

An observational study on awareness about medical research among postgraduate students in a tertiary care teaching hospital in North India

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ABSTRACT

Background: Consideration of medical research scenario in India makes us aware about the fact that quality research in India is limited and a number of research articles published are also few. It is felt that awareness regarding medical research methodologies is lacking in medical students due to outmoded medical education system in India and also because of various obstacles the students face while carrying out the research activities. **Objective:** The objective of this study was to assess the awareness about medical research among postgraduate students of a tertiary care teaching hospital in North India. **Materials and Methods:** The present observational questionnaire-based study involved 60 postgraduate students. Self-administered questionnaire was used to collect the data from students. The questionnaire consists of three parts. The first part pertained to a collection of demographic information and the second part contained questions regarding knowledge, attitude, and practice of postgraduate students toward medical research. The third part of the questionnaire consists of obstacles preventing medical students from doing medical research. **Results:** In the present study, mean age of the students was 26.13 ± 1.94 years. Majority of students in the present study had good knowledge regarding medical research. About 68.3% of the students were aware of the procedure for seeking the approval for conducting the clinical research using new drugs in India. In the present study, according to 73.3% of the students, medical research should be made compulsory. Only 23.3% of students had publications. "Lack of time" was cited as a major obstacle for research by 88.3% of the residents. **Conclusion:** In the present study, it was found that postgraduate students had fairly good knowledge and had a positive attitude toward conducting research, but they were unable to inculcate this attitude into their actual practice due to various obstacles they encounter such as lack of time, lack of facilities, and lack of research curriculum.


KEY WORDS: Medical Research; Postgraduate Student; Knowledge, Attitude, Obstacles

INTRODUCTION

The medical science continues to evolve and adapt, and it is conscientious, explicit, and judicious use of current available evidence in making decisions about care of individual patients.

The evidence-based medicine means integrating individual clinical expertise with best available external clinical evidence from systematic research. It is widely accepted that evidence-based medicine has contributed to the practice of medicine and advancement of medical science. Every doctor should strive to utilize individual clinical expertise, i.e., proficiency and judgment acquired through clinical experience and practice in conjunction with external clinical evidence, gained through clinically relevant research.^[1]

India has huge potential for medical research, and it is considered preferred site by Indian and International clinicians for conduct of research due to availability of

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state-of-art technology, nationally, and internationally accredited hospitals with all required facilities; well qualified, skilled, and experienced doctors, and health-care professional; diverse patient pool; high enrolment rates; and cost-efficient trial research, and moreover, research guidelines and regulations are in harmony with international guidelines.^[2] In spite of all the advantages, and being the second most populated country with 17.5% of total world population, India accounts for only 1.23% (3411 studies of 276,813 as per data available on clinicaltrials.gov.in as of 01-07-2018) of global clinical trials.^[3]

The medical education system in India does not incorporate research in its curriculum. It is seen that research programs get lowest priority in Indian medical institutions. Consideration of medical research scenario in India makes us aware about the fact that quality research in India is limited and a number of research articles published are also few.^[4] To encourage research orientation in postgraduate students, currently, medical council of India has made it mandatory to not only attend one international/national conference but also give an oral/poster presentation and send the article for publication.^[5] Every student possesses the qualities required of researcher, i.e. curiosity to explore and ask. However, the outmoded medical education system in India with least priority on critical thinking among students has killed the spirit of inquiry and research. Besides, spirit of research, there are other reasons such as shortage of time, busy clinical and laboratory work, poor internal and external financial support, limited access to workshops on research methodology, and difficulty in maintaining equipment which create a hurdle in carrying out research.^[6]

Thus, it is felt that awareness regarding medical research methodologies is lacking in medical students, and at the same time, it is also observed that most of the postgraduate students are involved in only conducting research study for their dissertation.^[7] Therefore, students must be sensitized to research and should be aware of why research is important to health care. Thus, in view of this, the present study was planned to study the knowledge and awareness about the medical research among the postgraduate medical students of tertiary care hospital.

MATERIALS AND METHODS

A cross-sectional questionnaire-based observational study was conducted in Acharya Shri Chander College of Medical Sciences and Hospital, Sidhra, Jammu, Jammu and Kashmir, in April–May 2017. The Institutional Ethical Committee approval was taken before commencement of the study. 60 postgraduate medical students of various departments of the college were included in the study to assess the extent of knowledge and awareness of medical research and various obstacles that prevent the medical students from conducting

medical research. The postgraduate students who were not willing to participate in the study were excluded from the study.

Self-administered questionnaire was used to collect the data from respondents. The purpose of the study was explained and written informed consent was obtained from all the participants before being given the questionnaires. The questionnaire was developed based on the objective of the study, and it was validated by conducting a pilot study on a sample of five postgraduate students who were excluded from the study.

The questionnaire consists of three parts. The first part pertained to a collection of demographic information of the postgraduates (age, gender, and department). The second part of the questionnaire contained multiple choice formats with focus from knowledge, attitude, and practice toward medical research. The respondents were asked to select one option which is most appropriate to relevant question according to them. The third part of the questionnaire consists of obstacles preventing medical students from doing medical research, and here, the students were given the option of selecting more than one choice. Data were analyzed with the help of descriptive statistics.

RESULTS

In the present study, of 60 postgraduate students, 34 (56.6%) were male and 26 (43.3%) were female. Mean age of the students was 26.13 ± 1.94 years. Among these, 44 (73.3%) were from clinical departments while as 14 (26.6%) were from paraclinical department.

In the present study, it can be seen that about 68.3% of the students were aware of from whom to seek the approval for conducting the clinical research using new drugs in India. Furthermore, 96.6% of postgraduate students were aware of the procedure to obtain informed consent. The details regarding knowledge are illustrated in Table 1.

In the present study, according to 73.3% of the students, medical research should be made compulsory and 86.6% agreed that patient outcome improves with continued medical research. However, 88.3% of the students were of the view that separate time should be allotted for carrying out research [Table 2].

In the present study, about 55% of the students had participated in the workshop on research methodology, but only 23.3% of students had publications and only 30% had made paper/poster presentations [Table 3].

“Lack of time” was cited as a major obstacle for research by 88.3% of the residents, while as 76.6% stated that learning of postgraduate subjects takes a lot of time followed by lack

Table 1: Knowledge of postgraduate students toward medical research

Questions	Correct response n (%)
From whom to seek approval for conducting clinical research involving new drugs in India?	41 (68.3)
Which of the following involves animals in research? (<i>in vitro/in vivo</i> /clinical trial)	47 (78.3)
When should consent be obtained in research?	58 (96.6)
What is highest level of evidence of available literature?	43 (71.6)
Which way of writing reference is usually preferred for writing medical dissertation and medical journals	26 (43.3)

Table 2: Attitude of postgraduate students regarding medical research

Question	Positive response (%) agree/strongly agree	Negative response (%) disagree/strongly disagree
Patients outcome improve with continued medical research	52 (86.6)	8 (13.3)
Training in medical research methodology should be made compulsory	44 (73.3)	16 (26.6)
Resident doctors should be involved in medical research	38 (63.3)	22 (36.6)
Undertaking research increases burden on already overworked resident doctors	37 (61.6)	23 (38.3)
Research should be mandatory criteria for appearing in final examination of postgraduate curriculum	25 (41.6)	35 (58.3)
Resident doctors can plan and conduct medical research project without supervision	13 (21.6)	47 (78.3)
Research time should be allotted separately while planning the postgraduate residency curriculum	53 (88.3)	7 (11.6)
Are you interested in carrying out research in future	54 (90)	6 (10)

Table 3: Practice-related questions toward medical research

Question	Response of postgraduate students	
	Yes (%)	No (%)
Do you have experience in writing protocol/research paper	33 (55)	27 (45)
Do you have any publication in journal	14 (23.3)	46 (76.6)
Have you presented any research paper/poster in a conference	18 (30)	42 (70)
Are you reading medical journals regularly	21 (35)	39 (65)
Have you participated in any workshop on research methodology	33 (55)	27 (45)

of facility for conducted medical research stated by 68.3% of the students [Table 4].

DISCUSSION

Research is an integral part of medical education. Postgraduate students are exposed to the concept of designing protocol and conducting research during their residency. However, still, medical research carried out by medical students in India is disappointing compared to the developed countries. Specific research skills must be integrated in all aspects of postgraduate curriculum so that it will become a routine practice for students to carry out research even after completion of their residency.^[8]

In the present study, it was found that postgraduate students had good knowledge regarding the medical research and also many of the students had positive attitude toward carrying out the research activities; however, few of them were not very much willing to carry out research activity as they had the view that it exerts more burden on them. At the same

time, it was also found that majority of students failed to do the medical research-related activities in actual practice due to many difficulties they face while conducting the research such as the lack of time and lack of support and guidance. In the present study, 68.3% of students were aware about the concept of seeking prior approval for conducting research on new drugs. 96.6% of students were also aware about the procedure of taking informed consent. These results are in concordance with previous published studies.^[4] However, a greater difference was seen between the attitude and actual participation shown by the students toward the medical research.

In the present study, about 90% of the students wanted to carry out research in future also and 73.3% were of the view that training in medical research methodology should be made compulsory. This is in consistent with the previously published studies.^[9] However, some of the postgraduate students had different attitude toward medical research. About 61.6% of the postgraduate students were of the view that undertaking research increases burden on already overworked resident doctors. This is in consistent

Table 4: Obstacles preventing postgraduates from performing medical research

Obstacles	Response <i>n</i> (%)
Institutional reasons	
Lack of interest by faculty/guide	12 (20)
Inadequate support by mentor/assistants	19 (31.6)
Lack of research curriculum	26 (43.3)
Inadequate financial support	20 (33.3)
Lack of time	53 (88.3)
Personal reasons	
Lack of interest	6 (10)
Learning of postgraduate subjects take a lot of time	46 (76.6)
Inadequate facility for research	41 (68.3)
Personal reasons such as family problem and marriage	13 (21.6)

with the previously published studies.^[10,11] In the present study, although a majority of the resident doctors wished to get involved in research, very few had participated in research workshops. In the present study, only 23.3% of the postgraduate students published articles in the journals and only 35% were involved in reading medical journals regularly. This is in consistent with the previously published studies.^[12] Very few of the students actually participated in research-related activities as in our setup the emergency health care mainly relies on the postgraduate students because they are the first to handle the patients in emergencies. Apart from these, they have also delivered ward duties as well as they also have to give ample time to their studies also as preparing postgraduate subject thoroughly takes a lot of time. Therefore, it could be because of this the actual participation of students in medical research was less.

In the present study, the main barrier to research was lack of time in 88.3% of the students followed by extra time spent on learning the postgraduate subjects in 76.6% of students. This is in consistent with the previously published studies.^[13-15] Limited time availability for doing research is mainly a matter of concern in clinical specialties. Thus, to fix a time period for residents to concentrate on research could be helpful in this regard.^[16] At the same time, faculty members, as well as the institutions, should be involved actively in the research so that some of the barriers such as lack of guidance and financial support can be overcome, thus to make students to pursue their research activities in a better way.^[17,18] The limitations of the present study are that the sample size was small and the research was conducted in only one institution. Therefore, the findings cannot be generalized.

CONCLUSION

In the present study, it was found that postgraduate students had fairly good knowledge regarding medical research and many of them had a positive attitude toward conducting research,

but they were unable to inculcate this attitude into their actual practice due to various obstacles they encounter such as lack of time, lack of facilities, and lack of research curriculum. Thus, the faculty, as well as the institution, should make some necessary arrangements to overcome these barriers to ensure betterment of research activities among postgraduate medical students.

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