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Original Research

Assessment of Psycho-social effects of malocclusion in patients seeking orthodontic treatment

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ABSTRACT:

Background: The present study was conducted for assessing Psycho-social effects of malocclusion in patients seeking orthodontic treatment. **Materials & methods:** A total of 50 subjects seeking orthodontic treatment were enrolled in the present study. All the subjects were pre-informed about the study protocol. A Preformed Performa was made and was submitted to all the subjects. Data regarding psychosocial impact of dental aesthetics was collected using a Psychosocial Impact of Dental Aesthetics Questionnaire (PIDAQ) given by Klages et al. The items were evaluated using a five-point Likert scale with numerical values 0= 'not at all', 1= 'a little', 2 = 'somewhat', 3 = 'strongly' and 4 = 'very strongly'. The responses were recorded by the examiner himself using the appropriate codes. **Results:** On the whole, the mean Dental self-confidence score differed significantly among both male and female children across the age groups. Overall, the mean social impact score did not differ significantly among both male and female subjects across the age groups. **Conclusion:** From the above results, the authors conclude that dental aesthetics have a significant impact on the psychosocial aspects of human life. However, studies using photographs and models should be conducted.

Key words: Psycho-social, Malocclusion, Orthodontic

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INTRODUCTION

Malocclusion is increasingly prevalent in the current day individuals. The incidence and prevalence have also seemingly increased due to evolutionary decrease in the size of jaws and absence of attritional occlusion, leading to an increase in the various forms of malocclusions including crowding, rotations, increased overjet and overbite as opposed to proximal and occlusal attrition observed in the stone-age man, due to his rough and tough diet which would ultimately result in an edge to edge occlusion, with lesser incidence of the malocclusions mentioned above. It has various implications for the development of an individual ranging from difficulty in carrying out normal function, to increased propensity of trauma, especially incisal trauma in Class II division I malocclusion patients and a far-reaching effect on the psychological status of the patient. It most often adversely impacts the quality of life and self-esteem of an individual, stemming from social conditioning to what is considered.[1- 3]

Orthodontic treatment results in the alignment of teeth and correction of dental relationships, with the aim of improving dental health, function and aesthetics, and as a result of this it may also enhance quality of life and other psycho-social aspects of a patient's life. This had led researchers to study the relationship between malocclusion, orthodontic treatment and quality of life. This is important for patients and clinicians, but it is also important for health care providers, health planners and researchers. Increasingly, there is a need to justify the provision of orthodontic treatment and to investigate the benefits of treatment; therefore there is a need for instruments to measure social and psychological factors.[4- 6]Hence; the present study was conducted for assessing Psycho-social effects of malocclusion in patients seeking orthodontic treatment.

MATERIALS & METHODS

The present study was conducted for assessing Psycho-social effects of malocclusion in patients seeking orthodontic treatment. A total of 50 subjects

seeking orthodontic treatment were enrolled in the present study. All the subjects were pre-informed about the study protocol. A Preformed Performa was made and was submitted to all the subjects. Study consisted of collection of information for psychosocial assessment using a questionnaire and clinical examination of malocclusion.Data regarding psychosocial impact of dental aesthetics was collected using a Psychosocial Impact of Dental Aesthetics Questionnaire (PIDAQ) given by Klages et al. It contains 23 items, 6 items from the Self-confidence Scale, 8 items from the Social Aspects Scale of the Orthognathic Quality of Life Questionnaire (OQLQ). These items were evaluated using a five-point Likert scale with numerical values 0= 'not at all', 1= 'a little', 2 = 'somewhat', 3 = 'strongly' and 4 = 'very strongly'.The responses were recorded by the examiner himself using the appropriate codes. All the oral examination procedures were carried out using sterile gloves, mouth mirror, tweezer and probe. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software.

RESULTS

Out of the 50 children examined, there were 60% (30) males and 40% (20) females.The mean age of the subjects examined was 13.18 years.On the whole, the mean Dental self-confidence score differed significantly among both male and female children across the age groups. Overall, the mean social impact score did not differ significantly among both maleand female subjects across the age groups.

Table 1: Dental self-confidence score

Age group	Dental self confidence		p- value
	Mean	SD	
12 years	12.12	3.28	0.001 (Significant)
13 years	13.67	3.85	
14 years	14.29	4.13	
15 years	16.48	4.85	

Table 2: Social impact mean scores

Age group	Social impact scores		p- value
	Mean	SD	
12 years	7.95	2.36	0.0885
13 years	8.12	3.21	
14 years	8.96	2.84	
15 years	7.89	2.16	

DISCUSSION

A craniofacial malformation results in a serious impairment of the normal anatomy of the skull, jaws, and the adjacent soft tissues and is an anomaly of embryonic development. These are the anomalies of head and face that interfere with the physical and mental wellbeing of the individual.The craniofacial structures are largely derived from the neural crest cells, a transient group of multipotent cells specified along the dorsal aspect of the neural tube, delaminated from the neural tube via an epithelial-mesenchymal transition. These cells migrate in streams along specific body segments and subsequently differentiate under the guide of many signaling pathways throughout their journey. The cranial neural crest cells delaminate from the anterior segment of the folded neural tube and migrate in a single wave to give rise to the majority of the craniofacial structures. The migration of cranial neural crest cells is influenced by their physical contact with one another.Alteration in any of these processes serves as a basis for these anomalies, collectively termed as neurocristopathies. The craniofacial structures are associated with an inconsistent number of birth defects due to the niceties involved in the genesis of a diverse collection of tissues present in a relatively small volume.[7- 10]Hence; the present study was conducted for assessing Psycho-social effects of malocclusion in patients seeking orthodontic treatment.

In a previous study conducted by Kalgotra S et al, authors assessed the effects of malocclusion in patients seeking orthodontic treatment- A cross-sectional study in Kashmiri population. A specially designed questionnaire was filled by 100 patients seeking Orthodontic treatment. Patients were allowed to mark multiple answers. Also, aesthetic component of IOTN was used for comparison of perception of treatment need for malocclusion between Orthodontist (professional) and patient. The patients ranged from 13-35 years of age with 43 male and 57 female patients. No statistically significant difference was found in perception of treatment need by the patient and the Orthodontist. 80% of all subjects reported for orthodontic treatment for aesthetic reasons. 57% of the patients were concerned with the problem, whereas 20% were unconcerned. 58% of the patient felt less confident as they were found to fall below the score of 5 on a scale of 10, whereas 65% patient felt that the malocclusion had a negative impact on their facial appearance.10% patients limited their activities such as holding away their

smile, 10% hid their teeth while smiling, 55% were concerned about what the opposite sex thought of their smile, 60% envied others with better smile, 47% wished they had a better smile.90% felt an improvement in their self-esteem at the mere thought of getting braces.Malocclusion has serious psycho-social effects on an individual, so during patient counseling and treatment planning, this aspect should be considered by the Orthodontist.[10]

Motloba DP et al assessed the psychosocial impact of dental aesthetics among a sample of patients seeking orthodontic treatment at Medunsa Oral Health Centre (MOHC), Sefako Makgatho Health Sciences University (SMU).One hundred and fifty patients (100 females and 50 males, aged 13-29 years) presenting for orthodontic treatment were prospectively enrolled. Following comprehensive orthodontic clinical examination, patients were requested to complete the Psychosocial Impact of Dental Aesthetics Questionnaire (PIDAQ), which was supplemented by a few additional items. The questionnaire demonstrated good reliability, with a Cronbach score of 0.85. Total psychological impact and particularly social impact were significantly greater among those older than 18 years than amongst the younger patients, and dental self-confidence was significantly higher among females than males. Self-perceived malocclusion had a significant positive association with aesthetic concern.Malocclusion, particularly when self-perceived, has a significant negative impact on the psychological wellbeing of patients, especially for those older and male. Orthodontic treatment may result in improved oral health-related quality of life and thus enhance the general psychological wellbeing of patients.[11]

CONCLUSION

From the above results, the authors conclude that dental aesthetics have a significant impact on the psychosocial aspects of human life. However, studies using photographs and models should be conducted.

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