

# Knowledge, attitude and practice of medical teachers in Chennai towards research in medical sciences - A survey

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## Abstract

**Background:** Research has become an inevitable part of medical practice and it is important to effectively translate research to practice. Academicians play a crucial role in encouraging quality medical research in various disciplines. **Objectives:** This study was conducted to assess the awareness of academicians in medical field towards sound research principles. **Methods:** This study included 100 medical teachers working in a teaching hospital in Chennai city. A structured questionnaire consisting of 10 questions, each with 4 options was administered to the participants, who were divided into two groups based on number of indexed publications. **Results:** The primary role of an academician was considered to be teaching, research and patient care. Self interest was opted as the biggest motivation for research. Lack of funding, infrastructure and interest were reported to be the limiting factors in conducting quality research. Indexing and impact factor were opted as the important considerations in choosing a journal for publication. Basic medical sciences were considered to offer greater scope for research. Cross sectional study was considered to be the toughest form of research. 50% of the participants had never accessed articles from the Cochrane database. There was a statistically significant difference in the responses given by the two groups of participants. **Conclusion:** In our study, the attitude component was found to be satisfactory while the knowledge component needed considerable improvement. Continuing medical education programmes and workshops could help all medical teachers to have a sound knowledge of the fundamental research principles.

**Key Word:** Medical Research, Publications, Impact factor, Indexing

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## INTRODUCTION

Research has become an inevitable part of medical practice. In today's changing world it is important to effectively translate research to practice. Research

experience is invaluable to the physician's evidence-based practice as it imparts skills such as literature search, collecting and analyzing data as well as critical appraisal of evidence.<sup>1</sup> Academicians play a crucial role in encouraging quality medical research in various disciplines. Knowledge of basic research principles is important for health care professionals, so that they can conduct well planned and high quality research which directly or indirectly contributes towards advancement of medical health care system.<sup>2</sup> Attitude towards research, knowledge of and perceived barriers for research are the three key factors that have an impact on research success.<sup>3</sup> This study was conducted with the aim to assess the awareness of academicians in medical field towards sound research principles.

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## MATERIALS AND METHODS

This study included 100 medical teachers working in a teaching hospital in Chennai city, randomly selected across all medical specialities. Institutional ethical clearance was obtained for the conduct of the study. A structured questionnaire consisting of 10 questions (Table 1), each with 4 options was administered to the participants, after validation through a pilot study in ten participants. They were divided into two groups based on the number of indexed publications as those having less than 5 and those having more than 5 publications

**Statistical analysis:** The data collected was statistically analyzed with SPSS Software version 16.0 (IBM, Chicago, IL, 2009). Simple descriptive statistics was used to describe the distribution of data collected. Pearson Chi Square test was employed to assess the statistically significant difference in the KAP scores between the two groups.

## RESULTS

The primary role of an academicians is considered to be teaching, research and patient care by 80% of our study population, whereas 14% of sample size considered teaching as the primary role and 6% considered only research as the primary role. Self interest was considered to be the biggest motivation for research by 66% of the participants while Medical council of India norms and institutional requirements were considered to be the motivating factors by 20% and 14% of the respondents respectively. Lack of funding, infrastructure and interest were considered to be the greatest limiting factor in conducting a quality research study in India by an overwhelming 54% of our study population. According to 52% of our sample, the research studies in medical field are more in number but low in quality when compared to research studies in other disciplines. Indexing and impact factor were opted as the important considerations in choosing a journal for publication by 55% of the study population. Only 39% of study population was aware that meta analysis is the highest level of evidence in practice. Paraclinical specialities were considered to offer greater scope for research by 43% of teachers, as compared to clinical medical and surgical specialities. Cross sectional study was considered to be the toughest form of research by 40% of the sample. Fear of invasive procedures was considered to be the biggest impediment in obtaining patient's consent for research by 51% of the teachers. In our sample, 50% of the participants had never accessed articles from the Cochrane database. (Chart 1) There was a statistically significant difference in the responses offered by the two groups of participants with regard to the major limitation in the conduct of research and choice of the journal for publication ( $p < 0.05$ )

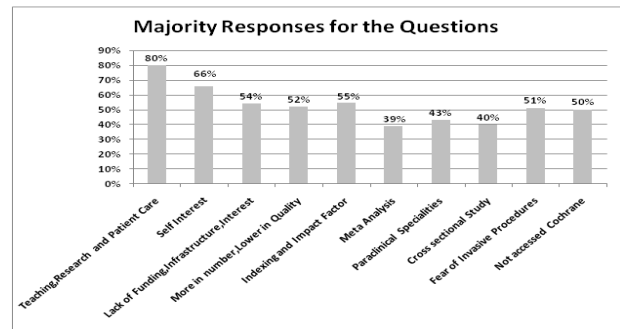


Figure 1:

## DISCUSSION

In our sample, a majority of the respondents agreed that teaching, research and patient care are integral components of an academicians' career. Given the fact that Research is indispensable in academia, it is best done out of self interest. Research should always be pursued in its true sense and not for short term gains, monetary or otherwise. Large amount of funding and infrastructural facilities are available to the researchers in the field of medical sciences. Unless research is carried out with self interest, by more number of academicians, these facilities would go unnoticed and under-utilized. The quality of research plays a vital role rather than the quantity. Merely dishing out a certain number of publications a year makes no useful contribution to scientific literature. Good research is one which has an impact and stands the test of intense scientific scrutiny. Research should always be reliable and reproducible throughout the world. Mushrooming of journals with inadequate indexing, reduced impact factor and insufficient peer reviews lower the quality of research. Indexing and impact factors are two key factors in the choice of a journal for publication. Importance of publications is being increasingly recognised by the academic institutions. MCI guidelines also recommend indexed publications for teaching faculty in medical colleges.<sup>4</sup> The highest level of evidence for practice comes from meta analysis and systematic reviews, as seen in the typical evidence based pyramid. Meta-analysis is a quantitative, formal, epidemiological study design used to systematically assess previous research studies to derive conclusions about that body of research. Outcomes from a meta-analysis may include a more precise estimate of the effect of treatment or risk factor for disease, or other outcomes, than any individual study contributing to the pooled analysis.<sup>5</sup> Medical science has a broad scope with large number of research avenues open to all academicians. There is an urgent need to create awareness among academicians to translate research into practice. It was rather surprising to see majority of doctors choosing cross sectional study as the toughest form of study. On the contrary, clinical trials

with issues of blinding, randomisation and ethical concerns or cohort studies with a need for follow ups could be regarded as a more demanding type of research. India, with its varied topography and patterns of diseases presents unique problems to the medical fraternity. Medical research has a greater responsibility toward humanity at large, as compared to other disciplines. The findings and conclusions of medical research have an immense impact on the lifestyle and health of the society at large. Health research can provide important information about disease trends and risk factors, outcomes of treatment or public health interventions, functional abilities, patterns of care, and health care costs and use.<sup>6</sup> Statistically significant difference in the responses offered by the academicians with more than five indexed publications showed that they generally had a more optimistic approach towards the conduct of research study in India. The limitation of our study was that it was restricted to a single teaching hospital. Future studies with larger sample size to include a considerable number of participants from each speciality could validate the results of our study. We also believe that a follow up questionnaire after a period of training and education on research principles could direct further course of action.

## CONCLUSION

Preliminarily research was conducted to assess knowledge, attitude and practice of medical teachers in Chennai towards research in medical sciences. Attitude component seems to be satisfactory as the participants were interested in research for the right cause. Knowledge component offered considerable scope for improvement. Indian subcontinent, with its varied topography and complex disease patterns, presents unique problems to the medical fraternity. Medical research has a greater responsibility toward humanity at large, as compared to

other disciplines. The findings and conclusions of medical research have an immense impact on the lifestyle and health of the society at large. Therefore, it is imperative for all medical teachers, particularly those involved in teaching and research to have a sound knowledge of the fundamental research principles. This can be accomplished by regular Continuing medical education programmes and workshops to update our knowledge and to have a healthy debate over the conclusions drawn from medical research across the world.

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