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STUDY TO KNOW OUTCOME OF ORTHODONTIC TREATMENT AND ITS EFFECT ON PERIODONTAL HELATH

[1]Dr. Muhammad Mahboob Sabir, [2]Dr. Anam Asif, [3]Dr. Momina Tahir

[1]University College of Dentistry, The University of Lahore

[2]The University of Lahore

[3]Nishtar Institute of Dentistry Multan

Abstract:

Objective: *This study was conducted to evaluate the effects of orthodontic treatment of periodontal health of young patients.*

Study design: *Simple random sampling method.*

Location and duration: *In the Dental department of Nishter Hospital, Multan form March 2016 to August 2017 for Eighteen months' duration.*

Methods: *After treatment of Six months and Eighteen Months Periodontal examination was done. To evaluate the periodontal status of indexed teeth CPITN was done. Chi square test and SPSS version 17 were used to compare data and for analysis purpose.*

Findings: *The results showed that patients who received orthodontic treatment showed periodontal disease symptoms. After or Intra orthodontic treatment 0 patients showed a strong correlation between the periodontal disease progression and the value of p, pre-patient comparisons, and intra ortho, pre ortho 0.02 and p values revealed during orthodontic treatment.*

Conclusion: *The P value pre- and post-0.456 suggests a direct relationship between the two patients. Attitude, practice and Knowledge regarding gum health in patients of orthodontic were insufficient.*

Key words: *orthodontic treatment, periodontal health, community periodontal index for treatment.*

Corresponding Author:

Dr. Muhammad Mahboob Sabir,

University College of Dentistry, The University of Lahore

QR code

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INTRODUCTION:

In orthodontic patients, oral hygiene importance is always strengthening to halt any additional periodontal disease. In oral hygiene absence, plaque collection in the components of the orthodontic device leads to the destruction of periodontal tissues. It is difficult to maintain oral hygiene due to the wide area of the coated teeth and the complicated structure of the orthodontic devices. During orthodontic treatment, oral hygiene Provision will help to promote good gum health reflected in the final outcome of orthodontic treatment. However, gum health information among orthodontic patients is not enough. Oral hygiene care is caused by neglect of the patients themselves or lack of knowledge. Patients do not receive adequate instruction, which may be one of the main reasons for the patient's inappropriateness. However, despite the appropriate instructions, many people do not follow the instructions

However, many do not have knowledge about care. It is important to compile instructions and motivate them to retain oral health. It is mostly necessary to evaluate orthodontic patients' knowledge about gingival health. The purpose of this study was to evaluate the patients periodontal status (orthostatic orthodontic treatment at the beginning of treatment (pre-ortho), after six months of treatment (intra ortho).

MATERIALS AND METHODS:

This study was carried out the Dental department of Nishter Hospital, Multan form March 2016 to August 2017 for Eighteen months duration. Fifty orthodontic patients were selected from the orthodontic department by simple random sampling method. Inclusion criteria were to select patients with all the teeth separate from the third molars. Oral prophylaxis was performed at the beginning of all patients' orthodontic treatment and oral hygiene instructions were taken. Patients were examined after Six and Eighteen months of treatment before beginning orthodontic treatment and using CPITN periodontal health was assesse around the index teeth using probes. To achieve this Goal, WHO has taken steps to train Periodontology department officers and sent to the orthodontics department for collection of data. Using CPITN, data was collected as shown in Annex 1. All data which was recorded analyzed statistically using the data analyzer of the SPSS version 16 and several differences were made using the chi-square test.

RESULTS:

Ten of the 50 patients were separated by the reason for lack of co-operation, and among the remaining 40 patients, male were 15 and female were 25, as shown in Figure 1.

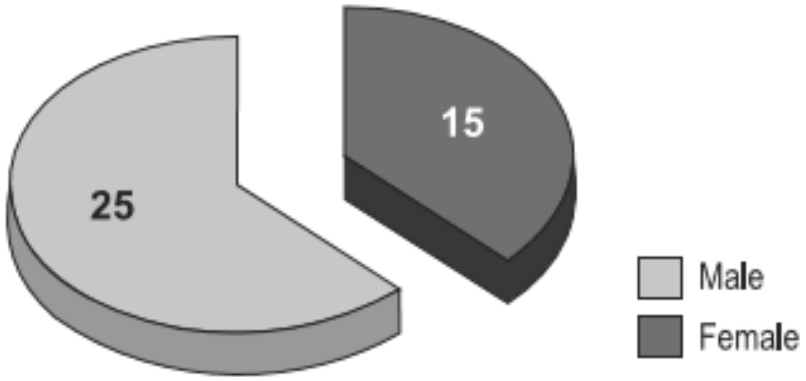

Fig 1: Gender Distribution: Male to Female Patient Ratio

The patient's age range was between 12 and 26 years with 17.99 average value.

Comparison of Intra ortho and Preoperative ortho treatment (Table 1)

Table 1 shows the Inta-ortho and Pre-ortho patients comparison of patients. A correlation between p value, orthodontic treatment and periodontal disease progression is given.

TABLE 1 : PRE-ORTHO CPITN – INTRA-ORTHO CPITN CROSS TABULATION COUNT

Intra-Ortho →		CPITN Score			Total No. of patients	P Value
Pre-Ortho	↓	1	2	3		
CPITN Score	1	17	12	0	29	
	2	4	4	1	9	
	3	0	1	1	2	
Total No. of patients		21	17	2	40	.02

P<0.05

Comparison of Intra-ortho and Post ortho treatment (Table 2)

Patients data Comparison after and intra orthodontic treatment is given in Table 2, indicating that the CPITN score increases at the end of treatment or during treatment. P 0 indicates a significant association between the2.

TABLE 2: INTRA-ORTHO CPITN – POST-ORTHO CPITN CROSS TABULATION COUNT

Post-Ortho →		CPITN Score				Total No. of patients	P Value
Intra-Ortho	↓	1	2	3	4		
CPITN Score	1	14	7	0	0	21	
	2	1	13	2	1	17	
	3	1	0	0	1	2	
Total No. of patients		16	20	2	2	40	0

P<0.05

Comparison of preoperative and post-ortho treatment (Table 3)

The disruption of periodontal tissue has increased in patients from the onset of orthodontic treatment to the end of treatment. This was confirmed by more patients at the end of orthodontics who achieved a higher CPITN score than those at baseline.

TABLE 3: PRE-ORTHO CPITN – POST-ORTHO CPITN CROSS TABULATION COUNT

Post-Ortho →		CPITN Score				Total No. of patients	P Value
Pre-Ortho	↓	1	2	3	4		
CPITN Score	1	12	14	2	1	29	
	2	2	6	0	1	9	
	3	2	0	0	0	2	
Total No. of patients		16	20	2	2	40	0.456

P<0.05

These results suggest that there is a pronounced relationship between progression of periodontal disease and with orthodontic treatment.

DISCUSSION:

Periodontal status in this study was evaluated after and before fixed orthodontic devices placement in selected patients for orthodontic treatment. During orthodontic treatment, a study was conducted to clinically evaluate the periodontium status around bands placed on molar not only around devices. The hypothesis is that in the periodontal status, there is a change receiving fixed orthodontic treatment. The results of the study supported the hypothesis and showed a obvious change in the patients periodontal status. The patients data shows that fixed orthodontic treatment give $p = 0.00$. There was a significant change in the CPITN score (detection, calculation and bleeding in the depth of the bag) after placement of stationary devices. This is consistent with the findings of Naranjo et al. Bracket placement has reported that biofilm accumulation in cross-linked regions affects the ecological environment. There was a significant rise in gingival index and plaque in the experimental study group, resulting in more inflammation and bleeding that changed the

periodontal status. Similar results were obtained by the ristic and collaborators because there was a significant rise in microbiological and clinical parameters after three months of placement of the stationary device. There was also a huge variation in the Intra ortho and Pre-ortho groups scores. control group ($p < 0.05$). For this reason, it has been found that the placement of stationary devices leads to an increase in the TUFE score. A change in the TÜFE score was observed in both anterior and posterior segments ($p < 0.05$). For this reason, not only parentheses, but also bands affecting periodontal health have been found. Similar observations have been reported by others. For this reason, it may be good to subtract the fixed brackets from the center of the patient to eliminate plaque accumulation before and after half of a possible violence factor between orthopedic patients. Most young patients demand orthodontic treatment and often suffer from plaque-associated gingivitis. The indication of periodontal disease in adults is an obstacle in the derivation of orthodontic treatment. Almost all fixed orthodontic patients develop gum disease during treatment. Gingival enlargement and inflammation is usually temporary and heals after weeks of rest. Temporarily constricted orthodontic appliances cause less gingivitis than band devices. Of course, it has been shown that young people have worse gums than adults during orthodontic treatment. The main purpose in front of any orthodontic intervention is to maintain the periodontal state. Good gingival health position during orthodontic treatment will provide the right treatment result.

CONCLUSION:

Orthodontic treatment Giving adequate instructions for the protection of gum health plays a vital role in this respect. Motivating and having oral hygiene practices in youth groups will definitely improve oral hygiene standards. Many patients do not know exactly how to provide high oral hygiene standards that can lead to excellent results of orthodontic treatment. Proper brushing is ideal for good gum health when long-lasting brushing deforms the gum tissue. Weakening diseases such as wear are basically caused by inadequate brushing. As for the conscience of gum health, relatively little is known, many of whom are unaware.

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