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Pain Education Curricula for Low- and Middle-Income Settings: Two Models for Further Capacity Building

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Pain is a hidden, but significant global health problem. Although it affects all populations, regardless of age, sex, income, race, ethnicity, or geography; its impact is not distributed equally across the globe^[1]. In low- and middle-income countries (LMICs) or settings, where the burden of acute and chronic pain is greater, treatment is even more challenging. This challenge arises not only due to limited access to specialized care and resources, but also from poor knowledge and attitudes among healthcare professionals regarding pain management^[2,3].

To address this gap, we describe two pioneering pain education curricula in LMICs as examples to empower healthcare professionals in resource-constrained settings. The early models for pain education in LMICs in South East Asia include the Siriraj Clinical Pain Management Training Center, Bangkok, Thailand, and the Master in Pain Management program, Center for Pain Medicine, Faculty of Medicine and Surgery, University of Santo Tomas (UST), Manila, Philippines established in 1989 and 2008, respectively. By combining updated clinical knowledge with multidisciplinary approaches and cultural adaptability, these curricula may serve as models for enhancing global pain management.

The Siriraj Clinical Pain Management Training Program

The Siriraj Clinical Pain Management Training Center offers multidisciplinary pain management services for both inpatients and outpatients in a tertiary care teaching hospital. The center addresses various pain conditions, including complex acute pain, cancer pain, chronic musculoskeletal pain, and neuropathic pain. It also serves as an academic center, providing one-year clinical training in pain management for physicians from LMICs in the Asia-Pacific region. Supported by the International Association for the Study of Pain (IASP) and the World Federation of Societies of Anaesthesiologists (WFSA) since 2008, the program has trained 35 pain physicians serving LMICs such as Myanmar, Vietnam, Laos, Cambodia, Indonesia, Nepal, and others ^[4].

Compared to high-income countries, pain education curricula in LMICs focus on simple, low-cost treatments that maximize existing resources rather than emphasizing high-cost technologies or advanced interventions. This curriculum integrates multidisciplinary foundational and advanced knowledge in pain management through the core elements of the training program as follows;

- 1. Comprehensive Clinical Training and interdisciplinary focus: Trainees undergo extensive rotations in chronic pain, palliative care, acute pain services, psychiatry, and rehabilitation. Training includes pain assessment, pharmacological treatment, and hands-on experience with basic pain interventions. The program collaborates with mentioned multidisciplinary teams to deliver holistic care.
- 2. Research and Academic Writing: Trainees are encouraged to conduct research and publish academically.
- 3. Evaluation and examination: The program evaluates trainees' competencies using multiple modalities such as written and oral examinations, case presentations, and checklists during clinical work such as Entrustable Professional Activity (EPA) and Direct Observation Procedure (DOP) evaluation checklist.

Moreover, to emphasize low-cost, high-impact solutions tailored to LMIC settings, the curricula are not only focused on the contents, but also emphasize the resource optimization by training maximizes

the use of available tools and therapies and capacity building by ensuring that the trainees are equipped to train other healthcare providers, creating a sustainable impact in their communities.

Nevertheless, understanding and communicating effectively with patients is a fundamental part of pain management, and language barriers can pose significant struggles in the training process. Even if educational activities are conducted in English, the fellow trainees may face challenges in developing patient communication skills, such as history taking and counseling, due to the limited English proficiency of most patients. Lastly, although Google Translate is not yet perfect, it can facilitate training, especially by translating conversations between attending physicians and patients during outpatient visits.

The UST Faculty of Medicine and Surgery -Master in Pain Management Program

The Master of Medicine/Master of Science in Pain Management Program offered by the Center for Pain Medicine, UST Faculty of Medicine and Surgery in Manila, Philippines is a two-year multidisciplinary distance learning postgraduate degree course. It is offered to physicians (Master of Medicine) and allied health professionals (Master of Science) respectively, who are citizens and residents of Southeast Asia, India and Pakistan and who want to enhance their knowledge in the field of Pain Management as clinicians, educators and researchers.

With the 2006 IASP Initiative for Improving Pain Education in Developing Countries grant and a license agreement with the University of Sydney, this innovative program was launched in 2008. The core elements of this purely online educational program include:

- Comprehensive advanced, evidence-based and clinically relevant syllabus that adheres to the IASP Curriculum Outline on Pain for Medicine ^[5]. There is also an option for clinical attachment.
- 2. Interdisciplinary Focus: where faculty and students come from varied disciplines and specialties to study the biopsychosocial dimensions of pain and the interdisciplinary approach to pain management
- 3. **Research:** where students are required to submit a capstone project at the end of the 2-year program
- Evaluation and examination: where students participate in online discussions, interactive self-assessment quizzes, oral presentations, and assignments applied to clinical scenarios.
- 5. Basic Computer Literacy skills are developed and enhanced to optimize online learning.

To date, the program has graduated 29 Masters of Medicine (physicians)) and 6 Masters of Science (2 nurses, 3 dentists, and 1 chiropractor), 6 Graduate Diplomas and 7 Graduate Certificate holders serving LMICs such as Malaysia, Thailand, Indonesia, India and the Philippines.

Key Outcomes and Alumni Achievements

Both institutions are committed to advancing pain management through education, training and research, aiming to improve patient outcomes and quality of life for pain patients in LMICs. The ultimate goal of education and training is not just to train individual physicians, but to develop leaders or champions to share their knowledge and create a chain reaction in their homeland and even further. This potential is a key qualification in the selection process and is encouraged throughout the training period.

Alumni have demonstrated transformative potential and have pioneered efforts to improve pain management in their institutions and communities. Examples include implementing multidisciplinary approaches, establishing protocols for pain management, and developing community outreach programs to enhance medical personnel education in rural regions. Additionally, many alumni have engaged in national and international pain advocacy by initiating essential pain management programs, raising pain awareness, improving patient education through national broadcasts, or being appointed as leaders in pain management in their respective countries ^[4].

Conclusion

Our Pain Education Curriculum is a vital step toward addressing disparities in global pain management. By empowering healthcare providers with the knowledge and skills to deliver compassionate quality care, the pain education programs contribute to the alleviation of suffering and to fostering sustainable public health improvements.

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