

# Knowledge And Attitude of Undergraduate Dental Students Towards Scientific Research- A Survey

<sup>1</sup>Gopika. G.G, <sup>2</sup>Dr.Reshma Poothakulath Krishnan, <sup>3</sup>Dr. Sandhya Sundar

<sup>1</sup>Undergraduate student, Saveetha Dental college and Hospitals, Saveetha Institute of Medical and Technical Sciences (SIMATS), Saveetha University, Chennai - 600077

Email id: 152001089.sdc@gmail.com

<sup>2</sup>Senior lecturer, Department of Oral pathology, Saveetha Dental College and Hospitals, Saveetha Institute of medical and technical science, Saveetha university, Chennai-600077

[reshmapk.sdc@saveetha.com](mailto:reshmapk.sdc@saveetha.com)

<sup>3</sup>Senior lecturer, Department of Oral pathology, Saveetha Dental College and Hospitals Saveetha Institute of medical and technical science, Saveetha university, Chennai-600077

[sandhyas.sdc@saveetha.com](mailto:sandhyas.sdc@saveetha.com)

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## Abstract

**Background:** Research is an integral part of the students of the dental curriculum. Scientific research is an essential part of health care curricula and vital exercise to help develop clinicians research skills. Literature reported several barriers towards conducting research among dental professionals mainly among the dental students.

**Aim:** To analyse the knowledge and attitude of undergraduate dental students towards scientific research.

**Method:** Cross section survey was done to evaluate knowledge of undergraduate dental students towards scientific research . Self administered questionnaires were prepared and consisted of 9 questions.. Easily accessible sample, SPSS software version 23.

**Results:** The results show that students with age 17 to 19 prefer original study for their research (65.3%) than other age group students. 80.20% of students participated in research during their undergraduate studies . 65.35% students prefer original study as their research projects. .1st year students feel doing research is easier than other year students. When the year of study and difficulty in doing research was compared, Difficulty of doing research was more in first year BDS students. The differences between the groups were not statistically significant (chi-square, p value =0.678).

**Conclusion:** The overall Knowledge and attitude of undergraduate students were good. More workshops and programs about doing scientific research should be carried on to instil better research scope in the future. Research programs should be constantly monitored to assure a research-oriented environment within institutions.

**Keyword:** Undergraduate students, dental, scientific research, attitude and expression, innovative technique, novel method.

**Running title:** Knowledge of dental students towards research.

## Introduction:

Research is an integral part of the students of dental college. (1)A global progress on dental education in September 2007 recommended that it should become a norm that a research requirement of some extent should be a part of the undergraduate curriculum. (2)Major constructs measured with this inventory were social responsibility (rating the importance of beliefs and activities such as equal opportunity for all and volunteer efforts) and personal efficacy for community change Giles and Eyler (1994) used items from this inventory, (3)with those from Astin (1992), to assess service learning outcomes. (4)These studies usually focused on students responses to individual questionnaire items; none reported efforts to assess the reliability or validity of measures(5)

(6) 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 (7) .The skills can help the students to conduct research as it becomes an integral part of

dental education (8). (9)As for undergraduate students' involvement in medical research, very little is known about their perception, attitude, practice and barriers towards medical research. In Lebanon, the Medical Research Volunteer Program (MRVP) was established in 2014 to help undergraduate students be involved in medical research and to help students overcome the challenges they face (10).

Scientific research is an important part of health care curricula and vital exercise to help develop clinicians research skills (8). (9,11)Literature reported several barriers towards conducting research among dental professionals such as lack of interest by faculty members, techniques professionals,(12) lack of knowledge, insufficient mentors, personal and family commitment. However, it is found with different percentages in different researchers (13). Our team has extensive knowledge and research experience that has translate(14),(15),(16),(17),(18),(19),(20),(21),(22),(23),(24),(25),(26),(27),(28),(29),(30),(31),(32),(33) Aim of the study was to analyse the knowledge and attitude of undergraduate dental students towards scientific research.

### **Materials and methods**

A cross section study was conducted to evaluate the attitude and knowledge of undergraduate dental students towards scientific research among 100 students. To evaluate the knowledge of the participants, a self-administered questionnaire containing 10 questions was made. The questionnaire was validated and later distributed to the participants. A web-based questionnaire was also developed using Google forms and was circulated. The participation of the subjects was kept voluntary and nobody was not obligated to fill the form. Questions were answered with "yes" or "no" or by marking the correct responses. Frequency analysis and percentage analysis were done with the obtained results. The data response of 100 participants were entered and analysed for frequency and percentage. Cross tabulation using chi- square test significance was done using statistical packages for the social sciences (SPSS) software version 23. p value  $\leq 0.05$  was considered statistically significant.

### **Results:**

The present study comprised 100 private dental college students and a total of 10 self questionnaires were asked. More than (80.2%) students participated in research projects during your under graduation. 76.24% students think ug students should do research projects, 9.35% students think they should not participate in the research, 13.86% do not have a clear mindset whether undergraduate students should take part in research projects (Figure 1). 67.29% think research helps in academics, 8.41% think research does not help in academics, 24.30% do not know whether research helps in academics or not (Figure 2). 18.81% think doing research is difficult, 40.19% think doing research is easy, 40.59% think doing research is moderate (Figure 3).72.90% of students thought of continuing doing their research in future, 10.26% of students have no interest in continuing their research and 16.82% of the students are doubtful if they will continue the research (Figure 4). When the year of study and the experience in doing research was compared, 1st year students feel doing research is easier than other year students. The difficulty in doing research was also more in first year BDS students. This difference is statistically not significant. (Person chi- square; p value 0.678, - not significant) (Figure 5). When the age and future response in doing research was compared, 17, 18 and 19 year old students think they will continue doing their projects in future. This difference was statistically not significant (Pearson's Chi square test; p value = 0.166, not significant) (Figure 6). When the year of study and the importance of research in academics was compared, 1st year students think

research will help in future academics. 21.50% of them were not sure if the research will help in academics. Pearson's chi square test shows p value is 0.152, which was statistically not significant. (Figure 7)

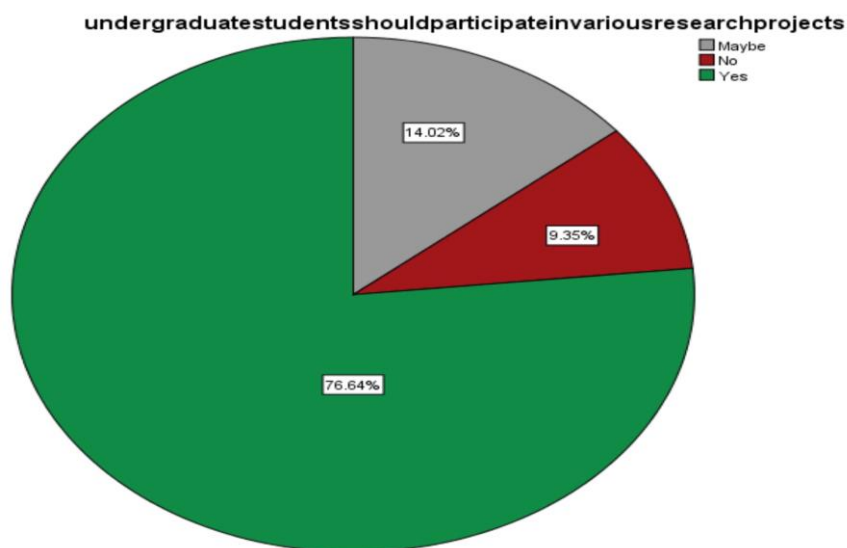


Fig 1 : Pie chart depicts the awareness of the undergraduate dental students regarding participation in various research projects. Green indicates Yes, Red indicates No and Grey Indicates may be. 76.24% students think ug students should do research projects, 9.35% students think they should not participate in the research, 13.86% do not have a clear mindset whether undergraduate students should take part in research projects.

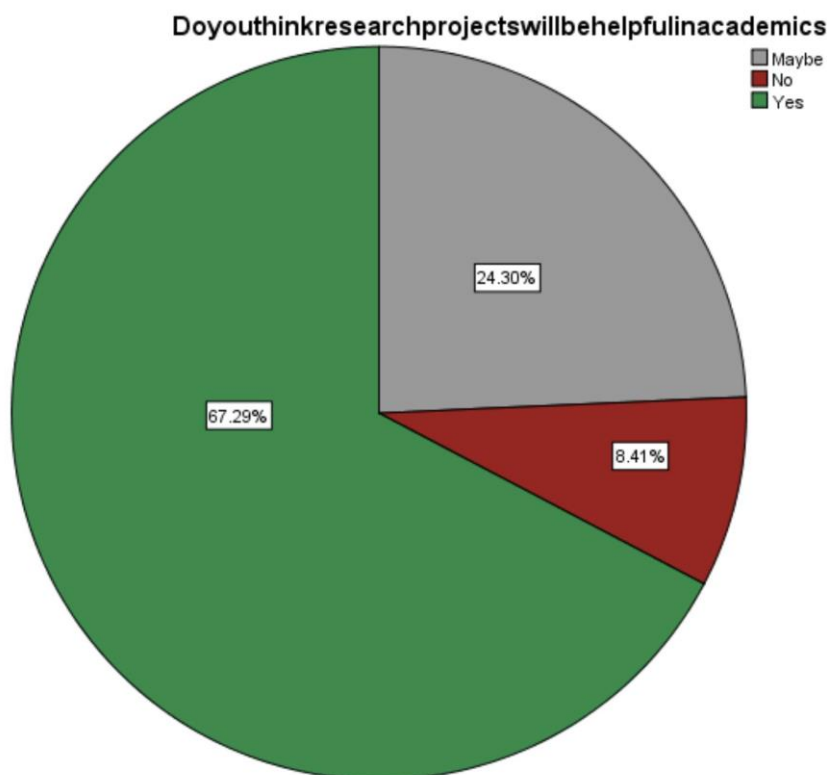


Fig 2 : Pie chart depicts the awareness of undergraduate students regarding the use of research in academics. Red indicates no ,green indicates yes, grey indicates maybe. 67.29% think research helps in academics, 8.41% think research does not help in academics, 24.30% do not know whether research helps in academics or not.

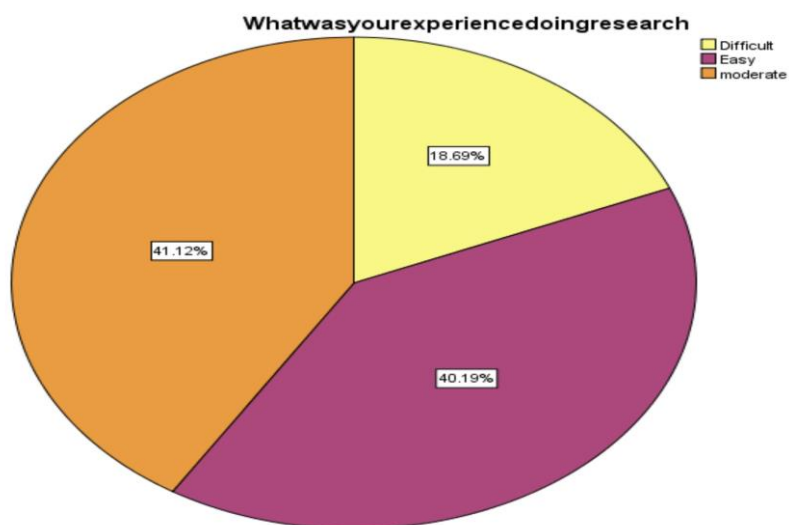


Fig 3: Pie chart depicts the knowledge level of research experience in the curriculum. Yellow indicates difficult, pink indicates easy, orange indicates moderate. 18.81% think doing research is difficult, 40.19% think doing research is easy, 40.59% think doing research is moderate.

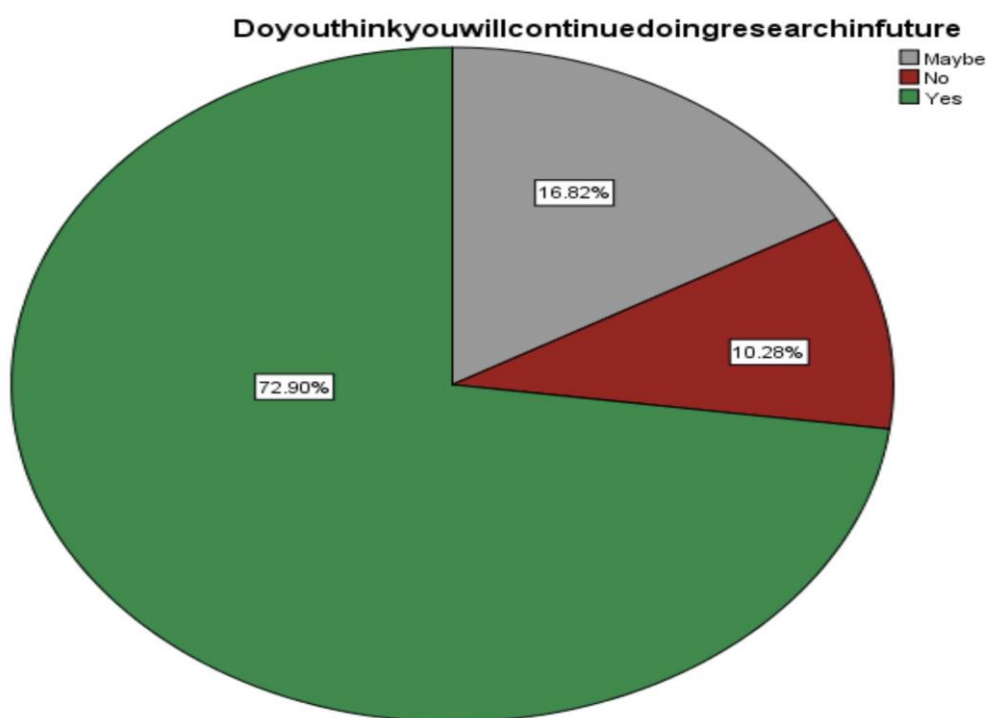


Fig 4: Pie chart depicts the responses of undergraduate students regarding the willingness to continue the research in future. Green indicates yes, red indicates no, grey indicates maybe. 72.90% of students thought of continuing doing their research in future, 10.26% of students have no interest in continuing their research and 16.82% of the students are doubtful if they will continue the research.

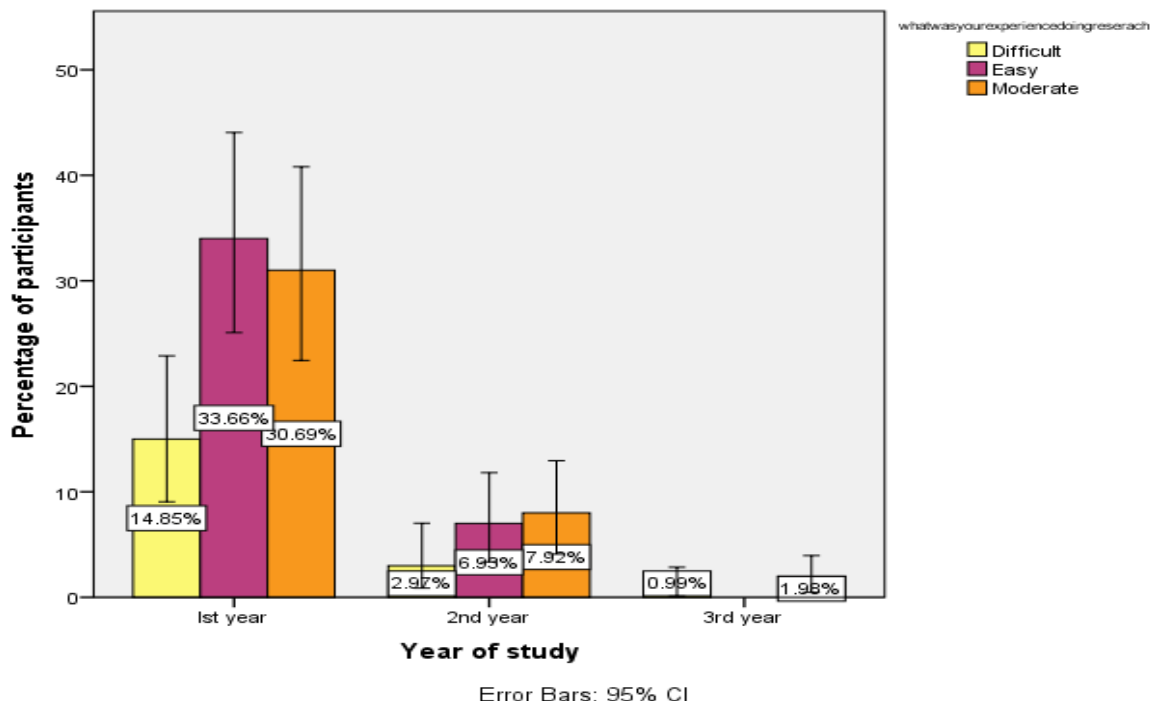


Fig 5: The bar graph represents the association between year of study and experience of doing research. X axis represents the year of study and the Y axis represents the percentage of responses. Yellow colour denotes difficult, purple colour denotes easy and orange colour denotes moderate. 14.85% of 1st year ,2.97% of 2nd year and 0.99% of third year students felt research was difficult . 33.66% of 1st year , 6.99% of 2nd year and 0% of 3rd year students felt research was moderately easy. 30.69% of 1st year ,7.92% of 2nd year and 1.98% of 3rd year students felt research was difficult. This difference is statistically not significant. (Pearson chi- square; p value = 0.678)

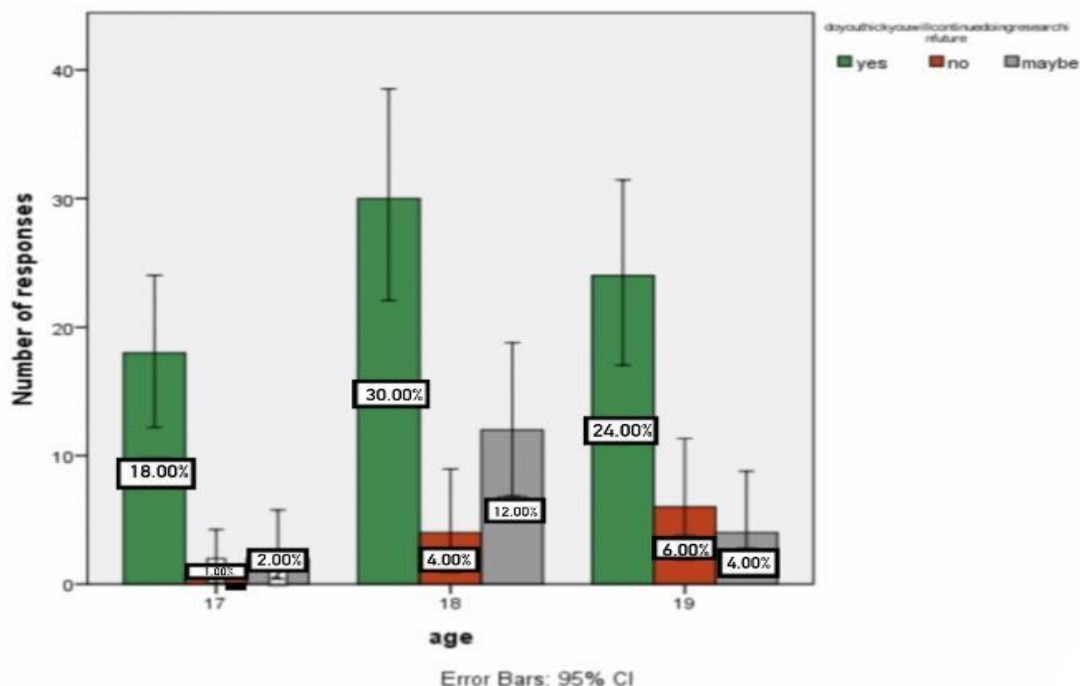


Fig 6: The bar graph represents the association between age and future response in continuing research. The X axis represents age and the Y axis represents the percentage of responses. Green

colour denotes yes, brown colour denotes no and grey color denotes maybe. 18% of 17 year age group, 30% of the 18 years age group and 24% of the 19 years age group thought to continue doing research in future. 1% of the 17 years age group, 4% of the 18 years age group and 6% of the 19 years age group were not interested in doing research in the future. 2% of the 17 years age group, 12% of the 18 years age group and 4% of the 19 years age group were equivocal in doing research in the future. This difference was statistically not significant (Pearson's Chi square test; p value = 0.166)

### **Discussion:**

76.2%) undergraduate students think students should participate in various research projects. (66%) students prefer original study research projects as their projects (34). (35) Most of the dental colleges recognize the importance of research in undergraduate teaching. (36,37) However, students have their own perceptions and attitudes toward research. (24) Grossman and Naidoo reported in their study of students' attitudes toward research in four South African dental schools that dental students were very aware of the importance of research in their education. (38) Research projects conducted in dentistry and medicine fields require in-depth information about various platforms, ranging from in-vitro and animal studies to clinical trials. (39) These interdisciplinary research works are conducted by different clusters of research in dental sciences to provide a comprehensive approach in dealing with decision making within the dental and clinical practice (40,41).

(38,42) In our study most of the students were aware that research is important in academics. (43) Approximately 71.3% of the participants reported that they will continue doing research in future. (44) Attitude and barrier of dental students will help in research and research knowledge (45). (32) Attitude and awareness of dental students help in dental students collaborations (46). Complications in attitude of dental students extraction in dental graduates (47). Dental hygiene students and dental students perform evidence based dentistry and evidence based practise (48). Dental curriculum in dental research, dental students and research curriculum help in research projects of students behaviour. A significant role of supervisor and intensive research training course within a structured undergraduate dental curriculum has been identified as the major factors which influenced students' attitude towards research. The data gathered from the present study can be used to facilitate the curriculum reviewers, dental education experts, dental council members, and policy makers from the administration of higher education institutions to work together to encourage, acknowledge and foster positive attitudes and higher achievement among students in performing research work.

### **Conclusion:**

Majority of undergraduate dental students were aware about the importance of scientific research and were also interested in carrying out the research projects in future. Even though the students had the positive attitudes toward scientific research, a supportive and positive environment is needed to improve skills and knowledge of research and to overcome the barriers toward the conduct of scientific research.

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**Conflict of interest:**

The authors declares that there was no conflict of interest in the present study

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