

## ATTITUDE AND AWARENESS OF DENTAL STUDENTS TOWARDS MALOCCLUSION AND ORTHODONTIC TREATMENT

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**ABSTRACT: Aim:** The aim of the study is to evaluate the attitude and awareness of dental students towards malocclusion and orthodontic treatment.

**Materials and Methods:** A total of 240 undergraduate dental students formed the study group. 60 participants were selected from each I,II,III and IV year B.D.S students. The data for this study was collected by asking the students to fill a structured questionnaire. An analysis of variance was done between the groups to test for statistical difference. Categorical variables were evaluated using a Chi-squared test with the level of significance of  $P < 0.001$ .

**Results:** 98% of the subjects were aware of their dental esthetics and were in favor of healthy and well arranged teeth. 70% of the subjects were satisfied with their dental esthetics. About 79% of the subjects thought that their smile could be better if teeth were well aligned. While assessing the attitude toward orthodontic treatment, 12.5% had strong positive attitude towards orthodontic treatment.

**Conclusion:** The study concluded that:

- Subjects were aware that their teeth do affect the way they look, and orthodontic treatment can enhance their appearance.
- Subjects had positive attitude toward orthodontic treatment.
- There was no significant variation in the attitude and awareness towards the malocclusion and orthodontic treatment in the I,II,III and IV year BDS students as they belong to same age group i.e 17 to 25 years (they have same perception of malocclusion and orthodontic treatment.)

### **INTRODUCTION:**

Orthodontics is the branch of dentistry concerned with the prevention, interception and correction of malocclusion and other abnormalities of the dento-facial region. Malocclusion can be defined as an occlusion in which there is a molar relationship between the arches in any planes of spaces or in which there are anomalies in tooth position beyond the normal limits.

Malocclusion can be because of different factors such as deleterious oral habits, supernumerary tooth, congenitally missing teeth, shape of dentition and effects in developmental position of teeth.<sup>1</sup>

Malocclusion has an adverse effect on the periodontal health, temporomandibular joint problems and also causes dental caries.<sup>2</sup> So it is essential for dental student have detailed knowledge regarding malocclusion. In India, malocclusion is a neglected dental problem. More importance is given to problems related to dental caries and periodontium because of pain experienced by patients due to them.<sup>3</sup> Orthodontic treatment is mostly carried out to improve the dental as well as facial appearance of the patient. Orthodontic treatment forms the most important part of esthetic dentistry.

In addition to this, knowledge about the attitude of patients to malocclusion is now become equally

important in orthodontics. The factors which most commonly influence the decision for orthodontic treatment are esthetic improvement and psychological aspect. To plan the orthodontic treatment it is very essential to have knowledge regarding the prevalence of the malocclusion.

Awareness is the state of being aware of something.<sup>4</sup>The decision making process that a person undertakes while judging his/her own dental esthetic satisfaction can be divided into several steps.

1. to know about the awareness about their own dentition
2. their self-satisfaction
3. their attitude toward orthodontic treatment.<sup>5</sup>

In this study the students were asked to fill questionnaire to evaluate their attitude and awareness regarding malocclusion and orthodontic treatment.

Diagnosis of any dental abnormality is very important to render proper treatment to the patient. Critical evaluation of complete set of dentition with associated structures is necessary for proper diagnosis of any malocclusion at an early stage which would help to deliver the best possible treatment to the patient.

Complete dental care delivered by dental professionals include fulfillment of functional as well as esthetic requirement of the patient. For convincing the patient for orthodontic treatment, the most important part is played by the appearance of the dentist himself. Well aligned teeth of the dentist will

definitely have a good impact on the patient.

### **MATERIALS AND METHODS:**

The participants of this study were 240 dental students. Subjects were selected randomly. 60 participants were selected from each I,II,III and IV year B.D.S students. The data for this study was collected by visiting the class-rooms and the subjects were requested to fill a structured questionnaire.

The questions were prepared as follows;

- Seven questions on awareness about their dentition
- Four questions on theirself-satisfaction
- Six questions about their attitude toward orthodontic treatment.

Each question had three possible answers, ranging from the positive response to negative response, and these answers were given scores ranging from 1-3, the highest score to the best and the lowest to the worst. The questionnaire analyzed the subject's ability to recognize the presence or absence of malocclusion, knowledge to recognize the effects of malocclusion and attitude about orthodontic treatment.

Statistical analysis of the data was performed by making three groups of answers -

1. Positive /favourable response
2. Average response
3. Negative response.

Categorical variables were evaluated with a Chi-squared test. Statistical significance was set at  $P < 0.05$ .

### **RESULTS :**

A total of 240 subjects were randomly selected for recruited in the study constituting 60 participants from each I,II,III and IV B.D.S students. Out of 240

subjects 175 subjects were females and 65 subjects were males.

While assessing the awareness of the subjects about their dental esthetics it was found that ninety eight percent of the subjects were aware of their dental esthetics and were in favor of healthy and well arranged teeth. Seventy percent of the sample were satisfied with their dental esthetics and twenty three percent were not satisfied and seven percent of the subjects had neutral attitude with significant p value ( $p=0.005$ ).

Eleven percent of the subjects reported difficulty while speaking, chewing and facial muscle pain caused by teeth arrangement. About seventy nine percent of the subjects thought that their smile could be better if teeth were well aligned [Table 2].

While assessing the self-satisfaction of the subjects about their dental esthetics it was found that about seventy seven percent of the samples were satisfied with the attractiveness of their teeth, fifteen percent samples reported negative feeling toward their teeth. About fourteen percent subjects reported that to avoid smiling because of appearance of their teeth with non significant p value [Table 3].

Twenty eight percent of the subjects were very much satisfied with their teeth and sixty one percent of these were not satisfied with p value 0.528. Sixty two percent of the samples had negative feelings about the way their teeth look [Table 4].

While assessing the attitude toward orthodontic treatment, 12.5% had strong positive attitude, seventy four percent of the subjects had negative attitude towards orthodontic treatment [Table 4].

**Table 1: Distribution of students according to year and sex**

Students	Sex		Total
	Males	Females	
I <sup>st</sup> yr BDS	14	46	60
II <sup>nd</sup> yr BDS	18	42	60
III <sup>rd</sup> yr BDS	16	44	60
IV <sup>th</sup> yr BDS	17	43	60

**Table 2: Awareness about their dental esthetics**

Questions	I <sup>st</sup> yr BDS	II <sup>nd</sup> yr BDS	III <sup>rd</sup> yr BDS	IV <sup>th</sup> yr BDS	Statistical Significance
Do you think healthy and well arranged teeth are important for your appearance?	-	-	-	-	$\chi^2=4.001$ P= 0.677
Yes	58	59	58	60	
No	1	1	1	0	
Don't know	1	0	1	0	
Are you satisfied with your dental appearance?	-	-	-	-	$\chi^2=18.468$ P= 0.005
Yes	45	41	37	46	
No	7	15	21	13	
Don't know	8	4	2	1	
How do you feel about the appearance of your teeth?	-	-	-	-	$\chi^2=4.501$ P= 0.609
Positives	37	38	38	37	
Negative	5	7	8	11	
Neutral	18	15	14	12	
Do you any trouble while speaking, chewing, facial muscle pains caused by teeth arrangement?	-	-	-	-	$\chi^2=12.265$ P= 0.056
Yes	4	5	5	12	
No	56	54	52	47	
Don't know	0	1	3	1	
Do you think you should have orthodontic treatment?	-	-	-	-	-

Yes	18	17	26	24	$\chi^2=17.139$ $P= 0.009$
No	29	40	28	34	
Don't know	13	3	6	2	
Would you agree readily to orthodontic treatment if a dentist or parent suggested it?	-	-	-	-	-
Yes	43	52	41	43	$\chi^2=10.478$ $P= 0.106$
No	12	5	13	15	
Don't know	5	3	6	2	
Do you think your smile could be better if teeth were better aligned?	-	-	-	-	-
Yes	50	50	47	44	$\chi^2=5.191$ $P= 0.520$
No	6	7	9	13	
Don't know	4	3	4	3	

**Table 3: Self-satisfaction about dental esthetics**

Questions	I <sup>st</sup> yr BDS	II <sup>nd</sup> yr BDS	III <sup>rd</sup> yr BDS	IV <sup>th</sup> yr BDS	Statistical Significance
Have you found that other people have commented on the appearance of your teeth?	-	-	-	-	-
Yes	23	24	21	26	$\chi^2=2.271$ P= <b>0.893</b>
No	32	33	36	29	
Don't know	5	3	3	5	
Have you found that other people have teased on the appearance of your teeth?	-	-	-	-	-
Yes	9	9	5	15	$\chi^2=8.055$ P= <b>0.234</b>
No	45	46	52	42	
Don't know	6	5	3	3	
Do you try to avoid smiling because of the appearance of your teeth?	-	-	-	-	-
Positive	9	8	10	7	$\chi^2=3.726$ P= <b>0.714</b>
Negative	51	52	49	53	
Neutral	0	0	1	0	
Do you ever cover your mouth because	-	-	-	-	-

of your teeth?					
Yes	6	7	9	9	$\chi^2=5.234$ P= <b>0.514</b>
No	54	50	49	51	
Don't know	0	3	2	0	

**Table 4: Attitude toward orthodontic treatment**

Questions	I <sup>st</sup> yr BDS	II <sup>nd</sup> yr BDS	III <sup>rd</sup> yr BDS	IV <sup>th</sup> yr BDS	Statistical Significance
What kind of teeth you have?					
Positive	39	36	31	39	$\chi^2=11.838$ P= 0.066
Negative	0	6	8	8	
Neutral	21	18	21	13	
Are your teeth well aligned?					
Positive	38	38	28	31	$\chi^2=11.025$ P= 0.088
Negative	8	14	15	19	
Neutral	14	8	17	10	
How much do you like the way your teeth look?					
Positive	42	38	34	39	$\chi^2=9.125$ P= 0.167
Negative	2	6	8	8	
Neutral	16	16	18	13	
How much do your teeth affect the way your face looks?					
Positive	41	30	35	36	$\chi^2=4.736$ P= 0.578
Negative	6	8	8	9	
Neutral	13	22	17	15	
Do you think your smile could be better if teeth were better aligned?					
Positive	45	48	43	41	$\chi^2=10.376$ P= 0.110
Negative	4	7	9	13	
Neutral	11	5	8	6	

## **DISCUSSION:**

Dental students should be aware of the malocclusion and their side effects so that they will be able to diagnose malocclusion early in their clinic and treat them accordingly.

Globally, there has been an increase in the awareness of orthodontics as a dental specialty in children, in young as well as adult population.

Perception of attitude and awareness of dental students towards malocclusion and orthodontic treatment is very important.

An important motivation factor for orthodontic treatment is improved Dentofacial appearance.<sup>6</sup>

Subjects unsatisfied with their dental esthetics had a positive attitude towards orthodontic treatment. The subjects who were satisfied with their esthetics were also aware of the attractiveness of their teeth.

The study indicates that the subjects had good knowledge about the importance of well arranged teeth and also their esthetic significance. The subjects who were unsatisfied with their esthetics had positive attitude towards orthodontic treatment and are ready to undergo orthodontic treatment if dentist or parent recommends.

Difference in the attitude and awareness amongst the males and female subjects was evaluated in the study because of the huge difference in the sample size i.e majority of the subjects were females.

In the study conducted by Goel<sup>7</sup> in 2002, he concluded that the difference in the perception between the sexes is due to the reason that the standards for acceptable facial form are more clearly portrayed for females. So the changes in dental form and structure which ultimately affects the esthetics or facial outline are more important to females than males.<sup>6</sup> The subjects who did not report to orthodontic clinic instead of having malocclusion were least bothered about their esthetics and they were kept away from the orthodontic treatment because of the negligence towards their teeth and lack of knowledge. In the present study subjects were aware of their dental

esthetics and also had positive attitude towards orthodontic treatment.

Kerosuo et al.<sup>8</sup> in 2002 conducted a study to explore orthodontic treatment experience, subjective need for treatment, and perceptions of teeth and dental appearance in relation to background factors such as funding system, area of living, age, gender, ethnicity, and socioeconomic status. The results suggest that access to free-of-cost orthodontic treatment was likely to affect treatment rate, whereas it did not seem to influence the self perceived need for treatment. In the present study the subjects were of similar socioeconomic status so the perception on dental esthetics was not affected by their socioeconomic status.

Similar study was conducted by Helm et al.<sup>9</sup> in 1985 suggested that certain malocclusions mainly conspicuous occlusal and space anomalies, may adversely affect body image and self- concept, not only at adolescence but also in adulthood.

In a study conducted by Birkeland et al.<sup>10</sup> in 2000, it was concluded that both children and parents rate pleasant esthetics as an important factor for psycho-social well being.

In a study conducted by Bantele et al.<sup>11</sup> they concluded that IOTN ( Index of Orthodontic Treatment) is a promising teaching aid for improving educational outcomes for orthodontic referral. It was possible to train the students with a combination of computer-generated and hands-on instruction in a time period compatible with the constraints of a dental school curriculum.

A study was conducted by Kamath et al.<sup>12</sup> to

determine the factors that influence the desire for orthodontic treatment among outpatients of Saveetha Dental College. The study concluded that lack of awareness is the main factor that keeps people away from undergoing orthodontic treatment. Self-perception of orthodontic treatment motivated only a small percentage of the study population.

### **SUMMARY AND CONCLUSION:**

A questionnaire study evaluated the awareness about the teeth, level of self-satisfaction, attitude toward orthodontic treatment and the overall perception of dental appearance among a group of dental students. The study subjects were 240 dental students (60 students from I, II, III and IV year BDS) among which 175 were females and 65 were males between age 17 to 25 years [Table 1].

From the study done it was found that:

- Subjects were aware that their teeth do affect the facial appearance, and orthodontic treatment can enhance their profile.
- Subjects had positive attitude toward orthodontic treatment.
- There was no significant variation in the attitude and awareness towards the malocclusion and orthodontic treatment in the I,II,III and IV year BDS students as they belong to same age group i.e 17 to 25 years they have same perception of malocclusion and orthodontic treatment.

Present study concludes that dental students show optimal awareness about orthodontic diagnosis and treatment but inclusion of more clinical exposure of orthodontic treatment during undergraduate course

will encourage further interest of the students in the subject.

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