

## ORIGINAL ARTICLE

## Pain Education in Postgraduate Medical Curriculum in Bangladesh: An In-depth Analysis

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### Abstract

**Background:** Pain is one of the most common symptoms for which people seek help from physicians. But it is not well emphasized over curriculum and evaluation method of medical, dental or nursing curriculum. The objective of the present study was to evaluate pain education in postgraduate medical, dental and nursing curricula in Bangladesh.

**Methods:** This is a descriptive and analytical study which evaluated post-graduate medical education. For building the matrix, a graphical representation “concept map” was formed. Key words from this map were used for evaluation.

**Results:** In postgraduate curriculum, from 2014 to 2018, highest 48% marks were allocated in residency program of Physical medicine. Short answer questions and multiple choice questions were used for assessment of knowledge part of pain education. To evaluate skill of pain management objective structured clinical examination was used.

**Conclusion:** Dedicated pain curricula with purpose, planning for implementation, encouraging to learners can make a difference to motivate healthcare professional for better pain management situation in Bangladesh.

**Keywords:** Pain Education, Pain Management, Scholarships and Fellowships, Professional Medical bodies, Developing Countries, Medical Schools, Medical Education

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## Introduction

Pain is a major concern to seek primary health care consultation<sup>1</sup>. In Bangladesh, among visiting patients of “Outpatient Department (OPD)” of Bangabandhu Sheikh Mujib Medical University (BSMMU), 89.8% presented with pain as primary symptoms<sup>2</sup>. In another country in this region, Sri Lanka, 67% patients reported suffering from chronic pain<sup>3</sup>. People living in low resource settings have limited access to skilled pain care and innovative technologies. It is suggested that about 35% people in developing countries are living with chronic pain<sup>4</sup>. Deficiency in pain education is repeatedly notified as the major barrier for pain management worldwide<sup>5</sup>. In Pakistan 90% general practitioners (GP) are regularly treating patients with chronic pain but 85% of GPs have severely deficient knowledge about pain medicine and modern methods<sup>6</sup>.

Different bodies are working together to establish a definite pain curriculum to overcome this deficiency. IASP has initiated core curriculum including different professional bodies to improve pain education<sup>7</sup>. But, pain is least prioritized in this region as well as pain education<sup>8</sup>. In South-East Asia, Agha Khan University of Pakistan introduced Fellowship on pain medicine at 2005 to meet this challenge<sup>9</sup>. A handful fellowships are available in India also<sup>10</sup>. In Egypt, a 1 day workshop “Essential Pain Management” designed for medical staff and nurses was conducted to emphasize on management plan with low cost and improvement of quality of life of pain sufferers with accessible treatments<sup>11</sup>. Essential Pain Management (EPM) was also introduced in Bangladesh in 2013 with the help of Interplast and Australian and New Zealand College of Anaesthetists (ANZCA) coordinated by Bangladesh Society for Study of Pain (BSSP)<sup>12</sup>. Two Weeks long ‘LearnPain’ course designed by BSSP for the beginners was introduced in the year 2018. To provide healthcare needs of a person in pain, medical students should be given opportunities to develop knowledge and professional attitudes. To fulfill this aim effort to improve today’s curriculum should be based on robust comprehensive understanding of pain education and how it is delivered to students. It is a crying need to evaluate if we are preparing our trainees to meet this challenge and coping with current standard of pain education worldwide in

Bangladesh. In this scenario, this study was undertaken to evaluate pain education at postgraduate level in Bangladesh.

## Methods

This observational study was conducted in Bangabandhu Sheikh Mujib Medical University (BSMMU). Firstly, a cross-sectional study was conducted in six different departments of BSMMU to evaluate the prevalence of pain as presenting complaint. Afterwards, we evaluated the matrix of curriculum and assessment method. “Key phrases” were selected from concept map and these phrases were searched among curriculum and written questions.

For curriculum analysis, departments which generally handle patients with pain were included. Six Departments were chosen for curriculum evaluation. Website of BSMMU was used for analysis using [www.bsmmu.edu.bd/curriculum](http://www.bsmmu.edu.bd/curriculum)<sup>13</sup>. Pain teaching hours were categorized as - directly - if a module ‘specifically focused on pain’ was documented in curriculum and indirectly – where pain was not focused specifically on pain, but included some elements of pain teaching with it. Moreover, categorization was done by dividing into-knowledge and skill part. Written question papers of 2014 to 2018 which included Short answer questions and multiple choice questions were explored for evaluation of assessment method of postgraduate level.

## Analysis Plan

Matrix for evaluation of weightage given on pain in medical education was created by developing “concept map” (**Fig: 1**). It is a graphical presentation where pain was identified as the focus question. Facts, questions and ideas about pain were noted down. They were kept as concise as possible. This map started from top and developed downwards. To give emphasis over focus question bigger nodule was used. Connection between focus questions and concepts were developed. Linking words to connect between two concepts were put down. Thus “key phrases” were selected. These were used to evaluate undergraduate, postgraduate curriculums and written

question papers.

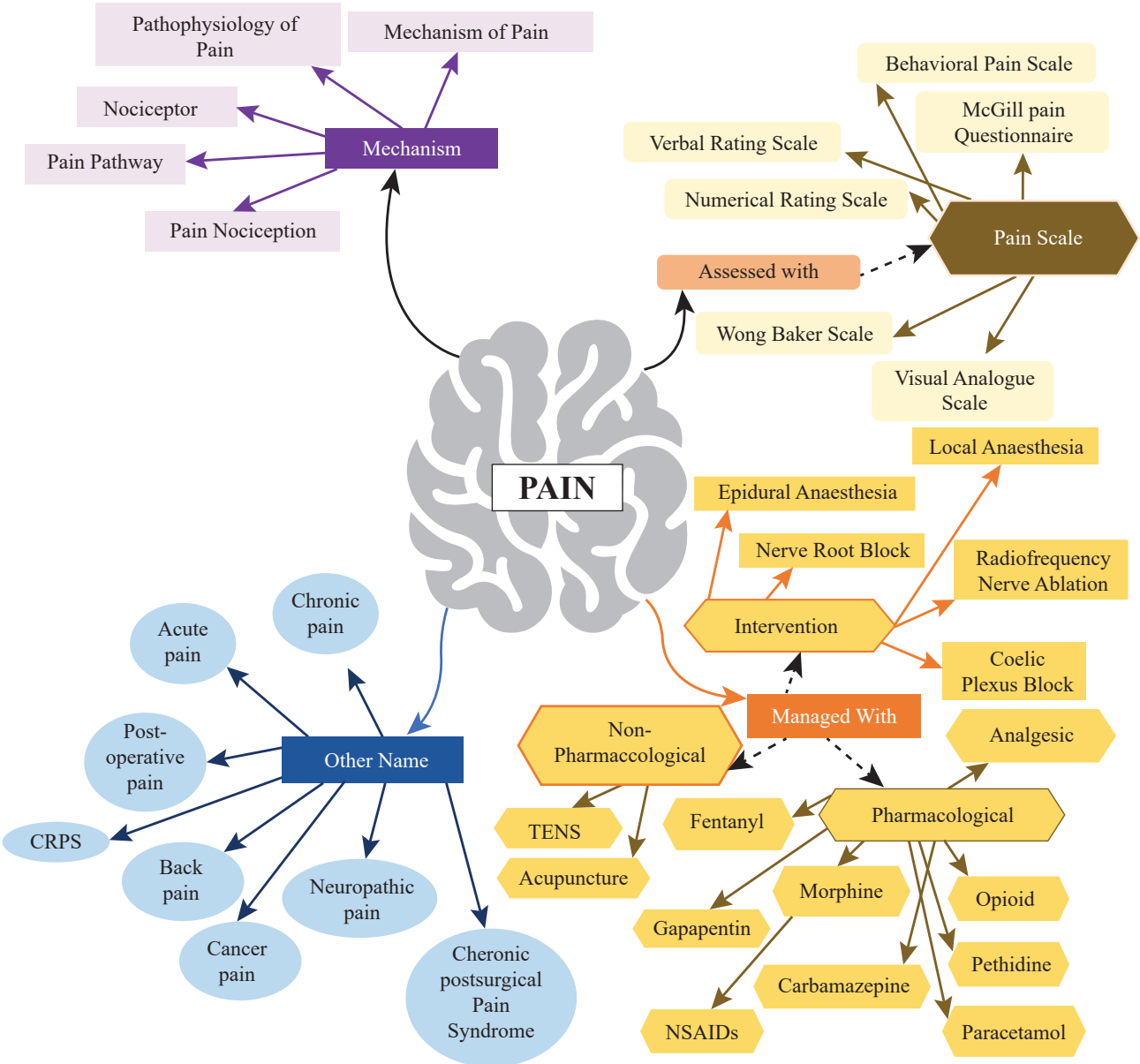


Fig. 1: Concept Map

## Results

### Presentation of Pain as a Clinical Manifestation

A total of 350 patients were included in the present study with a mean (SD) age of 39.2 ±16.2 years and 52% of them were female. Among them 309 (88.3%) presented with pain in different departments (**Table I**).

**Table I:** Characteristics of the patients (n=350)

Characteristics	Statistics
Age in years (mean±SD)	39.17± 16.21
Sex, n (%)	
Male	168 (48.0)
Female	182 (52.0)
Presentation with pain	
Yes	309 (88.3)
No	41 (11.7)
Duration of pain in days (mean±SD)	128 ± 10.61
Presenting department of patients with pain, n (%)	
Pain Medicine Clinic	80 (100)
Rheumatology	64(94.17)
Physical Medicine and Rehabilitation	55 (91.6)
Neurosurgery	25 (83.3)
Neurology	19 (42.2)
Orthopedic Surgery	66 (98.5)

### Post Graduate Curriculum Analysis

Evaluation of knowledge as well as development of skill is necessary to prepare medical students for proper training on pain. Dedicated pain curriculum is present only few post-graduation curriculum like Anesthesiology and Palliative medicine. In neurosurgery, pain is taught as a section in entire curriculum. In different specialty training, pain is included as part of other modules (**Table II**).

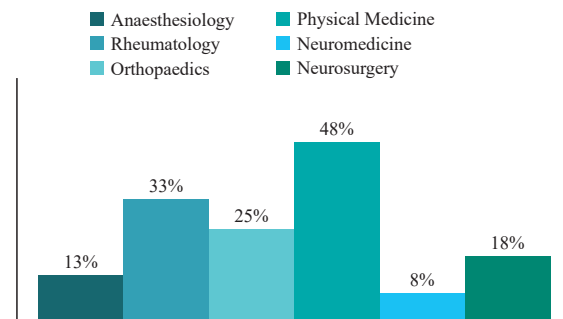
**Table II:** Pain modules in different discipline of post-graduate curriculum (phase B) in three years

Name of Department	Pain modules in curriculum (knowledge part)
Anaesthesia, Analgesia and Intensive Care Medicine Pharmacology	Pain Medicine as a block placement for three months Include few topics in curriculum
Physical Medicine and Rehabilitation	Include few topics in curriculum

Name of Department	Pain modules in curriculum (knowledge part)
Rheumatology	Include few topic in curriculum
Neurosurgery	Pain management as a section in curriculum
Neurology	Include few topics in curriculum
Orthopedics Surgery	Include few topic in curriculum

### Assessment methods

Short answer questions and multiple choice questions were used for assessment of knowledge part of pain education. To evaluate skill of pain management objective structured clinical examination was used. From 2014 to 2018, highest 48% marks were allocated in residency program of Physical medicine (Figure 2).



**Fig. 2:** Allocation of marks for assessment of pain education in different residency programs

### Discussion

Suboptimal pain management is a contributing factor to increase morbidity and mortality<sup>14</sup>. Moreover access of pain relief medications in low and middle income countries is only 0.03%<sup>15</sup>. Prejudice and misconception about pain management is one of the barriers for this crisis<sup>16</sup>. Deficient in pain education is held responsible for this scenario. To change this, pain education for health professionals at all levels has been recognized as an important step again and again<sup>17</sup>. There is a deficiency of pain-related content in most medical school curricula internationally. A study conducted in Australia and New Zealand included 23 medical schools and revealed that 5 to 43 hours is allocated for pain medicine during the entire

medical curriculum<sup>18</sup>. In Europe, average 12 hours is dedicated for compulsory module and 9 hours is discrete in other courses for pain education<sup>19</sup>. 13 hours is spent teaching pain in UK, in USA it is only 9 hours<sup>20,21</sup>. In 2018, global year for excellence in pain education, International Association of Study of Pain recommended outlines of curriculum in pharmacy, psychology, physical therapy, occupational therapy, nursing, medicine, dentistry, social work, and inter-professional education<sup>22</sup>. In postgraduate specialization of Bangladesh Anaesthesiology and Palliative medicine have dedicated pain module available in curriculum. Other branch of specialization may contain pain education in the form of pharmacology, mechanism of pain and other biophysiological content. Moreover they are available among different course content. In developed countries like USA 3% of medical schools have dedicated pain education<sup>19</sup>. The modular training, well thought out curriculum, accreditation criteria, in training assessment, faculty development, and clearly defined examination pattern of the various Boards and Faculty of Pain Medicine are lacking in India<sup>10</sup>. Scenario is almost same in other south east countries like Bangladesh and Pakistan. With the goal of developing healthcare provider's pain management practice EPM is conducted in Western Pacific Islands, Papua New Guinea, Mongolia and Tanzania with the support of IASP, WFSA and private donations. In Bangladesh EPM is conducted by ANZCA along with Bangladesh Society for Study of Pain (BSSP) since 2013 for doctors and nurses. 60% of the participants were using skills from this course for their everyday practice and 28% use this skills often. Including EPM as compulsory content in postgraduate medical curriculum was recommended for sustained and cost-effective pain education<sup>12</sup>.

Lacking of pain content in curriculum of nurses of Bangladesh was also identified by coordinators of EPM courses in Bangladesh. Though the participants from nursing background reported this course beneficial but modified pain management courses were recommended for better understanding by coordinators<sup>12</sup>.

Teaching of pain education should not be limited in classrooms. IASP recommended case based, problem based, simulation based, team based learning and

clinical experience<sup>23</sup>. Assessments also needed to evaluate application of knowledge in practice rather than just knowledge gathering. But current post graduate medical curriculum, especially in developing countries, where pain relief is least priority, rarely can provide adequate pain education which can prepare future physicians for management of pain.

### Conclusion

Pain is an exceptional feature presented with different diagnosis and manifestation to health care providers. To reduce this burden steps should be taken to prepare future physicians. Developing countries like Bangladesh need to modernize current curriculum and assessment measures in post-graduate specialization to combat this future challenge.

### Declaration

#### Ethics approval:

The study was ethically approved by Institutional Review Board of Bangabandhu Sheikh Mujib Medical University.

#### Author contributions:

Conception and development of the idea

*AKMA, MP*

Writing - Original Draft Preparation *MP, MMHA*

Data analysis *AKMA, MP*

Data collection *MP, MMHA, MMK*

Writing – Review & Editing *AKMA, MP, MSI*

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**Conflict of interests:** None

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