

**BRIEF R.E'"'ORT**

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TRENDS OF RESEARCH AMONG UNDERGRADUATE MEDICAL STUDENTS OF LAHORE: A CROSS SECTIONAL SURVEY

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# ABSTRACT

The trends of studies and learning are changing throughout the world. We cannot undermine the importance of research in any professional field, especially medicine. Some remarkable discoveries in the history of medicine were actually made by medical students.It is fascinating to see what a keen mind can accomplish, provided if it gets proper guidance. However, the trends of research in undergraduate years is not *very* encouraging. A very small percentage of students in our study sample had published in a journal or presented a study in a conference. This report also highlights several factors that cause difficulty in pursuing a research project in medical schools of Lahore.

# INTRODUCTION

The trends of studies and learning are changing throughout the world. The focus of learning is now shifting from purely theoretical knowledge to more practical and evidence-based learning.One part of this changing trend is the students taking active part in scientific research. Research that was once thought to be something only meant for qualified experts, is now being undertaken by undergraduate students too.In fact, this is the trend throughout the world where the students are encouraged to actively take part in research activities.

Medical students make an integral part of medical professionals and like all other medical professionals, they're now keen to participate in research. However, as the statistics go, the contribution made by medical students in research is far less than their counterparts in other professions.'We cannot undermine the importance of research in any professional field, especially medicine. Enthusiastic participation in research lays down the foundation of intellectual reasoning and self-learning among students - two pivotal components of excelling in something as challenging as the field of medicine.' In something as dynamic as medicine, dealing with everything using a pre-defined set of rules is not quite possible. Instead, evidence based learning, comprising of clinical experience that one gathers through keen observation, reflection and careful judgments is the pre-requisite for translating scientific knowledge into treatment of the patients.' Participation in research oriented activities can help students harness the best of these clinical skills while they are still pursuing their studies.

Some remarkable discoveries in the history of medicine were actually

made by medical students. It is fascinating to see what a keen mind can accomplish, provided if it gets proper guidance. The discoveries medical students made in the past led to the development of several new interventions in medicine. Although insulin was first discovered and purified by Frederick Banting, this discovery would have not been possible without the assistance of his second year student Charles Best, whose assistance was most valuable in the entire process.' Similarly, heparin was accidently discovered by Jay McLean in 1916, who was at that time a second year student studying physiology at the Harvard Medical School, under the eminent scientist William Howell.'

The participation of medical students in scientific research has been a longstanding tradition and it is being promoted even more in the current models of medical education. In fact, some universities, like Queen's University Faculty of Health Sciences, Ontario, Canada, after deeming how important research is in the grooming of medical students, have made research based activities a mandatory part of their curriculum.' What makes research even more important for undergraduate students is the limited scope of their knowledge and perception. Participation in research can help students 'think out of the box', which sometimes become rather essential in making difficult clinical decisions.Scientific research can nurture the thought process in undergraduate students that can help them assess and make decisions in their clinical setting more efficiently.'

It is imperative that most of the medical students take part in research activities only because it is a part of their curriculum.' But participation in research can help students a lot of more than just getting done with what the curriculum demands them to do. Studies show that students who engage in research during undergraduate years tend to have more interest in academic medical careers. Moreover, regular participation in research projects can increase the research productivity of students during their post-graduation years.'·'

In a country like Pakistan, the medical education system is still based on traditional ways of learning, however it should be evidence based, promote active and lifelong learning.' While the current education system fails to equip the students with the needs of the day, one can simply assume that there might be little or no concept of research among students as well, at least at the undergraduate level. This assumption is quite true and has been validated by some studies where medical students showed only a moderate level of interest in any sort of research activity."

Lahore is one ofthe largest cities in Pakistan and is a home to several medical colleges. This study was designed with following aims: 1) To analyze the pattern of research activities in Medical students of Lahore 2) To delineate the factors associated with research output in undergraduate years.

## METHODS

This descriptive study was carried out at CMH Lahore Medical College and Services institute of medical sciences both in Lahore. A total of 800 self-administered questionnaires were distributed among medical students between August 2014 and September 2014. The questionnaire consisted of three sections: 1) demo-graphics, 2) a section comprising nine pretested statements assessing trends of medical research and publications among medical students and 3) a list of stressors that cause difficulties in pursuing research at undergraduate level. All data were analyzed in SPSS v 21 Frequencies were collected for all categorical variables.

## RESULTS

Out of 777 respondents (response percentage 777/800 = 97.1%), there were 330 (42.5%) male and 447 (57.5%) female students. Most of the students were Pakistanis (738, 95%) and a few had a foreign background (39, 5%). Class-wise distribution of students was

preclinical years (316, 40.67%) and clinical years (461, 59.3%). Only a small percentage of students were currently involved in a research project or had ever published in a peer reviewed journal (Table 1).

**Table 1:** Trend ofresearch among undergraduate medical students ofLahore

|  |  |  |
| --- | --- | --- |
| **Statement** | **Yes** | **No** |
| Have you done any research project in the past? | 158 (20.3%) | 619 (79.7%) |
| Are you currently doing a research project? | 105 (13.5%) | 672 (86.5%) |
| Have you ever published a research paper? | 49 (6.3%) | 728 (93.3%) |
| Have you ever presented a research paper in  **a conference?** | 60 (7.7%) | 717 (92.3%) |
| Do you think research provokes a "question asking" attitude in you? | 539 (69.4%) | 238 (39.6%) |
| Would you pursue a full time academic career? | 449 (57.8%) | 328 (42.2%) |
| Do you think research is rewarding? | 579 (74.5%) | 198 (25.5%) |
| Do you think your present mode of teaching positively encourage you to do a research project? | 240 (39.9%) | 537 (69.1%) |
| Do you think submission of a thesis should be made mandatory for graduating MBBS? | 298 (38.8%) | 479 (61.6%) |

Most frequently reported factors causing difficulties in pursuing a research project were: financial constraints, lack of interest, lack of knowledge that research can be done at undergraduate level, non­ research oriented curriculum, discouraging attitude offaculty/senior doctors, time commitment and lack of guidance at medical colleges (Table2).

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**Table2**

Factors causing difficulties in pursuing research at undergraduate level in Lahore

|  |  |  |
| --- | --- | --- |
| **Factors** | Rare | Frequent |
| **Financial constraints** | 301 (38.7%) | 476 (61.3%) |
| **Lack of interest** | 177 (22.8%) | 600 (77.2%) |
| **Lack of knowledge how research can be done**  **at undergraduate level** | 150 (19.3%) | 627 (80.7%) |
| **Non research oriented curriculum** | 288 (37.1%) | 489 (62.9%) |
| **Discouraging attitude of peers** | 368 (47.4%) | 409 (52.6%) |
| **Discouraging attitude of faculty/senior doctors** | 294 (37.8%) | 483 (62.2%) |
| Complicated pursuit | 461 (59.3%) | 316 (40.7%) |
| **Time commitment** | 151 (19.4%) | 626 (80.6%) |
| Lack of guidance | 159 (20.5%) | 618 (79.5%) |

## CONCLUSION

To conclude, we report promising attitude of undergraduate students in Lahore towards research activities. The students knew how important research was, but only a few actually participated in research activities. Among the most important risk factors that hindered students' participation in research activities included lack of knowledge and lack of interest. Better orientation of students towards research methodologies can increase research output from undergraduate students.

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