Self-Esteem Analysis in Orthodontic Patients Prior To Initiating Their Treatment.

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ABSTRACT
Introduction: The overall objective was to analyze the self-esteem levels of patients undergoing orthodontic treatment. To understand the most frequent reason and determine if there is a relationship between orthodontic treatment for aesthetic reasons and low self-esteem levels.**Materials and Methods:** A cross-sectional, descriptive, and comparative study was conducted. The Rosenberg Self-Esteem Scale was administered through a questionnaire to 80 patients before receiving orthodontic treatment, meeting inclusion criteria. Statistical analysis included descriptive and comparative analyses using the Student's t-test, Fisher's exact test, and the Chi-square test.**Results**: The frequency of low self-esteem levels was 52.5%. 86.2% mentioned seeking treatment for aesthetic reasons. No relationship was found between patients with low self-esteem and orthodontic treatment for aesthetic reasons. There were no significant differences when analyzing self-esteem levels based on gender, age, or reason for consultation.**Conclusion:** There was no relationship between seeking orthodontic treatment for aesthetic reasons and low self-esteem levels.
Keywords: Self-esteem levels, orthodontic treatment, aesthetics.

I.   INTRODUCTION

This study is related to orthodontic treatment, which aims to establish harmony in the position of teeth to restore both facial aesthetics and altered stomatological functions due to malocclusion. Malocclusion is a variation in normal occlusion that can be aesthetically undesirable. (1) The World Health Organization includes malocclusion as a Disability-Inducing Dentofacial Anomaly, defining it as an anomaly causing disfigurement, affecting function, and requiring treatment if it hinders the patient's physical or mental well-being. (2)

The general objective was to analyze the self-esteem levels of patients undergoing orthodontic treatment. To understand the most frequent reason and determine if there is a relationship between orthodontic treatment for aesthetic reasons and low self-esteem. The Rosenberg Self-Esteem Scale allows for a quick and effective assessment of a person's overall self-esteem as it is easy to apply.

II.   MATERIALS AND METHODS

The sample included 80 patients 59 women, and 21 men, with age ranges from 9 to 48 years, attending the Orthodontics Clinic of the Faculty of Dentistry, Torreón Unit of the Autonomous University of Coahuila. Each questionnaire followed Dr. Morris Rosenberg's evaluation method.The statements 1, 3, 4, 7, and 10 were assessed as follows: Totally Agree (TA) = 3, Agree (A) = 2, Disagree (D) = 1, Totally Disagree (TD) = 0. The statements with an asterisk (*) 2, 5,

6, 8, and 9 were assessed as follows: TA = 0, A = 1, D = 2, TD = 3. (3)

The total of the values for each statement is summed, and a numerical value ranging from 0 to 30 is assigned for the measurement of overall self-esteem.

General data, such as gender and age, along with reasons for consultation and self-esteem values, were entered into a database using the Jamovi statistical software edition 1.6.8. Columns were assigned for gender, age, treatment reason, and self-esteem level. Patients were categorized by age: under 18 or 18 and older. Descriptive statistical data such as frequency, average, median, mode, standard deviation, standard error, and ranges were obtained. After calculating the mean self-esteem levels, patients were classified as having low self-esteem for values equal to or below the mean and normal self-esteem for values above the mean. Fisher's exact test and Chi-square test were performed to find a relationship between self-esteem levels and the treatment reason. Student's t-tests were conducted to identify differences in self-esteem levels based on treatment reason and age.

III.   RESULTS
Demographics of the total surveyed patient population. N=80
Orthodontic treatment reasons
The t-test was used to calculate the difference between the average self-esteem levels among male and female patients. No significant difference was found.

ANALYSIS OF SELF-ESTEEM LEVELS ON THE ROSENBERG SCALE BASED ON ORTHODONTIC TREATMENT MOTIVE.
The t-test was applied to find differences in self-esteem levels between patients seeking orthodontic treatment for aesthetic improvement and those seeking treatment for other reasons. No significant differences were found between the groups.

RELATIONSHIP BETWEEN ORTHODONTIC TREATMENT MOTIVE AND SELF-ESTEEM LEVEL
Using the mean (value of 21) as a reference, values were categorized into two groups: equal to or less than 21 for low self-esteem and greater than 21 for normal self-esteem. The prevalence of patients seeking treatment for aesthetic reasons with low self-esteem was 45%. The prevalence of patients seeking treatment for aesthetic reasons with normal self-esteem was 37.5%. Among patients with motives unrelated to aesthetic improvement and low self-esteem, the prevalence was 7.5% (Table 1). The prevalence of patients with motives unrelated to aesthetic improvement and high self-esteem was 1% (Table 2). Fisher's exact test was used to find a relationship between low self-esteem and the motive for seeking aesthetic improvement. No significant relationships were found.

MOTIVES	TOTAL	% TOTAL	% ACCUMULATED
AESTHETIC	59	73.8%	73.8%
AESTHETIC AND PREVENTIVE HEALTH	3	3.8%	77.5%
FUNCTIONAL PROBLEMS	8	10%	87.5%
MEDICAL REFERENCE	2	2.5%	90%
FUNCIONAL PROBLEMS AND MEDICAL REFERENCE	1	1.3%	91.3%
AESTHETIC AND FUNCTIONAL PROBLEMS	4	5%	96.3%
PREVENTIVE HEALTH	3	3.8%	100%

Table 1. ANALYSIS OF MOTIVES IN THE TOTAL SAMPLE.

ANALYSIS OF SELF-ESTEEM LEVELS ACCORDING TO THE ROSENBERG SELF-ESTEEM SCALE.

Table 2. DESCRIPTIVE ANALYSIS OF THE TOTAL SAMPLE N=80

AVERAGE	22
MEDIA	21
MODE	21
STANDARD DEVIATION	3.67
RANGE	17
MINIMUM	13
MAXIMUM	30
STANDARD ERROR	0.411

IV. DISCUSSION

The Rosenberg Self-Esteem Scale allows for a quick and effective assessment of a person's overall self-esteem due to its simplified design.

The main treatment motive was aesthetic improvement, expressed by 82.6% of patients, with 73.8% citing it as the sole motive and 8.8% indicating other motives in combination. Aesthetic improvement was the most frequent motive by gender (83% of female patients and 48% of male patients) and age (expressed by 85.8% of underage patients and 79% of adult patients).

Self-esteem was considered a psychological condition for evaluation, given its potential to predict health behavior. (4) The Rosenberg Self-Esteem Scale was selected for its simplicity, consisting of ten questions with four response options each.

The overall average self-esteem level was found to be 22, with a range of 13 to 30 and a mean of 21. Levels equal to or below the mean were categorized as low self-esteem, and levels above the mean were categorized as normal self-esteem, as in a previous study. (5) The prevalence of low self-esteem in the population was 52.5%. Fisher's exact test was then conducted to verify the existence of a relationship between patients seeking orthodontic treatment for aesthetic improvement and having low self-esteem. However, no significant relationship was found.

The high frequency of aesthetic improvement as a motive for orthodontic treatment indicates that patients perceive certain orofacial characteristics as deviating from societal aesthetic standards. Future research should evaluate which aesthetic deviations patients notice most, allowing for tailored treatment plans to enhance patient satisfaction and treatment success. Additionally, the prevalence of low self-esteem levels, in this study at 52.5%, indicates the need for a multidisciplinary approach to be incorporated into orthodontic treatment plans, investigating how low and high self-esteem levels influence the orthodontic treatment period and its conclusion. It is recommended to use a scale or adjust the Rosenberg Scale to find differences between overall and physical self-esteem levels.

Current research demonstrates that patients with dentofacial anomalies have low self-esteem (70.83%). (6)

These results align with those of Ramos Rangel, where high levels of low self-esteem were observed (97.1%). (7)

Extensive studies and research over time emphasize the importance of comprehensive stomatological treatment, providing valuable insights for a better understanding of patients and guiding improved daily practice. This, in turn, assists patients in achieving more acceptable self-esteem.

V. CONCLUSIONS

The study analyzes the emotional impact of orthodontic treatment on patients' lives, focusing on self-esteem. A total of 80 patients of different ages and genders seeking orthodontic treatment for aesthetic reasons were selected. The Rosenberg Self-Esteem Scale was used to assess patients' self-esteem. The main motive for seeking orthodontic treatment was aesthetic improvement, and a high prevalence of low self-esteem was observed in the studied population. However, no significant relationship was found between the aesthetic motive for treatment and low self-esteem. Future research is suggested to identify the most relevant aesthetic deviations for patients and develop appropriate treatment plans.

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