

Influence of dental students’ school education, their parents’ educational qualification and occupation in the type of college and course enrolled in Tamil Nadu - A cross-sectional survey

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Abstract

Introduction: Dental students schooling information, their parents’ education / occupation are not studied extensively. So, the purpose of this study was to assess the schooling information and parents’ education / occupation of dental students, its influence on enrollment in type of dental institution and course

Materials and Methods: A total of 346 students from 4 dental institutions participated in this online survey. The students were sent pre-tested 14 item questionnaire to acquire information regarding their school education and parents’ education / occupation. Binomial regression analysis was performed to understand the influence of these factors in enrollment for types of college and courses. Odds ratio was calculated to measure strength of association in students’ enrollment.

Results: The results of this study show students’ type of school studied, parents’ education qualification / occupation had significant association with government dental institution enrollment. Students’ gender had significant influence in undergraduate and postgraduate course admissions.

Conclusions: The data from this survey show admission in government and private dental institutions are significantly influenced by students’ school and parental education / occupation background. Further elaborate auditing on the trend of admissions in dental institutions is required to understand the complexities of students’ admission in dental institutions.

Keywords: Dental students, Dental college admission, Government dental institution, Parents education, Parents occupation, Private dental institution, Tamil Nadu Dr MGR medical university.

Introduction

In the state of Tamil Nadu, India there are 29 dental colleges offering undergraduate and postgraduate programs according to Dental Council of India website.^[1] Of these colleges 19 institutions are affiliated with Tamil Nadu Dr MGR medical university (TNMGRMU).^[2] One is state government managed institution and remaining 18 are private managed institutions.^[2] Admissions to these institutions are for students with Tamil Nadu nativity and had their school education in the state. According to Department of School education, Tamil Nadu government

website^[3] for the year 2005 - 06 there are 4536 higher secondary schools in this 1789 are government / municipal or corporation schools, 1062 aided schools and 1656 are private management schools. The literacy rate in Tamil Nadu according to population census for year 2001 was 73.47% as per the Department of School education website.^[4] In this scenario only little scientific information is available of the schooling and parental education background of students admitted to dental institutions affiliated with the TNMGRMU. Both the students' schooling and parental education data are of paramount importance in understanding the student admission trend from across different sections of society.

Therefore this study was planned with main objective to evaluate the school and parental education background of dental students admitted in colleges affiliated with TNMGRMU. Secondary objective was to assess the influence of these factors on the institution and course type enrollment.

Materials and Methods

Total of 4 dental institutions affiliated with TNMGRMU offering undergraduate and postgraduate programs were selected. The institutions selected were from four different geographical regions of Tamil Nadu state with one among them being a government college. After obtaining institutional review board approval students admitted to these institutions in the academic years 2018 – 19 and 2019 – 20 were sent a pre-tested 14 items questionnaire through Google Forms(https://docs.google.com/forms/d/1tPp2DSUDIbadKsga_ZSdInXmVacZPIULjag8Hcvtl_M/edit) to assess their schooling, parental education and type of institution / course admitted. The questionnaire was pre-tested for validity and clarity on a sample of 90 students prior to study procedure. A sample of 317 responses was estimated to be sufficient to detect statistical difference using G power software (Universität Kiel, Germany) with

effect size of 0.25 and alpha error probability of 0.05. Total of 346 students participated in this online questionnaire survey. To preserve the anonymity of the participants no personal details were collected apart from gender and age.

The questionnaire had questions related to schooling information, parental education and occupation, type of dental college and course. Place of residence and school location was entered according to administration demarcation provided in the Tamil Nadu State Government website.^[5] Questions 4 to 8 sort information regarding schooling details; Questions 9 to 12 asked about parental education and occupation information; Questions 13 and 14 asked about dental college and course type. Occupation of father and mother was categorized as self-employed when their income is on daily basis and it is directly from the consumer of his/her labor like driver, carpenter, plumber, electrician etc. Daily wages are those whose income is from a contractor or an employee on daily basis. Farming category included aqua, poultry, cattle and agriculture. Professionals are those occupation like doctors lawyers, chartered accountants who have their own offices and not salaried. Parental education qualification is based on the successful completion of their educational course.

In this study all data variables were qualitative in nature thus data analysis was done with binomial logistic regression analyses to assess the influence of various factors on the type of college and course admitted. Odds ratio (OR) and their 95% confidence interval (CI) were also estimated to measure the magnitude of the effect and quantify the strength of association of the factor with student enrollment. Statistical analysis was done with SPSS Ver. 23.0 software (IBM, Washington, US).

Results

Demographic data: Among the 346 participants, 75 (21.7%) and 271 (78.3%) were male and female students respectively. The mean age of the participants was 21.53 ± 2.29 years. 111 and 235 students were from government and private colleges respectively. 295 and 51 undergraduate and post graduate students respectively participated in this survey. Only 6.4% and 16.5% were from government and government aided schools. Tamil was the medium of education in 6.1% students. 12.4% students were educated in school located at panchayat or village limits. Table 1 show the demographic and schooling information of the participants. Table 2 illustrates parental education/occupation, type of dental college and course admitted among the participants.

College type enrollment: School type, either one of the parents having college education and father occupation significantly ($P < 0.05$) influenced the type of college to which the students were admitted (Figs. 1 – 3). Students from government or government aided schools are significantly higher in government dental institution with an OR = 1.684 (95% CI 1.148 – 2.468) (Fig. 1). Moreover, students with neither the father nor mother having college education (Fig 2) and fathers' occupation categories with none, self employed, daily wages, farming (Fig. 3) had significantly higher enrollment in government institution with OR = 1.837 (95% CI 1.329 – 2.541) and OR = 2.294 (95% CI 1.549 – 3.397) respectively.

Course type enrollment: Gender was the only factor significantly influencing ($P < 0.05$) the students' enrollment in undergraduate and post graduate courses (Fig. 4). Males were proportionately in higher numbers in post-graduate course compared to undergraduate course than females with OR = 1.971 (95% CI 1.179 – 3.296). Females enrollment were significantly higher in

undergraduate program with OR = 1.247 (95% CI 1.010 – 1.539).

Discussion

This cross-section survey was designed for two purposes. On one hand, to identify the various schooling and parental education / occupation factors among the dental students enrolled in dental institution affiliated with TNMGRMU; on the other hand, to assess the influence of these factors in the type of college and course opted by the students.

Students schooling background is extremely dependent on parents' socio-cultural-economic condition.^[6-9] This has been reinforced again in this study. Results of the present investigation showed that students with government schooling and parents' education / occupation had significantly preferred government college enrollment. Reason for this increased enrollment of students with this background in government institution could not be ascertained in this study as it was not designed for that purpose. Factors that could have influenced their choice for not preferring private dental institutions may be students did not find dental course of interest, they did not meet the qualification eligibility or the financial condition. Since, data regarding these details are not readily available in public domain; future research could look into these aspects to give a clearer picture. A study by Kingdon^[8] reported that per-pupil expenditure in government schools are significantly higher compared to private schools. This evidence show that government education department is striving hard for providing better education to these students. Students from the above said background not meeting the qualification eligibility could be dismissed as the eligibility criteria was lowered by Dental Council of India (Governing body for dental education in India) for joining dental courses in both the academic years taken up for this study.^[10] Disparity observed in the present study

was despite the introduction of National Eligibility Entrance Test (NEET) by Central Government for dental college admissions in year 2013^[11] and Tamil Nadu state government reservation policy based on caste system in higher education admission to provide equal opportunity for students from all background and social justice. Both these policies with right intentions but, whether the manner of implementation is providing the desired outcomes needs to be examined and it's beyond the scope of this survey. India is a vast country with huge population even if a small section of society is not having equal access to higher education will have effect on enormous number of families.

Female enrollment in undergraduate course was significantly higher. Lower male students' admission in undergraduate course could not be explained in this study. But this can also be one of the factors for students from government / government aided schools that met eligibility criteria were higher with males and these students could have opted out of dental courses in general. The data of how many of these students with gender details that met eligibility criteria is not available in public domain.^[12] Male students' admission in post graduate course was proportionately higher. This can be explained because as a society in Tamil Nadu the main earning member of family is males, this can be observed in results of this study as mother's having none occupation was 57.8% as opposed to father's 3.2%. So having a post graduate qualification among males could be attributed to better job opportunity and income.

Totally there are 19 dental institutions affiliated with TNMGRMU of this only 4 were accounted in this online survey. A more elaborate auditing of the students enrolled in these institutions could give better clarity. However, this being the first time a survey of this nature is done it has thrown some light on the dental students' schooling

background and their parents' education / occupation factors influencing the enrollment in type of dental college and course.

Conclusions

Dental students' schooling background and their parents' education / occupation has significantly influenced the government dental college enrollment. Females had significantly increased admission in undergraduate course, while increased proportion of males joined post graduate courses. Further elaborate auditing is needed to understand the trend of admissions in government and private dental colleges to provide a level field for students from all background.

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Legend Table and Figure

Table 1: Demographic and dental students' schooling information

Gender	Male	75	21.7%
	Female	271	78.3%
Place of residence	Metro limits	64	18.5%
	Corporation limits	112	32.4%
	Municipality limits	85	24.6%
	Panchayat or Village limits	85	24.6%
School type	Government school	22	6.4%
	Government aided school	57	16.5%
	Private school	267	77.2%
School medium	Tamil	21	6.1%
	English	324	93.6%
	Hindi	1	0.3%
	Others	0	0.0%

School curriculum	State board	196	56.6%
	Matriculation	83	24.0%
	Central Board of Secondary Education	59	17.1%
	Indian Certificate of Secondary Education	7	2.0%
	Others	1	0.3%
School location	Metro limits	74	21.4%
	Corporation limits	129	37.3%
	Municipality limits	100	28.9%
	Panchayat or Village	43	12.4%
National Eligibility Entrance Test coaching	None	161	46.5%
	Government center	0	0.0%
	Private center	185	53.5%
Total		346	

Table 2: Parents' education, occupation details and dental college, course type.

Father education	No education	15	4.3%
	School	122	35.3%
	Undergraduate	124	35.8%
	Post graduate	78	22.5%
	Doctoral philosophy	7	2.0%
Mother education	No education	8	2.3%
	School	132	38.2%
	Undergraduate	111	32.1%
	Post graduate	88	25.4%
	Doctoral philosophy	7	2.0%
Either father or mother had college education	Yes	247	71.4%
	No	99	28.6%
Father occupation	None	11	3.2%
	Self employed	34	9.8%

	Daily wages	14	4.0%
	Professional	38	11.0%
	Business	105	30.3%
	Salaried	122	35.3%
	Farming	22	6.4%
Mother occupation	None	201	58.1%
	Self employed	14	4.0%
	Daily wages	6	1.7%
	Professional	44	12.7%
	Business	9	2.6%
	Salaried	64	18.5%
	Farming	8	2.3%
Dental college type	Government	111	32.1%
	Private	235	67.9%
Course type	BDS	295	85.3%
	MDS	51	14.7%
Total		346	

Figure 1: Significantly ($P < 0.05$) lower percentage government and government aided school students enrolled in private dental institutions.

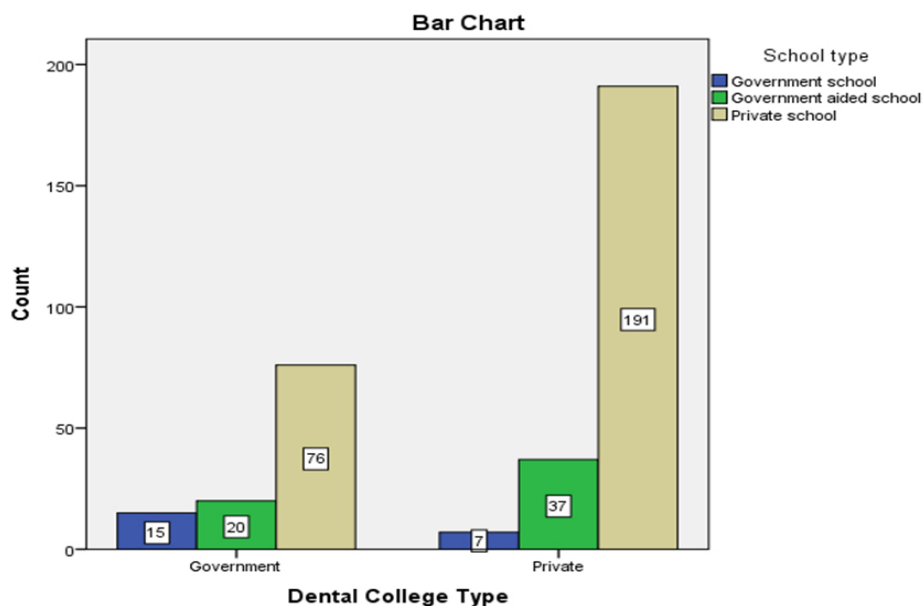


Figure 2: Significantly ($P < 0.05$) higher percentage of students with both father and mother having no college degree admitted in government dental institution.

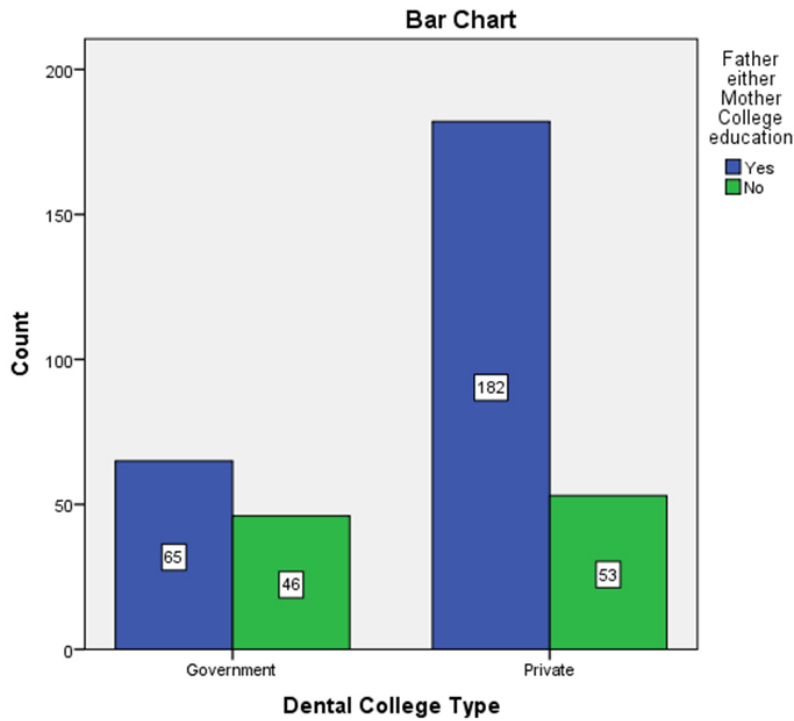


Figure 3: Significantly higher proportion of students' father occupation as none, self-employed, daily wages and farming having admitted in government dental institution.

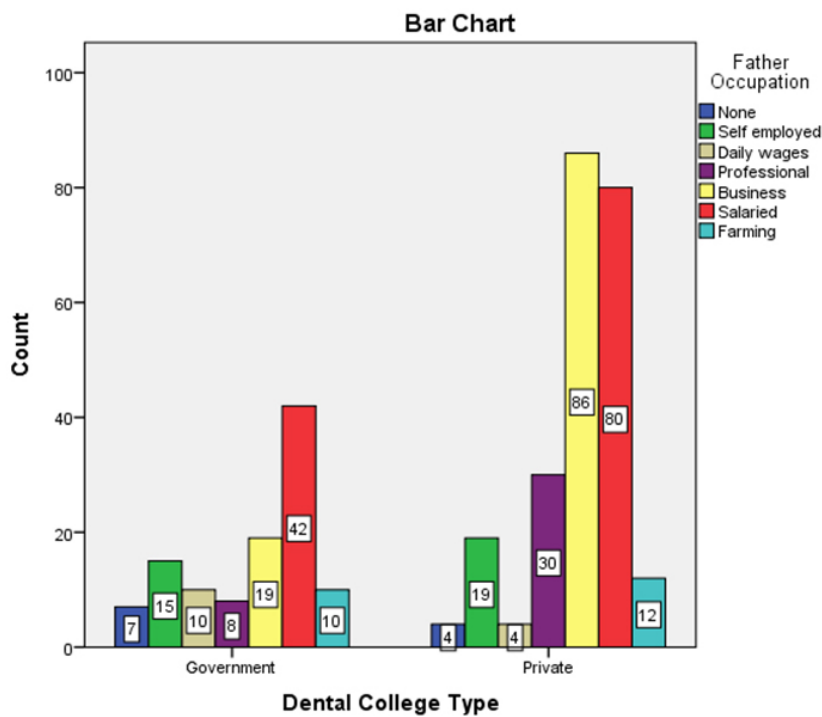
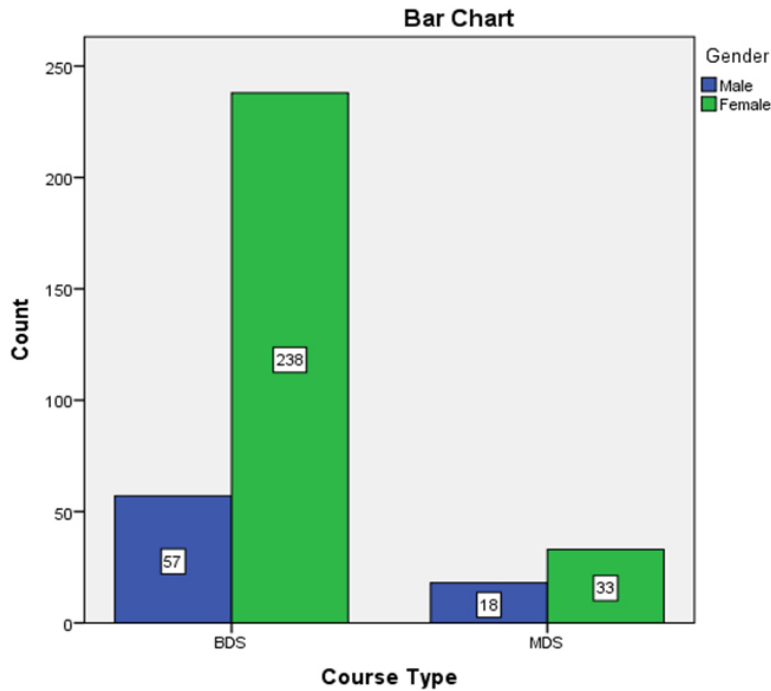


Figure 4: Significantly ($P < 0.05$) higher number of female students enrolled in undergraduate degree course, increased proportion of males admitted in postgraduate courses.



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