RESEARCH ARTICLE

MEDICAL EDUCATION AS A TOOL FOR TEACHING SKILLS DEVELOPMENT AMONG THE FACULTY OF HITEC-IMS, TAXILA

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ABSTRACT

Background: *Continued Medical Education (CME) of the faculty is imperative for improving the knowledge, skill & behavior of the health professionals as an educator & health care provider. CME helps in acquiring new & updated knowledge of teaching, assessment & patient care. In this way medical teachers & health care providers are better equipped for training the future doctors and bringing innovations in health profession. In this context a study was undertaken at Hitec Institute of Medical Sciences Taxila to ascertain the relationship of CME on professional development of the faculty of medical & dental sciences.*

Methods: *It was a retrospective cohort study in which a group of faculty members who were exposed to CME programs were identified and were compared with a group of faculty members unexposed to any CME activity. A questionnaire regarding assessment of teacher's self-efficacy, teaching competencies, method & medium of teaching and methods of evaluation were administered to both the groups of faculty members of medical & dental colleges. The questionnaire had reasonably high reliability (α=0.90). The results were analyzed and tabulated using SPSS-17. The teacher's self-efficacy, teaching competencies, methods & medium of teaching and methods of evaluations were analyzed separately.*

Results: *The results showed that CME has very pertinent effects on all areas ranging from improving the teachers' competencies for evaluating students' performances.*

Conclusion: *As CME activities are beneficial for upgrading the knowledge & competencies of faculty in training future doctors it should be a continuous process & institutions should encourage & facilitate the faculty in their professional development through participating in different CME activities within & outside the institutions.*

Keywords:

Continuing Medical Education (CME), Continuous Professional Development (CPD), National University of Medical Sciences (NUMS)

INTRODUCTION

Faculty development within medical education encompasses all activities in which teachers take part to enhance their information and expertise in the role of educationalists, administrators, leaders, research investigators, and intellectuals[1]. Faculty growth has been vital in the development, sustenance as well as renewal of academic medical fraternity[2]. Its significance is augmented in the existing atmosphere of curricular transformation. Curricula are shifting from a time-based system (where a certain period of experience leads to accomplishment) to a competency-based medical education (CBME) system(where observation of behaviors and attainment of task-specific milestones lead to competence)[3]. This transformation demands the medical education faculty taking up fresher responsibilities and carrying out the prevailing ones, more skillfully, whilst upholding the eternal devotion of training the future physicians[4]. Only a subject specialist, providing information, will not be adequate. Modern technology is revolutionizing patient care, upgrading

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learning and assessment, communication, and data usage to bring about clinical as well as educational betterment[5].

Continuing Medical education (CME) includes all educational undertakings that serve to keep up, improve, or enhance the knowledge, skills, professional excellence and the links a physician uses to deliver facilities for the patients, the community, or the profession.[6] CME stands for the knowledge and skills largely acknowledged and recognized by the profession like within the basic medical sciences, clinical medicine, and the delivery of health care to the public.[7] Continuing professional development is the practice through which health professionals stay updated to fulfill the needs of their patients, the health services , and their own professional growth. It embraces the unceasing acquirement of latest knowledge, skills, and attitudes to support adept practice. There is no precise divide between continuing medical education and continuing professional development, as during the last decade continuing medical education has encompassed administrative, social, and individual skills, areas ahead of the conventional medical subjects[8].

Continuing professional development, through CME, is an ongoing route through which health professionals & medical teachers keep their knowledge & skills revised to meet the growing demands of teaching & provision of the health services. This will also result in their own professional development and continuous acquisition of new knowledge, skills, and attitudes to enable them in teaching & medical practice.[9] Efficient managing and academic improvement of medical universities and colleges depend on faculty members, on how good they educate, the excellence of the graduates they supply, the healthcare services they impart and their contribution in their scholarly pursuits. The faculty should be able to accomplish these tasks if they update their knowledge & skills through CME [10]. Future doctors should be educated through CME/CPD to implement changes & innovations in curriculum delivery as well as assessment.[11] Medical teachers be encouraged to take part in various CME activities for keeping themselves professionally up to date.[12]

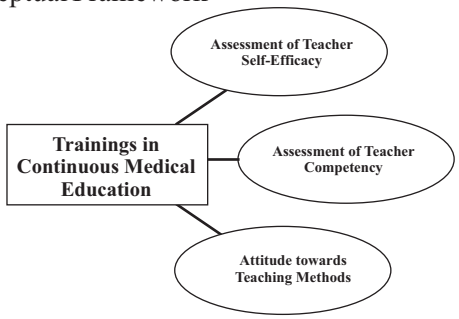
Keeping all this in view, we need to have continuous faculty training activities in our institutions. In this context current research will be conducted to ascertain the relationship between CME and faculty development at HITEC-IMS, Taxila.

As far as we could search, no study has been conducted on this issue in the area. The faculty is training the doctors of tomorrow who will be applying their knowledge and deploying their skills. In this context, learning new methodologies & skill are imperative for the training the undergraduate students. This study intends to assess the impact of continuous medical education on the teaching skills of the faculty which has a direct bearing on the improvement of the product which is our medical graduate. It will help to develop a continuous CME program for faculty at HITEC-IMS in improving their teaching skills.

METHOD AND SUBJECT

After taking permission from the ethical committee of the Institution, a questionnaire based retrospective cohort study was conducted. The study was carried out in both medical and dental college of HITEC-IMS, Taxila. The faculty members were divided into two groups, comprising 30 members in each group place on having acquired a medical education certificate degree or not. By systematic sampling technique every second member fulfilling inclusion criteria i.e., who have completed any of the medical education programs (CHPE or MHPE or similar courses in Medical Education) were selected for a group. Faculty members having teaching experience >30 years were excluded could. This group was compared with the group of faculty members who have not acquired a medical education certification/degree. The respondents participated in the study on voluntary basis, and they were asked to fill the questionnaire while maintaining the confidentiality of the data by giving option to the participants to disclose or hide their identity. The data were analyzed using SPSS-17. Independent sample t-test & Cohen's d was used for assessment of teacher's self-efficacy & teaching competency, while descriptive statistics were used for methods of teaching, medium of teaching and methods of evaluation. Following' responses were converted to percentages and interpreted.

Conceptual Framework



RESULTS AND FINDINGS

Table I: Independent samples t-test result and Cohen's d for assessment of teacher self-efficacy subscale (N=30)

Variables	Groups	*Mean(X)*	*SD*	*T*	*p*	*Cohen's d*
Assessment of teacher self-efficacy	Without CME	49.88	5.23	5.678	.000*	.79
	With CME	53.38	3.64			

*p<.01

When table 1 is examined, it is seen that there is a statistically significant difference in favor of teachers' scores with and without participating in continuous medical education. Assessment of teacher self-efficacy subscales for teachers with CME was X=53.38, p<.01, whereas mean score of teachers without CME trainings was X=49.88, p<.01. The independent samples t-test score on both groups indicated a value of t=5.678. Cohen d value .2, .5 and .8 without considering their sign are interpreted as low, medium, and large effect size respectively (Cohen, 1992). When these values are taken as references, it can be claimed that teaching skill development questionnaire has a nearly high size effect (d=.79) on scores gathered from Assessment of teacher self-efficacy sub scale.

Table II: Independent samples t-test result and Cohen's d for Assessment of teaching competency subscale (N=30)

Variables	Groups	*M*	*SD*	*t*	*P*	*Cohen's d*
Assessment of teaching competency	Without CME	48.72	4.27	4.575	.001*	.81
	With CME	51.08	3.42			

*p<.01

Results of table II revealed that a statistically significant difference is found among teachers' scores with and without training in continuous medical education. Assessment of teaching competency subscales for teachers with CME was X=51.o8, p<.01, whereas mean score of teachers without CME trainings was X=48.72, p<.01. The independent samples t-test score on both groups indicated a value of t=4.575. Cohen d value .81 without considering their sign are interpreted as low, medium, and large effect size respectively (Cohen, 1992). When these values are taken as references, it can be claimed that teaching skill development questionnaire has a nearly high size effect (d=.81) on scores gathered from assessment of teaching competency sub scale.

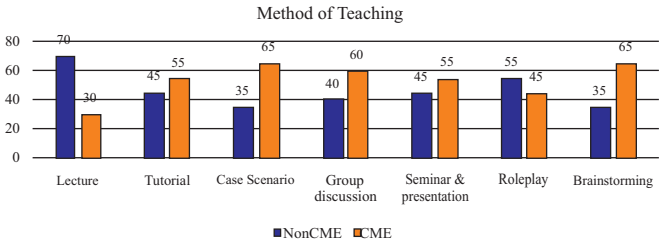


Figure 1: Comparison of responses for Method of Teaching (N=30)

Figure 1 indicates the percentage of responses among the two groups. Lecture method was preferred by non-CME trained teachers (70%) as compared to CME teachers (30%). For tutorial as method of teaching, non-CME group reflected it as less priority (45%) as compared to their counterparts (55%). Case scenario is more preferred by the group who has taken trainings (65%) as compared to those who have not taken any training (35%). Medical education teachers focused more on group discussions (60%), whereas non-medical education teacher have less focus (40%). Seminars and presentations are more in vogue for trained teachers (55%) in comparison to non-trained teachers (45%). Whereas for role play, non- medical education teacher preferred it more (55%) as compared to medical education teacher teachers (45%). Brainstorming as a teaching method was given more priority by trained teachers (65%) as compared to the other group (35%). Findings reveal that tutorial, case scenario, group discussion, seminar/presentation and brainstorming were more preferred teaching methods of those teachers who have got some training in Medical Education. Whereas lecture method and role play are more preferred teaching methods for those teachers who have not taken any training. It indicates that training in Medical Education enhance teaching skills of teachers and increase their competence to adopt synergistic approaches in teaching.

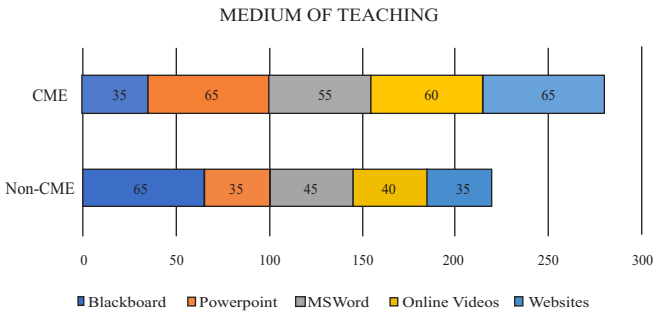


Figure 2: Comparison of responses for Medium of Teaching (N=30)

Figure 2 indicates the percentage of responses among the two groups. Using blackboard as a medium of teaching was preferred by non-CME trained teachers (65%) as compared to CME teachers (35%). For power point as medium of teaching, non-CME group reflected it as less priority (35%) as compared to their counterparts (65%). MS word is more preferred by the group who has taken trainings (55%) as compared to those who have not taken any training (45%). CME trained teachers focus more on Online videos (60%), whereas non-CME trained have less focus (40%). Using Websites as a medium of teaching are more in vogue for trained teachers (65%) in comparison to non-trained teachers (35%). It indicates that trainings in Medical Education enhance teachers' ability to use more innovative medium of teaching compared to their counterparts.

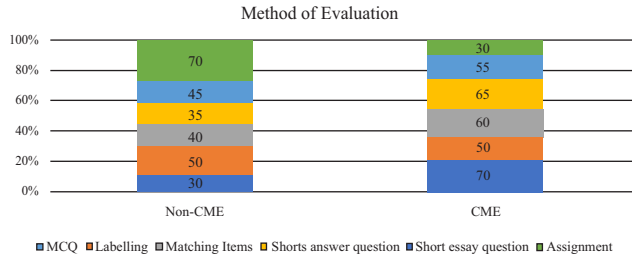


Figure 3: Comparison of responses for Method of Evaluation (N=30)

Figure.3 indicates the percentage of responses on the methods of evaluation among the two groups. MCQ method is preferred by non-CME trained teachers (30%) as compared to CME teachers (70%). For labelling as method of evaluation, non-CME & CME groups reflected in equal priority (50%). Extended matching items is more preferred by the group who has taken trainings (60%) as compared to those who have not taken any training (40%). CME trained teachers focused more on short answer questions (65%), whereas non-CME trained have less focus (35%). Short essay questions are more in vogue for trained teachers (55%) in comparison to non-trained teachers (45%). Whereas assignments as a method of evaluation, non-trained teachers preferred it more (70%) as compared to CME trained teachers (30%). It indicates that trainings in Medical Education enhance evaluation skills and teachers preferred to evaluate in depth knowledge of students by preferring MCQs as a best method for evaluation.

DISCUSSION

Continuing medical education is a lifelong process, through which physicians, medical teachers and other health professional engage in different educational activities, which are designed to help them in their professional growth. It facilitates life-long learning among medical faculty so that their practices may reflect the best medical care for their patients and training to the future doctors[9]. The data in figure 1 & 2 was in support of the overall positive impact on the professional development of the teacher, reflected in i enhancement in their self-efficacy as well as their ability to teach the undergraduate curriculum. The statistical difference among both the groups is very significant as CME trained teachers are better equipped to teach the students in a newly emerging institution having developmental constrains[13]. Their competency to deliver curriculum is very encouraging and motivating to other faculty members who are seeking opportunities of training in their respective fields.

The questionnaire regarding the methods of teaching revealed a paradigm shift from conventional methods to more interactive critical thinking and activity based. CME trained faculty preferred small group teaching like case-based learning, tutorial, presentation in mini seminars, brain storming and group discussions. Large group format lectures are advocated more by non-CME group (70%), while 30% of CME group were of the view that lecture in large group is the still a very effective mode of teaching. In nutshell continuing medical education is helping the faculty to adopt interactive modes of teaching thus inculcating deep learning in the students and the results show greater congruence with recent studies.[14]

While 65% of non-CME trained teachers (65%) advocated black board teaching more useful whereas reciprocally a similar percentage of CME trained opted for power point presentations as compared to CME teachers (35%). For power point as medium of teaching, non-CME group reflected it as less priority (35%) as compared to their counter parts (65%). They are of the opinion that higher order thinking activities like search web and online videos were more helpful in broadening the base of learning. The non-CME trained faculty is hesitant and less enthusiastic in adopting latest medium of learning. This may be because the faculty, needs more training on the development of active learning sessions before implementing in the curriculum.[15]

Evaluation is the process in which a teacher observes the performance of students. It gives an idea about the quality of training and level of learning of students. In this research MCQ method was preferred by non-CME trained teachers (30%) as compared to CME teachers

(70%). Most of the teachers were of the view that although MCQs are better for evaluating in depth knowledge, but they are difficult to develop and need standardization before deployment in examinations. Moreover, we cannot ignore the importance of short answers as they develop writing skills in students. Labelling of a diagram or figure was advocated equally by both groups. Regarding assignments which enhance the creative and writing skills, 70% of non-CME trained teachers preferred them compared to 30% by the others. There are multiple pros and cons of different evaluation methods. So, for assessing student knowledge and performance a variety of methods can be used to overcome the shortcomings of one by the advantages of others.

CONCLUSIONS

CME has a positive effect on the professional growth of faculty in specific and generally, it improves the teaching abilities of the faculty. This in line with the latest trends in medical education which are followed in the curriculum designed by the National University of Medical Sciences (NUMS).

RECOMMENDATIONS

Hitec-Institute of Medical Sciences is one of the emerging medical & dental institutes of the country, it is therefore recommended that formal continuous programs of CME for the basic & clinical faculty should be formulated. This will not only enhance the professional growth of the faculty but also continuously upgrade the institution in the list of health institutions of the country in specific and globally in general.

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