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# IASP

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### Upcoming Issues

**Battlefield to Bedside  
Acute Pain in Neonates  
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## Managing Acute Pain in the Developing World

### Why Focus on Acute Pain?

Acute pain is the most commonly experienced type of pain throughout the world. It is an important aspect of injury, surgery, childbirth, and acute medical illness. Road traffic accidents and violence, which inevitably lead to severe pain, are among the leading causes of death and disability in many developing countries. Acute pain also accounts for more than two-thirds of visits to the emergency department.<sup>1</sup>

Despite substantial advances in pain research and management, millions of people continue to suffer because of inadequate pain control. The suffering is worse when pain occurs in the context of disasters, violence, or torture. Uncontrolled acute pain not only leads to discomfort and suffering but can also have unwanted consequences such as delayed healing, an increased risk of morbidity, a prolonged hospital stay, and the risk of developing chronic persistent pain.<sup>2</sup> In the last two decades, our knowledge of acute pain physiology has increased tremendously. Methods of pain treatment have improved, and we have many new drugs and techniques. Yet underassessment and undertreatment of pain appear to be common, even in the developed world.<sup>3,4</sup> This issue of *Pain: Clinical Updates* will address how acute pain is managed in the developing world and discuss the barriers that prevent optimal pain control, along with current initiatives to address them.

### The Developing World

In the last two decades, the term “developing countries” has been used largely to identify countries that have not yet reached the sophisticated status of industrialized nations such as those of Western Europe and North America. The World Bank classifies countries into four income groups: low income, lower middle income, upper middle income, and high income, depending on gross national income (GNI) per capita. Countries with low to lower middle income are considered “developing countries.”<sup>5</sup> Classification by income does not necessarily reflect development status, however. In fact, the human development index (HDI) developed by the United Nations Development Program (UNDP) is a better indicator of the degree of development that a country has achieved.<sup>6</sup> The HDI has three dimensions (health, education, and living standards) and four indicators (life expectancy at birth, mean years of schooling, expected years of schooling, and GNI per capita).

Countries below a certain HDI level are categorized as “developing countries.” A wide range of countries belong to this category, from those with higher middle income and better resources to the least developed nations. Many countries with lower HDI

face social, economic, and poverty-related issues. The emphasis of health care is mainly on public health, including control of diseases such as malaria, HIV, and tuberculosis; childhood immunization; and provision of clean water. Management of pain—whether acute or chronic—is given low priority. Many countries, particularly in Asia and South America, have shown trends toward a higher HDI in the last decade<sup>6</sup> and now have the potential to allocate more resources to pain management.

## Barriers to Optimal Acute Pain Management in Developing Countries

Pain management takes low priority in many low- to middle-income countries that are struggling to meet United Nations Millennium Development Goals, such as eradication of poverty and hunger, universal primary education, and reduction in child and maternal mortality.<sup>7</sup> There is a general lack of resources in terms of personnel, drug availability, and basic equipment in low-resource countries. Hodges and colleagues recently addressed this issue in a questionnaire survey distributed to 97 anesthesia providers attending a refresher course at Mukono University in Uganda.<sup>8</sup> Many of the participants, particularly those from rural areas, said their practice was handicapped owing to a general lack of facilities, inadequate supplies of drugs, and a severe shortage of equipment. Apart from ketamine, access to analgesia was limited. Only 45% of anesthesiologists had ready access to morphine and pethidine (meperidine). Ten percent of anesthesiologists said they had to work without a regular supply of oxygen. The situation is probably similar in many other sub-Saharan countries, as indicated in a recent survey in Zambia.<sup>9</sup>

Developing countries face an acute shortage of trained health professionals. Many low-income countries have fewer than 20 physicians per 100,000 people.<sup>10</sup> Many countries do make efforts to train more physicians, but there is also a shortage of medical schools. The problem is compounded by migration of health care professionals from rural areas to urban hospitals or developed countries in search of better standards of living.<sup>11,12</sup> Unrest and local civil wars provide an additional impetus for this migration.

Opioid analgesics are the main drugs used to control moderate to severe pain, particularly in cancer patients and in the acute setting such as trauma care, surgery, and treatment of burns. Despite their recognized effectiveness, opioids often are not freely available because of restrictive laws based on fear of misuse and abuse. These excessive regulations are a major barrier to the adequate control of acute pain in developing countries. Rajagopal and his colleagues from Calicut, India, followed 1723 patients who were being treated for cancer pain with oral morphine on an outpatient, home-care basis. Over 2 years the investigators did not identify a single instance of misuse or diversion.<sup>13</sup> They recommended that practitioners in India engage with government authorities to increase awareness of the medical need for opioids, emphasizing that their lack of availability is causing severe distress and suffering. In the same vein, another Indian team described their attempts to increase morphine availability through the legal system in India. Despite court directives to improve morphine availability, 97% of

Indian patients continue to have very poor access to the drug.<sup>14</sup> In the last decade, the International Narcotics Control Board (INCB) has published data showing that the developed world accounts for 87% of global opioid consumption, whereas the developing countries, where four-fifths of the world's population resides, consume only 13%.<sup>15</sup> This discrepancy has been observed for many years.

Strong opioids, when available, are also more expensive in developing countries when compared to developed countries. De Lima and her group conducted a comparative study of opioid costs by documenting the availability and retail price of several opioids in developing and developed countries.<sup>16</sup> They found that the cost of opioids relative to income is higher in developing countries. The median costs of all opioid preparations as a percentage of GNI per capita per month were 36% for developing and 3% for developed countries. This survey shows that opioid access is likely to be limited by cost as well as by restricted availability.

Other barriers include patient and family attitudes about reporting pain. Patients often underreport pain for fear of distracting doctors from treating their disease, particularly in the case of cancer pain.<sup>17</sup> Inadequate knowledge about pain management, unfounded concerns about side effects, fears of addiction, and taboos about prescribing morphine are additional barriers.<sup>18,19</sup> Medical and nursing schools still do not routinely include pain management in their curricula.<sup>19</sup>

## Managing Acute Pain In Specific Situations

### Postoperative Pain

Given the barriers in developing countries, it is not surprising that postoperative pain management is less than optimal. A questionnaire survey in Thailand concluded that postanesthetic pain continues to be undertreated. Surgeons play a major role in postoperative pain treatment, and intramuscular injections are the preferred route of analgesic administration. The survey authors recommended the establishment of postanesthetic care units, an increase in the number of anesthesiologists, and establishment of acute pain services in larger hospitals.<sup>20</sup> A survey of prescription patterns and adequacy of analgesia was conducted over a 6-month period at University College Hospital in Ibadan, Nigeria. This study recruited consecutive adult patients scheduled for general surgery.<sup>21</sup> Moderate to unbearable pain was reported by 68.7% of 149 study patients at 24 hours and by 51.7% at 48 hours. Postoperative analgesia consisted of a limited range of drugs (pethidine, pentazocine, and dipyrone) given by the intramuscular route. Prescription patterns have not changed over the years to include many of the new techniques available.

In an effort to improve postoperative pain management, several middle-income countries with better resources have undertaken initiatives to establish acute pain services in some of the larger hospitals, using techniques such as patient-controlled analgesia (PCA) and epidural analgesia. A survey at University Hospital, Kuala Lumpur, showed that nearly 40% of 183 surgical patients had moderate to severe pain.<sup>22</sup> The main reasons patients gave were

that analgesics either were not administered or were inadequate. Publication of this study led to the establishment of an acute pain service in 1992, which has improved pain control, particularly in patients undergoing major surgery.<sup>23</sup> All university and major public hospitals in Malaysia have acute pain teams, and regular pain assessment is encouraged by promotion of the concept that pain is the “5th vital sign.” Despite these initiatives, acute pain services can reach only about 30% of patients due to constraints of personnel and equipment.

### *Analgesia during labor is a “luxury” that is not readily available in developing countries*

Shiqing and colleagues from Guangzhou, China, report their experience in improving the quality of acute pain management in an observational study of 5212 patients.<sup>24</sup> Audits of acute pain services in several other countries have shown improvements in postoperative pain management in institutions in India,<sup>25</sup> Brazil,<sup>26</sup> Saudi Arabia,<sup>27</sup> and Pakistan.<sup>28</sup> These institutions are using techniques such as PCA and epidural analgesia. Developing acute pain services in individual institutions is commendable, but it is likely that such initiatives are confined to a few select centers. Given the large populations of these countries, it is likely that postoperative pain control is less than adequate in a large majority of patients.

With limited access to opioids, many practitioners have relied on the readily available drug ketamine. It has been used both for anesthesia and as a low-dose infusion for analgesia with good results,<sup>29</sup> with low doses reducing the incidence of side effects. King describes the successful use of low-dose ketamine for postoperative analgesia when working with Médecins Sans Frontières (Doctors without Borders) in the Ivory Coast.<sup>30</sup> Even when opioids are available, there appears to be a lack of knowledge of pain management and inappropriate prescription patterns, as was noted in a survey of resident doctors in two teaching hospitals in Nigeria.<sup>31</sup>

### **Pain in Childbirth**

Acute pain during childbirth is a well-recognized cause of pain in women. Analgesia during labor is a “luxury” that is not readily available in developing countries due to the shortage of facilities, personnel, and drugs, as outlined above. Developing countries also generally have a heterogeneous population, made up of different ethnic groups. Cultural beliefs and ethnicity are known to influence the perception of pain, and such factors can play a vital role in how a woman copes with pain in labor.<sup>32</sup> The role of ethnicity in pain perception in labor was explored in Ibadan, Nigeria.<sup>33</sup> A total of 584 women were recruited. Three-quarters of the participants belonged to the predominant Yoruba tribe, and the rest were from minority tribes. The women were randomized into two groups. Each woman in one group was asked to bring a companion, who was given information on how to help her during labor. The women in the other group did not have a companion. The main outcome measure was pain perception. The Yoruba group had significantly lower scores compared to the other ethnic groups, and those with companions also had significantly lower

scores than those without companions. The authors felt that there was a possible role for “informed companions” who could allay anxiety during childbirth.

Tan et al. studied ethnic differences in the perception of pain in a large series of 1034 mothers, from different ethnic backgrounds, who underwent lower cesarian section under spinal anesthesia in Singapore.<sup>34</sup> There are three distinct ethnic groups in Singapore—Chinese, Malay, and Indian. After surgery, all patients were given morphine infusion via PCA and were asked to rate their pain intensity scores at regular intervals. Data on pain scores and morphine consumption were collected every 4 hours. There were statistically significant ethnic group differences in pain scores and morphine usage, with Indians having the highest mean pain score and using the highest amount of morphine, even after adjustment for age, weight, and duration of surgery. This study shows that without awareness of ethnic differences, management of acute pain may be suboptimal in certain groups. Whether these differences are genetic or sociocultural needs to be explored further, but they certainly add another barrier to optimal pain control.

Epidural analgesia is considered to be the most effective technique for controlling labor pain. However, it cannot be offered to the majority of mothers in the developing world as it is both labor-intensive and expensive. In an effort to find a simpler technique that can be offered to a larger number of women, Kuczkowski and Chandra studied the administration of a single-shot spinal anesthetic during labor.<sup>35</sup> Sixty-two women in labor were given a spinal anesthetic containing 2.5 mg bupivacaine, 0.25 mg morphine, and 45 µg clonidine. Maternal satisfaction, duration of pain relief, and side effects were studied. The majority of patients (81%) were very satisfied with their pain control. There were only minor side effects such as nausea (9.6%), pruritus (8%), and occasional shivering (6.5%), with no major maternal or fetal complications. The investigators concluded that this technique could readily be offered to a large number of parturient women in resource-strapped countries.

### **Pain in Children**

Millions of children undergo surgery each year in developing countries. Compared to the situation for adult patients, management of pain in children is fraught with even greater challenges, and assessment of their pain has its own unique problems. Along with the limited availability of analgesic drugs and the lack of equipment and facilities, language differences, cultural barriers, and the attitudes and beliefs of caregivers can complicate matters significantly.<sup>36</sup> Despite these issues, a successful pain

### *Without awareness of ethnic differences, management of acute pain may be suboptimal in certain groups*

management protocol was developed that was tailored to the specific setting of the Medical Research Council (MRC) pediatric ward in The Gambia, West Africa.<sup>37</sup> This study demonstrated that evidence-based guidelines could be adapted to allow for

optimal pain management considering the resources available in that setting. However, to ensure successful implementation and ongoing improvement in pain management, the authors felt that continued education of clinical staff was important. They hoped that the protocols and the development process would serve as an example to other countries in similar settings. In other developing countries with better resources, regional anesthetic techniques are used to provide more effective postoperative pain management.<sup>38</sup>

### **Pain Management in the Emergency Department**

Approximately 1.3 million people die each year on the world's roads, and between 20 and 50 million sustain nonfatal injuries.<sup>39</sup> Road traffic accidents, violence, and self-inflicted injuries are among the top 10 leading causes of disease burden in adults between 15 and 59 years old.<sup>40</sup> Injury from natural disasters continues to dominate the headlines. At any given time, a large number of people will therefore require emergency trauma care, including acute pain management. Even in developed countries, acute pain in trauma patients is a significant problem in emergency departments. Two recent reports, one a multicenter study from France, showed that acute pain was not adequately treated, finding that pain intensity was not sufficiently reassessed, analgesics were underutilized, and delays in treatment were common.<sup>41,42</sup> Given the barriers found in developing countries, it is not surprising that a study in a teaching hospital in Nigeria revealed that analgesia was not prescribed in 45% of acute surgical cases and that even when preoperative analgesia was provided, it was inadequate in the majority of patients.<sup>43</sup>

Analgesia is only one aspect of emergency trauma care. The Advanced Trauma Life Support System (ATLS) has well-established protocols for treating severely injured patients. Although highly desirable, this system cannot be sustained in many developing countries due to geographical factors and a relative lack of resources, including funding and personnel. Thus, the Primary Trauma Care (PTC) program was designed to train doctors and nurses in the management of severely injured patients at the district hospital level with the resources that are available.<sup>44</sup> PTC programs have been active in many parts of the world, some more successful than others. PTC teams have the potential to provide analgesia along with supportive care, but of course they would need to have access to analgesic drugs.

### **Survey on the Status of Acute Pain Management in the Developing World**

Given the paucity of information from many parts of the developing world, we undertook an informal questionnaire survey to assess the current status of acute pain management in these countries. The questionnaire was devised to include questions regarding the number of anesthetists, the number of pain specialists, and the availability of opioids and barriers to their use. It also solicited information about whether anesthesia was provided by nurses, who manages postoperative pain and how well is it managed, whether acute pain services are available, whether pain is assessed routinely and documented in medical

records, and why pain control may be suboptimal. Questions about the status of pain control in other areas such as pain in labor, pain in the emergency department, cancer pain, and pain in medical emergencies were included. Participants were also asked whether pain management is taught in medical, nursing, and pharmacy courses and were encouraged to make additional comments. The form had check-off options for each question to facilitate responses and was sent by e-mail. Completed questionnaires were returned from six countries in Asia, and there was one response from Guatemala and one from Nigeria. Data from India, China, Indonesia, the Philippines, Thailand, and Nigeria are presented in Table 1, these being the countries that provided adequate data for inclusion in our summary. China and India are emerging economies with burgeoning upwardly mobile populations and a large number of health care professionals. However, even though they have shown marked financial growth in the last decade, they have the same barriers to optimal acute pain management as other developing countries. Most opioids are available in the six countries except for oxycodone, which is not available in India, Indonesia, Thailand, or Nigeria. Immediate-release morphine is not readily available in Indonesia. Postoperative pain is managed by surgeons in India and Nigeria, by anesthesiologists in the Philippines, and by both in the other three countries. Acute pain services are available in most large hospitals in China, while they are only available in selected hospitals in the others. Pain is considered the fifth vital sign in most hospitals in Thailand and in a few hospitals in China, Philippines, and Nigeria, but generally there is no such policy in India or Indonesia. Table 1 shows the results of the survey for some of the other questions. Respondents from all six countries commented that, in general, the management of pain in labor, pain in the emergency department, cancer pain, and pain in medical emergencies is not optimal. The reasons given were the same as for postoperative pain (Table 1). The respondent from Guatemala said that it is very difficult to get opioids, that morphine is not available at all, and that less than 30% of patients have optimal pain control after surgery, with nurses managing 50% of cases.

The reason for poor management of acute pain in developing countries can best be summarized by Dr. Chandra from Indonesia, who commented, "We are all perhaps doing fairly well at our individual hospital levels, but there is no national policy for pain management." The limitation of this survey is that it gathered information from only one source in each of these countries.

### **Initiatives to Overcome Barriers**

The problem of untreated and undertreated pain is most acute in developing countries, particularly in those with the lowest resources, but it also exists in poor rural communities in middle-income countries as well as in industrialized nations. These problems need global solutions on two main levels: we must (1) provide better access to potent analgesic drugs and (2) change attitudinal barriers that result from lack of education regarding pain and pain medications.

	China	India	Indonesia	Philippines	Thailand	Nigeria
Population (in millions)	1,300	1,200	235	100	66	140
Number of anesthesiologists	100,000	25,000	867	3,794	1,000	300–500
Patients managed by nurse anesthetists (%)	1%	0%	15%	0%	80%	Unknown
<i>Opioid availability</i>						
1. Most opioids are readily available	x		x		x	
2. Availability is limited to large hospitals/towns		x		x		x
<i>Barriers to opioid use/availability</i>						
1. Opioid prescribing license needed	x	x	x	x	x	
2. Strict regulations for obtaining/stocking opioids		x	x	x	x	x
3. Lack of knowledge about the use of opioids		x	x	x		x
4. Concerns about addiction (even for acute pain)	x	x	x	x	x	x
<i>Postoperative pain management</i>						
1. In what percentage of your patients do you think pain is adequately managed?	50%	30%	<30%	50%	30%	30%
2. If pain management is inadequate, what are the reasons?						
A) Lack of potent analgesics		x		x		x
B) Lack of knowledge		x	x	x	x	x
C) Pain control is not given priority	x	x	x	x	x	x
<i>Availability of education in acute pain management</i>						
A) Medical schools	In some	No	In some	In some	Yes	In some
B) Nursing schools	In some	No	No	No	Yes	In some
C) Pharmacy schools	No	In some	No	No	Yes	In some
D) Local pain association workshops/courses	Yes	Yes	Yes	Yes	Yes	Yes

## Improving Opioid Availability

For several years now, the INCB has been increasingly concerned about the wide disparities in national consumption of opioid analgesics<sup>15</sup> and has called on governments to address barriers in their national laws and regulations to the medical use of opioids. As a result of collaborative efforts between palliative care physicians in India and the Pain & Policy Studies Group (PPSG) of the University of Wisconsin Comprehensive Cancer Center, the government of India asked all state governments to follow a protocol to modify narcotic regulations.<sup>45</sup> Workshops were conducted in 13 Indian states in association with local palliative care experts. Despite simplified regulations in these states, opioid availability has improved in only a minority of states, mainly due to resistance to change and a continued fear of substance abuse among medical professionals.<sup>46</sup> Nevertheless, these efforts have shown that it is possible to change government policy, although progress has been slow.

The PPSG has developed several teaching resources for developing countries, including a training program for fellows from low- and middle-income countries, enhanced support for collaborators working on opioid availability, and an Internet course in international pain policy.<sup>45</sup> The first International Pain Policy Fellowship (IPPF) was held in October 2006, with eight fellows (from Argentina, Columbia, Nigeria, Panama, Serbia, Sierra Leone,

Uganda, and Vietnam) attending a week-long training program in Madison, Wisconsin. Following that IPPF program, a public health approach was implemented in Colombia, which included steps to increase awareness and knowledge about palliative care among health care workers and to improve opioid availability. Palliative care courses were made mandatory in medical schools, and there have been moves to institute legislation to include palliative care as an important aspect of health care.<sup>47</sup>

Since 2006, the African Palliative Care Association has held three regional workshops across the African continent—in Uganda, Namibia, and Cote d'Ivoire—to address the issue of opioid availability.<sup>48</sup> These workshops, which received technical assistance from PPSG and WHO, had three main aims: (1) to improve participants' knowledge of the policies, tools, and infrastructure needed to make opioids more widely available; (2) to support participants in evaluating country-specific drug policies and laws on opioid availability; and (3) to help participants develop advocacy action plans to facilitate the accessibility and availability of opioids. These workshops have proven effective in beginning to address the challenges of opioid availability, but many issues remain to be resolved, such as strategies to enable nurses to prescribe opioids, as well as educational initiatives to address misconceptions about opioids among health care workers and the general public.

An example of one country's initiative is Hospice Africa Uganda, founded by Anne Merriman, which shows that it is possible to achieve high-quality clinical care through advocacy and education by tackling various local policies and legislative barriers.<sup>49</sup>

### Improving Resources and Educational Initiatives

It is well recognized that the emigration of graduates from medical schools in developing countries contributes to the low physician presence in those parts of the world, especially in sub-Saharan Africa.<sup>11</sup> Although various nations have shown interest in investing in medical education, we have little evidence so far regarding the status of medical schools and the emerging trends in medical education to help policy makers. The Sub-Saharan African Medical School Study, which was recently published, examined the challenges, innovations, and emerging trends in the region.<sup>50</sup> The authors noted the endemic shortage of faculty in basic and clinical sciences and the weak physical infrastructure in several institutions, along with insufficient coordination between the ministries of education and health. However, their survey also drew attention to a remarkable growth in medical education and showed that many countries are prioritizing education to strengthen their health care systems. There were several instances of curricular innovations, with an emphasis on community-based training programs and creative use of research support. Several universities were also strengthening their postgraduate programs in an effort to retain graduates in their home environments. Such initiatives will eventually reduce the chronic shortage of clinicians in low-income countries and provide opportunities for better pain management. In March 2011, 240 people from 30 medical schools in Africa and 20 institutions from the United States met in Johannesburg for the first annual symposium of the Medical Education Partnership Initiative (MEPI).<sup>51</sup> MEPI aims to turn around medical education in sub-Saharan Africa, with workforce development and retention of graduates as its key aim.

Most chapters of the International Association for the Study of Pain (IASP) have been active in promoting pain education with seminars, workshops, and conferences in their respective countries. In the past decade, IASP has provided funding to many developing countries for local pain education programs. A distance learning program has been established in the University of Santa Tomas in Manila, leading to the Masters in Pain Medicine. A 1-year pain fellowship program has been established in Siriraj Hospital, Bangkok, primarily to provide training to graduates from southeast Asia. The Association of South East Asian Pain Societies (ASEAPS) was established in 2004, with the primary objective of promoting education and training in pain management to health care professionals in the region. Several countries in southeast Asia have also published local guidelines on pain management. IASP organized a "Pain Management Camp" in May 2011 to train young doctors and nurses from low-resource countries such as Myanmar, Bhutan, Mongolia, Vietnam, Bangladesh, and Laos, as well as doctors from ASEAPS countries (Indonesia, Malaysia, Philippines, Singapore, and Thailand) ([www.iasppainmanagementcamp.com](http://www.iasppainmanagementcamp.com)).

## Global Initiatives

### The International Pain Summit and the Declaration of Montreal

Finding that pain management is inadequate in most parts of the world, IASP convened an International Pain Summit in September 2010, which was attended by more than 260 pain specialists from 62 countries. The summit was an advocacy event intended to emphasize the importance of pain management as a human right and to create guidelines for national strategies to help implement improved pain management worldwide.<sup>52</sup> The outcome of the summit was the Declaration of Montreal,<sup>53</sup> which holds that "access to pain management is a fundamental human right." It "recognizes the intrinsic dignity of all persons and that withholding of pain treatment is profoundly wrong, leading to unnecessary suffering which is harmful." The three articles of this declaration support (1) the right of all people to have access to pain management without discrimination; (2) the right of people in pain to have their pain acknowledged and to be informed about how it can be assessed and managed; and (3) the right of all people with pain to have access to appropriate assessment and treatment of pain by adequately trained health care professionals. It is hoped that this declaration will inspire health care professionals along with their governments to give priority to pain management in their own countries.

### ChildKind International

Children continue to suffer from pain, both acute and chronic, due to enormous variations in implementing pain management guidelines, both between and within institutions. ChildKind International presents a model to improve the quality of pediatric pain prevention and management in health care facilities worldwide by awarding special accreditation to institutions that have implemented specific practices that are known to promote pain reduction.<sup>54</sup> This initiative is based on the highly successful Baby Friendly Hospital programs and is the brainchild of IASP's Special Interest Group on Pain in Childhood.

### Improving Opioid Availability

In addition to the changes instituted at the INCB to improve opioid availability, the United Nations Commission for Narcotic Drugs passed a groundbreaking resolution in March 2010, instructing governments to do more to make opioids available for medical use, and mandating the INCB to report changes in opioid use.<sup>55</sup>

## Conclusion

Acute pain in several settings is not well managed in the developing world. A shortage of clinicians, poor opioid availability, and lack of knowledge are some of the barriers to achieving optimal pain management. However, there appears to be a glimmer of hope. Many health care professionals are taking initiatives to overcome some of these barriers, and perhaps in a few years' time we can look forward to better acute pain management in the developing world.

## References

1. Cordell WH, Keene KK, Giles BK, Jones JB, Jones EH, Brizendine EJ. The high prevalence of pain in emergency medical care. *Am J Emerg Med* 2002;20:165–9.
2. Macrae WA. Chronic post-surgical pain: 10 years on. *Br J Anaesth* 2008;101:77–86.
3. Apfelbaum JL, Chen C, Mehta SS, Gan TJ. Postoperative pain experience: results from a National survey suggest postoperative pain continues to be under-managed. *Anesth Analg* 2003;97:534–40.
4. Benhamou D, Berti M, Brodner G et al. Postoperative analgesic therapy observational survey (PATHOS): a practice pattern study in 7 central/southern European countries. *Pain* 2008;136:134–41.
5. World Bank. How to classify countries. Available at: <http://data.worldbank.org/about/country-classifications>. Accessed June 20, 2011.
6. United Nations Development Program. Worldwide trends in the Human Development Index. Available at: <http://hdr.undp.org/en/statistics/hdi>. Accessed March 14, 2011.
7. Travis P, Bennett S, Haines A, Pang T, Bhutta Z, Hyder AA, Pielemeier NR, Mills A, Evans T. Overcoming health-systems constraints to achieve Millennium Development Goals. *Lancet* 2004;364:900–6.
8. Hodges SC, Mijumbi C, Okello M, McCormick BA, Walker IA, Wilson IH. Anaesthesia services in developing countries: defining the problems. *Anaesthesia* 2007;62:4–11.
9. Jochberger S, Ismailova F, Lederer W, Mayr VD, Luckner G, Wenzel V, Ulmer H, Hasibeder WR, Dünser MW; Helfen Berührt Study Team. Anesthesia and its allied disciplines in the developing world. A nationwide survey of the Republic of Zambia. *Anesth Analg* 2008;106:942–8.
10. World Health Organization. World health statistics 2010. Available at: [http://www.who.int/whosis/whostat/EN\\_WHS10\\_Full.pdf](http://www.who.int/whosis/whostat/EN_WHS10_Full.pdf). Accessed March 28, 2011.
11. Eastwood JB, Conroy RE, Naicker S, West PA, Tutt RC, Plange-Rhule J. Loss of health professionals from sub-Saharan Africa: the pivotal role of the UK. *Lancet* 2005;365:1893–900.
12. Mullan F. Doctors and soccer players: African professionals on the move. *N Engl J Med* 2007;356:440–3.
13. Rajagopal MR, Joranson DE, Gilson AM. Medical use, misuse and diversion of opioids in India. *Lancet* 2001;358:139–43.
14. Ghooi RB, Ghooi SR. Freedom from pain: a mirage or a possibility? Experience in attempts to change laws and practices in India. *J Pain Palliat Care Pharmacother* 2003;17:1–9.
15. International Narcotics Control Board. Report of the International Narcotics Control Board for 2006. New York: United Nations; 2007. Available at: [http://www.incb.org/pdf/e/ar/2006/incb\\_report\\_2006\\_full.pdf](http://www.incb.org/pdf/e/ar/2006/incb_report_2006_full.pdf). Accessed March 27, 2011.
16. De Lima L, Sweeney C, Palmer JL, Bruera E. Potent analgesics are more expensive for patients in developing countries: a comparative study. *J Pain Palliat Care Pharmacother* 2004;18:59–70.
17. Ward SE, Hernandez L. Patient-related barriers to cancer pain management in Puerto Rico. *Pain* 1994;58:233–8.
18. Macpherson C, Aarons D. Overcoming barriers to pain relief in the Caribbean. *Dev World Bioethics* 2009;9:99–104.
19. Lim R. Improving cancer pain management in Malaysia. *Oncology* 2008;74(Suppl 1):24–34.
20. Charuluxananan S, Thienthong S, Rungreungvanich M, Srirojanakul W, Punjasawadwong Y, Sriprajittichai P. A survey of post anaesthetic pain management in Thailand. *J Med Asso Thai* 2009;92:1028–32.
21. Faponle AF, Soyannwo OA, Ajayi IO. Postoperative pain therapy: a survey of prescribing patterns and adequacy of analgesia in Ibadan, Nigeria. *Cent Afr J Med* 2001;47:70–4.
22. Vijayan R, Tay KH, Tan LB, Loganathan. Survey of postoperative pain in University Hospital, Kuala Lumpur. *Sing Med J* 1994;35:502–4.
23. Vijayan R, Delikan AE. First year's experience with an acute pain service – University Hospital Kuala Lumpur. *Med J Malaysia* 1994;49:385–400.
24. Shiqing L, Kangqing X, Peng Y, Haihua S, Miao X, Wenqi H. Improving the quality of acute pain services: experiences of treatment of 5212 patients. *Anestezjoi Intens Ter* 2009;41:219–23.
25. Jain PN, Chatterjee A. Development of acute pain service in an Indian cancer hospital. *J Pain Palliat Care Pharmacother* 2010;24:129–35.
26. Barros GA, Leronica L. Patient controlled analgesia in a university hospital. *Rev Bras Anestesiol* 2003;53:69–82.
27. Anwari JS, Ahmed F, Mustafa T. An audit of acute pain service in Central, Saudi Arabia. *Saudi Med J* 2005;26:298–305.
28. Hoda MQ, Hamid M, Khan FA. Audit of an acute pain service in a tertiary care hospital in a developing country. *J Pak Med Assoc* 2007;57:560–2.
29. Batta SK. Low-dose ketamine analgesia for use in under-developed countries. *Anesth Analg* 2007;104:232.
30. King C. Postoperative analgesia in rebel territory in Cote d'Ivoire. *Anaesthesia* 2005;60:419–20.
31. Faponle AF, Soyannwo OA. Postoperative pain therapy: prescription patterns in two Nigerian teaching hospitals. *Niger J Med* 2002;11:180–2.
32. Weber SE. Cultural aspects of pain in childbearing women. *J Obstet Gynaecol Neonatal Nurs* 1996;25:67–72.
33. Olayemi O, Morhason-Bello IO, Adedokun OB, Ojengbede OA. The role of ethnicity on pain perception in labor among parturients at university college hospital, Ibadan. *J Obstet Gynaecol Res* 2009;35:277–81.
34. Tan EC, Lim Y, Teo YY, Goh R, Law HY, Sia AT. Ethnic differences in pain perception and patient-controlled analgesia usage for postoperative pain. *J Pain* 2008;9:849–55.
35. Kuczowski KM, Chandra S. Maternal satisfaction with single-dose spinal analgesia for labor pain in Indonesia: a landmark study. *J Anesth* 2008;22:55–8.
36. Bosenberg A. Pain issues in children of the developing world. *Pain Res Manag* 2006;11:76B.
37. Puchalski Ritchie LM, Howie SRC, Njai PC. Development of a pain management protocol for a paediatric ward in the Gambia, West Africa. *Int J Pediatrics* 2010;2010:975313.
38. Bosenberg AT, Raw R, Boezaart AP. Surface mapping of peripheral nerves in children with a nerve stimulator. *Paediatr Anaesth* 2002;12:398–403.
39. World Health Organization. Global status report on road safety. Available at: [http://www.who.int/violence\\_injury\\_prevention\\_safety\\_status/2009/en/](http://www.who.int/violence_injury_prevention_safety_status/2009/en/). Accessed March 30, 2011.
40. Mathers CD, Lopez AD, Murray CJL. The burden of disease and mortality by conditions: data, methods, and results for 2001. In: Lopez AD, Mathers CD, Ezzati M, editors. *Global burden of disease and risk factors*. New York: The World Bank and Oxford University Press; 2006. pp 45–180.
41. Guéant S, Taleb A, Borel-Kühner J, Cauterman M, Raphael M, Nathan G, Ricard-Hibon A. Quality of pain management in the emergency department: results of a multicentre prospective study. *Eur J Anaesthesiol* 2011;28:97–105.
42. Berben SA, Meijs TH, van Dongen RT, van Vugt AB, Vloet LC, Mintjes-de Groot JJ, van Achterberg T. Pain prevalence and pain relief in trauma patients in the Accident and Emergency department. *Injury* 2008;39:578–85.
43. Aisuodionoe-Shadrach Ol, Olapde-Olaopa EO, Sayannwo OA. Preoperative analgesia in emergency surgical care in Ibadan. *Trop Doct* 2006;36:35–6.
44. Wilkinson D, McDougall R. Primary trauma care. *Anaesthesia* 2007;62(Suppl 1):61–4.
45. Joranson DE, Ryan KM. Ensuring opioid availability: methods and resources. *J Pain Symptom Manage* 2007;33:527–32.
46. Rajagopal MR, Joranson DE. India: opioid availability – an update. *J Pain Symptom Manage* 2007;33:615–22.
47. Leon M, Florez S, De Lima L, Ryan K. Integrating palliative care in public health: the Colombian experience following an International Pain Policy Fellowship. *Palliat Med* 2011;25:365–9.
48. Powell RA, Kaye RM, Ddungu H, Mwangi-Powell F. Advancing drug availability – experiences from Africa. *J Pain Symptom Manage* 2010;40:9–12.
49. Merriman A, Harding R. Pain control in the African context: the Ugandan introduction of affordable morphine to relieve suffering at the end of life. *Philos Ethics Humanit Med* 2010;8:5–10.
50. Mullan F, Frehywot S, Omaswa F, Buch E, Chen C, Greysen SR, Wassermann T, Abubakr DE, Awases M, Boelen C, Diomande MJ, Dovlo D, Ferro J, Haileamlak A, Iputo J, Jacobs M, Koumaré AK, Mipando M, Monekosso GL, Olapade-Olaopa EO, Rugarabamu P, Sewankambo NK, Ross H, Ayas H, Chale SB, Cyprien S, Cohen J, Haile-Mariam T, Hamburger E, Jolley L, Kolars JC, Kombe G, Neusy AJ. Medical schools in sub-Saharan Africa. *Lancet* 2011;377:1113–21.
51. Editorial. Health care: an African solution. *Lancet* 2011;377:1047.
52. International Association for the Study of Pain. International Pain Summit. Available at: <http://www.iasp-pain.org/painsummit>. Accessed June 5, 2011.
53. International Association for the Study of Pain. Declaration of Montreal. Available at: <http://www.iasp-pain.org/painsummit/declaration>. Accessed June 5, 2011.
54. ChildKind International. Available at: <http://www.childkindinternational.org>. Accessed June 4, 2011.
55. United Nations Economic and Social Council. Commission on Narcotic Drugs. 2010. Available at: [www.unodc.org/documents/commissions/CND-Uploads/CND-53-RelatedFiles/ECN72010\\_L6Rev1EV1051780.pdf](http://www.unodc.org/documents/commissions/CND-Uploads/CND-53-RelatedFiles/ECN72010_L6Rev1EV1051780.pdf).

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