KNOWLEDGE AND ATTITUDE OF FINAL YEAR NURSING STUDENTS TOWARDS PEDIATRIC PAIN AT SCHOOL OF HEALTH SCIENCES, UNIVERSITI SAINS MALAYSIA (USM)

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By

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LIST OF ABBREVIATIONS

AAP	-	American Academy of Pediatric
AIDS	-	Acquired Immunodeficiency Syndrome
APS	-	American Pain Society
HIV	-	Human Immunodeficiency Virus
Hospital USM	-	Hospital Universiti Sains Malaysia
IASP	-	International Association for the study of Pain
TPB	-	Theory of Planned Behavior
USM	-	Universiti Sains Malaysia

Knowledge and Attitude of Final Year Nursing Students towards Pediatric Pain at School of Health Sciences, Universiti Sains Malaysia (USM)

ABSTRACT

Pediatric pain is a challenging issue among healthcare workers; this includes nursing students as they will become nurses in future. Students nurses' knowledge and attitude towards pediatric pain seem to affect their pain assessment and management in pediatric during clinical practice. A cross sectional, descriptive statistic study was carried out to assess the knowledge and attitude of student nurses towards pediatric pain. Total of 100 final year nursing students in School of Health Sciences, USM completed the questionnaires by convenience sampling technique that the fits inclusion criteria. Data was statistically analyzed using the software package SPSS version 22. Statistical significance was considered at p value <0.05. Among 100 respondents ($n=100$), 74 (74.0%) respondents showed that they had moderate level of knowledge and 49 (49.0%) of the respondents had positive attitude. Independent t-test showed a significant association between clinical experience at pediatric unit with knowledge $p<0.05$ and attitude score $p<0.05$. Besides that, independent t-test also showed a significant association between level of education with knowledge score $p<0.05$ and attitude score $p<0.05$. In conclusion, this research finding indicated there were associations between clinical experiences in pediatric unit as well as level of education with knowledge and attitude among final year nursing students in USM.

Tahap Pengetahuan dan Sikap Pelajar Tahun Akhir Kejururawatan terhadap Kesakitan Pediatrik di Pusat Pengajian Sains Kesihatan, Universiti Sains Malaysia (USM)

ABSTRAK

Kesakitan pediatrik adalah satu isu yang mencabar di kalangan pakar kesihatan dan ini termasuklah pelajar kejururawatan kerana mereka akan menjadi jururawat pada masa akan datang. Pengetahuan dan sikap pelajar jururawat terhadap kesakitan pediatrik seolah-olah memberi kesan kepada penilaian dan pengurusan kesakitan pediatrik dalam amalan klinikal. Satu kajian rentangan, tinjauan deskriptif telah dijalankan untuk menilai pengetahuan dan sikap pelajar kejururawatan tentang kesakitan pediatrik. Seramai 100 orang pelajar tahun akhir kejururawatan di Pusat Pengajian Sains Kesihatan, USM telah mengisi borang soal selidik dengan teknik persampelan mudah yang memenuhi kriteria kemasukan. Data telah dianalisis menggunakan pakej perisian SPSS versi 22. Kepentingan Statistik dianggap pada nilai $p < 0.05$. Antara 100 orang responden ($n = 100$), 74 (74.0%) responden menunjukkan bahawa mereka mempunyai tahap pengetahuan sederhana dan 49 (49.0%) daripada responden mempunyai sikap yang positif. '*Independent sample t-test*' menunjukkan hubungan yang signifikan antara pengalaman klinikal di unit pediatrik dengan skor pengetahuan $p < 0.05$ dan sikap $p < 0.05$. Di samping itu, '*independent sample t-test*' juga menunjukkan hubungan yang signifikan antara tahap pendidikan dengan skor pengetahuan $p < 0.05$ dan skor sikap $p < 0.05$. Kesimpulannya, dapatan kajian ini menunjukkan terdapat perkaitan antara pengalaman klinikal di unit pediatrik dan tahap pendidikan dengan pengetahuan dan sikap di kalangan pelajar tahun akhir kejururawatan di USM.

CHAPTER 1

INTRODUCTION

Today, pediatric care providers including nurses and student nurses accept that experiences resulting in pain in adults would also result in pediatric pain. Therefore, many pediatric pain assessment tools have been developed to discover the causes of children pain and return them in pain-free state. However, the determination of inadequate treatment of pain in children could be due to lack of knowledge and nurses' attitude that is failed to assess and manage pain effectively. Hospitalized pediatric patients often undergo procedures which cause pain such as withdrawing blood for investigation and intravenous medication administration. Therefore, nurses must have knowledge regarding various pain management methods. Nursing faculty is in a unique position to significantly address the problem of pain management through facilitating the acquisition and utilization of knowledge by the next generation of nurses (Duke, Haas, Yarbrough, & Northam, 2013). Therefore, student nurses must be able to have adequate and correct knowledge of pediatric pain and they must be able to carry valid and reliable pain assessments in order to reduce pediatric pain.

1.1 Background of the Study

Pain is a highly individual and complex experience. Everyone experience pain and it is considered subjective. Chronic or recurrent pain is common in children and adolescent. Pain is defined by the International Association for the Study of Pain (IASP) as ``an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage' (Ekim & Ocakci, 2013). There are many causes and types of pain in children. They are divided according to diseases, such as children with HIV/AIDS, cancer or sickle cell disease. For example, children with cancer will experience pain due to progression of the cancer itself (WHO, 2012). Other than that, acute pain also occurs in relation to investigative or therapeutic procedures.

Pain assessment is a very important aspect in evaluating pain in children. Pain assessment enables the health care providers to treat pain and make a suffering less severe. The pain assessment process involves the child, the parents or caregivers and the

health care providers. Nurses play a major role in effective pain management through accurate assessment, immediate intervention, and evaluation of pain relief measures (Al-Khawaldeh, Al-Hussaimi, & Darawad, 2013). However, carrying out these roles requires that nursing students to achieve a comprehensive solid knowledge of pain and approach to pain assessment is required in order to treat pain in children. Nowadays, most of the nursing students only aimed to reduce pain rather than relieve it during their clinical posting. Besides that, they are not adequately used this knowledge of effective method to assess and manage the pediatric pain.

Opioid analgesics such as morphine and pain management services should be available at all levels of care. The prescription of opioid analgesics is similar to the prescription of most other medicines. When used rationally for medical purposes, strong opioids are safe medicines (WHO, 2012). However, training and education on how to prescribe opioids is very important for the student nurse to treat pain in children. Assessment and measurement of pain is essential for estimating pain severity, and hence for deciding which medicine to prescribe or how to adjust the dosage. Therefore, education in the assessment of pain, especially in children is also important.

Other than that, pain management is an extremely important area in the health care of children. Smart (2005) cited in Ekim & Ocakci (2013) said that the basic principles of pain management recommended that pain should be assessed regularly, using appropriate methods and tools, acknowledging that the person experiencing pain is the best person to report his or her pain, even if that person is a child. Negative attitudes and poor knowledge of pain and its assessment and measurement are barriers to pain management in children. Managing pain starts with recognizing and assessing pain.

Before the 1970s, the medical literature is essentially entirely lacking of any review or researches regarding pain in children especially the post operative pain. By the late 1980s, however, a change in post operative management began to occur. The importance of adequate pain management began to arise. Nowadays, there were several research findings indicating the importance of nursing knowledge and attitudes regarding pain and pain management of patients. Ekim and Ocakci (2013) stated that pediatric nurses in Turkey need more education about pain management. Thus, they

recommended that pain assessment and management must be integrated into the nursing curriculum. Academic nursing programs should focus not only on the theoretic knowledge, but pain management should also be given more importance in clinical practice training. A similar study by Al-Khawaldeh et al., (2013) also said that the nursing students in Jordan need more education and training about pain management. They also stated that pain management also should be emphasized in clinical training besides the important of knowledge in pain management.

Attitudes about pain among nursing students may be similar to those of the general population. Common misconceptions include beliefs that analgesics are overused, beliefs that pain cannot be totally relieved, and exaggerated fears of addiction (Ekim & Ocakci, 2013). Since the nursing students also come from the general population, it is possible that they possess little factual knowledge about opioid analgesics or appropriate pain management techniques and have limited clinical experience with patients in pain. One approach to improving pain management is to explore attitudes and misconceptions about pain and its treatment so that instruction can be fitted to students' learning needs.

1.2 Problem Statement

The duty of health care professionals is to relieve pain and suffering. Nurses have a primary responsibility for assessing pain and for making decisions about pain management. Nurses spend far more time at patients' bedsides than any other health care providers, so that they are more aware of patients' pain. However, Duke et al., (2013) stated that although it is possible that the knowledge of pain management would be improve when student nurses practices in the clinical setting, the result indicated a deficit in what is being taught.

Nursing barrier to pediatric pain management relate to deficit knowledge regarding accurate and standardized pediatric pain assessments and negative attitude towards pediatric pain. The most frequently identified barriers were lack of knowledge and training regarding pain management, followed by not using pain assessment tools and techniques by nurses who are working in the clinical areas (Al-Khawaldeh et al., 2013). Ekim and Ocakci (2013) had assessed the nurses' level of knowledge regarding

pain assessment, pharmacology, non-pharmacology, and addiction knowledge. The result shows that education level of the nurses positively affects their knowledge and attitudes about pain management. Duke et al., (2013) said that the most commonly missed items among student nurses during their clinical practising are primarily related to knowledge of medication.

They are two explanation of the researcher regarding under treating pain. First, nurses have inadequate knowledge about analgesic use, analgesic dosing, dosing schedules, the likelihood of addiction, and the effectiveness of non-pharmacologic interventions. Second, nurses have inappropriate attitudes and beliefs that pain is over reported, patients are over reliant on medications, overt signs will be exhibited when pain is present, pain is to be expected with certain diseases or procedures, or nurses may attribute pain to some conditions and not others (McCaffery, Ferrel, & Pesero, 2000).

Student nurses in Universiti Sains Malaysia include diploma and bachelor of nursing are practising in clinical setting in Hospital Universiti Sains Malaysia (Hospital USM). Both of these levels of education in nursing are having different schedule of clinical posting at pediatric units. The level of knowledge of pain management in pediatric will be affected by lack of clinical experience and late exposure to pediatric units because they will learn on how to manage pain in patient during their clinical posting instead of practising pain management on mannequins in nursing laboratory. Student nurses in Hospital USM are not using pain assessment tools during their clinical practice in pediatric ward because they did not know the symptoms of pain in children.

Since the nurses play a role as a primary caregiver, they have a major role in taking care of children in pain. To maximize the impact of educational efforts, content in basic and continuing education courses should be prioritized and critically evaluated for relevance and accuracy. Therefore, the outcome of this study can help to address the issue of advocating the future nurses in providing basic care to children. In this research, the conceptual theory that will be used is the Theory of Planned Behavior by Icek Ajzen which was developed in 1991.

1.3 Research Objectives

1.3.1 General Objective

To identify the knowledge and attitude of final year nursing students towards pediatric pain at School of Health Sciences, Universiti Sains Malaysia (USM)

1.3.2 Specific Objectives

a. To identify the knowledge level of final year nursing students toward pediatric pain at School of Health Sciences, USM.

b. To identify the attitude level of final year nursing students toward pediatric pain at School of Health Sciences, USM.

c. To determine the association between the social demographic data (clinical experience and educational level) with the knowledge toward pediatric pain among final year nursing students in USM.

d. To determine the association between the social demographic data (clinical experience and educational level) with the attitude toward pediatric pain among final year nursing students in USM.

1.4 Research Questions

a. What is the knowledge level of final year nursing students toward pediatric pain at School of Health Sciences, USM?

b. What is the attitude level of final year nursing students toward pediatric pain at School of Health Sciences, USM?

c. Is there any association between the social demographic data (clinical experience at pediatric unit and educational level) with the knowledge toward pediatric pain among final year nursing students in USM?

d. Is there any association between the social demographic data (clinical experience at pediatric unit and educational level) with the attitude toward pediatric pain among final year nursing students in USM?

1.5 Hypothesis

1.5.1 H_O: There is no significant association between final year student nurses' clinical experience at pediatric unit and their knowledge towards pediatric pain

H_A: There is a significant association between final year student nurses' clinical experience at pediatric unit and their knowledge towards pediatric pain ($H_o \neq H_A$)

1.5.2 H_O: There is no significant association between final year student nurses' educational level and their knowledge towards pediatric pain

H_A: There is a significant association between final year student nurses' educational level and their knowledge towards pediatric pain ($H_o \neq H_A$)

1.5.3 H_O: There is no significant association between final year student nurses' clinical experience at pediatric unit and their attitude towards pediatric pain

H_A: There is a significant association between final year student nurses' clinical experience at pediatric unit and their attitude towards pediatric pain ($H_o \neq H_A$)

1.5.4 H_O: There is no significant association between final year student nurses' educational level and their attitude towards pediatric pain

H_A: There is a significant association between final year student nurses' educational level and their attitude towards pediatric pain ($H_o \neq H_A$)

1.6 Definition of Terms (Conceptual)

Pain

- Pain is defined by the International Association for the Study of Pain (IASP) as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage" (Ekim & Ocakci, 2013). An alternative definition is offered by McCaffrey (1968) cited in Panke (2003), "Pain is whatever the experiencing person says it is, existing whenever the experiencing person say it does". In this study, the pain is related to the pain experienced by children.

Knowledge

- Knowledge is a fact, information, and skills acquired through experiences or education, the theoretical or practical understanding of a subject (OxfordDictionaries, n.d). In this study, it is the level of knowledge about pediatric pain.

Attitude

- Attitude is a predisposition or a tendency to respond positively or negatively towards a certain idea, object, person or situation (BusinessDictionary, n.d). Attitude in this study is the attitude of student nurses toward pediatric pain in Hospital Universiti Sains Malaysia.

1.7 Significant of the Study

Acute pain is one of the most common adverse stimuli experienced by hospitalized children. They are many negative effects of pain include increased heart and respiratory rate, shallow breathing, increased or decreased blood pressure, increased intracranial pressure, palmar sweating in term neonates and older children, pallor or flushing, and decreased oxygen saturation, vagal tone, and skin temperature (Ballweg, 2007). Even though many researches were carried out regarding pediatric pain and many guidelines were developed, they are still many pediatric nurses did not aware of pediatric pain level, and this includes the student nurses.

Pain that is appropriately managed has many benefits, including earlier mobility, shortened hospital stays, and reduced costs thus help to reduce burden for the parents. The accurate assessment and effective management of a pediatric patient's pain is a crucial nursing activity requiring the nurse possess an accurate theoretical knowledge base of pain and its assessment and management and appropriate attitudes towards pediatric pain. The assessment of student nurses' knowledge and attitudes may bring to light information that may assist in the development of appropriate strategies to address educational needs related to pediatric pain assessment and management.

Nurses as well as the student nurses should take more time and effort to fully understand the pain in children. So, in order to prevent unnecessary suffering for pediatric or children, it is important for the student nurses to grasp the knowledge, sensitivity, attitude, and appropriate practice toward the children pain before performs during the clinical practice in hospital.

CHAPTER 2

LITERATURE REVIEW

2.1 Pain

Pain is the most common presenting physical symptom in primary care, accounting for an enormous burden of patient suffering, quality of life, work and social disability, and health care and societal cost (Kapur, Lala, & Shaw, 2014). Ersek and Irving (2007) cited in Al Khawaldeh et al., (2013), patients worldwide routinely experience acute or chronic pain stemming from injury, illness, therapeutic treatment, or surgery. Pain is defined by the International Association for the Study of Pain (IASP) as ''an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage'' (Ekim & Ocakci, 2013). However, the experience of pain is highly subjective and idiosyncratic, and individuals develop pain thresholds through experiences of injury or pathology in early life (Kapur et al., 2014).

2.1.1 Pediatric Pain

The most common type of pain experienced by children is acute pain resulting from injury, illness, or, in many cases, necessary medical procedures (Hagan, et al., 2001). It is associated with increased anxiety, avoidance, somatic symptoms, and increased parent distress (Hagan, et al., 2001). Crandall and Sevendra (2005) cited in Ekim and Ocakci (2013) said that pain in pediatric may be associated with a life-threatening event as well as emotional and psychologic consequences affecting the child's quality of life and scholastic performance.

Hence, correct assessment tools in determining pain level is necessary and important for the nurses as well as the student nurses. There are currently a number of instruments that have been developed and validated by clinical researchers to assess the pediatric pain. There are several techniques of pain assessments; they are assessment of pain by self-report, observational pain assessment, physiologic measures of pain and multidimensional pain assessment (Franck, Greenberg, & Stevens, 2000).

2.2 Response of Children toward Pain

The experience of pain is subjective. Children also feel pain the way adult do. Thus if a procedure or health condition is painful for adults, it is also considered to be painful for adolescents, children, and infants. Ballweg (2007) stated that there are three types of response to painful stimuli in pediatric namely, physiological, behavioural and biochemical response.

2.2.1 Physiological

According to Ballweg (2007), pain activates the physiologic stress response and leads to significant undesirable changes in multiple organ systems. The many negative effects of pain include increased heart and respiratory rate, shallow breathing, increased or decreased blood pressure, increased intracranial pressure, palmar sweating in term neonates and older children, pallor or flushing, and decreased oxygen saturation, vagal tone, and skin temperature. Palmar sweating increases in response to arousal of the infant and in response to a heel lance (Tyler, Tu, Douthit, & Richard Chapman, 1993).

2.2.2 Behavioral

Changes in vocalization include crying, whimpering, moaning, hiccupping, gasping, gagging, screaming, yelling, and other vocalizations from older children and adolescents (Ballweg, 2007). Additionally patients may be difficult to comfort, have difficulty eating, be lethargic, and demonstrate impaired interaction and withdrawal behaviors.

Rabu, Fisher and Matsuda (2012) mentioned that the typical facial expression of a child in pain includes grimacing with eyes squeezed shut, a quivering chin, and a stretched, open mouth. This facial expression is the most reliable and consistent behavior indicative of pain assessment in the newborn, as it is a result of autonomic (spinal cord and brainstem) control.

Body movements indicative of pain include fisting and toe clenching, finger and toe splaying in preterm infants, restlessness, trunk arching, thrashing, kicking, limb withdrawal, and impaired mobility in older children and adolescents. Muscle tone

changes include hypertonicity, knee and leg flexion, rigidity and guarding of the painful area and extremity extension and stiffening.

2.2.3 Biochemical

Hormonal and metabolic responses to pain include increased stress hormones such as catecholamine, cortisol, and glucose levels that are stimulated in painful situations. The stimulation of these hormones increase heart rate and blood pressure, thus increased the metabolic rate, oxygen consumption, sodium and fluid retention. Responses also include decreased insulin secretion, carbohydrate, fat, and protein stores, and decreased immune response leading to delayed healing (Rabu et al., 2012).

2.3 Barriers to Pain Management

The main barriers to the treatment of pain in children are poor knowledge of pain and its assessment and negative attitudes. The American Academy of Pediatrics (AAP) and the American Pain Society (APS) attribute the lack of effective pain management to myths, insufficient knowledge, and inadequate application of knowledge of health care professionals (Ekim & Ocakci, 2013).

Al-Khawaldeh et al., (2013) stated that the most frequently identified barriers that prevent student nurses from performing adequate pain management during their clinical practice in hospitals are lack of knowledge and training regarding pain management (72.5%) followed by not using pain assessment tools and techniques by nurses who are working in the clinical areas (72.1%). The least frequently identified barriers were students not believed patients pain intensity rating (25.8%) and presence of too many patients in the clinical areas (37.9%). Twycross and Dowden (2009) cited in Ekim and Ocakci (2013) that a lack of knowledge about pain assessment may mean that nurses are unable to assess pain accurately and therefore unable to apply their knowledge in practice.

2.4 Knowledge and Attitude of Nursing Students towards Pediatric Pain

Some of the major obstacles in the management of children's pain are healthcare professionals' inadequate knowledge of pain, pain assessment, and pain management, and these includes nursing students in handling children in pain. Ekim and Ocakci (2013) and Al-Khawaldeh et al., (2013) have indicated that nurses' as well as student nurses' knowledge and attitude of pain management is less than optimal.

In the study of Ekim and Ocakci (2013), respondents were asked to complete 40 questions related to nurses' knowledge and attitudes toward pain and pain management with children. These questions assessed the nurses' level of knowledge regarding pain assessment, pharmacology, non-pharmacology, and addiction knowledge. About 74.6% of the nurses answered the questions about pharmacology and addiction incorrectly. The majority of surveys show that nurses have insufficient knowledge about pharmacologic interventions in pain management.

Nurses' attitudes with regards to pediatric pain present another obstacle to appropriate pain practice. A study by Duke et al., (2013) that discuss the knowledge also discussed nurses' attitudes. Most of the nurses as well as the student nurses had a negative attitude or belief toward pediatric pain. Salantera and Lauri (2000) cited in Duke et al., (2013) reported that graduating nursing students in Findland had knowledge deficits and lack attitude regarding pain management in children. Many studies such as Duke et al., (2013) as well as Ekim and Ocakci (2013) reported that knowledge and attitude of nursing students depends on clinical practice and their level of education.

2.5 Student Nurses' Perception and Misconception towards Pediatric Pain

According to Hagan et.al, (2001), student nurses think that children, especially infants, do not feel pain the way adults do, or if they do, there is no untoward consequence. They also had a misunderstanding of how to conceptualize and quantify a subjective experience, the notion that addressing pain in children takes too much time and effort and fears of adverse effects of analgesic medications, including respiratory depression and addiction.

Al-Khawaldeh et al., (2013) stated in their study that students relied on patient's appearance in assessing the pain and not depending on patients' statements.

Additionally, they mentioned that one third of the students reported that "not believing patient's intensity rating" as a barrier to effective pain management. These negative attitudes can hinder adequate pain assessment and treatment toward pediatric pain.

In their study, they also assessed senior student nurses' knowledge of pain assessment using a clinical vignette approach. A significant number of student nurses rated the pain of four patients at a lower level than the patients' own verbal reports. The students indicated a belief that severe pain is always accompanied by facial grimaces or elevation of vital signs and therefore often discounted patients' self-report of pain.

Misconceptions in pain management were also identified with respect to the areas of opioid usage and respiratory depression and addiction. Nurses surveyed by the PNKAS were found to believe that children or adolescents receiving opioids over a period of months were at risk for respiratory depression (Manworren, 2001). McCaffery et al., (2000) stated that nursing student's perception of curricular are deficit regarding pain management particularly accurate content that deals with balancing the potentially addictive effect of opioid. Students also reported that pain management education was 'miss' and inconsistent.

2.6 Conceptual Framework

In this research, Ajzen's (1991) Theory of Planned Behavior (TPB) (Hutz, Mussato, Morgan, & Broome, 2003) is used as conceptual framework. According to this theory, the antecedent to an action (behaviour) is intention to perform the action. Intention is determined by an individual's attitude. The first factor is personal factor toward the action and the perception of others approval. The second factor is a social normative factor of performing or not performing the action.

Figure 2.1 shows the concept of Theory of Planned Behavior (1991). The Theory of Planned Behavior (Ajzen, 1991) assumed that most people consider the outcomes of their actions and would decide whether to act based on personal and social normative factors. An additional factor, a person's belief whether the action is or is not under volitional control, also influenced the relationship between intention and action. A favorable attitude, the belief that others would approve of the action and the

perceived ease or difficulty in performing the action, would lead to a strong intention. The likelihood of the individual then performing the action would be high.

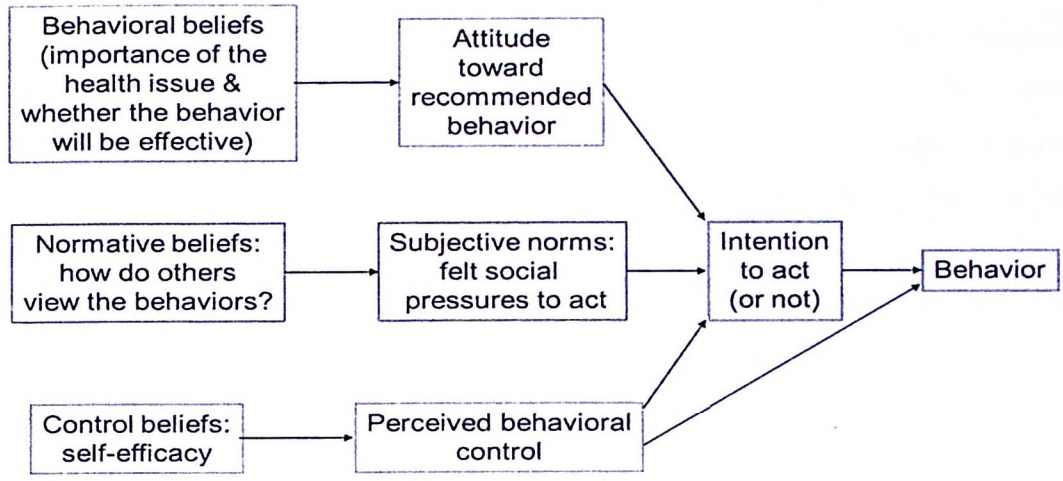

Figure 2.1: Theory of Planned Behavior by Icek Ajzen, 1991

Attitudes were defined as the degree to which one had a positive or negative feeling about an object based on the salient beliefs and was an affective component of intention. Attitude, then, is a personal determinant of intention. The authors posited that knowledge contributed to the development of beliefs and as one formed beliefs, attitudes were simultaneously formed. Ajzen (1991) stated that negative information had a greater impact on the formation of attitudes than positive information. A second determinant, social influence, referred to the individual's perception of whether or not certain significant others thought one should perform the action. In other words, social or peer pressure could influence intention.

Another factor is the behavioural intention, which was an individual's perceived volitional control to perform the action. Ajzen operationalized volitional control as the ease or difficulty in performing an action and was related to resources and opportunities rather than self-efficacy. He viewed most social behavior as volitional and that a person would likely perform the action he or she intended to perform. An example might be a student nurse's decision to administer an opioid analgesic for pain. If the student nurse perceived volitional control, the opioid analgesic would be easily retrieved from the narcotic supply and the nurse would administer it to the patient. Conversely, the nurse does not order the medication or the dosage, or, the patient might refuse the medication.

In these situations, the student may perceive little control despite the intention to medicate.

The theory provided a comprehensive model of behavior and suggested that behavior could be predicted from attitudes. If one uses Ajzen's (1991) criteria, the studies measuring attitudes about pain reported in the nursing literature primarily elicit beliefs and are deficient in assessing attitudes. For this theory, researcher will relate the knowledge and attitude, perceived norms as well as behavioural intention. When children show some physiological, behavioural or biochemical changes, student nurses need to use their knowledge, personal and social normative factor and behavioural intention.

Nurses' knowledge about pain and pain management has been well studied. However, less is known about nurses' attitudes. In this study, the attitudes and intentions of the student nurses will be evaluated using the TPB and is measured using the criteria proposed by Fishbein and Ajzen (1975). For this theory, researcher related the knowledge, attitude and the intention in handling children in pain. With the presence of adequate and correct knowledge about pediatric pain and the normative belief and social norms or social pressure such as clinical experience and educational level of nursing students as, more positive attitude will arise as the intention to nurse the patient is there. As the nursing students got more social pressure, their intention will become higher.Figure 2.2 shows the conceptual framework adopted from Theory of Planned Behabior by Icek Ajzen.

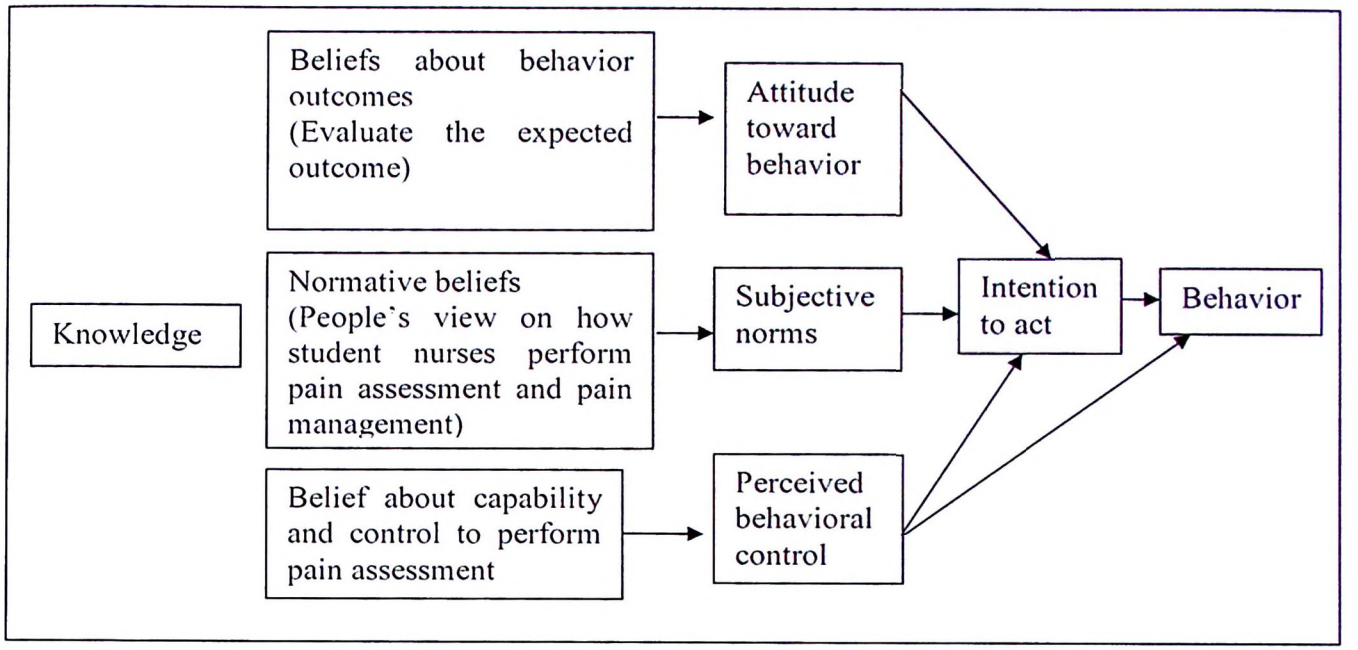

Figure 2.2: Knowledge and Attitude of Final Year Nursing Students towards Pediatric Pain Adapted from Ajzen (1991)

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research Design

This study was a quantitative study. The research design selected for this study was a cross-sectional with descriptive study on final year nursing students in Universiti Sains Malaysia. Cross-sectional design is quick to carry out by requesting the respondents answered the self-administered questionnaire. The descriptive research is aim to describe the characteristic of individuals or groups and the relationship between the variables. This study identified the knowledge and attitude of final year nursing students towards pediatric pain at School of Health Sciences, Universiti Sains Malaysia (USM).

3.2 Population Setting

The study was conducted on all final year nursing students studying at School of Health Sciences, Universiti Sains Malaysia (USM), Kubang Kerian, Kelantan. There were 127 final year nursing students at School of Health Sciences, USM.

3.3 Sampling Plan

3.3.1 Sample

Inclusion Criteria

- Final year nursing students studying in USM
- Able to understand English language.

Exclusion Criteria

- Students of other courses studying in USM
- Unwilling to participate in the study

3.3.2 Sampling Method

This study used non probability method via convenience sampling technique. For this sampling method, final year nursing students studying at USM were selected base on inclusion criteria. By using this sampling method design, the samples were easier to access (LundResearchLtd., 2012).

3.3.3 Sampling Size

The researcher found that the population size for final year nursing students studying at USM was 127. Raosoft Sample Size Calculator was used to calculate the sample size and to ensure the accuracy of the sample by avoiding sampling error. The margin of error of 5%, the confidence level of 95% and the response distribution of 50% were used to determine the sampling size. The recommended sample size was 96. The type I error probability associated with this test of this null hypothesis was $p< 0.05$.

To counter for the dropout rate of this study, 10% of the calculated sample size was added. Therefore, total participants required for this study was within the range of

$$n = 96 + \text{dropout of } 10\%$$

$$= 96 + 10$$

$$\approx 106 \text{ participants}$$

3.4 Variables

3.4.1 Variables Measurement

The independent variables were selected based on the characteristics of demographic. The demographic characteristics include clinical experience at pediatric unit and current level of education. Dichotomous question with 'Yes' and 'No' was used to measure the clinical experience at pediatric unit while multiple choice question was used to measure current level of education.

For the dependent variable, to evaluate the knowledge of final year nursing students towards pediatric pain, dichotomous questions with 'True' and 'False' were used. One score is given if the participants answered correctly and zero score is given if the participants answered wrongly. Since there were 15 questions, so the range of score was 0 to 15 points. The score were divided into three levels; they were poor level of knowledge (1-5 points), moderate level of knowledge (6-10 points) and high level of knowledge (11-15 points) (Al-Khawaldeh et al., 2013).

For the second dependent variable, to evaluate the attitude of final year nursing students towards pediatric pain, dichotomous questions with 'True' and 'False' was also used. One score is given if the participants answered correctly and zero score is given if the participants answered wrongly. Since there were 8 questions, so the range of score is 0 to 8 points. The score were divided into three levels; they were negative attitude (1-3 points), neutral attitude (4-5 points) and positive attitude (6-8 points) (Al-Khawaldeh et al., 2013).

3.5 Instrumentation

3.5.1 Instrument

A self-administered questionnaire was used in this study. The questionnaire was adapted from Manworren (2001), Pediatric Nurses' Knowledge and Attitudes Survey Regarding Pain (PNKAS). The questionnaire was categorized into three sections.

Section A is the demographic characteristics which consist of clinical experience at pediatric unit and current level of education of final year nursing students studying at USM. A dichotomous question which consist of 'Yes' and 'No' were used for clinical experience at pediatric unit while multiple choice question was used for current level of education.

Section B is about knowledge regarding pediatric pain. It consists of 15 questions. The dichotomous questions which consist of either 'True (T)' or 'False (F)' were used to evaluate the knowledge of final year nursing students towards pediatric pain at School of Health Sciences, USM.

Section C is about attitude regarding pediatric pain. It consists of 8 questions. The dichotomous questions which consist of either 'True (T)' or 'False (F)' were used to evaluate the attitude of final year nursing students towards pediatric pain at School of Health Sciences, USM.

3.5.2 Translation of Instrument

Pediatric Nurses' Knowledge and Attitudes Survey Regarding Pain (PNKAS) by Manworren (2001) was used in this study. The questionnaire was in English version. Researcher found that there was no need to translate the questionnaire because the questionnaire will be distributed to the final year student nurses at high level of education. The terms used in the questionnaire were also used in the medical area and they were easy to understand by the respondents.

3.5.3 Validity and Reliability

In order to make sure the respondents were treats ethically, the validity and reliability are important in the data collection instrument. Prior to the real study, a pilot study which involved 12 final year nursing students of Universiti Sains Malaysia had been done to ensure the reliability of the questionnaire. The Cronbach's alpha for each domain were calculated. The Cronbach's alpha for knowledge domain and attitude domain were 0.782 and 0.703 respectively. The pilot study was important to know that the questionnaire is easy to understand and answer. This aim of pilot study was to test the Cronbach's alpha in each of the item that use in instrument.

3.6 Ethical Consideration

Ethical approval was sought from the Research Ethical Committee (Human), USM. Permission for collecting data was obtained from Dean School of Health Sciences, USM. The approval letter to use a questionnaire: Pediatric Nurses' Knowledge and Attitudes Survey Regarding Pain (PNKAS) was obtained from Manworren (2001).

Furthermore, consent forms were asked to be sign by all of the participants who were willing to participate after they have been explained the purpose and objective of

the study by the researcher. It is also important in informed the participants that their involvement in this study is entirely voluntary. The involved, their right to discontinued from the study and all information collected from participants will be kept confidential, anonymous and only be used for academic purpose.

3.7 Data Collection Plan

Once the approval was granted from the academic and ethical department, data collection resumed as the next stage of study using structured questionnaires with the final year nursing students studying at School of Health Sciences, USM as the respondents. The researcher explained the study and obtained the consent of the respondents to complete the survey. Researcher distributed the questionnaire, information sheet and consent form to the respondents and they were given 20 minutes to complete the questionnaire. Upon completion, the questionnaires were collected by the researcher. A flow chart of data collection is illustrated in Figure 3.1.

3.7.1: Flow Chart of Data Collection

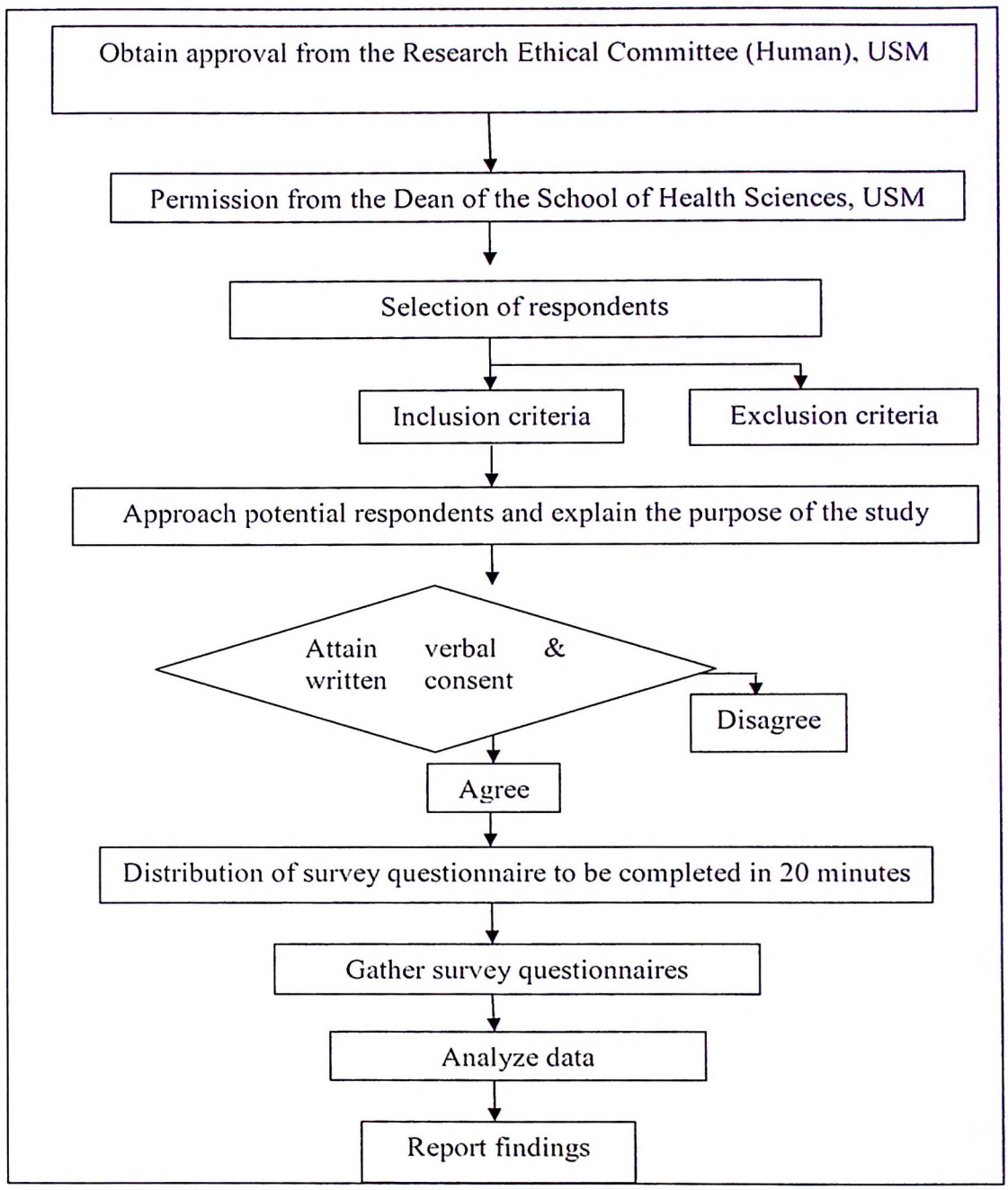

Figure 3.1: Flow chart of data collection

3.8 Data Analysis

Data gather are process by using Statistical Package for Social Science (SPSS) software, version 20.0 for Windows was used to analyses the data including descriptive and statistical tests as follows :-

Objective 1: To identify the knowledge level of final year nursing students towards pediatric pain at School of Health Sciences, USM

For deferential statistics will be used:-

- Frequency, percentage, mean and standard deviation

Objective 2: To identify the attitude level of final year nursing students towards pediatric pain at School of Health Sciences, USM

For deferential statistics will be used:-

- Frequency, percentage, mean and standard deviation

Objective 3: To determine the association between the social demographic data (clinical experience and educational level) with the knowledge toward pediatric pain among final year nursing students in USM.

For the inferential statistic will be used:-

- Independent t-test use to investigate association between demographic data (clinical experience and level of education) with the level of knowledge.

Objective 4: To determine the association between demographic data (clinical experience and level of education) with the level of attitude.

For the inferential statistic will be used:-

- Independent t-test use to investigate association between demographic data (clinical experience and level of education) with the level of attitude.

CHAPTER 4

DATA ANALYSIS AND RESULTS

4.1 Introduction

This chapter reported the results and data analysis including the socio-demographic data (clinical experience at pediatric unit and current level of education), level of knowledge and attitude toward pediatric pain among final year nursing students at School of Health Sciences in Universiti Sains Malaysia (USM) and the association between socio-demographic data with knowledge and attitude score of final year nursing students towards pediatric pain.

4.2 Demographic Characteristics

The study sample consists of final year nursing students at School of Health Sciences, Universiti Sains Malaysia (USM). A total of 106 questionnaires were sent out to the nursing students in School of Health Sciences, USM, and 100 (94.3%) were returned. Table 4.1 shows the socio-demographic characteristics of the respondents.

The respondents were categorized into two groups of level of education. They were 72 (72%) of student nurses currently studying on Diploma of Nursing and 28 (28%) are currently studying on Bachelor of Nursing at School of Health Sciences, USM.

Majority of the respondents 72 (72.0%) do not have clinical experience at pediatric unit. All of them were diploma nursing students. The remainder 28 (28.0%) of the respondents, that is bachelor nursing students had their clinical experience at pediatric unit.