IASP 2025
GLOBAL YEAR
Pain Management, Research and Education in Low- and Middle-Income Settings

FACT SHEET

Pain Management Education in Low- and Middle-Income Settings

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Globally, pain is an underdiagnosed and undertreated healthcare problem. Patients the world over suffer from pain of all types, including cancer and end-of-life pain, acute pain, and chronic non-cancer pain (CNCP). In many low-resource countries, treatment may be very limited or even absent – there is a "treatment gap" between what could be done and what is being done.[1–3]

Pain Management Barriers

Barriers to adequate pain management exist in high-income countries (HICs) as well as low- and middle-income countries (LMICs). However, these barriers are compounded by resource constraints in LMICs. Important barriers include low prioritization of pain relief (at multiple levels), limited expectations of patients, poor knowledge and attitudes of healthcare workers, limited access to analgesic treatments, cultural biases related to pain and pain relief, and specific regulatory issues related to the availability and use of opioid analgesics.[2]

An IASP survey of members working in "developing" (low-resource) countries identified lack of healthcare worker education as the most common barrier (91% of respondents), followed by government policies (74%), fear of opioid addiction (69%), high cost of drugs (58%), and poor patient compliance (35%).[1]

The Importance of Education

Strategies for improving pain management in low-resource countries can be broadly grouped into three areas: advocacy, improving treatment availability, and education. These areas are interdependent, but education is arguably the most important. Educational programs are required to improve knowledge and change attitudes toward pain management, both for healthcare workers and for patients and their families. Education therefore underpins both effective advocacy and efforts to improve treatment availability.[2]

Unfortunately, in many countries, pain management education for doctors, nurses, and other healthcare workers is often very limited. A survey of 242 medical schools in 15 European countries found that fewer than 20% had dedicated compulsory pain teaching. Pain-related education, when provided, occurred within other subjects and tended not to use practical teaching methods.[4] In a survey of doctors in 49 LMICs, 90% considered their undergraduate training in pain management to be inadequate and 80% received no formal training at all.[1] Similarly, a recent needs assessment survey of faculty members and postgraduate students in Zimbabwe found that teaching of chronic pain management was inadequate.[5]

Educational Strategies

Because the current treatment gap is large in many low-resource countries, there is potential for significant gains with relatively simple and low-cost educational strategies. Based on our international experience, we suggest two key educational strategies. First, simple multidisciplinary education of healthcare workers to increase general pain management knowledge. Second, education of pain management specialists who will advocate for improved pain management and drive change – the so-called "pain champions."[6]

The IASP has previously used five criteria to evaluate pain management educational programs.[1] These are:

1. Evidence of good organization, educational expertise, basic knowledge of pain mechanisms, and clinical management.
2. Local needs are clearly identified as the basis for the application.
3. Curriculum must match students' needs and be based on written materials or distance learning courses.
4. Clear plan for pre- and post-course written, oral, or practical assessments, as appropriate.
5. Detailed and realistic budget with minimum social costs.

Simple Multidisciplinary Education

An existing example of a simple multidisciplinary program is Essential Pain Management (EPM).[7] The course was specifically designed for doctors, nurses, and other healthcare providers working in low-resource environments and was first trialed in Papua New Guinea in 2010. Since then, the course has been translated into seven languages and used in over 60 countries worldwide, including some high-income countries.[8]

EPM aims to improve pain knowledge, teach a simple system for managing pain, and address local pain management barriers. The face-to-face course is usually delivered as an interactive, multidisciplinary, one-day workshop comprising short interactive lectures, brainstorming sessions, and small group case discussions. The programme uses the "RAT system" as a simple framework for managing different types of pain. RAT stands for Recognize, Assess, and Treat, and is analogous to the ABC approach used in trauma management. The small group case discussions are a vital part of the workshop because they allow participants to apply the RAT system to a wide range of clinical scenarios and find local practical and achievable solutions to local problems.

The EPM program emphasises early handover to local instructors, and this facilitates the development of pain champions. The program includes a half-day instructor workshop that prepares local instructors to organize and teach the course.

EPM is also presented as an online course that can be completed in about four hours. The course is currently available in English and Spanish, and comprises short lectures, interactive graphics, and videos illustrating the use of the RAT system. Some centers are now using the online course followed by face-to-face case discussions as an alternative to the one-day workshop (Prof. Jocelyn Que, University of Santo Tomas, Manila, Philippines, personal communication, 2024).

Education of Specialists

At the same time, it is essential that health systems and organizations such as IASP, the World Federation of Societies of Anaesthesiologists (WFSA), and groups such as the Asia Pacific Hospice Palliative Care Network,[9] continue to support the development of pain management experts. There are three broad reasons for this. First, pain experts are required for the clinical management of complex pain cases, including delivery of specialized care, such as interventional techniques. Second, experts are essential for advocacy and driving the development of improved pain management services.[10] Third, they have a critical role in pain management education, including leading the provision of simple education, such as EPM, and the transfer of more specialized knowledge and skills, such as the development of multidisciplinary pain clinics.[11]

An example of specialist pain education for doctors working in low-resource countries is the Bangkok Clinical Pain Management Fellowship – a collaboration between IASP, WFSA and Siriraj Hospital, Mahidol University, Bangkok, Thailand. This fellowship provides a one-year clinical attachment for anaesthesiologists from low-resource Asian countries wishing to specialize in pain management. The program started in 2005 and, to date, has trained over 30 international fellows from twelve countries. All fellows have returned home, and many are playing a key role in the development of pain services in their own countries (A/Prof Nantthasorn Zinboonyahgoon, Siriraj Hospital, Mahidol University, Bangkok, Thailand, personal communication, 2024).

Other programs also help to develop and support pain specialists in low-resource countries, such as WFSA Fellowships in other parts of the world,[12] and well-established IASP Pain Camps in Southeast Asia.

Cultural Considerations

As noted earlier, cultural biases related to pain and pain relief are important pain management barriers and may assume relatively greater importance in LMICs. It is therefore vital that training programs address cultural attitudes and sensitivities toward pain and its management, equipping healthcare workers with the knowledge and skills to navigate cultural barriers, improve patient-provider communication, and foster trust. Programs should emphasize patient-centered communication by teaching healthcare workers to engage empathetically, understand individual needs, and involve patients in shared decision-making.[13]

Families and communities are likely to play an essential role in addressing cultural attitudes towards pain. Community and

patient outreach programs can provide knowledge about pain management options, dispel myths, and promote adherence to treatment plans. Recognizing pain as a public health issue can raise awareness of pain as a treatable condition, reduce stigma, and foster a supportive environment for seeking care, ultimately enhancing outcomes and quality of life for those affected.[14]

Measuring Progress

Evaluation of educational interventions is challenging, and this applies to programs in high-income countries as well as countries with more limited resources. The Kirkpatrick model[15] has been used for a variety of clinical programs, and comprises four levels:

1. Reaction
2. Learning
3. Behavior
4. Results

Programs such as EPM and the Bangkok Fellowship assess Level 1 (Reaction) by using questionnaires to evaluate immediate reaction of participants and guide program development. Level 2 (Learning) can be assessed by using pre- and post-course testing; this is routinely used by the EPM program.

Assessment of Level 3 (Behaviour) and Level 4 (Results) is more complex, especially if clinical endpoints are used. Competency-based assessment, such as entrustable professional activities (EPAs) and direct observation of procedural skills (DOPS), may provide valuable information during fellowship training (A/Prof Nantthasorn Zinboonyahgoon, personal communication, 2024). Structured interviews in Papua New Guinea after a series of EPM courses suggested positive behavioral changes, such as increased knowledge leading to change in clinical practice, dissemination of education to other health workers, increased use of multimodal analgesia, and use of the RAT system.[8]

The development of local pain champions has resulted in a range of initiatives that are directly or indirectly associated with improved clinical outcomes for patients, e.g., regular pain management education, the establishment of acute and/or chronic pain services, and improvements in interdisciplinary collaboration between healthcare workers.

The ultimate measure of success in pain management education is the same for HIC and LMIC: improved clinical outcomes and better patient-reported experiences.

Conclusion

Addressing the global disparities in pain management requires a multifaceted approach. By empowering healthcare workers with fundamental knowledge, fostering the development of pain management specialists, and promoting cultural sensitivity in training, we can begin to close the treatment gap in low-resource settings. Programs such as Essential Pain Management (EPM) and specialist fellowships are examples of targeted, cost-effective educational strategies that have the potential to yield transformative results, improving clinical outcomes and patient experiences. The ultimate aim of healthcare systems, educators, and advocates in low-resource countries should be the same as those in high-income countries – the normalization of effective pain management as a fundamental component of human dignity and equitable healthcare.

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Author Disclosures

- Wayne Morriss and Roger Goucke are the co-developers of the Essential Pain Management (EPM) programme.
- Sean Chetty is the current Chair of the WFSA's Pain Management Committee.

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