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Awareness of Post Graduate Residents regarding Medical Research – A Tertiary Care Hospital Experience

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Abstract

Introduction: Research activity of postgraduate medical trainees is important as it promises better clinical care, critical reasoning, lifelong learning and future research activity.

Objective: To assess the awareness, attitudes and practices of post graduate residents (PGRs) regarding medical research at a tertiary care hospital.

Methods: Cross Sectional (Knowledge, Attitude and Practices) study done at Pakistan Institute of Medical Sciences, Islamabad, from January to March 2011. A self-administered 15 items questionnaire was provided to hundred PGRs after obtaining their informed consent. The PGRs included in this study belonged to all three component hospitals of Pakistan Institute of Medical Sciences, Islamabad including Islamabad Hospital (Medical & Surgical Specialties), Children’s Hospital (Paediatric Specialties) and Maternal and Child Health Centre (Gynaecology & Obstetrics). The data was entered and analyzed using SPSS version 10.

Results: There were 63 males and 37 females. 54% PGRs belonged to 26-30 years of age group. Majority (83%) enrolled in Fellow of College of Physicians & Surgeons (FCPS) programme of various medical & surgical specialties. 55% used internet for accessing medical research, followed by 25% who used medical journals. 15% of PGRs had never ever read a medical journal. None of the PGR read a medical journal on daily basis. 43% PGRs didn’t know how to do literature search. 88% used internet for literature
citing but none used it on daily basis. 95% PGRs had never ever written an article for a medical journal while only 10% had ever presented a paper at a scientific conference.

Thirty six percent ranked the level of research training at their institute as poor. Almost half (45%) didn’t get a feedback from their seniors on presenting a research proposal. Majority (94%) PGRs intended to do research in future. Lack of resources (31%) and poor research training (17%) were the major hurdles faced by PGRs to pursue research.

Conclusion: The survey revealed inadequate knowledge and awareness amongst PGRs regarding medical research. Though the attitudes towards research were positive, they were deficient practically in terms of reading and writing literature. Residency training and research facilities at the institution need to undergo major transformation in order to encourage meaningful research by resident trainees.

Keywords: Post Graduate Residents, Medical Research, Medical Journals

INTRODUCTION

The rapidly evolving medical science of today necessitates that physicians & surgeons keep abreast with the latest developments. This requires the understanding and use of scientific principles and methods. Health research training forms an important part of medical education. It is essential to inculcate critical thinking and reasoning skills and to develop a positive attitude amongst students towards scientific research from the beginning of their medical career.

Research experience is invaluable to the physician's evidence-based practice as it imparts skills such as literature search, collecting and analyzing data and critical appraisal of evidence. Training for research skills and experience of research early in career has been associated with continued professional academic work and may help inform residents’ career decisions.

Research activity of postgraduate medical trainees is important as it promises better clinical care, critical reasoning, lifelong learning and future research activity. The poor state of health research in Pakistan is well established. One reason being the insufficient teaching of scientific research methodology during undergraduate and postgraduate medical training.

In the past several studies have been conducted in Pakistan about the Knowledge, attitudes and practices around health research. One such study conducted at Aga Khan University, Karachi, demonstrated inadequate knowledge amongst post graduate medical trainees regarding research and they concluded that limited time, poor research infrastructure and inadequate research funding opportunities were the major problems faced by post graduate medical trainees to pursue research at their institute.
The primary objective of our study were to assess the existing level of awareness, knowledge and attitudes towards medical research amongst post graduate residents at our setup and to determine their research involvement and practices.

**METHODOLOGY**

Hundred PGRs were investigated after taking informed consent for awareness regarding medical research. Approval was taken from Hospital Ethical Committee. PGRs belonging to all three component hospitals of Pakistan Institute of Medical Sciences, Islamabad i.e. Islamabad Hospital (Medical & Surgical Specialties), Children’s Hospital (Paediatric Specialties) and Maternal and Child Health Centre (Gynaecology & Obstetrics) were included in this study. The study was done from January to March 2011.

Pakistan Institute of Medical Sciences has established four libraries of various specialties within the premises of this institute to educate the doctors, postgraduate residents and clinical staff for effective patient care. At present the collection of books is more the 10000. The number of reference books on different medical subject is 2000. We have text books on all medical subjects. PIMS libraries are providing manuals electronic facilities not only to our own doctors and researchers, but also to our clientele throughout the country. PIMS libraries are providing internet and Medline facilities free of charges to all the doctors and staff and are connected with inter library loan (ILL). Our libraries remain open in three shifts. About 30,000 books and 50 journals of all specialties are being subscribed on regular basis. In addition to these 50 local journals are being received on complementary basis.

A 15 item questionnaire was developed. Based upon the responses of the PGRs, the questionnaire was filled in front of them by the researcher. On average, it took 4-5 minutes to fill a questionnaire. The compliance of PGRs was thus excellent (100%) regarding the questionnaire filling. The study objectives and other details were explained to the PGRs at the time of filling the questionnaires.

The filled questionnaire was edited and entered in SPSS Version 10. The data was analyzed in the same software for frequency and percentages.

**RESULTS**

Hundred PGRs were included in this study. Age Group distribution of PGRs is shown in Figure 1, where majority (54%) belonged to 26-30 years of age. About 63% of PGRs belonged to male gender while rest (37%) was females.

Regarding the Post Graduate Training Programme, majority (83%) of the PGRs were enrolled in Fellow of College of Physicians & Surgeons (FCPS) programme, followed by Master of Surgery (MS)/MD programme (8%) and Member of College of Physicians & Surgeons (MCPS) programme (6%)
respectively. The various specialties to which these PGRs belonged is shown in Figure 2, where majority i.e. 15% belonged to Obstetrics & Gynaecology followed by General Surgery (12%). 26% of PGRs were in their third year of training followed by PGRs in their second year of training (23%).

Majority of the PGRs (55%) used internet for accessing medical research, followed by 25% who used medical journals. Only 13% used other sources like books, journal clubs etc. for accessing medical research.

15% of PGRs had never ever read a medical journal. Rest of the PGRs, who had read a medical journal (85%), were then asked that how often they read a medical journal. 70% of PGRs replied that they read a medical journal on monthly basis, 25% on yearly basis and 5% PGRs read journals weekly. None of the PGR read a medical journal on daily basis. Regarding the type of medical journals read mostly, 55% PGRs read both national and international medical journals, 25% read international journals only while 20% read only national journals.

When asked about literature search, 43% PGRs said they don’t know how to do it, while 37% claimed of knowing how to do literature search.

Majority of the PGRs i.e. 88% used internet for literature citing, while 12% did not. The PGRs who used internet for literature citing were then asked that how often they use internet. 58% of PGRs replied that they use internet on weekly basis, 32% on monthly basis and 10% PGRs used internet yearly. None of the PGRs used internet for literature citing daily.

PGRs were then asked if they have ever written an article for a medical journal. 95% replied in No while 5% said yes. When asked about the number of articles they had written, all of them had written one article each for a journal.

When asked if they have ever presented a paper at a scientific conference, 90% PGRs replied in negative while 10% said yes. Out of those 10%, 90% had presented a paper at a national conference while 10% in an institutional conference. None of the PGRs ever presented a paper at an international conference.

The response of PGRs regarding the level of research training at their institute is shown in Figure: 3, where majority i.e. 36% ranked the research training as poor while 35% said it is satisfactory.

Majority i.e. 65% of PGRs had attended a research methodology workshop, while 38% had not. Among those who had attended, 62% believed that such workshops are effective in research training, while 34% differed.

PGRs were then asked if they get a feedback from their seniors when they present a research proposal. Almost half (45%) said No, 35 % said rarely while only 20% replied frequently.

When asked about their view on the importance of reading current literature, majority i.e. 80% said it is very important, while rest 20% said it is important. None regarded reading current literature as less important. 64% PGRs agreed that medical literature can influence the way medicine is practiced, 34%
Strongly agreed to this statement while only 2% disagreed. Majority (94%) PGRs intended to do research in future.

Finally, PGRs were asked about the single most important reason for poor research activity at their institute in their opinion. Responses are shown in Figure: 4, where lack of resources (31%) and poor research training at undergraduate and postgraduate level (17%) are the top reasons.

**DISCUSSION**

Research training is currently being incorporated as part of medical school curricula and residency training programs to build a task force of competent physician scientists. The motiv of medical education is to prepare physicians to meet the challenges of practice by fulfilling their roles of clinicians, educators and clinical researchers. In order to evaluate whether efforts and interventions to promote research are paying off, we need to assess the level of research knowledge, attitudes and practices of residents. It will also help identifying difficulties and challenges faced by them whilst pursuing research during residency, and thus allow us to build a research-facilitating curricula and environment in residency programs.

The aim of this study was to investigate the attitudes and practices of PGRs towards medical research and to illuminate factors that may have an impact on their behavior in this regard.

Although a large majority (80%) rated highly the importance of reading current literature, only a few actually read journals. The ones who read journals, majority did it on a monthly basis (70%). These results are comparable with another study where 20% PGRs had never read a medical journal; monthly journal reading was done by 20% residents while journals were read at least once in a year by 30% residents respectively. This discrepancy between attitude and practice is a cause of concern and merits further investigation.

Similarly, in our study only a very few were actively involved in making scientific contributions to the literature i.e. only 5% they had written an article for a journal while 10% have had ever presented a paper at a scientific conference. These results are a bit less when compared to another study in Pakistan where 12% PGRs had written an article for a journal while 16% had presented a paper at a scientific conference.

The findings showed that most of the participants had positive attitudes towards medical research and intended to do research in future career (94%). These findings are comparable to those in India. While majority plan to engage in future research, one must look at this intention with a degree of caution. This is primarily due to the following reasons: firstly, if they do engage in research it is impractical to expect the generation of high quality, locally relevant studies and secondly, research publications during training are a strong predictor of future research activities, which is not the case in our study. The former inference
is made because of lack of proper research training imparted to our trainees, a fact also acknowledged by the respondents of this study.

The major reasons cited for poor research activity in Pakistan according to the respondents of our study are lack of resources (31%) and poor research training at undergraduate and postgraduate level (17%). While in another study in Pakistan, poor research training and poor research awareness were the top reasons for our poor research activity. These are different from the Western settings where lack of time and lack of interest were more important obstacles to research as compared to poor training, although improper training and high workload were also cited. The consensus on the importance of research among PGRs both in Pakistan and the West, however, is universal.

These observations reflect the lack of utilization and production of research by PGRs. The importance of local health research is invaluable as it is tailored to local needs and problems and serves to generate indigenous solutions. It has been shown that local journals are most likely to influence clinical practice in the developing countries. In order to strengthen the local literature; it must not only be properly utilized, but properly contributed to as well. It is therefore important to promote critical literature reading and analyzing skills.

The limitations of the study are that it was conducted at one institution involving a limited number of trainees. Therefore, the findings cannot be generalized. In spite of the limitations, this study aims to stimulate more research on this critical issue. We believe that there is an urgent need to conduct more detailed studies across the health education institutes of the country. Other impediments to trainees' research like high workload, poor funding and poor access to journals should be investigated further.

This lack of research exposure and training underscores the need to review both undergraduate and postgraduate curricula so that some specific educational intervention is incorporated. Previous studies demonstrate that with some extra efforts from teachers; learning opportunities can be created on a systematic basis without demanding additional resources. There is a need to investigate the problem further to generate interventions which may very well serve to increase research activity in the country, both in terms of quality and quantity.

CONCLUSION

The survey revealed inadequate knowledge and awareness amongst PGRs regarding medical research. Though the attitudes towards research were positive, they were deficient practically in terms of reading and writing literature. Residency training and research facilities at the institution need to undergo major transformation in order to encourage meaningful research by resident trainees.

Conflict of Interest: None declared
REFERENCES

Figure: 1 Age Group Distribution of Post Graduate Residents

Figure: 2 Various Specialties of Post Graduate Residents
Figure: 3 Level of Research Training at their Institute

Figure: 4 Various Reasons of Poor Research Activity at their Institute