

Original Article

# Research awareness among dental undergraduates; A cross-sectional study conducted at Karachi Medical and Dental College, Karachi

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## Abstract

**Background:** Research is an integral part of the academic curriculum; its role must be appreciated in all health and medical field. The current study was planned in order to evaluate the interest of dental students towards research and their awareness.

**Methodology:** A cross-sectional study was conducted at Karachi Medical and Dental College (KMDC) and Liaquat college of Medicine & Dentistry, Darul Sehat Hospital (LCMD) from June to December 2018. A total of 200 bachelors of dental surgery (BDS) students were recruited as per the inclusion criteria. Non-consenting students were excluded from the study. Data regarding research understanding and awareness was collected and analyzed using SPSS Version 17.0.

**Results:** Majority of the study participants were female 89% and males 11%, females were in high proportion among all professional years. i.e. 27%, 21%, 25.5% & 15.5% from 1st year to 4th year respectively. Mostly the 2nd & 3rd year students were aware of the research needs 97.7% and 100%. The research interest was most among the students of the initial years while among 4th years students it was comparatively less i.e. 78.3%. All of the students from 1st year to 3rd responded in favour of research usefulness in career while only 67.5% of the final year students were lacking this basic knowledge. Moreover, the benefits of research were well known among students of all years with the highest understanding among the 2nd and 3rd year (97.7% and 94.4%).

**Conclusion:** It is evident from the study results that the enrolled dental students were aware of research significance, its professional importance and showed positivity towards research interest. The inclusion and implementation of research among dental students is essential for promoting research culture in medical students.

## Keywords

Dental Students, Research, Attitude, Awareness.



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## Introduction

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Research in the field of science, technology, academics, economics and agriculture etc., is substantial in order to assess scientific growth and development of a country<sup>1</sup>. According to the latest references, research trends have increased considerably in the past few years<sup>2</sup>. Evidently, research is a tool or device from which industries, governments and institutes can extract novel information<sup>3</sup>. It is a hypothetically driven innovative exploration and demands in-depth knowledge of literature search as well as expertise in analytical and logical techniques<sup>4</sup>. Implementation of research paraphernalia in the background of unique exploration is desirable for proficient and strong scientific innovation<sup>4</sup>.

The foundation behind motivating dentistry students for research, is to ease the necessity for certification, progress of the dental college, chase for innovative information, and to obtain position amongst schools of dentistry<sup>5</sup>. The integration of delve into research and critical thinking for dental undergraduates is indispensable which assures that evidence-based practice to accomplish scientific surroundings and that dental work is logically indomitable health profession<sup>6</sup>. Many published studies from dental schools highlight the attitude of dental students towards research, data from Umm Al Qura University in Saudi Arabia revealed that students were barely aware of the scientific approach and research conduction, hence the results were unsatisfactory. Of them only 10.8% of the participants had sufficient knowledge while only 6.6% had published original articles<sup>7</sup>.

In contrast, a survey conducted in Malaysia revealed favorable outcomes indicating sufficient research knowledge among undergraduate students as compared to senior students<sup>8</sup>. Naing et al., and Al Shalawy in their studies regarding research attitude among

dental undergraduate students and their perception of research reported comparable results<sup>9,10</sup>.

In Pakistan, the research trend has been increasing constantly during the last 5 years and the role of Pakistan Medical and Dental Council (PMDC) and Higher Education Commission (HEC) cannot be neglected in this regard. Approximately 20,000 journals are provided free access to 250 private and public universities in Pakistan by HEC<sup>11</sup>. An earlier investigative study assessed research trends in health research revealed that people who want to make research as a profession had a significant and positive research attitude ( $p < 0.001$ )<sup>12</sup>. Research trend exploration has been done by many investigators in Pakistan. Similar studies conducted by Aslam et al., investigated different aspects of research in Pakistan<sup>13,14</sup>. Very limited data is available focusing exclusively on the research interest of dental undergraduates in Karachi, Pakistan. Therefore, there is a need to conduct a study specific to Karachi with the rationale to determine research awareness among dental undergraduate students of public sector dental college in Karachi.

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## Methodology

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A cross-sectional study was conducted at Karachi Medical & Dental College (KMDC) and Liaquat College of Medicine & Dentistry, Darul Sehat Hospital (LCMD) from June to December 2018. Raosoft software was used to calculate the sample size which was 193 rounded off to 200 having a margin of error 5% and confidence level 95% with response distribution of 50% and population size of 384<sup>15</sup>. The dental students of 1st to 4th year of both genders were included in the study whereas the house officers, postgraduate trainee and students who did not provide consent were excluded from the study sample. After taking informed verbal consent, information regarding research understanding

and awareness was collected through a pre-designed proforma and analyzed using SPSS Version 17.0. Percentages and frequencies were calculated for all qualitative variables like gender and response of research attitude.

## Results

Variable response rate obtained during the course of present study with average response rate at 80%. Gender-wise distribution of participants indicated 89% female students and 11% males. Females constituted major proportion among all professional years. i.e. 54(27%), 42(21%), 51(25.5%), 31(15.5%) from 1st year to 4th year respectively.

Table I: Demographic details of the study participants.

Gender		Total (n)	Female 178(89%)	Male 22(11%)
Professional years	Ist year	65	54(27)	11(50)
	2nd year	44	42(21)	2(9.09)
	3rd year	54	51(25.5)	3(13.63)
	4th year	37	31(15.5)	6(27.3)

Data showed that 1st and 2nd year students were keener to learn and understand research as compared to students of 3rd and 4th year students. Moreover, the need, usefulness and career associated impact of research was better understood by the 3rd year students i.e. 100% and 94.4% respectively. Research interest was maximum among 1st, 2nd & 3rd year students (87.6%, 86.4% and 83.3%) comparatively 4th year students had least research interest. The 2nd year student were most aware of research benefits (97.7%) followed by 3rd year (94.4%), 4th year (89.2%) and 1st year (87.6%). Students of all years recognized the professional usefulness of research.

Table 2: Showing response of dental under graduates for research attitudes

Response	Ist year	2nd year	3rd year	4th year
Research need	60(92.3)	43(97.7)	54(100)	29(78.3)
Research interest	57(87.6)	38(86.4)	45(83.3)	29(78.3)
Research usefulness & career	59(90.7)	40(90.9)	51(94.4)	25(67.5)
Significance of research in everyday life	50(76.9)	40(90.9)	48(88.8)	33(89.2)
Professional implementation of research	55(84.6)	33(75)	39(72.2)	22(59.4)
Interest in research studies	46(70.7)	27(61.4)	38(70.3)	23(62.1)
Research usefulness in every profession	53(81.5)	43(97.7)	52(96.3)	34(91.8)
Benefits from research	57(87.6)	43(97.7)	51(94.4)	33(89.2)
Mistakes expected in research	30(46.15)	28(63.6)	31(57.4)	20(54.0)
Perception about difficulty of research	31(47.6)	28(63.6)	27(50)	15(40.5)

\*Values are given as n(%)

## Discussion

On the academic level the students find research an unlikely and time taking process. Although the high professional demand is

well-known, which highlights the need for research awareness. This study was carried out to determine the research awareness among dental students. The findings of the current

study indicated that students of the 1st year and 2nd year were most enthusiastic for research as compared to the students from higher academic levels i.e. 3rd year and the 4th year. A study published in 2016 at Sudanese University revealed that majority of undergraduates understood the significance of research in medicine and the importance of research in pursuit of a career<sup>16</sup>.

The enrolled dental students were aware of research in everyday life and its usefulness in every profession. A study conducted earlier in 2014 investigated knowledge, attitude and practice (KAP) of medical students towards research<sup>17</sup>, it was found that majority of the students appreciated the importance of research while 67.4% of students recommend research teaching mandatory for all medical and dental students<sup>17</sup>. Despite considering the importance of research in health sciences only half i.e. 55.3% participated in the research<sup>17</sup>.

In our research, 2nd year students responded well for research benefits, errors and perception about difficulty in research. Similarly, another previous study highlighted and studied attitudes, barriers, and experience of participating in research projects<sup>18</sup>. Approximately, 97.9% respondents considered research as a mandatory requirement of health professionals and suggested that research activity continuously improves clinical and contemporary aspects of professional life<sup>17</sup>. Deficiency of research guidance, shortage of time, occupational pressure and shortage of supervisors have perceived barriers to doing research<sup>18</sup>.

Al-Shalawy and Haleem, reported about information regarding stance and supposed barricade towards research project amongst college health sciences male students within the

kingdom of Saudi Arabia<sup>19</sup>. They concluded that the understanding of research is low in undergraduate students<sup>19</sup>. Another study by Kyaw et al., conducted to assess the KAP, and obstructions for research among undergraduates revealed that 56.9% had modest knowledge while preponderance (83.3%) had the modest attitude toward systematic research. They found a strong relationship among age, school year and senior students with higher information scores<sup>20</sup>. 3rd year students had moderate understanding of research in all aspects. A qualitative study published in 2015, evaluated third year students regarding undergraduate results revealed that pre and post interview awareness of student's pre-course and point out greater than before concentration to research progression as well as investigator independence, cooperation and information edifice procedure<sup>21</sup>.

The limitation of the study included the cross-sectional study design, as this research does not permit contributory termination. Convenience sampling additionally confines the researchers to calculate the inaccuracy to extrapolate outcome to the total populace of dental undergraduate students across Pakistan. Another limitation was the small sample size. It is recommended that research must be included in the dental curriculum and awareness programs, talks, and seminars should be planned and executed to develop research interest among dental students. Dynamics causing deficiency of awareness should be addressed and managed accordingly. Journal club activity should be promoted among undergraduate students.

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## Conclusion

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Research in everyday life and the understanding for its usefulness among dental undergraduates in Karachi is improving steadily. However, research need and interest is progressively decreasing in the subsequent years. Therefore, effective efforts should be taken in order to increase the understanding of research among students. Breaking these barriers would help prepare future researchers among the dental graduates.

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## Conflicts of Interest

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None.

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