

Familiarity and Desire to Perceive Medical Education Courses among School Students in India- A Pilot Study

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Abstract

The number of dentist serving the rural areas is relatively low and the practice of seeking general physicians for dental treatments can still be evident in areas where dental services are not accessible. But it is unclear whether students from suburban regions prefer to pursue dentistry as their first choice of preference. Hence, the present study was aimed to find the interest in dentistry among the aspiring school students, to evaluate if the existing exams remain a challenge, from choosing a medical course, and also to assess if the emergence of COVID-19 has actually increased the popularity of traditional medicines. A survey questionnaire with 16 questions was shared through online media to 200 school students both in urban and suburban regions after validation for this pilot study. After consent to participate, the responses collected were tabulated and statistically analyzed. It was observed that only 64% (urban) and 73% (suburban) were aware of dentistry with a slight increase in student's choice for traditional medicine courses over allopathic medicine (40% urban, 48% suburban) post pandemic. Within the limitations of this study it is evident that school students are less aware of various dentistry courses, and access to training for the exams can motivate the number of students seeking admission to dentistry courses.

Keywords: Dentistry, Medical education, Psychology of school students, Traditional Medical courses.

Introduction

Traditional medicine practices are very popular in India and the rural population still practice home remedies based on these traditional therapies. Minor ailments are treated by home remedies on advice from elderly people at home in rural areas of India. Although India has been home to origin of these ancient medicines [1], allopathic remains the most sought medical treatment among Indian population [2]. Owing to this demand, the number of aspirants seeking admission to medical universities has increased multifold. This increase in student's number has led the governing authorities to standardize the procedure of admitting the students to medical universities through common entrance exams based on common curriculum [3]. The number of dentist's patient's ratio in India appears to be satisfactory [4] and the number of dental institutions also offers treatment

at nominal cost. But the number of dentist serving the rural areas is low and the practice of seeking general physicians for dental treatments can still be evident in areas where dental services are not accessible. Despite all these, the number of students seeking admission to dental colleges is not satisfactory [5]. This can be due to the fact the awareness about dental education courses are lower students choose dentistry if they fail to secure medical admissions.

This COVID 19 emergence appears to have certain impact on the mental attitude of the school students aspiring to be physicians. The fact that traditional medicine in the form of diluted and boiled solutions, commonly called as "kashayams" in Ayurveda and siddha has been effectively used in the treatment of COVID-19 has increased the fame of these ancient traditional medicines [6]. Patient who consulted

physicians often for their illness, have reduced the frequency of visits during this pandemic and have tried these traditional therapies at home after teleconsultation and there has been a good patient satisfaction in this regard [7]. Hence the interest in pursuing these medicine courses also appears to be increased. However the definite number of students actually interested to continue these traditional medicine courses was not clearly evident. With this scientific background a study aimed to find the interest in dentistry among the aspiring school students, to evaluate if the existing exams remain a challenge, from choosing a medical course, and also to assess if the emergence of COVID-19 has actually increased the popularity of traditional medicines.

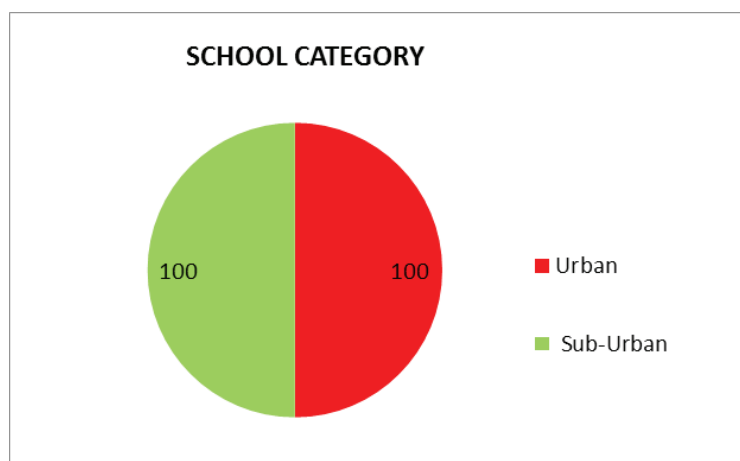
Materials and Methods

The study was approved by Institutions Review Board and a survey questionnaire was prepared and shared through online media to the school students both in urban and suburban regions. The study was designed by the principal investigator and two field investigators were involved in this study. The investigator designed it as a pilot study as many students could not be contacted during this pandemic crisis. Educational institutions of the participants were contacted and explained about the study. The students of each institution were explained about the study by the institutions over phone and after their willingness to participate in the study were obtained, their contact details were collected. The questionnaire was then shared to the participants through online resources and the responses were obtained. The survey consisted of 16 questions with one open ended question (Figure 1). Based on the validity of the questionnaire

200 samples were included for this pilot study. The responses collected were tabulated and statistically evaluated by using SPSS software ver20.0 (IBM Corp., Armonk, N.Y., USA).

Result

Nonprobability, convenient sampling technique was employed that yielded information from 200 school students consisting of 100 participants each from urban and suburban regions (Graph 1) grouped as 125 boys and 75 girls by gender (Graph 2). On statistical evaluation it was observed all the 200 Samples were valid for the study with Cronbach's alpha reliability score being **0.88447 (Highly Significant score)**. Category wise analysis showed 180 out of 200 (90%) participants belong to class 10th followed by 5.5% (11 out of 200) class 11th and 4.5% (9 out of 200) class 12th students (Graph 3). Chi-square test performed for category-wise distribution showed Chi² value of 48.02. The **p-value is <.00001**. The Result is significant at $p < .05$. Kruskal-wallis test calculator was performed to evaluate the interrelationship within and among the groups followed by Comparative T-test was performed to estimate the level of significance between the study populations based on the questionnaire responses. It was observed that between the urban and suburban population interrelation within the group was found to be statistically significant at $p < .05$ [Urban (H) = 30.0031 at $p < .00001$; Suburban (H) = 27.3765 at $p < .00001$]. Similarly relationship among the study groups was also found to be statistically significant at $p < .05$ [H= 29.977 at $p < .00001$].



GRAPH 1: GRAPH SHOWING THE DISTRIBUTION OF STUDY POPULATION AMONG SCHOOL CATEGORY

GRAPH 2: GRAPH SHOWING THE GENDER WISE DISTRIBUTION OF STUDY POPULATION

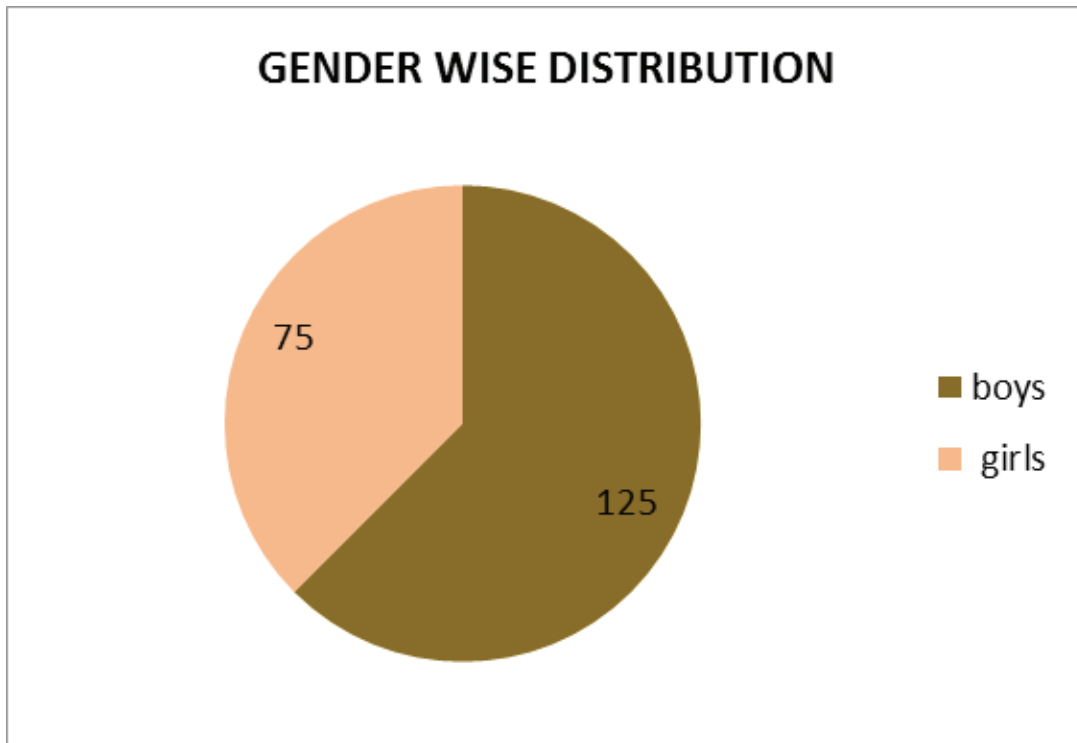
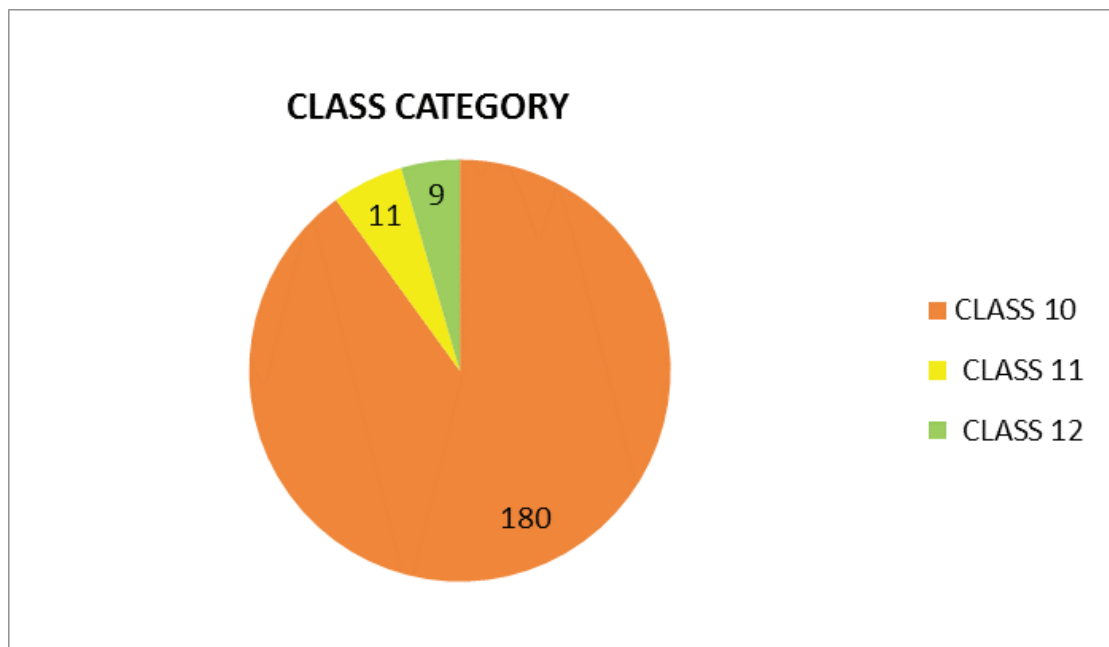


FIGURE 1: IMAGE SHOWING THE SURVEY QUESTIONNAIRE USED TO EVALAUTE THE STUDY



GRAPH 3: GRAPH SHOWING THE CLASS CATEGORY DISTRIBUTION OF STUDY POPULATION

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School name: _____ **Class:** _____ **Gender: M / F**

Urban school/ Sub urban school **10th/11th /12th**

1) Which group will you take in your higher secondary to join in a dental course?
a) Allied health sciences b) Biology c) Commerce d) Computer science

2) Which branch in health science is related to oral health?
a) MBBS b) BHMS c) BAMS d) Dentistry

3) Are you aware that dentistry is one of the health science courses like MBBS?
a) Yes b) NO c) Not sure

4) Are you aware that qualifying NEET is required to join Dentistry?
a) Yes b) NO c) Not sure

5) How many times have you visited dentist in your past?
a) Once b) Twice c) Thrice d) Never

6) If yes, what is the reason for your visit?
a) Routine dental visit b) tooth ache c) bleeding gums d) cosmetic reasons

7) Do you know that dentistry's course duration is same as MBBS?
a) Yes b) No c) Not sure

8) Are you aware that dentistry is the highest paid profession in western countries?
a) Yes b) No c) Not sure

9) Are you aware of the integrated course of Dentistry with Master's in European countries?
a) Yes b) No c) Not sure

10) Do you know that the basics of MBBS & Dentistry are the same?
a) Yes b) No c) Not sure

11) Do you know that there are different diploma courses like Dental mechanics & Dental technician?
a) Yes b) No c) Not sure

12) Are you aware of Dental nurse?
a) Yes b) No c) Not sure

13) Would you intend to join dentistry after schooling?
a) Yes b) No c) Not sure

14) Are you attending any Entrance coaching classes (NEET)?
a) Yes b) No

15) A) Do you know that there are different specialities in dentistry?
a) Yes b) No

B) Could you name a few specialisations?

16) What is the source of information for you about dentistry?

FIGURE 1: IMAGE SHOWING THE SURVEY QUESTIONNAIRE USED TO EVALAUTE THE STUDY

Discussion

The approach of the school students and their desire for choosing a particular career are of great importance for strategy creators around the world. The students have a number of career choices and it becomes difficult for them to choose a particular career^[8]. Most commonly the students depend on parent's guidance in choosing their higher education. Decision process involves a number of factors that includes personal interest, peer pressure, self-motivation, financial reasons, and better quality of life. Dental career is unique profession, influenced by several factors such as gender, parental support, family background, parent's socio-economic status, prestige, income and faculty role models, controllable life style versus non controllable life style, local market forces, committed relationship, and influence of a faculty advisor and the perceptions of employment availability^[9]. According to the Indian education board, students who are interested to pursue higher education would be choosing biology and physical sciences as their secondary level course. Among the class 10 students, 65% preferred to choose the biology stream in the urban area and 46% preferred in the suburban area similar to studies performed by Rajeev et al^[10], Bhat et al^[11], Aggarwal et al^[12] among Indian students and also by Dastjerdi MV et al^[13] among Iranian students. This preference indicates that pursuing higher studies in medicine courses is preferred by students among both the population group could be attributed by several factors such as personal choices, student's motivation, information from social medias, peers, parental influences, support, family background, parent's socio-economic status and the perceptions of employment availability. Another reason for choosing this biology stream could be due to the limited choices available. After secondary level, the students are left with the choice of choosing biology stream, technical stream or commerce stream with few vocational subjects. However the new education policy has proposed to offer a wide choice of subjects to choose, which could influence this outcome in the future.

In the present study it was observed that 64% (urban) and 73% (suburban) of participant groups respectively are aware of dentistry as a branch in health sciences which deals with oral health. But the student's motivations for choosing dentistry as a career may differ

amongst students. It also appears that though the students are conscious that dentistry is a health science course like medicine, they lack the awareness that common entrance exam is necessary to secure an admission to dentistry courses (51% urban, 53% suburban). In a study performed by Hawley et al^[14], Aggarwal et al^[12], in India, it appears that the increase of dentists per population in urban areas and the expected decrease in financial gains from working in rural areas may discourage students from choosing dentistry as a career.

There was a mixed response when asked about the duration of courses. Most of the students (64%) lack the knowledge about various courses offered in dentistry. However 30% (40% urban, 20% suburban) of the participants obtained information about dentistry through social media, thus signifying the importance of various social media platform in creating awareness about the course. This is contrast to the studies conducted by Karibe et al^[15], Marino et al^[16], Jover et al^[17], and Tangade et al^[18] who reported that parents were very influential among Asian students. 45% of the suburban students were unaware that dentistry is the highest paid profession in western countries in contrast to the urban students (54%) whereas most of the study participants in both urban and suburban group were unaware of several other dental diploma courses and are not sure about the role of dental nurse. In the study by Karibe et al^[15] 35.5% of dental students in Canada and 44.2% in Thailand preferred working abroad; reasons obtained were participation in a specific postgraduate program at an overseas university or hospital, working as a researcher in an overseas laboratory, working at a clinic or managing their own clinic after obtaining an overseas dental license, and international volunteer activity.

Owing to the current pandemic, there is a shift in the student's preference to continue their higher studies. There appears to be a slight increase in student's choice for traditional medicine courses over allopathic medicine (40% urban, 48% suburban). When asked about the choice of choosing dentistry over medicine, most of them were unsure about the choice of the course (54%). As behavioral change is a difficult area to measure in non-practicing medical students; very few studies were deemed to adequately assess behavioral change. It was also observed that 83% of urban and 99% of suburban population were not physically attending any entrance

exam coaching classes due to the current pandemic. However the global trend of online learning has reduced this challenge of non-accessibility to these training programs^[19,20]. The survey did not analyze the student's access to online coaching classes that were offered during this period. It was noted that communication challenges was predominantly faced by both the study groups rather than financial or other issues. Efforts to improve the awareness and accessibility of entrance examination coaching programs in suburban region could improve the attitude towards the importance of health care services in suburban areas^[21]. This could influence the number of students seeking admissions to medical professional courses from suburban areas and indirectly positively influence the overall health care infrastructure in those areas.

Conclusion

Based on the results of this pilot study, it appears that more awareness about the various courses in dentistry is required to motivate students to choose dentistry as their career. More access and training to perform in the admission exams could help in increasing the number of students from suburban population to choose dental courses and the emergence of online learning trend is set to change this scenario.

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