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Research paper

Knowledge, attitude and perception of orthodontic treatment among dental students

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Abstract

Introduction: Malocclusion is known to contribute overall health status, as well as affecting individual's psychosocial health.
Aim: To establish knowledge, attitude and perception of orthodontics treatment among dental students of one of the dental college of M.P.
Material & Method: A descriptive cross study was carried out among 300 undergraduate dental students of people dental academy Bhopal M.P. India. Each classroom of the participants were visited. Self-administered questionnaire were distributed to a 300 students. The scores were calculated, and statistical analysis were done. Categorical variables were evaluated using a Chi-square test with the level of significance of $P < 0.001$.
Results: About 85% of the students were aware of their dental esthetics. About 85% of females were satisfied with the attractiveness of their teeth when compared to 70% males. House surgeons had more positive attitude compared to the 1st year students.
Conclusion: The dental students had good knowledge about the orthodontic treatment and had a positive attitude toward it. Females had very good knowledge, satisfaction and positive attitude compared to the males regarding dental esthetics and treatment. House surgeons were much more aware, very much satisfied and had a more positive attitude than 1st year students.

Keywords: *Dental Malocclusion; Self-Concept; Dental Students*

1. Introduction

Measuring and recording the prevalence of mal-occlusion and treatment need in a population was useful for the planning of orthodontic services. Without a satisfactory estimate of the need and demand for treatment, it was difficult to develop and organize meaningful orthodontic services(Tulloch JF& Jones M 1984).Orthodontic treatment was often carried out to improve the patient's dental appearance. The main factors influencing the decision for treatment were esthetic improvement and psychological aspect. In addition, knowledge about the attitude of patients to malocclusion was becoming increasingly important in orthodontics (Helm S & Solow B 1985), (Espeland LV& Stenvik A1991).

The orthodontist routinely evaluates his patients and prescribes treatment plans in order to satisfy the often stated goals of good dental function, stability of teeth and jaw position, and dental esthetics. While the first two considerations have been researched and are continually discussed in all the specialties of dentistry, the last aspect dental esthetics has escaped research attention (Tang EL& So LL1995).The lack of research material in this area is not due to a lack of interest in the subject but to the difficulty of measuring exactly what "Dental esthetics" actually means. Esthetics is judgmental commodity, and the assumed variability in individual judgments (beauty is in the eye of the beholder) makes it difficult to make generalized statements (Cochrane SM &Hunt NP 1997), (McGorray SP& Yurkiewicz L 1999).

The aim of this study was to assess the self-evaluation and satisfaction of dental appearance among dental students. The objectives of this study were to assess the knowledge and attitude toward orthodontic treatment and comparing between different class groups and sexes.

2. Material & method

The study participants were 300 dental students of Peoples dental academy Bhopal, Madhya Pradesh. The study group comprised 100 males and 200 females of I, II, III, IV B.D.S. Students and House surgeons, aged between 18 and 26 years [Table 1].

Table 1: Distribution of Students According to Year and Sex

STUDENTS	SEX		TOTAL
	MALE	FEMALE	
1ST YEARS	27	24	**51**
2ND YEARS	14	38	**52**
3RD YEARS	12	43	**55**
4TH YEARS	18	46	**64**
INTERN	29	49	**78**
TOTAL	**100**	**200**	**300**

The data for this study were collected visiting to the class-rooms of subjects and were requested to complete a structured questionnaire. The questions were prepared as follows: Seven questions on awareness about their dentition, four questions on their self-satisfaction and six questions about their attitude toward orthodontic treatment. Each question had three possible answers, ranging from the positive response to a negative response, and these answers were given scores ranging 0-2, the highest score to the best and the lowest to the worst. The test items assessed the subject's ability to recognize the presence or absence of mal-occlusion, knowledge to perceive the impact of mal-occlusion and attitude about orthodontic treatment.

Statistical analysis of the data set were performed by grouping the answers to each of the questions into three categories: A negative response, an average response, and a positive or favorable

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

3. Results

Seventy 0 percent of the students were aware of their dental esthetics, 20% were not aware and 10% did not have knowledge about esthetics at all [Table 2]. About 98% of females had very good knowledge about dental esthetics compared to 95% of males. However, the differences are statistically not significant.

Table 2: Awareness about Their Dental Esthetics

Questions	Subjects (N= 300) In Percentage YesNo Do Not Know
Do you think healthy and well arranged Teeth are important for your appearance?	95 3 2
Are you satisfied with your dental esthetics?	65 30 5
How do you feel about the appearance of your teeth?	70 20 10
Do you have any trouble while speaking, chewing, facial muscle pain caused by teeth arrangement?	8 90 2
Do you think you should have orthodontics treatment?	30 62 8
Would you agree readily orthodontic treatment if a dentist or parent suggested it?	65 20 15
Do you think your smile could be better if teeth were better aligned?	50 16 36

Self-satisfaction with the attractiveness of their teeth indicated a fairly objective evaluation of their own dental malocclusion situation. About 10% of the subjects were satisfied with the attractiveness of their teeth, 90% of the subjects reported negative feeling toward their teeth [Table 3].

Table 3: Self-Satisfaction about Their Dental Esthetics

Questions	Students (N=300) In Percentage Not At All All The Time
Have you found that other people have commented on the appearance of your teeth?	25 75
Have you found that other people have teased on the appearance of your teeth?	10 90
Do you try to avoid smiling because of the appearance of your teeth?	5 95
Do you ever cover your mouth because of the appearance of your teeth?	5 95

40 percent of subjects were very much satisfied with the attractiveness of their teeth, and 24% of these were not satisfied. This is highly statistically significant ($P < 0.05$) [Table 4].

Table 4: Attitude toward Orthodontic Treatment

Questions	Subjects (N=300) In Percentage Negative No Feeling Positive
What kind of teeth do you have?	12 10 78
Are your teeth well aligned?	10 20 70
How satisfied are you with your teeth?	24 36 40
How much do you like the way your teeth look?	20 12 68
How much do your teeth affect the way your face looks?	72 8 20
Do you think your smile could be better if teeth were better aligned?	58 12 30

Seventy-six percent of the females were satisfied with the attractiveness of their teeth and only 70 percent of males. But there was no statistical significance found. About 40% of the subjects were satisfied with the attractiveness of their teeth, 36% of the subjects reported negative feeling toward their teeth, 18% of the subjects showed a strong positive feeling toward their dentition.

Regarding the attitude toward orthodontic treatment, 30% had strong positive attitude, 58% were satisfied with their attractiveness and 12% were not aware of it [Table 4].

Satisfaction versus attitude

When asked about how many students were un-satisfied about their dental attractiveness and had a positive attitude toward orthodontic treatment-78% of subjects were un-satisfied of which 56% had a positive attitude toward orthodontic treatment. This is highly statistically significant ($P < 0.01$).

When compared among different class groups about the knowledge of dental esthetics, House surgeons were very much aware of it followed by final year students. Moreover, there was no statistical significance found among the various classes. 1st year students were not aware of dental esthetics very much.

When asked among different class groups about satisfaction of dental esthetics, House surgeons were very much satisfied about their teeth followed by final years. All the class groups were happy with their attractiveness almost equally. However, the House surgeons and 2nd years were not happy with their dental esthetics. This was not statistically significant.

When the attitude toward orthodontic treatment was compared among different classes, House surgeons had more positive attitude with the least among the 1st year students. Among satisfaction of dental attractiveness, 1st year students and House surgeons were very much satisfied. 3 rd year students were least satisfied. No statistical significance was found.

Among Females there was almost even split between strongly positive (50%) and satisfactory (50%) attitude toward orthodontic treatment, there was no statistical significance found between males and females. The most influencing variable was found that, the teeth affect the way their face looks, and this was considered to be the most influencing factor among all the classes.

4. Discussion

The importance of patients' perceptions regarding orthodontic treatment cannot be underestimated as it is the patients who receive treatment and need to gain satisfaction from improved esthetics and function. (Birkel and K& Wisth PJ 2000).

It had been hypothesized that increased experience with and availability of orthodontic service should be translated into differences in esthetics rating and perception of treatment need (Mandall NA &McCord JF2000). Similar results have been obtained in our present study where 75% of the dental students who were having knowledge about orthodontic treatment were aware of dental esthetics.

The decision making process that a person undertakes when judging his/her own dental esthetic satisfaction may be broken down into several steps. First, knowing about the awareness and their own dentition, second their self-satisfaction, and finally their attitude toward orthodontic treatment. We may postulate that females had very good knowledge about dental esthetics compared to the males.

Regarding self-satisfaction about their teeth, the study indicates that the subjects did make fairly accurate self-evaluation of their own malocclusions (Crooked Teeth). The unsatisfied subjects with their dental esthetics had a positive attitude toward orthodontic treatment. The satisfied subjects with their dental esthetics were aware of the attractiveness of their teeth. This is also highly statistically significant.

The sixth difference is probably due to the fact that the standards for acceptable facial form are more clearly delineated for females. Thus, deviations are in dental form that adversely influence facial

outline are more important to females than males. Similar results were obtained by Goel (Shue-Te Yeh M, &Vlaskalic V2000). The subjects who had malocclusion and did not report to the orthodontic clinic seems to believe that, teeth did not affect their esthetic value and this appeared to be more of an ignorance that teeth does significantly affect facial appearance, and lack of knowledge was the main factor that kept away from treatment.

Kerosuo et al. study concluded that access to free of cost orthodontic treatment was likely to affect the treatment rate. Whereas, it did not seem to influence the self-perceived need for treatment (Bentele MJ& Beck FM 2002).

Similar study conducted by Helm et al. suggested that certain malocclusions especially conspicuous occlusally and space anomalies may adversely affect body image and self-concept not only at adolescence but also in adulthood (Goel S 2002).It is in the strongest association with study conducted by Birkel and et al. That both children and parents rate pleasant esthetics as an important factor for psycho-social well-being (Hunt O 2002).

In accordance to Bentele et al., Index of Orthodontic Treatment Need is a promising teaching aid for improving educational outcomes for orthodontic referral when sufficiently prepared to dental students to diagnose malocclusion and make appropriate referrals of potential orthodontic patients. (Kerosuo H & Kerosuo E 2002).

The limitation of this study, is that the dental students may not represent the general population of the society. Further cross-sectional studies are required to include more numbers of participants of different age groups.

5. Conclusion

A questionnaire study evaluated the awareness about teeth, level of self-satisfaction, attitude toward orthodontic treatment and the overall perception of dental appearance among a group of dental students.

From the study done it was found that the subjects had:

- Good knowledge about the orthodontic treatment and positive attitude toward orthodontic treatment.
- The teeth affect the way their face looks, dental attractiveness the most influencing variable to perceive orthodontic treatment.
- Females had very good knowledge, satisfaction and positive attitude compared to the males regarding dental esthetics and treatment.
- House surgeons were much more aware, very much satisfied and had a more positive attitude than 1st year students.

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Conflict of inerest

No conflict of interest involved so ever.

Source of finding

Nil.

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