

# *An Exploratory Study of Nurse's Belief and Knowledge About Pain Management for Conscious, Trauma Adult Patient in Emergency Department of Vietduc Hospital*

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## Abstract

**Purpose:** Nursing care quality is depending on the knowledge and clinical practicing skill. VietDuc Hospital (VietDuc), one of the biggest centers of surgery and trauma in Vietnam with the large proportion of trauma patients visiting the hospital every day, however at present, official pain assessment and management is not available in all departments including the Emergency Department (ED). The patient's pain is therefore not managed effectively, resulting high morbidity and mortality due to trauma. Thus developing an acute pain management procedure for conscious adult trauma patients in the ED of Viet Duc is recommended. Aim of this study is to explore nurse's knowledge about pain assessment and management for trauma patients through the tool of acute pain management from ICSI which proposed to implement it to nurse work in the ED of Viet Duc.

**Material and Methodology:** The research design was based around the first cycle of action research for an exploratory study using standardized open-ended interviews to explore the views of 20 nurses who were selected purposively for interviews on the ward.

**Results:** Among 20 participants over 2 years of working experiences on trauma care who involved in this study, they all presented the knowledge on the affect of pain to the trauma patient. However, almost participants had limited experiences on acute pain assessment and management properly. Additionally, none of nurse participated in the study has been trained on acute pain management. All participants were provided evidences and acute pain management guideline from ICSI. It was highly appreciated as they considered it as an easy and reliable pain tool to assess patient pain as well as to guide appropriate pain management.

**Conclusions:** The acute pain management is one important part of the ED nurse daily work at VietDuc, however, the guideline on acute pain assessment and management is not available at present. Developing the guidelines and providing training course on acute pain management for ED nurses are necessary which to improve the quality of pain management for trauma patients and to help the nurses in their daily work effectively.

**Key word:** Pain definition, pain tool or measure acute pain, pain management by emergency nurse.

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## INTRODUCTION

The Health Environmental and Management Agency of Ministry of Health has reported recently near 20,000 deaths annually in Vietnam due to injury, mostly caused by related- traffic accident. The pre-hospital care is not properly as the one of the main factors regarding the high mortality and morbidity. Despite the efforts of Government to reduce this rate in the past years, however the health care in Vietnam is still facing the challenges such as overload patients in high level hospital, the quality of pre-hospital care is not match with the needs including the quality of the health workers who care the trauma patients<sup>1</sup>.

Since pain is such a universal condition, there has been much research and many guidelines developed to facilitate the improvement of assessment and management of patients' pain, especially for trauma patient<sup>2,3</sup>. However in Vietnam, there is still insufficient knowledge regarding pain management and as yet there are no official guidelines for pain management for nurses. To date there is no professional organization responsibility for pain management, especially for trauma care. In addition, the study of pain management is not seen as a high priority with the result that pain assessment and control is inadequate.

As one of the biggest surgical centers in Vietnam, VietDuc treats about 35,000 trauma patients per year, that means about 100 trauma patients visiting the hospital daily<sup>4</sup>. It has not only the highest level of specialty for surgical patient care, but also provides care for almost all types of surgical and trauma patients in the surrounding area in the northern part of the country. Of them, many patients need the pain management effectively as the first step of trauma care. However, there is no official pain management guideline to help health care workers in the assessment and management of pain in all areas of the hospital as with most centers in Vietnam, assessment and management of pain receives limited attention. We have conducted the study "*An exploratory study of nurse's belief and knowledge about pain management for conscious, trauma adult patient in Emergency Department of VietDuc University Hospital*" aiming to explore the nurse's knowledge about pain assessment and management to development guideline for acute pain management in the ED of VietDuc in order to improve the quality of patient care of nurses, especially to trauma patients.

## MATERIALS AND METHODS

The study was conducted at ED of VietDuc during the period of July to November, 2010.

### 1. Participants:

Twenty ED nurses were selected to participate in this study. The breakdown of these participants was as follows:

- Two clinical leading nurses who monitored and facilitated all ED nurses in clinical practice as well as empowering nurses.
- Five leaders of 5 working-shift groups who were highly experienced ED nurses. They are also the leading person in each group.
- Four other bachelor nurses and 5 college nurses who had working experience of 2 or more years; 4 nurses were with 2 years of school training or 4 years of working experience. The exploration of their opinions and knowledge about pain management would contribute significantly to the research results.

### 2. Methods and data collection:

The interview with open-ended questions (answer right or wrong) where participants could express their own opinions and perspective was used<sup>4,5,6</sup> together with the guidelines of ICSI (Institute for Clinical System Improving 2008)<sup>8</sup>. The pain management guidelines were divided into 5 parties with 26 questions based on conceptualization of pain management and panels of acute pain management such as assessment; management, evaluation, document, applicability of pain management.

Twenty participants were coded by number from participant 1 (p1) to participant 20 (p20) to keep their anonymity and confidential information. All responses from the interview questions from each participant were numbered from 1 to 25. At the beginning, the data of two initial interviews was transcribed for checking by each interviewee before going on to the next interview. The result of the first two interviews were double-checked to see if the feedback from the above transcript was accepted, then all other interviews were checked and voice recording data was transcribed, particularly, those participants who were asked the one additional question to fill the gap of information from previous interviews and numbered 26.

Participants were provided with information for the interview a couple of days in advance. All participants were given 5-10 minutes to read the brief content of acute pain management from ICSI at the final part of

the interview and then they finished their interview. The responses from the interviews have been noted and recorded, combinations of typical, specific, tour, task, extension, encouragement, and example questions provided opportunities for extensive exploration of the setting and activities. The tried application of both pain management guidelines and pain assessment tools were also taken in the same time to the conscious, adult trauma patient. Feedbacks from participants were noted.

### 3. Data analysis:

All steps in analyzing interview data used in this study were based on those from authors such as Notter, Stringer and Polit.<sup>5,7,9</sup> And then after it was analysed by statistic program SPSS.13.0

## RESULTS

### 1. Point of view and knowledge of nurses on pain management.

## DISCUSSION

### 1. Pain assessment:

Pain is the most common reason patients seek care in ED, within the USA as many as 70% of patients having pain as part of their presenting complaint<sup>10</sup>. Findings of Tanabe' study shown a prevalence of pain of 78% among 203 patients who examined in the ED<sup>11</sup>. A study of 450 trauma patients treating in one trauma centre in Netherlands found that pain was present in 91%<sup>12</sup>.

Pain is an unpleasant sensory and emotional

experience related to actual or potential tissue damage. Pain can affect anyone, no matter what age or gender. Pain impacts everyday living and can significantly reduce the quality of life for those who are suffering.<sup>16</sup> Since pain is such a universal condition, there has been much research and many guidelines developed to facilitate the improvement of assessment and management of patients' pain. On an international level, there is increased awareness and understanding of the declaration that "The Relief of Pain should be a Human Right"<sup>11</sup>.

Pain management is effective if its assessment was taken carefully. Therefore, all patients need to be assessed initially and then reassessed periodically for pain and their response to interventions; and such assessments should be linked to assessment of other vital signs<sup>13,14,15</sup>. According to IDSI guideline 2008, the assessment of pain includes an interview with patient or responsible caregiver, and a clinical exam as medical history: history of present illness, current medications, medication allergies, past medical history, social history. Pain history: onset, duration, quality, character, ameliorating and provoking factors, patient rating of pain. Clinical physical exam comprises: observation of response to pain: e.g. rubbing a particular area, guarding, facial expression at first to part of body or region in pain. Pain assessment should determine: location, patterns/ variations, alleviating factors, aggravating factors, current and past relief measures and effectiveness, impact on daily life, and pain goals. Pain assessment also needs to identify the etiology and mechanism<sup>14,16</sup>.

**Table 1** General point of view on acute pain management

No.	Responses	N	%
1	Could you tell me which group of trauma patients suffered the most pain? How about acute pain management in the ED • Right answer • Wrong answer	20 0	100
2	How do you assess the pain? • Right answer • Wrong answer	5 15	25 75
3	How does acute pain affect the ED patient? • Right answer • Wrong answer	10 50	10 50

**Remarks:** Almost gave the right answers to the questions: Could you tell me which group of trauma patients suffered the most pain? How about acute pain management in the ED and how does acute pain affect the ED patient? However few gave the right answers on questions: How do you assess the pain correctly? as above results.

**Table 2** Concept of pain and pain assessment

No.	Knowledge	N	%
1	What is the concept of pain <ul style="list-style-type: none"> <li>• Right</li> <li>• Wrong</li> </ul>	18	2
2	What information do you need to assess the patient's pain? <ul style="list-style-type: none"> <li>• Right</li> <li>• Wrong</li> </ul>	90	10
3	In measuring the intensity of pain for a conscious adult patient, what pain scale should you use in assessing pain in an ED setting? <ul style="list-style-type: none"> <li>• Right</li> <li>• Wrong</li> </ul>	15	5
		75	25
4	If you choose a specific pain scale, please tell me why you choose this? <ul style="list-style-type: none"> <li>• Right</li> <li>• Wrong</li> </ul>	3	10
		15	85
4	If you choose a specific pain scale, please tell me why you choose this? <ul style="list-style-type: none"> <li>• Right</li> <li>• Wrong</li> </ul>	2	18
		10	90

Notes: Very few knew about the pain management tool as well as its use

**Table 3** Pain management

No.	General knowledge	N	%
1	After assessing a patients' pain, what should the nurse do to manage it? <ul style="list-style-type: none"> <li>• Right</li> <li>• Wrong</li> </ul>	20	100
		0	0
2	What should be the play role of the nurse in management of pain in the ED context? <ul style="list-style-type: none"> <li>• Right</li> <li>• Wrong</li> </ul>	5	25
		15	75
3	After assessing pain, depending on the various intensity of pain, tell me what a nurse should do first in managing pain? <ul style="list-style-type: none"> <li>• Right</li> <li>• Wrong</li> </ul>	10	50
		10	50
4	Could you tell me all potential non-medication interventions that could be used by the nurse to reduce pain in the ED? <ul style="list-style-type: none"> <li>• Right</li> <li>• Wrong</li> </ul>	13	65
		17	35
5	What kinds/ type of analgesic can be used for pain relief in the ED? <ul style="list-style-type: none"> <li>• Right</li> <li>• Wrong</li> </ul>	19	95
		1	5
6	What did the nurses monitor for opiate mediation for the patient? <ul style="list-style-type: none"> <li>• Right</li> <li>• Wrong</li> </ul>	4	20
		16	80
7	Could you tell me what the nurses should monitor in the administration of steroid analgesics? <ul style="list-style-type: none"> <li>• Right</li> <li>• Wrong</li> </ul>	4	20
		16	80

**Table 4** Evaluation

No.	Evaluation	N	%
1	Could you tell me when and how frequently a nurse should re-assess pain? <ul style="list-style-type: none"> <li>• Right</li> <li>• Wrong</li> </ul>	20	100
		0	0
2	What are the benefits of pain re-assessment? <ul style="list-style-type: none"> <li>• Right</li> <li>• Wrong</li> </ul>	5	25
		15	75

Remarks: Almost nurses do not know about the benefits of pain re-assessment.

**Table 5** Document of pain management

No.	Documentation	N	%
1	What and how did you record the information about pain management in the ED?		
	• Right	1	5
	• Wrong	19	95
2	What are benefits of recording the information of pain management?		
	• Right	20	100
	• Wrong	0	0

**Remarks:** All of them knew well that the information was useful for pain management, however few of them could collect it correctly into the patient records.

**Table 6** Comments on applicability of the pain management guideline from ICSI

Applicability of the pain management guideline	N	%
Good and applicable	10	50
Should be revised before application	9	48
Unable to be used	1	2

**Remarks:** almost agree that this guideline could be applied if revised to be suitable

### Analgesic medication

Once the level of pain has been assessed, an appropriate measure is needed to indicate the analgesia. A commonly used format was developed by the World Health Organization. They developed the analgesic ladder which places the various possible analgesics in an ascending order or "Ladder" that helps nurses know where each available medication fits with others in the analgesic spectrum (figure 1).

In general, all available analgesics in ED are

prepared based on the category of trauma patient's care. The medications used commonly in ED for trauma patients are comprised of non-opioid analgesics (NSAIDs and acetaminophen); Opium and adjuvants (co-analgesics)<sup>17</sup>.

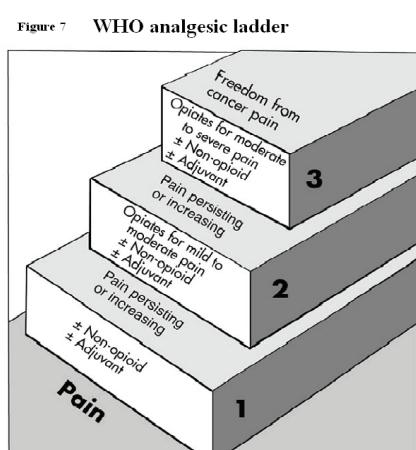
### Non-medication

The injured patient usually experiences not only pain, but other feelings such as fear, anxiety, guilt, loss of loved ones or loss of body parts, all of which can affect the interpretation of pain and subsequently its management. In the ED setting, proper patient's oxygenation reduces anxiety and relieves pain. Use of non-analgesic measures could help alleviate pain, including splints in case of fracture or stabilization of trauma patients on beds<sup>18,19</sup>.

Other non-medication can be used to assess pain such relaxation, intentional strategies, hypnosis, behaviors interventional or behaviors change. Those include physiotherapy and chiropractic, or ice-bag embroating. Additionally trans-cutaneous electrical nerve stimulation and acupuncture are seen as other non-medication interventions<sup>20</sup>.

### 2. Tools of pain measurement:

There are many pain scales for measuring intensity of pain but it is fit to the patient's condition. To develop an acute pain management procedure for conscious adult trauma patient it was necessary explore the feasibility of pain scales. Reviewing 164 articles regarding pain management we found that single item ratings of pain intensity are valid and reliable measures of pain intensity. The most commonly used one-dimensional pain scale is the Numeric Rating Scale (NRS). The scale is made up of a horizontal line with the beginning point marked 0, or "no pain" and the opposite end marked 10, or "worst possible pain".

**Figure 1** Analgesic Ladder

Patients are asked to rate their pain from 0 to 10, choosing the number that best represents the intensity of the pain they are experiencing. Generally, the pain in the 1-3 range is considered mild pain, 4-6 indicates moderate pain, and 7-10 is the highest level, or severe level, of pain.<sup>16</sup> This scale is useful for assessing efficacy of pain interventions<sup>16,21</sup>. Bijur et al. found that the verbally administered NRS can be substituted for the visual analogue scale (VAS) in acute pain measurement, because NRS scores were strongly correlated to VAS scores at all time periods under their study of comparing validity of NRS with VAS in ED setting<sup>22</sup>.

Nurses have to show the following information in assessment of pain: to observe the general condition such as patient's grimacing face; crying, complaining, panic sweating.. to ask patient and their relative about the pain, mechanism of trauma and pain; to exam trauma location, fracture, wound sites and vital signs: pulse and blood pressure. Based on study results, we conclude use of the numeric pain scales with continuum from 0-10 points that the pain in the 1-3 range is considered mild pain, 4-6 indicates moderate pain, and 7-10 is the highest level, or severe level of pain.

### ***3. Point of view and knowledge of nurses***

Point of view and knowledge of nurses about pain assessment and management for patients and their appraisal of the applicability in acute pain management from ICSI for conscious, adult trauma patients in the ED.

All the interview questions were set up systematically, starting with questions for participants to explore their pain issues and the effect of pain on trauma patients in their ED context; the questions are to explain the participants' current pain practice and perceptions that include assessment, management, documentation and reassessment. These questions led participants to go over not only all the available pain knowledge that they learned within experienced patient care but actual current pain practices. This led to motivating the participants to explore how they could learn more about pain practice and what they should do to improve pain practice in the ED setting. Through these questions, and face to face contact with the interviewer, participants were able to show their limitations as well their strong points in management of pain for trauma patient in the ED. They felt that there was insufficient organization, personnel,

equipment and drugs that led to inadequate pain practice in the ED setting. The final point that we learned through the questions was to realize that the nursing staff had different levels of knowledge that more education, training and guidelines was needed for pain management practices to function efficiently in the ED setting at VietDuc as above results.

The participants agreed that guidelines of acute pain management were particularly helpful. The guidelines from the Australian and New Zealand College of Anesthetists and Faculty of Pain Medicine as applied for anesthetists, and the ICSI guideline which is suitable for all health providers including nurses.<sup>8,20</sup> Initially in the previous questions, each participant explored any gap in pain information and specific knowledge which they needed to learn to improve their training. Then after learning the latest knowledge about pain, they would give additional recommendations or suggestions to improve their pain management practice. This helped the nurses to better understand what they need to learn and how to improve their knowledge in their daily work on pain management.

Reflection on developing an acute pain guideline The ICSI acute pain management guideline is a general one that guides all health care providers who practice pain management and it does not fit to all situations. Therefore the guideline is difficult or impossible for nurses to apply in the ED of VietDuc. So through the study, we would reflect on the process to modify systematically and scientifically this guideline.

The ICSI guideline was appraised by the ED nurses, they felt that it was too long and difficult to remember and practice. Consequently, based on the ED context, and the varied background and limited knowledge of the nurses, it became apparent through their responses, and the implications from this study, that the acute pain management from ICSI needed to be modified to make it workable for the nurses in the ED setting of Viet Duc.

## **CONCLUSIONS AND RECOMMENDATIONS**

Exploring the ED nurses' opinion and knowledge about pain management showed that the most of the ED nurses have no experience with acute pain assessment and management. Additionally, nobody has been trained in acute pain management. And in

their interviews it became apparent that they highly appreciated the brief content of an acute pain guideline from ICSI. On the other hand, the study participants did show that a lack of personnel, materials, equipment, analgesic medications and manuals for acute pain management have an adverse impact on proper pain management.

As pain management is one important part of the ED work so it should be improved to assist the nursing staff working effectively in treating trauma patients. Thus, we would like to recommend:

- To develop guidelines on acute pain management for trauma care at ED nurses level.
- To apply the job in ED, nurses should be trained in acute pain management as well.

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