CHAPTER IV
RESULTS

4.1 General characteristics of study subjects

4.1.1 Descriptive data demonstrated age of subjects in both groups

Table 2 demonstrated means, standard deviations, and median of age for patients in OTA group and COS group (totaling 34, consisting of 27 OTA subjects, and 7 COS subjects). The cleft lip and palate subjects were between 11 and 30 years of age with mean age 14.85 ± 4.10 years in the OTA group and 17.86 ± 6.62 years in the COS group. Table 3 demonstrated age distribution of all subjects in both groups.

Table 2 Age of subjects in orthodontic treatment alone and orthodontic treatment combined with orthognathic surgery group

	OTA group (n=27)					COS group (n=7)				
	Mean	SD	Median	Min	Max	Mean	SD	Median	Min	Max
Age (years)	14.85	4.10	13	11	28	17.86	6.62	16	11	30

Table 3   Age distribution of subjects

Age (years)	All samples (cases)	OTA group (cases)	COS group (cases)
11	6	5	1
12	6	6	0
13	4	3	1
14	2	1	1
15	2	2	0
16	3	2	1
17	2	2	0
18	4	3	1
21	1	1	0
22	1	1	0
23	1	0	1
28	1	1	0
30	1	0	1

4.1.2   Descriptive data demonstrated gender of subjects in both groups

Table 4 presented the number and percentage of gender for patients in the OTA group (total 27 consisting of 9 males and 18 females) and COS group (total 7, consisting of 3 males and 4 females).

Table 4   Gender of subjects in orthodontic treatment alone and orthodontic treatment combined with orthognathic surgery group

Gender	OTA group (n=27)				COS group (n=7)			
	Male		Female		Male		Female	
	n	%	n	%	n	%	n	%
	9	33.33	18	66.67	3	42.86	4	57.14

4.2   Comparison of PAR Index score between orthodontic treatment alone group and orthodontic treatment combined with orthognathic surgery group

4.2.1   Pre-treatment PAR Index score

The pre-treatment PAR Index score was significantly greater in the COS group (39.86 ± 9.35) than in the OTA group (32.26 ± 7.96) at p<0.05 showing that the severity of malocclusion in the COS group was greater than in the OTA group (Table 5).

4.2.2   Post-treatment PAR Index score

The post-treatment PAR Index score for the OTA group (2.67 ± 2.27) was not significantly different from the COS group (2.43 ± 1.51) at p>0.05 (Table 5). This results presented that the treatment outcomes were similarly between the OTA group and the COS group.

4.2.3   Improvement of PAR Index score

The PAR Index score improvements were not significantly different for the OTA group (29.59 ± 8.79) and COS group (37.43 ± 8.79) at p>0.05 (Table 5). This demonstrated that the amount of malocclusion correction between two groups was not different.

Table 5   Comparison of pre-treatment, post-treatment and improvement in PAR Index score between orthodontic treatment alone and orthodontic treatment combined with orthognathic surgery group by Mann-Whitney U Test

PAR score	OTA group (n=27)		COS group (n=7)		Mean difference	p-value
	Mean	SD	Mean	SD		
Pre-treatment	32.26	7.96	39.86	9.35	-7.60	0.048*
Post-treatment	2.67	2.27	2.43	1.51	0.24	1.000
Improvement	29.59	8.79	37.43	8.79	-7.84	0.054

* p-value < 0.05 indicated statistical significance.

4.3 **Comparison of PAR Index score improvement categories between orthodontic treatment alone group and orthodontic treatment combined with orthognathic surgery group**

There was no significant difference in the degree of PAR Index score improvements between the OTA group and COS group. Two cases (7.41%) in the OTA group presented excellent orthodontic treatment outcomes whereas other cases (92.59%) were classified as having great orthodontic improvement. For the COS group, all cases (100%) demonstrated great reduction of malocclusion (Table 6).

Table 6 Comparison of improvement categories between orthodontic treatment alone and orthodontic treatment combined with orthognathic surgery group by Fisher's exact test

PAR improvement Categories	OTA group (n=27)		COS group (n=7)		p-value
	n	%	n	%	
Total improved	2	7.41	0	0.00	
Greatly improved	25	92.59	7	100.00	1.000
Improved	0	0.00	0	0.00	
Worse-no difference	0	0.00	0	0.00	