นิพนธ์ต้นฉบับ

Comparison of pain experiences between Javanese and Batak patients undergoing major surgery in Medan, Indonesia

Dewi Elizadiani Suza[1]
วงจันทร์ เพชรพิเชฐเชียร[2]
ประณีต ส่งวัฒนา[3]

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Dewi Elizadiani Suza, Petpichetchian W, Songwathana P.
Department of Pediatric Nursing, Faculty of Medicine,
University of Sumatra Utara, Medan Sumatra Utara, Indonesia 20155
Department of Surgical Nursing, Faculty of Nursing,
Prince of Songkla University, Hat Yai, Songkhla, 90112, Thailand
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[1]Lecturer, Department of Pediatric Nursing, Faculty of Medicine, University of Sumatra Utara, Medan Sumatra Utara, Indonesia 20155
[2]Ph.D. (Nursing), Asst. Prof. [3]Ph.D. (Nursing), Assoc. Prof., Department of Surgical Nursing, Faculty of Nursing, Prince of Songkla University, Hat Yai, Songkhla, 90112, Thailand
รับต้นฉบับวันที่ 16 กุมภาพันธ์ 2549 รับลงตีพิมพ์วันที่ 29 ธันวาคม 2549

Abstract:

The purposes of this study were to explore the pain experience of Javanese and Batak patients, to examine differences between the pain experiences of Javanese and Batak patients, and to explore the cultural beliefs/practices about pain of the two ethnic groups. The research design used in this study was a descriptive comparative design. One hundred and twenty-three patients were involved. There were sixty-three Javanese patients and sixty Batak patients. Patients were approached and interviewed to obtain information about their pain during the period 24-48 hours after surgery, using the Brief Pain Inventory-Short Form (Indonesian version) and Interview Guide, examining cultural beliefs/practices. Data were also obtained from medical records. The data were analyzed by descriptive and inferential statistics. Simple content analysis was conducted for qualitative data regarding cultural beliefs/practices.

The majority of patients in this study underwent abdominal surgery and orthopedic surgery. Both Javanese and Batak patients experienced postoperative pain at its worst at the severe level and reported postoperative pain on average and present pain (at the time of interview) at moderate level. The pain they experienced interfered to some degree with their daily activities. Pain interference was scored at the moderate level for Javanese patients and the severe level for Batak patients. Javanese and Batak patients reported significantly different pain intensity scores ($p<.001$) and all pain interference scores ($p<.01$), in which Batak patients reported higher scores.

In addition, Javanese patients described their pain as suffering, disturbing, and as a spiritual test, whereas Batak patients described it as a disturbing, discomforting, and tiring experience. With regard to culture, Javanese and Batak patients responded to pain somewhat differently. Javanese patients showed stoic responses. In contrast, Batak patients demonstrated expressive responses.

The results of this study confirm the premise that people from different cultures, particularly different ethnic backgrounds, experience pain differently. This knowledge can be applied in the clinical practice where nurses offer care to people suffering from postoperative pain or other types of pain. Concerning cultural difference and including this factor in pain assessment may contribute to better pain management outcomes.

Key words: *pain experience, Javanese patients, Batak patients, cultural beliefs*

บทคัดย่อ:

การวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาประสบการณ์ความปวดของผู้ป่วยอินโดนีเซียที่เป็นชาวชวา (Javanese) และบาตัก (Batak) เปรียบเทียบความแตกต่างของประสบการณ์ความปวดระหว่างผู้ป่วยทั้งสองกลุ่ม และศึกษาความเชื่อและการปฏิบัติด้านวัฒนธรรมที่เกี่ยวข้องกับความปวดและการจัดการกับความปวด แบบการวิจัยที่ใช้คือ การศึกษาแบบเปรียบเทียบ โดยมีกลุ่มตัวอย่างเข้าร่วมในการวิจัย 123 ราย เป็นชาวชวา 63 ราย และชาวบาตัก 60 ราย กลุ่มตัวอย่างเป็นผู้ป่วยในระยะ 24-48 แรกหลังผ่าตัด ให้สัมภาษณ์ตามแบบฟอร์มการเก็บข้อมูลเพื่อประเมินความปวดฉบับย่อที่ชื่อว่า Brief Pain Inventory-Short Form (ฉบับภาษาอินโดนีเซีย) และแบบแนวทางการสัมภาษณ์ (interview guide) เพื่อเก็บข้อมูลความเชื่อและการปฏิบัติด้านวัฒนธรรม รวมทั้งเก็บข้อมูลจากเวชระเบียน การวิเคราะห์ข้อมูลเชิงปริมาณใช้สถิติบรรยายและสถิติอ้างอิง ส่วนการวิเคราะห์ข้อมูลเชิงคุณภาพใช้การวิเคราะห์เนื้อหาอย่างง่าย

กลุ่มตัวอย่างส่วนใหญ่เป็นผู้ป่วยที่เข้ารับการผ่าตัดช่องท้องและผ่าตัดในระบบกระดูก กล้ามเนื้อและข้อ กลุ่มตัวอย่างทั้ง 2 กลุ่มมีความปวดที่รุนแรงที่สุด (pain at its worst) ในระดับรุนแรง มีความปวดโดยเฉลี่ย (average pain) และความปวดขณะถูกสัมภาษณ์ (present pain) ในระดับปานกลาง ความปวดรบกวนการดำเนินชีวิตของกลุ่มตัวอย่าง โดยพบว่ากลุ่มตัวอย่างชาวชวามีคะแนนการถูกรบกวนในระดับปานกลาง ส่วนชาวบาตักอยู่ในระดับรุนแรง การวิเคราะห์เปรียบเทียบความแตกต่างของคะแนนเฉลี่ยระหว่างสองกลุ่มพบว่ามีความแตกต่างกันอย่างมีนัยสำคัญทั้งความรุนแรงความปวด ($p<.001$) และการรบกวนการดำเนินชีวิต ($p<.01$) โดยที่กลุ่มตัวอย่างชาวบาตักมีคะแนนสูงกว่าชาวชวา

กลุ่มตัวอย่างชาวชวาให้ความหมายความปวดว่าเป็นความทุกข์ทรมาน การถูกรบกวน และเป็นการทดสอบด้านจิตวิญญาณ ในขณะที่กลุ่มตัวอย่างชาวบาตักอธิบายว่า ความปวดเป็นการถูกรบกวน ความไม่สุขสบาย และเป็นประสบการณ์ที่ทำให้เหนื่อย กลุ่มตัวอย่างทั้งสองกลุ่มมีการตอบสนองต่อความปวดแตกต่างกัน โดยที่ชาวชวามีลักษณะเป็นผู้ที่อดกลั้น ไม่แสดงออก (stoic) ส่วนชาวบาตักจะมีการแสดงออกถึงความปวดที่ชัดเจน (expressive)

ผลการศึกษานี้ ชี้ชัดว่าบุคคลที่มีพื้นฐานทางวัฒนธรรมแตกต่างกัน โดยเฉพาะมาจากเผ่าพันธ์ที่แตกต่างกัน มีหรือรับรู้ประสบการณ์ความปวดแตกต่างกัน ความรู้ที่ได้จากงานวิจัยนี้สามารถนำไปประยุกต์ใช้ในการดูแลผู้ป่วยที่มีความปวดหลังผ่าตัด โดยการคำนึงถึงปัจจัยด้านความแตกต่างทางวัฒนธรรมดังกล่าวขณะที่ประเมินความปวดด้วยเสมอ การปฏิบัติการพยาบาลโดยคำนึงถึงปัจจัยด้านวัฒนธรรมนี้ น่าจะช่วยให้ผลลัพธ์การจัดการกับความปวดมีประสิทธิภาพเพิ่มขึ้นด้วย

คำสำคัญ: *ประสบการณ์ความปวด, ผู้ป่วยชาวชวา, ผู้ป่วยชาวบาตัก, ความเชื่อด้านวัฒนธรรม*

Introduction

Pain is an individual experience that occurs throughout the lives of all people. It commonly occurs in a person who has a disease or experiences a traumatic event or injury. Like other experiences, pain occurs over time. Pain is a multi-dimensional phenomenon which is not influenced by only one factor. It has six dimensions: physiological, sensory, affective, cognitive, behavioral, and sociocultural. These six dimensions are interrelated and can influence one another.[1]

Pain, either acute or chronic, arises from many conditions, including surgery, a common cause of acute pain (physiological dimension). It has been reported that most patients with postoperative surgery suffered moderate or intense pain.[2] Postoperative pain occurs not only after major surgery, but is also a problem even after minor surgery.[3] In addition to physiological factors, surgical pain is influenced by fear or anxiety regarding surgery (affective dimension), which can heighten an individual's perception of pain intensity (sensory dimension). Although all postoperative patients experienced similar pain sensations, there were differences in the expression or reaction of pain (behavioral dimension).

Cultural background (sociocultural dimension) has long been recognized as one of the factors influencing how a person perceives (cognitive dimension) and reacts to painful situations. Pain has both personal and cultural meanings, which means that patients with the same cause of pain, such as surgical procedures, but different cultural background may report different pain experiences. Although patients may experience a similar condition or surgical procedure, pain response may differ dramatically among cultures. Race, culture, and ethnicity are critical factors in an individual's response to pain.[4] Behavioral and verbal expression of pain may differ in different cultures.[5] Cultural background is known to be one determinant influencing how much pain medication is requested by patients. Streltzer and Wade[6] found that Caucasians and Hawaiians received significantly more analgesia than Philippinos, Japanese or Chinese. This study also revealed that the amount of pain medication received by five major racial groups were significantly different. Nurses therefore must understand pain from a cultural perspective in order to respond to patients in a helpful manner. It is important for the nurse to have knowledge of the cultural meaning of pain when designing culturally competent and relevant nursing care for patients experiencing pain.[7] The patients in this study are from different cultures and who therefore express their pain differently. This in turn may lead to differences in how nurses respond to patients in pain.

This study focuses on sociocultural dimension of pain and demonstrates a pivotal role of cultural differences embedded in Javanese and Batak people, the two dominant ethnic groups in Indonesia. Based on the first author's experience and observations in hospitals, Javanese and Batak patients show different behaviors when they are in pain. In Javanese culture, people are encouraged to demonstrate stoicism.[8] In contrast, Batak patients are more expressive in communicating their pain and requested more analgesia. Batak

people have been widely known as being extroverted. This observation should be systematically investigated through a research process. Even though there was one study recently conducted in Indonesia, it did not focus on ethnicity and culture. This present study would then provide an additional valid evidence of cultural influence on pain experience to the pain literature.

Objectives

The objectives of this study were to explore pain experiences of Javanese patients and Batak patients, to examine the differences of pain experiences between Javanese and Batak patients, and to explore the cultural beliefs/practices regarding pain of Javanese and Batak patients.

Materials and methods

A descriptive comparative design was used. Sixty-three postoperative Javanese patients and sixty postoperative Batak patients from surgical wards of four government hospitals who met the inclusion criteria were recruited. They were adults, undergoing major surgery within 24-48 hours, with no other causes of pain, reading and speaking Indonesian. Fifty-seven patients were from Putri Hijau Army Hospital, 21 patients were from Tembakau Deli Hospital, 27 patients were from Dr. Pirngadi Hospital, and 18 patients were from Haji Adam Malik Hospital. Sample size was determined by power analysis (power=.80, alpha=.05, and effect size=.05). The Brief Pain Inventory (BPI)-Short Form (Indonesian version) was used to measure pain experience over the past 24 hours including (1) pain intensity at its worst, least, average, and right now, and (2) pain interference with sleep, general activity, walking, normal work, relations with others, mood, and enjoyment of life. The first part of the BPI measures pain sensation (intensity), the sensory dimension of pain experience; whereas the second part measures pain interference that represents affective dimension (mood and enjoyment of life), behavioral dimension and physical functioning (general activity, walking, normal work, sleep, and relations with others). A numeric rating scale ranging from 0-10 was used to rate level of pain intensity and pain interference with each subject. As the BPI was used to ask patients to rate their pain over the past 24 hours, the number subjects specified indicated their level of pain intensity and pain interference during their first 24 hours after surgery. The BPI was found to have satisfactory psychometric properties.[12-13] Reliability tests of this study samples revealed acceptable internal consistency reliability coefficients of 0.77 and 0.78 for pain intensity and pain interference, respectively. In addition, an Interview Guide consisted of nine open-ended questions were constructed, content validated by 3 experts. It captures the cognitive and sociocultural dimension that was used to interview subjects about the meaning of pain experience (e.g., what does pain mean to you?), how they responded to pain (e.g., how do you react when you have pain?), and cultural beliefs/practices regarding pain and its management (e.g., when you respond to your pain, what do people think?, what do you do to relieve your pain?). This qualitative information would provide additional information to better understand the cultural context grounded in both ethnic groups.

Data were collected after permission was obtained. At a ward meeting before the research project began, the first researcher met with the head nurse and nursing staff, explaining the purposes of the study and requesting their participation. When potential subjects were available, the staff nurse approached the patient and asked if the researcher could visit him/her. If the patient agreed, the researcher described the study and obtained informed consent. During 24-48 hours post operation, each subject was asked to rate pain intensity and pain interference as detailed in the BPI including "right now pain" or pain at present time of the interview. After the BPI, 10 subjects from each ethnic group were asked whether they were willing to provide additional time for interview regarding cultural beliefs/practices guided by the Interview Guide questions. Qualitative data were analyzed using descriptive (frequency, percentage, mean, standard deviation) and inferential statistics (independent t-test), and simple content analysis for qualitative data.

Results

1. Subject characteristics

The mean age was 35.67 (±9.89) years and ranged from 20-59 years. Most subjects were male (56.9%), Muslim (69.9%), married (81.3%), and were senior high school graduates (63.4%). The subject's occupation was grouped into six categories: business person (38.2%), student (10.6%), farmer (4.9%), government employee (27.6%), private employee (8.9%) and unemployed (9.7%). More than 53% of the subjects' incomes were more than standard minimum salary in Indonesia. Table 1 contains detailed descriptions of Javanese and Batak group characteristics.

2. Pain experience of Javanese patients

The postoperative Javanese patients experienced surgical pain. Since a majority of patients underwent abdominal surgery, the location of pain was primarily in the abdominal area (55%). Pain medications were prescribed, most commonly Tramadol Hcl 100 mg (71.4%), followed by Tramadol Hcl 50 mg (28.6%). A review of Javanese patients' medication records found that all Javanese patients were prescribed and received analgesic on a fixed schedule, e.g., intravenous 50 mg every 8 hours or 100 mg every 12 hours during 24 hours post surgery. Twenty-one percent of the Javanese patients reported a mean of 70% relief due to all pain interventions.

Table 1 Frequency and percentage of subject's demographic characteristics (Javanese patients n=63, Batak patients n=60)

Characteristic	Javanese N (%)	Batak N (%)	Total N (%)
Gender			
Female	31 (49.2)	22 (36.6)	53 (43.1)
Male	32 (50.8)	38 (63.4)	70 (56.9)
Religion			
Muslim	63 (100)	23 (38.3)	86 (69.9)
Christian	-	37 (61.7)	37 (30.1)
Marital status			
Single	13 (20.6)	10 (16.7)	23 (18.7)
Married	50 (79.4)	50 (83.3)	100 (81.3)
Education			
None	-	2 (3.3)	2 (1.6)
Elementary school	10 (15.9)	3 (5.0)	13 (10.6)
Junior high school	11 (17.5)	14 (23.3)	25 (20.3)
Senior high school	41 (65.1)	37 (61.6)	78 (63.4)
Diploma & Bacheles	1 (1.6)	4 (6.7)	5 (4.0)
Occupation			
Businessman	24 (38.1)	23 (38.5)	47 (38.2)
Government employee	21 (33.3)	13 (21.7)	34 (27.6)
Student	8 (12.7)	5 (8.3)	13 (10.6)
Farmer	3 (4.8)	3 (5.0)	6 (4.9)
Private employee	4 (6.3)	7 (14.3)	11 (8.9)
Unemployed	3 (4.8)	9 (15.0)	12 (9.7)
Income per month			
None	3 (4.8)	8 (13.3)	11 (8.9)
<Rp. 500,000,	17 (27.0)	12 (19.0)	29 (23.6)
Rp. 500,000-1,000,000,	31 (49.2)	35 (58.3)	66 (53.6)
>Rp. 1,000,000,	12 (19.0)	5 (8.3)	17 (13.8)

The mean pain intensity scores for worst pain, least pain, and average pain (during the first 24 hours); and present time pain (during the period 24-48 hours after surgery) were 8.31, 1.88, 4.12 and 3.71, respectively. Postoperative pain interfered to some degree with Javanese patient's daily activities. The areas most interfered with were normal work (mean 8.66), walking ability (mean 8.47), general activity (mean 7.03) and relations with others (mean 5.16). The overall mean pain interference score was 5.85.

3. Pain experience of Batak patients

The postoperative Batak patients experienced surgical pain, similar to those found in Javanese patients, located primarily in the abdominal area (50.0%). Tramadol Hcl 100 mg and 50 mg were prescribed (83.3% and 16.7%, respectively). A review from Batak patients' medical and medication records found that all Batak patients were prescribed and received analgesic for their pain relief on a fixed schedule, intravenous, 50 mg per 8 hours or 100 mg per 12 hours. Thirty-six percent of the Batak patients stated a mean of 50% relief from all interventions.

The mean pain intensity scores for worst pain, least pain, and average pain (during the first 24 hours); and present time pain (during the period 24-48 hours after surgery) were 9.85, 4.05, 5.18 and 5.41, respectively. Postoperative pain interfered to some degree with the patients' daily activities. The areas most affected were walking ability (9.40), normal work (9.20), general activity (8.38), sleep (8.21), and mood (6.28). The overall mean pain interference score was 6.51.

4. Differences in pain experiences between Javanese and Batak patients

Differences in pain experience between Javanese and Batak patients were examined. Independent t-test was used to examine the equality between pain intensity and pain interference mean scores of Javanese and Batak patients. The assumptions of independent t-test were examined. The assumptions of normality and homogeneity of variance were met. It was found that Javanese patients and Batak patients had significant differences in reporting their pain intensity. The mean scores of Javanese patients were significantly lower than Batak patients on worst pain, least pain, average pain, and present time pain ($p<.001$, Table 2).

For pain interference, there were significant differences between Javanese and Batak patients in mean scores of general activity, mood, walking ability, normal work, relationships with others, sleep, and enjoyment of life. Batak patients reported significantly higher scores than Javanese patients in all aspects of pain interference ($p<.01$, Table 3).

Because the majority of Batak patients were Christian (61.7%) as opposed to Muslim (38.3%), additional analysis was conducted to determine if religion played a role in pain experiences of Batak patients. The results showed no difference between Muslim Batak and Christian Batak for pain intensity ($t=0.97-1.91$, $p>.05$) nor for pain interference ($t=0.28-1.25$, $p>.05$). This finding implies that the difference in pain experience between Javanese and Batak patients might be due to other cultural influence rather than the religion per se.

5. The cultural beliefs/practices regarding pain of Javanese and Batak patients

Qualitative data analysis from interview transcriptions was conducted to further examine cultural beliefs/practices of Javanese and Batak ethnic groups. The following findings emerged:

(1) Meaning of pain

Several meanings of pain for both ethnic groups were revealed. For Javanese patients, pain has 3 meanings: suffering, disturbing, and "cobaan" (spiritual test). Some examples are presented.

"After the surgery, the pain made me suffer. It was so uncomfortable. I felt my skin was cut." (suffering)

"I could not walk for a moment and the pain interrupted my activities. It also interfered with my concentration, stopped me from conversation." (disturbing)

"I believed it was a "cobaan" (test) from Allah, even though I felt a very painful sensation at the wound site. Because it came from Allah, we should sincerely accept it. I had to be more patient and did more praying to handle this situation." (spiritual test)

Table 2 The difference in pain intensity scores between Javanese and Batak patients

Variable	Mean	SD	t
Pain Intensity			
Worst pain			
Javanese	8.31	.71	-14.72*
Batak	9.85	.40	
Least pain			
Javanese	1.88	.65	-13.50*
Batak	4.05	1.06	
Average pain			
Javanese	4.12	1.03	-6.32*
Batak	5.18	.79	
Present time (Right now) pain			
Javanese	3.71	1.08	-8.07*
Batak	5.41	1.25	

*P<.001

Table 3 The difference in pain interference between Javanese and Batak patients

Variable	Mean	SD	t
Pain Interference			
General activity			
Javanese	7.03	1.99	-4.44*
Batak	8.38	1.32	
Mood			
Javanese	3.52	1.33	-9.99*
Batak	6.28	1.69	
Walking ability			
Javanese	8.47	.80	-6.63*
Batak	9.40	.74	
Normal work			
Javanese	8.66	1.28	-2.31*
Batak	9.20	1.27	
Relations with other people			
Javanese	5.12	1.75	-8.64*
Batak	7.86	1.76	
Sleep			
Javanese	5.00	1.98	-8.82*
Batak	8.21	2.06	
Enjoyment of life			
Javanese	3.04	1.31	-9.72*
Batak	5.56	1.55	

*P<.01

For Batak patients, pain had three meanings: disturbing, discomforting, and tiring experience. The following transcripts are examples from the subjects.

"It really disturbed me. It interfered with my sleep and other activities such as I could not talk to my family members and this condition made me easy to get upset." (disturbing)

"When the pain killer ran out, the pain came to the (surgical) wound little by little and after a few minutes I could not sit still, it makes me not feel OK." (discomfort)

"I was restless when I have pain. I was in a condition of easy to get angry, yelling, and very sensitive. This situation really made me tired, physically and psychologically." (tiring)

(2) Responses to pain

Being stoic versus being expressive

Javanese and Batak patients responded to pain differently. This study found that Javanese patients showed varied responses when they were in pain. Most Javanese patients (7 out of 10) stated that they tried to ignore it and just kept silent. In their culture, when dealing with suffering, Javanese people are taught to face it with patience and they are not allowed to complain. Complaining means weakness. They are expected to be strong and accept their destiny. It is emphasized that the person in pain should accept it or just endure it. One Javanese patient stated:

"When a nurse came to approach me, even though I was in pain at that time, I would not ask anything from the nurse about my pain. I would say I was OK. I think I could deal with that pain."

Meanwhile, Batak patient showed relatively different responses to pain. When the pain appeared, half of them stated that they cried because they could not stand the pain. Four of ten Batak patients stated that they yelled to get prompt attention from nurses or other hospital staff in order to help them relieve the pain. One said:

"When I am having pain, I want other people to give their attention to me. I am yelling or crying in order to get the nurse's attention and wish that they give me medicine."

Praying versus complaining

Other responses to postoperative pain for Javanese and Batak patients were praying versus complaining. Six Javanese patients tried to distract the pain through religious activities such as praying or doing "zikir" (spelling the name of Allah). One Javanese patient said:

"If the pain appears, I am trying to relieve it by distracting it through activities such as doing zikir so that my mind becomes calm."

Meanwhile, four Batak patients responded to the pain by complaining and getting angry in order to get help from the nurse. One Batak patient stated:

"When I am in pain, I approach the nurse to complain that I have pain at the operative site. I want the nurse to help me by giving me medication to diminish the pain."

(3) Perception of others to pain responses

Perceived no pain versus perceived pain

When subjects were asked what others might think of their responses to pain, four Javanese patients stated that others might think they had no pain because they ignored the pain and tried not to show that they were in pain. They shared that they were taught to be brave and strong. They were also taught to be patient when facing problems including suffering such as pain. One Javanese patient stated:

"I was in pain, but I ignored it and kept silent..., held it. Because of no complaint, I think the nurses don't know that I am in pain."

In contrast, more than half of Batak patients (6) stated that others might think that they had pain since Batak patients were more expressive in communicating their pain by yelling or getting angry and therefore needed help. They stated that they wanted other people to know that they had a problem and could not handle it. That person would then give their help.

"Because I often yell or get angry when the pain attacks me, nurses or other people might think that I do need help"

Received less attention versus received attention

Six Javanese patients stated that other parties such as nurses paid less attention to them when they were in pain. This may be due to not showing that they were in pain. One Javanese patient said:

"The pain was bad after I woke up from anesthetic effect. I would feel ashamed if I could not tolerate it. I tried not showing it to others, including to the nurse. That's why the nurse did not know whether I got pain or not."

In contrast, four Batak patients stated that nurses paid more attention to them when they were in pain. This is because of their expressive behavior. One Batak patient said:

"The nurse was very considerate when I told her that I had pain. She asked about the pain and then suggested me to take a deep breath. After a few minutes a pain killer was given to me."

(4) Self-pain relief strategies

Both Javanese and Batak patients used many methods for relieving postoperative pain. Even though Javanese patients tried to not show that they were in pain, they still put effort into reducing their pain by various methods. Changing position was one method to relieve pain stated by three Javanese patients. Three Javanese patients performed religious activities such as praying. Three Javanese patients did relaxation exercises such as deep breathing; three asked nurses to give them pain medications and two took traditional herbs. They believed that these measures help them to reduce their pain.

All of the ten Batak patients asked nurses to give pain medications to reduce their pain. Three of them changed position to reduce pain, and two relaxed by deep breathing, singing, or listening to music. They believed that by singing or listening to music they could relax their body and mind, helping them to reduce the pain indirectly.

Discussion

This study enlightens the premise that pain is a multidimensional phenomenon and that all dimensions are interrelated.[1] The findings that significant differences of pain experiences between Javanese and Batak patients exist are discussed in relation to six dimensions of the total pain experience: physiological, sensory, affective, cognitive, behavioral and sociocultural dimension.

Physiological dimension: Undoubtedly, both groups of patients experienced pain as a result of a surgical treatment. Most Javanese patients experienced pain arising from abdominal surgery and orthopedic surgery, similar to Batak patients. The pain locations were primarily in the abdomen and extremities.

Sensory dimension: Subjects had individualized perceptions of pain. Subjects rated their postoperative pain at mild to severe level. Overall pain scores (average of pain at its worst, least, average, and present time) were 4.50 for Javanese patients and 6.05 for Batak patients. Both Javanese and Batak patients experienced quite severe pain (mean worst pain score were 8.13 and 9.85 respectively). In Erniyati's study of patients with postoperative pain[11], the mean scores of the worst pain for postoperative patients was 6.78.

This study found that Javanese patients rated pain intensity significantly lower than Batak patients in all aspects. This might be related to pain threshold. No study has been done regarding pain threshold for these ethnic groups. However, the difference may be due to the pain threshold of Javanese patients being higher than that of Batak patients. This finding indicates the need for further investigation. However, examining data from the qualitative analysis, this difference may be related to the cultural beliefs about pain of the two ethnic groups. Batak patients believed that the pain they experienced had to be shown to others in order to get attention and then wished to get help from them for pain relief. This may explain why Batak patients reported higher pain intensity scores.

Affective dimension: Subjects in this study scored mild to moderate levels in two aspects of pain interference, mood and enjoyment of life. Javanese patients reported significantly lower mean scores of interference with mood and enjoyment of life than those of Batak patients. This may be related to the character of Javanese patients as perceiving being strong, patient, calm, highly tolerant of suffering and accepting of destiny.[17] Rusli[18] stated that Batak patients were known as having extroverted personalities. Batak patients are willing to speak out about how they feel. Batak cultural values stress social unity, hard work, and enjoyment of nature. Surgery was perceived by patients as influencing mood and enjoyment of life.

The scores for these two items were higher for Batak patients than Javanese patients. As established in the literature, Batak people have cheerful and joyful characters. They are also warm and always feel happy in living their lives.[18] Therefore, when pain is experienced, it greatly influences their mood and enjoyment of life. In contrast, Javanese people have calm characters and high tolerance to suffering.[17] They may deal with pain by enduring and accepting it as God's will. Therefore, mood and enjoyment of life for Javanese patients might not greatly influenced by the pain they experienced when compared to Batak patients.

Cognitive dimension: The cognitive dimension of pain experience is concerned with the meaning of pain and the way patients interpret their pain. As found in the qualitative analysis, Javanese patients perceived pain as suffering, disturbing, and "cobaan" (spiritual test). Javanese patients believed that pain involves suffering and is a disturbing experience. They felt pain as a painful, uncomfortable sensation. Moreover, Javanese patients believed that pain was a spiritual test from "Allah" (God). Rogge[8] found that when a Javanese patient loses self-control, as in anger, yelling or sorrow, the Javanese patient will usually advise that is necessary to "eling" (meaning of consciousness). It refers to a high level self-awareness that enables him/her to observe and control all movement of the self, both inner and outer, in actions, words, and thoughts. This definition of pain as suffering is similar to the meaning stated by informants in a study by Villarruel[19] investigating Mexican-American cultural meanings, expression, self-care and dependent care actions associated with experience of pain. This meaning is also consistent with the definition of pain stated by IASP.[20] IASP defined pain as an unpleasant feeling that is conveyed to the brain by sensory neurons associated with actual injury to the body. Because this uncomfortable sensation interfered with their activities, Javanese patients were disturbed. Disturbance means that the pain distracted them. Javanese patients also perceived pain as a spiritual test. In other words, they ascribed the pain as a means to test their patience. This meaning is influenced by their religion. In this study, all Javanese patients were Muslim. Muslims believe that suffering or disaster is a test from Allah.

When they are in suffering, it means Allah is testing their patience and their effort to overcome it without complaint. Thus, when they get pain, they have to be patient. Holy Quran says "And Allah loves patient people"[21]

Batak patients described comparable meanings of pain. They perceived pain as an uncomfortable, disturbing, and tiring experience. As the pain hurts, it creates of a sensation of discomfort. It also disturbs them. These two meanings of pain are quite similar with the meaning given by Javanese patients. However, it is quite interesting that Batak patients described pain as a tiring experience. This perhaps means not only physically tiring, but also psychologically tiring. They felt tired when they were in pain. The physically tiring experience may be due to response of Batak patients to pain. They responded to pain by yelling, getting angry or crying, which uses up their energy. The more the pain they experienced, the more tired they were. In addition, the psychologically tiring experience may be due to temporary changes in their lives because of the surgical procedure and the effect of hospitalization. While Javanese patients perceived pain as a test from Allah (God), Batak patients considered pain as a problem. This may be due to the influence of pain on their life activities and the interruption of the happiness of their lives.

Behavioral dimension: The behavioral dimensions of postoperative pain are related to the way patients respond to pain. Behavioral dimensions are related to the extent to which pain interfered with general activity, walking ability, sleep, relations with other people, and medication taken by the patients. In relation to this dimension, Javanese patients with postoperative pain scored high for general activity and walking ability and moderate for sleep, and relations with other people, whereas Batak patients scored high in four of the above areas. This finding indicates that pain with postoperative patients often had serious negative consequences for patients' activities. These findings support the findings of Wells[22], who studied pain interference in cancer patients and found interference with sleep, walking ability, and relations with other people. Similarly, another study found that reporting moderate or severe pain in cancer patients was correlated with interference with various aspects of function, particularly general activity (68%) and work (62%).[23]

It was found that Batak patients reported significantly more interference with general activity than did Javanese patients. This difference may be related to intensity of pain experience. Batak patients had higher scores for worst pain than did Javanese patients. This may also be related to their cultural beliefs about pain in which Batak patients considered pain as a problem or a tiring experience, while Javanese patients perceived it as a test from Allah and something that should be accepted. This difference may influence the way patients responded to pain.

Sociocultural dimension: Surprisingly, additional data analysis to examine whether people who hold different religions (Muslim vs Christian in Batak group) would report pain intensity and pain interference differently revealed non-significant results. This finding informs that holding religion constant, the differences of pain intensity and pain interference between Javanese and Batak patients may due to other socio-cultural influence, not the religion per se. This phenonmenon can be explained by the findings from the interview data. The differences in ascribing meaning to the pain, responses to the pain, perceptions of others, and self-pain relief strategies by Javanese and Batak patients may together contribute to the total pain experienced by its people.

Javanese patients and Batak patients demonstrated different responses when having postoperative pain. Batak people mostly communicated their pain or suffering by loud yelling. They also cry to get attention from others. Yelling or crying did not mean that they are weak, but that they need help. Because they are encouraged to communicate their problem they are more expressive in communicating the pain. In contrast, Javanese people are encouraged to be patient when facing a problem; thus they try to ignore the pain, complain as little as possible, and behave stoically. They demonstrated that they were patient enough to deal with pain. In Javanese society, people are taught from childhood not to complain of pain. The concept of "nrimo" (acceptance) of something that happens in their life is widely known to Javanese people. This concept has a strong influence in their daily life and the way they face problems.

When they were in pain, Javanese patients tried to divert the painful feeling by performing religious activities.

They believed that pain is a test from God, and they must show their patience. This response is consistent with their strong patient character, calm, and having high tolerance to pain. Javanese culture also values acceptance of destiny and high tolerance to suffering.[17] They believed that they were destined to experience this pain. As Muslims, they are not encouraged to complain. This response can also be seen in other ethnic groups in which stoicism is an expected and accepted response to pain. The acceptance of pain as part of life and as God's will is expressed by hiding or enduring the pain. This is supported by the study of Juarez, Ferrel, and Borneman[24] on influence of culture on cancer pain management in Hispanic patients. They found that study subjects reported they endured the pain because they were taught to believe in God and not question God's will. By contrast, Batak patients responded to pain in such a way in order to get attention from others, especially nurses, from whom they received treatment. They cried and yelled, complained of having pain and became angry. Anger had been found to be associated with greater post-operative pain in individuals undergoing surgery.[25] These responses had a clear purpose. They wanted other people to know that they had a problem and then wanted others to help them to deal with the problem. Batak people are widely known as extroverts. They will speak out and express their feelings. Therefore, they are more expressive in communicating their pain.

Similar to another study, it was found that there were significant differences in pain experiences among Irish, Italian, Jewish, and older Americans. The Irish patients showed little emotion with pain, de-emphasized the pain, and withdrew socially when experiencing pain. Italian patients were expressive in their pain and preferred to be accompanied with others when in pain and tended to request immediate pain relief. The Jewish patients expressed their pain through crying, moaning, and complaining. Older Americans were precise in defining pain, displayed little emotion, and preferred to withdraw socially when in pain.[26] In contrast, a study by Neill[27] was found that the pain response was not significantly different among Irish, Italian, Yankee (local Americans in the northern US), and Black patients.

The above discussion was based on the findings that there were significant differences on pain intensity scores and pain interference scores between Javanese and Batak patients. Whether these differences were from embedding in different ethnic groups or being in different religions may be questioned. As the majority of Batak patients were Christian (61.7%), an additional analysis was conducted to examine whether religion contributed to this difference. The finding revealed that there was no difference in pain intensity scores and pain interference scores between Muslim Batak and Christian Batak. These findings support the idea that the differences in pain experience arise from other cultural factors, not religion per se. However, further exploration of religiosity is worth investigated. Furthermore, the qualitative findings were based on 10 subjects from each ethnic group and the interview sessions were conducted during their 24-48 hours after surgery. The researchers were aware of patients' comfort and trying not to disturb them for too long time. This practice might contribute to limited information that warrants further investigation. Comprehensive pain assessment that includes multiple dimensions, particularly sociocultural dimension is vital to help improve pain management outcomes.

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