

EVALUATION OF ESSENTIAL PAIN MANAGEMENT (EPM) PROGRAM IN BANGLADESH (2013- 2018)



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Report Authors

Professor Saidur Rahman Mashreky

Professor AKM Akhtaruzzaman

Dr. Dilip Kumar Bhowmick

Dr. Farah Naz Rahman

Professor AKM Fazlur Rahman

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Report contributors:

Shagoofa Rakhshanda, Minhajul Abedin

Centre for Injury Prevention and Research, Bangladesh (CIPRB)

House B 162, New DOHS, Mohakhali, Dhaka 1206



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Executive Summary:

One in five people suffer from chronic pain worldwide. Pain has a detrimental effect, not only on individual suffering, but also on the delivery of health care and on the broader economy. Yet, even now pain is widely considered an unavoidable part of life in most low and middle income countries (LMIC). This is often due to inadequate pain management practices including a lack of judicious use of pain relievers. Research has shown that education and training of health care staff can play a vital role in making pain management practices more effective for global patients and for LMICs in particular. The Essential Pain Management (EPM) program was developed to improve pain management practices worldwide. EPM is a short, cost-effective, multidisciplinary training initiative that has been delivered in more than 60 countries and implements a simple pain management framework. The Bangladesh Society for Study of Pain (BSSP), with support from the Australian and New Zealand College of Anaesthetists (ANZCA) and Interplast Australia and New Zealand has been conducting EPM courses in the country since 2013. During the six-year period from 2013 to 2018, a total of 320 doctors and nurses in Bangladesh have been trained in EPM. With EPM workshops having been delivered in Bangladesh for a number of years, an evaluation of the program's impact on the participants' pain management practices is timely. Therefore, this 'Evaluation of Essential Pain Management Program in Bangladesh (2013-2018)' study was conducted to assess the effectiveness of the EPM program in Bangladesh in terms of quality and sustainability of the course.

A mixed methods study was conducted to evaluate the EPM program in Bangladesh. EPM databases from 2013-2018 were reviewed to identify the participants and explore their characteristics in terms of academic qualification and professional designation. Further, a cross-sectional survey was conducted among a randomly selected sample of 75 participants from the EPM database of Bangladesh to assess the utilization of knowledge gained through EPM in current practices. Subsequently, to evaluate the quality of the course and to explore the sustainability options, two in-depth interviews (IDI), two key informant interviews (KII) and one focus group discussion (FGD) were conducted. Descriptive analysis was undertaken using the statistical software SPSS v.24 and qualitative analysis was completed utilising thematic analysis. ANZCA and Interplast Australia and New Zealand provided the necessary financial and technical support for conducting the evaluation program.

The study findings revealed that the course maintained standard organization and management throughout the process. The coordinators and instructors were also satisfied with the technical and advocacy support from BSSP and ANZCA. In addition, hospital and health service management expressed satisfaction with the engagement and performance of the participants, as well as the efforts and delivery methods of the instructors during the

course. Both instructors and coordinators believed that the course content is comprehensive and beneficial to the participants. The participants had the opportunity to use the learning of EPM in their practice life and half of them were using these skills in treating patients every day. Moreover, most of the previous participants felt that the EPM course is necessary for all doctors and nurses in Bangladesh and nearly all expressed that they would recommend the program to their colleagues and fellow health professionals. The participants believed that the learnings from EPM helped them in their professional life by improving their knowledge and skills in pain management. However, this study also identified some challenges for the EPM course in Bangladesh. The need for a multi-disciplinary approach with inclusion of more participants from periphery level and private medical colleges was identified as one of the major challenges. Other challenges include an insufficient number of instructors, some perceptions from instructors of difficulties for nurses to follow the course content and a need for greater promotion and dissemination of EPM course news to potential participants. To address the challenges, the recommendations from both management and participants were to increase the availability of the course through conducting multiple courses per year with more widespread dissemination of news and information of the EPM course throughout the health sector, involving more participants from different disciplines and those from the private sector. The primary advice for enhancing the sustainability of EPM was to embed the program in the academic curriculum of undergraduate medical education in Bangladesh. The respondents further recommended developing a national protocol for pain management in Bangladesh incorporating the contents of the EPM course.

The EPM program highlighted the need for proper pain management practice in Bangladesh and brought this issue to the attention of policy makers and relevant stakeholders. It has proved beneficial in enhancing the knowledge and skills of the doctors and nurses of Bangladesh and thus contributes to improving pain management in the country. Further efforts and strategy are now required to cement its sustainability in the country to ensure long lasting benefits in the management of pain in Bangladesh.

1 Background

Pain is a global crisis which causes a substantial socioeconomic and health burden (1). Globally, it is estimated that one in five, or 1.5 billion people, suffer from chronic pain (1). Despite some advancement in the management and understanding of pain, chronic pain is still a concern in most countries around the world (2). Furthermore, chronic pain has a detrimental effect, not only on individual suffering, but also on the delivery of health care and the broader economy. (3).

Pain is still perceived as an unavoidable part of life in most low and middle income countries (LMICs). Lack of adequate awareness, expertise and judicious use of pain relievers in medical and nursing staff can lead to ineffective pain management which is more evident in limited resource settings. Education and training of health care staff can play a vital role in making pain management practices more effective for patients, particularly those living in LMICs. Past research has shown that staff knowledge and attitudes are also important factors in the appropriate recognition and treatment of pain (4).

In light of this, anaesthetists Roger Goucke and Wayne Morriss developed the Essential Pain Management (EPM) program to improve pain management practices worldwide. With support from the Australian and New Zealand College of Anaesthetists (ANZCA) and the World Federation of Societies of Anaesthesiologists (WFSA), over the past 10 years EPM has been delivered in over 60 countries. EPM is a cost-effective, one day multidisciplinary initiative that implements a simple pain management framework (5).

The EPM course has been developed with the aims of:

- Improving 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.
- Training local health workers to teach EPM to fellow health professionals.

EPM in Bangladesh

A large number of physicians in Bangladesh lack adequate knowledge of how to effectively treat pain which contributes to poor pain management practices (6). Health care professionals' attitudes and perceived barriers to judicious usage of pain relievers warrants innovative instructional approaches to improve the management of pain in Bangladesh (6)(7).

With the goal of improving healthcare providers' pain management practices in Bangladesh, ANZCA, along with Bangladesh Society for Study of Pain (BSSP), has been conducting EPM courses in the country since 2013. The program has been running in Bangladesh till now and has provided training to a large number of physicians and nurses.

Course Structure:

The EPM course comprises of two parts –

- I) EPM Workshop
- II) EPM instructor Workshop

Typically, a “1 day—half day—1 day” course structure is utilized (8).

Day one is the EPM Workshop, which is a program of interactive lectures and group discussions. Participants learn the basics of pain management, apply the RAT approach during case discussions and problem-solve pain management barriers.

Day two is the EPM Instructor Workshop, a half-day program designed to provide the EPM workshop participants with the knowledge and skills to become EPM instructors. Participants learn the basics of adult learning, practice teaching skills and plan their own EPM workshops.

On day three, the EPM Instructor workshop is followed by one day workshops taught by the new instructors with the help of the visiting team.

EPM utilizes a snowballing model for training where potential instructors are identified early and provided with the skills to run more workshops (8). Given the length of time that EPM workshops have been conducted in Bangladesh, an evaluation of the program's impact on the participants' pain management practices is timely. Therefore, this study was conducted to assess the effectiveness of the EPM program in Bangladesh in terms of quality and sustainability. The study was directed to answer two key questions:

- Are healthcare providers and patients obtaining benefits from the EPM program in Bangladesh?
- What are the sustainability options for EPM program in Bangladesh?

The results of this study addressed these questions to determine the success of the EPM program in Bangladesh.

2 Methods

The study deployed a mixed method design to achieve the objectives in the following three phases:

- Assessing available information through a literature review.
- Assessing the utilization of knowledge through quantitative methods.
- Assessing the quality and scope of sustainability through qualitative methods.

EPM databases from 2013-2018 were reviewed to identify past participants and explore their characteristics in terms of academic qualification and professional designation. Subsequently, a literature review was undertaken to understand the current pain management practices in Bangladesh and to develop survey instruments for this study.

From the EPM database of 320 previously trained participants, a cross-sectional survey was conducted among a random selection of 75 participants (anticipating 80% prevalence, 10% precision, 95% confidence interval). All 75 participants (62 doctors, 13 nurses) were interviewed through a pre-tested semi-structured questionnaire. The respondents who took part in pre-testing were excluded from the main study.

Face-to-face interviews were conducted with 37 of the 75 participants at the department of anesthesiology, Bangabandhu Sheikh Mujib Medical University, Dhaka. Telephone interviews were conducted with the remaining respondents living outside of Dhaka, who were unable to participate in a face-to-face interview.

Two in-depth interviews (IDI), two key informant interviews (KII) and one focus group discussion (FGD) were conducted as part of the qualitative study to explore the views and opinions of the respondents regarding the quality of the EPM course, its impact on participants, and future opportunities and scope for sustainability. The FGD was conducted with five respondents who had acted as instructors in previous EPM courses. IDI participants were coordinators of EPM courses in Bangladesh. Key informants were the Chairman of the Bangladesh Medical and Dental Council (BMDC) and the President of the Bangladesh Society for Study of Pain (BSSP).

One anthropologist and one research assistant conducted the following interviews.

Table 1 Distribution of respondents for qualitative methods

Qualitative methods	Number of focus groups/ interviews	Participants
FGD	1 with 5 participants	Instructors of EPM
IDI	2	Coordinators EPM
KII	1	Chairman of BMDC
	1	President of BSSP

Data analysis

Following collection, quantitative data went through cleaning and processing to prepare for analysis. Descriptive analysis of the quantitative data was completed using the statistical software SPSS v24. Analysis was undertaken to identify the characteristics of the respondents, their scope and practice of utilizing the knowledge of EPM and their perceptions on the usefulness of the course. Findings were presented as frequency and percentage.

From audio-recordings and hand notes of interviewers, transcriptions were created for each qualitative interview in the local language, Bengali. The transcripts were then translated to English. Qualitative data were manually analyzed using a thematic approach. Each transcript was analyzed in detail to identify the range of ways in which the interviewees responded to various issues. Similar concepts from the interviews were extracted and clustered under pre-identified themes. For comparing information of one transcript with the other, a template was designed to organize each transcript. The template included the theme headings and for each of the headings some comparison items were listed. Appropriate quotations were also generated from the coding, and labelled accordingly for each theme.

3 Results

3.1 Document Review

The document review presents a snapshot of the EPM program in Bangladesh till now. To date (June 2020), a total of 18 EPM workshops have been conducted in Bangladesh providing training to over 400 participants. Subsequently, 36 instructors have been selected from 5

instructor's workshops, who are capable of delivering independent training. The course has been organized in four major cities, Dhaka, Sylhet, Chittagong and Kushtia, with the participation of instructors from Bangladesh and abroad. For this study, respondents of EPM workshops from 2013 to 2018 have been included. Over these six years, a total of 320 doctors and nurses of Bangladesh have been trained as part of the program.

Table-2: Essential Pain Management Workshops (EPM) in Bangladesh from 2013-2020.

EPM workshops	Year	Number of participants	Course type	Place
1 st	2013	20	Three days	Dhaka
2 nd	2013	20	One day	Dhaka
3 rd	2013	18	One day	Dhaka
4 th	2013	21	One day	Dhaka
5 th	2013	19	One day	Dhaka
6 th	2014	22	One day	Dhaka
7 th	2014	20	Three days	Chittagong
8 th	2014	23	One day	Chittagong
9 th	2014	20	One day	Dhaka
10 th	2014	18	One day	Dhaka
11 th	2015	20	Three days	Sylhet
12 th	2015	20		Sylhet
13 th	2015	17		Sylhet
14 th	2016	23	Three days	Dhaka
15 th	2017	18		Kushtia
16 th	2018	21		Kushtia
17 th	2019	34	One day	Dhaka
18 th	2020	50	Three days	Dhaka

Table-3: Essential Pain Management Workshops (EPM) in Bangladesh at a glance (2013-2020)

Total Number of Courses	Total Number of Participants	Total Number of Trained Instructors	Number of Courses facilitated by Local Trainers
18	404	36	10

The course has a component to evaluate the learning outcome of the participants. As part of it, 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 mean score of 'post-tests' was higher in each batch than that of the mean score of 'pre-tests' (9)(10)(11). Figure-1 presents the average mean pre-test and post-test scores of the participants of all the EPM workshops

conducted in Bangladesh till now. The average mean pre-test score was 18 and the average mean post-test score was 22. On average, there is a 16% increase in the mean score from pre-test to post-test.

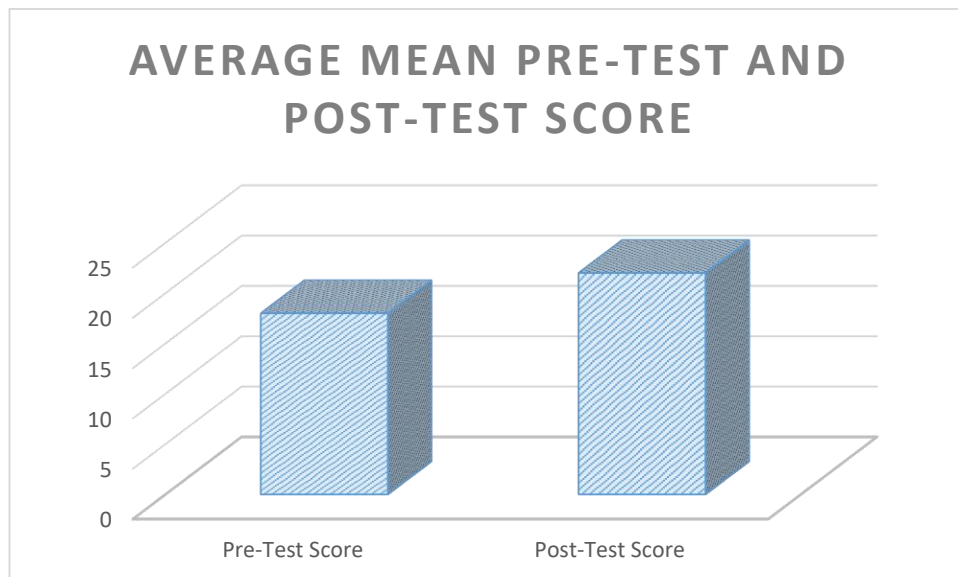


Fig-1: Average mean pre-test and post-test score of the participants from EPM workshops (2013-2020)

Figure-2 presents the trend of mean pre-test and post-test scores of the participants of all the 18 EPM workshops over the eight years (2013-2020). The score trend demonstrates that the mean post-test score was always higher than mean pre-test score in each batch.

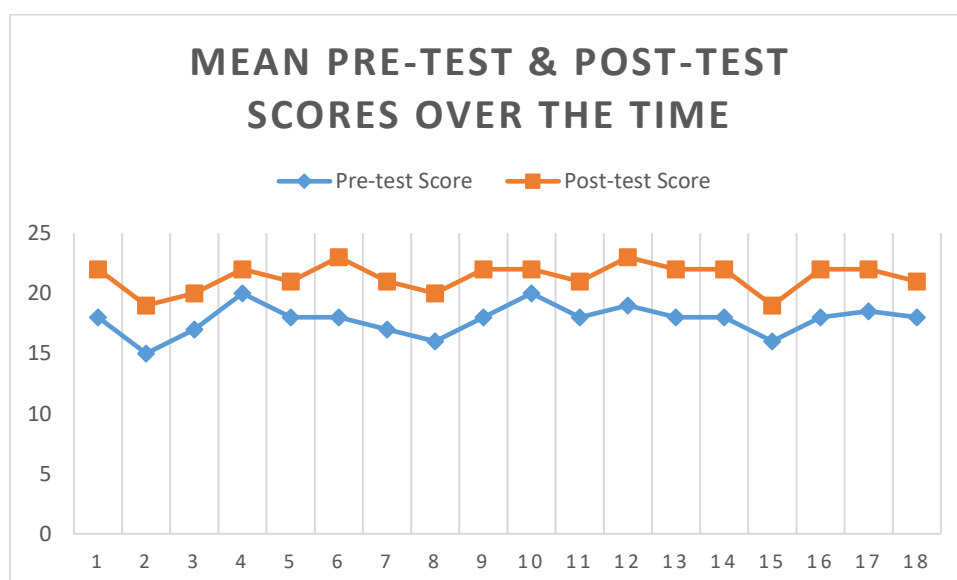


Figure-2: The trend of mean pre-test and post-test scores in EPM workshops from 2013-2020.

3.2 Qualitative findings

The qualitative findings of the study reflect respondents' perception and perspectives on the quality, strengths and achievements; challenges and limitations; and sustainability and inclusiveness of the course including recommendations for future endeavors.

3.2.1. Quality of the course

The views of instructors and coordinators of the EPM program regarding the quality of course in terms of their perceptions of trainees, course content, materials and overall organization of the course were explored.

Perceptions of trainees

The instructors from the FGD reported that the participants of the EPM courses were predominantly doctors and nurses. There were limited numbers of medical students and new graduates in some of the courses. The majority of the participants were working or doing post-graduation studies in anesthesiology, and the remainder were predominantly from different branches of surgery or medicine. The instructors expressed their satisfaction regarding the performance and engagement of the trainees. According to the instructors, the participants displayed commendable enthusiasm and interacted very well throughout the course, particularly in 'break-out sessions'- these are the sessions where participants were divided into small groups to solve real life case scenarios in pain management.

One of the instructors shared:

“Each time we got really positive responses. Participants had come from diverse backgrounds. There were participants from both the government and private sectors, working on health care services from tertiary to primary levels. Some of the participants even attended from health-care centers at distant districts or upazilas.¹ They were keen on learning and also performed well in post-tests.”

All the instructors were content with the learning outcomes of the participants at the end of the course.

¹ Bangladeshi administrative region, there are approximately 500 upazilas in Bangladesh

Course content and materials

All the instructors felt that the content and material of the course was comprehensive, clear and easy to follow. They considered the course content as very helpful for the doctors as it provided the participants with the basic skills of pain management. The coordinators of the course also shared similar sentiments that the course content is sufficient to deliver the primary principles of pain management. It provides the foundational knowledge of the nature, classification and physiology of pain, diagnosing pain, methods of treating pain including pharmacological and non-pharmacological approaches and provides the participants with an opportunity to solve real-life pain management scenarios on their own. Coordinators are also pleased with the commitment and teaching methods of the instructors. The course adopted an international standard module which is followed by similar other courses around the world.

One coordinator stated:

“To them (instructors), it's a voluntary commitment. Yet their interest (for the course) is praiseworthy. They remained with students for the entire day and engaged with them with complete enthusiasm.”

The instructors, however, shared their concern regarding the appropriateness of the course content for nurses. They found it was harder for nurses to respond to the materials compared with doctors. Furthermore, the instructors felt that nurses in general might not have the scope to implement their knowledge except those with specific pain assessment and management responsibilities such as post-operative nurses. The coordinators, on the contrary, felt the course content was beneficial for both doctors and nurses. The course has a component for counselling, which is an important part of pain management and also an area where the nurses can actively contribute.

The following comments illustrate these views:

“This (the course) is certainly useful for doctors. We are not sure about nurses. The scenario is different here than developed countries. Here they (nurses) mostly follow the instructions from doctors.” - View from an instructor

“This would help all doctor participants as every doctor has to manage pain in some point of his/her practice life. Doctors are often unavailable in a limited resource

setting like Bangladesh, in situations like this, nurses may step in to treat and counsel patients if they have the basic skills.”- View from a coordinator

Management and organization

The instructors appreciated the work of the organizing committee of the course for their dedication and good management. The committee has offered proper technical and logistical support throughout the course delivery. In earlier courses, instructors from ANZCA conducted the course. Later, potential instructors had been identified from the participants and they were trained to conduct courses independently. Currently, courses are primarily run by local instructors. The whole process of selecting and training new instructors was non-biased and transparent. Instructors regarded both ANZCA and BSSP as helpful in maintaining program quality. The coordinators also noted the continued advisory and technical support of ANZCA.

An instructor mentioned:

“The training sessions were well planned. Both ANZCA and BSSP coordinators played their role very well. The day long course included lectures, group discussion and sessions on practical case-solving. In due course everything was handled properly.”

3.2.2 Strengths and Challenges

Coordinators and instructors expressed their perspectives on the challenges and strengths of the EPM course with respect to their experiences and lessons gained through implementation, as well as achievements and accomplishments.

Strengths and achievements

According to the instructors and coordinators, the major achievement of the course was that it introduced the concept of training in pain management in Bangladesh. EPM is the first course of its kind in Bangladesh which trains and equips doctors and nurses with the basic knowledge of pain management. To date in Bangladesh, both undergraduate and postgraduate-level medical curricula lack adequate components for pain management knowledge and skills. In addition, the respondents indicated that the EPM course played a particularly commendable role in empowering nurses with basic pain management skills that are currently non-existent in their educational curriculum.

Opinion of a coordinator-

“There's just 19 hours of pain pharmacology at the undergraduate level (for doctors) without any part for assessment. At the postgraduate level also there is only one block for pain management adjunct with anesthesiology and care. Therefore, the doctors here generally lack the basic pain management knowledge which EPM aims to provide and working on to improve the situation.”

“The participants from nursing background had poor ‘pre-test’ scores because they had nothing in their past educational curriculum regarding pain assessment or management. Following the course, they managed to overcome this and achieved a reasonably good ‘post-test’ score. The course enabled them with the basics of pain management including counselling and care of pain patients.”- View from an instructor.

The key informants also addressed the fact that EPM initiated a culture of awareness and practice regarding pain management in the country. The EPM course provides doctors and

STRENGTHS OF THE COURSE

- Introducing pain management training concept Bangladesh.
- Providing a platform for knowledge and skill development in pain management practice.
- Improving the skill and confidence levels of participants in treating pain patients.
- Conduct of the course in several medical colleges at different regions of Bangladesh from 2013-2018.
- A dedicated resource pool trained in pain management.

nurses of Bangladesh with a platform for skill development in proper pain management practice. The instructors stated that the course helped the participants to enrich their knowledge in this field which eventually makes them confident in treating patients in their professional life. Some of the participants later took advanced training on pain management being inspired from this platform, some also considered pursuing a career as a pain management specialist.

“The term ‘Pain management specialist’ was new here and rarely used before, now we can hear it quite often. When we hear from our old participants we see that the EPM course motivated them to take this matter seriously and helped manage pain patients in practice life more efficiently. Some enquired us about advance courses as well.”- an instructor’s opinion.

While discussing the strength of the course, the coordinators described that, during the span of six years of implementation, the EPM course was conducted in 7 medical colleges in 5 major cities of Bangladesh. Over these six years a resource pool has been created in BSSP, including a group of dedicated instructors who are able to conduct courses independently. This BSSP resource pool has the capability to coordinate with medical institutions of different regions of the country to help them conduct the course and therefore has the potential to expand the EPM course by reaching out to more and more participants.

Challenges

As noted, the EPM program has been running in Bangladesh for over six years. Coordinators and instructors, from their experience over the years, identified certain aspects that are challenging for successful implementation and needs to be worked on to strengthen the impact of future courses. One of the major challenges noted is the lack of involvement of participants from disciplines other than anesthesiology such as doctors from surgery, medicine, gynecology or intern doctors and recent graduates who are currently serving as general physicians. To date, the majority of EPM course participants have been doctors pursuing a postgraduate degree in anesthesiology (diploma and masters' student) and early career professionals who work as anesthesiologists. The course offered basic pain management knowledge that is essential for physicians and nurses of all backgrounds but struggled to reach out to the practitioners of other disciplines due to the lack of coverage and distribution of news regarding the EPM course.

“The course is designed for physicians and nurses from all backgrounds because everyone needs to learn the fundamentals of pain management, even interns require it. Yet participation from other sectors were limited possibly because they weren’t informed and encouraged to attend the course like anesthesiology physicians.” - One instructor said.

The respondents discussed this issue further in regard to the lack of involvement of participants from periphery levels as well, such as from primary and secondary health care centers. While there was some district or upazila level participants, they constituted a minimal proportion compared to others. Since the course was conducted primarily in major cities, semi-urban and rural participants found it difficult to participate due to time-management, leave-management and transportation issues. Furthermore, although the course was organized in several divisional cities, the lack of decentralization still exists as only the medical colleges based in the capital city Dhaka were able to continue the course independently, maintaining coordination with BSSP. The coordinators felt the medical institutions of other cities should communicate and collaborate more with BSSP and the EPM committee of Bangladesh to conduct more courses in their centers.

A coordinator stated-

“We conduct one or two courses at medical colleges outside Dhaka city. From there, we picked instructors and trained them. They now should come forward and run their own courses. BSSP is always available to support them.”

The coordinators further elaborated their concern about the inadequate number of instructors to conduct the course. They reported that the instructors are again mostly based in the capital city as there has been substantial migration of them from other areas to Dhaka

Major Challenges:

- Inadequate involvement of participants from other disciplines.
- Inadequate representation of participants from smaller cities.
- Inadequate participation of intern doctors and junior doctors.
- Lack of involvement of private medical colleges.
- Insufficient number of trained instructors.
- Lack of news coverage and distribution in the health sector.
- Context specific content for nurses.

resulting in unavailability of instructors in other regions. Even in Dhaka, there is insufficient number of instructors to conduct multiple courses in a year that is needed to reach out to more participants. Furthermore, the instructors' unavailability often results in a long gap between the courses that affects the organizers' continued enthusiasm. Another challenging aspect raised by the instructors and coordinators was the lack of involvement of private medical colleges. The respondents felt that given the large number of private medical colleges in Bangladesh, particularly in Dhaka, the proportion of participants from this sector was not adequate.

One instructor described-

“There are several private medical colleges in Dhaka but we received participants from just 3-4 medical colleges. Their willingness to send trainees and the cooperation between BSSP and them to coordinate courses is important in order to extend the course to the maximum participants.”

In addition to these issues, the instructors again emphasized the suitability of the content of the course for nurses. They suggested that the nurses often find the course materials hard to follow. The participants from a nursing background struggled particularly in the ‘break-out sessions’ and sometimes find it difficult to relate the material to their working context, which the instructors considered an area to be worked on.

3.2.3 Sustainability and inclusiveness

All the respondents i.e. the key informants, the coordinators, and the instructors discussed the sustainability issues and the inclusiveness of the course in terms of potential scopes and opportunities for long term conduct of courses, gender sensitivity, and diversity among the participants of the EPM course.

Sustainability

With regards to the program’s sustainability, all respondents agreed that inclusion of the course content in the academic curriculum would be the best option for sustainable learning opportunities. The key informants felt it could be included in the undergraduate medical curriculum.

One key informant stated-

“Adding the content of the course to the MBBS curriculum (Bachelor of Medicine and Bachelor of Surgery) will ensure continued learning and professional implications of proper pain management practice. BSSP can apply for the inclusion, BMDC is positive about it.”

The instructors and coordinators also felt that incorporating the EPM course into the academic curriculum would have long-term implications as it would reduce the need for external funding and resources such as instructors. The coordinators felt that inclusion of the EPM course into the postgraduate curriculum should be compulsory.

“It was made a compulsory part of education in many countries including Australia [sic], New Zealand and the UK. We are working on it as well. We are trying to make it mandatory for postgraduate Diploma in Anesthesiology.”- one coordinator stated.

Another opportunity to enhance sustainability which the key informants and coordinators discussed was the development of a national guideline or protocol for pain management incorporating the course materials of EPM. Currently there is no national guideline for managing pain patients. The coordinators noted that BSSP is currently formulating a policy regarding this.

“At the previous SARPS (South Asian Regional Pain Society) congress, we brought this issue up and discussed about the policy and protocol. We will again strongly emphasize for a policy dialogue at the upcoming 9th SARPS congress, which I believe can lead us closer to formulating a national protocol.”-described a coordinator.

While discussing other sustainability measures, the respondents highlighted the need to build awareness of proper pain management practices. A key informant noted that following the World Health Organization guidelines, pain can also be declared as a vital sign in Bangladesh for treating patients which will help to strengthen the importance of pain management. Both the coordinators and key informants believed that cooperation from BMDC and the Ministry of Health (MoH) is vital for the sustainability of this practice. Furthermore, the respondents believed that the multidisciplinary strategy to include health practitioners from all fields and

to maximize the number of EPM course facilitators is important to extend the program's scope, which would enhance the sustainability of the course.

Inclusiveness

With regards to the inclusiveness of the EPM program, all respondents declared that the course was open to doctors and nurses from all backgrounds, and that hospital and health service management never had any reservations about them approaching participants. However, the number of female participants was comparatively low since the majority of the participants came from an anesthesiology background where there is only minor female representation at present. Conversely, female participants were over-represented in the nurses group as this is a female-dominated profession. The coordinators also noted that there was an over-representation of course participants from the government sector as all the EPM workshops were conducted in government medical colleges. Nevertheless, the coordinators were optimistic that future courses will be more representative as they are planning to reach out to more periphery levels and private medical colleges.

“We never discriminated between participants. We are planning to expand our program to periphery level in 2020 and have already started approaching private medical colleges. We are hopeful that this will add more diversity to the program.”-
a coordinators said.

3.2.4 Recommendations

The recommendations from respondents for the course mostly relate to addressing the challenges identified. Both the instructors and the coordinators suggested increasing the involvement of participants from private medical colleges and periphery levels. They also advised including more junior doctors such as intern doctors or recent graduates. Further, they advocated taking a more multidisciplinary approach for both the participants and instructors. Additionally, the instructors suggested modifying the course materials according to the understanding and context of professional practice of nurses in Bangladesh. They

further suggested exploring the opportunity for a separate course for nurses with modified contents.

“The nursing curriculum has no component related to pain management in Bangladesh. Therefore, it was often difficult for them (nurses) to comply. The content can be modified for their easy understanding or there can be a separate course for nurses, whichever fits better.”- an instructor advised.

Other important suggestions from respondents included increasing the number of courses per year and also increasing the number of participants per course. They believed that multiple courses in a year would not only contribute to the program's expansion but would also help maintain the currency of learnings by reducing the long gap between courses. In addition, they proposed increased promotions, and wider distribution of course news, particularly in the health sector, would be beneficial.

“Once a year course including 20-30 participants is not sufficient. Around 10,000 new doctors graduates in Bangladesh each year who require this learning for their practice life. We are focusing on increasing the number of courses which will enable us to get more instructors, who would further be able to help in conducting more courses.”- a coordinator described.

Additionally, the instructors thought it would be helpful if the course included the basics of interventional pain management as well. Additional recommendations from the coordinators included considering midwives as participants since normal delivery is associated with enormous pain and this is something that they are frequently called upon to manage. Finally, the respondents suggested that developing a refresher course for previous participants might be helpful for ensuring better pain management practice throughout their professional life.

KEY RECOMMENDATIONS:

- Conduct multiple courses each year.
- Increasing the number of participants per course.
- Inclusion of the basics of interventional pain management.
- Offering a refresher course option for previous participants.
- Ensuring increased involvement of junior doctors, participants from periphery level and private medical colleges.
- Inclusion of participants and instructors from a wider variety of disciplines.
- Modification of course content to enhance suitability for nurses.

3.3 Quantitative findings

The quantitative results of the study present the characteristics of the participants, information on utilization of the knowledge gained through the EPM course, and participants' opinions and recommendations regarding the EPM course.

3.3.1 Characteristics of the participants

Of all the participants, more than half (60%) had a post-graduate qualification in anesthesiology comprising diploma and masters' degrees in the field. Similarly, the majority (63.5%) of participants were working in an anesthesiology department as well. A large number (80%) of the participants were serving at tertiary level health facilities which includes medical colleges and specialized hospitals. About one third (28%) of the participants were designated as an anesthesiologist consultant at their facility, while others were working as medical officers. Among the participants from a nursing background, the majority completed a diploma in nursing and were currently working as a senior staff nurse. About 40% of respondents had an MBBS (Bachelor in Medicine and Bachelor in Surgery) as their highest qualification at the time of completing the EPM course. In the case of nurse participants, the highest qualification was a diploma in nursing. The majority of the participants (76%) declared that the EPM course is the only pain management training they have ever attended.

Table-4: Characteristics of the Participants.

Variable	Number (n)	Percentage (%)
Sex		
Male	52	69.3
Female	23	30.7
Current Academic Qualification		
MBBS	8	10.7
Diploma in Anesthesiology	35	46.7
FCPS (part 1&2)	9	11.9
MD (Anesthesiology)	10	13.3
Diploma in Nursing	10	13.3
BSc Nursing	2	2.7
MSc Nursing	1	1.3
Current place of posting		
Primary health care centers (UHC)	8	10.7
Secondary Health care centers (District Hospital)	7	9.3
Tertiary health care centers (Medical Colleges & specialized hospitals)	60	80
Current working department		
Anesthesiology	47	63.5

Surgery	7	9.5
Medicine	8	10.8
Others	12	16.2
Current Designation		
Anesthesiologist (Consultant)	21	28
Medical Officer	25	33.3
Professor (Assistant, Associate professors)	9	11
Register	5	6.7
Nurse	1	1.3
Senior Staff Nurse	9	12
Others	5	6.7
Academic qualification during EPM course		
MBBS	29	38.7
Diploma in Anesthesiology	22	29.3
FCPS (part 1&2)	5	6.6
MD (Anesthesiology)	4	5.3
Diploma in Nursing	13	17.7
BSc Nursing	2	2.3
Other training in Pain management		
Yes	18	24
No	57	76

3.3.2 Utilization of knowledge

The majority (82.7%) of the respondents reported that they had the scope to utilize the knowledge and skills gained through EPM course in their current professional practice. Fig-1: demonstrates the frequencies in which the participants use their knowledge of EPM course in their professional life. About 60% of the participants were using these skills every day in treating patients. A further 28% of participants said they got to use the skills gained through EPM once or twice in a week which is categorized as using often. The rest of the participants (12%) 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. Fig-2 shows the number of patients treated in last month by the participants who had scope of using the knowledge gained from EPM. Half of the participants reported that they treated more than 100 patients in the last month. The number of treated patients was between 50 and 100 for more than one third of participants (37%) and only 8% participants treated less than 50 patients in the last month.

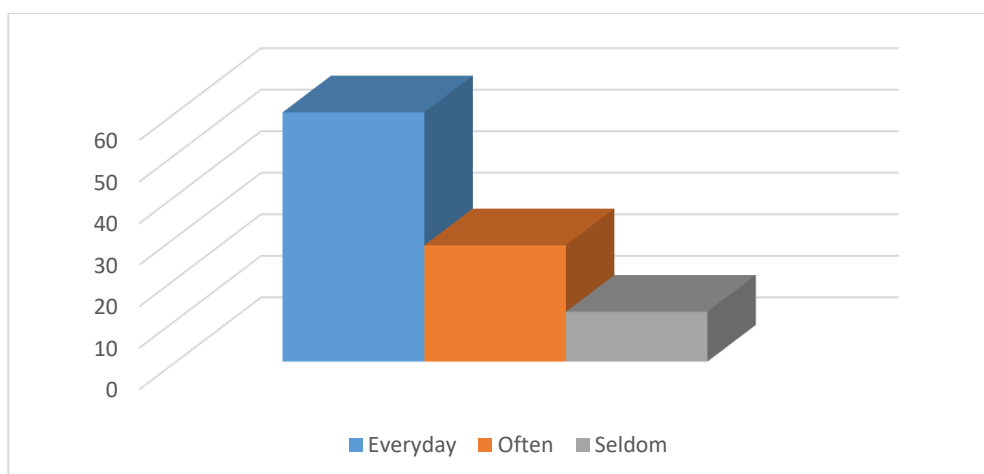


Fig-3: Frequency of using the learnings from the EPM workshop.

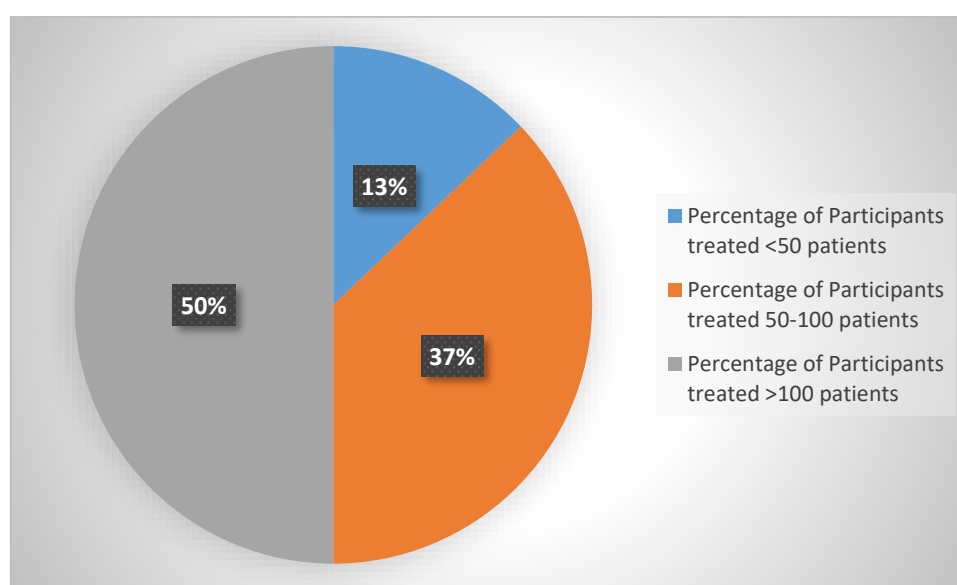


Fig-4: Number of patients treated by the participants using the knowledge gained through EPM workshop.

Nearly all respondents (97.3%) stated that the workshop was useful for their professional life. Table-3 demonstrates the perception of respondents who found the workshop helpful. About 23% of the respondents stated that the learnings from the EPM workshop helped them by enhancing their management skills in treating pain patients. Another 17% of respondents shared that the EPM workshop helped them by improving their level of confidence in pain patients' management. Further, EPM helped to increase the knowledge of pain management in about 9% respondents. The majority (71.2%) of the respondents stated that they 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. The participants

who benefited from all three means were all physicians, while nurse participants shared that EPM helped them either to develop pain management skills or knowledge.

Table-5: Respondent's perceptions of how the EPM workshop helped them in their professional life.

Response (multiple)	Number of Participants (n)	Percentage (%)
Improved confidence levels	7	9.5
Enhanced management skills	17	23.3
Increased knowledge	13	17.8
All of the above	52	71.2

3.3.3 Opinion regarding the EPM course:

Almost all respondents (93.4%) regarded EPM as a beneficial course for all of Bangladesh's doctors and nurses in general. Among the respondents who considered EPM to be a beneficial course, the majority (67 %) considered it essential for Bangladeshi physicians and nurses, while 23% of respondents perceived the course to be an important element and 10% considered it to be a supplementary element of pain management practice. Furthermore, about 95% of respondents stated that they would recommend the course to their colleagues/other doctors and nurses.

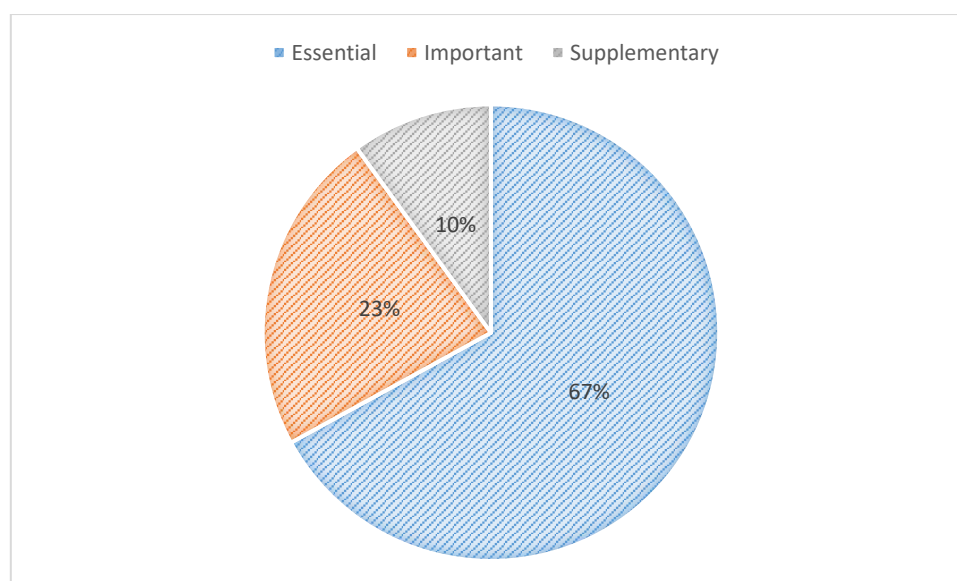


Fig-5: Perception of participants on importance of the EPM workshop for doctors and nurses in Bangladesh.

A significant number of participants (65.3%) felt the need for a refresher course, mainly (89%) to gain knowledge on updated pain management protocols and practice, and for some (11%), to verify that they are continuing to implement optimal pain management practices. The need for a refresher course was higher among doctors compared to nurses, particularly among medical officers and early career physicians. The recommendations from participants mostly included increasing the availability of the course through expanding its availability (78%) and increasing the duration of course.

4 Discussion

The overall organization and management of the course was appreciated by the instructors. The coordinators were also satisfied with the technical and advocacy support from BSSP and ANZCA. In addition, hospital and health service management expressed their satisfaction with the engagement and performance of the participants, as well as the efforts and delivery methods of the instructors during the course. Both instructors and coordinators believed that the course content is comprehensive and beneficial to the participants, a finding that is reinforced by participants' survey data which revealed that the course helped them by improving their knowledge and skills in pain management. Other studies that have evaluated the outcomes of the EPM course have also found that it is helpful for healthcare workers and contributes to an increase in their knowledge of pain management (12)(13). A study on a different pain management workshop similarly demonstrated that this kind of course has the capability to enhance the knowledge of the participants and that the knowledge is also retained for a long period of time by the participants (14). The participants also had the opportunity to use the learnings from EPM in their practice life and half of them were using these skills in treating patients every day. Moreover, most of the previous participants felt that the EPM course is necessary for all doctors and nurses of Bangladesh and nearly all considered recommending it to their fellow colleagues and health professionals.

This study also identified some challenges for the EPM program in Bangladesh. The respondents in their in-depth interviews felt there is a need for a more multi-disciplinary approach with inclusion of participants from periphery level and private medical colleges. This need was also reflected in the results of cross-sectional surveys among the participants, which

showed most were anesthesiologists and served at tertiary level health facilities. Another challenging aspect of the course was the insufficient number of instructors required for conducting further courses with local resources. Instructors also suggested a modified course for nurses, although those participants from a nursing background reported in the survey that they found the course beneficial. This is supported by an evaluation of a similar pain management program among nurses in Pakistan which found that the course successfully contributed to increasing the knowledge and skills of the participants (15).

The key informants, coordinators and the instructors also provided feedback on the sustainability of the course. The primary advice for sustainability was to embed the program in the academic curriculum of undergraduate medical education in Bangladesh. They further advised that incorporation of the contents of the EPM course into the national protocol for pain management in Bangladesh, which is yet to be developed, would enhance the sustainability of better pain management practices. Similar findings are evident in an evaluation of the EPM course in Papua New Guinea (PNG), where the need for inclusion of the program in the healthcare system and teaching programs was also identified (13). The recommendations from both management and participants were to increase the availability of the course through conducting multiple courses in a year and involving more participants of different disciplines and private sectors. The coordinators and instructors emphasized the need for more widespread dissemination of EPM news in the health sector, which would contribute to attracting more participants and developing more instructors.

Strengths and limitations of the study

This study aimed to evaluate the first and most widely conducted pain management program in Bangladesh. There are very few pain-related training programs like EPM in Bangladesh and hence its impact assessment is important for future expansion and improvement in the sector. The study also adopted a mixed methods approach where the information from in-depth interviews can be correlated with results from cross-sectional surveys to make more robust assumptions. Further, the study comprehensively explored every aspect of the EPM course including its quality, strength, challenges and sustainability issues.

The study, however, could provide further insights if the perceptions of a subset of participants were explored through a qualitative approach i.e. IDI or FGD. Further, the study

did not evaluate the clinical impact of the EPM program on patients, which would generate more meaningful evidence of its effectiveness.

5 Conclusion

The Essential Pain Management program highlighted the need for proper pain management practice in Bangladesh and brought this issue to the attention of policy makers and relevant stakeholders. This was implemented across the country for a considerable period of time and trained a large number of doctors and nurses along with a dedicated pool of instructors. It demonstrates a positive impact on the pain management practice of the participants and generates substantial demand for the course among healthcare professionals. EPM has proved beneficial in enhancing the knowledge and skills of the doctors and nurses of Bangladesh and thus contributes to improving pain management in the country. Further efforts and strategy are now required to cement its sustainability in the country to ensure long lasting benefits in the management of pain in Bangladesh.

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Appendix-1:

Pictures of EPM Evaluation Study Conduction:

IDI with Key informants:



IDI with Coordinators:





FGD with Instructors:



Interviews with participants:



Appendix-2:

The guidelines of qualitative study (IDI and FGD) and survey instruments.

SI NO:
DATE:

EPM evaluation Questionnaire

[For the EPM trained doctors]

Conducted by: ANZCA, Interplast Australia & New Zealand, BSSP & CIPRB

Personal Information:

1. Name of the respondent _____
2. Age:

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3. Sex: _____ 1. Male 2. Female
4. How long you are working in medical profession? _____ (1. Less than 5 year 2. 5-10 years 3. more than 10 year)
5. Last academic degree you obtained? _____ (MBBS / FCPS1 / FCPS2/MS / MD / FRCS /MRCP/ MSc / Others (Specify
6. Current place of posting: (1. UHC, 2 district hospital; 3. Medical college or other tertiary hospital)
7. Department: _____ (1. Surgery; 2 Medicine; 3. other specialty)
8. Your current position (Designation)? _____ (1. Resident Medical Officer 2. Medical Officer 3. Consultant 4. Assistant professor 5. Associate professor 6. Professor 7. Others)
9. How long you are working in the current position? _____ (1) Less than one year 2) 1 - 2 years 3) 2-3 years 4) 3 – 4 years 5) 4 -5 years 6) More than 5 years.)

Information on EPM course:

1. When you have received the EPM training, please mention the date?

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(please double click on the picture for pdf view)