

Pain Survey: Perspectives and Practices of Doctors and Nurses. How Much Have We Progressed?

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ABSTRACT

Objective: To assess knowledge, current practice, and attitude of doctors and nurses towards pain management in Siriraj Hospital.

Methods: After IRB approval, a questionnaire was distributed to 300 doctors and 382 nurses working in the Departments of Anesthesiology, Medicine, Obstetrics and Gynaecology, Ophthalmology, Orthopedics, Otolaryngology, Radiology and Surgery.

Results: The response rate was 93.3% and 89.8% from doctors and nurses, respectively. Doctors (77.9%) and nurses (68.2%) replied that their aim of pain treatment was to eliminate pain without complications. The most common order for analgesics was “as needed (p.r.n.)” (61.6%). They reasoned that they thought it was appropriate (75.4%), for patient safety (60.7%), and they were trained in that way (43.9%). When the patients who had no prescription for pain asked for analgesics, 87.2% of the nurses would call the doctor to ask for medicine, and 2.9% of them would wait for the presence of doctors on the wards. There were 37.9% of the doctors and 28.0% of the nurses who were reported to have seen patients with serious side effects (drowsiness, hypoventilation) which were usually from opioids. The common analgesics given by both doctors and nurses were paracetamol, NSAIDs, tramadol, COX-2 inhibitors, morphine and meperidine. A few doctors (5.7%) and nurses (2.9%) still believed that the pain treatment in Siriraj Hospital was inadequate. They suggested that the care could be improved by giving more education on pain medications and the methods to use them safely. This, together with changing their attitude towards the aim of pain treatment would improve patients’ need on the basis of safety.

Conclusion: Though our personnel had good attitude towards pain management, their practice seemed inadequate. Consequently, the education of both doctors and nurses should be continued.

Keywords: Attitude, pain management

Siriraj Med J 2015;67:101-107

E-journal: <http://www.sirirajmedj.com>

INTRODUCTION

Through previous decades pain has always been said to be underestimated and undertreated. The International Association for the Study of Pain (IASP) has campaigned on “Pain relief as a human right”. The international

group Sans Doleur “Together against pain” also campaigned on “Towards a pain-free hospital”. Its aim is to improve the alleviation of pain in hospitalized, home and hospice-based patients who are suffering from cancer, illness or other painful treatments worldwide.¹ Though the problem is in the spotlight, the goal has still not been reached. The incidence of pain in hospitalized patients is between 37.7-78.6%.²⁻⁴ There are several barriers to the success of complete pain relief such as workloads, budgets and health care personnel’s

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Received 16 July 2014

Revised 27 December 2014

Accepted 7 January 2015

attitudes to pain management, especially on administering opioid medication, and also the patient's own attitude.

Our hospital recognizes that inadequate pain relief is one of the leading problems in taking care of patients. In 1986 and 1996, the incidences of pain in our inpatients were 53.7% and 64%, respectively.^{5,6} In 1991, a pain unit was set up in our hospital which has looked after mostly chronic cases on both inpatient and outpatient bases. With continuous concerns on treating pain in our hospital, the acute pain service (APS) was established in 2006. However, the services have not yet covered every single postoperative patient. The APS takes care of some of the patients who undergo major surgery, such as abdominal surgery, thoracotomy and total knee or hip arthroplasty. They also provide education concerning acute pain management to anesthesia and surgical residents together with nurses.

The objective of this study was to assess doctors' and nurses' knowledge, attitude and practice in pain management in Siriraj Hospital and to compare this with the previous studies.

MATERIALS AND METHODS

This was a prospective descriptive survey conducted at a tertiary care university hospital, with around 2,200 beds, in Thailand. The study was approved by our institutional review board. The questionnaire was developed based on 2 previous studies in our hospital. It was piloted in 10 personnel to ensure validity. Following this pilot some misunderstandings were corrected. The questionnaire was sent by cluster sampling by Department to the 300 doctors and 382 nurses working in the Departments of Anesthesiology, Ophthalmology, Otolaryngology, Obstetrics and Gynaecology, Medicine and Radiology during August and September 2009. Four weeks after the first circulation, the total amount of response rate was checked. If not all questionnaire receivers responded, the questionnaire was distributed again to all original receivers, with a letter notifying them not to respond if they had already done so. The research was stopped 2 weeks thereafter. Our main question was "What is your aim of giving

pain medication to the patient?" (Select only 1 answer). The choices were the pain was relieved 1) totally without complications, 2) by half, 3) to a tolerable level, and 4) only when it was very severe for patient's safety. We considered that the best attitude of the pain treatment was to relieve pain totally without complications.

Statistical analysis

The descriptive data have been presented as number (percentage) and compared using Chi-square test. We used SPSS version 13.0 for Windows (SPSS, Chicago, IL, USA) for data analysis.

The sample sizes were calculated based on the responses of the doctors and nurses who chose the best answer from the study in 1996⁷ with 5.5% error, 95% confidence interval and 20% dropout. The sample sizes of 300 doctors and 382 nurses were needed.

RESULTS

The numbers of respondents for doctors and nurses were 280 doctors (93.3%) and 343 nurses (89.8%), respectively. Most of them had working experience no more than 15 years (Table 1).

The numbers of doctors and nurses who chose the answer that we considered the best were 77.9% (95% CI = 0.726-0.823) and 68.2% (95% CI = 0.631-0.729), respectively (Table 2).

The percentages in this study were significantly higher than in the previous studies except that from the doctors in 1996 and 1986.

According to the specialty, most of the doctors (70.7-91.4%) had the best attitude with the lowest number in the obstetricians and gynecologists (50%) (Table 2). The differences were significant among the specialties ($p=0.004$). The nurses working in Radiology and Obstetrics & Gynaecology wards chose this answer 28.6% and 58.2%, respectively, which was significantly different from the others ($p=0.001$).

According to their work experience, there were no significant differences among the doctors ($p=0.47$). However, in the nurses with less than 7 years' work experience showed the lowest number which was significantly different from the other

2 groups ($p=0.002$) (Table 2). This was different from the 1996 study⁶ which demonstrated no significant difference among the work experience in both doctors and nurses.

In this study we found that the most common pain medications that were prescribed and given to the patients were nonsteroidal anti-inflammatory drugs (NSAIDs), paracetamol,

tramadol, cyclooxygenase-2 (COX-2) inhibitors, morphine and meperidine. In the 1986 study, both tramadol and COX-2 inhibitors were not available, as well as tramadol in the 1996 study (Table 3).

The most common mode of pain treatment orders as rated by doctors (62.1%, 95%CI 0.563-0.676), was “as needed (p.r.n)”, which was decreased from the previous studies (Fig 1). Their

TABLE 1. Distribution of the respondents.

	Doctors	Nurses
Department		
Anesthesiology	41 (14.6)	0
Medicine	90 (32.1)	83 (24.2)
Obstetrics and Gynaecology	22 (7.9)	79 (23)
Ophthalmology and Otolaryngology	30 (10.7)	38 (11.1)
Orthopedics	16 (5.7)	21 (6.1)
Radiology	28 (8.2)	7 (2)
Surgery	58 (20.7)	115 (33.5)
Work experience (years)		
< 7	158 (56.4)	120 (35)
7-15	71 (25.4)	126 (36.7)
> 15	51 (18.2)	97 (28.3)

Values presented as number (%)

TABLE 2. The percentage of doctors and nurses whose answers we considered the best.

	Doctors	Nurses
The year of study		
2009	77.9	68.2
1996	74.1	49.2
1986	50.8	23.3
p-value	0.004	0.001
Department (2009 data)		
Anesthesiology	70.7	-
Medicine	77.8	60.2
Obstetrics and Gynaecology	50	58.2
Ophthalmology and Otolaryngology	86.7	81.6
Orthopedics	77.9	90.5
Radiology	73.9	28.6
Surgery	91.4	74.8
p-value	0.004	0.001
Work experience (years, 2009 data)		
< 7	78.5	56.7
7-15	73.2	71.4
> 15	82.4	78.4
p-value	0.47	0.002

Values presented as percentage

TABLE 3. Types of analgesics prescribed to the patients.

Drugs	Doctors			Nurses		
	2009	1996	1986**	2009	1996	1986**
NSAIDs	98.6	88.8	5	74.9	34.5	5
Paracetamol	97.9	99.1	1	95.3	95.9	1
Tramadol	96.4	77.6	NA	89.8	79.2	NA
COX-2 inhibitors	92.9	No	NA	59.5	No	NA
Morphine	91.1	97.4	3	90.1	92.9	2
Meperidine	87.9	97.4	2	91.8	92.9	3

*Values presented as percentage, NA = drug not available at the time of the study.

** Ranking by the common prescribe drug.

reasons for such order were that they considered it was the appropriate mode (75.4%), for patient safety (60.7%), and they were trained to prescribe in this way (43.9%). For the knowledge of the analgesics techniques, more doctors and nurses in this study than in the previous studies knew about the intravenous continuous infusion, intravenous patient-controlled analgesia, continuous or intermittent epidural analgesia and patient-controlled analgesia epidural analgesia (Fig 2).

For the answer to the question “How high is the confidence which you have in taking care of postoperative pain?” Most of the doctors who were involved in the care of postoperative patients had high confidence. Nevertheless, not many doctors had very high confidence (Fig 3).

To the question about when a patient asked for pain treatment, but no analgesics were prescribed, 51.6% (95% CI = 0.463-0.568) of nurses would refuse to give analgesics. The number was decreased from the study in 1996 (79.1%). In this study, they gave reasons for not giving analgesics because there was no order (70.6%) and the time schedule was not reached yet (65.9%). When

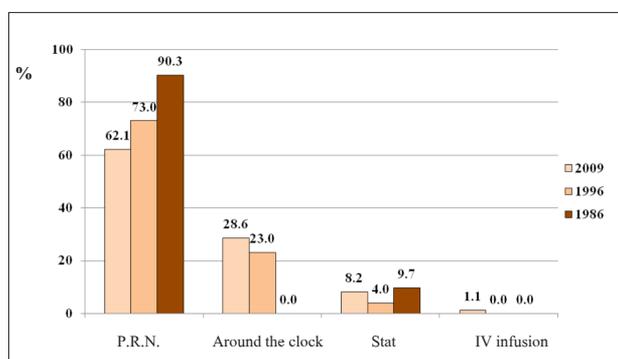


Fig 1. Modes of treatment that were used in the three surveys.

the patients have pain and no analgesic was prescribed, 87.2% of the nurses would call the doctor and ask for treatment instructions. Some nurses would give paracetamol if they believed it was safe (9.9 %) or they would wait until the doctor were present on the wards (2.9%).

There were 38.9% of the doctors and 28% of the nurses who replied that they had seen patients

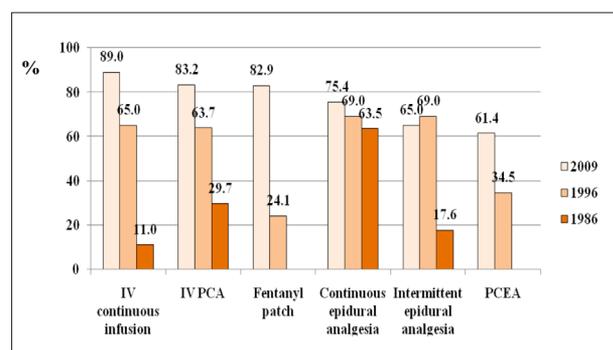


Fig 2. Analgesic techniques that were known to or used by doctors in the three surveys.

IV = intravenous, IV PCA = intravenous patient-controlled analgesia, PCEA = patient-controlled epidural analgesia.

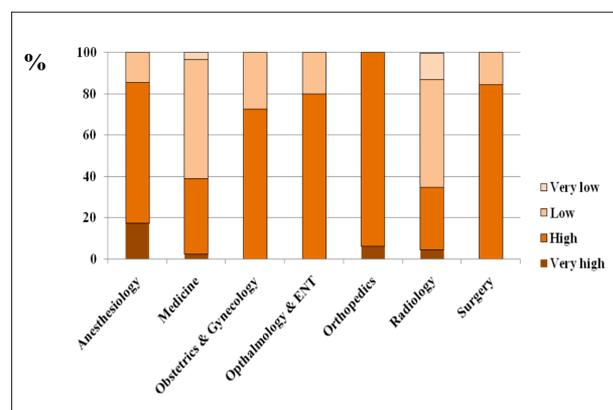


Fig 3. The degree of confidence to treat pain by the doctors in different specialties.

with suspected respiratory depression (drowsiness, hypoventilation) from opioids, which was less than the 2 previous studies.

For the pain management in our hospital, 54.6% of the doctors and 65.9% of the nurses believed that it was better than other hospitals with the reasons that the hospital had both acute and chronic pain units, together with many pain management protocols, while 5.7% of the doctors and 2.9% of the nurses believed that our pain treatment was not good enough. They suggested that we can improve our care by giving more education on pain medications and how to give them safely.

DISCUSSION

This study demonstrates that more doctors and nurses in our hospital had good attitude in pain management than in the past. In our study, the percentage of the best answer from both groups was 72.6%. The result from a study in Italy showed only 64% of both doctors and nurses who correctly answered to the question "It is a patient's right to expect total pain relief as a consequence of treatment".⁸ When we focused on the doctor group, the percentage of the best answer was 77.9%. The results of the answer were increased by the years of work experience. Our result was in between the other studies. The result from a survey of physicians in Texas reported that only 64% of the respondents answered correctly,⁹ while another survey of the knowledge of residents who attended the 4th National Congress of Medical Oncology in Italy demonstrated that 88% of the respondents answered correctly.¹⁰

In the nursing group, an increasing rate of good attitude with the work experience was demonstrated, but it was unexpectedly lower than the results from previous studies.^{7,11} Sloman R et al.,¹² studied nurses' knowledge of pain management in elderly patients and they found that the percentage of correct responses to the same question as ours was 85.7%. A report from another study in nurses done by Brunier G, et al.,¹³ showed that only 28% of the responses strongly agreed with the statement "Patients have a right to expect total pain relief as a goal of treatment", while most of the

nurses (68%) in our study agreed with this item. However, only 44% of the nurses in the study of Clarke EB, et al., answered the question "Patients should expect total pain relief as a goal", correctly.¹⁴

When one looks at the clinical specialty areas, our study has demonstrated that the attitudes towards pain management of the nurses working in surgical wards were much better than those from the non-surgical wards. The result was similar to the studies of Sloman R, et al.,¹² and Tse MM, et al.,¹⁵ which also showed higher correct responses from the acute surgical group than the general ward. The reason for the better result in our study could be explained by the training of the acute pain unit which had provided refresher courses in acute pain management to more than 1,000 nurses in surgical wards. This improvement could also be a result of the continuing education program. Lin PC, et al.,¹⁶ also demonstrated in a quasi-study that 15-hour continuing nursing educational programs in pain management could promote improved knowledge. Among the medical specialists, the obstetricians and gynecologists had the lowest correct response rate. This may be due to our practice that labor patients receive intravenous opioids on a p.r.n. basis. Our patients normally do not receive continuous epidural analgesia for labor pain relief like those in the Western countries. Therefore, the attitude of our obstetricians may be influenced by their routine practice.

Though the Faculty of Nursing in our university has provided only a 3-hour lecture course in pain management for the nurse students since 2008, the number of nurses with work experience less than 7 years still showed the lowest percentage in choosing the best answer. Another reason may be because our acute pain unit has provided only a 4-hour lecture and a 3-hour pain workshop for all the nurses from the surgical wards.

We could show that our personnel now knew more about the new more complex pain relief techniques and new drugs currently used in pain treatment such as NSAIDs, COX-2 inhibitors, PCA, PCEA, continuous and intermittent epidural analgesia. Nevertheless, doctors still know more than the nurses.

The most common reason when the nurses refused to give pain medication was “no prescription” (70.6%). However, this percentage was higher than the result from the study by Cook L et al., which was only 55%.¹⁷ This could be improved by educating our doctors about pain management. Though the p.r.n mode was less in this study compared to our previous studies, it was still the most common pain treatment order (61.6%). This showed that doctors’ practice did not coincide with their attitude. However, more continuous techniques such as around the clock and intravenous infusion were being prescribed. Opioids are generally effective and safe for patients with acute pain, cancer pain, and several selected forms of chronic pain. Safe use is aided by individualized dosing, titration to clinical effect, proper observation of clinical signs of side effects, and appreciation of pharmacokinetic, pharmacodynamic, and disease-related factors that modify risk. Two elusive goals of ongoing research include development of opioids with a wider safety margin and development of more convenient methods of respiratory monitoring.

Nurses usually do not want to give opioid medication to patients due to their awareness about complications, such as over sedation, respiratory depression and even addiction.¹⁸ This problem can be overcome by adhering to the standardized protocols in pain management to help ensure that it remains a safe method. However, the best way is to incorporate pain management and substance abuse education into basic nursing programs.

Our study demonstrated that doctors had more knowledge about pain management than the nurses. This result is in line with the results from the study of Coulling S.,¹⁹ They showed that doctors had more knowledge in pharmacology than nurses. However, the nurses had more knowledge on assessment and delivery systems as well as certain clinical skills.

Medical education improves attitude towards the use of opioids in pain management, but not to a very great extent. This was demonstrated by Weinstein SM et al.,²⁰ when they compared the attitudes amongst medical students between their freshmen and senior years. They found that those seniors expressed more willingness to prescribe to control pain in the terminally ill patient and

had less fear of inducing drug addiction than the freshmen. However, more than half of them were still worried about the addiction risks. Therefore, improvement of knowledge has to be done through many pathways, such as improving curriculums in the medical and nursing school.²⁰ We should continue the educational courses for specific groups, such as postoperative pain, cancer pain, and even for geriatric and pediatric pain. Educational materials and guidelines should also be provided and easily accessible through books and the internet/intranet. Medical personnel should keep themselves updated about advancements in pain medications and techniques.

As the administrators of our hospital are becoming more concerned about patients’ pain relief, so the acute pain service unit was established in 2006, consisting of an anesthesiologist, a nurse, 2 rotating anesthesia residents, and a clerk. There are also rotating residents from other departments including Surgery, Orthopedics, Ophthalmology, Otolaryngology and Obstetrics & Gynaecology. The missions of the acute pain unit in Siriraj Hospital are 1) to provide postoperative pain relief to patients undergoing major surgery 2) to train the residents from the Department of Anesthesiology and other surgical fields, and 3) to provide training courses in acute pain management for nurses. The unit also provides pain workshops for surgical nurses, as mentioned above. The results from this study have supported the success of the work they have done.

The results of this study should be presented to the hospital administrators to help improve the quality of pain management in our hospital. The challenges of the hospital are to bring the practice of all of the personnel to come closer to both the optimum knowledge and the right attitude to reach the principle aim of pain management. We hope that the results of this study may help improve pain management in our hospital by prioritizing the groups of personnel in need of training. Not only are e knowledge and attitudes basic requirements for the principles of pain management, but workload is also another barrier with which the hospital administrators should be concerned. Good pain management consists of many components beginning with assessment, so pain should be regularly assessed as the fifth vital sign, which requires knowledge and skills in pain assessment

and manpower on the wards. Besides these points, new technology and pain medications can help improve and provide better care to the patients. Thus continuing education to our personnel should be ongoing to achieve the goal of “Towards a pain-free hospital”.

Study limitations

Since our questionnaire was based on previous studies investigated in our department,^{7,11} this may cause difficulties when compared with other studies which used different set of questions to explore both knowledge and practice.

CONCLUSION

The gap between knowledge and practice in our hospital’s pain management delivery is narrowing.

ACKNOWLEDGMENTS

This study was supported by Siriraj Research Development Fund, Faculty of Medicine Siriraj Hospital, Mahidol University. The authors would like to acknowledge Dr. Pramote Euasophon who also helped in researching the articles and Miss Chusana Rungjindamai for her help in preparing this manuscript. Appreciation also goes to all the participants who kindly responded to the questionnaire.

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