

AWARENESS OF MALOCCLUSION AND DESIRE OF ORTHODONTIC TREATMENT

TYPE OF THE MANUSCRIPT: Original article

TITLE: AWARENESS OF MALOCCLUSION AND DESIRE OF ORTHODONTIC TREATMENT

AUTHORS NAME:

FIRST AUTHOR:

M. Leo Bernard Manuel
BDS Student
Saveetha Dental College
Chennai-600077

SECOND AUTHOR:

DR. NAVEEN KUMAR M
SENIOR LECTURER
DEPARTMENT OF ORTHODONTICS
SAVEETHA DENTAL COLLEGE
CHENNAI-600077

CORRESPONDING AUTHOR:

DR. NAVEEN KUMAR M
SENIOR LECTURER
DEPARTMENT OF ORTHODONTICS
SAVEETHA DENTAL COLLEGE
CHENNAI-600077

ABSTRACT:

AIM & OBJECTIVE:- To determine the level of awareness among young population about various orthodontic treatment and their desire to undergo orthodontic treatment for betterment of aesthetics

BACKGROUND:- The awareness of a person of any dentitional or occlusal anomaly and his desire to receive orthodontic treatment was studied in a group of 18-year old young adults in whom such anomalies had previously been diagnosed by an orthodontist. The desire for treatment and awareness of the anomalies were studied from answers to questions bearing on the state of the teeth and occlusion.

REASON:- This study will help to tabulate the degree of awareness for dental malformations and to assess the degree of knowledge in young population to analyse the desire for orthodontic treatment.

KEYWORDS: Malocclusion, dentition, awareness, orthodontists.

INTRODUCTION:

The awareness of a person of any dentitional or occlusal anomaly and his desire to receive orthodontic treatment was studied in a group of 18-year old young adults in whom such anomalies had previously been diagnosed by an orthodontist.¹ The desire for treatment and awareness of the anomalies were studied from answers to questions bearing on the state of the teeth and occlusion. About 16% of the men had received earlier orthodontic therapy with appliances.² Good agreement was found between the actual frequency of individuals with missing teeth and the frequency who reported that teeth had been extracted or were missing for some other reason³. The frequency of awareness of dentitional, space or occlusal anomalies, on the other hand, was low, especially for anomalies in the lateral segments. Awareness of anomalies and the desire to receive orthodontic treatment were equally frequent for anomalies in the upper and lower jaws, but varied somewhat with type of anomaly. Only 4% of the individuals thought that they needed orthodontic treatment although as many as 60% were judged by the orthodontist to be in need of such treatment, and in half of these individuals the need was considerable.

MATERIAL AND METHODS:

Questionnaires were given to 250 young adults for prevalence of malocclusion (**Saveetha dental college, chennai**). All 250 individuals filled in and returned the questionnaires. The questionnaire consisted of 12 main questions. The questions are given in the description of the results. Unless otherwise stated, the response frequencies are based on the number of questionnaires filled in and returned.

RESULTS:

The answers to the questions 1-5, 22% reported that tooth or teeth had been extracted because of crowding, 6% because the tooth had been damaged by decay, 2% because of accidents, while 2% answered that they did not know. The answers to questions 2 and

3 should be compared with the frequency of missing teeth in the original material, in which teeth (excluding third molars) were missing in 38% of the individuals.

Questions	Answers (in percentage)		
	Yes	No	Dont Know
1.Do your teeth give you any trouble now?	6.5	87	6.5
2.Have you had any permanent tooth extracted?	32	62	6
3.Is any tooth missing that has not been extracted?	8	78	14
4.Have you ever had orthodontic treatment with an appliance?	15.5	82	2.5
5.Do you have any irregularity of the upper front teeth?	17	77	6

Since the sum of the frequencies for the individuals who answered "yes" to question 5 exceeded above 70%, it is obvious that many of them reported more than one type of irregularity.

Question 6: If you have any irregularity of the upper front teeth, do you feel that it affects your:

- A. appearance
- B. chewing
- C. speech
- D. other functions

As of the individuals who gave an affirmative answer to question 5 ,Do you have any irregularity of the upper front teeth?, question 6 was answered affirmatively with the following frequencies:

A. appearance 57%, B. chewing 17%, C. speech 11%, D. other function 6%,

while the remainder answered in the negative or said they did not know. The objective recording of anomalies showed that the frequency of crowding least 9% and the frequency of spacing about 8%. The frequencies of individuals with rotation and tipping of the upper front teeth in the original material were 16% and 6%, respectively, and the frequency of individuals with inversion of incisors was about 4%. Extreme maxillary overjet was recorded in 10% and mandibular overjet in 2% of the individuals. The frequencies of a frontal open bite and deep bite were 3% and 9%, respectively. Irregularity of lower front teeth⁴

Question 7: Do you have any irregularity of the lower front teeth?

Answer: Yes 15%, no 78%, do not know 7%.

Question 8: If you have an irregularity of the lower front teeth, do you feel that it affects your:

- A. appearance
- B. chewing
- C. speech
- D. other function?

Of those who answered to question 7 affirmatively. Do you have any irregularity of the lower front teeth? some gave an affirmative answer also to question 8

A. appearance 29%, B. chewing 12%, C. speech 15%, D. other function 7%.

The remainder replied no or that they did not know. In the original material the frequency of crowing in the mandibular incisor segment was 11 % and that of spacing about 3%. The frequencies of individuals with rotated or tipped lower front teeth were 17% and 4%, respectively, and the frequency with midline displacement in the lower jaw was 24%. Irregularity of lateral teeth

Question 9: Do you have any irregularity of the upper lateral teeth?

Answer: Yes 70% , no 80.5%, do not know 12.5%.

The frequencies of the various alternative answers given by those who answered ,affirmative to question 9 was less than 50%, which means that many individuals gave no answer to this question.

Question 10: Do you have any irregularity of the lower lateral teeth?

Answer: Yes 7%, no 77%, do not know 16%.

In the original material the frequency of crowding of the maxillary lateral segments was about 3% and the corresponding figure for spacing was about 7%. The frequencies of individuals with crossbite or scissorsbite in one or more lateral segments were 19% and 80% respectively, in the original material. The frequency of lateral open bite was about 10%. Besides the above space and occlusal anomalies in the original material, a unilateral distal molar occlusion was recorded in about 21% and bilateral in 13%, as well as uni- and bilateral mesial molar occlusion, each in 6%. ⁵The frequency of crowding of the mandibular lateral segments in the original material was 8% and the frequency of spacing was about 10%.

Question 11: If you have any irregularities of lateral teeth, do you feel that it affects your:

- A. appearance
- R. chewing
- C. speech
- D. other function?

Of those who gave an affirmative answer to question 9 and/or 10 this question was answered in the affirmative with the following frequencies: A. appearance 13%, B. chewing 21%, C. speech 13%, D. other function 13%.

Question 12: Do you think you are in need of orthodontic treatment?

Answer: Yes 4% , no 85%, do not know 11%.

The answer to question 12 should be compared with the total frequency of malocclusion and the objective need of treatment. Dentional anomalies (malformed teeth, persistent deciduous teeth, rotated and tipped front teeth and inverted incisors) were noted in about 35% of the individuals, space anomalies in 52% and occlusal anomalies in 65%.⁶ When the need of treatment was judged by an orthodontist (objective need) with a 5-grade scale (4=severe need, 0=no need) about 60% of the individuals were found to be in need of treatment and in about 30% the need was substantial (grades 2, 3 and 4), significant association was found between the individual's desire to receive orthodontic treatment and the objectively estimated need. Individuals who answered in the affirmative to question 12 were, on the average, in greater need of treatment, as judged from objective findings, than individuals who answered in the negative. The association between subjective and objective need of treatment is also apparent from the distribution of objective need of the individuals with affirmative answers to question 12. Of the individuals in need of treatment grade 3, 18.5% reported that they thought they were in need of orthodontic treatment while only 3-4% with need grade 1 thought that they were in need of such treatment.

DISCUSSION:

Many recent studies of the prevalence of malocclusion in Scandinavian population in series of children and in adults have all demonstrated a high total frequency of malocclusion and need of orthodontic treatment.⁷ In these studies the need of treatment has been assessed by the examiner while the individuals awareness of malocclusion, like the desire for treatment, has not been investigated. In many types of malocclusion, however, these questions are of fundamental importance when deciding whether orthodontic treatment should be given or not.⁸ The frequency of awareness of malocclusion and desire for treatment are therefore also relevant to the planning of the resources of orthodontic care.

An attempt to get an estimate of the demand for orthodontic treatment was made by Lindegård et al. (1971). These authors compared the judgement of the need of treatment of selected cases of anomalies of various types done by orthodontists with that of parents of children in school-age.⁹ This study, however, only gives an indirect picture of the demand for treatment because the individuals with the actual anomalies were not questioned.

That the desire for treatment is considerably lower than the objectively demonstrated need of treatment was shown by Myrberg & Thilander who reported that about one fifth of school children with diagnosed anomalies declined orthodontic treatment.¹⁰

Although many studies of the frequency of malocclusion have been performed only few have taken the frequency of awareness of malocclusion and the desire for treatment into consideration¹¹. It was therefore decided to investigate these questions by an inquiry by questionnaire in a series of adults in which the prevalence of malocclusion was known.

Good agreement was found between the objectively demonstrated frequency of individuals with missing teeth and the frequency of individuals who reported that teeth had been extracted. The individuals were obviously well aware of the teeth that had been extracted and the teeth that were missing because of hypodontia¹². The frequency of affirmative answers to the question that is if any tooth missing that has not been extracted?, was 8%, while the objectively recorded frequency of hypodontia in the target population has been found to be 6-7% (Grahnp, 1956; Ingervall, Seemen & Thilander, 1972; Thilander & Myrberg, 1973). The objectively demonstrated frequency of hypodontia refers to the 28-teeth dentition while the frequency of individuals with one or more third molars missing is much higher (25% according to Grahnp, 1956).¹³ In most of the individuals studied the third molars had not erupted (Ingervall, 1974) for which reason the figures for missing teeth that had not been extracted refer to the 28-teeth dentition, which shows the good agreement between the individual's awareness of hypodontia and the true frequency.¹⁴ This good agreement corroborates the results presented by Heloe (1972).

The frequency of individuals who reported that they had received orthodontic treatment as well as the frequency that had been offered such treatment but had declined agrees with the figures that might have been expected from experience in the orthodontic departments of the public dental care (Linder-Aronson, 1967).

As expected, the individuals were most often aware of irregularities of the front teeth. Both the awareness of such irregularities and the desire for treatment were equal for the upper front teeth and the lower front teeth.¹⁵ This is noteworthy because it is often assumed that patients desire treatment of anomalies of the upper front teeth more often than those of the lower front teeth.

Of the individual types of anomaly of the front teeth, the individuals were most often aware of crowding and spacing and somewhat less often of rotation and tipping. A high percentage of individuals were also aware and desired treatment of inverted incisors and mandibular overjet. They were less often aware of extreme maxillary overjet and frontal open and deep bite and individuals with those anomalies desired treatment much less often than did those with inversion of incisors and mandibular overjet. In the objective evaluation of the need of treatment (Social-stjwlsen, 1966), much importance is attached to extreme maxillary overjet and deep bite. But many individuals with these anomalies did not desire treatment, which should be borne in mind when weighing the objective and subjective need of treatment before deciding upon orthodontic treatment.

As expected, the individuals were less often aware of anomalies in the lateral segments than of the front teeth. Neither did anomalies of the upper and lower lateral segments differ regarding the frequency of awareness of anomalies or desired treatment. The

percentage of individuals who were aware of crowding in the upper lateral segments and who wished treatment was high. This objective recording of malocclusion included, as previously mentioned, crowding in the region of the canines, which may help to explain the relatively high frequency of awareness and desire for treatment.

The correlation between the individuals desire for treatment and the objectively evaluated need of treatment was in agreement with the results presented by Linde- gird et al. (1971). These authors found that a group of parents of children in school-age estimated the need of treat- ment in the same way as a group of orthodontists.¹⁶

The results of the present investigation apply only to the male population of the age in question. It is possible that a corresponding investigation of women of the same age would reveal a higher degree of awareness of anomalies and a more frequent desire to receive treatment than that found in the present material. Awareness and desire to receive treatment may also vary with age. That the awareness of malocclusion may differ in children from that in the present material is suggested by the results presented by Cohen (1970).

Apart from the proportion of men who had received or declined orthodontic treatment the individuals in the present investigation had not been informed of the significance of anomalies. If they had been informed, the frequency of individuals who desired orthodontic treatment would surely have been larger, but it would also have increased the frequency of awareness of the anomalies. The orthodontic treatment given has reduced the frequency of anomalies and the need of orthodontic treatment, com- pared with the situation in children (Zngr- vall, 1974). The objective persisting need of treatment, like the frequency of anomalies is, however, very high but very many of the individuals with anomalies do not wish to be treated for them. This is the most important finding in the investigation. However, in contrast with the situation in children some of the men had already received orthodontic treatment.¹⁷ Before deciding whether orthodontic treatment should be started or not, one must weight objective and subjective need of treatment against one another. Many orthodontists assume, often without pro- per supportive evidence, that the subjective need of treatment is large. Such general assumptions are contradicted by the findings in the present investigation.

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