

Attitude of Dental Faculty on Admissions to Dental Colleges through National Eligibility cum Entrance Test (NEET) - A Knowledge, Aptitude and Perspective Survey

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Abstract

There are different admission tests around the world exclusively for admission to dental schools. NEET- National Eligibility cum Entrance Test (NEET) is a multiple choice entrance exam in India for medical, dental as well as paramedical courses, including nursing, physical therapy, pharmacy, and occupational therapy. There is no exclusive test only for dental admissions. There is no scientific literature on NEET and its effects on students, parents as well as the teaching faculty. Though there are a lot of news articles and blogs about it. There is no evidence on how the staff of dental fraternity perceived this change in admissions of students to dental colleges. There has been significant controversy around this change in the admission process. The aim of this survey is to understand the perspective of the dental teaching faculty about NEET, the admission procedure, the difference in the quality of students and the type of the questions in the exam.

Key Words: NEET, Dexterity Tests, Dental Admission Test, Dental Admissions

Introduction

There are different admission tests around the world exclusively for admission to dental schools. Admission committees for dental schools around the world have assessed the correlation between admission requirements and students' subsequent performance in order to decide what factors to use for predicting students' success.

In Korea, the Dental Education Eligibility Test (DEET) was developed to establish the criteria that would be applied to all dental applicants to determine which applicants have the necessary cognitive abilities to successfully complete dental education programs.

Dental Admission Test (DAT) is a multiple-choice standardized exam taken by potential dental school students in the United States and Canada.¹ It is designed to provide dental education programs with a means to assess program applicant's potential for success. The DAT consists of four tests based on: Survey of the Natural Sciences, Perceptual Ability, Reading Comprehension, and Quantitative Reasoning.²

Similarly, NEET- National Eligibility cum Entrance Test (NEET) is a multiple choice entrance exam in India for medical, dental as well as paramedical courses, including nursing, physical therapy, pharmacy, and occupational therapy. There is no exclusive test only for dental admissions³. It was first introduced in 2013 but met with a lot of opposition⁴. It was also considered unconstitutional by the Supreme court⁵. This proposal of a single entrance exam rather than individual exams of each institute was finally approved in 2015⁶. It includes 180 multiple choice questions from the fields of biology, chemistry and physics⁷.

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effects on students, parents as well as the teaching faculty. Though there are a lot of news articles and blogs about it. There is no evidence on how the staff of dental fraternity perceived this change in admissions of students to dental colleges. There has been significant controversy around this change in the admission process. The aim of this survey is to understand the perspective of the dental teaching faculty about NEET, the admission procedure, the difference in the quality of students and the type of the questions in the exam.

Materials and Methodology

A request to conduct this study was submitted to the Institutional Review Board of the Saveetha University. A survey with a mixed-methods research approach (using both quantitative and qualitative data collection) was formulated consisting of 16 questions to measure the study constructs namely the perspective of dental faculty on the content of NEET, additional tests along with NEET, its effect on students' performance and its effect on school life.

The initial questions were analyzed for content validity by the guide to ensure that the questions gauged the study constructs. The questions were then pilot tested with five faculty members who were given a chance to provide feedback on the clarity of questions and overall format. Alterations were accordingly made and final survey was created on the google forms (online). It was distributed to dental teaching faculty via email, whatsapp and other electronic media. A second follow-up e-mail was sent and telephone calls were made to those who had still not replied. All participants were assured at the beginning of the study that data collected would be kept confidential.

The faculty perception questionnaire consisted of two parts. Part A comprised of the demographic data regarding the personal and professional information of the respondents while Part B consisted of 15 questions with three response options (yes, no and may be) and one open ended question for the qualitative aspect of the survey. The open-ended question underwent thematic analysis that used a staged approach^{5,8,9}. The responses were first exported to a Microsoft Excel program, potential themes were identified and the responses were categorized.

Results

Out of 120 participants, 106 faculty members responded (88% response rate). Out of 106, only 39 replied for the open ended question (36.7% response rate) while the response rate was 100% for the remaining 15 questions. There was almost equal participation of male and female faculty members in the survey. The most common age group was 31- 40 years, maximum respondents were on the lecturer post (Fig 1) and the maximum participation was from deemed colleges (Fig 2).

The first study construct comprised of statements related to the type of questions involved in the NEET and a majority of participants responded yes to include questions related perceptual ability, quantitative reasoning and reading comprehension in the NEET syllabus. 40.6% respondents felt that NEET alone should not be the deciding criteria for dental admissions and 46.2 % felt newer additional evaluation criteria should be devised (Table 1) . The open-ended question asked faculty members about various different evaluation methods for dental admission process. There were only 39 responses to the question. The responses were reviewed to identify themes. Three themes emerged: 1) personal interviews, 2) non-cognitive factors and 3) marks of board exams. The responses were categorized into one of the 3 themes.

The second study construct considered the the effect of NEET on the graduation outcome of the batch. 45.3% respondents replied that they did observe difference in the academic performance of the NEET and NON-NEET batch while only 32.1% felt that there was overall difference between the two (Fig 3 and 4).

The third study construct analysed the effect of NEET on the school life of students. 57.5% respondents thought due to NEET, the co-curricular activities have reduced in school, 55.7% felt that one exam affects students' school life and 62.3 % felt that NEET has lead to increase in stress levels of the students (Table 2).

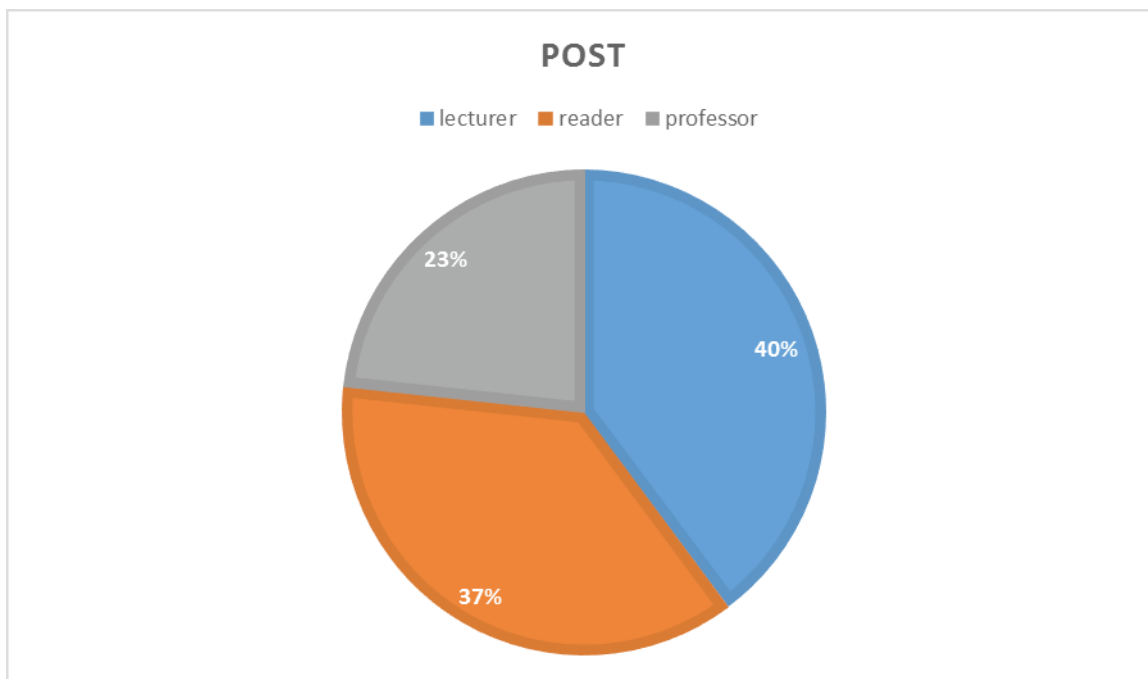


Fig 1: Pie chart showing designation of the faculty in the college.

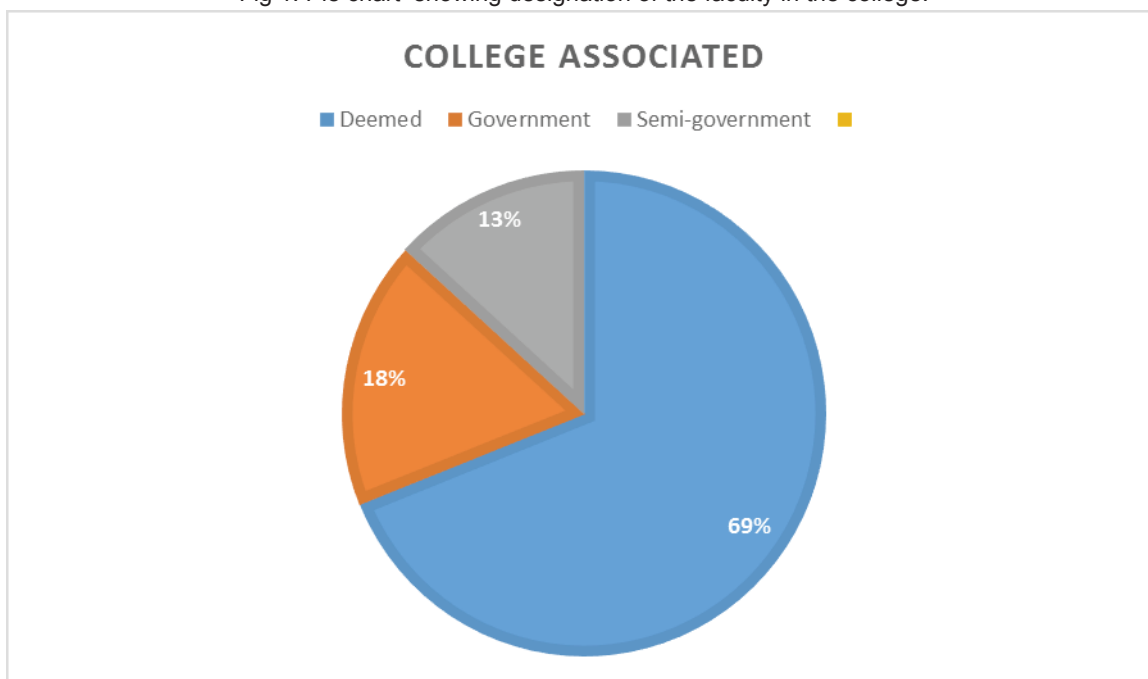


Fig 2: Pie chart showing type of college the respondent is associated with.

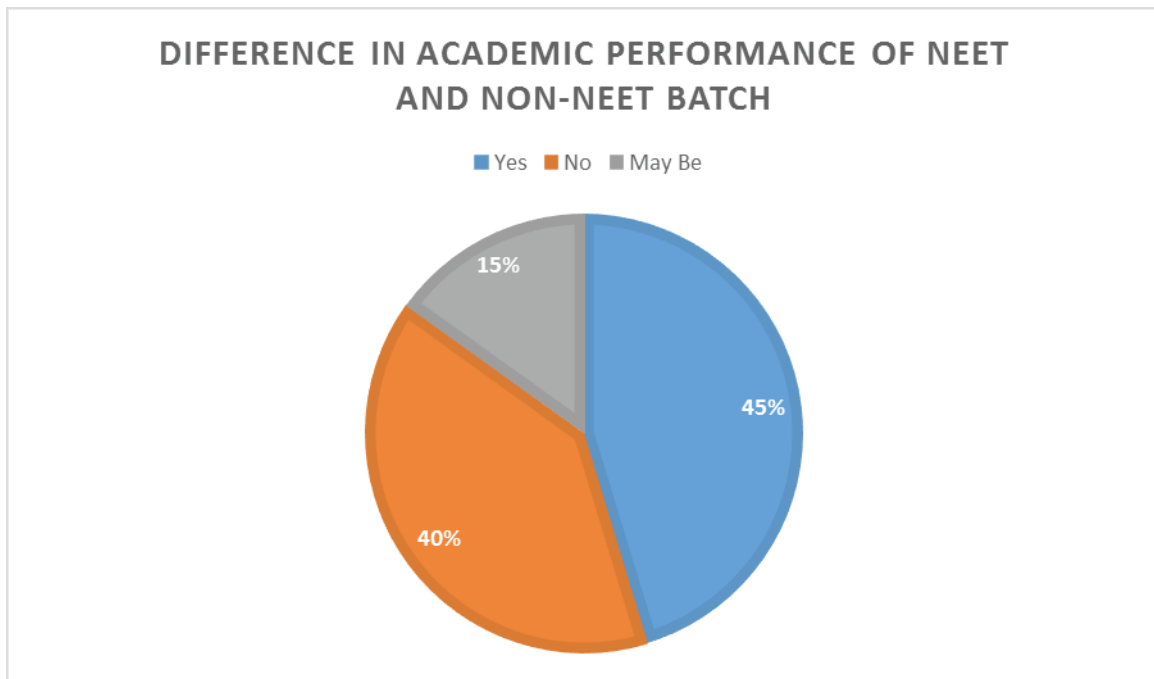


Fig 3: Pie chart showing the faculty view on the difference in the academic performance between two batches

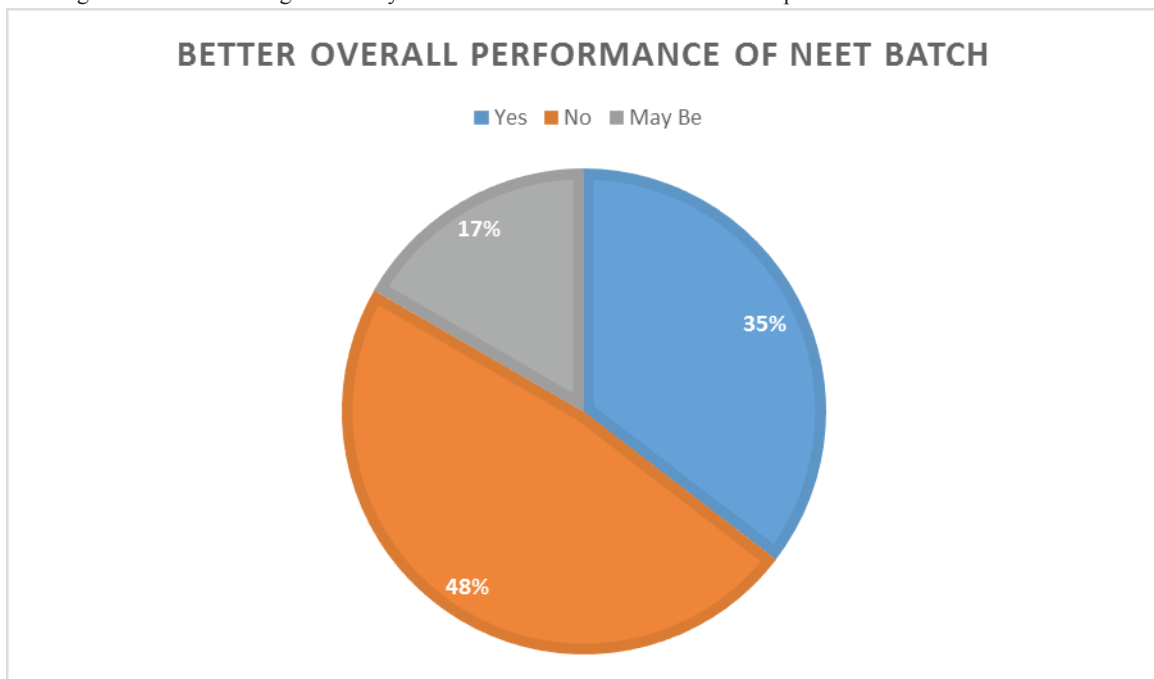


Fig 4: Pie chart showing the faculty view on the difference in the overall performance between two batches.

Table 1: Questionnaire statements and responses of the first study construct , by percentage of total respondents (N=106)

Sr.No.	Questions	YES (%)	NO(%)	MAY BE(%)
1	Admission to dental school is alright with only NEET marks?	46.2	40.6	13.2
2	Any other method of evaluation should be considered for admission to dental school?	46.2	30.2	23.6
3	Have you heard about dexterity tests?	53.8	39.6	6.6
4	Dexterity evaluation should be included for admission to dental schools?	46.2	15.1	38.7
5	aptitude testing should be a part of admission to dental schools?	75.5	12.3	12.3
6	NEET should also include questions related to perceptual ability?	67.6	14.3	18.1
7	NEET should also include questions related to quantitative reasoning?	67.9	11.3	20.8
8	NEET should also include questions related to reading comprehension?	59.4	25.5	15.1

Table 2: Questionnaire statements and responses of the third study construct , by percentage of total respondents (N=106)

Sr. No.	Questions	YES (%)	NO(%)	MAY BE(%)
1	Having one exam after 12th for all fields affects students' school life?	55.7	30.2	14.2
2	NEET reduce the co-curricular activities in school?	57.5	28.3	14.2
3	Students' stress levels increased after introduction of NEET?	62.3	22.6	15.1

Discussion

The field of dental education is contemplated to be a coveted and challenged professional field¹⁰. Faculty members play an important role in moulding the life of a student and also understand their issues and problems¹¹. The present study aimed to get perspective of dental faculty members on the national eligibility cum entrance test (NEET) which since its recent debut has caused a lot of turmoil in the aspiring medical students life. In India, NEET was finally accepted as the single exam for entrance to all the medical and paramedical fields after

12th standard in 2016. It comprises of multiple choice questions based only on the three basic science subjects - biology, physics and chemistry¹². There is no exclusive entrance test for dental schools like Dental Eligibility and Entrance Test in Korea or Dental Admission Test in USA or Dental Aptitude Test in Canada.

106 faculty members responded to the survey questions related to NEET. A majority of them opiniones for the inclusion of dexterity tests, questions on perceptual ability, reading comprehension and quantitative

reasoning in addition to the current NEET syllabus. They also favoured addition of personal interviews and aptitude tests to be conducted before admission to dental schools. According to their responses, many of the faculty members found the NEET batch to be academically better than the NON-NEET batch. Overall, majority of them thought that NEET lead to increased stress amongst the students.

Manual dexterity is the ability of a person to make coordinated hand and finger movements to grasp and manipulate objects using muscular, skeletal, and neurological functions. It is considered to be a significant predictor of academic performance and clinical competency in dental schools¹³. According to Ranney et al, 2005, it is viewed as screening rather than predictive tool for dental admissions and may be used to set baseline scores below which a candidate would not be given consideration¹⁴. According to another study by Giuliani et al, 2007 basic manual dexterity is not essential in the selection of dental students as it was seen that students could learn the skills by hard work during the dental course¹⁵. For the dental students at the “Carl Gustav Carus” School of Dentistry (Technical University of Dresden), it was statistically proven that students could be trained in manual skills within the framework of the pre-clinical training¹⁶.

Questions understanding the students’ ability of perceptual thinking, reading comprehension, and quantitative reasoning prepare the students for the further studies. It is important to include these for any admission test for graduate studies¹⁷. However, according to Kim and Lee et al, 2007, scores from reading comprehension and perceptual ability are not significant predictors of performance in the first year of the dental course, but they are related to the students ease of understanding the subject¹⁸. Non-cognitive measures like personal interviews and aptitude tests should be considered in the dental admission process as using only cognitive measures is insufficient in properly determining future student performance¹⁹. In the study by Virtue et al, 2017, the dental faculty members identified noncognitive factors in the terrains of communication, approach to learning, personal characteristics, and professionalism as important skills which contribute to the success of dental students²⁰.

62.3% dental faculty members who filled the survey felt that NEET lead to increased stress levels amongst the students. Whenever any change is introduced in the exam pattern, it is directly related to the stress levels amongst the students²¹. Since NEET is newly introduced exam, it could be one of the reason for increased stress levels. The stress levels between the current batch and batches to come in future should be compared for understanding the role NEET per se in raising the stress. Many faculty members found that the students who entered the course after appearing for NEET performed better than previous students academically. A study can be done comparing the mean marks of the NEET and the NON-NEET batches to understand the effect of NEET on the academic quality of dental graduates.

There is no scientific evidence available for understanding the limitations, the effects and repercussions of NEET. A lot of studies can be done in this field to evaluate the data with respect to NEET. This survey is just the beginning in this direction by understanding the faculty perspective on NEET.

Conclusion

The present survey shows that most of the faculty members preferred the addition of dexterity tests, personal interviews, aptitude tests to the exclusive NEET exam for entrance to the dental school. Admission professionals should not totally abandon the cognitive measures

in their assessment of candidates but ought to include the non-cognitive indicators as well. An exclusive admission test only for dental schools would definitely guarantee better quality as well as passionate students in the dental field.

Conflict of Interest – Nil

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References

1. Contributors to Wikimedia projects. Dental Admission Test - Wikipedia [Internet]. Wikimedia Foundation, Inc. 2005 [cited 2019 May 12].
2. Poole A, Catano VM, Cunningham DP. Predicting performance in Canadian dental schools: the new CDA structured interview, a new personality

- assessment, and the DAT. *J Dent Educ.* 2007 May;71(5):664–76.
3. Kohli A. Dental council of india [Internet]. Vol. 22, *Journal of Pierre Fauchard Academy (India Section)*. 2008. p. a1.
 4. Shanbhag VKL. India's NEET exam poses problems in its current form [Internet]. *BMJ.* 2016. p. i4704.
 5. Travasso C. Court rules national medical school entrance exam unconstitutional. *BMJ.* 2013 Jul 26;347:f4774.
 6. Travasso C. Medical Council of India approves proposal for single entrance exam for medical school. *BMJ.* 2015 Oct 12;351:h5438.
 7. Website [Internet]. [cited 2019 May 12].
 8. Braun V, Clarke V. Using thematic analysis in psychology [Internet]. Vol. 3, *Qualitative Research in Psychology*. 2006. p. 77–101.
 9. Braun V, Clarke V. Thematic analysis [Internet]. *APA handbook of research methods in psychology, Vol 2: Research designs: Quantitative, qualitative, neuropsychological, and biological*. 2012. p. 57–71.
 10. Padmapriya T. The perspectives and perceptions of dental education in the West and an overview of dental education in India [Internet]. Vol. 5, *Journal of Education and Ethics in Dentistry*. 2015. p. 41.
 11. Komaraju M, Musulkin S, Bhattacharya G. Role of Student–Faculty Interactions in Developing College Students' Academic Self-Concept, Motivation, and Achievement [Internet]. Vol. 51, *Journal of College Student Development*. 2010. p. 332–42.
 12. Website [Internet]. [cited 2019 May 14].
 13. Stacey DG, Whittaker JM. Predicting academic performance and clinical competency for international dental students: seeking the most efficient and effective measures. *J Dent Educ.* 2005 Feb;69(2):270–80.
 14. Ranney RR, Wilson MB, Bennett RB. Evaluation of applicants to predoctoral dental education programs: review of the literature. *J Dent Educ.* 2005 Oct;69(10):1095–106.
 15. Giuliani M, Lajolo C, Clemente L, Querqui A, Viotti R, Boari A, et al. Is manual dexterity essential in the selection of dental students? *Br Dent J.* 2007 Aug 11;203(3):149–55.
 16. Luck O, Reitemeier B, Scheuch K. Testing of fine motor skills in dental students. *Eur J Dent Educ.* 2000 Feb;4(1):10–4.
 17. Hegarty M, Keehner M, Khooshabeh P, Montello DR. How spatial abilities enhance, and are enhanced by, dental education [Internet]. Vol. 19, *Learning and Individual Differences*. 2009. p. 61–70.
 18. Kim M, Lee JI. Variables predicting students' first semester achievement in a graduate-entry dental school in Korea. *J Dent Educ.* 2007 Apr;71(4):550–6.
 19. Ihm J-J, Lee G, Kim K-K, Jang K-T, Jin B-H. Who succeeds at dental school? Factors predicting students' academic performance in a dental school in republic of Korea. *J Dent Educ.* 2013 Dec;77(12):1616–23.
 20. Virtue SM, Pendergast L, Tellez M, Waldron E, Ismail A. Identifying Noncognitive Skills That Contribute to Dental Students' Success: Dental Faculty Perspectives. *J Dent Educ.* 2017 Mar;81(3):300–9.
 21. Macan TH, Shahani C, Dipboye RL, Phillips AP. College students' time management: Correlations with academic performance and stress [Internet]. Vol. 82, *Journal of Educational Psychology*. 1990. p. 760–8.