

A Survey on perceptions, opinions and barriers to conduct research among Dental postgraduates in Telangana state, India

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A Survey on perceptions, opinions and barriers to conduct research among Dental postgraduates in Telangana state, India

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Abstract

Background: Research is a careful investigation or inquiry specially through search for new facts in any branch of knowledge making for its advancement. It is true especially in health sciences. Dental students' involvement in research is a longstanding tradition and has been an integral component of education for years which helps foster scientific thought and nurture evidence-based practice in clinical settings. Knowledge and skills pertaining to research is of paramount importance among post graduate (PG) students, as they are more involved in research activity.

Objectives: The present survey was done to evaluate the opinions of dental PG students on conducting research, their difficulties during conducting research and barriers to start the research work.

Methods: The survey was conducted among 2nd and 3rd year dental PG students from all the eight PG course providing dental institutions of Telangana state. A pretested self-administered questionnaire (CVR = 1, Cronbach's alpha = 0.85) was used for data collection. Statistical analysis was carried out using SPSS v 20.0. Chi squared test was used to find differences in perceptions between gender, II and III year PG students. Level of significance was set at 0.05.

Results: Of all the PGs, a total of 371 participated in the survey of which 93.5% agreed that conducting research would increase their knowledge. 75.5% disagreed with the statement that they conduct research only because it was a part of their PG curriculum. All the students felt that there should be support from funding agencies to conduct any research work. A significant ($p < 0.001$) difference was found between gender with females showing good perceptions.

Conclusion: The survey revealed positive attitudes among dental postgraduates to conduct research only when separate time is allotted to them, proper funding is available and only if they have a right to select their own guide. Most of the difficulties were with result

interpretation followed by article publishing and topic selection.

Introduction

Research in common parlance refers to search for knowledge. One can also define research as a scientific and systematic search for pertinent information on a specific topic. Research is a careful investigation or inquiry specially through search for new facts in any branch of knowledge. It is actually a voyage of discovery. Research is an academic activity and as such the term should be used in a technical sense. Research is an original contribution to the existing stock of knowledge making for its advancement. It is the pursuit of truth with the help of study, observation, comparison and experiment. In short, the search for knowledge through objective and systematic method of finding solution to a problem is research.

In the present day, one of the best measures of scientific progress in a country is the research situation in their scientific communities especially in health science. In recent years there has been a tremendous increase in scientific research activity all over the world. In terms of health research, the concern over conducting scientific and accurate research has increased in most countries, both industrial and developing. This trend may be due to the desire to resolve the health care problems in their communities.¹ Every doctor should strive to contribute to the generation of evidence by conducting research. For carrying out a research study adequate knowledge, practical skills and development of right attitude are crucial. At the same time critically evaluating the research is also of utmost importance.²

In developing countries like India, it is pivotal to encourage health science students to pursue research as local culture-based solutions to health problems and public health personnel are currently insufficient in India as is the case with other South Asian countries.⁴ Research provides the students with an intellectually challenging, selflearning experience and participating

in research is important in producing doctors with an understanding of evidence-based medicine and evidence based dentistry. It also helps in developing interest in academic pursuits.³

Dental students' involvement in research is a longstanding tradition and has been an integral component of education for years. Research experience helps foster scientific thought and nurture evidence-based practice in clinical settings. Many institutions in the world are encouraging students to engage in scientific research from first year itself, by various methods and the trend is on the rise. In some countries in the world, research experience has become a compulsory component of the degree.¹³ Furthermore, experience of research has been shown to promote interest in academic careers and postgraduate research productivity. It is a common observation that a majority of postgraduates conduct research projects only during the second or third year of their graduation. Though the importance of dental student research has long been identified, there is scant evidence on patterns and trends in dental student research.¹² So the present study was intended to evaluate the perceptions of dental postgraduates to conduct research work, the difficulties they face during conducting research and to identify the barriers to start the research work among dental postgraduates in Telangana state.

Methods

A cross sectional survey was conducted among dental post graduates from eight dental colleges from September 7th to 28th, 2015. A total of 371 students among 8 dental colleges which have post-graduation course in Telangana state, India have participated in the survey. Ethical clearance was obtained from institutional review board of Sri Sai College of Dental Surgery, Vikarabad. Permission was obtained from the institutions to conduct the survey. A self-administered questionnaire was developed (CVR = 1) and tested for reliability (Cronbach α = 0.85).

The questionnaire included opinions of postgraduates to conduct research, the difficulties they experienced while conducting research, and the barriers to start research work was assessed on a two point Likert scale where 1 indicated agree, 2 disagree. The data collected was compiled, tabulated and subjected to statistical analysis using the SPSS V 20.0. Level of significance was set at 0.05. Chi square test was used to compare the perceptions to conduct research based on their gender and also among II and III year post graduates.

Results

Of the 371 students, 163(40%) of them were females and 208 (60%) were males. 208(56.06%) of them were of 2nd year and 163(43.9%) of them were 3rd years post graduates.

Illustration 1 shows, 93.5% agreed with the statement that by conducting research their knowledge increases, 75.7% disagreed that they conduct research only because it is a part of their PG curriculum, 63.3% disagreed with the statement that conducting research should not be a mandatory criteria for appearing for final examination of a PG curriculum, 83.35% agreed that separate time should be allotted while planning PG curriculum to conduct research and all of them agreed with the statement that there should be support from funding agencies to conduct any research work, majority i.e. 92.45% also agreed that students should have right to select their own guide for proper guidance during their research work.

Illustration 2 shows that 40% stated that interpreting results is the most difficult step they faced during conducting research and about 21% stated that article publishing is the next most difficult step they faced.

Illustration 3 shows that 29% stated that lack of standard plan is the most difficult barrier to start a research work followed by lack of financial support.

Illustration 4 shows 63.5% females and 91.4% males disagreed with statement that they conduct research only because it is a part of their PG curriculum and there was a significant difference found between males and females. There was a significant difference found between 91.3% females and 59.5% males who agreed with the statement that career prospects will be better by conducting research work. 76.9% females and 46% males disagreed with the statement that conducting research should not be mandatory criteria for appearing for final examination of a PG curriculum and significant difference was found between them with a p value < 0.001.

There was a significant difference between II and III year post graduates perceptions to conduct research. 63.5% II years and 91.4% III years agreed with the statement that they conduct research as it is a part of their PG curriculum and there was a significant difference found between them regarding this statement. 91.3% II years disagreed and 59.5% III years disagreed with the statement that conducting research should not be a mandatory criteria for appearing for final examination of a PG curriculum and the difference between them was significant. 65.4%II

years agreed and 95.1% III years agreed with the statement that training in research methodology should be mandatory as it improves skill and knowledge and significant difference was found between males and females regarding this statement with a p value less than 0.001.

Discussion

The rapidly evolving health science of today initiates the health care professionals to keep updated with the developments. Research activity among postgraduate dental students is very important as it ensures better clinical care, critical reasoning, lifelong learning and future research activity. Dental students also constitute a significant proportion among medical professionals engaged in research.

This survey is extremely important because understanding the perceptions and opinions of students toward conducting research can lead to improvement of research practices among future dentists. The survey revealed positive attitudes among postgraduates to conduct research only when the barriers identified are overcome by proper planning to conduct research.

A significant percentage (95%) of survey populations was aware that conducting research increases knowledge. This shows the positive attitudes of post graduates towards conducting research. Even if research experience does not lead to career prospects in academic, the experience can help to improve a student's skills and knowledge to conduct research in future. These results are similar to study conducted by Khalid M. et al⁵ in Saudi Arabia.

65.4% females and 95.1% males agreed with the statement that Training in research methodology should be mandatory as it improves skill and knowledge. It is important to train the students in research work in their under graduation so that it makes easy for them to identify the difficulties before and helps to conduct future research. This is similar to a study conducted by Sabzwari. S et al.⁶ in Pakistan that Physicians with prior research training were more likely to have ongoing research projects.

All of the survey participants agreed with the statement that there should be support from the funding agencies to conduct any research work. This shows that more number of students will show interest to conduct research when there is some support from funding agencies. Each institution and funding agencies should set aside a certain portion of their budget for promoting student research.⁷

72.5% disagreed with the statement that they conduct research only because it is a part of their PG curriculum. This shows that most of them were conducting research out of their interest and they were aware of its importance that research may be helpful in solving many health problems in future. 87.4% agreed that Qualities of services provided to patients will be increased with continued research work as newer treatment strategies and information can be updated that can be applied in clinical practice.

Majority of the subjects stated that interpreting results (36.4%) and article publishing (29.9%) are most difficult steps while conducting research. These results emphasized that biostatistics should be taught early in the curriculum, but there is a need to reinforce such skills throughout the graduating years.¹¹

Half of the subjects (42%) of them in our survey considered lack of skill and knowledge are the major barrier to conduct research which leads to decrease in motivation to do research, so there should be training programs to be conducted to improve skill of the researcher. This is similar to a study conducted by Zohren Anbari et al⁸ and contrary to a study conducted by Sabzwari S et al⁶ where lack of resources (31%) and poor research training at undergraduate and postgraduate level (17%) were the top barriers for poor research activity. Lack of time was one of the barriers for not conducting research is a finding in a study conducted by Memarpour M et al.⁹

Training the students in research work at an earlier stage in their careers is important as it not only improves knowledge and attitudes toward research but also helps to improve their skills in searching and critically appraising literature. Deans, academic staff, faculties and students in all centers must endeavor to work together to encourage, acknowledge and foster passion for clinical research.¹⁰

Programs and workshops should be conducted on research that will enhance motivation among students to participate in future research.

Conclusion(s)

The survey revealed positive attitudes among dental postgraduates to conduct research only when separate time is allotted to them, if they are provided with proper funding to conduct research and only if they have a right to select their own guide. Most of the difficulties were with result interpretation followed by article publishing and topic selection.

By addressing these barriers and by overcoming them the involvement of the dental postgraduates in future

research will be improved.

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Illustrations

Illustration 1

PERCEPTIONS, OPINIONS TO CONDUCT RESEARCH AMONG DENTAL POST GRADUATES

| Sl No | STATEMENT | Agree | Disagree |
|-------|--|--------|----------|
| 1 | I feel conducting research works increases my knowledge. | 93.5% | 6.46% |
| 2 | I conduct research only because it is a part of my pg curriculum. | 24.25% | 75.74% |
| 3 | My career prospects will be better if I conduct some research work. | 77.35% | 22.64% |
| 4 | Conducting research should not be mandatory criteria for appearing for final examination of a pg curriculum. | 36.6% | 63.3% |
| 5 | Qualities of services provided to patients will be increased with continued research work. | 87.43% | 12.57% |
| 6 | Training in research methodology should be mandatory as it improves skill and knowledge. | 78.43% | 21.56% |
| 7 | Separate time should be allotted while planning pg curriculum to conduct research. | 83.35% | 16.44% |
| 8 | There should be support from the funding agencies to conduct any research work. | 100% | - |
| 9 | Students should have a right to select their own guide for proper guidance during their research work. | 92.45% | 7.54% |

Illustration 2

DIFFICULTIES DURING CONDUCTING RESEARCH

| S.N | STATEMENT | MOST DIFFICULT | LEAST DIFFICULT |
|-----|----------------------------------|----------------|-----------------|
| 1 | Selecting topic for my research | 19.7% | 15.6% |
| 2 | sample selection of subjects | 5.4% | 17.5% |
| 3 | Obtaining permission/consent | 11.3% | 8.4% |
| 4 | data collection/conducting study | 4.9% | 8.1% |
| 5 | Interpreting results | 36.4% | 41.3% |
| 6 | write part for my research | 3.8% | 9.7% |
| 7 | article publishing | 29.9% | 21.9% |

Illustration 3

PERCIEVED BARRIERS TO START RESEARCH WORK

| S.N | STATEMENT | MOST DIFFICULT | LEAST DIFFICULT |
|-----|-----------------------------------|----------------|-----------------|
| 1 | Lack of skill and knowledge | 40.7% | 29.3% |
| 2 | Lack of standard plan of research | 4.0% | 11.9% |
| 3 | Lack of financial support | 22.1% | 22.1% |
| 4 | Lack of time | 14.8% | 20.8% |
| 5 | Lack of mentor/guide support | 18.3% | 15.9% |

Illustration 4

COMPARISON OF PERCEPTIONS TO CONDUCT RESEARCH AMONG GENDER WISE

| STATEMENT | | year of studying | | | | p-value |
|---|------------|------------------|-------|---------|-------|-------------|
| | | 1(female) | | 2(male) | | |
| | | N | % | N | % | |
| I feel conducting research works increases my knowledge. | 0-disagree | 17 | 8.2% | 7 | 4.3% | 0.132; NS |
| | 1-agree | 191 | 91.8% | 156 | 95.7% | |
| I conduct research only because it is a part of my pg curriculum. | 0-disagree | 132 | 63.5% | 149 | 91.4% | <0.001; Sig |
| | 1-agree | 76 | 36.5% | 14 | 8.6% | |
| My career prospects will be better if I conduct some research work. | 0-disagree | 18 | 8.7% | 66 | 40.5% | <0.001; Sig |
| | 1-agree | 190 | 91.3% | 97 | 59.5% | |

| | | | | | | |
|--|------------|-----|-------|-----|-------|-------------|
| Conducting research should not be mandatory criteria for appearing for final examination of a pg curriculum. | 0-disagree | 160 | 76.9% | 75 | 46.0% | <0.001; Sig |
| | 1-agree | 48 | 23.1% | 88 | 54.0% | |
| Training in research methodology should be mandatory as it improves skill and knowledge. | 0-disagree | 72 | 34.6% | 8 | 4.9% | <0.001; Sig |
| | 1-agree | 136 | 65.4% | 155 | 95.1% | |