

“KNOWLEDGE OF ORTHODONTIC TREATMENT AMONG DENTAL AND NON-DENTAL UNDERGRADUATE STUDENTS IN KANPUR”

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ABSTRACT

Background: The study's objectives were to compare undergraduate dental and non-dental students' knowledge of orthodontic therapy.

Material and methods: A survey using a cross-sectional design was carried out with 340 undergraduate students, both dental and non-dental. There were 169 non-dental students and 171 dental students in the sample. There were eight orthodontics-related knowledge questions in the questionnaire. After providing informed consent for their voluntary involvement in the study, each participant was given ten minutes to complete the questionnaire. The Chi square statistic was used to the acquired data to determine the difference between the two groups.

Results: There was a substantial difference ($p=0.001$) in the understanding of orthodontic treatment between dental and non-dental students on several different items. Although most students in both groups agreed that a person's physical appearance is influenced by their tooth arrangement, dental students' awareness (94.7%) was higher than that of non-dental students' (61.5%). While a greater percentage of dental students (49.7%) were willing to have orthodontic treatment if recommended by a dentist or their parents, about 34.3% of non-dental students consented to do so.

In conclusion, compared to non-dental students, most dental students were aware of orthodontic treatments and their modalities. This justifies the necessity to inform the non dental students about the advantages of orthodontic treatment.

Introduction

Perceptions of oneself and others appear to be significantly influenced by facial aesthetics. An individual's smile aesthetics and overall quality of life are greatly affected by abnormalities in the positioning of their teeth and jaws.^{1,2}

A multitude of societal, cultural, psychological, and individual factors shape how people perceive the appearance of their teeth. The primary motivation for undergoing orthodontic treatment is dissatisfaction with one's dental appearance. Thus, motivation about the necessity of orthodontic treatment is influenced by an individual's perception of dental esthetics.

The ultimate objective of an orthodontist is to satisfy patients by improving dental function and aesthetics³. However, the patient's cooperation and positive behaviour, as well as those of the treating orthodontist, may be necessary for the process to be successful^{4,5}. Since dental undergraduates are first exposed to orthodontics in their third year of study, they are presumed to know more about the field and have a more favourable view of orthodontic treatment than their non-dental counterparts from today's undergraduate population. Therefore, the current study was conducted with the hypothesis that students studying dentistry would know more about treatments than undergraduates studying non-dental fields.

Material and methods

A survey consisting of questionnaires was administered to 340 students, with a mean age of 21.30 years. Of these, 171 were undergraduate dental students and 169 were not. Using the sample selection lottery approach, all the students were chosen at random. The study was carried after ethical approval granted by the institutional ethical committee. Undergraduates in dentistry were chosen from Rama Dental College, Hospital and Research Centre, Rama University, Kanpur, while undergraduates in non-dental fields were chosen from Faculty of Engineering and Technology, Rama University, Kanpur.

A pre-made proforma was created with the students' information and the self-administered knowledge-related questions. The total number of questions to measure knowledge was 8. Before completing the survey, the chosen participants were told of the study's objectives and their written informed consent was obtained. Ten minutes was the allotted time to complete the questionnaire. Using the SPSS software version, the collected data was tabulated and then statistical analysis was performed[22]. The results of knowledge related questions were compared between undergraduate dental students and non-dental students, using the Chi Square test.

Results

In all, 340 students took part in the research. 76.2% of them were female, and the remaining individuals were male. Of the 340 students, 171 were studying dentistry, and the remaining 169 were not studying dentistry.

Total No. of participants	Females	Males
340	269	81
	76.2%	23.8%

Table 1. Details about the study sample's demographics

Comparison of Knowledge Domain of study participants:

	Parameter	Response	Dental Undergraduates	Non Dental Undergraduates	P value
1	Are you aware of the term	Yes	146 (85.4%)	5 (2.9%)	

	malocclusion ?	No	25 (14.7%)	164 (97.0%)	0.001*
2	Are you aware of the orthodontic treatment ?	Yes	161 (94.7%)	104 (61.5%)	0.001*
		No	10 (5.8%)	65 (38.2%)	
3	Do you know how much time is required to correct the maligned teeth?	Yes	117 (68. %)	62 (36.5%)	0.001*
		No	54 (31.8%)	107 (63.3%)	
4	If it requires longer duration, upto 2 years, would you still get it done ?	Yes	85 (49.7%)	58 (34.3%)	0.008*
		No	86 (50.6%)	111 (65.3%)	
5	Are you aware that orthodontic treatment can be done in children as well ?	Yes	139 (81.8%)	48 (28.2%)	0.001*
		No	32 (18.7%)	121 (71.6%)	
6	Are you aware that orthodontic treatment at an early age may prevent invasive orthodontic procedures involving surgeries ?	Yes	140 (81.9%)	54 (31.9%)	0.001*
		No	31 (18.2%)	115 (67.6%)	

Table 2 shows the data related to knowledge domain of the questionnaire 85.4% of undergraduate dentistry students were familiar with the word "malocclusion," about 97% of undergraduate non-dental students were not. Only 61.5% of undergraduates who were not dentists were aware of the advantages of receiving orthodontic treatment, compared to around 94.7% of dental students. Given that orthodontic treatment lasted more than two years, more over 50% of dental and non-dental students were prepared to begin it. Comparatively, 81.8% of dental students knew that orthodontic treatment received at an early age can minimize more invasive treatment later.

Non-dental students also knew substantially less about how long orthodontic treatment takes to complete, with just 36.5% giving positive answer. For every knowledge parameter, there was a statistically significant difference between the dental and non-dental students (p=0.001).

Discussion:

The goal of the current study was to evaluate dental and non-dental students' perceptions and understanding of malocclusion and orthodontic treatments.

Participants' Knowledge about orthodontic treatment was compared in the study. Our study's findings demonstrated that while just 2.9% of non-dental students had heard of the term "malocclusion," a sizable majority of dental students (85.4%) were aware of the term ($p=0.001$).

Compared to their dental counterparts, only 61.5% of non-dental students knew that orthodontic therapy existed ($p=0.001$). This difference was statistically significant. These findings were good when compared to the previous study's findings that 29.8% of the public was unaware that teeth that were misaligned might potentially be corrected with orthodontic treatment⁶. Another study on awareness, knowledge, and behaviour related to orthodontic treatment and oral health among Jazan University medical and health sciences students and non-medical students revealed no significant differences between the two groups.⁷

Non-dental students also knew much less about the amount of time needed for orthodontic treatment (36.5%). In contrast, 261 (58%) of males understood that orthodontic treatment takes longer than other dental operations, according to a study by M. Zakirullal et al.⁸

The awareness of orthodontic treatment for children was only 28.2% among non-dental students, a significantly lower percentage than that of dental students ($p=0.001$). Similar findings were also noted in a study conducted on patients in Iran. That study's findings revealed that while 94% of the participants had identified the orthodontic treatment for aligning teeth, only 32% of them were aware that orthodontic treatment could be provided at any age.⁹

Dental students also had much higher awareness (81.8%) of early orthodontic therapy ($p=0.001$). The majority of the students knew that having orthodontic therapy early on would enhance their facial features. During their dental education, dental students get a greater awareness of aesthetics. This finding is consistent with earlier research that demonstrated dental education and training can influence an individual's judgment of face attractiveness.^{8, 10-12}

Conclusion:

Dental undergraduate students possessed good knowledge and understanding regarding the orthodontic treatment as compared to non-dental undergraduate students. This justifies the necessity of knowledge of orthodontic treatment to the current non-dental students to enhance facial appearance and dental function.

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