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Does a basic training in medical education, translate to change in educational practice of Medical faculty?

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Abstract

Faculty development in medical education is being conducted in medical colleges according to Medical Council of India Regulations, through a new initiative titled Basic Course workshops (BCW). This study, aimed to assess the influence of these BCW on the teaching practices of the trained faulty.

Data was collected using a validated semi-structured questionnaire from eligible faculty.

Response rate was 86%. Middle level faculty were the most to get trained through BCW and there was equal representation from clinical and preclinical departments. 81% of the participants said that they were motivated to implement what they learnt during the course. At a personal level, 94% of the faculty had brought about changes in academic activities mainly Small Group teaching and formulating Specific Learning Objectives (SLOs). But when it came to bringing changes at the department level, only 39% of faculty could achieve this. At a personal level, 87% of the faculty could bring about change in the area of formative assessment, benefit being perceived most in the conduct of Objective Structured Practical Examination (OSCPE)/ Objective Structured Clinical Examination (OSCE). However the changes in these areas at the departmental level were reported only by 17% of the faculty. 20% of faculty experienced difficulty in implementing changes in academic activities, mainly due to resistance from superiors and colleagues.

The BCW training is motivating faculty to bring about changes in teaching learning. Although faculty are bringing changes at their personal levels, they are facing difficulties in implementing it at the department level. Training of more faculty, at all levels may help overcome the problem.

Keywords: Basic Course workshop, Faculty development program, Impact assessment.

Introduction

It was assumed in the past that a person who knows the subject of Medicine will be able to teach it. But it was later realized that appropriate educational strategies need to be employed in the training and education of Medical students. The need to train Medical College faculty in Medical Education techniques was realized by the Medical Council of India (MCI) and hence MCI, through its 'Regulations for graduate medical education 1997', made it mandatory for all Medical Colleges in India to establish a Medical Education Unit (MEU).[1] The objective was to improve the quality of medical teaching through training of faculty.[2]

In order to realize this objective, MCI has been conducting Faculty Development Programs in the form of Basic Course workshops (BCW) through the MEU of selected Regional Centers located at institutions which have trained manpower in Medical Education Technologies (MET) since 2009. The role of MEU is to sensitize the faculty to newer methods of teaching and assessment, develop knowledge and clinical skills required for performing the role of competent and effective teacher, administrator, researcher and mentor.[1,3,7] *Faculty development programs* (FDP) are especially important in adapting faculty members to their changing roles in initiating and setting the directions for curricular changes.[4,5] These programs can be a powerful tool to bring about a positive change in institutions The aim of these training programs is to support medical educators in adapting to changing teaching practices and to enhance the efficiency and performance of their teaching skills while improving work satisfaction and developing good teachers.[4,5]

The Basic Course workshops are conducted as per MCI Guidelines which are uniform throughout India. BCW is a 3 day workshop focusing on major themes like identifying Learning objectives, principles of adult learning, small and large group teaching, use of audio visual tools, different teaching learning methods and assessment methods. The course being conducted at Regional Centre for Medical Education Kozhikode (RCMET) in Kerala is conducted following the principles of adult learning, using interactive sessions, small group discussions, practical exercises, demonstrations, plenary sessions and experience sharing by the participants.

It is essential to know if the knowledge and skills learnt during the workshop are translated to actual practice for the purpose of program evaluation and future development. If no changes are brought about it would be necessary to investigate the reasons for lack of change.

Some previous studies have evaluated the effectiveness and impact of the Faculty development program,[8,10] while some have done an evaluation of the FDPs.[5,9] The present study tries to assess the changes on the teaching practices of the faculty at Government Medical College Kozhikode – Kerala,

after attending a basic training in medical education in the form of the MCI recognized Basic course workshop conducted at Regional Centre for Medical Education Technologies (RCMET) Kozhikode.

Aim & Objectives

Aim: To assess the change in educational practices of medical faculty after attending a Basic course in Medical education technologies.

Objectives

1. To assess if the change in educational practice are different among faculty of preclinical or clinical departments after attending the Basic course in Medical education technologies
2. To identify the barriers in implementation of Medical Education technologies

Methodology

This cross sectional study was done from 1st June to 31st August 2015. List of participants of Basic Course workshops conducted from 1st January 2011 to 31st December 2014 was obtained from RCMET – Kozhikode.

Exclusion criteria: Faculty who had since then retired and who had been transferred to other Medical Colleges were excluded.

Total of ninety faculty had attended the BCW. After applying the exclusion criteria, the number of faculty eligible to participate in the study was 81. A semi structured questionnaire that was pretested among two Associate Professors and two Assistant Professors who had undergone the BCW, was used for data collection. In addition to academic credentials and academic activities the participants were asked regarding the areas of educational practice in which they benefited after attending the Basic course workshop. The perceptions regarding training in medical education was assessed along a likert scale. Barriers to implementation of Medical education technologies was assessed by open ended questions which were later coded. Participants were administered the questionnaire after obtaining informed consent. Two reminders were made over phone to faculty who failed to return the questionnaire in time. Data was coded and entered in excel worksheet and analyzed Epi Info version 7.1.5 and p value for significance was fixed at 0.05

Ethical issues: Permission was obtained from Coordinator MEU. Clearance was obtained from Institutional Research Committee and Ethical Committee**.** Written Informed consent was obtained from the participants, and confidentiality was maintained by anonymising the data collected.

Results

Of ninety faculty who had undergone the Basic Course workshop, one had retired from service and eight had been transferred to other Medical Colleges. Hence they were excluded from the study. The questionnaire was administered to the remaining 81 faculty and was returned by 70 (Response rate = 86%).

Profile of Faculty: Of the 70 faculty who participated in the study 39 (55.7%) were females. The mean age of the participants was 44.6yrs (Range 32 to 57 yrs). There was equal representation from preclinical departments 35 (50%) and the clinical departments. More of the midlevel and lower level faculty were undergoing the Basic course workshop than the senior level faculty (Table 1). 40% had a teaching experience of 10 - 15 years and 28.6% of more than 15 years

Table 1: Faculty details and perceptions regarding BCW

Faculty details & perceptions	Number of faculty (%) N=70
Department	
Preclinical	35 (50)
Clinical	35 (50)
Academic Position	
Professor	8 (11.4)
Associate Professor	36 (51.4)
Assistant Professor	26 (37.1)
Gender	
Male	31 (44.3)
Female	39 (55.7)
Motivation for attending	
Self	35 (50)
Nominated by HOD	30 (42.9)
Suggested by Colleagues	5 (7.1)
Overall satisfaction with the training	
Highly satisfied	12 (17.1)
Satisfied	54 (77.1)
To some extent	4 (5.7)
Not Satisfied	Nil
Motivation to bring about changes in educational practices	
Highly Motivated	5 (7.1)
Motivated	52 (74.3)
To some extent	12 (17.1)
Not motivated	1 (1.4)
Barriers in implementation	14(20)
Resistance to change by faculty	7
Student factors	5
Others	2

Perceptions regarding the Basic Course workshop: Most of the faculty (50%) of the faculty were self motivated to attend the workshop. 42.9% were deputed by their superiors. The training was successful in motivating majority of the participants with 81%

agreeing they were motivated to implement what they learned during BCW. The need to employ newer methods of teaching in Medical Education was perceived by 92.8% of the faculty and 94.3% agreed that faculty training is beneficial and leads to better teaching and learning. 87.2% felt that there was a need for reorientation every 3 – 5 yrs. A significant proportion of the faculty were of the opinion that Communication skills (64.3%), Computer skills (57.1%) and Ethics (31%) were other areas which should be focused on during the workshop on Medical education.

Changes after the Basic Course Workshop: On a personal level, 94% of the faculty had brought about some modifications in their undergraduate academic activities. The changes were mainly in the introduction of Small Group teaching and formulating Specific Learning Objectives (SLO) for their teaching learning sessions (Fig. 1).

In contrast, changes in teaching learning at the department level were mentioned only by 39% of faculty. Among the changes introduced at the departmental level, introduction of SLOs in the department and Small group teaching were the ones commonly seen. Faculty from both the preclinical and clinical departments were equally successful in bringing about changes in their teaching learning methods ($p > 0.05$) (Table 2). There was no significant difference in implementation of changes among the faculty of these departments as well as among senior, midlevel or junior faculty (Table 3).

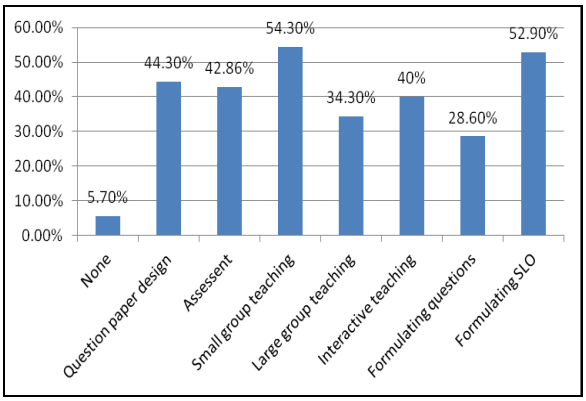

Fig. 1: Areas in teaching learning in which benefit was observed

Table 2: Changes in Medical Education Practices among Preclinical and Clinical faculty

Changes reported by participants	Preclinical (N=35) n(%)	Clinical (N= 35) n(%)	Total (N = 70)	Significance* P value
Improvement in TL Methods	34(97)	32(91)	66 (94.3)	0.307
Improvement in Formative assessment tools	18(51)	10 (29)	28 (40)	0.043
Introduction of new assessment method for formative assessment	5(14)	7(20)	12 (17)	0.736
Introduction of innovations in teaching & Learning	6(17)	3(9)	8 (11.4)	0.239
Difficulty in implementing changes	10 (29)	4 (11)	14 (20)	0.067

* Fischer exact test was done with level of significance at $p<0.05$

Table 3: Changes in Medical education practices vs Academic position

Changes reported by participants	Professor N=8 n(%)	Associate Professor N=36 n %)	Assistant Professor N=26 n %)	Total N=70 n(%)	Significance* P value
Improvement in TL Methods	7 (87)	33(91.6)	26(100)	66 (94.3)	0.257
Improvement in Formative assessment tools	2 (25)	14(38.8)	12(46.2)	28 (40)	0.55
Introduction of new assessment method for formative assessment	0	8(22.2)	4(15.4)	12 (17)	0.306
Introduction of innovations in teaching & Learning	0	2(5)	7(26.9)	8 (11.4)	0.024
Difficulty in implementing changes	2(25)	7(19.4)	5(19.2)	14 (20)	0.932

*Fischer exact test was done with level of significance at $p<0.05$

Changes in formative assessment: 87% of the faculty stated that they could bring about an improvement in their student assessment methods using the knowledge and skills acquired during the BCW. The areas they benefited most were in the conduct of OSPE/OSCE followed by Practical/ Clinical examination and designing Essay questions (Fig. 2). The faculty of the preclinical departments reported improvements in assessment tools more than the clinicians and this difference was statistically significant (p=0.043) Table 2. Improvements in assessment was reported equally among the senior, midlevel and junior faculty (p=0.55) Table 3.

Innovations in Medical Education: Introduction of some innovations in Medical education were reported by 12% of the faculty. The significant ones were introducing the students to some real life experiences for example the Forensic medicine department introduced observation of court proceedings in medico legal cases by taking the students to court and letting them experience the real life situation of what is expected of a doctor in court. Another instance was by the Community Medicine department where students were made to interact with people living with HIV/AIDs when an experience sharing session was arranged by the department. The Physical medicine department introduced a workshop on Communication skills. Other innovations included team teaching, interactive sessions, offering reward for answers linking academics with movie scenes and clippings. Innovations in teaching and learning were brought about more by the junior faculty when compared to the mid level or senior faculty (p =0.024) Table 3.

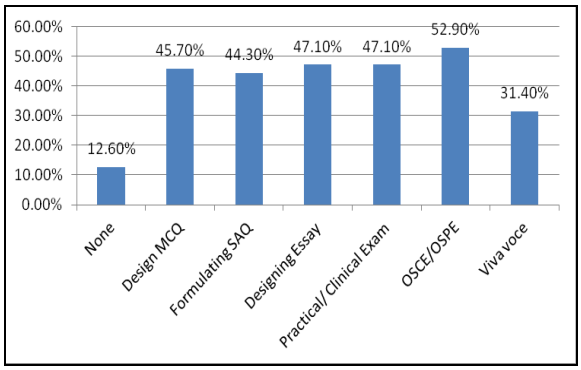

Fig. 2: Changes in assessment methods

Research Projects in Medical Education:
While 19 (27.1%) had done or in the process of doing research projects on Medical Education, only 12 (17.1%) had research publications on Medical Education and 11 (15.7%) had attended CMEs / Conferences on Medical Education. More research projects in medical education were done by faculty of preclinical departments than clinical departments ($p < 0.05$). 19(27.1%) of the faculty are currently working either as faculty/resource person/ member of Medical Education Unit. Only 7(10%) were undergoing fellowship training in Medical Education.

Barriers in Implementation: Majority of the faculty said that they experienced no difficulty in implementation of the principles of medical education after the BCW. 20% of the faculty experienced some difficulty at different levels, the most common being resistance from superiors (11%), resistance from colleagues (4%), the barrier in these instances being resistance to change by superiors and colleagues. The student factors posing difficulty (4%) included large number of students per batch and lack of response from students during interactive sessions. Other factors included difficulty in time management and difficulty in implementing integrated teaching. Difficulties in implementation even though not statistically significant were faced more by the preclinical departments (p =.063).

Discussion

The faculty are considered as the driving force of any institution, so any means at faculty development benefits the institution. Faculty development is also considered an essential tool to cope with new teaching tasks and is a means for participants to build important career relationships with peers, mentors and academicians who contribute to academic advancement.[5,6] There have been early reports of Faculty development programs helping teachers increase their knowledge regarding medical education and in implementing newer teaching learning and assessment methods.[6,9,10] Though basic Course workshops in Medical education technologies has been made mandatory by the Medical Council of India, the impact of the BCW on faculty development has not been assessed widely.

In the present study there was an equal representation from faculty of preclinical and clinical departments possibly because of the conscious effort on the part of the Medical education Unit of our institution to ensure a balance between participating departments. Other studies have found a increased representation of faculty from preclinical departments.[8,9,10] More of the mid level faculty underwent the course. Studies done in Turkey and India have also observed that it is the mid level faculty who attend the course more than the senior faculty.[8-12] Even though the MCI mandates that all faculty should undergo the BCW training the priority was to get the midlevel and junior faculty trained and it was only in the year 2014 that the MCI made it mandatory for Professors also to undergo the training. This could be the reason for the diminished participation of the senior faculty.

Almost all the faculty agreed that training had benefited them and they were motivated to implement what they learned during the course. The need for newer methods of teaching in Medical Education and need for regular reorientations was stressed by many.

Motivated participants are more likely to use the course as a platform to build a deeper understanding of their professional practices.[15]

Studies have reported that the participants of a faculty development program maintained the core objectives of the course and were using the acquired skills even 2 yrs after the course.[16,17] In our study the participants ranged from those who had completed the workshop 6 months back to those who had completed it 4 years back and changes in teaching were being reported by 94% of the faculty demonstrating that the participants of the faculty-training program were modifying their teaching activities according to the demands of their teaching practice even long after the training.

The improvements which were brought about in teaching and learning methods by most of the faculty were in small group teaching and introduction of SLOs (Specific Learning Objectives) for their academic sessions. The improvements in teaching learning methods was reported equally among the preclinical and clinical departments and irrespective of their academic position. Similar findings were observed in a study conducted by Nagdeo et al which found maximum benefit in areas of SLO, interactive teaching.[8] In studies conducted in Turkey improvement was seen in large group teaching.[9,10,11]

Implementing changes in teaching learning at the department level were reported only by 39% of faculty. This shows that even though improvements in teaching and learning are being brought about by individual faculty members its implementation at the department level is lacking. There may be several reasons to this the main being that changes at the departmental level require the support by the senior faculty and as only a small percentage of the senior faculty are undergoing the BCW it might be difficult for the midlevel and junior faculty to effect changes at the department level.

Most of the faculty could bring about an improvement in the area of formative assessment especially in the conduct of OSPE/OSCE followed by Practical/ Clinical examination and designing Essay questions. Faculty from the preclinical departments benefited more when compared to the clinical faculty. Similar findings were reported by Sarikaya et al wherein an improvement in the conduct of OSCE was observed.[12] Nagdeo et al observed that OSCE was beneficial for the clinical departments in addition to MCQ designing[8] Even though introduction of new assessment methods like Logbooks and assignments and projects were done by a few departments in our study majority of the faculty failed to bring about changes in assessment at the departmental level. Since summative assessment methods cannot be modified by the faculty and is usually effected by the university only formative assessment methods were assessed in this study, but even then the changes brought about were few. Barriers encountered by the faculty in implementing Medical Education Technologies was mainly by superiors and colleagues who were resistant to change. High teacher student ratio and lack of infrastructure were also cited by a few. In addition to the above barriers Adkoli et al have also cited lack of faculty and supporting staff, time constraints, resistance to change as impediments in implementation.[5]

Our results show that a training in medical education motivates the faculty and helps them to implement changes in their academic activities (irrespective of clinical or preclinical departments) and are doing so at an individual level. The three day basic course helps faculty to translate the knowledge and skills learnt during the training into their medical education practices. To bring about change in a more effective manner and throughout all departments training of faculty at all levels is essential. For this group of motivated teachers to function effectively the barriers in implementation of the changes in medical education need to be addressed by apex bodies. Without support in the form of infrastructure, adequate supporting faculty and adequate student teacher ratio it would be difficult to implement what the MCI envisages for Medical Education in India. Faculty are also taking up research in the field of medical education. To support this interest financial support and academic incentives need to be considered. Advanced training for motivated teachers may be considered by individual institutions.

Impact of FDPs can be assessed using a combination of methods - by the assessment of teaching performances as rated by the teachers themselves and by their students.[10,17-20] The present study totally relied on self-reports through a questionnaire, which could be considered as a limitation of the study.

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