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Pain Management, Research and Education  
in Low- and Middle-Income Settings

# FACT SHEET

## Integrating Pain Education into Medical, Nursing, and Allied Health Curricula in Low- and Middle-Income Countries

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### Why Learning Pain Education Matters for Future Healthcare Professionals

*Pain is one of the most common reasons patients seek medical care, yet many doctors and nurses graduate with insufficient training in pain assessment and management. This gap is especially critical in low- and middle-income countries (LMICs), where resources are limited and pain treatment is frequently overlooked.*

Despite evidence that pain assessment and treatment greatly improve patient outcomes, healthcare providers in these regions often receive inadequate training<sup>[6]</sup>. By incorporating structured pain education into medical and nursing curricula, future doctors and nurses can improve patient care, reduce pain suffering, and address inequity in pain treatment. A solid foundation in pain education is essential for nurturing empathy, improving clinical skills, and ensuring that everyone in LMICs receives fair and effective pain management across all populations<sup>[1]</sup>.

### Problem Statement

Many healthcare providers in LMICs lack adequate training in managing pain, particularly in understanding pain through a biopsychosocial lens. This leads to:<sup>[2,3]</sup>

- Misinterpretation or neglect of pain problems

- Sub-optimal patient outcome
- Increased health care costs due to delayed recovery

Millions of patients worldwide suffer from unrelieved acute, chronic, and cancer-related pain due to these critical gaps in healthcare provider education and training in LMICs.

This fact sheet proposes strategies to incorporate pain education for future healthcare professionals to ensure evidence-based, compassionate pain care skills for all patients.

### Key Considerations and Priority Areas in Pain Management

Addressing the critical gap in pain education and training is essential for equitable and effective pain care in LMICs. The following strategies might help integrate a comprehensive pain education into medical, nursing, and allied health curricula.

#### A. Integrated Curricula

Pain education must be systematically integrated across all disciplines because pain manifests in every clinical setting. It should be incorporated into both process- and system-based learning, including basic sciences within systems and modules (for example, Quality of Life). System-based approaches, like studying chest pain due to angina or myocardial infarction

tion, can be taught in the context of pain pathways, reasons for referred nociceptive pain mechanisms, target of pharmacological agents, and non-pharmacological therapies within the relevant case module <sup>[4]</sup>.

Pain education should be integrated contextually across all clerkships including but not limited to:

- **Obstetrics/Gynecology:** Physiology, labor pain, and its management.
- **Surgery:** Post-operative pain assessment and multimodal pain treatment.
- **Emergency Medicine:** Acute pain protocol & opioid stewardship.
- **Anesthesiology:** Regional anesthesia/nerve block techniques.
- **Family Medicine:** Outpatient chronic pain assessment and non-pharmacological approaches.
- **Neurology:** Neuropathic pain mechanisms and treatment.
- **Medical Oncology:** Cancer pain syndromes and palliative care principles.

This discipline-specific integration ensures trainees develop both a comprehensive, practical understanding of pain management and a clear awareness of the role of multidisciplinary teams in holistic pain care.

## B. Curriculum Modifications

The following key components should be included in the medical, nursing, and allied health program curricula:

- **Basic Sciences:** Anatomy of nociceptive pain pathways, physiological mechanisms, and pathophysiology of different types of pain (physical, emotional).
- **Pharmacology:** Pain medications, safe opioid use, alternatives, side effects and management.
- **Assessment Tools:** Culturally adapted pain assessment scales.
- **Non-Pharmacological Methods:** Physical therapy and psychological therapies, including mindfulness, relaxation techniques, and cognitive behavioral therapy. These tend to be effective, and potentially less expensive than non-invasive therapies.

- **Quality of Life:** Better pain care, functional improvement, quick recovery, improved quality of life.
- **Ethics and Advocacy:** Pain as a human right, equity in access to analgesics and pain care.

## C. Assessment Plan:

Assessments of learning must be focused not only on knowledge, but also on clinical skills and attitudes related to pain. This assessment can be formative or summative.

- **Written Tools (MCQs/EMQs)** <sup>[5]</sup>
  - Assessing cognitive knowledge (For example, nociceptive pain pathways, inflammatory cytokines).
  - Promote critical thinking through case-based questions.
- **Objective Structured Clinical Examinations (OSCE)** <sup>[7]</sup>
  - Evaluate clinical competencies:
    - Pain assessment techniques
    - Communication and empathy (for example, breaking bad news)
    - Practical skills (for example, prescription writing, non-pharmacologic advice).
    - Interprofessional collaboration within multidisciplinary teams

These can be integrated into clerkships or exit exams based on learning objectives.

## Overcoming Obstacles in Pain Education

Integrating pain education into medical, nursing, and allied health curricula in LMICs requires a thoughtful, strategic approach, considering several key challenges:

- **Competing curricular priority:** In already overstretched curricula with limited time, pain education should be integrated into existing courses rather than as a standalone module.
- **Limited resources:** Due to limited faculty and infrastructure, it is advisable to adapt the existing pain education module to the local context and implement it accordingly.
- **Restricted access to medications and treatments:** curricula should focus on the rational use of available medications and alternative pain relief methods.

- Cultural and systemic influences: Pain education must be culturally sensitive and must reflect the local perspective.
- Workforce-related challenges in LMICs: Curricula must emphasize teamwork, task shifting, and multidisciplinary approaches to strengthen care despite a limited workforce.

### Conclusion and Call to Action:

Pain is a universal experience, yet it often receives minimal attention and remains poorly managed, especially in LMICs, due to critical gaps in education. Integrating comprehensive pain training into medical, nursing, and allied health curricula is essential to prepare future healthcare professionals to deliver fair and equitable pain management for all.

Now is the time to act, and we must:

- Advocate for national policy requiring structured pain education in nursing and medical curricula across all settings.
- Collaborate with governments, institutions, and national pain societies to create standardized, locally relevant pain curricula.
- Provide ongoing professional development via open-access free digital resources like the Essential Pain Management (EPM) certificate course.

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