

# Observational study to gather opinion and assess awareness in the final year postgraduate medical students regarding dissertation in a tertiary care teaching hospital

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## Abstract

Dissertation and training in research methodologies are considered as major components of postgraduate (PG) learning. In view of this, we planned a study to obtain the opinion of final year residents of Seth GS Medical College and KEM hospital about the current state of dissertation work and to assess the awareness about the need for research including its methodologies. It was a cross sectional observational study, conducted in total 50 PG students in all departments. The analysis showed that 69% of PG students thought that dissertation is necessary to learn basic research methodology, while 29% thought because it was compulsory part of the curriculum. In 54% of cases, the topic of dissertation was selected by guide, whereas 28% students selected the topic themselves. About 56% students did not submit the topic to the university till the time of conducting this study. Most of the students started the dissertation work, either in 3<sup>rd</sup> (33%) or 4<sup>th</sup> (27%) posts. Majority of students (51%) took more than 1 year to complete the dissertation work. About statistical test, only 12% decided before starting. 38% students opined that EC permission should not be mandatory if the study is non-interventional, noninvasive, retrospective etc. 70% of students felt that their dissertation has helped in increasing their own knowledge, attitude and performance. Most of the practical problems were related to finance (88%) or access to paid journals (82%). Although only 44% student planned to publish their work, but overwhelming majority (92%) said that negative results should be published. There is a need to increase awareness about the purpose of dissertation. The purpose of dissertation can be better served by improving institutional facilities and by allocating some extra time for dissertation. It requires a multi pronged approach and sincere efforts on the part of both students and teachers.

**Keywords:** Thesis, Research, Survey, Project, Postgraduate learning.

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## INTRODUCTION

It is necessary that physicians should always keep their knowledge updated with the latest developments in medical science for better clinical care which requires the understanding and use of scientific principles and methods.<sup>1</sup> Evidence based medicine has significantly

contributed in the advancement of medical science in recent years and hence there is need that every doctor especially new trainees should participate in conducting research and contribute to further development of medical science.<sup>2</sup> But it is observed that the training of research methodologies has not been a part of medical curriculum resulting in insufficient and inadequate knowledge about it.<sup>3</sup> Previous studies have shown majority of medical students before doing post graduation lack proper training and past experience in research which suggest there is a need for specific educational intervention.<sup>4</sup> Dissertation and training in research methodologies are considered as major components of postgraduate (PG) learning. However the students often face many problems difficulty in searching the research topic, generating funds, inadequate time, writing the dissertation etc. After literature review we found that limited information was

available regarding awareness about research skills amongst post graduate medical students in India. In view of this, we planned a study to obtain the opinion and assess the awareness in final year postgraduate students of KEM Hospital regarding post-graduate dissertation.

### MATERIAL AND METHODS

It was a cross sectional observational study conducted in total 50 PG students in September – October 2006 after taking permission of institutional ethics committee. Final year students pursuing MD/MS in Seth GS Medical College and KEM hospital, from both clinical and para-clinical branches, who have submitted their dissertation/ were working on their projects were selected. The PG students were first informed about the reason of the survey and then the questionnaire was handed over to them. Each resident was given ample time to answer. After finishing the interview the questionnaire was kept inside an envelope. They were opened at the time of data entry. Following students were excluded from the study - residents not willing to be interviewed, 1<sup>st</sup> and 2<sup>nd</sup> year residents, residents doing super speciality/ diploma/ observership/ plain posts/ MSc and PhD courses etc. Questionnaire consisted of total 20 questions mainly objective type with few being open ended. They were related to purpose of doing a dissertation, selection of thesis topic, study methodology (including ethics, statistics etc), practical problems and suggestions. The results were analyzed using descriptive statistics.

### RESULTS

Fifty final year residents from both clinical and para-clinical branches responded to the questionnaire. Out of the total 50 students 69% thought that purpose of dissertation is to learn basic research, while 29% felt that it should be done because it is compulsory part of the curriculum. 54% students selected the topic as suggested by their guide, 28% students decided after doing literature review, 12% from guidance of seniors and remaining 6% did continuation of previous work. (Figure 1) Majority of students (62%) felt that dissertation adds to the development of medical science. 66% thought similar work been done in the past but 26% thought otherwise.

About 46% students did not submit their plan of work to the university till the time of conducting this study. Most of the students started the dissertation work, either in 3<sup>rd</sup> (33%) or 4<sup>th</sup> (27%) posts. 49% students completed the dissertation work within 1 one year while the rest required more than 1 year. Out of 50 students, 38% students opined that ethics committee permission should not be mandatory especially if the study is non-interventional, noninvasive, retrospective or repetition of past work. In such cases only consent of the study population should be enough according to them. 38% said that they followed recommended guidelines related to your thesis work. (Eg. GCP, GLP etc) but 40% were not sure about it. Dissertation work helped to increase their knowledge, attitude and performance according to 70 % of participants. (Table 1) When asked about the selection of statistical test, only 12% decided before starting and 24% while conducting the study, but majority of students decided it after getting the data (10%) or while writing discussion (53%). (Figure 2). Problems faced by the students while conducting the research work were mainly related to finance, journal/books and access to computer or internet. Only 12 % received financial support like research grant. Majority felt that there was no or incomplete access to books (71%), paid journal (82%) and computers (64%). (Figure 3) 44% students planned to publish their work, while 28% were not interested in doing it. But overwhelming majority (92%) said that negative results should be published. According to 64% students marks should not be given to dissertation and 67% suggested that the evaluation should be objectivised which can be achieved by giving some weightage to every section of the dissertation. (Table 2) 56% students thought that either guide or student can decide the topic of dissertation, while 22% felt that only student should decide it. According to 61% thesis should ideally be started in 2<sup>nd</sup> post while 31% said 3<sup>rd</sup> post is the better option. Half of the students thought ideally one can learn the research methodology by any of the three methods (i.e. paper presentation, dissertation or publication) but 24 % said it can be done best by doing paper presentation only. (Figure 4)

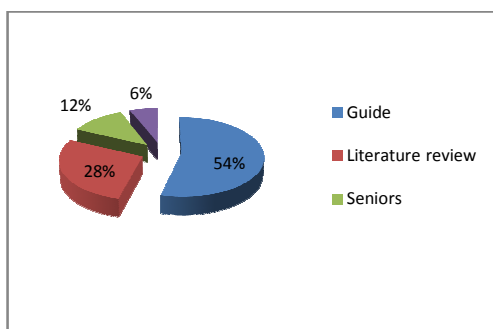


Figure 1: Selection of topic

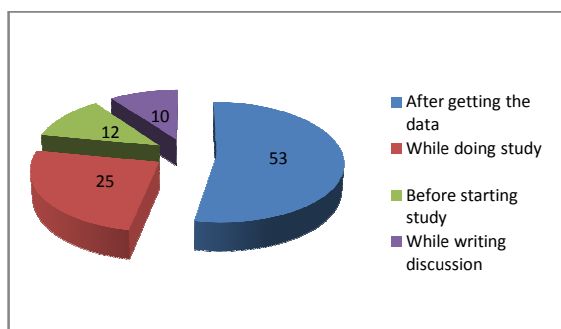


Figure 2: Decision on statistical test

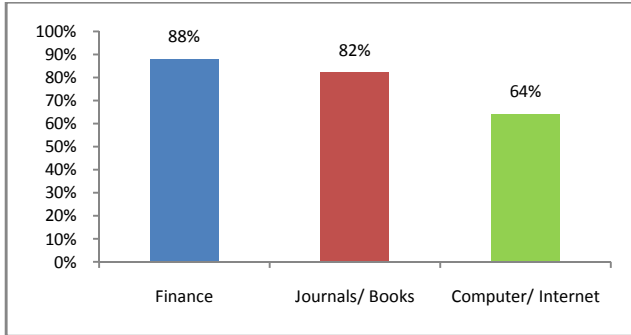


Figure 3: Problems faced

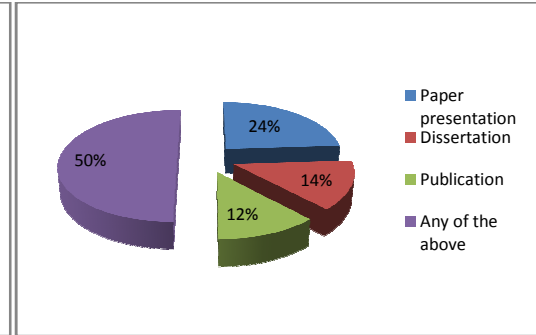


Figure 4: Ideal way to learn Research Methodology

Table 1: Responses to the questions related to initiating and conducting the study

Questions	Responses (%)		
	Yes	No	Can't say
Does dissertation adds to the development of medical science?	62	38	-
Has similar work been done in the past?	66	26	8
Ethics committee permission should be mandatory before initiating the study?	38	62	-
Did you follow recommended guidelines related to your thesis work (Eg. GCP, GLP etc)?	38	22	40
Has thesis work helped to increase your knowledge, attitude and performance?	70	20	10

Table 2: Responses to the questions related to practical problems and suggestions

Questions	Responses (%)		
	Yes	No	Can't say
Did you receive financial support?	12	88	-
Did you have access to books?	28	37	35
Did you have access to online paid journal?	8	68	24
Did you have access to computers?	36	44	20
Are you planning to publish your work?	44	28	28
Should negative results be published?	92	4	4
Should marks be given to the dissertation work in the final exams?	32	64	4
Should evaluation of the dissertation be objectivised?	67	13	20

## DISCUSSION

Research experience is valuable to every medical professional because it leads to development of skills like searching medical literature, collecting and analyzing information, and the critical appraisal of evidence. It helps in practicing evidence-based practice effectively.<sup>5</sup> As per the Medical Council of India (MCI) requirements, postgraduate students have to carry out a dissertation project as a part of their Doctor of Medicine/ Master of Surgery (MD/MS) curriculum. It is a common observation that a majority of postgraduate students conduct research projects during the 2nd or 3rd years of residency.<sup>6</sup> As compared to other countries, medical research seems to be neglected in India and it is yet to become an integral part in their curriculum. In other countries like Germany, 28 % students were involved in publications from one institution whereas in Croatia 23 % students participated in research projects.<sup>7,8</sup> In a study conducted in Indian medical students to find out their inclination towards research only 0.9 % out of 1,00,000 students interviewed were interested in such activities which suggests that there is a need to increase

awareness.<sup>9</sup> On the other hand, positive attitude towards medical research does not always lead to active participation other than dissertation. It was highlighted in a study conducted in Faisalabad where 98% felt that medical literature affects practice but very few participated in writing article (13%) or presenting research papers (16%)<sup>10</sup> and in another study conducted in Madison, USA where majority (85%) shown interest in doing research but only 8 % actually participated in it.<sup>11</sup> Two studies conducted in Canada and Pakistan showed that most of the resident doctors felt that maximum time should be spent for improving clinical skills and they were not very keen to spend time in learning or doing research, which suggest lack of initiative as far as research is concerned.<sup>12,13</sup> In order to encourage research orientation in postgraduate students, recently MCI 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.<sup>14</sup> Following guidelines like ethics, GCP, GLP etc have been considered an integral part of research involving human and even animals. But the results show

there are misconceptions among postgraduate students about following such guidelines. Sample size and statistical test can be best decided before starting the study by reviewing previous studies or doing pilot projects. But we found that only 12% of the interviewed students did so. This shows that there is a strong need for teaching research methodology to postgraduate students before they plan the dissertation. Best way of doing it is by conducting workshops at the institutional level especially in the early phase of their PG posting. Also, GCP, GLP training should be mandatory for all investigators before conducting any study. And after giving the proper training, their leaning should be evaluated by taking exam or alternatively research methodology should be added as a compulsory subject in their existing PG curriculum. In the present study, most of the post graduate students reported practical problems related to finance or access to paid journals or computer and internet. In Pakistan, the reason for poor research activity was mainly because poor research training and poor research awareness<sup>15</sup> whereas in the western settings it was blamed to mainly lack of time and lack of interest.<sup>16</sup> In one Indian study, postgraduate students reported barriers impeding research during residency they were lack of time, inadequate guidance from teaching staff and financial support.<sup>17</sup> The limitations of the study are that it was conducted in only one institution involving a limited number of participants, so generalizing the findings will not be proper.

### CONCLUSION

The results indicate that there is a need to increase awareness about the purpose of dissertation which can be done by taking guidance from teachers, peers or attending workshops covering all the aspects of research (forming a research question, protocol, guidelines, ethics, statistics and publication). There should be involvement of both student and teacher in deciding research topic. The purpose can be better served by improving institutional facilities like, computers, internet, online journals, library, instruments, research grants and by allocating some extra time for dissertation.

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