

Critical Appraisal of Research in Education Technology in Health Science Institutes of Central India.

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Abstract: In today's era of evidence based medicine recent advances in medicine have been understood & adopted by all the disciplines of health sciences but the same is not true for the methods & strategies in medical education. Quality medical education provides quality improvement in healthcare & for quality medical education evidence has to be created by undertaking educational research. **Methods:** A questionnaire based study was designed for the teachers of the health science institutes of Nagpur & adjoining region based on the completion of education technology workshops, number of educational research projects undertaken & publications. Coordinators of the MEU were interviewed to get a larger picture. **Results:** 1. Three days Basic Course in education technology was completed by more than 85% medical teachers, 60-70% dentistry, 40-50% ayurved, 50% physiotherapy & homeopathy and 20-30% nursing teachers. 2. Advance course / fellowship in medical education was completed by less than 5% medical, 2-3% dentistry & Physiotherapy & less than 1% ayurved & no nursing & homeopathy teachers. 3. Educational Research: less than 5% medical, 2-3% dentistry & physiotherapy, less than 1% ayurved & no one from nursing & homeopathy colleges have undertaken educational research projects. 4. Educational publication: 1-2 % medical, dentistry & physiotherapy teachers, & less than 1% ayurved & none from nursing & homeopathy colleges. 5. Reasons: time crunch: 70%, personal: 40%, administrative responsibility: 20%, support from higher authorities: 20%, priority to speciality subjects: 10%, Poor salary structure for homeopathy teacher. Coordinators MEU blamed it to apathy. **Conclusion:** Mere attending workshops and conferences has not been able to generate interest about educational research in the teachers. [Suresh C NJIRM 2016; 7(6): 69-73]

Key word: Evidence, education technology, health science institutes

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Introduction: India is a country with highest number of medical colleges in the world producing highest number of health professionals to serve the society. The quality of healthcare to a large extent depends upon the quality of training and education of medical graduates. In today's era of evidence based medicine recent advances in medicine have been understood & adopted by all the disciplines of health sciences but the same is not true for the methods & strategies in medical education. Quality medical education provides quality improvement in healthcare & for quality medical education evidence has to be created by undertaking educational research.

In 1999 Medical council of India took a step in this direction and issued a directive for every medical college to have a Medical Education Unit (MEU). MEU has number of functions to perform one of its being to create a culture of educational research, to keep the faculty aware of the ongoing research in the field & it should also be able to generate publications in this area¹. The establishment of MEUs has several positive effects on medical colleges. It enhances the quality of medical education², increases the publication of scholarly articles as well as the productivity of educational research^{3,4}. In Maharashtra even the

health sciences discipline teachers undergo basic training in Health Sciences Education Technology with the same purpose. In addition a teacher of today has to perform multiple roles to perform. He is much more than lecturer or teacher. He/she has to perform twelve roles to be more precise and one of them is he has to be a researcher and he is also supposed to be a resource creator⁵.

The curriculum of all the universities is revised at regular intervals. The research carried out in education technology may help in curricular revision. Amidst this background it was felt necessary to know the quantum of research work being done in education technology in health science institutes of Central India with the following aim and objectives.

Aim:

- To find out the culture of educational research in the health science institutes of Central India in terms of ongoing research & publications.

Objectives:

- To know the number of teachers underwent basic and advance workshops in education technology in health science institutes.
- To know the number of educational research projects undertaken and converted into publication by these teachers.

Methods:

- A cross sectional study was designed.
- Prior approval was obtained from the Institutional Ethics Committee.
- Fifty teachers of 20 health science institutes of central India were included in the study.
- Fifty Health science teachers of 6 medical colleges, 4 dental, 3 ayurved, 4 nursing, 2 physiotherapy and 1 homeopathy college of Central India were included.
- Only those teachers who have completed 3 days Basic Course in Medical Education Technology were included in the study.
- A prevalidated questionnaire were used as tool. Validation was done by MEU faculty of the institute.
- The questionnaire was sent to outstation colleges teachers by surface mail or e mail. MEU coordinators were contacted wherever required.
- Coordinators of the MEU were interviewed telephonically to get a larger picture where the educational research was miniscule.
- Interview based reflections of teachers were also noted where responses were inadequate.
- Focussed Group discussions were held with more than 50 teachers based on the same questionnaire during education technology workshops where teachers from allied health sciences were participants.

Questionnaire: A questionnaire was designed and got validated from the MEU faculty, was used as a tool for the teachers of the health science institutes of Nagpur

& adjoining region. The questionnaire was designed for the teachers to know the awareness about the research in health education technology. It had 10 questions all were close ended.

The questions were based on the completion of education technology workshops, number of educational research projects undertaken & publications.

Results:

Three days Basic Course in education technology was completed by more than 85% medical teachers, 60-70% dentistry, 40-50% ayurved, 50% physiotherapy & homeopathy and 20-30% nursing teachers (fig 1, table 1). Advance course / fellowship in medical education was completed by less than 5% medical, 2-3% dentistry & Physiotherapy & less than 1% ayurved & no nursing & homeopathy teachers. Educational Research: It was observed that less than 5% medical, 2-3% dentistry & physiotherapy, less than 1% ayurved & no one from nursing & homeopathy colleges have undertaken educational research projects. Educational publication: 1-2 % medical, dentistry & physiotherapy teachers, & less than 1% ayurved & none from nursing & homeopathy colleges. When the teachers were inquired about the reasons for this apathy towards educational research, the reasons quoted were : time crunch: 70%, personal: 40%, administrative responsibility: 20%, support from higher authorities: 20%, priority to speciality subjects: 10%, poor salary structure for homeopathy teacher (fig 2). During some focussed group discussions few teachers quoted some more causes like there are no role models for educational research, most of these researches are qualitative and questionnaires based and hence the respondents don't answer seriously. When the MEU Coordinators were contacted by personal phone calls, 70% of them simply blamed it to apathy.

Table 1. Percentage of teachers completed education technology workshops and involved in educational research

| Educational workshops / Research | Medical teachers | Dentistry teachers | Ayurved teachers | Physiotherapy teachers | Homeopathy teachers | Nursing teachers |
|---|------------------|--------------------|------------------|------------------------|---------------------|------------------|
| Three days Basic Course in education technology | >85% | 60-70% | 40-50% | 50% | 50% | 20-30% |
| Advance Course /Fellowship in medical education | <5% | 2-3% | <1% | 2-3% | 0% | 0% |
| Educational Research | <5% | 2-3% | <1% | 2-3% | 0% | 0% |
| Educational Publication | 1-2% | 1-2% | <1% | 1-2% | 0% | 0% |

Discussion: Medical education is a continuous process. Like in other fields there is an exponential growth of knowledge of the human body, its structure and functions as well as rapid development in the sophisticated techniques in many application fields. These issues can be addressed by the advances in education technology. But today there is lack of scientific founded comparative studies on educational developments in medicine.

There is a call for higher quality and consensus on basic terms and conditions on medical education research. The Best Evidence Medical education (BEME) collaboration involves individuals, universities and organizations committed to promote evidence based education in medicine and its goals are to produce systematic reviews of medical education research studies, to disseminate information worldwide to all stakeholders and to create a culture of best evidence medical education. There is a need to move from opinion-based education to evidence-based education. Best evidence medical education (BEME) is the implementation, by teachers in their practice, of methods and approaches to education based on the best evidence available⁶.

Being one of the effective tools for educational system improvement, educational technology plays an important role in learning facilitation. In order to have a deeper, more effective and long lasting impact, this systematic approach designs, implements and evaluates the teaching learning process, using specific purposes, new methods of psychology and communication sciences and also human and non human resources⁷.

A fruitful and effective educational system which results in actual learning improvement cannot be achieved unless its faculty members become

Competent. To achieve this goal the faculty must attain and /or maintain academic qualification in their teaching area, but also be familiar with the newest communication and teaching methods and be equipped with educational and professional skills⁸.

In 1997, the Medical Council of India (MCI) recommended the establishment of medical education units (MEU) in each medical college⁹.

Further, the requirement of MEU was included in the minimum standard requirements of an annual intake of 100 students in a medical college¹. The MEUs are expected to organize FDPs, carry out research in medical education and promote continuing medical education (CME) programmes besides other activities¹⁰.

MCI New Delhi felt that the curriculum can only be successfully implemented through appropriately oriented and properly equipped teachers. And in accordance with this thought MCI recommended setting up of medical education units in medical colleges in 1981 (curriculum of graduates) and 1992 (Need based revised curriculum for graduates) which was further endorsed in 1996¹¹. These MEU s are supposed to carry out many activities to strengthen the quality of medical education, one of which is to carry out research in medical education¹². The research could be in the form of inquiry driven strategies in various aspects of medical education¹³.

MCI and MUHS have made 3 days basic course in education technology mandatory for all the health sciences teachers. Accordingly a good number of teachers have completed it. But a fellowship or advanced course in education technology have been perceived by marginal teachers.

During both these workshops teachers are made aware of many new concepts in teaching learning process whether it be process, media, assessment and evaluation with a perception that teachers will incorporate them in their teaching. In addition if the faculty convert these innovative practices into research publications evidence will be created in the field of education technology.

One of the study on Impact and Effectiveness of basic workshop has quoted that after attending workshop there was a definite rise in the educational research projects by the teaching staff¹⁴. This could be because of the properly functioning MEU of the institute.

But the study was limited to only one medical college. In fellowships and advanced courses educational projects are undertaken by the teachers and mostly these are the ones which are converted into publications. This study has found that though a good number of teachers have completed the necessary workshops, educational research projects taken up

and publications are very minimal when inquired, the major cause the teachers quoted was time crunch. In the recent past the regulatory authorities have reduced the staff requirement resulting into overburden of teaching and patient care on the existing staff.

In addition the teachers have been allotted with lot of administrative responsibilities in the institutes. Academic publications are the need for every teacher for his /her promotions as per the requirement of regulatory bodies. So academic research and publications gets an upper hand. Naturally evidence in the field of medicine is created but this is not true for education technology.

The educational research in allied health science institutes was miniscule and the reasons were multiple, in many institutes the existence of MEU was itself nominal or if existent they were non functional. So the motivational factor was missing. In few colleges the teachers reported very poor salary structure as a demotivating factor. When the MEU coordinators were interviewed they blamed it to apathy. A survey done in 2009 also reported that 1997 MCI regulations have led to increase in the number of MEUs.

However there is a need to strengthen the infrastructure and faculty of MEUs, expand their area of operation and promote research in the field¹⁰.

Hence we strongly recommend there is an urgent need to motivate health sciences teachers for educational research to generate evidence.

Conclusion: Though education technology workshops are meant for the betterment of teaching learning process, awareness about the importance and possible areas of educational research needs to be emphasized during workshops.

There is an urgent need to motivate health science teachers for educational research to generate evidence.

Mere attending workshops have not been able to generate interest about educational research in the teachers.

Limitations of the study: Our study was limited to only few health science institutes of Central India. The

results should be compared with the other parts of the country.

Take Home Message: There is an urgent need to motivate health science teachers for educational research to generate evidence.

References:

1. MCI regulations 1999. Minimum standards Requirements for the medical college for 100 Admissions annually; New Delhi .medical council of India 1999.
2. Gao T, Shiwaku K, Fukushima T, Isobe A, Yamane Y. Medical education in China for the 21st century. *Med Educ.* 1999;33:768–773. [PubMed]
3. Irby D, Hodgson C, Muller J. Promoting research in medical education at the University of California, San Francisco, School of Medicine. *Acad Med.* 2004;79:981–984. [PubMed]
4. Elam C. Medical education research at the University of Kentucky College of Medicine. *Acad Med.* 2004;79:985–989. [PubMed]
5. Harden R M ,crosby JR (2000)AMEE education guide no 20. The good teacher is more than a lecturer- the twelve roles of a teacher. *Medical teacher*;22(4):334-347.
6. R M Haredn ,Janet Grant,Graham Buckley,IR Hart. BEME Guide No. 1: Best Evidence Medical Education. *Medical Teacher* 1999,vol21 Issue 9:553-562
7. Berlinger D. Educational Research : The hardest science of all. *Educational researcher.*2002;31(8) : 18-20.
8. Zahar Saffari, farnaz takmil,Rahmatallh Arabzadeh.J adv in Med Educ Prof 2014;Vol 2 No 4: 183.
9. MCI medical council of India regulations on medical education1997. Available at www.mci.org (accessed on March 2016)
10. BV Adkoli,Rita Sood faculty development and medical education units in India : A sirvey. *The national medical journal of India.*2009;22(1):28-32.
11. Medical council of India, Recommendations of National Workshop on Need based curriculum for Undergraduates medical education ‘1992.
12. PS Bhuiyan, N N Rege. Evoluion of Medical education Technology Unit in India. *J Postgrad Med .*2001, 47(1):42-4.

13. The consortium of medical Institutions :
Deliberations made at the national workshop held
at CMC,vellore,Feb ,1994.
14. Neena Nagdeo, Suresh Chari. Basic Course
Workshop for Medical teachers :effectiveness and
Impact.NJIRM 2014;Vol 5(2): 107-114.

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