

## ORIGINAL ARTICLE

# Effectiveness of Essential Pain Management Programme in Improving Knowledge of Pain Management among Health Care Staff in Bangladesh

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## Abstract

**Background:** Lack of knowledge is a major contributing factor of inadequate pain management. Training and pain education of health care staff could play pivotal role in improving knowledge in the assessment and management of pain. The Bangladesh Society for Study of Pain (BSSP), with support from the Australian and New Zealand College of Anaesthetists (ANZCA) and Interplast has been conducting essential pain management (EPM) courses in the country since 2013. The main objective of this study was to evaluate the effectiveness of EPM program in improving health care staffs' knowledge toward pain management.

**Methods:** This mixed method study reviewed EPM databases to identify the participants who attended this programme from January to July, 2024. Participants who completed both pre and post-course questionnaires were selected to determine the knowledge gained through EPM workshop. They were also interviewed to explore the utilization of knowledge and perception of the importance of the workshop. The results were presented using tables and/or figures.

**Results:** A total of 59 participants were included in this study with a response rate of 93.6%. About 75% of the respondents were doctors of different disciplines. More than half (62.7%) had a post-graduate qualification comprising a diploma and master's degree. The majority of the participants (76.3%) declared that they hadn't attended any training before EPM. The average mean pre-test and post-test scores were 18.35±1.21 and 22.46±1.38, respectively. The knowledge score increased by about 16% from the pre-test to the post-test score. Nearly all respondents (97%) stated that the workshop helped them in their workplace and 60% of the participants used the knowledge in their daily practice. Most (86.4%) respondents affirmed that the EPM workshop enhanced their knowledge, skills, and confidence in managing patients.

**Conclusion:** The EPM programme is found to be an effective method of improving knowledge regarding pain management. It has a positive impact on enhancing the confidence and skills of the doctors and nurses which will improve the pain management practice in Bangladesh.

**Keywords:** Chronic pain, EPM, ANZCA, BSSP, Interplast, Bangladesh, WFA

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## Introduction

Globally, pain is an enormous and 10% are newly diagnosed with problem. It is suggested that 20% chronic pain each year, which of adults suffer from pain globally, causes a substantial socioeconomic

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and health burden<sup>1</sup>. Despite some advancements in the management and understanding of pain, chronic pain is still a great concern in most countries around the world<sup>2</sup>. Furthermore, chronic pain not only increases the sufferings of the individual but also negatively affects the delivery of health care<sup>3</sup>.

Pain is an unavoidable part of life. Lack of adequate knowledge, skill, and appropriate use of analgesics can lead to poor pain control, a problem that is noticeable in areas with limited resources particularly low and middle-income countries<sup>4</sup>. Education and training of health care staff are vital for the appropriate recognition and treatment of pain by improving knowledge, skill and attitude<sup>4</sup>. Considering this, Roger Goucke and Wayne Morriss developed the Essential Pain Management programme to improve pain management practices worldwide<sup>5</sup>.

EPM is a cost-effective, multidisciplinary initiative that implements a simple pain management framework to educate healthcare workers in resource-limited settings<sup>5</sup>. The course has been developed with the aims of enhancing the knowledge of participants in pain management; teaching health workers to Recognize, Assess, and Treat pain (the 'RAT' approach); addressing the barriers in local pain management practices, and training local health workers to teach EPM to fellow health professionals<sup>5</sup>.

In resource limited countries like Bangladesh, a large number of physicians are unaware of how to effectively treat pain which contributes to poor pain management practices<sup>6</sup>. Healthcare professionals' knowledge, attitudes and perceived barriers to adequate assessment and judicious usage of pain relievers warrant innovative methods and instructional approaches to improve the management of pain in Bangladesh<sup>6,7</sup>.

To improve healthcare providers' pain management practices in Bangladesh, ANZCA, in collaboration with the Bangladesh Society for the Study of Pain, has been conducting EPM courses in the country since 2013<sup>2</sup>. The programme has been running successfully in Bangladesh to date and has provided training to a large number of physicians and nurses.

The EPM course comprises two parts: one is the EPM Workshop and the other is the EPM Instructor course. It utilizes a snowballing model for training where potential instructors are identified early, typically during an initial workshop<sup>8</sup>. They are equipped with the necessary skills and materials to run subsequent EPM workshops in their own local areas. This creates a network that effectively disseminates knowledge and skills to improve pain management practices in low-resource settings<sup>8</sup>.

Given the length of time that EPM workshops have been conducted in Bangladesh, the program has established a significant presence and a sustainable training model. An evaluation of the program's impact on the participants' knowledge of pain management is timely and necessary to assess long-term effectiveness. Therefore, this study was conducted to evaluate the effectiveness of the EPM programme in improving participants' knowledge of pain management.

## Methods

This was a mixed method study including retrospective review of EPM database followed by prospective interviews of the participants. The EPM databases were reviewed to identify participants of the recent 3 workshops held between January and July, 2024 and 63 participants were selected who completed both pre and post-course questionnaires as designed by EPM. Before the commencement of the study, informed consent was taken from the selected participants. The sociodemographic characteristics, and pre-test and post-test scores were collected in a structured data sheet. Participants were interviewed (face to face/telephone) to explore the utilization of knowledge and perception of the importance of the EPM workshop.

## Statistical analysis

Statistical analysis was done by using the Statistical Package for Social Sciences version 23.0 for Windows (SPSS Inc., Chicago, Illinois, USA). The qualitative and quantitative variables were expressed as percentages

and mean ± standard deviation, respectively. Data were presented using tables and/or figures.

**Results:**

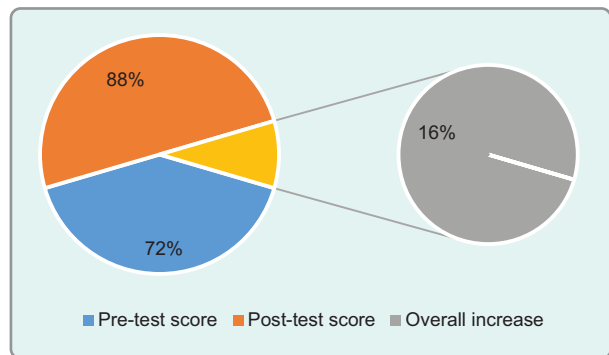
For this study, participants from the last 3 workshops who completed both pre and post-course questionnaires were included. A total of 63 participants were selected. Out of 63, 59 participants were included in the analysis with a response rate of 93.6%. Four participants were excluded from the study due to their inconvenience during the time period. The age of the respondents was 33.21±8.26 years and male to female ratio was 1.6:1. Of all the participants, more than half (62.7%) had a post-graduate qualification comprising a diploma and master’s degree in their respective fields. The majority (66.1%) of participants were working in an anesthesiology department. The majority of the participants (76.3%) declared that the EPM course is the only pain management training they have ever attended. Table 1 shows the sociodemographic characteristics of the respondents.

**Table I:** Sociodemographic characteristics of the respondents (n=59)

Variable	Value (n=59)
Age (mean ± SD)	33.21±8.26
Sex	
Male	37 (62.7%)
Female	22 (37.2%)
Current Academic Qualification	
MBBS	8 (13.5%)
Diploma (post graduate)	17 (28.8%)
FCPS	9 (15.3%)
MD	10 (16.9%)
Diploma in Nursing	11 (18.6%)
BSc Nursing	3 (5.08%)
MSc Nursing	1 (1.6%)
Current working department	
Anesthesiology	39 (66.1%)
Surgery	9 (15.3%)
Medicine	6 (10.2%)
Others	5 (8.4%)
Training other than EPM	
Yes	14 (23.7%)
No	45 (76.3%)

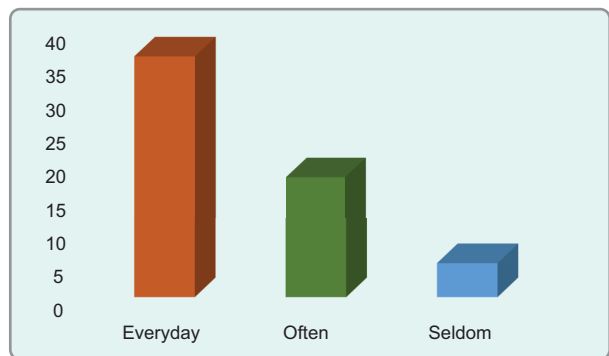
Values are expressed as mean±SD or absolute number, within parenthesis are percentage.

As part of the course, each participant was asked to complete a ‘pre-test’ before the course and a ‘post-test’ of the same questions upon completion of the course. The average mean pre-test score was 18.35±1.21 and the average mean post-test score was 22.46±1.38. The knowledge score in the pre-test questionnaire was 72% and following the workshop this increased to 88% in the post-test. On average, there is a 16% increase in the mean score from pre-test to post-test. Figure-1 presents pre-test and post-test scores of the respondents.



**Figure 1:** Pre-test and post-test scores of the respondents.

About 35 (61%) of the participants used the knowledge from the EPM course in their daily practice. A further 18 (31%) of participants used the skills gained through EPM once or twice a week, categorized as using often. The rest of the participants 5 (8%) reported that they seldom got the opportunity to use the pain management skills gained in the course which is once or twice in a month. Figure 2



**Figure 2:** Frequency of using knowledge gained from the EPM workshop.

demonstrates the frequencies in which the participants use their knowledge in their professional life.

Nearly all respondents (97%) stated that the workshop was useful for their professional life. Table II demonstrates the perception of respondents who found the workshop helpful. About 74.5% of the respondents stated that the learnings from the EPM workshop helped them by enhancing their knowledge of pain management. The majority (86.4%) of the respondents benefitted through EPM by all of the above means as the workshop helped them by both enhancing their knowledge and improving their skills and confidence in managing patients.

**Table II:** Respondent's perceptions regarding EPM workshop. (n=59)

Response (multiple)	Number of Participants (n)	Percentage
Improved confidence levels	8	13.5
Enhanced management skills	14	23.7
Increased knowledge	44	74.5
All of the above	51	86.4

Values are expressed as absolute number, within parenthesis are percentage.

## Discussion

EPM is a systematic learning platform for recognizing, assessing, and treating pain to improve a person's quality of life. Effective management addresses the assessment of both physical and psychological aspects of pain and plans an individualized combination of pharmacological and non-pharmacological therapies, known as a multimodal approach.

EPM has been delivered in over 60 countries. With support from the Australian and New Zealand College of Anaesthetists and Interplast Australia, BSSP conducts this course among the health care staff of Bangladesh throughout the year<sup>5</sup>. In this study, we reviewed the performance as well as perceptions of the participants of 3 courses in order to determine the effectiveness of EPM.

In the last 3 courses, most of the participants were physicians and nurses (ratio 2.9:1) having post-

graduate qualification in their respective fields (62.7%). This indicates that the previous courses were successful and maintained a standard organization and management, in a way that participants recommended this program to their colleagues and fellow health professionals. It is to be noted that no dedicated module is allocated for pain in the undergraduate medical curriculum in Bangladesh. Only 19 hours among 7198 hours and 25 hours out of 2412 hours are allocated for pain management in the undergraduate medical curriculum and BSc nursing, respectively<sup>9</sup>. In post-graduation curriculum, dedicated pain curriculum is present only in few disciplines<sup>10</sup>. This knowledge gap might motivate the healthcare professionals to enroll themselves in this program.

In this study, improvement of knowledge was evaluated by assessing the pre and post test score and 16% increase in the mean score from pre-test to post-test was documented. This indicates that the learnings from EPM improved their knowledge in pain management. Another study similarly demonstrated that pain management workshop has the capability to improve knowledge of the participants<sup>11</sup>. Participants from nursing background have also gained knowledge from this course as the course content is comprehensive and beneficial to the participants. A similar pain management program was conducted among nurses in Pakistan where they found that the course successfully contributed to increasing the knowledge and skills of the participants<sup>12</sup>. Another study on EPM for health workers found positive feedback with mean pre score rising from 65.89 % to 75.23 % after completion of the course<sup>13</sup>.

Most of the participants had the opportunity to apply the knowledge gained from EPM in their practice life every day. The participants believed that the course was beneficial and it helped them by improving their knowledge and skills in pain management. Other studies evaluating the outcomes of the EPM course have also found that it is useful for healthcare workers in increasing their knowledge of pain management<sup>13,14</sup>.

There are very few pain-related training programs in Bangladesh. EPM is the only program that includes

different stakeholders of health sector. Hence its outcome assessment is important for future expansion, sustainability and improvement of this course. However, the study only evaluate the effectiveness of EPM in improving knowledge of the health care staff but did not evaluate its clinical impact on patients.

### Conclusion

EPM has been found to be beneficial in enhancing the knowledge and skills of the healthcare staffs of Bangladesh. This program has a positive impact on the pain management practices of participants. Effective and sustainable strategies are required to expand its availability among the health professionals across the country to strengthen pain management in Bangladesh.

### Declaration:

Author Contributions:

Conception and development of the idea: MMK, AKMA

Writing: MMK

Data analysis: MMK, SAI, MMA, SMA

Data collection: MAH, MMH, KMA

Review and Editing: MMK, DKB, AKMA

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