



Evaluation of different continuing medical education programmes in pharmacology

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ABSTRACT

There will be concerns about whether Continuing Medical Education (CME) works or how we should present (technique of delivery) it. Literature survey indicates the strong need to evaluate the CMEs. Therefore in the present study two CME's have been evaluated. Two CMEs, one at regional (on Clinical Research, n=210) and another at national level (on Pharmacovigilance, n=230) were evaluated. Both were lecture based programmes. Pre and post tests were conducted by using validated M.C.Qs. Delegates evaluated each resource person by using a five point scale. Feedback regarding entire learning environment was taken. Statistical analysis ($p < 0.05$, considered as significant) was done. Both CMEs were significantly effective in cognitive tests of knowledge. Both CMEs were informative and effective. Each resource person's lecture was effective (excellent to moderate). A collaborative approach was followed. In both the CMEs educators have done systematic research, derived practical and effective results that created or improved learning systems. The continual flow of ideas about the subjects was maintained in both the CMEs. Delegates' feedback indicated that learning environments of CMEs were favourable and delegates expressed what they need in future CMEs. Learner centred sessions will be stressed more in future CMEs.

INTRODUCTION:

Continuing Medical Education programmes help health professionals to be in touch with rapid advances in biomedical knowledge like newer methods, research, technology and clinical practice. Changing expectations of physicians as effective communicators and team members, enhanced awareness of the role of physicians in disease prevention, incorporation of evidence-based medicine, accountability, and financial incentives into daily medical practice, changing work environments as more care moves to ambulatory settings make the necessity of CMEs to be organised regularly [1]. CMEs are used as evidence of competence for medical practice when granting re-licensure to medical institutions, hospital privileges, specialty recertification, professional society membership and recognition for selected other professional activities etc. [1].

Topic of a CME may be selected depending on learning needs of delegates. Need for better coalition of educational content and goals (objectives) with evolving societal needs, practice patterns and scientific developments. Actions must take place at national, local and individual levels [1]. There is need for a more systematic

and rigorous analytic approach, where CME content is determined according to assessed needs and CME is evaluated using outcome measures [2]. In an article the authors have tried to define the action steps to enact a new vision of CME wherein they have indicated the need to collaborate to develop and implement new systems to measure learning [1]. They have mentioned that CME outcomes assessment, measures to validate educational effectiveness, and efforts to promote educational evaluation research will expand our thinking [1]. They have recommended (for institutional and organizational members of the American Association of Medical Colleges [AAMC]) developing resources using available and new information to define outcomes and assess them, developing an inventory of evaluation resources and tools that can be used in CME efforts, and encouraging development and testing of new assessment tools, with training to use them [1]. The evaluation should reflect not only whether physicians (delegates) have learned from participating in a CME program, but whether practice behaviours and/or patient outcomes have changed as a result [2]. Also if CME directors cannot show the effectiveness of their programs in meeting such needs, physicians should question the usefulness of attending CMEs and the accrediting body, which may represent the

physician should restrict its accreditation of such programs [3].

There will be concerns about whether CME works or how we should present (technique of delivery) it. New forms of CME must incorporate and take advantage of new technology based on its intrinsic capacity to foster learning, and not merely on convenience factors [2].

We live in a “Prove it!” age. Those responsible for the continuing education of practitioners feel much pressure from professional educators, the public, and both private and governmental agencies to show that a project is worthwhile (that the money was/will be beneficially spent). Therefore, much effort is expended in the struggle to evaluate effort and demonstrate that a given exercise in continuing education indeed improved health care [4].

Concern has been expressed about the need to demonstrate the effectiveness of CME in improving physician performance and outcomes for patients' health [5]. CME must be evaluated and that we should not permit ourselves the luxury of not pursuing the question of its worth simply because it is too complex or may be too full of negative findings [6].

Literature survey indicates the strong need to evaluate the CMEs. Therefore in the present study two CME's organized at our institution have been evaluated.

Objectives of the study:

1. To evaluate cognitive effectiveness of the CMEs.
2. To evaluate individual lecture presentation by the delegates.
3. To analyse the course feedback obtained from the delegates.

MATERIALS AND METHODS

One CME (on Clinical Research) at regional level (n=210, from five states in south India) and one National symposium (on Pharmacovigilance) (n=230, from about eight states in India) were analysed. Both were lecture based programmes. Pre and post tests were conducted by using validated M.C.Qs (10 in each CME). Pre test M.C.Qs covered important topics of all the lectures viz., seven lectures in Clinical Research or six lectures in Pharmacovigilance (details of lectures discussed later) and the same were used for post test. Delegates evaluated each resource person of both the CMEs with the help of a five point scale. Feedback regarding entire learning environment of both the CMEs was taken from the delegates.

Voluntary consent of all the participants was obtained in a

prescribed standard format. Ethical clearance was obtained from Institutional Ethics Committee for Human Subjects Research.

Statistical analysis was done and p<0.05 was considered as significant.

Table 2: General feedback form filled by the delegates

Factors that facilitated learning :

1.
2.
3.

Factors that hindered learning :

1.
2.
3.

Suggestions for improvement in future :

1.
2.
3.

RESULTS

Both the CMEs were significantly (p<0.05) effective in cognitive tests of knowledge i.e., when the means of pre tests and post tests were compared (Table 3). Each resource person's lecture was effective (Excellent to Moderate) when the duly filled forms by the delegates were analysed (Table 1). It can be noted that each lecturer's details of his/her lecture rating (percentage distribution) is conceived to maintain the confidentiality. Feedback analysis revealed that delegates need: to increase time for interaction sessions, to include career guidance session, to attend more number of CMEs, to obtain references of books and journal articles regarding the topics etc. Most of the delegates were satisfied with the informative lectures, learning environment etc (Table 2).

DISCUSSION

The results of pre and post tests suggest that both the CMEs were significantly effective in cognitive tests of knowledge. Both CMEs were informative and effective. Medical knowledge is estimated to have a half-life of 5 to 7 years [7].

The effectiveness of any CME, however, is ambiguous and

Table 1: Format used in evaluation of individual lectures by the delegates.

Please rate all the sessions, by ticking (only one column ✓) in the box which you feel is the most appropriate for the particular session:

| Sessions | Excellent | Good | Moderate | Average | Poor |
|-----------|-----------|------|----------|---------|------|
| Lecture 1 | | | | | |
| Lecture 2 | | | | | |
| Lecture 3 | | | | | |
| Lecture 4 | | | | | |
| LUNCH | | | | | |
| Lecture 5 | | | | | |
| Lecture 6 | | | | | |
| Lecture 7 | | | | | |

Table 3 : Comparison of pre and post test scores of each CME.

| CME on Clinical Research | | National Symposium on Pharmacovigilance | |
|---------------------------|-----------------|---|-----------------|
| (n = 210) | | (n=230) | |
| Pre Test | Post Test | Pre Test | Post test |
| Mean \pm S.E.M | | Mean \pm S.E.M | |
| 4.68 \pm 1.62 | 7.15 \pm 1.67 | 4.64 \pm 1.74 | 6.41 \pm 1.58 |
| t =6.08, df=209 | | t=2.10, df=229 | |
| Paired 't' test, *p< 0.05 | | Paired 't' test, *p< 0.05 | |

continues to be debated. In the present study, both the CME are lecture based programmes. According to an article, the assumption that knowledge alone can change physician's behaviours is probably wrong and the practice styles which affect the clinical judgement are influenced by habits, attitudes and their colleagues in a group experience [2]. Wells defines "CME" in the traditional manner the mere transmittal of facts-in remarking, "The basic problem of CME... is not the transference of scientific concept but the alteration of human behaviour. This is a challenge few of us have consciously faced in the past [8]. Evidence does suggest that CME activities that are learner focused, take place in small groups, and adhere to the principles of adult learning are beneficial to the practicing physicians and their patients. Belsheim, after discussing three models for CME, stated that the problem based model stimulates positive attitudes toward learning and change by focussing on problems and solutions, thus bridging the gap between scientific and professional knowledge [9-10]. Problem Based Learning (PBL) is one of several instructional methods whose applications in the CME setting should be further explored wherein new knowledge and desired practice behaviours can be introduced within the context of the surrounding community, where they can be discussed, debated and ultimately better accommodated within the immediate clinical setting [2]. But it can be claimed from the results of the present study that even the CMEs were mainly lecture based, they will form a firm base for learning (knowledge) as the most of the delegates were undergraduate and postgraduate students from different health professional colleges. It will definitely help in the initial steps of learning according to standard theories of learning and instruction [11-13]. However, visit to the site management office (SMO) in tertiary care hospital during CME on Clinical Research and panel discussion involving interaction sessions with the delegates in National Symposium on Pharmacovigilance have been included to promote active/practical learning.

The major problem facing those who organize CME programs is the continual flow of ideas about the subjects to be presented and especially the aspects of the subject to be presented to the audience [14]. This essential flow of ideas will come mainly from imaginative, informed representatives of the target audience or from physicians who are in sufficiently close working contact with the target group to understand its needs [14]. The continual flow of ideas about the subjects were maintained in both the CMEs which is explained below. Safety and efficacy are the two major concerns about any drug therapy. Globally clinical research plays an inevitable role in bringing a new molecule in to the market after its synthesis by the pharmaceutical industries. India

clearly provides an opportunity in terms of availability of large patient population, highly educated and skilled manpower, wide spectrum of diseases and favourable economic environment. These have given a hope that India's potential as a global hub for clinical research can be reached sooner which will enhance inflow of funds in to the country. The Clinical Research Organizations (C.R.Os) will require many trained personnel to carry out the clinical research. Due to these facts a one day CME on "Clinical Research" was organized. Experienced and talented resource persons addressed various aspects of Clinical research viz., Preclinical studies, Role of DCGI in clinical trials, Ethical issues in clinical trials, Introduction to clinical trials, Conducting clinical trials, Pharmacovigilance and ADR monitoring. A visit to site management office (SMO) in the tertiary care hospital was also arranged. Results of the present study indicated that each resource person's lecture was effective (excellent to moderate).

Adverse Drug Reactions (ADRs) result in 0.3% to 7% of hospital admissions and form 4th to 6th leading cause of death among hospitalized patients. Despite awareness, practicing doctors do not report ADRs due to their busy schedule. Hence there is a need for alternative approach to identify, analyze and report the ADRs in order to minimize the incidence. There is a need to establish Pharmacovigilance Centres across the country. Objectives of Pharmacovigilance activities are to detect, assess, understand and prevent the adverse effects or any other drug-related problems. The objective of the National symposium on Pharmacovigilance was to propagate the information regarding the activities of Pharmacovigilance Centres and create awareness among the medical professionals. The scientific sessions contained following lectures viz., Pharmacovigilance Programme of India (PVPI): for safer medicine for Indian Population, Post marketing surveillance studies, Safe limits of Nutrients, Drug consumption profile and its impact on policy (Pharmaceutical industrial aspects), ADR monitoring - our experience (Reports on ADR monitoring trials conducted) and Issues in safety reporting of traditional medicines. The scientific sessions were followed by panel discussion (interaction session). Present study results indicated that each resource person's lecture was effective (excellent to moderate). A collaborative approach will be better while translating experience into knowledge [1] which has been done in both the CMEs. In both the CMEs educators have done systematic research, derived practical and effective results that create or improve learning systems [1]. CMEs will train physicians as effective communicators and team members in incorporating evidence-based medicine, in accountability and in teaching delegates to provide effective care.

In the present study, feedback analysis revealed that delegates need more number of CMEs, to increase time for interaction sessions, to include career guidance session, references of books and journal articles etc. Most of the delegates were satisfied with the informative lectures, learning environment etc. An article has indicated that the learners of CME programs have recognised their need for improved performance and participated fully in needs identification, planning the educational intervention, and evaluation of outcomes [15].

Despite the obvious value of CME over some 40 years of a physician's practice lifetime, compared with four years of medical school and three to seven years of residency training, the continuum of medical education for which most medical school deans feel responsible does not include CME [16]. Concerns about the cost, time and efforts that have to be invested in conducting CME has been mentioned in an article [17]. It can be said that both the CMEs were effective in the present study. An article recommends that CME participation, if it is part of the faculty contract, should necessarily become a consideration for promotion, tenure and salary. Participation by the faculty members can/should be rewarded with honoraria/incentives [18].

CONCLUSIONS

Both the CMEs viz., CME on Clinical Research (n= 210) and National Symposium on Pharmacovigilance (n=230) were significantly effective in cognitive tests of knowledge. Both CMEs were informative and effective. Each resource person's lecture was effective (excellent to moderate). Feedback analysis revealed that delegates need more number of CMEs to be organized, to increase time for interaction sessions, to include career guidance session, to provide references of books and journal articles etc. Most of the delegates were satisfied with the informative lectures, learning environment etc. Learner centred sessions will be stressed more in future CMEs.

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