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Research Article

EFFECTS OF ORTHODONTIC PAIN ON QUALITY OF LIFE OF PATIENTS IN PAKISTAN

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Abstract:

Introduction: In orthodontics, researchers have assessed health-related quality of life (OHRQOL) in connection with orthodontic treatment outcomes; however, research on orthodontic patients QOL during their treatment is scarce. **Objectives of the study**: The main objective and focus of the study was to evaluate the effects of orthodontic pain on quality of life of patients in Pakistan.

Methodology: This cross-sectional study was conducted in DHQ hospital Gujranwala during 2018. The data were collected from 100 individuals of both genders. The exclusion criteria were patients with severe skeletal pattern (Class II or category III) UN agency needed orthognathic surgery and syndromic patients (cleft lips or surface or both). Patients were asked to complete questionnaires and to answer questions about pain and discomfort they had experienced during 1 month after the appliance insertion.

Results: The statistical significances of the differences between the groups were evaluated using the nonparametric tests. The paired means in time period analysis were statistically compared using the Wilcoxon signed-rank test. Chi-squared statistics was used to evaluate the statistical significance of the differences in prevalence between groups. $P \leq 0.05$ was considered statistically significant. Ninety-five percent patients felt pain or discomfort. After 1 day of appliance placement, more than 85% of patients experienced severe to mild pain whereas 9% of patients suffered very severe pain.

Conclusion: It is concluded that pain is one of the primary reasons for patients' noncompliance and is a major reason for missing appointments, which affects the quality of treatment and a significant factor affecting the OHRQOL of orthodontic patients.

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INTRODUCTION:

In orthodontics, researchers have assessed healthrelated quality of life (OHRQOL) in connection with orthodontic treatment outcomes; however, research on orthodontic patients OOL during their treatment is scarce. Orthodontic pain, the most cited negative effect arising from orthodontic force application, is a major concern for parents, patients, and clinicians. Studies have reported this reaction to be a major deterrent to orthodontic treatment and an important reason for discontinuing treatment. [1] Patient-focused care is an idea that has been presented as of late in healthcare systems. Among the fundamental components are a need to comprehend the patient's treatment needs, encounters, fulfillment and the apparent general nature of healthcare system [1]. With an expanding number of grown-up patients now looking for orthodontic treatment, there is a developing requirement for such research in orthodontics. To date, almost no work has been distributed assessing persistent encounters amid treatment in connection to the kind of machine being gotten.

Understanding focused care is an idea that has been presented as of late in healthcare systems. Among the primary components are a need to comprehend the patient's treatment needs, encounters, fulfillment and the apparent general nature of healthcare system [2]. With an expanding number of grown-up patients now looking for orthodontic treatment, there is a developing requirement for such research in orthodontics. To date, next to no work has been distributed assessing quiet encounters amid treatment in connection to the kind of machine being gotten.

Inconvenience is communicated as unsavory material sensations, feeling of requirement in the oral hole, extending of the delicate tissues, weight on the mucosa, uprooting of the tongue, and soreness of teeth and pain. [3] All orthodontic systems, for example, separator position, curve wire situation and enactments, use of orthopedic powers, and debonding produce torment in patients. Torment, incited by orthodontic treatment, for the most part could be classified as mellow and short-lasting. [4] However, a few patients do encounter serious agony, and even to the degree that rumination of sustenance and tooth brushing may be impeded. Agony is a subjective reaction and shows substantial individual variations. [5] Patients' self-confidence might be affected by visibility of the appliance and speech impairment, especially during social interactions when attention is focused on the face, eyes, and mouth. Poor oral health can affect physical, psychological, and social conditions, which in turn affect patients' quality of life (QOL) [6]. OHRQOL is defined as "the absence of negative impacts of oral conditions on social life and a positive sense of dento facial self-confidence." With regard to fixed orthodontic appliance therapy, understanding the consequences and discomforts during orthodontic procedures affords patients more realistic expectations regarding orthodontic treatment and may increase adherence to treatments [7-8].

Objectives of the study

The main objective and focus of the study was to evaluate the effects of orthodontic pain on quality of life of patients in Pakistan.

METHODOLOGY:

This cross-sectional study was conducted in DHQ hospital Gujranwala during 2018. The data were collected from 100 individuals of both genders. The exclusion criteria were patients with severe skeletal pattern (Class II or category III) UN agency needed orthognathic surgery and syndromic patients (cleft lips or surface or both). Patients were asked to complete questionnaires and to answer questions about pain and discomfort they had experienced during 1 month after the appliance insertion. The questions on the intensity of pain contained 3 series of horizontal visual analog scales on that the patient marked the intensity of pain once one day, 1 week, and one month. It had been doable to decide on answers to the queries on a zero-4 score scale as follows: 0 - No pain/discomfort, one delicate pain/discomfort, a pair of - moderate pain/discomfort, and three - severe pain/discomfort, four - terribly severe pain/discomfort.

Statistical analysis

Student's t-test was performed to evaluate the differences in roughness between group P and S. Twoway ANOVA was performed to study the contributions. A chi-square test was used to examine the difference in the distribution of the fracture modes (SPSS 19.0 for Windows, SPSS Inc., USA).

RESULTS:

The statistical significances of the differences between the groups were evaluated using the nonparametric tests. The paired means in time period analysis were statistically compared using the Wilcoxon signed-rank test. Chi-squared statistics was used to evaluate the statistical significance of the differences in prevalence between groups. $P \le 0.05$ was considered statistically significant. Ninety-five percent patients felt pain or discomfort. After 1 day of appliance placement, more than 85% of patients experienced severe to mild pain whereas 9% of patients suffered very severe pain. (Table 1).

score	Pain intensity	Day 1	Day 7	1 month
		n (%)	n (%)	n (%)
0	No pain	4.5	21	32
1	Moderate pain	23	24	35
2	Mild pain	22	31	54
3	Severe pain	44	5.5	0.5
4	Very high pain	10	2	2
	Chi-squared test	P<0.001		

Table 1: Pain intensity mean score at different time periods after the appliance insertion

During the 1 month of fixed orthodontic treatment, almost all domains in the OHRQOL, i.e., functional limitation, physical pain, physical disability, psychological disability, and psychological discomfort, were significantly affected following insertion of fixed orthodontic appliances, except physically challenged domain and social disability (table 2).

Table 2: Frequency distribution of reported impacts on theactivities of the Oral Health Impact Profile and orthodontic treatment status

Questions	Never	Seldom	Sometime	Often	Always
	%	%	%	%	%
Problem in pronunciation	10.0	0.5	86.0	1.1	9.1
Sense of taste is effected	0.5	5.1	86.1	0	9.4
Pain in the mouth	5.0	2.0	1.0	2.0	90.0
Uncomfortable to eat food	4.5	0	1.5	1.0	93.0
Felt tense	4.5	12.5	15	6.0	62.5
Unsatisfactory diet	6.7	1.5	92.0	0	2.5
Interruption in meals	4.5	7.0	30.0	59.5	6.2
Difficulty in relaxation	42.1	5.5	45.5	3.0	2.6
Feel irritation in talking	5.6	5.0	92.0	0	1.0
Difficulty in routine life	84.6	6.1	5.5	0	3.5
Unable to do work properly	89.0	5.5	4.5	0	1.5

More than 85% of patients experienced problem in speech, more than 95% had problem in eating and experienced pain, 60%-65% of patients experienced anxiety, embarrassment, and difficulty to relax. There was a strong correlation between patients who indicated more pain (moderate to severe pain) during treatment with higher scores for the OHIP-14 impact profile (*P*< 0.05).

DISCUSSION:

The most common and problematic sequela of orthodontic treatment is pain and discomfort. [9-11] The intensity of orthodontic pain is comparable to the greatest intensity of general pain felt with a wasp sting or an ankle sprain. Between 87% and 95% of adolescents experience pain during fixed orthodontic treatment, especially during the first 24 h. [12-15] Moreover, 39%–49% experience pain during every step of the treatment or after appliance removal. Therefore, pain is a major deterrent to

orthodontic treatment, a factor that reduces patient compliance during treatment, and a reason that patients discontinue treatment or miss appointments According to 90% of patients, orthodontic treatment is painful, and 30% might prematurely cease treatment because of the pain. [16] Despite its substantial clinical value, this area has been surprisingly neglected in the literature, educational programs, and practice. Orthodontists usually underestimate the degree of pain caused by treatment and are not well equipped to assess if and when their patients might need painkillers. [2] Pain has been assessed in only a handful of studies. According to the literature, 70%-95% of orthodontic patients experience pain during treatment. [17] About 11% of patients maintain that treatment is constantly painful. [18] It has been suggested that psychological factors may influence patients' adaptation to pain and discomfort during orthodontic treatment. Recent research data indicate that patients may adapt to continuous pain with the

progression of treatment as the sensations cease or at least disappear from their focus of attention. A clinician must precisely know and explain to patient how much time is needed for such adaptation to occur. [19]

CONCLUSION:

It is concluded that pain is one of the primary reasons for patients' noncompliance and is a major reason for missing appointments, which affects the quality of treatment and a significant factor affecting the OHRQOL of orthodontic patients.

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