

PSYCHOLOGICAL EFFECT OF MALOCCLUSION

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Abstract

Introduction: Malocclusion is not a disease but a set of dental deviations, which may have a negative effect on ones psychology. The purpose of this study was to assess psychological effects of malocclusion among orthodontic patients

Materials and Methods: A specially designed questionnaire was completed by 60 consecutive patients seeking orthodontic treatment. The questionnaire comprised of ten questions which aimed to collect information regarding demographic details, reason for seeking orthodontic treatment, psychological and social impact of malocclusion.

Results: The mean age of the participants was 16-20 with 47 females (78.33%) and 13 males (22.66%). 79.7% of all subjects reported for orthodontic care due to aesthetic reasons. Over 50% of the individuals were motivated because of their parents.26.56% percent of the subjects were sad because of their condition whereas 20.31% of the subjects were depressed.36.66% of the participants reported feeling less confident as a result of their malocclusions and about 65% of them felt that malocclusion had negatively affected their general facial appearance. Patients limited their activities such as restricting their smile (53.33%), hiding their teeth (35%)and were concerned about their perception amongst the opposite sex(30%). Majority of the patients (98.33%) wanted to improve upon their esthetic appearance. Patients were found to discuss their malocclusion most commonly with their parents (63.63%).

Conclusion: Psychological effect of malocclusion is considerable and is associated with appearance dissatisfaction among adolescents. Professional counseling must be considered in view of above factors.

Keywords: Malocclusion, psychological effects, orthodontic patients

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INTRODUCTION

Malocclusion is not a disease but a set of dental deviations which may have a negative effect on one's psychology¹. Well aligned teeth and pleasing smile reflect positive status at all social levels, and irregular or protruding teeth reflect vice versa². In each race and gender, some balance of facial features is viewed by the majority as pleasing to the eye³ which is generally reinforced by the media and society in the self fulfilling prophecy that "beauty is good." Facial attractiveness is considered the best predictor of psychosocial functioning in children and adolescents. Unacceptable dental appearance may affect many facets of social interactions including career advancement, peer group acceptance and negative effect on self concept⁴.

The appearance of the teeth appears to rank as a high priority for both males and females, transcending sexual stereotyping⁵. Mir et al.⁶ found that well educated women were the most critical in how they rated malocclusion compared to not so well educated volunteers. In relation to malocclusion, it tends to persist from childhood onto adulthood. Attractive children and adults generally receive more favorable judgments and academic and performance reviews than do unattractive individuals. This in turn results in greater self-confidence among those high in attractiveness.

In schoolchildren, deviations of dental appearance have been found to be a bullet for teasing and being socially ostracized. Deviation of the dental appearance is directly proportional to the implication to the child, and comments about teeth appeared to be more hurtful than those about other features. Height and weight were found to be the most common targets although the same study emphasized the influence of malocclusion on the child's perception to facial appearance^{7,8}. Boys and girls, as well as their parents, expect orthodontics to enhance their lives in many ways beyond just improving occlusion, mastication, and speech. Both the children and their parents view this treatment as a means to achieving a better quality of life. For this reason, the correction of malocclusion takes on a more dramatic psychological and social significance than one expects from routine dental procedures.

In adults, this psychological impact may lead to avoidance in presentation of oneself in public⁹ and also self confrontation with the mirror image¹⁰. Such emphasis on the attractiveness of teeth and the mouth is consistent with research demonstrating that, in social interactions, the listener's attention is mainly directed toward the mouth and eyes of the speaker¹¹. In individuals who identify their malocclusion or poor

dentofacial disharmony as a source of dissatisfaction are more highly motivated to obtain orthodontic treatment. The motivation of seeking orthodontic treatment appears to be strongly related to the individual's perception of the extent to which their dental facial appearance deviates from socio cultural norms.¹² Knowledge about one's perception and psychological impact could be a gateway in professional counseling and treatment of patients, therefore, the aim of this study was to assess the psychological effect of malocclusion among the patients seeking orthodontic treatment.

Materials and Methods

A specially designed questionnaire was self-administered to 60 consecutive patients reporting to the orthodontic department.

The questionnaire comprised of ten questions. Its aim was to collect information regarding demographic details, reason for seeking orthodontic treatment, psychological and social impact of malocclusion. It also explored patient's perception of malocclusion in relation to their self confidence, social interactions, emotional status, facial appearance and their desire to improve their dentofacial esthetics.

Multiple responses were allowed. Proper explanation was also given along with each question in order for proper comprehension of the questionnaire and for removal of any ambiguity. They were given explanation in their own local communicable language. Some terms as aesthetics and functional were clarified to the individuals.

Students and dentists were excluded. Mental handicapped individuals, young children incapable of comprehending the questionnaire and uncooperative patients were also excluded. All other patients who had come to seek orthodontic treatment and were willing to participate comfortably were the subjects.

Results

A total of 60 patients participated in the study. Most participants sought orthodontic care for aesthetic reasons (91.67 %) and were self motivated (56.66 %). Majority of the participants were unconcerned (51.67%) with the problem and did not feel that it had any bearing on their confidence level (53.33 %). However most of them did admit that malocclusion did have an effect on facial appearance (65 %) and they most frequently discussed the problem with their parents (70%).

Table I: Age distribution of the subjects

Age group (years)	Number	%
6-10	4	6.67
11-15	20	33.33
16-20	23	38.33
21-25	8	13.33
26-30	2	3.33
31-35	1	1.67
36-40	0	0
41-45	2	3.33
Total	60	100

Table II: Problems of the subjects

Problem	Number	%
Aesthetics	55	91.67
Functional	3	5
TMJ	0	0
Others	2	3.33
Total	60	100

Table III: Mode of realization of the problems

Mode	Number	%
Self	34	56.66
Parents/family	24	40
Friends	1	1.66
Spouse	0	0
Others	1	1.66
Total	60	100

Table IV: Feelings associated with the problem

Feelings	Number	%
Sad	17	28.33
Angry	2	3.33
Depressed	10	16.67
Unconcerned	31	51.67
Total	60	100

Table V: Distribution of the effects of malocclusion on Self confidence

Effect	Number	%
More confident	1	1.67
Confidence un affected	32	53.33
Less confident	22	36.66
Uncertain	5	8.33
Total	60	100

Table VI: Distribution of the effect of malocclusion on facial appearance

Effect	Number	%
Has an effect on facial appearance	39	65
No effect on facial appearance	21	35
Total	60	100

Table VII: Distribution of people that the subjects talk to about their condition

Type of people	Number	%
Parents	42	70
Partners	1	1.67
Close friends	2	3.33
Dentist	2	3.33
Others	0	0
Nobody	13	21.66
Total	60	100

Table VIII: Distribution in accordance with psychosocial impact regarding malocclusion

Total 100% N=60

	Yes		N0	
	No	%	No	%
Hold back their smile	32	53.33	28	46.66
Concerned what other people think	28	46.66	32	53.33
Afraid of other people making offensive remarks	23	38.33	37	61.66
Inhibit in social contacts	7	11.66	53	88.33
Hiding teeth	21	35	39	65
Think that people stare at their teeth	25	41.66	35	58.33
Worried about what opposite sex think about their teeth	18	30	42	70
Envy other people's teeth	39	65	21	35
Wish to have better teeth	59	98.33	1	1.66
Don't like to see teeth in mirror	27	45	33	55

Discussion

The self perceived dental irregularity and negative impact of dental aesthetics might effect social interactions, level of self confidence and psychology of an individual. Different results of psychosocial attractiveness research suggest that the perception of one's own physical appearance is often associated with concerns about other people's reactions and a negative body concept¹³, which additionally discourage efforts to maintain or enhance the physical condition by health behaviors. It has been shown, for instance, that minor dental esthetic impairment in young adults was associated with social apprehension, appearance disapproval, and appearance-related insecurity^{14, 15}.

A questionnaire comprising psychological dimensions was randomly administered to patients seeking orthodontic treatment.

There is no previous report on emotional or psychological effects of malocclusion in the Pakistani population. The present data cannot be seen as representative of the whole population, however since the study was carried out on the families of armed forces personnel who converge to this centre from all over the country, it gives a good impression of the pattern of psychosocial or emotional effects malocclusions have on real orthodontic patients in this area. Therefore, it could be a good guide in effective management.

The mean age was 16-20 years with 47 females (78.33%) and 13 males (22.66%). The patients were all co operative and expressive. They comprehended the objective of the study and participated whole heartedly. Our results, showed that more females sought orthodontic treatment than males. The higher number of females presenting for orthodontic treatment as observed in this study is consistent with the study in 2007 amongst 900, 15 year old Brazilians in which nearly half of the girls and one-third of the boys were unhappy with their looks¹⁶.

Also our study showed that the appearance of teeth was found to be very significant for young women, showing a high concern for appearance in girls. An association between teeth appearance satisfaction and gender has been inconsistent in the literature, with some studies reporting greater concern in women¹⁷ and others showing no association¹⁸.

It is generally understood that the evaluation of malocclusion must consider morphological and functional factors, as well as esthetic and psychological ones¹⁹. However, not all potential patients with dental irregularities, even those with extreme handicapping malocclusions or anatomic deviations from the normal,

seek orthodontic treatment. Although some do not recognize that they have problems, others believe that they cannot afford or cannot obtain orthodontic treatment. The most important motivation for orthodontic treatment is usually an improvement in appearance.

This survey showed that 91.67% participants sought orthodontic care for aesthetic purposes and only 5% for functional causes. 56.66% of the participants noticed the problem themselves whereas 40% were motivated by their parents which show the significance of parents in regards to individual appearance.

Studies have demonstrated that contrary to popular stereotypes, boys and girls do not differ in their expectations for improvement in appearance²⁰. In past studies patients ages eight to fourteen expect significant improvements in their social and psychological well-being and in their oral function, but less so in their general health. Parents consistently expect more improvement than their children in all domains.

The same pattern of results observed in the study of Fiske et al.²¹ and this present study in relation to acceptance of occlusal anomalies is maintained in regard to effects on confidence level of the subjects (patients). 36.66% percent of the people reported feeling less confident whereas 53.33% reported to be unaffected concerning level of confidence. 28.33% said the condition made them sad whereas 51.67% sad they were unconcerned regarding feelings but at the same time would like their treatment to be done.

According to Heldt et al.²² patients with dentofacial deformities, regardless of severity, are frequently the victims of ridicule, teasing, and jokes; the emotional trauma being evident in interviews with patients victimized by this abuse.

In view of different social and psychological aspects 53.33% of the people admitted that they held back their smile whereas 46.6% were concerned about what other people may think about their teeth. 35% hid their teeth with their hands during conversations whereas 30% were anxious about what the opposite sex might think about their teeth. It has been suggested that appearance dissatisfaction can lead to feelings of depression, loneliness and low self-esteem among other psychological outcomes²³. These symptoms can persist into early adulthood, leading people to adopt a more submissive role in social interaction, becoming unassertive and rarely initiating prosocial behavior²⁴.

Regarding aesthetic appearance, 65% envy other people 's teeth, 45% did not like to see their teeth in the

mirror and 98% wished their teeth were better in appearance which shows human perception regarding their persistent desire of improvement.

The review of OHRQoL (Oral Health Related Quality of Life) studies demonstrates that the socioemotional domain of quality of life (smiling, showing teeth without embarrassment, being teased about appearance) plays a significant role in the decision to undergo conventional or surgical orthodontics and is recognized by the orthodontist as a primary benefit of treatment²⁵.

Psychological benefits may also be less dramatic than generally assumed. A twenty-year observational study of 332 individuals between 1981 and 2001 who were between the ages of eleven and twelve at baseline found that self-esteem did not improve when baseline level of self-esteem was controlled, nor were untreated persons more likely than those who underwent orthodontic treatment to experience psychological disorders such as depression or social anxiety²⁶. However, those who had significant malocclusion and underwent orthodontic treatment during that period reported greater satisfaction with their dental occlusion and with their dental and general appearance. These patients also reported higher overall quality of life in their twenty-year assessment, compared with their peers who also had significant treatment needs but had not undergone treatment.

The present study shows that over half (65%) of the subjects believed their malocclusions affected their facial appearances generally. This agrees with a number of authors²⁷ who suggested that teenagers have developed an oral perceptual awareness. Our finding supports the premise that people seem to share a common basis for dental esthetic judgment regardless of age, sex, or occupation²⁸. Although general awareness regarding orthodontics is not well established in Pakistan, television, films, newspapers, and magazines all provide daily reinforcement for facial stereotypes.

Although parental orthodontic awareness in Pakistan is still relatively low, the present study shows they will remain very crucial in the utilization of orthodontic care in the country as a majority of the subjects (70%) discussed their worries with them. The important role of parents in the motivation for orthodontic care has been demonstrated in other reports.

This study has shown considerable psychological and social effects of malocclusion on orthodontic patients, which should be considered during professional counseling and treatment of such patients in order to improve their self-esteem and social interactions.

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