

Research in Medical Education - Awareness and Perspectives of Medical teachers: A Cross Sectional Survey

Aliya Nusrath^{1*}, MD; N. Asha Rani², MD; Shilpashree YD³, MD

¹Professor and Head, Department of Biochemistry, Adichunchanagiri Institute of Medical Sciences, BG Nagara, Karnataka, India

²Assistant Professor, Department of Biochemistry, Adichunchanagiri Institute of Medical Sciences, BG Nagara, Karnataka, India

³Assistant Professor, Department of Biochemistry, Adichunchanagiri Institute of Medical Sciences, BG Nagara, Karnataka, India

Abstract

Background: Medical education research is of great relevance as it ultimately reflects patient care. Research in this field is neglected for varied reasons. Hence, the present study was undertaken to explore the perceptions, awareness and practices of medical teachers for conducting research in medical education and analyzing the challenges towards conducting research in medical education.

Methods: A cross sectional observational survey was done using a structured, validated, self administered questionnaire on 108 medical teachers working in a medical college

Results: A total of 83% of teachers were aware of research in medical education but only 22% were involved in research in medical education. 38% had undergone training in Medical Education Technology and 23% in research in medical education methodology. Lack of Training (78%) and lack of knowledge in education research (73%) were cited as the most frequent challenges in research in medical education. Problem Based Learning / Case Based Learning (73%) and Teaching Learning methodology (71%) are the most frequently cited areas for conduction of research in medical education.

Conclusion: Managers /administrators and policy makers should take measures to promote research in medical education by organizing awareness and training in educational research methodology, as well as in providing adequate grants for conducting research in this field.

Keywords: EDUCATION, FACULTY, MEDICAL, PERCEPTIONS, LEARNING

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Introduction

The quality of health service depends on the quality of medical education imparted to the students. Conducting research in medical education can foster valuable evidence based insights into the various aspects of TL methods and evaluation processes. Education research investigates the behavioral patterns in students, teachers and other participants

in medical education institutes (1). A medical teacher has roles beyond teaching the curriculum; to update themselves on the advances of educational methods, inculcate newer strategies in training medical students to become competent graduates and generate evidence based medicine. "There is a need to move from opinion based education to evidence based education" (2).

Research in medical education is emerging as an exciting and a career path among medical educationists who feel passionate about improving the process and outcomes of physician training (3). However, research in medical education (RIME) is insufficient and

*Corresponding author: Aliya Nusrath, Department of Biochemistry, Adichunchanagiri Institute of Medical Sciences, BG, Nagara, Mandya District, 571448, Karnataka, India. **Phone:** +91 (944) 8168236; **Fax:** +91 (82) 34287242
Email: aliyaiakrambio@gmail.com

the research which is being done is repetitive, redundant and opportunistic with limited understanding of theory and methodological practice by researchers (4). There are a number of factors responsible for poor medical education research. Lack of training in educational research methods, working conditions of researchers and budgetary constraints are factors contributing to the poor research. ⁴Faculties of medicine consider themselves as clinicians and biomedical researchers rather than clinical teachers or educational researchers. The clinicians feel they do not have sufficient knowledge and skills to conduct medical education research (5). Clinicians rather prefer disease oriented research to medical education research. The reasons may be due to a poor interface between the understanding of clinical expertise and application of this knowledge to improve instructions and assessments (6). Further, educational research does not have strong influence in the making of health policies, especially in Asian countries (7). In addition, there is a prolonged gap between education interventions and clinically important patient outcomes (2).

There are only few studies addressing factors that contribute to medical teachers/clinician's interest in conducting or not conducting RIME. This study was undertaken to explore the perceptions, awareness and practices of medical teachers in conduction of RIME and to analyze the challenges towards conducting research in medical education.

Materials and Methods

Setting: The study was conducted in a medical institute with teaching hospital.

Study design: A cross sectional observational survey.

Data collection tool: A structured questionnaire was developed after extensive review of literature (1, 5, 7). The questionnaire had questions for collecting the demographic information of teachers, questions regarding awareness, involvement and training of teachers

in medical education technology and training in RIME, statements to know the perception of teachers towards RIME, pre-defined areas in which research should be concentrated and pre-defined challenges faced by teachers in conducting RIME. The statements related to perceptions regarding RIME had response format of five point likert scale whereas questions regarding awareness, involvement and training of teachers in medical education technology and training in RIME methodology had response format of binary categorical design (Yes/No). Multiple options were presented to allow teachers choose from the statements on challenges in conducting RIME and areas where RIME should be concentrated upon. For validation, the questionnaire was reviewed by three experts from the department of community medicine and biochemistry. Each item of the questionnaire was found essential and rational, based on the expert's opinion.

Additionally, a pilot study was conducted with 10 teachers from the department of community medicine, responding to the questionnaire and further suggestions were taken from this faculty. The questionnaire was reviewed and necessary changes were incorporated. The time required to respond to the questionnaire was 10 minutes.

Ethical clearance: Ethical clearance was obtained from institutional ethical committee with Ref No. AIMS/IEC/412/2016-17.

Study population: One hundred and twenty medical teachers from various departments including basic science subjects and clinical subjects with designations ranging from tutors to professors working in a medical institute were approached for data collection. All the participants were academic staff involved in teaching in their specialty. After explaining the research proposal and obtaining informed consent, the self administered questionnaire was given to the teachers to be filled by them. One hundred and eight teachers returned the questionnaire which was collected back after 24 hours. The duration of administering the questionnaire was for three weeks. The data

collected was analyzed using descriptive statistics. The available teachers who gave informed consent were included for the study. Unavailable teachers and those teachers not willing to participate were excluded from the study.

Results

One hundred and twenty teachers were approached for the study during its three weeks duration. A total of 108 teachers consented to be part of the study with response rate of 90%. However, 8 critically incomplete questionnaires were not considered in the final

analysis. Finally, 100 responses were analyzed statistically. Table 1 shows the demographic details of the teachers.

Table 2 shows awareness and training of teachers both in medical education technology and research in medical education, 83% teachers were aware of RIME but only 22% were involved in RIME. 38% had undergone training in Medical Education Technology (MET) with fewer in RIME methodology (23%).

Most of the teachers agreed or strongly agreed on the importance and benefits of RIME in bringing educational reforms, improving teaching–learning process, improving teaching skills, helps in creating awareness

Table 1. Demographic details of the Teachers

SI No	Designation	Number of faculty	Male/Female	Mean Age with SD
1	Tutor	11	6/5	33.9±9.17
2	Senior Resident	09	6/3	38.7±11.67
3	Assistant Professor	30	22/8	34.5±8.20
4	Associate Professor	22	14/8	44.1±10.32
5	Professor	28	25/3	57.5±9.71
Total		100	73/27	43.37±13.4

Table 2. Awareness, training in Medical Education Technology, RIME methodology and involvement in conduction of RIME among medical teachers

n=100	Yes (%)	No (%)
Are you aware of Research in Medical Education (RIME)?	83	17
Have you undergone training in Medical Education Technology (MET)?	38	62
Have you attended training in RIME methodology	23	77
Have you conducted RIME?	22	78

Table 3. Perception of RIME

Perception towards RIME (n=100)	*SD (%)	D (%)	CS (%)	A (%)	SA (%)
Research in medical education (RIME) is important	0	1	4	69	26
RIME will help to bring reforms in medical education	1	4	7	60	28
RIME will help in understanding of medical educational process	0	1	4	71	24
RIME helps in improving the teaching learning process	0	2	3	67	28
RIME will improve my teaching skills	0	3	3	66	28
Training in RIME should be incorporated in faculty development programmes	0	1	8	63	28
RIME helps to create awareness among educational community the importance of evidence in educational decision making	1	1	8	65	25
RIME is poor in our settings /country	1	5	10	55	29

*SD: Strongly disagree; D: Disagree; CS: Can't say; A: Agree; SA: Strongly agree

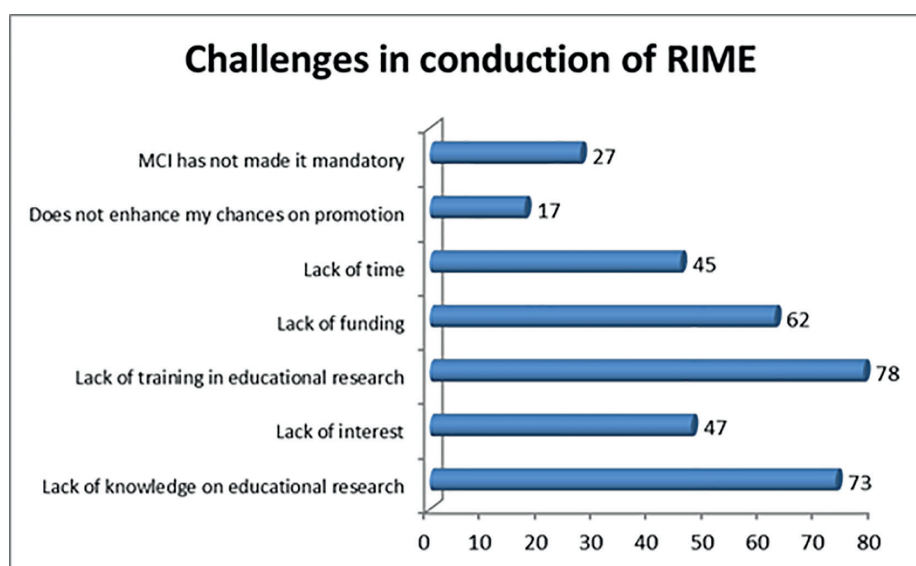


Figure 1. Challenges in conduction of RIME as cited by the medical teachers

among educational community regarding the importance of evidence in educational decision making etc as shown in Table 3. Majority of the teachers also agreed or strongly agreed on the inclusion of training in RIME methodology in the faculty development programme as shown in Table 3.

Figure 1 depicts the challenges and obstacles faced by medical teachers in conducting RIME. Lack of training (78%), lack of knowledge on education research (73%) and lack of funding (65%) are the major challenges cited for poor conduction of research.

Table 4 highlights the perception of teachers towards areas where RIME should be concentrated. Problem Based Learning / Case Based Learning (73%), Teaching Learning methodology (71%) and Medical curriculum

(63%) are the major areas emphasized by teachers.

Discussion

The roles of medical teachers are traditionally considered as three legged stool with the responsibility of productive investigators, inspired teachers and compassionate practicing physicians, hence they are called triple threat academicians (8). The primary responsibility of medical teachers is to train future physicians who will deliver high quality health care. There should be a greater accountability in medical education for preparing medical students to deliver the best health care to patients (9). Harden et al. emphasized on “Best evidence medical education (BEME) which is the

Table 4. Medical Teachers perceptions on areas of RIME where research should be concentrated

Areas of interest in RIME	No. of Yes responses (%) n=100
Medical curriculum	63
Teaching Learning methodology	71
Effect of faculty development programmes on teachers overall growth	53
Attitudes and skills of students	57
Student assessment / Performance assessment	55
Problem Based Learning / Case Based Learning	73
Basic research on reasoning	37
Continuing medical education programs	47
Any other specify	1

implementation of methods and approaches to education based on the best evidence available to teachers during their practice (2). To generate BEME, it is important that teachers, academicians, education researchers, health care providers, policy makers join hands to develop strategies and set priorities to enable the outcome of researches to direct future medical education (7, 9).

Research in medical education began more than three decades ago but is still in infancy in Asia and India (7, 10). A number of reasons have been identified for the paucity of RIME in these countries such as poor socioeconomic condition, cultural & religious beliefs, leadership crisis, anemic financial resources, inadequate exposure to education research methodology, lack of collaboration and commitment etc.

In the present study, 17% of the study participants were unaware of medical education research and only 22% were involved in educational research. Tavakol et al. reported that the reason for poor knowledge and involvement in educational research is due to lack of methodological expertise to design appropriate educational research studies (5). There is little knowledge and less expertise among medical faculties in conducting qualitative research which is more appropriate in assessing the effectiveness of educational programmes (7, 11). These studies also recommended better training in educational methods with appropriate research environment which will improve the involvement of clinicians in educational research (7, 11). In the present study, 91% of teachers agreed/strongly agreed on incorporating training in educational research as part of the faculty development programme (FDP).

The present study also explored the opinions of medical teachers towards the importance of RIME and its application in bringing reforms, improving teaching learning methodologies understanding educational process and importance of evidence in educational decision making. Majority of the teachers had a positive

attitude towards RIME. 88% of the teachers agreed/strongly agreed that RIME will help to bring out educational reforms. Similar responses have been recorded in other studies (1, 12).

Specific areas of progress in educational research include basic research in the acquisition of expertise, problem based learning (PBL), advances in assessment methods and continuing education and updating of the physician (6). This study did not demonstrate the knowledge of medical education teachers in identifying areas which fall under the scope of RIME, rather it has taken the perceptions of teachers towards areas where educational research should be concentrated. The areas of priorities identified are PBL, teaching learning methodology and medical curriculum.

Major challenges cited for poor research in medical education in the present study include lack of training and knowledge in educational research and lack of funding, a finding similar to other studies (5). Funding in educational research is neglected as it fails to fit into the defined scope of the research grants specified by various funding organizations (4, 5, 7). Kumar et al. (1) pointed out some common problems encountered while attempting educational research such as lack of motivation/interest and lack of time. In the present study, a substantial number of participants have cited similar reasons. A small number of participants also voted for reasons like it does not enhance my chances of promotion and it has not been made mandatory by the apex body. Kumar et al also reported that establishing a research team to assist the faculty, funding researchers to attend conferences and encouraging the faculty to apply FAIMER as the first, second and third choice of priority, will encourage educational research (1). Providing resources, supporting scholarly dissemination, awarding specific points to medical education research, collaboration between PhD researchers and MD clinicians and diversifying the disciplines engaged in medical education research will improve research in this area (4, 5).

Conclusion

This study was undertaken to determine the perceptions, knowledge and practices of medical teachers in medical education research and to analyze the challenges faced by medical fraternity in conducting RIME. There was poor involvement of RIME and majority of the faculty were not trained in either medical education technology or in RIME methodology. Regulatory authorities and management should formulate measures to improve educational research by conducting faculty development programmes in research methodology focusing on RIME including qualitative research. Broad Supports from administrators and policy makers in the form of grants for research, multidisciplinary collaborations, funding for medical education conference presentation, promotions and awards will promote RIME. The limitations of the present study include the small sample size, conduction of the study in a single institute and self administration of the questionnaire. The authors suggest that the research should be continued in a multicentric involvement in the future.

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Conflict of Interest

The author declares no conflict of interest.

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