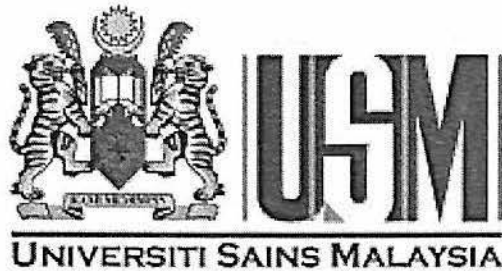


**UNIVERSITI SAINS MALAYSIA**



**KNOWLEDGE AND ATTITUDES OF PAIN  
MANAGEMENT AMONG NURSING STUDENTS  
IN SCHOOL OF HEALTH SCIENCES, USM**

**By**

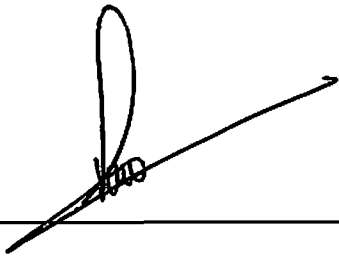
**CHAI LI SZE**

**Dissertation Submitted in Partial Fulfillment for the  
Degree of Bachelor of Health Science in Nursing**

**April 2007**

## CERTIFICATE

This is to certify that the dissertation entitled '**Knowledge and Attitudes of Pain Management among Nursing Students in School of Health Sciences, USM**' is the bonafide record of research work done by **Chai Li Sze** matric number: **77923** during the period of July 2006 to March 2007 under my supervision. This dissertation submitted in partial fulfillment for the degree of Bachelor of Health Science in Nursing. Research work and collection of data belong to University Science of Malaysia.

A handwritten signature in black ink, consisting of a large loop followed by a long horizontal stroke that ends in an arrowhead pointing to the right.

Signature of Supervisor

Doctor Shamsul Kamalrujan Hassan

Universiti Sains Malaysia

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## **ABBREVIATIONS**

<b>ANOVA</b>	<b>Analysis of Variance</b>
<b>NKASRP</b>	<b>Nurses' Knowledge And Attitudes Regarding Pain</b>
<b>SPSS</b>	<b>Statistical Package for Social Science</b>
<b>USM</b>	<b>University Science of Malaysia</b>
<b>WHO</b>	<b>World Health Organization</b>

# **KNOWLEDGE AND ATTITUDES OF PAIN MANAGEMENT AMONG NURSING STUDENTS IN SCHOOL OF HEALTH SCIENCES, USM**

## **ABSTRACT**

**Background of the study:** Lack of knowledge and negative attitudes of nurses towards pain management had been linked to under treatment of pain in hospitalized patients. Students must be equipped with knowledge, attitudes, and skills in an effort to provide future nurses with adequate knowledge and attitudes of pain management, in order to decrease the suffering of hospitalized patients. Unfortunately, the problems of lacking adequate information and positive attitudes towards pain management among students have been documented.

**Objective:** To determine the current pain management knowledge and attitudes of USM nursing students, compare the level of pain management knowledge and attitudes between second year, third year, and fourth year nursing students, and determine the relationship of personal previous experience of pain with the knowledge and attitudes of nursing students' regarding pain management.

**Methodology:** Cross-sectional and comparative in designs, this descriptive study included second, third and fourth year degree nursing students (N=107). Knowledge and attitudes were examined via a questionnaire based on McCaffery and Ferrell's NKASRP with reliability alpha 0.76.

**Result:** On average, all nursing students scored 55.1%, demonstrating significant knowledge and attitudes deficiencies regarding pain management. Results from this study revealed that no significant difference of knowledge and attitudes in pain management

among second year, third year, and final year students. Result also revealed that previous personal experience of pain did not made any contribution to knowledge and attitudes.

**Conclusion:** Undergraduate nursing curricula need to be evaluated from a number of perspectives to improve the students' attitudes and knowledge of pain management. Development of nursing program in pain management is urgently needed to increase and disseminate pain education and knowledge.

**PENGETAHUAN DAN SIKAP TERHADAP PENGURUSAN KESAKITAN  
DALAM KALANGAN PELAJAR KEJURURAWATAN DI KAMPUS  
KESIHATAN, USM**

**ABSTRAK**

**Latar belakang kajian:** Kekurangan pengetahuan dan sikap yang negatif terhadap pengurusan kesakitan dalam kalangan jururawat telah dikaitkan dengan pengurusan kesakitan yang tidak berkesan di hospital. Bagi mengurangkan penderitaan pesakit, pelajar kejururawatan perlu dilengkapi dengan pengetahuan, sikap dan kemahiran untuk membekalkan jururawat yang berpengetahuan dan bersikap positif dalam pengurusan kesakitan. Namun begitu, masalah kekurangan pengetahuan dan sikap yang positif terhadap pengurusan kesakitan telah dilaporkan dalam kalangan pelajar kejururawatan dalam kajian lepas.

**Objektif:** Mengetahui pasti pengetahuan dan sikap pengurusan kesakitan pelajar kejururawatan di USM, membanding pengetahuan dan sikap pengurusan kesakitan antara pelajar tahun kedua, ketiga dan keempat, serta mengkaji hubungan di antara pengalaman kesakitan dengan pengetahuan dan sikap pengurusan kesakitan.

**Metodologi:** Kajian ini menggunakan pendekatan kuantitatif dan kaedah pengumpulan data adalah keratan lintang. Seramai 107 orang pelajar kejururawatan yang terdiri daripada pelajar Tahun Dua, Tahun Tiga dan Tahun Empat terlibat dalam kajian ini. Pengetahuan dan sikap diuji menggunakan soal selidik berdasarkan NKASP daripada McCaffery dan Ferrell, dengan reliabiliti alfa 0.76.

**Keputusan:** Pelajar kejururawatan mencatat 55.1% secara keseluruhan, menyokong penerangan bahawa pelajar kekurangan pengetahuan dan sikap yang positif terhadap pengurusan kesakitan. Keputusan menunjukkan tiada perbezaan yang nyata pada pengetahuan dan sikap pengurusan kesakitan dalam kalangan pelajar Tahun Dua, Tahun Tiga dan Tahun Empat. Keputusan juga menunjukkan tiada hubungan yang nyata di antara pengalaman kesakitan dan pengetahuan serta sikap pengurusan kesakitan.

**Kesimpulan:** Korikulum kejururawatan perlu dinilai dalam beberapa perspektif supaya meningkatkan lagi pengetahuan dan sikap pelajar terhadap pengurusan kesakitan. Pembaharuan program kejururawatan dalam pengurusan kesakitan amat diperlukan bagi meningkatkan pendidikan tentang pengurusan kesakitan.

## CHAPTER 1

### INTRODUCTION

#### 1.1 Background of the Study

Pain is a widespread phenomenon. Many patients admitted to the hospital experience some degree of pain during the course of their stay. Despite efforts to improve pain management, inadequate treatment of pain still remains a major problem (Lee et. al. 2003; Erkes et. al 2001; Greenberger et. al. 2006). This problem not only leads to needless suffering by the patients but also to millions of extra costs in health care expenditures for patients with poorer outcomes due to pain (Erkes et. al. 2001).

With the increasingly popular multidisciplinary practice of pain management, many healthcare professionals of diverse specialties, practice areas, and experiences are now in the pain business (Allen et. al. 1997). However, improvements in pain management appear to occur slowly. Studies like Allcock & Standen (2001), Innis et. al. (2004) and Watson et. al. (2004) have highlighted the fact that poor pain relief still exists. As cited in Greenberger et. al. (2006), The World Health Organization (WHO) reports that 80% of clients suffering pain do not receive effective pain relief and that approximately 25% of cancer patients die in intense pain, even though 90% of cancer pain can be controlled.

Lack of knowledge and sensitivity to the devastation pain causes, and negative attitudes of nurses to pain treatment may provide a partial explanation for this under treatment of pain in hospitalized patients. In promoting pain relief for patients, nurses do not function optimally in terms of giving appropriate pain management. Studies that have been done in other countries, for examples Marlies et. al. (2000), Greenberger et. at. (2006),

Innis et. al. (2004) and Erkes et. al. (2001) point to relatively low levels of knowledge and attitude with respect to pain care, both among nurses and student nurses.

To overcome this problem, many studies suggest that pain knowledge and positive attitudes toward pain management should be strongly instilled in undergraduate program (McCaffery & Ferrell, 1997; Lee et. al. 2003; Greenberger et. al. 2006). Pain education for health professionals at all levels has been repeatedly identified as an important step to changing ineffective pain management practices (Watson et. al. 2004). Education regarding pain control is crucial for current nursing students in shaping future nurses to be responsive and integrate current pain management techniques. In addition, Greenberger et. al. (2006) in their study showed that formal education is a good vehicle for enhancing knowledge and attitudes among nurses.

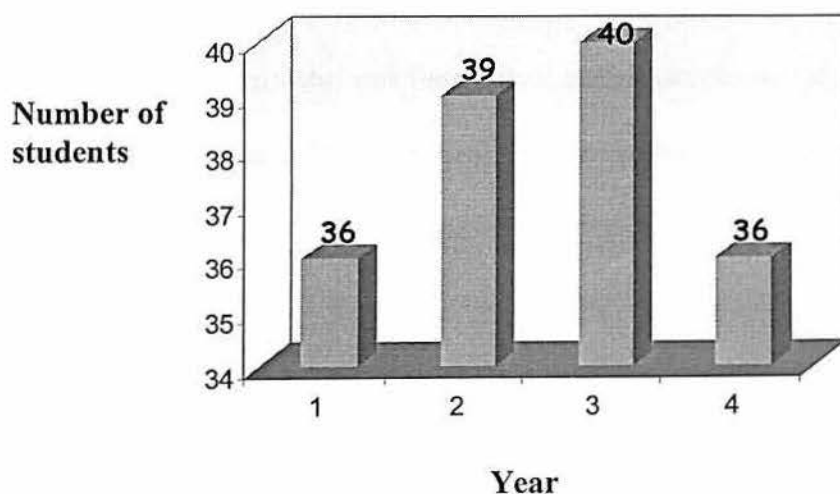
## **1.2 Problem Statement**

Despite a growth of educational programs, deficits in pain knowledge and attitudes among nursing student continue to be reported. Nursing students often lack of adequate and current knowledge regarding pain. Many studies found that knowledge and attitude levels about pain care among nursing students to be generally low (McCaffery & Ferrell, 1997; Lee et. al. 2003; Greenberger et. al. 2006; Allen et. al. 1997; Erkes et. al. 2001; Allcock & Toft 2003; Sanna & Lauri 2000; Marie & Larsson 2006; Anna & Gustavsson's 2003).

According to the Model of Nurses' Pain Management Knowledge drawn from Elisabeth et. al. (2004), which will be used to guide the development of this study and will be explained in chapter 2, pain management can be viewed as consisting of at least two distinct components, i.e., factual (cognitive) knowledge and experiential knowledge. Both factual knowledge and experiential knowledge (which may be personal experiences) could

enhance professional knowledge and good practice in nursing care. Therefore, in the sense of predicting knowledge and attitudes of pain management, level of education and personal previous experience of pain should be considered.

In the program of Nursing in School of Health Sciences, USM, pain is not taught as a separate course but is interwoven as a subcategory in various courses. This include Anatomy and Physiology (e.g., the nervous system's role in pain sensation) in first year; Pharmacology (analgesics, antiinflammatories, narcotics, anesthetics, types of pain, physiological and psycho-social responses to pain); Fundamental of Nursing III (analgesia, anaesthesia, types and theory of pain, conventional and nonconventional approaches to pain care, pain assessment), and Oncology Nursing (pain assessment, pain related to cancer) in second year of courses. Figure 1.1 shows the current number of nursing students in School of Health Sciences, University Science of Malaysia. The effectiveness of the pain content has not been explored and the knowledge and attitudes towards pain management among those students also has not been assessed.



**Figure 1.1** Number of nursing students in School of Health Sciences, University Science of Malaysia, 2006.



Education regarding pain is crucial for current nursing students. Level of education could have an effect on students' beliefs and perceptions, where education will enhance knowledge and attitudes in pain management. Student nurses may encounter problems in pain management as soon as they graduate if the education of pain is not adequate, as commented by Lee et. al. (2003) that a lack of basic knowledge of pain at an undergraduate level may limit nurses from effectively developing their knowledge after graduation. Greenberger et. al. (2006) also suggested that if initial undergraduate education is inadequate, nurses may be unable to adequately use cumulative nursing experience for the enhancement of knowledge and attitudes.

### **1.3 Objectives of the Study**

The general objective of this study is to determine the current pain management knowledge and attitudes of USM nursing students.

The specific objectives of this study are:

- 1.31 To compare the level of pain management knowledge and attitudes between second year, third year, and fourth year nursing students.
- 1.32 To determine the relationship of personal previous experience of pain with the knowledge and attitudes of nursing students' regarding pain management.

### **1.4 Research Questions**

- 1.41 What is the level of nursing students' knowledge and attitudes regarding pain?
- 1.42 What is the level of different in knowledge and attitudes regarding pain management between second year, third year, and final year nursing students?

1.43 What is the relationship of personal previous experience of pain with the knowledge and attitudes of nursing students' regarding pain management?

## **1.5 Research Hypothesis**

**1.51 Null Hypothesis:** There is no significant difference of knowledge and attitudes regarding pain management between second year, third year, and final year nursing students.

**1.52 Null Hypothesis:** There is no relationship between personal previous experience of pain and the knowledge and attitudes of nursing students' regarding pain management.

## **1.6 Definition of Terms**

### **1.61 Knowledge**

Knowledge is the awareness and understanding of facts, truths or information gained in the form of experience or learning (a posteriori), or through introspection (a priori) (Encyclopedia, 2006).

### **1.62 Attitude**

The psychological result of perception, learning and reasoning (Wikipedia, 2006). According to the definitions above, both the experience and process of learning should be considered in order to predict knowledge and attitude.

### **1.63 Pain**

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage (Wikipedia, 2006). It is a very personal and individual experience,

defined as whatever the patient says it is, and it exist wherever he or she say it does (Thompson et. al. 2002).

#### 1.64 Management

Management is the art of conducting, directing (Wikipedia, 2006). It is also the act, manner, or practice of managing; handling, supervision, or control (Answer.com, 2006)

#### 1.65 Pain management

Wikipedia (2006) stated that pain management (also called pain medicine) is the discipline concerned with the relief of pain, it generally benefits from a multidisciplinary approach that includes pharmacologic measures (analgesics such as narcotics or NSAIDs and pain modifiers such as tricyclic antidepressants or anticonvulsants), non-pharmacologic measures (such as interventional procedures, physical therapy and physical exercise, application of ice and/or heat), and psychological measures (such as biofeedback and cognitive therapy).

### 1.7 Benefits of the Study

There is little known in the level of knowledge and attitudes in pain management among USM nursing students. Thus, this study can provide some information and explanation as this is the first study in assessing attitudes and level of knowledge regarding pain among nursing students in USM. While previous studies showed that student nurses often lack of knowledge and attitudes in pain management (McCaffery & Ferrell, 1997; Lee et. al. 2003; Greenberger et. al. 2006; Allen et. al. 1997; Erkes et. al. 2001 Allcock & Toft 2003; Sanna & Lauri 2000; Marie & Larsson 2006; Anna & Gustavsson's 2003), it is hoped that this study can provide information of the USM student nurses' level of pain

management knowledge and attitudes. This study will ascertain whether results of previous studies can be generalized to undergraduate nursing students in USM.

Besides, this study looked in the relationship of personal previous experience of pain with the knowledge and attitudes of nursing students' regarding pain management. Personal previous experience of pain may provide some explanation in the difference of USM student nurses' level of pain management knowledge and attitudes.

In addition, effectiveness of pain curricula in nursing program is not known. Ajzen and Fishbein (1980) have shown, attitudes are indicative of intentions that are, in turn, indicative of future behavior (Greenberger et. al. 2006). Thus, prediction of quality in pain care provided by these future nurses can be made. Many studies suggested that it is necessary to conduct continuing pain surveys of knowledge and attitudes of nursing students as the process itself promotes accountability and more optimal pain control (Watson et. al. 2004; Erkes et. al. 2001; Allen et. al. 1997). Therefore, early intervention can be taken, for example re-evaluating pain content in nursing curricula by nurse educator; if the results of the study show that there is a significant low level of pain knowledge and attitudes in nursing students.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Under Treatment of Pain**

In the study of Innis et. al. (2004), which was conducted on a general internal medicine unit in Canada, 50 patients were surveyed to measure their satisfaction with their pain management, and the number of patients who were satisfied with the way their pain was controlled was only 62%. The same scenario of under treatment of pain is also found in the study of Abidi et. al. (2004), Allcock & Standen (2001), and Davis & McVicar (2000).

Pain experts maintain that pain should be treated as an emergency situation mandating immediate intervention (Davis & McVicar, 2000). Patients experiencing unnecessary pain are likely to have longer healing times, poorer patient outcomes, and delays in advancing toward timely discharge (Erkes et. al. 2001). Innis et. al. (2004) and Greenberger et. al. (2006) also suggest that poor pain management is associated with decreased patient satisfaction, as well as impaired health and increased healthcare costs.

#### **2.2 Nurses' Role in Pain Relief**

In addition to the importance of alleviating human suffering, Greenberger et. al. (2006) stated that pain relief improves physical and psychological function, where respiratory integrity, appetite, sleep, wound healing, and mood would improve as pain levels diminish.

The relief of pain is central to the nursing care. Nurses are often the health professionals who have the most frequent contact with patients, and are uniquely placed to

assess patients, monitor intervention, and coordinate management plan. Terry (2004) point out the unique position of nurses in the management of pain, where licensed nurses make judgments regarding administration of ordered medications, timing of patient care activities, and phoning physicians regarding changes in patient conditions. Registered nurses, through patient education activities, also enable patients to make knowledgeable decisions regarding management of their pain.

McCaffery & Ferrell (1997) commented that it is the nurse who performs many interventions for pain relief or further individualizes for the patient those interventions prescribed or performed by others. It is also the nurse who is most likely to be in a position to evaluate the effectiveness of the pain management plan and to initiate any necessary changes. Indeed, a nurse may be delegated the responsibility within an organization to manage or coordinate a pain service (Lee et. al. 2003).

Nursing activities related to pain management are numerous, and considerable knowledge is required (McCaffery & Ferrell, 1997). The quality of pain treatment depends on the knowledge, attitudes, and skills of those who provide the treatment. For instance, although nurses are not responsible for the prescription of pain medicine, the decision to administer or withhold pain medication is well within the nurse's realm of practice, as Terry (2004) stated that the physician has the option of writing dose and timing ranges and the nurses has the authority and skills to manage patients pain within the physician's orders.

Erkes et. al. (2001) stressed that nurses must be responsive to and integrate current pain management techniques in an effort to decrease the suffering of hospitalized patients. Nurses have the expertise to assess and manage pain given a range of dosages and frequencies ordered by the physician, basing their actions on the patient's self-report of pain and response to medications, and the nurses' knowledge of the medications.

### **2.3 Studies in Graduate Nurses**

The results of countless numbers of surveys provide unarguable proof that many nurses caring for patients with pain lack adequate information about pain management. Lack of knowledge on the part of nurses about pain and its treatment has been the major barriers in achieving comfort for those in pain.

In Canada, study was done by Innis et. al. (2004), where registered nurses (n = 93) on a unit were surveyed to measure their knowledge and attitudes with respect to pain and pain management. Their scores on the Knowledge and Attitude Survey was 59%, and nursing documentation of patients' pain was only 52%.

In Tasmania, study of Niekerk & Martin (2001) to obtain information concerning knowledge of the pain management practices of Tasmanian nurses has examined the nurses' knowledge in relation to pain management issues such as addiction, use of analgesics and the assessment of pain. A total of 1015 registered nurses returned a 29-item survey examining knowledge of pain management practices. Mean scores on the knowledge questions (72% correct) of the survey revealed deficits in knowledge. Nurses specifically lacked up-to-date knowledge concerning the pharmacological management of pain, but displayed a more up-to-date knowledge concerning the effect of patient variables on pain perception.

In United States, McCaffery & Ferrell, (1995) commented that nurses often assess pain as lower in intensity than their patients and tend to express overly great concern regarding the dangers of addiction. They noted deficits in knowledge of nurses about appropriate treatment regimens, where those patterns are prominent even in counties where pain technologies are highly developed.

In addition, in the southeastern United States, Erkes et. al. (2001) have conducted a study to determine the effectiveness of an educational intervention focused on pain management. The sample consisted of 30 medical/surgical intensive care nurses employed in a large metropolitan hospital. Their results support previous research findings related to the problem of inadequate pain management in the hospital setting, and that nurses' knowledge and attitude levels regarding pain management are less than adequate. There are limitations in the area of nursing knowledge related to clinical pain management. Further, the findings indicate that education regarding pain control is crucial for current nursing students as well as practicing nurses.

Besides, in Australia, Rond et. al. (2000) point that one of the reasons for inadequate pain treatment in hospitalized patients is that nurses have insufficient knowledge about pain and pain management. The results of their study, which conducted to assess the effects of pain monitoring program on nurses' pain knowledge and attitude, show that nurses have knowledge deficits and prejudices with regard to pain and pain management. They suggest that nurses' attitudes would changed with regard to their level of knowledge and skills in relieving pain, willingness to assess pain on a daily basis, and attention to patients' pain complaints.

#### **2.4 Studies in Undergraduate Nurses**

Throughout the world, nursing students demonstrate very low pain knowledge and attitude. Deficits in pain knowledge and attitudes among nursing student continue to be reported. Whilst Trinca (1998) identified deficits in the general knowledge of pain among a variety of undergraduate health professional students from those clinical school in a major