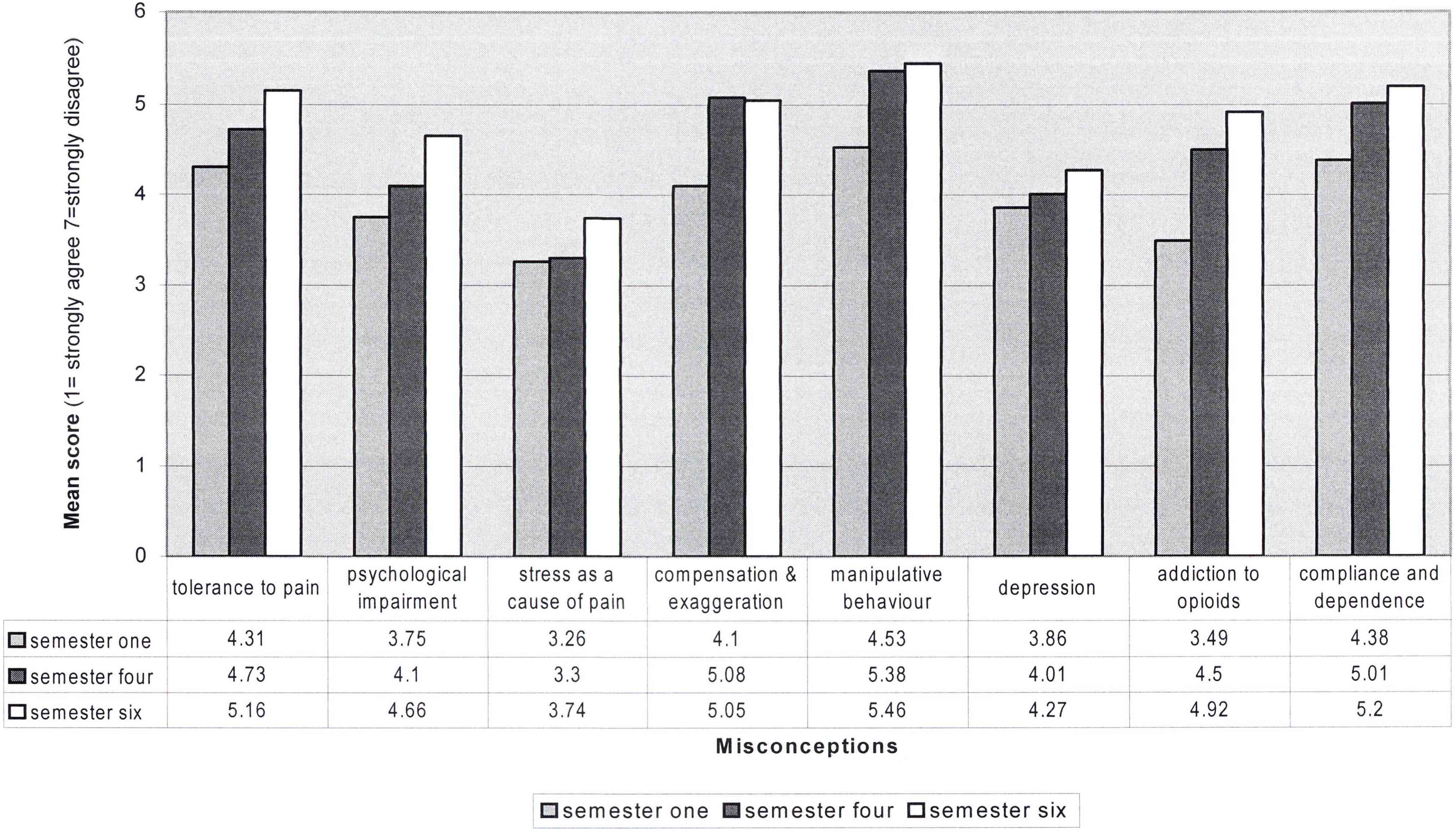
10) Do student nurses develop misconceptions about people with chronic pain (McCaffery & Pasero, 1999) during the course of their undergraduate education?

Investigation into how students may develop misconceptions about people with chronic pain (McCaffery & Pasero 1999) during the course of their undergraduate programme was carried out by analysing the mean scores on the misconception items as a function of semester. All of the misconceptions were less strongly held by student participants who were at the end of their course than those beginning their course. The most significant development occurred between semesters one and four (see fig 3).

Qualitative data

Table 18 presents a summary of the qualitative data gathered during the interviews. There were substantial differences between the responses of the students and the educators to all of the themes which were identified. Table 19 lists comments that students wrote on their questionnaires. As mentioned earlier the qualitative data was disappointing as it lacked particular depth. This appears to have been largely circumstantial as participants indicated their lack of understanding of the topic and interest in being interviewed.

Figure 3 **Mean misconception scores as a function of semester**



	tolerance to pain	psychological impairment	stress as a cause of pain	compensation & exaggeration	manipulative behaviour	depression	addiction to opioids	compliance and dependence
▒ semester one	4.31	3.75	3.26	4.1	4.53	3.86	3.49	4.38
■ semester four	4.73	4.1	3.3	5.08	5.38	4.01	4.5	5.01
□ semester six	5.16	4.66	3.74	5.05	5.46	4.27	4.92	5.2

Table 18

Summary of themes in interview data

Theme	Student sample n = 11	Educator sample n = 4
Causes of chronic pain	Poor understanding of pathology Confused chronic pain with acute pain - example of surgical pain as chronic pain x2 - example of labour as chronic pain x2 Confused severe pain with long-term pain	Sound understanding of pathology All examples included causes of chronic pain No confusion between length of pain experience and severity
Insight into personal experiences of chronic pain	Described a painful condition during childhood but insisted it had not been painful for them x1 Identified a painful long-term condition x4 - not considered to be chronic pain x3 - ongoing back pain but not considered chronic x1 - considered ongoing back pain may be chronic pain as a result of interview x1 - injured back and painful whenever thought about but a case of 'mind over matter' x1	Identified causes of chronic pain for selves and others Discussed how they responded to it Discussed how it related to their nursing practice Discussed how it related to their involvement in the education of student nurses

Role of nurses	To have expertise
	To accurately assess and treat
	- talk to the patient
	- be knowledgeable about medicines
	  - administering
	  - monitoring and recording
	- be knowledgeable about pain
		To have technical and interpersonal expertise
		(patients have most knowledge about their experience)
		To engage with patients x4
		To understand and utilise the therapeutic relationship x3
		To deal with frustration and complexity x3
		To stay with patients even when there appears to be no obvious cause or effective treatment of pain x2
		To help and assist/empower patients x3

Effects of pain	Physiological impact - interference with healing and mobility Psychological impact - may lead to dependent or addictive behaviour which is negative and should be avoided	Impacts on abilities and goals in all areas of life including relationships and self image and worth
The impact of education	No memory of learning about chronic pain x3 - believed it had not been taught x2 Remembered learning about chronic pain x3 - generally not much teaching about pain x1 - taught in 1 lecture along with acute pain x1 Nothing in course of education changed opinions x1	Believed that students should be equipped to support patients with complex needs in a variety of situations

Table 19

Summary of comments written on questionnaire – student sample

Theme	Comments	Student/code
Comments indicating understandings of the definitions of chronic pain	Recurring pain that cannot sometimes be cured but could only be prevented.	T1350
	Long term, sharp.	T1A113
	Chronic pain can be classed as whatever the person says it is (very hard to define).	T6131
	Childbirth* (several students referred to childbirth)	
Comments indicating knowledge of causes of chronic pain	…could also caused by stress, overtired.	T6125
	Related to medical/surgical illness, psychological/emotional, stress and depression, accidents.	T4126
	It is hereditary.	T1347
Comments indicating beliefs about patients	Chronic pain makes you irritable and have mood swings.	T4A301
	Building security in ones life bring hope and encouragement of better things to come.	T1A122
Comments indicating beliefs about treatment of chronic pain	Its untreatable. However, miraculously it could be cured.	T4127
	Gentle exercises may help to increase strength of muscles. Massage may help to relieve pain along with soaking in spa pools. Needs a sedentary job with no lifting involved.	T1A310
	I don't actually know all that much…in my experience, sick people have been prayed for and often healed? But I imagine its quite painful…	T1A225

Personal Insight into chronic pain	Seeing it – my dad has back problems and until I saw it I didn’t understand what people have to go through.	T1A331
	I have at times in my life had chronic back pain – I learnt to deal with it.	T1336
	In my experience often health professionals are not patient enough to really get to the source of the pain and give up.	T6214
	Getting my babies was [e]xcruciating. Also when I broke my ankle. The worst pain was getting stung by a “blue bottle” on the beach I blacked out.	T1242

Summary

This chapter has presented details of the sample of student nurses and nurse educators involved in semesters one, four and six of undergraduate nursing education in New Zealand during 2002 who participated in the questionnaire and interview components of the study.

The detailed research questions identified for the study have been used as a framework for explaining the analysis and presenting the quantitative data that were obtained. The qualitative data have been presented separately. A number of significant correlations were identified in the analysis of the data. However, the large size of the sample and the relatively small size of many of the correlations suggest that some of these findings may be more statistically than socially significant.

These findings suggest that the student nurses who participated in this study generally hold negative conceptions of patients experiencing chronic pain, that these conceptions are influenced by course components and that they develop during the course of undergraduate education. Analysis of these findings is included in the following chapter as the findings are discussed in more detail.

CHAPTER FIVE - DISCUSSION

Introduction

This study explored conceptions of student nurses towards patients experiencing chronic pain. It sought to investigate whether or not these conceptions develop during the course of undergraduate education, what may influence them and how they may impact on practice. The eight misconceptions about people with chronic pain, previously documented by McCaffery and Pasero (1999), were used as a basis for this study. In addition, participants' first impressions of people with chronic pain, any personal experience they may have had of this type of pain and what they felt may have influenced them were investigated. This study was unique as, while other studies have investigated health professionals' responses to patients with other types of pain, none of these has specifically explored student nurses' conceptions of patients with chronic pain, the development of them during the course of undergraduate education, in any particular sociopolitical context or with specific reference to theory and practice.

Three main themes, directly related to the research questions this study set out to address, were identified in the analysis of the data. These were knowledge about chronic pain, nurses interacting with patients and the impact of the educational process. These are presented as headings in this chapter. Two further themes, sociopolitical context and the concept of expertise, are also presented as they became evident during the process of data analysis, even though they were not directly related to the original research questions. The findings relating to each of these themes are discussed and strategies to address them in nursing education are suggested. A list of concepts identified from the data that may be considered additional misconceptions to those documented by McCaffery and Pasero (1999) is then presented as a summary of the themes which have been discussed. Finally this chapter explores how these findings may contribute to debate about the education of student nurses and presents some suggestions for the development of courses.

Knowledge about chronic pain

Findings from this study give some insight into the knowledge that the student nurses who participated in the study had about chronic pain. Data from the questionnaire items and the interviews revealed deficits in knowledge about the causes and treatment of this type of pain amongst the students who participated in the study.

Knowledge about causes and treatment of chronic pain

The data indicate that student nurses participating in this study had inaccurate knowledge about the causes of chronic pain. Psychological disturbance, stress and depression were all presented in the misconception items as causes of this type of pain. While it is common for nurses to believe that chronic pain is caused by psychological disturbance, stress or depression, these beliefs have been found to be inaccurate and therefore incorrect (Eisendrath, 1995; McCaffery & Pasero, 1999; Truchon, 2001). The 'strongly disagree' position on the Likert scale in this study corresponded with the most accurate response to these items and would indicate accurate knowledge on behalf of the participants about the causes of chronic pain. The mean scores on these items from students ranged between the ‘somewhat agree’ and ‘undecided’ positions on the Likert scales, (see Table 9). The majority of students participating in the study gave responses that appeared to demonstrate a belief that stress was a cause of chronic pain. Almost half of the students also indicated that they believed psychological impairment and depression to be causes of this type of pain. During the interviews students demonstrated a lack of understanding of the definition of chronic pain as they confused chronic and acute pain (see Table 18). Some students also indicated in written comments on questionnaires that they had an inaccurate understanding of the causes of this type of pain. A number of students described childbirth as a cause of chronic pain, while one student indicated they thought it was hereditary (see Table 19).

In addition to a lack of knowledge about the causes of chronic pain, the data from this study also suggest a knowledge deficit amongst student nurses regarding the treatment of people with this type of pain. Knowledge about tolerance to pain and addiction to opioids was explored in the misconception items and both received an overall mean score equating with the ‘undecided’ position on the Likert scale (see Table 9). As with the other misconception items, the most correct response would have been the 'strongly disagree' position. More than half of the students responded correctly, indicating their belief that patients with chronic pain are not tolerant to pain. Almost half of them also accurately responded that patients with chronic pain are not likely to become addicted to opioid medication (see Table 9). However, these findings also indicate that approximately half of the students who participated in this study gave responses indicating that they believed tolerance to pain and addiction to opioids may be a concern when treating patients with chronic pain.

Knowledge about pathology

The knowledge about pathology amongst students participating in this study was analysed by comparing responses to the items in the questionnaire with the degree of pathology presented in the vignette (see Tables 10 & 11). The interview data also provided some insight into the knowledge that student nurses had about pathology (see Table 18).

The significance of pathology to student nurses was investigated by including three different versions of the vignette in the questionnaire presenting the case of a patient experiencing chronic pain. As described in chapter three, the only difference between the vignettes was the degree to which pathology was evident. The vignette which presented the most information suggesting pathology (as a provisional diagnosis) was significantly correlated with higher total misconception scores. This suggests that, when students believed that there was some pathological reason for the pain that the patient was experiencing, they were less likely to hold misconceptions about chronic pain (see Table 10).

While students responding to the questionnaire were influenced by information that confirmed pathology may be present, it was evident during the interviews that they had little understanding of it (see Table 18). In response to interview questions, students gave examples of causes of chronic pain which were *in*accurate, such as being in labour and post-operative pain. One student described having had spinal osteomyelitis, which is widely considered to be associated with chronic pain, (Fernandez, Carrol & Baker, 2000) and yet insisted it had not been painful for them. One semester six student described her frustration with working with a patient with “severe… genuine and observable” chronic pain, which had a specific diagnosis. This comment implied that the student relied on observable information and the confirmation that pathology was present to validate the presence of pain, and also that, because the patient’s pain was obvious and verifiable, there was some legitimate reason for the stress that they experienced when working with them.

Knowledge about chronic pain in nursing practice

The findings in this study which suggest the students tended to have knowledge deficits about the causes and treatment of pain, particularly in relation to pathology, concur with findings in other studies that nurses in general have a poor understanding of chronic pain (Clarke et al., 1996; McCaffery & Pasero, 1999). Knowledge deficits exist as a result of practitioners believing inaccurate or inadequate information. This is important, as practitioners have been found to base their assessment and treatment of patients on their professional knowledge

(Eccleston et al., 1997). Within the medically-based Western approach to health care, knowledge is defined and validated through the research process. This is potentially problematic in the case of pain management, as this field of research is relatively new (McCaffery & Pasero, 1999), and pain is essentially a subjective experience not well served by an approach to research, that is based largely upon the empirical paradigm and therefore primarily values objective information.

The concept of searching for objective evidence to explain the existence of pain is present in the findings relating to both the inaccurate knowledge about the causes and treatment of pain and the need to identify pathology in this study. This may be related to the empirical basis on which biomedicine is founded and nurses practise. The assessment and treatment of pain is generally understood by health professionals from an empiricist perspective which requires them to find evidence of the cause of the pain and successful treatment of it (Eccleston et al., 1997). The tendency for health professionals to apply an acute model to the experience of chronic pain is an example of this (J. R. Gardner & Sandhu, 1997). Acute pain can be well managed within this framework, as there is usually clear evidence to support its cause and therefore a way of measuring its treatment. However, the acute pain model cannot be applied as a template to the assessment and treatment of chronic pain, as this type of pain is frequently not accompanied by observable symptoms and cannot necessarily be cured. The empirical approach to the assessment and treatment of patients is supported by the current focus on evidence-based practice in the health disciplines, which places a high value on the concept of using evidence from research to support practice. While knowledge is constantly updated and challenged by the research process, these developments are not always evident in the practice of health professionals (McCaffery & Ferrell, 1997; Slack & Faut-Callahan, 1991). Some knowledge about the assessment and treatment of patients experiencing pain has been challenged by recent research and yet continues to be evident in the beliefs of practitioners.

The beliefs that health professionals have about placebos are an example of how research may be misinterpreted or inappropriately generalised and influence the practice of pain management. Research in the 1970s reported that a significant proportion of the population had a positive response to placebos following surgery. This led to a debate about the significance of placebos and whether or not pain is a universal physiological experience or a learned behaviour (Moore et al.,1986). While one response to this research is to believe that surgery does not cause significant physiological pain, another interpretation is to consider that the action of placebos, along with other mechanisms of pain causation and alleviation, are not well understood (McCaffery & Pasero, 1999; Moerman & Jonas, 2002; Papakostas & Daras, 2001).

The beliefs that health professionals have about how different people experience pain demonstrate how research findings by themselves may not lead to addressing incorrect knowledge. Historically, health professionals have believed that the experience of pain was different for people according to their cultural background, sex and ability to tolerate pain, and modified their treatment accordingly (McCaffery & Pasero, 1999). The continuing practice of not administering anaesthetics prior to performing infant circumcision is an example of this and is based on the beliefs that children do not experience as much pain as adults, do not remember pain and that anaesthetics are not safe for them. All of these beliefs have been researched and found to be erroneous and recent research has reported that infant circumcision is extremely painful, and that the effects of painful experiences can affect children later in life (McCaffery & Pasero, 1999; Taddio et al., 1997). However, health professionals still tend to believe that children have different responses to pain than adults and base their practice upon this (McCaffery & Pasero).

Knowledge deficits about the causes and treatment of chronic pain, including inaccurate understandings of pathology, were identified in the student nurses who participated in this study. These findings are similar to those from previous studies which have found that nurses have inadequate knowledge relating to chronic pain, and this has a negative impact on the care of patients (S. T. Brown et al., 1999; Brunier et al., 1995; Clarke et al., 1996; Empoliti, 1996; Friedman, 1990; J. Hamilton & Edgar, 1992; McCaffery & Ferrell, 1992; 1997). The evidence-based approach to health care is prevalent in nursing and medical education and practice within the medically-based and Western approaches to health care (Frommer & Rubin, 2000). This is mandated in policy and may impact on practice to varying degrees. Within this context, research is considered to be the way in which knowledge is generated and as a result practice is changed. However, it is apparent that, particularly in the case of pain, research has failed to address or have an obvious impact on knowledge and beliefs that health professionals have about assessment and treatment of patients. Ensuring that student nurses are equipped with a sound knowledge of the causes and treatment of chronic pain during the course of undergraduate education may have a positive impact on the way in which they practise once they graduate.

Educational strategies: knowledge about chronic pain

Introducing student nurses to accurate information about the causes and treatment of chronic pain during the course of their education could include ensuring the content was explicitly taught in the curriculum. If this teaching took place from an evidence-based perspective, students could be simultaneously equipped with the skills to evaluate their practice and developments in knowledge about the causes and treatment of chronic pain.

Including specific content in nursing curricula about chronic pain and chronicity could help address the knowledge deficits identified in this study. The inclusion of specific knowledge about pain and its management in nursing curricula is presented as being one of the ways of addressing inadequate care of patients with chronic pain (Ferrell et al.,1992; Fothergill-Bourbonnais & Wilson-Barnett, 1992). These authors recommend that this be achieved by ensuring accurate and up to date information is taught to students, and that misconceptions about people with pain are explicitly addressed, noting that historically this has not happened in health professional education. This content would ideally include a history of the understanding of pain, developments in pain research and details about the causes and treatment of chronic pain.

In accordance with the current focus on evidence-based practice in nursing *education* and practice (Traynor, 1999), it may be appropriate to incorporate a research basis into the learning that students undertake about the causes and treatment of chronic pain. Such an approach may also encourage them to be critical consumers of this research, and this is particularly relevant in the light of evidence that research may serve to support inaccurate knowledge or be disregarded in preference for continuing with prevailing beliefs about the assessment and treatment of patients experiencing pain. Incorporating research into the process of teaching other content within nursing courses is identified by August-Brady (2005) as a way of enabling students to make meaningful links between research and practice. The relative infancy of pain research means that many causes of pain are not yet understood, and that some knowledge once thought to be accurate, has subsequently been disproven (McCaffery & Pasero, 1999). The volume of evidence-based information that is available (Silverman & Yetman, 2001) and the increasingly complex evidence-based approaches to chronic illness (Plsek & Greenhalgh, 2001; Wagner, 2001) suggest that students should develop the skills to critically examine research findings and consider them in the light of specific clinical environments.

Nurses interacting with patients

The analysis of data from this study gives some insight into the attitudes of student nurses towards people experiencing chronic pain, the potential impact of students' personal experience of this type of pain on their practice and understandings about the role of the nurse.

Attitudes

Attitudes of student nurses in this study towards people experiencing chronic pain were identified in an analysis of the attributes they identified as first impressions of the patients and also in the misconception items that related to the behaviour of patients. The proportion of relatively neutral responses to these misconception items (approximately a fifth of the students responding) may also demonstrate a relatively ambivalent attitude towards patients experiencing chronic pain, or to the questionnaire itself.

Students were found to be more likely to have negative views of people experiencing chronic pain than positive ones (see Table 7). This was demonstrated in the finding that the majority of first impressions identified by students in response to the patient in the vignette and the three most frequently occurring responses represented negative connotations or attributes of the patient (see Table 8). Depression was identified as a first impression by 59% of the students in this study. Correspondingly, the adjectives that were less frequently identified by respondents were those with positive connotations. These findings suggest that the student nurses who participated may have generally negative attitudes towards patients experiencing chronic pain.

Some of the personal attributes that students identified as first impressions of patients changed according to the vignette that they were responding to, and therefore in response to pathology (see Table 11). The positive attributes of independence, motivation and responsibility were more likely to be present when significant pathology was indicated, and less likely to be identified when the vignette presented no mention of pathology. Conversely, negative attributes of depression, insecurity and passivity were likely to be associated with the patient when no obvious pathology was evident, but less likely to be identified when pathology was indicated. These findings suggest that these student nurses may have more positive attitudes towards patients experiencing chronic pain when they believe there is some pathology present that accounts for their symptoms.

Attitudes about the behaviour of patients experiencing chronic pain were explored in three of the misconception items. The mean responses to the items relating to the concepts of patients exaggerating pain to get compensation and patients being non-compliant or dependent on their symptoms equated with an ‘undecided’ response on the Likert scales (see Table 9). Only just over a half of the students demonstrated that they did not believe that patients were likely to exaggerate their pain to gain compensation or that compliance and dependence were a concern when patients experience chronic pain. More than half of the students gave responses that suggested that they believed that patients were not deliberately manipulative (see Table 9). This misconception was less strongly held by student nurses participating in this study than the other misconceptions. However, these results suggest that approximately half of the student nurses in this study either thought that patients with chronic pain are likely to exaggerate symptoms in order to get compensation, behave manipulatively or become non-compliant or dependent, or that they lack the knowledge to make such a judgement. This is a particular concern as the social and political context in which these students will work as practitioners is likely to impress on them a view that patients should carry some of the blame for having a chronic illness (Dew & Kirkman, 2002).

Analysis also revealed that the presence of pathology had a further impact on students’ responses to these items. When students were presented with a provisional diagnosis of pathology as causing the patient’s pain in the vignette, they were less likely to believe that the patient was exaggerating their pain in order to get compensation or that they would behave in a manipulative manner, than if pathology was not indicated (see Table 10).

Personal experience of chronic pain

There was no significant correlation between students who indicated in the questionnaire that they had some personal experience of chronic pain and their total misconception scores. This suggests that their own experience of this type of pain did not influence their response to the patient in the vignette. This finding was also apparent in the data gathered during interviews with students, which demonstrated a lack of insight into personal experiences of chronic pain (see Table 18). Three of the 11 students interviewed in this study identified that they experienced ongoing back pain. However, they had little insight into this being an experience of chronic pain. One example of this was a semester six student who stated during her interview that she experienced ongoing back pain but that it was something she paid little attention to, by saying: “…don’t have chronic pain myself… but hurt my back twice… it’s sore when I think about it …”. Another student commented on the questionnaire that they had experienced chronic pain themselves but had “learnt to deal with it” (see Table 19). These comments suggest that perhaps these students believed that ignoring pain or being particularly stoic (Bates et al 1997) was an acceptable behaviour for themselves and therefore possibly for patients also.

The roles of nurses working with people experiencing chronic pain

Themes uncovered during the interviews with participants in this study identified concepts that students had about the role of nurses as they work with people experiencing chronic pain. Students identified the implementation of treatment protocols, particularly the process of administering medication, as one of the roles of a nurse. One student gave an example of a patient during the interview who was “hard to work with” because her ”medication did not work”. One explanation of this may be that this student saw her role as one of administering medication to relieve pain and not extending to that of an advocate, to address the ineffectiveness of the pharmaceuticals or to use any other skills to alleviate pain (Allegrante, 1996). The data from this study also demonstrate differences between the knowledge and attitudes of the educators and student nurses who participated towards patients experiencing chronic pain. The range and mean of total misconception scores were smaller and higher, and with a smaller standard deviation, for educators in comparison to students (see Table 12), suggesting that educators held the misconceptions about people with chronic pain identified by McCaffery and Pasero (1999) to a lesser extent that the students who participated in the study.

Students participating in the study appeared to associate the role of the nurse with the concept of administering treatment protocols, rather than the interpersonal dynamic of engaging with clients as individuals. This was in contrast to the values that the educators placed on interaction rather than implementing treatment protocols (see Table 18). During the interviews, educators talked about the role of the nurse being to engage with, ‘be with’ and support patients experiencing chronic pain.

Nurses interacting with patients experiencing chronic pain

While ensuring student nurses are equipped with a sound understanding of the causes and treatment of chronic pain may address the knowledge deficits that have been identified in this study, there is evidence that improving the knowledge base alone will not change the practice of health professionals (J. Martin, Lloyd & Singh, 2002), and that the interactive or interpersonal skills necessary for developing a therapeutic relationship also need to be developed within health professionals. The relationship that takes place between nurses and patients comprises elements intrinsic to the nurse, such as attitudes and insight into their own personal experience of illness and disability, and elements which relate to the wider context of nursing practice, such as the role and scope of practice of nurses.

The findings in this study that suggest the student nurses who participated have inappropriate attitudes towards people with chronic pain concur with findings in previous studies that nurses tend to have unhelpful attitudes towards such patients (Brunier et al., 1995; Clarke et al., 1996; McCaffery & Ferrell, 1995). Previous studies have found that attitudes that health professionals have towards patients have an impact on the way they interact with them and therefore the potential to influence the nature of the relationship that exists between professionals and patients. There is evidence that positive relationships between patients and health professionals have a positive influence on outcomes of people with chronic pain (Kouyanou, Pither, Rabe-Hesketh & Wessely, 1998) and conversely that treatment may be withheld from patients towards whom practitioners have negative attitudes and beliefs (Novack et al. 1997; Paris, 1993; Tamler & Meerschaert, 1996). Patients with chronic pain have rated respectful attitudes of, and interactions with, health professionals as more important than actually managing their symptoms (J. Reid et al., 1991; Seers & Friedli, 1996; Sherwood et al., 2000). Inappropriate attitudes of professionals towards patients may be attributed to a number of causes including social and personal history (Bonham, 2001; Green et al., 2003; Hipshman, 1999) and social and political context in which they are educated and practise (Paris, 1993; J. Price et al., 1998).

There is some evidence that health professionals respond most appropriately and easily to patients who come from a similar tradition or understanding to themselves, and that, when practitioners develop an appreciation of their own personal health and disability experiences, this may have a positive impact on their attitudes towards patients (Bates et al., 1997; Paris, 1993). The students who participated in this study demonstrated a lack of insight into their own personal experience of chronic pain and this may be seen as corresponding with the traditional medical approach to health care which casts the health professional as an unemotional and uninvolved practitioner (Hafferty, 1991). However, there is increasing evidence that the interpersonal connections that take place between patients and practitioners may have some therapeutic impact (Sullivan, 2000) and that the personal experience and insight that a professional brings to their practice, and the acknowledgment of their own experiences in the role of a patient, may enhance this. Cousins (1979), Sacks (1990) and Wainapel (1999) are examples of health professionals who have written about how they have used their own experience of illness and disability to reflect upon, and therefore refine, their practice and to challenge the concept of the health professional as an emotionally removed actor in the interaction that takes place between practitioners and patients. Improving the insight that health practitioners have into their own health and disability issues may assist them to develop interpersonal skills and insight for working with patients experiencing chronicity. Developing this insight may assist student nurses to broaden their concept of the role and scope of practice of the nurse beyond the interventionist approach of 'doing things to' patients which was evident in the findings of this study.

There were obvious differences between the students and educators who participated in this study in terms of their understandings of the role and scope and practice of nurses. The students tended to define the role of the nurse from a technical perspective, as a practitioner who undertakes specific interventions. Nurses are frequently identified in relation to their interaction with the medical profession. For nurses working in many settings, their practice includes a large component of administering interventions that have been prescribed by members of other professional groups. This supports the concept of nursing practice being defined from an interventionistic perspective in which nurses 'do things to' patients.

An analysis of the content in nursing text books also gives some insight into how the role of nursing is perceived. For example, the text *"Pain: Clinical Manual"* written by McCaffery and Pasero (1999) contains more than 790 pages. The majority of the content of the text is about the physiology and treatment of pain, with particular emphasis on medications and procedures for managing pain. Only one chapter, comprising fewer than 25 pages, is devoted to 'non-drug approaches to pain management'. This illustrates the perception of nursing practice as being based upon the administration of interventions, particularly in the context of pain management. The increasing influence of medical technology on health care practice has been associated with reducing the value of comfort (Malinowski & Stamler, 2002) which has been traditionally associated with nursing practice.

The focus on technical expertise within health care practice has extended to the concept of measuring the quality of care offered to patients by evaluating the technical expertise of practitioners and the following of protocol or standards for practice. However, patients experiencing chronic pain have been found to base their satisfaction on the interactive skills of the health professionals who work with them (Sherwood et al., 2000), and this signals the importance of interpersonal skills in the scope of nursing practice along with knowledge and skills in pain management.

The educators who participated in this study were more likely than the students to see the role of the nurse as engaging with the patients from a holistic and interpersonal perspective (see Table 18). This is consistent with the concept of defining health professional practice as ‘being with’ patients (Colquhoun, 2002; Hines, 1992; Kleinman, 1988; Ryan, Twibell, Brigham & Bennett, 2000; A. C. Walker, 2002) rather than the interventionistic approach of 'doing things to' them. This interactive approach reflects current discussion within the field of health professional practice about the role of nurses in health care. The position and role of nurses within society, and in relation to other health disciplines, has long been a matter of discussion within the nursing community (Dixon, 1990; Stuart, 1992). This discussion has included debate about the identity of the profession, particularly when groups of nurses assert that ‘new’ skills can be included in the definition of the role of a nurse (Glazer, 2001). However, as chronic illness and disability become increasing problems within society, and as the efficacy of technical or pharmacological interventions to manage symptoms, particularly chronic ones, is challenged (Allegrante, 1996; Papakostas & Daras, 2001), this widens the scope for the interaction between patients and practitioners to be valued as having therapeutic benefit in itself (Sullivan, 2000).

Radwin (2000) lists several characteristics of excellent care. Professional knowledge is only one of these and the remainder of them, continuity, attentiveness, partnership, rapport and caring, refer to the interaction that takes place between professionals and patients. The therapeutic benefit of the interaction that can occur when health professionals and patients engage with one another is increasingly being discussed in nursing and other health care disciplines (Adler, 2002; Benner, 2000; Gordon, 1992; Mattingly & Garro, 2000; McQueen, 2000; Papakostas & Daras, 2001). This is particularly relevant in the case of chronic pain, as the interventionistic approach to practice in isolation is unlikely to provide sufficient support for patients, and the nature of the relationship that takes place between practitioners and patients is often long-term, and very significant for patients. The concept of 'being with' patients places a high value on interpersonal interaction and therefore the concept of relationship between patients and health professionals. However, if this approach to practice is to be encouraged, it is essential that practitioners are acquainted with the skills required to maintain such relationships and their own wellbeing within them (Paterson, 2001; Stark, Manning-Walsh, & Vliem, 2005).

As nursing practice is being redefined to incorporate the value of interactive as well as interventionistic skills, a number of areas of practice are receiving increasing attention. These generally represent concepts and practices which have been previously accepted as part of the nursing role. Therapeutic use of self (Meehan, 1998), advocacy, and adjunctive treatments such as massage (Allegrante, 1996) are examples of these practices. They are now being debated within the context of a re-evaluation of nursing to consist of more than interventionistic practice. The role of advocacy is particularly appropriate to be considered in this context as nurses frequently find themselves in positions where they have to defend or debate the resources that are available to manage the symptoms that patients experience. The broadening of the role of the nurse, increasing technology, and resource constraints may converge to present nurses with moral challenges in their practice as they work with patients experiencing chronic pain (Hunter, 2000). Within this environment nurses may be expected to perpetuate policy and political or social mechanisms (Hewison, 1999; Kerridge, Lowe & Henry, 1998; Thompson, Melia & Boyd 1983), such as limiting the resources that are expended on particular people within society (Illich, 1975) or 'monitoring' the health of individuals (Sandelowski, 2000). This context highlights the moral issues relating to the role of nurses and the need to define the role of advocacy within the scope of nursing practice when working with patients experiencing chronic illness or disability.

Working with patients experiencing chronic and disabling conditions is an ideal platform from which to explore the potential to broaden understandings of the role of nurses and scopes of practice. The traditional understanding of nursing practice, which prevails within the medically-based approach to health care and sees nurses as technicians who implement interventions, often prescribed by other practitioners, is being challenged and the role of nursing practice is being redefined to include interactive as well as interventionistic skills. This is particularly appropriate in the treatment of chronic health and disability issues as the relationship that takes place between practitioners is highly valued by patients, can have a therapeutic benefit, and is often more valuable than technical interventions alone in addressing symptoms. Such an approach values the art of healing over the science of interventionistic therapy (Adler, 2002; Meehan, 2003; Papakostas & Daras, 2001).

Educational strategies: interactive skills

There is evidence that improving knowledge alone may not change the practice of professionals (Friedman, 1990). Communication difficulties have been identified as a major barrier to partnerships between patients and nurses

(Keatinge et al., 2002). Increasingly health professional education courses are being reorganised to include interpersonal skills and attitude development in an attempt to change the practice of practitioners (Dalton, et al., 1996; Kurtz, et al., 1989; Lennox & Diggens, 1999). During the process of undergraduate education, student nurses could be equipped with the interactive skills they need to work effectively with people experiencing chronic health and disability issues. This process could be facilitated by encouraging students to consider their role and scope of practice as nurses, and extend their concept of nursing practice beyond the notions of administering treatment or offering interventions to patients. In addition, paying attention to the concept of relationships between health professionals and patients and the skills that may support the development and maintenance of positive relationships, such as interpersonal skills and the impact of attitudes on relationships, may also encourage students to develop interpersonal skills.

Introducing student nurses to a wide range of skills for working with patients which extends beyond, and perhaps even critically examines, traditional roles of nurses working in chronic settings, may assist them to consider their practice from a broader perspective, and to compare and evaluate the concepts of 'doing' to (Brown et al., 2006) and 'being with' (B. Reid, 2004) patients.

It may be appropriate to present students with examples of nursing practice that include a broad range of skills such as advocacy and therapeutic use of self, and to use resources such as text books that also convey less traditional roles of nurses. Organising practical learning experiences for students, which include working with patients with chronic illness or disabilities outside the context of an acute hospital setting, may also assist students to understand the broader potential of the nursing role. It may also help them to appreciate the potential moral issues that they may face, such as the tensions between causing and curing pain (Madjar, 1998) and the rationing of health care services.

If student nurses were to be introduced to an interactional focus to practice during the course of their undergraduate education, they would also need to be equipped with the skills to manage the potential complexities of long-term relationships for both themselves and their patients. Ideally, this would include learning about the concepts of power dynamics between professionals and patients (D. Brown et al., 2006; S. Henderson, 2003) and the skills to take care of themselves in such relationships. Developing the level of insight required to manage the relationship dynamics that may occur between patients and professionals may also assist in enabling students to consider their own health and disability experience. Having insight into their own experience may in turn assist students to explore their own attitudes and responses to patients in the clinical environment.

Addressing attitudes has received increasing attention in research about the education of health professionals. Attitudes are difficult to identify, teach and assess (J. Martin et al., 2002) and, in disciplines which have a strong scientific tradition, they may be considered less important than technical skills. However, increasingly health professional education curricula include references to attitudes and interpersonal skills (J. Harden, 1996; Rentschler & Spegman, 1996). Ensuring that student nurses are encouraged to identify and explore their own attitudes during the course of undergraduate education and consider how they may impact on patients could help address this issue. It would also seem appropriate to assess students' attitudes, as well as their knowledge base, as they interact with patients experiencing chronicity during the course of their undergraduate education.

The educational process

Socialisation and the curriculum were the two educational processes which were investigated within this study for their possible impact on student nurses' conceptions of people experiencing chronic pain.

Socialisation

The analysis of the data from this study sought to explore the influence social interaction may have on students' concepts of people experiencing chronic pain during their course of study. The possible impact of the socialisation effect of educators upon students was explored by comparing the responses of students and educators who participated (see Table 12). While the differences in relative sizes of these two groups within the sample may make comparisons tenuous, some themes were identified. The educators demonstrated more accurate knowledge and appropriate attitudes towards people experiencing chronic pain than the students. This was evident in the higher total misconception scores and the smaller range and standard deviation of them held by the educators in comparison to the students (see Table 12). These findings were supported during the course of the interviews when educators demonstrated a more accurate understanding of chronic pain than the students did, and also a more complex understanding of the role of the nurse working with patients with chronic and disabling conditions (see Table 18).

The influence of other social interactions on the learning of students was also explored in analysis of the data from the questionnaire item which asked participants where they had learnt about chronic pain. Students who identified interactions with educators, patients or colleagues as impacting on their learning about chronic pain were more likely to be further advanced in their course of study, and less likely to hold the misconceptions about people with chronic pain identified by McCaffery & Pasero (1999). Students who were most likely to hold these misconceptions about people with chronic pain (and therefore have lower total misconception scores) were generally from semester one and identified educational settings lacking a social element, such as lectures and reading, as being the manner in which they had learnt about chronic pain (see Table 14). The importance of social interaction was also evident during the interviews when two students identified the clinical environment as having the most impact on their learning. One of these students stated "seeing in clinical is where I learn most". Another student, who was about to graduate, suggested that what she had been taught during the course of her three years of undergraduate education had little impact on her and that the clinical environment was where she expected to learn the most. She described her approach to her ongoing learning and practice as a registered nurse by saying she would "take it as it comes and learn as I go along". These findings suggest that social interaction, particularly in the clinical environment and involving patients, had a positive influence on the knowledge and attitudes of students in the study towards people experiencing chronic pain. However, it is not appropriate to make generalisations from these findings on the basis of the size of the sample.

Curriculum

Students from semesters four and six who participated in this study had completed a specific course component in their curriculum which was designed to introduce them to the concept of chronicity. For the majority of students participating in this study, this course component took place alongside other learning which included content about pathology and technical skills, such as the administration of medications, within an acute hospital setting.

The analysis of the responses of students according to their place in the course of study was designed to explore the possible impact of this curriculum event on the learning of the students. Results for all of the misconception items in this study showed a positive development across the semesters (see figure 3). The misconceptions were less strongly held by students at the end of their course, in semester six, and the most significant positive development for all of the misconception items took place at the end of semester four. Likewise, analysis of the responses to the adjective items revealed that the most significant positive development in responses occurred at the end of semester four (see Table 15). This suggests that this course component may have had some influence on the knowledge and attitudes of the students. It is important to recognise, however, that the highest mean score for any of the misconception items in semester six equated with the ‘somewhat disagree’ position on the Likert scale, suggesting that the misconceptions are held to some degree by students at the end of their course of study, despite them being less evident then than they were at the start of their course.

It was evident in this study that teaching about chronic pain was not particularly obvious in the curriculum as students had difficulty identifying where they had learnt about it. This may indicate that students were not aware of specific learning outcomes (Allan, 1996) that related to chronic pain. The course component that these students undertook by the end of semester four did not specifically introduce them to chronic pain and the lack of obvious learning about this topic was evident during the interviews when students said they had not learnt about chronic pain, that it was included in one lecture alongside content about acute pain or that pain was not an important subject (see Table 18). Students in this study generally could not remember learning about chronic pain. One semester six student summarised this during the interview by stating that it is “…hard to know what to teach nurses… too much to know and pain is not that important”. The lack of obvious emphasis on chronic pain during the course of study may encourage the belief held by some students in this study that this topic is not particularly important.

It was also evident that some students felt that curriculum events had little impact on their learning. One student stated during the interview that she thought of course content as something which occupied her during the academic year and not at other times. When asked to consider how her understanding of chronic pain had changed or developed during her course, this student stated that her “…study has finished for the year so [I am] not thinking about it now”. Another, semester six student, stated during the interview that “nothing in class changed [my] opinion”. There was some evidence that students focused on learning content which they deemed to be important, namely that which they felt they needed to know in order to pass their examinations. This was apparent when students who had originally consented to be interviewed then withdrew on the basis that their current priority was to study for their end of semester examinations.

The influence of the educational process

The findings from this study suggest that the student nurses who participated may be influenced by both socialisation processes and curriculum events in the course of their undergraduate education, and that both of these components have some impact on their response to patients experiencing chronic pain.

Socialising influences

Socialisation is considered to be the process by which students develop attitudes towards patients, and takes place as they spend time interacting with other people during the course of their education. This process has been found to have a significant influence on the attitudes and practice of students in the health disciplines once they graduate (Newman et al., 1998) and where they develop critical thinking, reflective practice, and the skills for developing relationships with patients. Students learn these skills by observing educators and colleagues interacting with patients and one another; they also learn from the patients themselves. When students interact with professionals such as educators and colleagues during the course of their education, they learn about the culture of the discipline and organisation in which they are working (Cribb & Bignold, 1999; Coulchan & Williams, 2001; Papadakis, 1998; Skelton, 1998). When this interaction includes spending time with patients, students learn about the experience and culture of the patients themselves (MacDonald, 1999; Maxwell, Streetly & Bevan, 1999).

The findings of this study support the concept of socialisation influencing the response of students towards patients. Previous research has explored the influence of the attitudes of educators on those of students in the health disciplines and has identified that the more time students spend with educators in the clinical setting, the more similar their views become (J. Price et al, 1998). The impact of social processes that see students interacting with patients and colleagues has not been thoroughly explored in research about health professional education.

In an attempt to investigate socialising influences, this study was designed to explore differences between students and educators. The low response rate amongst the educators made such comparisons difficult. However, data from the interviews and one of the questionnaire items alluded to patients and colleagues having some influence on the learning of students (see Tables 14 & 18). Other studies have suggested that enabling patients to be involved in the education of students may have a positive impact on their learning and practice (S. French, 1994; Johnston & Dixon, 1998). Such an approach may also encourage students to appreciate patients' expertise alongside their own professional knowledge.

The higher misconception scores (demonstrating more accurate knowledge and appropriate attitudes) that were evident in the educators who participated in this study in comparison to the students may demonstrate that the experience of working with patients is what refines nurses' understandings and practices. This was supported in the data from the interviews which suggested that educators had a more detailed and carefully considered concept of working with people with chronic pain than the students (see Table 18). It may also suggest that those who are involved in the education of student nurses are perhaps likely to be experienced practitioners who reflect critically on their practise and choose to be educators as a result of this. However, it would be inappropriate to assume that experience directly corresponds with the ability to reflect (Wellard, Rolls & Ferguson, 1995).

The findings from the interviews in this study, that students value their learning that takes place in the clinical environment and expect to continue to learn there once they have graduated (see Table 18), supports findings from other studies that the process of socialisation that takes place during the course of undergraduate education may not be as influential as the professional socialisation that takes place once students graduate (du Toit, 1995). One explanation for this may be that the students do not spend enough time with educators in the clinical setting during the course of undergraduate education, to observe them interacting with patients and therefore role-modelling their own beliefs and philosophy of working with patients. Alternatively, this may demonstrate that educators have less social influence over the learning of students than has been identified in other studies e.g., with colleagues providing more role-modelling for student nurses than educators.

Curriculum influences

The curricula of the two courses in which participants in this study were enrolled, included specific events in which students interacted with patients in order to learn about chronic health and disability issues. Previous studies have identified that curriculum events specifically designed to teach students about patient experience, chronicity and disability impact positively on the knowledge and response of students to patients (Cervantez Thompson et al., 2003; S. French, 1994). These studies have suggested that the greatest effect from these curriculum interventions has occurred near the time of the educational event, with the impact of it being less obvious as time progressed and post graduation. The apparent positive impact of these curriculum events on the students participating in this study, evident in the greatest increase in misconception scores at the end of semester four, seems to support this and suggest that, even though these curriculum events did not include specific teaching about chronic pain, they had an impact on the knowledge and attitudes of the students. It was apparent from the interviews that students believedlittle teaching specifically took place about chronic pain (see Table 18). However, it is not possible to determine the influence of any other curriculum events that students undertook during their course of study on their responses to the items. Therefore, it is not appropriate to conclude that these events were solely responsible for the changes in students' perceptions about people with chronic pain at the end of semester four.

The lack of obvious teaching about chronic pain, apparent in the findings of this study, concurs with other studies which have found that content about pain is not specifically taught to students in the health disciplines (J. F. Wilson et al., 1992) and is lacking in text books which are used to educate student nurses (Ferrell, Virani, Grant, Vallerand & McCaffery, 2000). However, the existence of a specifically designed curriculum event which introduces students to the concept and experience of chronicity in the courses in this study is positive and not consistent with the lack of emphasis in nursing education on rehabilitation, chronic illness and disability which has been identified in other studies (Nolan & Nolan, 1999).

Educational strategies: the educational process

The lack of specific teaching about chronic pain that was identified in this study could be addressed by including identifiable content about chronic pain. However, there is some evidence that teaching students content in the absence of affective skills may have little impact on practice, and therefore attitudes and knowledge should both be evident in the curriculum (J. F. Wilson et al., 1992). One of the tensions in health professional education is the volume of content that students need to cover. The increasing prevalence of chronic pain in society (Burckhardt, 1990; R. Davis & Magilvy, 2000; Hitchcock et al., 1994) suggests that it may be appropriate to use chronic pain as a vehicle for addressing notions of chronicity and disability in general, to students.

Ensuring the curriculum processes focus on engaging students in the learning process rather than just delivering content has been identified as essential to the development of nursing education (Candela, Dalley, & Benzel-Lindley, 2006). Chickering (1991) identified seven strategies that positively influencing the learning of students. These are: encouraging contact between students and faculty, developing reciprocity and cooperation among students, using active learning techniques, giving prompt feedback, emphasising time on task, communicating high expectations and respecting diverse talents and ways of learning. Evaluating the process of providing the curriculum to students in relation to these strategies may provide some guidance about how to organise the teaching of any particular set of knowledge or attitudes to students. It is clear that students who participated in this study did not experience learning about chronic pain as having any obvious place in the curriculum. As a result, the time spent learning about it, engaging with fellow students and teachers and receiving feedback about their learning was not part of the learning experience. This, it may be argued, is the reason why students either did not remember learning about it or think it was important.

The socialisation processes that take place as students engage with patients and educators could be taken advantage of in teaching students about chronic pain and disability. Involving patients in the education of students has been previously recommended as a valuable way in which to introduce students to concepts of disability (S. French, 1994). Incorporating learning about attitudes along with specific content in curricula is ideally suited to the process of learning in the social context and has been suggested as a way to reduce stereotypes about patients in pain (J. F. Wilson et al., 1992). The findings from this study that suggest this process had a significant influence on students, support this recommendation. The lack of obvious influence of educators on the response of students in this study may be addressed by ensuring that students work with educators in the chronic environment as they role-model knowledge and attitudes towards patients experiencing chronicity and also develop their concept of the role of the nurse and scope of nursing practice.

The small group of students who were interviewed in this study stated that they placed value on the content they were taught according to whether or not they thought it was important or whether they believed the learning would be assessed. This is consistent with findings of previous studies that students are primarily focused on assessment (Higgins, 1994) and understand components of the curriculum to be important on the basis of how and if they will be assessed.

Including learning about chronic pain in the assessment design of the course would signal to students that it is important and encourage them to value the content. Findings from this study support those of earlier studies that students are driven by assessment processes and value learning according to the assessment they perceive is attached to it. Combining the knowledge and attitudinal components of the learning by assessing the behaviour of students as they work with patients could have the added advantage of encouraging them to apply their knowledge and attitudes in the clinical environment (Nash et al., 1993; R. Twycross et al., 1996). Including patients in the assessment process would also add weight to the curriculum event, help students to link the learning they undertake while interacting with patients to other learning in their course and value the role of patients as they participate in the educational process and assist students to learn.

Social and political context

This study was not explicitly designed to explore the impact of the social and political environment on the conceptions that student nurses have of patients experiencing chronic pain. However, during the process of analysing the data, some themes emerged that relate to the context in which patients experience and professionals are educated and respond to chronic health and disability issues. It is appropriate to explore this theme here, as chronic illness impacts on economic and social wellbeing (Feldman, 1974) and this study took place within a social and political context which has a strong recent history of neoliberal values and views health and disability issues as a cost to society (P. Davis & Dew, 1999; Moon, 2003). It appears that these contextual issues may have had some impact on the participants in this study. This suggests that it may be appropriate to consider equipping student nurses with some contextual understanding of their role, and their power relating to this during the course of their undergraduate education.

Causes of pain

Four of the conceptions explored in this study have been previously identified as being particularly strongly held by practitioners within the Australian context. These are significant, as the New Zealand health environment is very similar to the Australian environment (A. L. Bloom, 2000). Both societies are considered to have similar (Australasian) values about, and systems of, health care which are strongly influenced by neoliberalism. The biggest difference between the two countries is the higher speed with which reform has been introduced in New Zealand in comparison to Australia.

The four misconceptions explored in this study that appear to particularly relate to the sociopolitical context of Australasia are: that pain is caused by some psychological impairment; or depression; that patients with chronic pain are likely to exaggerate their symptoms in order to gain compensation; and that patients who are not compliant with treatment are likely to be dependent on their symptoms (Galvin, 2002; Westbrook et al., 1984). The average misconception score on these items equated with the ‘undecided’ position on the Likert scale (see Table 9) and this suggests these misconceptions may be held to some extent by the student nurses who participated in this study. A recent Australian study which explored the psychosocial functioning of adolescents with chronic illness (Rosina, Crisp & Steinbeck, 2003) illustrates this trend by linking poor adherence to treatment with deficits in psychosocial functioning. These authors suggest that, if nurses routinely screened adolescents with chronic illness for psychosocial problems and referred them to appropriate support, this would have benefits for the individual later in life and also the health system. These suggestions present nurses in the role of monitoring the health of people within society, and as having some responsibility for managing the cost to society of health care. Both of these issues have been identified by other authors as concerns (Hewison, 1999; Illich, 1975; Kerridge et al., 1998; Sandelowski, 2000; Thompson, Melia & Boyd 1983). The results of this study confirm previous findings that, within the Australasian environment, people with chronic health issues are likely to be seen as responsible for their condition (Galvin, 2002). The associated views, also identified in data from this study (see Tables 8 & 9), that patients with chronic health issues are dependent and depressed, also reflect social and political constructions of illness and disability in which patients are blamed and held responsible for their situation or chronicity (Galvin; P. Davis & Dew, 1999).

Responsibilities of patients

Blame is present when patients are considered to experience symptoms as a result of personal deficits such as psychological impairment or having a low tolerance to pain (Crawford, 1977; Galvin, 2002; Roberson, 1992). Both of these concepts were evident in the results of this study as they were explored in specific misconception items. Less than half of the students gave responses that demonstrated they did not believe that chronic pain was caused by psychological impairment, while almost a third of them appeared to believe that patients were tolerant to pain (see Table 9). The concept of non-compliance with treatment is commonly discussed in relation to patients with chronic illness (Vermeire, Hearnshaw & Van Royen, 2001) and is presented as deliberate action on behalf of the patient not to follow the orders of a professional who has expertise in their condition. This was explored in this study by a misconception item and the results identified that more than half of the students participating either held the misconception to a significant degree or were relatively undecided in their response (see Table 9).

When non-compliance is considered to be a negative action, patients are blamed for their failure to get better and are seen as a cost to society (Galvin, 2002). However, there is evidence that patients make sound judgements about the benefits of treatments when deciding whether or not to continue with them (Roberson, 1992; Turk et al., 1991; Vermeire et al., 2001). Some chronic pain patients also have chronic pain syndrome, and the maladaptive coping mechanisms associated with this syndrome may be considered responsible, to a degree, for some of the pain they experience or the failure of treatment. However, this only represents a small proportion of the population who experience chronic pain (Wall & Melzack, 1989). From a critical perspective, when patients are blamed for their failure to participate in treatment, practitioners are relieved of the potential responsibility for failing to adequately treat the patient. Blaming patients for their failure to be cured may also serve to relieve funding agencies of further responsibility to provide treatment or support for the patient. While practitioners and funding agencies may be able to remove themselves from the experience of chronicity, the experience of the patient continues regardless of whether or not 'experts' consider it exists.

Trustworthiness of patients

The results from this study indicated a tendency for student nurses to overlook or mistrust the information that patients may have about their chronic pain. This was apparent in the findings relating to the behaviour of patients with chronic pain. The misconception items relating to the tendency of patients to exaggerate their pain in order to get compensation, and the assumption that they are non-compliant because they are dependent on their symptoms, received overall mean scores equating with the 'undecided' position on the Likert scale (see Table 9). Two of the misconception items related to the causes of chronic pain (that pain is caused by psychological impairment or depression) also received mean misconception scores equating with the 'undecided' position on the Likert scale.

The item which suggested that stress may be a cause of chronic pain received the lowest mean misconception score of all of the items, the lowest number of students with accurate knowledge (not holding the misconception) and the highest number of students who held the misconception to a significant degree and therefore demonstrated inaccurate knowledge (see Table 9). The negative adjective 'dishonest' was one of the adjectives that students used least frequently to identify their first impression of the patient (see Table 8). The misconception item that explored the concept of patients with chronic pain being deliberately manipulative received the highest mean misconception score of all of the items which equated with the 'disagree' position on the Likert scale. Correspondingly this misconception was inaccurately held by fewer students than any others (see Table 9).

Students were more likely to record ‘undecided’ responses to the misconception items relating to the behaviour of patients than any other items (see Table 9). These findings may suggest that the students participating in the study were unsure whether or not patients are equipped to define their own pain. This would be supported by the apparent value placed during the interviews on the concept of professional expertise (see Table 18). One concern in relation to this lack of confidence in appreciating the behaviour of patients may be that this makes student nurses more susceptible to having their views influenced by the social and political environment of which they are a part. The tendency within the New Zealand social and political environment to blame patients for their ill-health (Dew & Kirkman, 2002) may increase the likelihood of these patients being treated negatively. This suggests that nursing education has a role to play in equipping graduates to base their clinical thinking and interaction with patients on sound knowledge and attitudes, and also to ensure they are able to think critically about the influences that may come to bear on them from society as a whole.

The need to seek objective information about diagnosis and treatment is inherent in the professional culture of Western medical practice and reflects its empiricist history. In addition, sociopolitical contexts which are based on neoliberal values (Wellard, 1998) appropriate empiricism as a means to quantify the use of resources and measure outcomes. The gathering of evidence is essential to this model of health care. The concept of chronicity itself was born as a result of the desire to gather information about the health of people (Galvin, 2002). Students within the health disciplines are introduced to this culture during the course of their undergraduate education (Coulchan & Williams, 2001). This desire to collect information to support the existence of symptoms leads health professionals to look for objective evidence and measurable outcomes, and has contributed to the focus in chronic pain treatment on behavioural approaches rather than on the experience of the patient. Health professionals view health and disability issues from perspectives which are informed by both the sociopolitical context in which they are educated and practise (Bates et al., 1997; Green et al., 2003; K. Price & Cheek, 1996a, 1996b) and the scientific basis of their disciplines (J. Reid et al., 1991). Both of these have been found to influence their practice (L. Cooke & Hutchinson, 2001). The political context in which health care is offered and funded in Western medically-based health systems, of which New Zealand is an example, focuses on the scientific quantification of illness and recovery. This Western bioscientific model constructs professionals as experts with power over the bodies of patients (Sandelowski, 2000) and views pain "...within an economic, medical, legal web, a web that seeks an equilibrium of efficient functioning" (Kugelmann, 1999 p. 1669). Within this context outcomes are more likely to be defined in the terms of health professionals rather than patients (Kleinpell 1997). Survival is a measure that is often used to reflect a positive outcome from health care and yet, as Kleinpell points out, people may survive and yet be seriously disabled by pain while this is being considered a positive outcome by professionals. The bioscientific approach to health care also tends to divide the patient into component parts such as mind and body, and see them apart from social and political context (Berliner & Salmon, 1980; Crowe, 2000; Duncan, 2000; Grace, 1991; Kleinman, 1988).

The development of technology and the value that is placed on it has led to health care being managed within institutions (Illich, 1975). This, in turn, has led to health care practice being defined and managed according to the interventions which take place to monitor and maintain health, and economic and administrative practices being put in place to manage it. Within such a managed approach, patients are often cast as being party to a contract, and therefore they are expected to behave in a certain way in order to continue to be provided with care or to benefit from it (Baldor, 1998; Finkelman, 2001; Moon, 2003). This approach highlights the concept of compliance, which is valued by health professionals and is frequently identified as a trait necessary for patients to benefit most from the treatment which is offered to them (Galvin, 2002; Parmee, 1995; Wellard, 1998). However, patients who are assertive and assume control of their lives (which many who live active lives, despite the presence of chronic pain do), may be viewed as aggressive, while those who are co-operative may in fact be too passive to take an active or positive role in their own care (G. E. Holmes & Karst, 1990). Managed care approaches to health services are based on the assumptions that market forces can be applied to health care, and that this will result in improvements in quality and containment of costs. This model of health care funding is particularly inappropriate for patients with chronic health conditions, as the management of risk and containment of costs are frequently impossible (R. D. Smith, 2001) although studies continue to be undertaken to explore optimum treatment protocols (Feine & Lund, 1997). When patients are not cured, as is likely in the case of chronic pain, they may be blamed for their illness (Crawford, 1977; Lupton 1992; May, Doyle & Chew-Graham, 1999),

The experience of chronicity, specifically chronic pain, is dynamic and frustrating for both the patient and the practitioner (Charmaz, 1991; Seers & Friedli, 1996; Selfe, Matthews & Stones, 1998; Speculand, Goss, Spence & Pilowsky, 1981) and involves a good deal of ambiguity, uncertainty and complexity (Hafferty & Light, 1995). To add to this complexity, chronic health issues are by nature often difficult to define and are regularly accompanied by other health concerns (Wagner, 2001; T. Wilson & Holt, 2001). The experience of patients and professionals dealing with chronicity is not easily reconciled within a society which designs and evaluates health care based on neoliberal and bioscientific values (Galvin, 2002).

Educational strategies: social and political context

Ensuring that students have a sound knowledge of the health care context in which they practise and professions exist, along with an appreciation of how that social and political context constructs and responds to chronicity and pain, would support them to work with patients with chronic pain. It may also assist them to understand some of the tensions that they are likely to experience in these situations. The process of teaching this content would lend itself to critical thinking and reflection on the elements of interpersonal interaction, specifically power dynamics, that take place between patients and practitioners. Educators who have been educated, practise and now teach within the sociopolitical context outlined here, may find it difficult to define or critique specific elements within it without having some alternative models to consider such as the political and social policy environment in which health care is designed, provided and evaluated in various countries. Exploring how chronic illness and disability or deviance are viewed from a range of cultural and social perspectives may serve as a starting point for this. The process of exploring this information could include reflecting on how the roles of nurses are impacted upon by political and social issues, enabling students to apply the capability of critical thinking to knowledge competencies.

The ways of knowing outlined by Carper (1978) have been a valuable tool for nursing educators and practitioners to think about their work with patients and interactions with other professionals and wider society. J. White (1995) suggested that an additional way of knowing be added to the framework, that of sociopolitical knowing. This seems a wise approach to take to the education of nurses in the New Zealand health environment, as the influences of social and political contexts have been identified as being particularly strong in this setting. Nurses in New Zealand are believed to be held in high esteem by the public and valued as highly trusted members of society (Philpott, 2005). This status carries with it the responsibility for educators to ensure that nurses are taught to think critically about the society and contexts of which they are a part and within which they practise and also to enable them to influence the status and treatment of patients within society.

The expertise of the patient

The concept of expertise also emerged during the analysis of the data from this study. Professional expertise in the form of knowledge was identified, during the course of the interviews, as being important by the students who participated in this study, and yet this was accompanied by apparently contradictory findings that they lacked a sound knowledge base about the causes and treatment of chronic pain (see Tables 9 & 18). The concept of expertise being represented exclusively by the knowledge that is held by health professionals has begun to be challenged recently, as the personal experience that patients have of their health and disability is considered to constitute expertise in its own right. This is evident in discourses that present the interaction that takes place between professionals and patients as a 'meeting of experts' (Freeman, Horder, Howie & Hungin, 2002; Tuckett, Boulton, Olson & Williams, 1985). This approach defines both the professional knowledge held by practitioners and the experience of patients as expertise.

Patients and professionals as experts

Professional expertise in the form of knowledge about chronic pain was identified as being important by students in this study as they explained the role of the nurse during the course of the interviews and yet during the interviews students also demonstrated a lack of knowledge about chronic pain (see Table 18). The notion of expertise was also evident in the analysis of the quantitative data. Three of the misconception items related to the causes of chronic pain and a further two of them related to treatment of it. All of these items received mean misconception scores representing positions between the ‘somewhat disagree’ and ‘undecided’ positions on the Likert scale (see Table 9). These results appear to suggest that the participants had inadequate knowledge about chronic pain and therefore a lack of professional expertise about it.

All of the vignettes included a statement that the patient did not continue with the treatment (exercises) that had been prescribed or recommended for her as she felt they aggravated her pain. This statement in the vignette was designed to correspond with the misconception that related to compliance and the response to it could be seen as giving some insight into the concept of expertise. When the patient said she did not want to continue with the treatment, the participant was presented with the possibility of the patient knowing more about their pain than the professional. The response to the misconception item which explored the concept of compliance was not impacted by the presence of pathology in the vignettes and demonstrated the third lowest increase in mean score across the semesters (see figure 3). This suggests that the participants' appreciation of the patient's expertise was not significantly influenced during the course of undergraduate education. Compliance is only an issue when health professionals engage with patients, and there is evidence that the majority of patients experiencing chronic health and disability issues manage their symptoms or limitations on a daily basis and without technical or professional support (Charmaz, 1991; Crook et al.,1984; Hansson et al., 2001). For the majority of students in this study, learning about chronic illness took place within the context of acute health care and this may contribute to students viewing chronic illness from the perspective of exacerbation and needing medical intervention, rather than as a normal and manageable experience.

The concept of expertise is valued in Western society and is usually based on the assumption that, as a result of education, professionals have more knowledge than the general public, particularly in relation to health (D. Brown et al., 2006; Illich, 1975; P. M. Wilson, 2001). This can result in health care being administered in a manner which is paternalistic, and therefore casting the patient in the role of the passive recipient of care who is expected to comply with the knowledge and expertise of the professional in order to either restore or maintain their health. However, this concept of expertise being held by professionals who know more about the health and needs of the individual than they do themselves is a relatively recent development in human history (Illich, 1975). Seeing the professional as the knower and the patient as the passive participant has been a feature in literature about chronic illness and disability (Ragan et al., 1995) and casts the professional in the position of gathering information from the patient and making a decision about that information based on their own knowledge and the wider body of knowledge that is bioscience. Within medically-based approaches to health care, the values of bioscience are prevalent and using technical expertise to identify the cause of illness and treating it, with a view to providing a cure, is strongly valued, along with the desire to base decision-making on sound empirical evidence. This bioscientific approach has been identified specifically in relation to the treatment of chronic pain in a study of pain treatment centres, which stated "physicians' preference for biomedical treatments was clearly related to the traditional world view of the culture of biomedicine" (Bates, et al., 1997, p. 1444). This approach is also evident in the finding that professionals treating people with chronic pain may become more sympathetic towards them once a quantifiable cause of their pain is identified (Selfe, Van Vugt & Stones, 1998). The prevailing political and social environment in which health care is offered and experienced in the New Zealand context constructs the medical establishment as an institution of expertise (P. Davis & Dew, 1999; Moon, 2003). This is particularly problematic for people with chronic health issues, as the expertise in health care is attributed to professionals and measured in scientific terms, which makes it difficult to address the complexities of chronicity (R. Davis & Magilvy, 2000). The subjective nature of pain, the lack of empirical evidence for diagnosis and treatment, and the moral issues relating to the relief of it mean that chronic pain is a condition which does not lend itself to the scientific analysis that other conditions may benefit from within the medically-based approach to health care.

The role that is extended to health professionals in Western society of constructing risk and illness gives them considerable power and is used to demonstrate their expertise (D. Brown et al., 2006; Heartfield, 1996; Lupton, 1995; Pryce, 2000). The power of professional groups to maintain authority, marginalise other knowledge and participate in surveillance of patients is demonstrated by the institutionalisation of health care (Pryce, 2000) and also in analyses of interactions that take place between practitioners and patients (Beckman & Frankel, 1984; Levinson & Chaumenton, 1999). The tendency of medicine and research to pathologise disability (J. C. Wilson, 2000) and marginalise the voices of people experiencing chronic illness (MacDonald, 2000) demonstrates a tendency to view people experiencing chronic health problems as being inexpert. K. Price and Cheek (1996b) demonstrate this in their observation of how professionals ask patients to evaluate their pain. They note that the patient is expected to respond by providing a measure or description of the pain which fits a medical understanding; pain is then quantified and measured. Such an approach assumes that the patient is able to report within the required framework (M. S. Rogers, 2000) and that the professional will be able to interpret this using their elite knowledge and language. This is an example of the inexpert knowledge of the patient being interpreted or validated by the expert health professional.

Increasingly patients are becoming more informed about health and health care (K. White, 1994). This is partly due to increasing levels of literacy, access to information technology and human rights movements. This has led to the concept of expertise no longer solely residing in the domain of the professional but also being attributed to the patient. The complex and subjective nature of chronic pain lends itself to patients and professionals viewing their relationship as a partnership, based on respecting the expertise that they both bring (D. Brown et al., 2006; McQueen, 2000). This is a concept which is receiving increasing prominence in health care practice (P. Davis & Dew, 1999; Laine & Davidoff, 1996). The expertise of the patient is founded upon their experience, especially in the case of chronic illness and disability, rather than knowledge that has been formally gained during a process of education. The appreciation of patient expertise by health professionals has been described as a 'myth', as professionals demonstrate behaviour which actively undermines their stated commitment to empowerment of patients experiencing chronic illness (Paterson, 2001). There are risks associated with the attributing of expertise to patients. One of these is that the patients may be expected to take such a high level of responsibility for their own health care and maintenance that the state could be alleviated from the role of providing health care services (P. M. Wilson, 2001). However, in general, the process of seeing patients as experts has the advantage of them being viewed as partners rather than subordinates as they interact with health professionals. It also accepts that the experience of living with chronic health and disability issues from an individual perspective leads to the patient knowing more about aspects of their wellbeing than professionals.

Educational strategies: expertise

Teaching about the concept of expertise may help student nurses to appreciate that, while their knowledge about chronic pain represents professional expertise, patients also have expertise about their experience of chronic pain that can and should contribute to decisions about assessment and treatment. This perspective is particularly important in the light of findings in this study which suggest that there may need to be a substantial increase in the content that student nurses are taught about chronic pain. There is a risk that increasing the content knowledge of students will contribute to the value they place on professional expertise and this may reinforce the belief that they are better judges of the pain than the patient themselves (Eccleston et al., 1997). Developing a personal, as well as a professional, concept of expertise may encourage students to view patients as partners in their care and respect their expertise. This could also assist students in developing insight into their own health and disability experiences and, therefore, the potential therapeutic nature of the interaction that takes place between themselves and patients.

Misconceptions

Having identified eight misconceptions about people with chronic pain that are held by health professionals, McCaffery and Pasero (1999) present research to defend their claims that the misconceptions represent inaccurate knowledge and inappropriate values and attitudes of health professionals. However, the prevalence of these misconceptions in student nurses has not previously been explored. The findings of this study suggest that these inaccurate conceptions are held to a substantial degree by the student nurses who participated in the study, which supports the representation of them as commonly held misconceptions.

Additional misconceptions

During the process of analysing the data from this study and exploring the themes that emerged, it became apparent that, in addition to the misconceptions identified by McCaffery and Pasero (1999), there are a number of other views of patients experiencing chronic pain that seem to be commonly held by the student nurses who participated. These relate to the role of patients and nurses as they interact with one another and the context in which chronicity and chronic pain are experienced and may be considered a summary of the findings presented earlier in this chapter.

1) Health professionals have more expertise than patients about chronic pain

The strong emphasis of participants in this study on the need for pathology to support the presence of chronic pain was evident in the significance of the vignette which included the strongest presence of pathology (see Tables 10 & 11). The interview data also identified a dependence on pathology to support the experience of the patient with chronic pain (Table 18). This supports findings in other studies that have suggested that health professionals rely on quantifiable evidence to verify the existence of chronic pain (Chuk, 2002; Eccleston et al., 1997; McCaffery & Pasero, 1999; Salmon & Manyade, 1996; Teske et al., 1983; Wall & Melzack, 1989). The vignettes were designed to present a picture of a patient who had an opinion about her experience of pain (the intensity of it), the need for treatment (stronger medication) and about the impact of treatment (exercise).

Respecting the opinion of the patient is one way of acknowledging their expertise. The misconception item in the questionnaire that was designed to explore the concept of compliance gave the participants the opportunity to demonstrate whether they valued the opinion of the patient in the vignette. Approximately half of the students did not place a high value on the patient's opinion about her experience of chronic pain, by either providing responses that suggested they believed the patient was dependent/non-compliant or that they were relatively undecided on this concept (see Table 9). It is also important to consider that many people with chronic pain choose not to engage health professionals (Crook et al., 1984; C. Richardson & Poole, 2001). This means that the patients that professionals meet, and therefore base their judgements on, may not be representative of those in the community who experience chronic pain. This confirms the need to broaden the concept of expertise about chronicity and disability beyond that of professional expertise.

2) The primary role of nurses in working with people experiencing chronic pain is to administer medication or provide some other intervention

The interview data from this study demonstrated that the some students who participated believed their role in working with people experiencing chronic pain was to administer medication (see Table 18). This is not surprising, as much of the clinical learning in the New Zealand undergraduate nursing courses takes place in hospital environments and the majority of nurses practise in such settings (Ministerial Task Force on Nursing, 1998). Administration of medication is a large part of the role of many nurses in practice and is of particular significance in New Zealand, as prescribing rights have become a current issue. Nurses also tend to associate advanced practice with technical skills (Barnard & Sandelowski, 2000; Dingwall & Allen, 2001), which are often medically delegated tasks, and use these to define specialised scopes of practice (Mueller, 2001). In addition, text books about pain management often focus on medication and technical interventions for managing symptoms, and so it is not surprising that nurses would perceive their role in working with patients to administer medication. This focus on administering medication may reflect the fact that this is a dimension of practice which is governed by legislation (Hunter, 2000). It may also reflect the tendency to define nursing practice according to particular rituals of which administering medication is one (Gibson, 2001).

While nurses see the administration of medication as part of their role of working with patients within chronic settings, it is important to realise that many people with chronic pain choose not to take medication to manage their symptoms, take less than is prescribed or believe it is ineffective (Hassed, 2004; Hitchcock et al., 1994). Increasingly, nursing practice is being more widely defined and the traditional roles of administering medication or following practice rituals are being challenged. This is appropriate in the case of working with patients experiencing chronic or disabling conditions, as traditional interventions may not be as effective as the therapeutic relationship that takes place between patients and professionals (Sullivan, 2000).

3) Patients are responsible for their condition

The data from the misconception items relating to pain being caused by psychological impairment, stress or depression suggest that a large proportion of the students either appeared to believe that these were causes of chronic pain or were unsure of their knowledge in relation to these concepts (see Table 9). The concept that patients have some kind of deficit and are therefore responsible, to some extent, for their condition can be identified as a theme within these items and is particularly relevant within the Australasian context (Ballard, 1994; Westbrook et al., 1984). In addition, the conception that patients are somehow dependent on their pain (see Table 9) could represent a belief that patients choose to remain in pain and dependent to some degree. Believing that patients are somehow responsible for the existence or continuation of their condition represents a deficit model, leading practitioners to hold patients responsible and blame them for their condition (Crawford, 1977; Galvin, 2002; Roberson, 1992).

4) Chronic pain represents personal weakness

The responses of participants to the item asking about their first impression of the patient in the vignette suggested that students generally perceive patients with chronic pain as having negative rather than positive attributes (see Table 8). Apart from being ‘depressed’ and ‘fragile’, students appeared to believe that patients with chronic pain were likely to be ‘dependent’ and ‘insecure’. The misconception items relating to compliance and addiction (see Table 9) also suggest that students in this study believed the patient may be weak and unable to cope. This is particularly important to consider in Western based health care systems where there is a cultural expectation that patients will remain stoic (Bates et al 1997).

5) Patients with chronic pain are a burden on society

The negative connotations that students attributed to patients, in the item which inquired about their first impression of the patient in the vignette (see Table 8), represent negative social roles and behaviour which may be considered as a cost to society. It is common for people with disabilities to be cast in this role (Wolfensberger, 1972). It is also common for people to inaccurately view chronicity and disability as a static experience when it is, like most parts of the human existence, characterised by good and bad days (Charmaz, 1991; Hansson et al., 2001; Thorne & Paterson, 2000). The result of this is that people are considered to be a cost to society, rather than being valued and supported to take part in society in a way that is meaningful to them and contributes to the common good.

Educational strategies: misconceptions about chronic pain

Explicitly exploring misconceptions that are held by health practitioners during the course of undergraduate education has been suggested as being a way of addressing knowledge and attitudinal deficits of students and potentially having a positive impact on the practice of graduates (Ferrell et al., 1992).

One of the disadvantages of doing this may be that, because misconceptions by nature represent inaccurate information and inadequate attitudes, this may be seen as a negative approach to educating students. It may be more appropriate to reframe them as positive statements and explore why they have not been well understood in the past, during the process of teaching students, rather than risking a defensive response to them by challenging the existing knowledge and experience of students.

Another possible challenge to basing education of students on the misconceptions identified by McCaffery and Pasero (1999) is that the statements themselves are reasonably complex, often including more than one concept. They may need to be simplified in some way. A process such as creating a checklist of these items, which may be remembered as a mnemonic, as is done in other fields of nursing education (Beitz, 1997), may also assist the learning of students.

What does all this mean for nursing education and practice?

Problems that patients and professionals face in relation to the experience of chronic pain can be attributed to cultural, social, personal, contextual and interpersonal influences. One of the greatest challenges facing nursing education is how to design and offer education in order to address as many of these influences as possible and positively impact on the practice of graduates. It is therefore timely to consider the nature of nursing practice and experience in the process of exploring the design and implementation of nursing education.

Various constructs for understanding nursing practice and education have been presented in the past. Frequently these have argued that nursing is both a science and an art. Carper (1978) suggested that nursing practice may be conceptualised with regard to four patterns of knowing, broadening the notion of art and science. These four patterns were empirics, aesthetics, ethics and personal ways of knowing. The empirical pattern of knowing incorporates scientific knowledge and reasoning and represents what may be referred to as the science of nursing. The other three patterns are more concerned with the art of practice. The ethical pattern pays attention to moral values and understandings, the aesthetic pattern includes judgements that nurses may make about what matters for an individual patient in any given situation and the personal pattern encompasses the interactions that take place between patients and nurses. The potential value of considering nursing as more than simply an art and a science has not been realised. Fawcett, Watson, Neuman, Walker & Fitzpatrick, (2001) explain that they believe that, following Carper's work, nursing has tended to focus on medical perspectives and evidence to explain practice. This suggests that the profession may have overlooked a framework that has the potential to provide a sound basis for describing and developing nursing practice and education. It also indicates that scientific knowing continues to be more highly valued than other ways of conceptualising and interrogating nursing practice.

Evaluating curriculum and pedagogy

Nursing education has placed a great emphasis on empirical ways of knowing. This has been evident in the content of curriculum which has had a strong emphasis on scientific knowledge and task-oriented action as well as in the process of the education which has had a strong emphasis on behaviourism (K. E. Ferguson & Jinks, 1994; MacLean, 1992). These approaches may be viewed as sharing territory with medical science, an emphasis on notions of evidence and the need to establish nursing with a respectable professional identify. More recently approaches to the education of student nurses that have used interpretative, constructivist and problem-based approaches to pedagogy have emerged.

Recent critique of the content and process of learning in nursing education reflects an evaluation of the soundness of the educational process. It also suggests a cognisance of the complexity of practice and the reality of health care needs and experiences which are frequently chronic and therefore not well suited to an empiricist culture focused on diagnosis, treatment and cure. The need to teach student nurses to think, to be critical and to engage with and respond to research may be seen as a reflection on the coming of age of the discipline. It has been suggested that, while nursing has been occupied with defending its discipline by focusing on science, medicine has begun to acknowledge the need to demonstrate an emphasis on the human and social impacts on practice (Luker et al., 1998). There is some irony in this, as nursing may be seen to be defending its identity and territory with a focus on a particular approach to knowing and evidence which is being questioned by the dominant professions with which it is competing for status.

Interpretative pedagogy within nursing education has been explained by Ironside (2004). She describes the history of nursing education as focusing on content and comments that escalating amounts of nursing and biomedical knowledge has led to a situation where curricula are designed to cover vast amounts of content. The volume of content is simply increased, creating what she refers to as an 'additive' curriculum. This discussion leads to a recommendation that interpretative pedagogies should be integrated into nursing curricula, particularly with an emphasis on narrative approaches positioned within a phenomenological frame. Interpretative pedagogical strategies include enabling exploration, removing the focus from content and choosing a critical framework (McGibbon & McPherson, 2006). This approach to curriculum design supports the integration of human experience and knowing within curricula. However, equating outcomes-based and competency-based approaches to education with additive curriculum design is a flaw in this argument. There is no reason why curricula cannot be designed to incorporate a narrative approach while also being educationally accountable through the use of learning outcomes. Learning outcomes are not fundamentally behaviourist or reductionistic. It may however be argued that teaching and learning objectives that defined the learning of students in detailed, observable and measurable terms limited nursing education to a behaviourist tradition in the past.

Constructivist approaches to education focus on enabling students to engage with the content and process of learning and to find meaning (V. Richardson, 2003; B. White, 2002). This often involves a process of dialogue and debate and has the advantage of assisting students to articulate their thinking and transfer it to practice settings (Mayo, 2002). This approach requires that curriculum is viewed primarily as a process of engaging with the the experience of students and their dialogue with educators (Lauder, 1996).

Problem-based learning has taken on a high profile within health professional education. This approach to learning also decentralises content and encourages students to focus on the process of learning. Students are typically presented with clinical scenarios or problems and work, often in groups, to understand and respond to the problem. This approach has the advantage of enabling students to respond to situations within cultural and social contexts (Conway, Little & McMillan, 2002).

Linking theory with practice

Narrowing the gap between theory and practice has been discussed in nursing education for a number of years. The existence of this gap has been attributed to a number of factors including pressures from work environments and policy, biomedical dominance, occupational structures and lack of support (Chant et al., 2002; Winch et al., 2005). There is wide acknowledgement that this gap exists and that undergraduate students need to be equipped with critical thinking and research literacy skills in order to develop the confidence to engage with theory (Callister, Matsumura, Lookinland, Mangum & Loucks, 2005). Using exemplars of practice-related research to demonstrate clinical thinking and practice has been suggested as a way to encourage familiarity and confidence with theory amongst student nurses (Dyson, 1997). Working with patients experiencing pain requires that nurses are capable of complex thinking and decision making (Heye & Goddard, 1999).

The emergence of evidence-based practice and the emphasis that is placed on evidence provides an important reference point from which to explore the response of nurses to theory. Nurses have been found to equate the notion of evidence with research (Rycroft-Malone et al., 2004). Various types of information such as best-practice statements have begun to be presented as evidence to underpin practice, and therefore research in their own right (Ring, Malcolm, Coull, Murphy-Black & Watterson, 2005). This tendency to associate theory with empirical knowledge does not sit well with the notion of nursing practice as an interaction that takes place between human beings. The high value that is placed on scientific knowing within the health professions (Evans, 2003) has been further enhanced by the pressure that nursing has imposed on itself to justify its identity as a discipline and may have contributed to making theory seem too far removed from practice. The development of nursing roles which are primarily focused on research such as research utilisation or advanced practitioner roles (G. Gardner, Gardner & Proctor, 2004; Johnson, & Griffiths., 2001) risk having the undesirable effect of positioning research as an elite rather than an ordinary nursing activity.

Asking critical questions about what counts as evidence is a vital step for nursing students and educators to take. This has the potential to challenge the prominence that has been placed on particular ways of knowing and to value those that are more suited to the practice of nursing. Seymour, Kinn & Sutherland (2003) reflect on the emphasis that has been placed on teaching students critical thinking in order to support the link between theory and practice. They suggest that placing as much value on creative thinking will benefit student nurses and enhance the understanding of nursing as an art as well as a science. Incorporating art, literature, music and poetry into nursing education has been discussed earlier in this work as a way of enabling students to appreciate the complexity of human existence and to gain insight into their own lived experience. Such an approach may also reduce the theory-practice gap. However, some authors are publishing arguments claiming to prove the value of basing clinical and assessment decision-making solely on positivist knowledge (Welsh & Lyons, 2001). They acknowledge the existence of tacit knowledge and intuition but argue that it needs to be tested by formal means in order for it to be valid. This perspective, while acknowledging other ways of knowing, presents scientific knowing as the benchmark for truth.

The emphasis on reflective practice within nursing has the potential to value professional experience, intuition and critical and creative thinking in an integrative approach to considering and enhancing practice. Reflective practice has been found to have a positive impact on the practice of nurses and this is not related to the manner or length of education, but influenced by the skills of facilitators (Paget, 2001). However, reflection is a skill which needs to be taught and appreciated as being much more than a recollection of experiences (Andrews, Gidman & Humphreys, 1998; G. R. Williams & Lowes, 2001). There are also risks associated with an emphasis on reflection or a non-critical acceptance of it. Practitioners need to be informed about and consider carefully the audience of their reflections and not expose themselves or their practice to criticism that is misguided or uninvited.

There is increasing critique of the lack of evidence-based practice within nursing education (K. E. Ferguson & Jinks, 1994; Pierce, 2005), along with commentary about how the thinking and behaviour of nursing educators impacts on students (Paterson & Groening, 1996). L. Ferguson and Day (2005) make the timely comment that nursing education itself needs to develop its own theory and evidence base to articulate and evaluate the process of educating students within the nursing profession. They suggest that the practice of nursing education has not been soundly based on research, that nursing educators tend to make judgements about what and how students should be taught rather than basing these decisions on research. They also acknowledge that, while a quantitative approach to evaluating nursing education is not appropriate, this does not mean that nursing educators should not be accountable for demonstrating the effectiveness of their practice. Adopting an evidence-based practice within nursing education would model an integrated approach to theory and practice and therefore narrow the gap between theory and practice within the wider nursing profession.

Understanding the social and political context

The prevalence of chronic illness has been acknowledged as a challenge within the New Zealand health environment. In 2005 The National Health Committee produced a discussion paper about people with chronic illnesses. This identified the need to move from a health care system that focused on acute needs to one that acknowledged, and was capable of responding to, chronic health issues. It also acknowledged that, while the health care system within New Zealand had historically focussed on curing patients, this was no longer appropriate and the concept of supporting people was a more appropriate focus with which to move into the future. In addition, this document highlighted the need to provide holistic and 'person-centred' care, attending to psychological, spiritual and emotional wellbeing within the context of integrated and team-based provision.

While it is pleasing to see that the notion of integrated and patient-centred care is being discussed at a government level in New Zealand, it is reasonable to assume that it may take a considerable period of time to change the institutionalised culture which has been founded on economic rationalism in recent decades. It is also reasonable to assume that nursing educators will need to make a concerted effort to assimilate such a philosophical change. The environments in which nurses and other health professionals are educated and practice have been incorporated into these cultural traditions and it may take some time to change focus, even if the values underpinning the changes are highly regarded within the professions.

The New Zealand Nursing Council (2004) has published competencies for registered nurses. The competencies include: communication, cultural safety, professional judgement, management of nursing care, management of the environment, legal responsibility, ethical responsibility, health education, interprofessional health care, quality improvement, and professional development. It is possible to explore issues of chronicity in relation to all of these competencies and, given the current political interest and growing need for services to address chronic health needs within the community, it seems wise to ensure that chronicity is added as a theme to health professional curricula.

Considering the concept of advanced nursing practice

The development of nursing practice has seen the emergence of specially defined (and often protected) scopes of practice for nurses, both within the New Zealand health care sector and beyond. Advanced practice has frequently been discussed within this context with an emphasis of technical skill and biomedical knowledge, as is evident in the nurse practitioner/prescribing role. While this field of expertise is obviously essential in the support of patients with chronic illnesses (who frequently have complicated care and pharmaceutical needs), it is also timely to consider the other skills, attitudes and knowledge that nurses need to develop to adequately work alongside patients experiencing chronicity. This in turn also raises the issue of how health professionals may best be educated to work with patients experiencing chronicity.

Defining and valuing the notion of engagement – 'being with' patients

The essential element of nursing practice is the engagement that takes place between patients and the professional. Reynolds and Scott (2000) describe the ability to be empathetic – to understand people's feelings and attached meanings as essential to quality nursing practice, and something that has been found not always to be demonstrated by nurses or other professionals. This type of interaction has been explained by Kralik, Koch & Wotton (1997) as including cheerfulness, compassion, availability, warmth, friendliness and gentle touch. This notion of engagement is part of the wider concept of 'being with' patients – where nurses participate in individualised, unobtrusive and ordinary ways - and work alongside patients rather than just applying technical skills to them. This quality relationship has been identified in New Zealand as a central element of quality health care (O'Connor, 2005). Conversely, poor relationships between patients and health professionals have been associated with limiting the quality of care that patients receive (Beckman & Frankel, 1984; Fagerberg, 2004).

The undertreatment of pain has been described as a moral failure (Rich, 1997). This is because the knowledge and technical expertise exists to manage pain and yet health professionals, either because of their own personal concerns, knowledge deficits, or lack of regard for or appreciation of the needs of the patient, have frequently failed to treat it adequately. The increase in the prevalence of chronic pain in society requires that health professionals develop skills, knowledge and attitudes that redress this situation. The education of health professionals is logically a good place to begin to address this issue. The central role that nurses play in the assessment, administration and evaluation of pain relief, along with their close relationships with patients, make it all the more essential that it be addressed in nursing education as a matter of urgency.

Educational strategies: impacting on practice

As models for defining illness and practices are being rethought in response to the health and care needs of the community, it seems appropriate to also reconsider the ways of knowing that are valued in health professional education and practice. The value of listening to patients and enabling students to reflect on and develop their learning and practise must not be underestimated. The use of narrative and the value that it places on telling stories and hearing perspectives should not be undervalued. Koch (1998) suggests that narrative is valid and important for nursing practice. It is logical that, as narrative is increasingly accepted within the research community, that it should also be valued and used wisely within the educational process. Narrative may also be conceptualised much more broadly than telling a story through prose. Poetry, art, music, literature and drama are all ways of sharing narrative. They also have the added benefit of having been explored and appreciated in relation to their therapeutic value (Darbyshire, 1999; Moyle, Barnard & Turner, 1995; V. Holmes & Gregory, 1998; Sakalys, 2000) and this seems to make them all the more worthy of the attention of curriculum developers and educators. These creative and 'humane' approaches have the ability to enable practitioners to develop insight into their own experiences and practice and to ultimately bridge the gap between the knowledge, attitudes and practice of health professionals (Heye & Goddard, 1999). These visual and artful media enable humans to make connections and develop and appreciate a sense of meaning.

Involving patients in the education of health professionals has been found to have a positive impact on students and patients alike in relation to chronic pain (Stacy & Spencer, 1999). However, it is essential that patients are treated respectfully and supported to be involved within the educational process within the spirit of partnership (Howe & Anderson, 2003; A. Jackson, Blaxter & Lewando-Hundt, 2003; Wykurz, 1999). The notion of partnership is well understood within New Zealand society from a cultural point of view and so it is reasonable to assume that this concept may be easily transferred from the part that it plays in the 'cultural safety' component of nursing programmes within the country (Ovretveit, 1996; Ramsden, 2000) to the relationships that need to be role-modelled with regard to working with patients experiencing chronicity. Cultural context and values are highly valued in the education and practice of nursing within New Zealand (Meyst, 2005) and related learning and competencies are referred to as 'cultural safety'. Including culturally valuing components in nursing education has been described as having the potential to positively impact on the attitudes of health professionals and therefore the outcomes of patients (Majumdar, Browne, Roberts & Carpio, 2004). The experience of people with chronic illnesses within a health care environment that has traditionally focused on acute illnesses and health care provision may be cast as a cultural issue or an experience of a minority group. The development of the disability rights movement on the foundation of human rights and justice may provide a template for considering the profile and representation of chronic health issues and experiences within the New Zealand health care context and beyond.

Ensuring students are equipped with the skills they need to find and engage with theory and apply and reflect on it in relation to their practice is essential to changing practice in relation to chronicity. It is appropriate for the discipline of nursing education to role-model evidence-based practice and to evaluate the impact of teaching and learning on the practice of graduates.

Summary

The findings from this study suggest that the student nurses who participated tend to have negative conceptions of people experiencing chronic pain. These findings concur with reports from previous studies that nurses generally have inaccurate knowledge and inadequate attitudes toward people experiencing this type of pain. There is evidence in the findings of this study that inadequate knowledge has some impact on the conceptions of student nurses, specifically with regard to the presence of pathology. The exploration of possible influences on the students who participated in this study suggested that the social component of their undergraduate education experience had some influence on their practice and specifically their response to patients. There was also some suggestion, as a result of the analysis, that the broader social and political context in which students were educated and involved in health care may play a part in developing their views of these patients. The conceptions of the students did develop during the course of their undergraduate education. However, the lack of specific teaching about chronic pain in the curriculum and the absence of analysis of any other factors that may have influenced them means that the influence of the socialisation processes could not be identified in isolation from the curriculum events.

Appreciating the important role that undergraduate education plays in influencing the practice of nurses is the first step to addressing the concerns that have been illustrated in the findings of this study. This requires understanding that, while theoretical knowledge abounds in nursing, it must be presented and valued in a way that impacts on practice rather than just seen as contributing to the position and identity of the profession. It also requires considering what is taught to students and how this teaching takes place. Curricula need to be designed to deliberately teach concepts of chronicity and interpersonal skill. Students also need to be encouraged to appreciate their own experiences of health and illness and to 'be with' patients on their own journeys rather than to see nursing as a science that is applied to patients. These approaches could be soundly supported by an emphasis on theory and its relationship to practice which places as much value on the science of health care as the art of practice. Such an approach to nursing practice and education reflects the patterns of knowing that were outlined by Carper (1978) and J. White (1995). This requires that nursing education itself is carefully planned and evaluated with a view to identifying and supporting pedagogical approaches that value and nurture links between theory and practice.

CHAPTER SIX - CONCLUSIONS

Introduction

This study was undertaken to explore the conceptions that student nurses have about people experiencing chronic pain, what influenced them and whether or not they changed during the course of undergraduate education. A cross-sectional design was used to gather data from a substantial group of student nurses in Auckland in 2002. The misconceptions about patients with chronic pain previously identified by McCaffery and Pasero (1999) were used as a basis for this study as there was no available evidence that these misconceptions had been researched in the context of nursing education.

This chaper reviews the structure of the thesis, provides an overview of the strengths and limitations of the design and offers suggestions for future research before concluding with a summary. This thesis began with an introduction which presented the motivation for undertaking this study. Relevant literature from the fields of health professional education, and specifically nursing education and practice, were reviewed in the following chapter, which provided the context for the study and led to the development of the research questions. The next chapter identified the research questions, and explained the design of the study along with the details of the tools that were developed and the process of gathering and analysing the data. A summary of the results from the data was presented in the following chapter and then explored in some detail in the discussion chapter, which linked the themes from the data back to the wider body of research and literature which had underpinned the development of the study.

The results from this study indicate that a substantial proportion of student nurses who participated had negative conceptions about people with chronic pain and that, while there is some positive development during the course of undergraduate study, these negative conceptions are not sufficiently addressed.

These findings are significant as they identify potential problems in the assessment and treatment of patients, and also their experiences when they interact with health professionals. Undergraduate professional education has been found to be the place where nurses learn the most about pain (Clarke et al., 1996). Inadequacies in the education of health professionals and the resulting knowledge deficits and attitudinal misconceptions have been directly linked to the behaviour of health professionals in practice (S. French, 1994; Rezler, 1976) and specifically the undertreatment of pain (Ferrell et al., 1998). There is also some evidence that curriculum components specifically designed to teach students about chronic illness and disability may positively impact on their attitudes towards these patients (Cervantez Thompson et al., 2003).

Strengths of the study

This study involved developing and validating a tool for investigating misconceptions of people with chronic non-malignant pain identified by McCaffery and Pasero (1999). These misconceptions had not been previously investigated in relation to student nurses undertaking an undergraduate course of study, nor had they been explored in relation to any particular context.

A significant number of students participated in this study and this resulted in a strong data set to draw upon while exploring issues relating to chronic pain and nursing education.

The substantial number of participants from within a society which has a strong allegiance to prevailing social and political views within the Western world enables some exploration of links between values, attitudes and practice.

The study provided some detailed insights into the experiences and responses of student nurses during their undergraduate education in relation to chronic pain. Further insights were also provided into their understanding of the value of their education such as their concepts of importance relating to content that would be assessed.

The study demonstrated that it is possible to explore the development of knowledge and attitudes amongst student nurses during the course of their undergraduate education, by using a cross-sectional design.

Areas for development within nursing curricula in relation to chronic illness, disability, pain, socio-political context and the process of learning have been identified.

Limitations

Some limitations may be identified in this study in relation to the design and analysis of data.

The use of a cross-sectional design rather than a longitudinal one may be seen as a weakness. However, it was an appropriate manner in which to gather the data for this study given the size of the sample and time and resource constraints.

In designing a new tool, such as the questionnaire that was used in this study, there is a risk that it may not be considered as valid as existing and previously used tools. The process of developing and trialling the questionnaire that was used was undertaken in an effort to minimise these potential problems.

The process of paraphrasing the previously identified misconceptions (McCaffery & Pasero, 1999) involved simplifying the original statements to some extent as they are generally complex. It could be argued that as the misconceptions items in the questionnaire were developed based on the misconceptions, rather than reproducing them, that the items did not explore the original misconceptions. However, this paraphrasing was necessary to make them relevant to the New Zealand context and to simplify the items in the questionnaire.

The sample of people who participated in this study was substantial with regard to its representativeness of the number of students enrolled in undergraduate nursing education in New Zealand in 2002. However, the small number of educators who participated was a weakness and made comparisons between students and educators tenuous. In addition the quality-impoverished data collected during the course of the interviews provided minimal opportunity for analysis and discussion.

The interview schedules were designed with the intention of relating to the items in the questionnaire, in an attempt to assist triangulation. However, a stronger link between these two components in the study may have been achieved by basing interviews on the questionnaires that the individual participants had completed. While a number of findings were supported by data from both the interviews and the questionnaire, more links would have strengthened the findings.

The timing of the study had some impact on the participation rates in relation to the educators in general and the students agreeing to be interviewed. There was evidence that, had the interviews been scheduled to take place well before the end of the academic semester, more people would have agreed to participate. Changing the timing may have also made it easier to follow-up the educators who did not complete the questionnaire.

A number of significant correlations were identified in the analysis of the quantitative data. However, these should be interpreted with caution as they are generally not highly significant and, given the large size of the sample, may represent statistical rather than socially significant findings.

In analysing the data to explore misconceptions it was potentially confusing to refer to low scores as representing the degree to which the misconceptions were held. The analysis of the data from the Likert scales may have been simpler and easier to explain if the scales had been designed, and the data coded, so that high scores related to the degree to which the misconceptions were held. This problem was not identified at the time of trialling the questionnaire.

In attempting to uncover socialising influences on student nurses, the study was designed to sample educators and students. This was based on the assumption that, in spending time with students, educators have a socialising influence upon them. The poor response rate amongst the educators make these comparisons difficult. Some data gathered during the study suggested that other social components of the educational process, such as working with colleagues and patients, influenced the students. Unfortunately, the design of the study did not allow detailed investigation of these other socialising processes.

One of the challenges when investigating the curriculum is to isolate the impact of a particular event. The inclusion of a particular curriculum event in semester four of the courses in which the participants were involved was acknowledged in the design of the study. However, while the data suggest that this event may have had some effect on the students, the design of the study did not enable the exploration of other curriculum events that may have influenced the students, although it was also apparent that there was minimal teaching about chronic pain at any point in the curriculum.

Another potential limitation in the study and resulting discussion may be that of generalisability. While the data were gathered from a representative sample of those involved in student nurse education in New Zealand, it is important to remember that all of the participants were from Auckland. The similarity in nursing courses across the country suggests that generalisations to student nurses in New Zealand may be appropriate. However, these generalisations may not reasonably be made to nursing or health professional education in general.

Further research

In analysing the findings of this study, potential areas in which future studies could be directed in order to consider the practice and experience of nurses and patients in relation to chronic pain were identified. These could relate to analysing the practice of nurses, exploring the experience of patients and developing and evaluating educational strategies.

Further research relating to the findings of this study may take many forms. Practitioners may explore issues in close proximity to patient care by identifying questions such as how well pain is managed and conducting audits of nursing documentation. Organisations engaged in providing health care may use the misconceptions that formed the basis of this study to evaluate the quality of care that patients receive. Partnerships between researchers and patients may explore the new misconceptions that were suggested in more detail. Educators could use the findings of this study as a basis for developing and evaluating curricula specific to chronic pain but more generally in relation to chronic illness. Exploring the process of working with patients to support the education of students in the health disciplines would also be a valuable further development of this study.

Such research may also contribute to improved treatment for patients experiencing this type of pain, and perhaps chronicity in general. It would be appropriate for any such research to be undertaken in a manner that values a collaborative and reciprocal approach to working with patients and professionals, and for it to be presented in a manner that was useful and accessible to them.

Analysing the practice of nurses

The practice of nurses could be analysed to explore how they apply their knowledge to making decisions about treating or avoiding pain for patients. This may be done by observing nurses in the clinical environment or analysing the documentation they create to support their practice.

Exploring the understandings that nurses have of the context in which they practise, and the impact of this on practice, may be carried out by interviewing nurses and investigating the reasons for the decisions they make in the clinical context and what influences them.

The concept of expertise could be explored by analysing practice notes for references to expertise and whether or not these were attributed to patients, research or professionals.

The prevalence of misconceptions about chronic pain may be explored by interviewing practitioners, compiling a questionnaire or analysing notes from clinical practice.

Exploring the experience of patients

The prevalence of chronic pain in the community may be explored by asking members of the general public about any experiences they have of this type of pain and about their experiences of interacting with health professionals and the decisions they make regarding these interactions.

Developing and evaluating educational strategies

Specific curriculum events to teach students about the experience of chronic pain and disability could be evaluated by exploring the knowledge and attitudes of students in the clinical environment and the experience of patients as they interact with students.

The role of patients in the process of educating and socialising students may be investigated by observing students and patients as they interact with one another and exploring the influence of what the students learn from this process on their practice.

Summary

The original motivation for this study was based on observations from the clinical environment that nurses tended to have negative responses to people experiencing chronic pain, and the aim of the study was to explore whether or not this was evident during the undergraduate education process.

In order to address this aim, this study was specifically designed to explore the conceptions that student nurses had of patients experiencing chronic pain, what influenced them and how they developed during the course of undergraduate education. A questionnaire was developed to explore previously documented misconceptions about people with chronic pain with the intention of making the study particularly relevant to student nurses in the New Zealand environment, and to address weaknesses which had been identified in previous similar studies. A considerable sample of student nurses enrolled in undergraduate education in Auckland during 2002 and a smaller proportion of educators completed the questionnaire and some students and educators were also interviewed.

The findings from this study confirmed that a significant proportion of the student nurses who participated hold negative conceptions of people experiencing chronic pain, demonstrating inaccurate knowledge and inappropriate attitudes towards patients. There was evidence that these conceptions were influenced by the educational process, to some extent, and that the students' responses became slightly more positive during the course of their education. Educational strategies that may assist in addressing knowledge deficits amongst student nurses, develop interactive skills for working wth people with chronic illnesses and disability, increase awareness of sociopolitical contexts, advance the appreciation of the concept of expertise and address misconceptions of patients with chronic pain were outlined.

These findings are particularly important in the light of developments in the concepts of nursing roles and the increasing prevalence of chronic illness and disability, specifically chronic pain, in the community. The design of the study focused on a quantitative process in an attempt to provide data that would speak to the prevailing culture within health professional education and practice. However it is essential to appreciate that improving the practice of professionals, reducing the gaps between theory and practice and addressing the needs of individual patients requires that educators and practitioners take this information and reflexively incorporate it into their thinking and action. The essence of sound and responsive professional practice is the engagement that takes place between people as they respect one another's wisdom and expertise.

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APPENDICES

Appendix 1 – Trial questionnaires

Notions of chronicity

TRIAL QUESTIONNAIRE J1

This is a questionnaire which is being trialed for a study about how nurses and nurse educators respond to people with chronic pain. I have consent from the Dean and your Head of School to trial the questionnaire with students within the Faculty of Health Studies at AUT. Your participation in this trial is voluntary and confidential. No information that you provide will be used in the study.

Thank you for your support.
Susan Shaw

Instructions:

- Please read the vignette carefully
- In the light of what you understand then please respond to each question

The vignette

J is a 22 year old woman who comes to the clinic in which you are working. J has had ongoing back pain for six months after she and a colleague both fell awkwardly while lifting a heavy patient. The colleague however went back to work after just a few days. J has been treated by a physiotherapist who feels that there is no longer any obvious cause of her back pain. J has not continued with the exercises that were prescribed to strengthen her back as she feels that exercises make her back more painful. J asks if she could be given stronger medication to manage her pain. Being on a benefit is financially challenging for her and causing significant stress as she is in dispute with an insurance company about injury compensation. J's long term relationship has ended within the last four weeks.

Section 1)

Please respond to each statement by placing a X on the part of the scale that corresponds with your opinion

1) J's experience of pain should increase her tolerance to pain.

strongly agree	agree	undecided	disagree	strongly disagree

2) J's continuing pain is probably related to psychological disturbance.

strongly agree	agree	undecided	disagree	strongly disagree

3) The increase in J's back pain is probably related to the stress in her life.

strongly agree	agree	undecided	disagree	strongly disagree

4) J is likely to be exaggerating her pain to support her claim for financial compensation

strongly agree	agree	undecided	disagree	strongly disagree

5) J is probably exaggerating her pain to manipulate others

strongly agree	agree	undecided	disagree	strongly disagree

6) If J was depressed treating the depression would make the pain subside

strongly agree	agree	undecided	disagree	strongly disagree

7) J should not be given morphine to manage her pain as she may become addicted

strongly agree	agree	undecided	disagree	strongly disagree

8) J probably doesn't comply with the exercises the physiotherapist has prescribed for her because for some reason she doesn't want to give up her pain

strongly agree	agree	undecided	disagree	strongly disagree

Section 2

9) Circle the words that would identify your first impressions of J

adaptable
assertive
depressed
honest
manipulative
resourceful
secure
lazy
denying
dishonest
trustworthy
motivated
insecure
dependent
surviving
sensitive
coping
independent
responsible
malingering
fragile
stoic
passive
progressing

10) Where did you learn what you know about chronic pain?

Have you experienced chronic pain yourself?
YES/NO

Has someone you know well experienced chronic pain?
YES/NO

Explain other ways you have learnt about chronic pain:

Notions of chronicity

TRIAL QUESTIONNAIRE J2

This is a questionnaire which is being trialed for a study about how nurses and nurse educators respond to people with chronic pain. I have consent from the Dean and your Head of School to trial the questionnaire with students within the Faculty of Health Studies at AUT. Your participation in this trial is voluntary and confidential. No information that you provide will be used in the study.

Thank you for your support.
Susan Shaw

Instructions:

- Please read the vignette carefully
- In the light of what you understand then please respond to each question

The vignette

J is a 22 year old woman who comes to the clinic in which you are working. J has had ongoing back pain for six months after she and a colleague both fell awkwardly while lifting a heavy patient. The colleague however went back to work after just a few days. J has been treated by a physiotherapist who feels that there is no longer any obvious cause of her back pain. J has not continued with the exercises that were prescribed to strengthen her back as she feels that exercises make her back more painful. J asks if she could be given stronger medication to manage her pain. The physiotherapist has recommended an MRI scan to look for the cause of her continuing pain. Being on a benefit is financially challenging for her and causing her significant stress as she is in dispute with an insurance company about injury compensation. J's long term relationship has ended within the last four weeks.

Section 1)

Please respond to each statement by placing a X on the part of the scale that corresponds with your opinion

1) J's experience of pain should increase her tolerance to pain.

strongly agree	agree	undecided	disagree	strongly disagree

2) J's continuing pain is probably related to psychological disturbance.

strongly agree	agree	undecided	disagree	strongly disagree

3) The increase in J's back pain is probably related to the stress in her life.

strongly agree	agree	undecided	disagree	strongly disagree

4) J is likely to be exaggerating her pain to support her claim for financial compensation

strongly agree	agree	undecided	disagree	strongly disagree

5) J is probably exaggerating her pain to manipulate others

strongly agree	agree	undecided	disagree	strongly disagree

6) If J was depressed treating the depression would make the pain subside

strongly agree	agree	undecided	disagree	strongly disagree

7) J should not be given morphine to manage her pain as she may become addicted

strongly agree	agree	undecided	disagree	strongly disagree

8) J probably doesn't comply with the exercises the physiotherapist has prescribed for her because for some reason she doesn't want to give up her pain

strongly agree	agree	undecided	disagree	strongly disagree

Section 2)

9) Circle the words that would identify your first impressions of J

adaptable	secure	insecure	responsible
assertive	lazy	dependent	malingering
depressed	denying	surviving	fragile
honest	dishonest	sensitive	stoic
manipulative	trustworthy	coping	passive
resourceful	motivated	independent	progressing

10) Where did you learn what you know about chronic pain?

Have you experienced chronic pain yourself?
YES/NO

Has someone you know well experienced chronic pain?
YES/NO

Explain other ways you have learnt about chronic pain:

____

____

____

Notions of chronicity

TRIAL QUESTIONNAIRE J3

This is a questionnaire which is being trialed for a study about how nurses and nurse educators respond to people with chronic pain. I have consent from the Dean and your Head of School to trial the questionnaire with students within the Faculty of Health Studies at AUT. Your participation in this trial is voluntary and confidential. No information that you provide will be used in the study.

Thank you for your support.
Susan Shaw

Instructions:

- Please read the vignette carefully
- In the light of what you understand then please respond to each question

The vignette

J is a 22 year old woman who comes to the clinic in which you are working. J has had ongoing back pain for six months after she and a colleague both fell awkwardly while lifting a heavy patient. The colleague however went back to work after just a few days. J has been treated by a physiotherapist who feels that there is no longer any obvious cause of her back pain. J has not continued with the exercises that were prescribed to strengthen her back as she feels that exercises make her back more painful. J asks if she could be given stronger medication to manage her pain. J has had an MRI scan. The preliminary results suggest that there is a 'mass' in her spine. Being on a benefit is financially challenging for her and causing her significant stress as she is in dispute with an insurance company about injury compensation. J's long term relationship has ended within the last four weeks.

Section 1)

Please respond to each statement by placing a X on the part of the scale that corresponds with your opinion

1) J's experience of pain should increase her tolerance to pain.

I	I	I	I	I
strongly agree	agree	undecided	disagree	strongly disagree

2) J's continuing pain is probably related to psychological disturbance.

I	I	I	I	I
strongly agree	agree	undecided	disagree	strongly disagree

3) The increase in J's back pain is probably related to the stress in her life.

strongly agree	agree	undecided	disagree	strongly disagree

4) J is likely to be exaggerating her pain to support her claim for financial compensation

strongly agree	agree	undecided	disagree	strongly disagree

5) J is probably exaggerating her pain to manipulate others

strongly agree	agree	undecided	disagree	strongly disagree

6) If J was depressed treating the depression would make the pain subside

strongly agree	agree	undecided	disagree	strongly disagree

7) J should not be given morphine to manage her pain as she may become addicted

strongly agree	agree	undecided	disagree	strongly disagree

8) J probably doesn't comply with the exercises the physiotherapist has prescribed for her because for some reason she doesn't want to give up her pain

strongly agree	agree	undecided	disagree	strongly disagree

Section 2)

9) Circle the words that would identify your first impressions of J

adaptable	secure	insecure	responsible
assertive	lazy	dependent	malingering
depressed	denying	surviving	fragile
honest	dishonest	sensitive	stoic
manipulative	trustworthy	coping	passive
resourceful	motivated	independent	progressing

10) Where did you learn what you know about chronic pain?

Have you experienced chronic pain yourself?
YES/NO

Has someone you know well experienced chronic pain?
YES/NO

Explain other ways you have learnt about chronic pain:

____

____

____

Appendix 2 – Interview schedules

Students

1. How do you define chronic pain?

2. What experiences have you personally had of chronic pain?

3. What experiences have you had of others experiencing chronic pain?

4. Has your understanding of chronic pain changed or developed during your programme? (if yes, in what ways?)

5. How do you think your understanding of chronic pain will impact on your practice?

6. How do you think most people in the community perceive people who complain of chronic pain?

Educators

1. How do you define chronic pain?

2. What experiences have you personally had of chronic pain?

3. What experiences have you had of caring for people with chronic pain?

4. What do you want to convey to students when you teach them about chronic pain?

5. How do you think most people in the community perceive people who complain of chronic pain?

Appendix 3 - Questionnaires

Notions of chronicity amongst student nurses and educators

This questionnaire is designed to identify notions of nursing students and their teachers towards the concept of chronic pain

Which group are you a part of? Tick one

J1

University of Auckland				Auckland University of Technology			
Lecturer		**Student**		**Lecturer**		**Student**	
Semester 1		Semester 1		Semester 1		Semester 1	
Semester 4		Semester 4		Semester 4		Semester 4	
Semester 6		Semester 6		Semester 6		Semester 6	

Instructions:

- Please read the vignette carefully
- In the light of what you understand then please respond to each question

The vignette

J is a 22 year old woman who comes to the clinic in which you are working. J has had ongoing back pain for six months. J injured her back when she and a colleague both fell while lifting a heavy patient. She has been treated by a physiotherapist who feels that there is no longer any obvious cause of her back pain. She has not continued with the exercises that were prescribed to strengthen her back. She feels that exercises make her back more painful and asks if she could be given stronger medication to manage her pain. Being on a benefit is financially challenging for her and causing her significant stress and she is in dispute with an insurance company about injury compensation. J's long term relationship has ended within the last four weeks.

Section one

1) Circle the words that would identify your first impressions of J

adaptable
assertive
depressed
honest
manipulative
passive
coping

secure
lazy
denying
dishonest
motivated
responsible
trustworthy

malingering
dependent
fragile
stoic
resourceful
insecure
independent

J1

Section two

Please respond to each statement by placing a √ (tick) in the box that corresponds with your opinion

2) J's experience of pain should increase her tolerance to pain.

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

3) J's continuing pain is probably related to psychological disturbance.

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

4) The increase in J's back pain is probably related to the stress in her life.

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

5) J is likely to be exaggerating her pain to support her claim for financial compensation

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

6) J is probably exaggerating her pain to manipulate others

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

7) If J was depressed treating the depression would make the pain subside

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

8) J should not be given morphine to manage her pain as she may become addicted

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

9) J probably doesn't comply with the exercises the physiotherapist has prescribed for her because for some reason she doesn't want to give up her pain

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

Section three

10) Have you experienced chronic pain yourself? YES/NO

Has someone you know well experienced chronic pain? YES/NO

Explain other ways you have learnt about chronic pain:

____

____

____

11) Would you be prepared to participate in an interview (of approximately one hour) with the researcher to clarify themes which appear in the data gathered from the analysis of the questionnaires in this study?

YES/NO

If **YES**, please complete contact details as follows:

Name: (please print)____________________________________

Contact details: Telephone: Day/business ________ Night/home __________

Mobile: ______________ E mail:___________________________________

Thank you very much for your help

Please return your completed questionnaire and the signed consent form to Greg Owen using the enclosed envelope by......................

Notions of chronicity amongst student nurses and educators

This questionnaire is designed to identify notions of nursing students and their teachers towards the concept of chronic pain

Which group are you a part of? Tick one

J2

University of Auckland				**Auckland University of Technology**			
Lecturer		**Student**		**Lecturer**		**Student**	
Semester 1	☐	Semester 1	☐	Semester 1	☐	Semester 1	☐
Semester 4	☐	Semester 4	☐	Semester 4	☐	Semester 4	☐
Semester 6	☐	Semester 6	☐	Semester 6	☐	Semester 6	☐

Instructions:

- Please read the vignette carefully
- In the light of what you understand then please respond to each question

The vignette

J is a 22 year old woman who comes to the clinic in which you are working. J has had ongoing back pain for six months after she and a colleague both fell awkwardly while lifting a heavy patient. The colleague however went back to work after just a few days. J has been treated by a physiotherapist who feels that there is no longer any obvious cause of her back pain. J has not continued with the exercises that were prescribed to strengthen her back as she feels that exercises make her back more painful. J asks if she could be given stronger medication to manage her pain. The physiotherapist has recommended an MRI scan to look for the cause of her continuing pain. Being on a benefit is financially challenging for her and causing her significant stress as she is in dispute with an insurance company about injury compensation. J's long term relationship has ended within the last four weeks.

Section one

1) Circle the words that would identify your first impressions of J

adaptable
assertive
depressed
honest
manipulative
passive
coping
secure
lazy
denying
dishonest
motivated
responsible
trustworthy
malingering
dependent
fragile
stoic
resourceful
insecure
independent

J2

Section two

Please respond to each statement by placing a √ (tick) in the box that corresponds with your opinion

2) J's experience of pain should increase her tolerance to pain.

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

3) J's continuing pain is probably related to psychological disturbance.

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

4) The increase in J's back pain is probably related to the stress in her life.

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

5) J is likely to be exaggerating her pain to support her claim for financial compensation

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

6) J is probably exaggerating her pain to manipulate others

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

7) If J was depressed treating the depression would make the pain subside

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

8) J should not be given morphine to manage her pain as she may become addicted

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

9) J probably doesn't comply with the exercises the physiotherapist has prescribed for her because for some reason she doesn't want to give up her pain

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

Section three

10) Have you experienced chronic pain yourself? YES/NO

Has someone you know well experienced chronic pain? YES/NO

Explain other ways you have learnt about chronic pain:

____

____

____

11) Would you be prepared to participate in an interview (of approximately one hour) with the researcher to clarify themes which appear in the data gathered from the analysis of the questionnaires in this study?

YES/NO

If **YES**, please complete contact details as follows:

Name: (please print)____

Contact details: Telephone: Day/business ________ Night/home __________

Mobile: _____________ E mail:__________________________________

Thank you very much for your help

Please return your completed questionnaire and the signed consent form to Greg Owen using the enclosed envelope by.....................

Notions of chronicity amongst student nurses and educators

This questionnaire is designed to identify notions of nursing students and their teachers towards the concept of chronic pain

Which group are you a part of? Tick one

J3

University of Auckland				Auckland University of Technology			
Lecturer		**Student**		**Lecturer**		**Student**	
Semester 1		Semester 1		Semester 1		Semester 1	
Semester 4		Semester 4		Semester 4		Semester 4	
Semester 6		Semester 6		Semester 6		Semester 6	

Instructions:

- Please read the vignette carefully
- In the light of what you understand then please respond to each question

The vignette

J is a 22 year old woman who comes to the clinic in which you are working. J has had ongoing back pain for six months after she and a colleague both fell awkwardly while lifting a heavy patient. The colleague however went back to work after just a few days. J has been treated by a physiotherapist who feels that there is no longer any obvious cause of her back pain. J has not continued with the exercises that were prescribed to strengthen her back as she feels that exercises make her back more painful. J asks if she could be given stronger medication to manage her pain. J has had an MRI scan. The preliminary results suggest that there is a 'mass' in her spine. Being on a benefit is financially challenging for her and causing her significant stress as she is in dispute with an insurance company about injury compensation. J's long term relationship has ended within the last four weeks.

Section one

1) Circle the words that would identify your first impressions of J

adaptable
assertive
depressed
honest
manipulative
passive
coping

secure
lazy
denying
dishonest
motivated
responsible
trustworthy

malingering
dependent
fragile
stoic
resourceful
insecure
independent

J3

Section two

Please respond to each statement by placing a √ (tick) in the box that corresponds with your opinion

2) J's experience of pain should increase her tolerance to pain.

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

3) J's continuing pain is probably related to psychological disturbance.

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

4) The increase in J's back pain is probably related to the stress in her life.

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

5) J is likely to be exaggerating her pain to support her claim for financial compensation

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

6) J is probably exaggerating her pain to manipulate others

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

7) If J was depressed treating the depression would make the pain subside

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

8) J should not be given morphine to manage her pain as she may become addicted

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

9) J probably doesn't comply with the exercises the physiotherapist has prescribed for her because for some reason she doesn't want to give up her pain

Strongly agree	Agree	Somewhat agree	Undecided	Somewhat disagree	Disagree	Strongly disagree

Section three

10) Have you experienced chronic pain yourself? YES/NO

Has someone you know well experienced chronic pain? YES/NO

Explain other ways you have learnt about chronic pain:

____

____

____

11) Would you be prepared to participate in an interview (of approximately one hour) with the researcher to clarify themes which appear in the data gathered from the analysis of the questionnaires in this study?

YES/NO

If **YES**, please complete contact details as follows:

Name: (please print)______________________________

Contact details: Telephone: Day/business ________ Night/home __________

Mobile: _____________ E mail:___________________________

Thank you very much for your help

Please return your completed questionnaire and the signed consent form to Greg Owen using the enclosed envelope by.....................

Appendix 4

Student responses to misconception items on Likert scale

		Strongly agree		Agree		Somewhat agree		Undecided		Somewhat disagree		Disagree		Strongly disagree	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%
1 - tolerance to pain															
Sem	1	7	3.8	26	14.0	40	21.5	17	9.1	31	16.7	54	29.0	11	5.9
Sem	4	3	2.7	7	6.4	24	21.8	6	5.5	21	19.1	36	32.7	13	11.8
Sem	6	0	.0	11	8.6	14	10.9	8	6.3	15	11.7	55	43.0	25	19.5
2 - psychological impairment															
Sem	1	7	3.7	29	15.4	65	34.6	24	12.8	31	16.5	28	14.9	4	2.1
Sem	4	1	.9	12	10.9	32	29.1	23	20.9	14	12.7	24	21.8	4	3.6
Sem	6	1	.8	9	6.9	27	20.6	24	18.3	16	12.2	44	33.6	10	7.6
3 - stress															
Sem	1	4	2.1	52	27.7	80	42.6	19	10.1	13	6.9	17	9.0	3	1.6
Sem	4	2	1.8	18	16.4	62	56.4	12	10.9	5	4.5	8	7.3	3	2.7
Sem	6	4	3.1	16	12.3	55	42.3	18	13.8	13	10.0	16	12.3	8	6.2
4 - compensation and exaggeration															
Sem	1	7	3.7	20	10.6	34	18.1	58	30.9	24	12.8	42	22.3	3	1.6
Sem	4	0	.0	4	3.6	10	9.0	26	23.4	20	18.0	35	31.5	16	14.4
Sem	6	1	.8	6	4.6	14	10.7	27	20.6	17	13.0	48	36.6	18	13.7
5 - manipulative behaviour															
Sem	1	1	.5	12	6.4	33	17.6	49	26.1	34	18.1	51	27.1	8	4.3
Sem	4	0	.0	1	.9	8	7.2	17	15.3	25	22.5	42	37.8	18	16.2
Sem	6	0	.0	1	.8	6	4.6	21	16.2	23	17.7	57	43.8	22	16.9
6 - depression															
Sem	1	2	1.1	18	9.6	75	39.9	36	19.1	28	14.9	26	13.8	3	1.6
Sem	4	0	.0	9	8.1	48	43.2	13	11.7	16	14.4	24	21.6	1	.9
Sem	6	0	.0	6	4.6	44	33.8	26	20.0	18	13.8	30	23.1	6	4.6
7 - addiction to opioids															
Sem	1	13	6.9	46	24.5	44	23.4	36	19.1	25	13.3	20	10.6	4	2.1
Sem	4	2	1.8	16	14.4	14	12.6	22	19.8	19	17.1	25	22.5	13	11.7
Sem	6	2	1.5	9	6.9	14	10.8	18	13.8	32	24.6	34	26.2	21	16.2
8 - compliance and dependence															
Sem	1	3	1.6	21	11.2	32	17.1	43	23.0	32	17.1	41	21.9	15	8.0
Sem	4	0	.0	3	2.7	11	10.0	27	24.5	18	16.4	38	34.5	13	11.8
Sem	6	1	.8	3	2.3	10	7.8	23	17.8	20	15.5	52	40.3	20	15.5