



## INTEREST IN RESEARCH AMONG THE UNDERGRADUATE STUDENTS OF MEDICAL AND DENTAL COLLEGES OF PAKISTAN.

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**ABSTRACT... Objectives:** The aim of this study was to find the interest in research among the undergraduate students of medical and dental colleges of Pakistan. **Study Design:** Cross-sectional study. **Setting:** Amongst the students of four medical institutes. **Period:** April to May 2018. **Material & Methods:** Sample size was 500 of undergraduate MBBS and BDS students from 1<sup>st</sup> year to final year. Participants were given a questionnaire and responses were analyzed with SPSS software version 21. **Results:** The mean age of participants was 23.24 +/- 1.85 years. Female students were more (63%) as compared to male students (37%). Seventy percent (70%) students were interested in different research work and more than 85% students were interested to continue their future career in academics. Participants were more interested in practical training as compared to research and theory. Most of the students were interested to carry out research in clinical field as compared to non-clinical field. The knowledge of research methodology was more in senior students. Student's knowledge about "impact factor of journal" was low. **Conclusion:** In this research it has been found that a good number of participants were interested in research activities so measures should be taken to facilitate and motivate them by giving some sort of award to the researchers to increase the publications from Pakistan. Easy access to internet facilities must be provided to promote research activities. Efforts should be made to find out reasons why some students consider research less important. It is also need of the day to develop culture of research by senior faculty members of academic institutes.

**Key words:** Medical Research, Undergraduates Students, Medical College, Impact Factor.

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## INTRODUCTION

Research is an essential part of undergraduate and postgraduate medical education. It is important to include a module on research in the MBBS and BDS curriculum. After teaching the research protocol it is important to motivate the young students to pursue research in their future careers. To prevent, diagnose and formulate the effective treatment plans, research in health care is very necessary.<sup>1</sup> Proper attention to research activities is needed to keep the country up to date with worldwide current medical practices.<sup>2</sup> Medical institutes need to develop a culture of research activities.<sup>3</sup> The special awards should be given to the best researcher to encourage and promote research activities. Previously, research activities were considered boring and

useless for a practical professional career but now there is awareness among students and they are taking more interest in medical research. As the progress in the scientific field is determined by the quality and number of the research activities<sup>4</sup>, so we need to identify the attitude of our undergraduates of medical colleges toward research activities. This study aimed to identify the interest of medical students of MBBS and BDS in research activities. By knowing the level of interest, we can suggest the teachers and institutions to enhance the interest of students in research activities by improving the training of research protocol and offering incentives to both teachers and students.

**MATERIAL & METHODS**

In this cross-sectional study, a pre-validated questionnaire modified and validated by the experts was used. This questionnaire was filled by the undergraduate medical and dental students of two government and three private medical and dental colleges of Pakistan. This study was carried out in April and May 2018 and a total of 500 students of MBBS and BDS, from 1st year to final year, participated. The data were analyzed with a specific statistic program (SPSS-21) for windows.

**RESULTS**

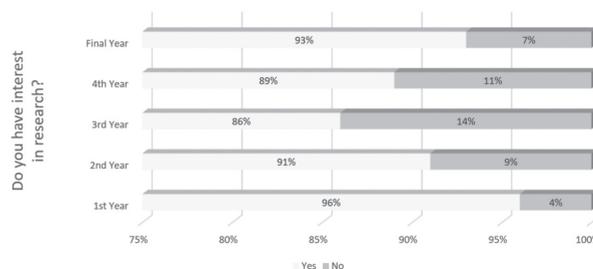
The mean age of participants was 23.24 +/- 1.89 years; females were 318 (63%) as compared to males 185 (37%). This percentage correlates with the pattern of gender distribution in the admission in medical colleges of Pakistan. The interest of medical research was highest in the 1st year medical student (96%) as compared to other years.

A good number of students (>70%) were interested in different research projects. Majority of the students (88%) keenly interested to pursue their future carrier in academics. Most of the students were very clear regarding the importance of practical training in medical education (>50%) and giving less significance to research and theory. The publication in the scientific medical journal was carried out by 35% of final year students, 28% of 4th year student, 25% of 3rd year student, 7% of 2nd year students and 5% of 1st year students.

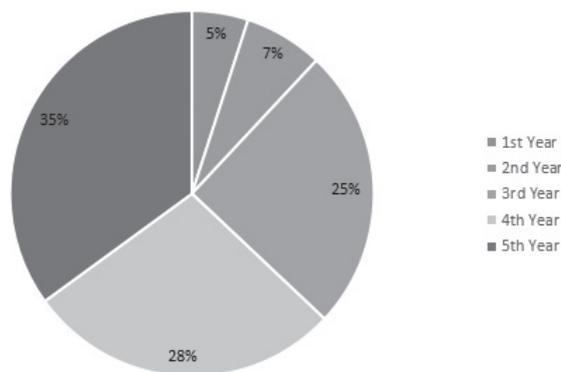
The majority of the participants were interested to carry out future research in the clinical field as compared to non-clinical disciplines.

Despite other stressful activities most of the students (>75% in all classes) agreed to the importance of research in the field of medicine and dentistry and were willing to do research activities during their undergraduate studies. Regarding the awareness of the impact factor of the journal, the knowledge of the participants was minimal even final year students had minimal awareness of this aspect. Most of the final year

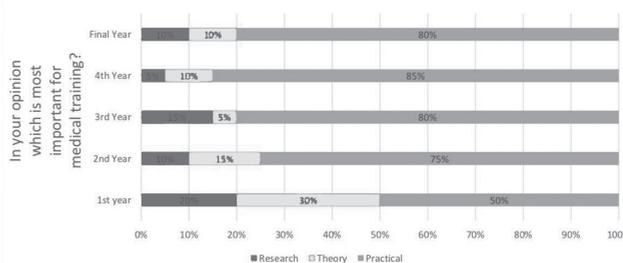
students (87%) had the knowledge of how to conduct the research but most of the younger students were not aware of the full protocol of research. Fortunately, the interest of reading scientific journals and articles was observed in a good percentage of participants in all academic years.



**Figure-1. Interest in research**



**Figure-2. Percentage of publication by different clinical years**



**Figure-3. Interest of participants in research in clinical versus non-clinical disciplines.**

**DISCUSSION**

Research is an essential academic activity to create new scientific knowledge and to upgrade the existing concepts of any subject. Research subjects should be included in the integrated curriculum of undergraduates and it should be an assessed in the end. Research enables

a person to collect and compile information, assess it objectively, analyze it critically and finally come with a conclusion, all of which are important in clinical decision-making and patient care.<sup>5</sup> Participation in research is important in producing doctors with an understanding of evidence-based medicine.<sup>6</sup> Like any scientific discipline, early introduction to research in medicine by inculcating a mindset aimed at research has been proposed.<sup>7</sup> Research output is a good indicator of any quality medical school. A trend away from research activities has been seen, particularly in developing countries.<sup>8-10</sup> But such a trend has not been noticed in our cross-sectional study where more than 70% of participants were interested in carrying out research. The interest trend was more in 1<sup>st</sup> year medical students (96%) as compared to higher years. This observation may be due to the burden of studies and the stress of professional examination. But contrary to this observation, most of the participants of this study were of the view to continue and involve in research after completion of their graduation. This trend may be due to the proven benefits of research-oriented physicians.<sup>11,12</sup> Similar observation was not made when participants were asked about the research-based training. They believed research activities of no use. Research takes the researcher away from practical skills.<sup>12</sup> Most of the participants found practical training more useful and interesting. Their perception was that researchers were isolated from patients and clinical practice<sup>13</sup> and a similar observation was noticed by Al Ghamdi et al.<sup>14</sup> Moreover, there are limited opportunities in carrying out a research project in the non-clinical subject. This situation is worst among dental students and opportunities of research promoting activities do not exist in most of the dental colleges.<sup>15</sup>

Most of the students were more interested in clinical subjects than nonclinical subjects. They felt that after clinical research, they can excel more in teaching and practice due to direct contact with the patients. Moreover, nonclinical researchers lack direct contact with the patients. Worldwide efforts are made to encourage nonclinical research. In America, big scholarly activity programs, such as the Baylor COM and

Cleveland Clinical Learner COM promote clinical scientist training.<sup>16</sup> Whereas in Great Britain exposure to research provided within the selected program.<sup>17</sup>

Before conducting and initiating any research project, it is essential to have the basic knowledge of research methodology. Moreover, the knowledge of epidemiology and bio statistical research is also necessary. These skills are needed in analyzing and reporting the result of medical research.<sup>18</sup> In our study, the percentage of participants knowing the research methodology was satisfactory among the student of 3<sup>rd</sup> year and 4<sup>th</sup> year but more in the final year. The journal impact factor is the most widely cited bibliometric tool used to characterize journals. It was originally proposed 50 years ago as a measure of the impact that individual articles have on the research community.<sup>19</sup> The knowledge of the impact factor of the journals amongst final year students in our research was good as compared to students of junior classes. Nowadays, students and clinicians are using both print and electronic media for reading journals.<sup>20</sup> But it is a general observation that undergraduates are more comfortable to read articles on electronic media, so the institution should provide fast internet facilities on their premises to encourage research activities.

## CONCLUSION

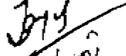
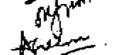
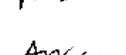
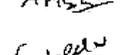
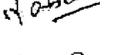
In this research it has been found that a good number of participants are interested in research activities, so measures should be taken to keep them motivated to conduct research by giving some sort of awards to the researchers. Easy access to internet facilities must be provided to promote research. Efforts should be made to find out reasons, why some students consider research useless. It is also need of the day to develop culture of research by senior faculty of academic institutes.

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2	Tahmasub Faraz Tayyab	Collection of data, Data analysis.	
3	Tooba Saeed	Writing discussion, Full final review.	
4	Muhammad Azeem	Data collection and review.	
5	Ansa Naheed	Data analysis, Literature review & review of final draft.	
6	Nabeela Riaz	Final draft review critical per review.	
7	Abdul Samad Tayyab	Data collection, helped in analysis.	