

Barriers Faced by Medical and Dental House-Officer During Research in Twin Cities of Pakistan

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ABSTRACT

Objective: To determine the research activities and perceived barriers among house officers working in different institutions in Rawalpindi/ Islamabad.

Study Design: Cross-sectional study.

Place and Duration of Study: Private and Government Hospitals in Rawalpindi and Islamabad Pakistan, from May to Oct 2019.

Methodology: A questionnaire based on thirteen questions with close-ended answers was administered to house officers at different dental hospitals in Rawalpindi and Islamabad to observe the attitudes toward research and perceived difficulties in doing research.

Results: A total of 126 participants with the mean age of 24.26 ± 2.192 years participated in the study. Out of 126, 68(58.3%) participants showed research interest, and 86(68.25%) participants reported no previous experience with research. In addition, barriers/difficulties in the research were noted regarding personal interests, funding, future job commitment and the data collection process.

Conclusions: Within the limitations of this study, it is concluded that the barriers identified in this study need to be addressed in order to enhance students' participation in research and improve the quality of research done in our country: these barriers such as lack of interest, lack of funding, poor availability of research mentors and proper awareness should be removed. Amendments may be required in the dental undergraduate curriculum to overcome these barriers.

Keywords: Difficulties, House officers, Research.

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INTRODUCTION

Research is a process through which researchers collect and analyze information to increase understanding of a topic or issue. Research in the medical profession attains more importance because it directly impacts people's health.¹ Medical science is a constantly evolving subject, and this fact has led to the acceptance of the concept of evidence-based medicine.² Medical research eventually affects the quality of care provided to the patients.³ Since the beginning of the 20th century, there has been a debate about producing dentists who can incorporate evidence-based treatment strategies in their clinical practice.⁴ It was recommended in a global congress on dental education in September 2007 that "It should become a norm that a research requirement of some extent should be a part of the undergraduate curriculum." The Students' Research Club was established at Istanbul University in 1992, where voluntary research is carried out in

different branches of dentistry. The University of Dammam provides full support to students for research.⁵ Unfortunately, South Asian countries, including Pakistan, do not give due importance to research work.⁶ Students remain focused on reading material provided by the universities rather than developing their own opinions and arguments based on research works.⁷ Research work in Pakistan starts from the university level for graduate or post-graduate programs.

To produce competitive dental graduates who can match international standards, there should be self-directed programs for students, mandatory research courses, and participation in research conferences.⁴ Most of our universities do not have well-equipped research centres, resultantly quality of conducted research is low. Another impediment in research work is the non-availability of funds, especially for PhD research programs. Research cannot be conducted without adequate funds. Government should launch schemes and funds for the students who are willing to do research work, as it relates to the progress and success of our nation.⁷

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Our study aimed to discover research experiences and difficulties encountered by House officers during research.

METHODOLOGY

This was a multi-institutional questionnaire based cross-sectional study. The data was collected from different hospitals in Rawalpindi and Islamabad from May to October 2019. The non-probability convenience sampling technique was used. The sample size was determined by the OpenEpi calculator, considering the prevalence of lack of efficient staff to provide knowledge and skills required to house officers as 26.2%, keeping confidential level of 95%.³ A sample size of 126 was calculated.

Inclusion Criteria: Dental house officers having six months of house job experience were included in the study.

Exclusion Criteria: Medical officers, specialists and general dentists, and students of MBBS and BDS were excluded from the study.

The questionnaire contained questions that helped understand house officers' behaviour towards research and assess their research experience and outcome. Permission from the Ethical Review Committee was taken before commencing the study. A proforma based on thirteen questions with close-ended options was filled by house officers of different teaching hospitals/institutions in 2019. As research infrastructure, opportunities, and frequency of research barriers vary from institute to institute, the same number of students were selected from each institute to ensure equal representation. The questions also determined if the house officers were publishing scientific articles during or just after their graduation. In addition, the questionnaire covered questions regarding the students' plans for research. Questionnaires were given to the participants on Monday and collected after a week.

After cross-checking and verifying questionnaires, Microsoft Excel for data entry and Statistical Package for Social Sciences (SPSS Inc., Chicago, IL, USA V.20.0) was used for data analysis. Descriptive statistics were calculated for both qualitative and quantitative variables.

RESULTS

Out of 200 questionnaires, only 150 were collected back, and even amongst these, only 126 were selected for this study which was completely and properly filled and analyzed, accounting for the response rate of 63%. Among them, female participants were 83.3% and

male participants were 16.7%. The mean age of the participants was 24.26±2.192 years. Out of 126 participants 68(54%) showed interest in research while 36(28.6%) showed no interest and 22(17.5%) participants were not sure. A significant number of participants (n=86, 68.3%), reported no previous research experience, while only 31.7% (n=40) had previous research experience. The participants highlighted that their seniors encouraged (n=64, 50.8%) to conduct research. The participants reported that 81% (n=102) of the staff involved in the research should be awarded. A total of 50% (n=63) were interested in continuing research after their house job, and 51.6% (n=65) pointed out that they would continue research along with clinical commitment, whereas 13.5% (n=17) were not sure, and 34.9% (n=44) did not want to do any research along with their work. A total of 57.9% (n=73) participants reported that job commitment might allow them to conduct research, while 33.3% (n=42) reported that job commitment might not allow time to conduct research, and 8.7% (n=11) were not sure. A total of 77.8% (n=98) thought research contributes to the professional development of house officers. The response of participants regarding ease of research proposal approval, financial funding and difficulties encountered during data collection have been mentioned in Table.

Table: Participants' Response Regarding Difficulties Faced by them During Research Process (n=126)

	Participants' Response		
	Yes n(%)	No n(%)	May be n(%)
Interest In Research	68 (54.0)	36 (28.5)	22 (17.5)
Previous Research Experience	40 (31.7)	86 (68.3)	0
Research Proposal Approval Difficulty	54 (42.9)	60 (47.6)	12 (9.5)
Financial Funding Difficulty	87 (69.0)	22 (17.5)	17 (13.5)
Data Collection Difficulty	87 (69.0)	25 (19.8)	14 (11.1)
Continuation of Research after house job	63 (50.0)	45 (35.7)	18 (14.3)
Job Commitment-Difficulty in research	73 (57.9)	42 (33.4)	11 (8.7)
Research Proposal Approval Difficulty	54 (42.9)	60 (47.6)	12 (9.5)
Financial Funding Difficulty	87 (69.0)	22 (17.5)	17 (13.5)
Data Collection Difficulty	87 (69.0)	23 (18.5)	16 (12.5)

DISCUSSION

A routine assessment from fresh graduate doctors is always encouraged by institutions to make

improvements and adjustments to their curriculum and teaching methods.⁸ However, despite the importance of research in dentistry, negligible dental students conduct research. Here, we have identified numerous factors which are accountable for this scarcity. The major barriers hampering research by dental students include lack of knowledge, lack of funding, difficulties in data collection, and lack of mentorship.^{4,9,10,11}

33.3% of participants of the present study stated that lack of time does not allow them to continue research which is not corresponding to the study,⁸ conducted by Kumar, who reported that 88.79% of participants stated short time as their reason for not conducting research, inconsistent with results of other studies.^{4,10,12}

Lack of financial support has been a major barrier in the field of research not only in Pakistan, i.e. 93.6,¹³ but in reputed institutions around the world, as mentioned in research by Kywa *et al.* which is 72.¹⁴

Sagari *et al.* in their study, concluded that 80.25 of people report a lack of documentation and keeping a record as a barrier. In comparison, 61.5 of respondents claimed academic responsibilities to be a cause.¹⁵ In a study done by Wróblewska *et al.* students experienced difficulties in effectively presenting data, which might be because they were unfamiliar with the research culture.¹⁶

In a study by Conradie *et al.* students experienced difficulties in effectively presenting data, which might be because they were unfamiliar with the research culture. In research done in 27 African countries, lack of dedicated research teams and reliable internet access were barriers 47.7 and 32.6, respectively.¹⁷

In a qualitative study done in SUMS, general priorities in educational research, lack of a comprehensive educational research database in medical sciences, discrimination among departments concerning budget, and the lack of research spirit and teamwork were more prominent barriers.¹⁸ A study published in a Korean journal says that students experience difficulties in "effectively presenting data," it may be because they are not familiar with the research culture.¹⁹

Another study in 2017 claims language and repeated follow-ups of the patient and record maintenance a barriers to research.²⁰

With current study findings and previous data available, it is concluded that a widespread adaptation

of system-based reforms should be launched to help, educate, guide, counsel and facilitate research students. This will not only encourage them but also make it easily accessible for them. Furthermore, the organization of interactive sessions and workshops on various aspects of dental research and making research a part of the curriculum will ensure the mandatory participation of students.

CONCLUSION

After all the research and discussion, we have endeavoured to address a previously neglected issue in twin cities to assess the issue comprehensively. It is concluded that the barriers identified in this study need to be considered, reviewed, and corrected to enhance and develop students' participation in research. Amendments in the dental undergraduate curriculum with adequate supervision and better guidance will improve house officers' performance and their research interests.

Conflict of Interest: None.

Author's Contribution

Following authors have made substantial contributions to the manuscript as under:

KA: Study design, data analysis, critical review, drafting the manuscript, critical review, approval of the final version to be published.

AA: Data acquisition, data analysis, data interpretation, critical review, approval of the final version to be published.

AI & AR: Conception, data acquisition drafting the manuscript, approval of the final version to be published.

ZH & Al: Critical review, drafting the manuscript, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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