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RESEARCH ARTICLE

PATIENT`S AND PARENT`S PERCEPTION OF THREE DIFFERENT TYPES OF TREATMENT MODALITIES FOR CLASS 2 CORRECTION: A SURVEY BASED STUDY

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Abstract

Objective: To evaluate patient`s and parent`s perception of removable functional, fixed functional, and fixed mechanotherapy appliances (braces) and to compare their impacts on anxiety and discomfort during treatment in different age groups and genders.

Method: Information was obtained through a questionnaire that included items believed to be consistent with compliance with orthodontics. A survey was used to measure the experiences of patients and family. Three groups were formed: functional removable (RF), functional fixed (FF) and fixed mechanotherapy (braces). For the patients and their families, two different questionnaires were used that included the necessary context. Data analysis was carried out using Chi-square, Mann-Whitney U, and Kruskal-Wallis tests.

Results: It took less time for patients to adjust to the Fixed functional system. Patients in the removable group found feeding difficulties. Adolescents with a removable appliance who had undergone effective orthodontic treatment had difficulty controlling their saliva. The expectations of patients and parents were found to be compatible with one another.

Conclusion: Adolescents with set equipment who had undergone effective orthodontic treatment had more difficulties with their daily lives. Orthodontists should be mindful of this effect of successful orthodontic treatment and should inspire patients on a regular basis by reminding them of the changes to be made by repairing malocclusion.

Introduction:-

Class II malocclusion occurs as a result of prognathic maxilla, retrognathic mandible, or a combination of both (1). Due to mandibular retrognathism, the main goal of Class II care is to improve mandibular development during adolescence in the sagittal direction. And if the growth is complete, we either go to surgery or camouflage. Various functional appliances for this effect have been developed. Compared to their removable forms, fixed functional devices need far less patient cooperation (2–6).

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These devices have advantages and disadvantages when it comes to oral hygiene, soft tissue irritations, and mandibular motion limitations (7). The effects of functional appliances on skeletal and dental tissues were studied extensively, whereas the perception of these appliances by patients and parents was not questioned (8–10).
Patients may have pain and discomfort at different levels during functional appliance treatment or fixed orthodontics. The orthodontic devices have been shown to contribute to oral mucosal stress, strain of soft tissue, oral constriction, toothache, and discomfort (11,12). It was also noted that removable devices can also contribute to fatigue or functional speech and respiratory disorders and may affect the appearance of the face (13).

To increase appliance efficiency and patient compliance, it is beneficial to inform patients about possible problems and discomfort throughout functional treatment (14). Patient cooperation is known to decline due to discomforts such as oral cavity narrowing and inflammation of soft tissue when orthodontic devices are introduced (15,16). Speech problems among patients can also be found, and the presence of devices in social interactions may be uncomfortable (16,14,17).

All of these unwanted effects negatively affect the degree of patient adherence, and it is necessary to explain potential discomforts and how to remove them (18,19). In this context, it is important for orthodontists to choose the correct patient appliance (20). In addition to the patients ' intraoral conditions, acceptability should be taken into account when choosing the correct orthodontic appliances. One way to evaluate an appliance's acceptability is to conduct surveys asking about patients and their parents ' experiences (21,22).

There are no research aimed at exploring the understanding of patients and parents of removable functional appliances, fixed functional appliances and fixed mechanotherapy to the best of the authors ' awareness. Consequently, the purpose of this study was to plan and perform a survey to compare the experiences of patients and their parents with respect to different user groups of appliances.

Method:-

Study material comprised a questionnaire given to patients who were undergoing orthodontic treatment at various orthodontic clinics of Delhi NCR. The participants were informed about the aim of the survey, and the subjects and their guardians signed an informed consent form.

The survey questions were designed to be as simple as possible so that the participants could easily comprehend them. A total of 214 patients (mean age 13.25 years) and parents (mean age 44.23 years) participated in the study, and the outcomes were evaluated for three different groups. Fixed Functional (43 patients, mean age 14 years), Removable Functional (42 patients, mean age 11 years), and Fixed Mechanotherapy (39 patients, mean age 16 years) were used.

The questionnaire consisted of 30 questions with multiple choices and 1 question of the rating scale. The questions were about feeling tension or pressure factors, tooth sensitivity, pain, speech problems, swallowing difficulties, and lack of public trust. The questionnaire was given to the patients six months after the therapy had ended and patients and their parents filled out separately in the counseling room. They answered the multiple choice questions as “always,” “often,” “sometimes,” “rarely,” or “never” or as “I totally agree,” “I agree,” “unsure,” “I do not agree,” or “I strongly disagree.

Using demographic distribution and chi-square analysis, the results were interpreted. The chi-square test was used to assess the discrepancies between the three groups in terms of pain, disabilities and receiving the care by the patients. The p value meaning rate was set at 0.05. Checking for natural data distribution was used by Kolmogorov-Smirnov and Shapiro-Wilk. The Kruskal-Wallis non-parametric method was used to determine the adaptation period for the use of the appliance. The Mann-Whitney U test was used in the intergroup analysis because the data were not normally distributed.

Personal Information

Age:

Gender: female ❑ male ❑

Q.1. Were you aware of your orthodontic problem before you started the treatment?

Yes ( ) No ( )

Q.2. I was informed by the orthodontist in detail about the treatment plan.

I totally agree ( ) I agree ( ) Unsure ( ) I do not agree ( ) I strongly disagree ( )

Q.3. I was informed by the orthodontist about the functional appliance that I would use.

I totally agree ( ) I agree ( ) Unsure ( ) I do not agree ( ) I strongly disagree ( )

Q.4. I was anxious when I first saw the appliance.

I totally agree ( ) I agree ( ) Unsure ( ) I do not agree ( ) I strongly disagree ( )

Q.5. I was informed by the orthodontist about how to use and take care of the appliance.

I totally agree ( ) I agree ( ) Unsure ( ) I do not agree ( ) I strongly disagree ( )

Q.6. How long does it take to get used to the appliance?

0 weeks 2 weeks 4 weeks 6 weeks 8 weeks

Q.7.If you had the chance to be treated with another device, would you prefer an alternative treatment?

Yes ( ) No ( )

Q.08. When using an appliance,

	never	rarely	sometimes	often	always
Q.08.01. I had a problem with eating.					
Q.08.02. I had difficulty in drinking.					
Q.08.03. I was uncomfortable with my vision.					
Q.08.04. I was struggling with pronunciation.					
Q.08.05. I had problems sleeping.					
Q.08.06. I was embarrassed to eat in public.					
Q.08.07. I was having difficulty studying.					
Q.08.08. It caused pain in my teeth.					
Q.08.09. It caused pain in my jaw.					
Q.08.10. It injured my cheek/lips.					
Q.08.11. I was having trouble opening my mouth.					
Q.08.12. It was hard to keep the appliance clean.					
Q.08.13. I felt that others were constantly looking at my teeth.					
Q.08.14. I had to use medication for the pain.					
Q.08.15. It caused pain in my temporomandibular joints.					
Q.08.16. I had trouble controlling my saliva.					
Q.08.17. I had problems such as falling or breaking.					

Q.09. I am aware of the changes in my facial profile after using the appliance.

I totally agree ( ) I agree ( ) Unsure ( ) I do not agree ( ) I strongly disagree ( )

Q.10. How do you define your final feelings about the use of the appliance?

Very good ( ) Good ( ) Unsure ( ) Poor ( ) Very poor ( )

Figure 1:- Questionaire used in the study.

Results:-

Fixed functional and removable functional adjustment periods were significantly different in the perception of the parents (p=0.004). The average adaptation times for Fixed functional, removable functional, and braces are 3.33 weeks, 2.14 weeks, and 2.46 weeks, respectively, according to the parents, whereas the appliance with the longest adaptation period was removable with 3.88 weeks (p<0.001) functional. A total of 33.1 percent of parents were unaware of their children's orthodontic conditions, and 38.7 percent of patients were unaware of the disorders they experienced.

37.9 percent of patients said their malocclusion had absolutely no effect on their speech prior to treatment. There were no difficulties in chewing or biting, according to 31.5 percent of the family, and the patients ' responses were in line with that opinion. The patients in the removable operational group were found to be nervous among the three groups when they first saw the unit (p<0.001). The appliance user group with the least anxiety was the braces (fixed mechanotherapy) group, taking into account both the patients and their family.

Table 1:- Percentages of patients' and parents' responses on the questionnaires.

questi	answer	PATIENT	PARENT

on number	s	Braces n (% among respondents)	FF n (% among respondents)	RF n (% among respondents)	TOTAL n (% among respondents)	Braces n (% among respondents)	FF n (% among respondents)	RF n (% among respondents)	TOTAL n (% among respondents)
Q.01	yes	26 (66.7)	28 (65.1)	22 (52.4)	76 (61.3)	25 (64.1)	27 (62.8)	31 (73.8)	83 (66.9)
	no	13 (33.3)	15 (34.9)	20 (47.6)	48 (38.7)	14 (35.9)	16 (37.2)	11 (26.2)	41 (33.1)
Q.02	strongly agree	23 (59.0)	29 (67.4)	27 (64.3)	79 (63.7)	26 (66.7)	27 (62.8)	29 (69)	82 (66.1)
	agree	10 (25.6)	11 (25.6)	12 (28.6)	33 (26.6)	9 (23.1)	12 (27.9)	10 (23.8)	31 (25)
	unsure	5 (12.8)	3 (7.0)	3 (7.1)	11 (8.9)	3 (7.7)	3 (7)	3 (7.1)	9 (7.3)
	disagree	1 (2.6)	0 (0.0)	0 (0.0)	1 (0.8)	1 (2.6)	1 (2.3)	0	2 (1.6)
Q.03	strongly agree	26 (66.7)	30 (69.8)	26 (61.9)	82 (66.1)	23 (59)	24 (55.8)	24 (57.1)	71 (57.3)
	agree	10 (25.6)	13 (30.2)	11 (26.2)	34 (27.4)	12 (30.8)	19 (44.2)	15 (35.7)	46 (37.1)
	unsure	3 (7.7)	0 (0.0)	5 (11.9)	8 (6.5)	4 (10.3)	0	3 (7.1)	7 (5.6)
Q.05	strongly agree	25 (64.1)	27 (62.8)	27 (64.3)	79 (63.7)	26 (66.7)	24 (55.8)	24 (57.1)	74 (59.7)
	agree	14 (35.9)	13 (30.2)	12 (28.6)	39 (31.5)	13 (33.3)	13 (30.2)	15 (35.7)	41 (33.1)
	unsure	0 (0.0)	1 (2.3)	3 (7.1)	4 (3.2)	0	3 (7)	3 (7.1)	6 (4.8)
	disagree	0 (0.0)	2 (4.7)	0 (0.0)	2 (1.6)	0	3 (7)	0	3 (2.4)
Q.10	excellent	0 (0.0)	1 (2.3)	1 (2.4)	2 (1.6)	3 (7.7)	4 (9.3)	1 (2.4)	8 (6.5)
	good	20 (51.3)	25 (58.1)	30 (71.4)	75 (60.5)	22 (56.4)	28 (65.1)	24 (57.1)	74 (59.7)
	unsure	8 (20.5)	8 (18.6)	1 (2.4)	17 (13.7)	6 (15.4)	6 (14)	5 (11.9)	17 (13.7)
	poor	8 (20.5)	9 (20.9)	5 (11.9)	22 (17.7)	7 (17.9)	5 (11.6)	9 (21.4)	21 (16.9)
	very poor	3 (7.7)	0 (0.0)	5 (11.9)	8 (6.5)	1 (2.6)	0	3 (7.1)	4 (3.2)
Q.11	never	10 (25.6)	28 (65.1)	9 (21.4)	47 (37.9)	11 (28.2)	28 (65.1)	9 (21.4)	48 (38.7)
	rarely	14 (35.9)	6 (14.0)	14 (33.3)	34 (27.4)	18 (46.2)	8 (18.6)	13 (31)	39 (31.5)
	sometimes	11 (28.2)	8 (18.6)	13 (31.0)	32 (25.8)	9 (23.1)	5 (11.6)	14 (33.3)	28 (22.6)
	often	4 (10.3)	1 (2.3)	5 (11.9)	10 (8.1)	1 (2.6)	2 (4.7)	4 (9.5)	7 (5.6)
	always	0 (0.0)	0 (0.0)	1 (2.4)	1 (0.8)	0	0	2 (4.8)	2 (1.6)
Q.12	never	13 (33.3)	25 (58.1)	1 (2.4)	39 (31.5)	11 (28.2)	23 (53.5)	0	34 (27.4)
	rarely	7 (17.9)	10 (23.3)	9 (21.4)	26 (21.0)	7 (17.9)	11 (25.6)	9 (21.4)	27 (21.8)
	sometimes	18 (46.2)	7 (16.3)	21 (50.0)	46 (37.1)	19 (48.7)	8 (18.6)	24 (57.1)	51 (41.1)
	often	1 (2.6)	1 (2.3)	9 (21.4)	11 (8.9)	2 (5.1)	1 (2.3)	8 (19)	11 (8.9)
	always	0 (0.0)	0 (0.0)	2 (4.8)	2 (1.6)	0	0	1 (2.4)	1 (0.8)
Q.13	never	14 (35.9)	22 (51.2)	3 (7.1)	39 (31.5)	8 (20.5)	22 (51.2)	3 (7.1)	33 (26.6)
	rarely	10 (25.6)	15 (34.9)	20 (47.6)	45 (36.3)	17 (43.6)	8 (18.6)	18 (42.9)	43 (34.7)
	sometimes	15 (38.5)	6 (14.0)	13 (31.0)	34 (27.4)	11 (28.2)	12 (27.9)	17 (40.5)	40 (32.3)
	often	0 (0.0)	0 (0.0)	5 (11.9)	5 (4.0)	3 (7.7)	1 (2.3)	2 (4.8)	6 (4.8)
	always	0 (0.0)	0 (0.0)	1 (2.4)	1 (0.8)	0	0	2 (4.8)	2 (1.6)
Q.14	never	12 (30.8)	15 (34.9)	2 (4.8)	29 (23.4)	13 (33.3)	13 (30.2)	3 (7.1)	29 (23.4)
	rarely	12 (30.8)	13 (30.2)	16 (38.1)	41 (33.1)	11 (28.2)	10 (23.3)	19 (45.2)	40 (32.3)
	sometimes	11 (28.2)	5 (11.6)	20 (47.6)	36 (29.0)	10 (25.6)	12 (27.9)	15 (35.7)	37 (29.8)
	often	3 (7.7)	5 (11.6)	1 (2.4)	9 (7.3)	4 (10.3)	3 (7)	4 (9.5)	11 (8.9)
	always	1 (2.6)	5 (11.6)	3 (7.1)	9 (7.3)	1 (2.6)	5 (11.6)	1 (2.4)	7 (5.6)

Q.15	never	4 (10.3)	9 (20.9)	0 (0.0)	13 (10.5)	2 (5.1)	8 (18.6)	0	10 (8.1)
	rarely	13 (33.3)	8 (18.6)	14 (33.3)	35 (28.2)	13 (33.3)	11 (25.6)	21 (50)	45 (36.3)
	sometimes	16 (41.0)	18 (41.9)	18 (42.9)	52 (41.9)	18 (46.2)	16 (37.2)	13 (31)	47 (37.9)
	often	4 (10.3)	5 (11.6)	7 (16.7)	16 (12.9)	5 (12.8)	5 (11.6)	6 (14.3)	16 (12.9)
	always	2 (5.1)	3 (7.0)	3 (7.1)	8 (6.5)	1 (2.6)	3 (7)	2 (4.8)	6 (4.8)

Braces:- Fixed Mechanotherapy;FF:fixed functional;RF:removable functional.

Table 2:- Percentages of patients' and parents' responses on the questionnaires and p-values of significance tests of changes in relation to the three groups.

question number	answers	PATIENT					PARENT				
		Braces n (% among respondents)	FF n (% among respondents)	RF n (% among respondents)	TOTAL n (% among respondents)	p*	Braces n (% among respondents)	FF n (% among respondents)	RF n (% among respondents)	TOTAL n (% among respondents)	p*
Q.04	strongly agree	9 (23.1)	15 (34.9)	30 (71.4)	54 (43.5)	<0.001	9 (23.1)	15 (34.9)	30 (71.4)	54 (43.5)	<0.001
	agree	14 (35.9)	12 (27.9)	11 (26.2)	37 (29.8)		13 (33.3)	11 (25.6)	10 (23.8)	34 (27.4)	
	unsure	7 (17.9)	12 (27.9)	1 (2.4)	20 (16.1)		7 (17.9)	10 (23.3)	2 (4.8)	19 (15.3)	
	disagree	7 (17.9)	3 (7.0)	0 (0.0)	10 (8.1)		8 (20.5)	7 (16.3)	0	15 (12.1)	
	strongly disagree	2 (5.1)	1 (2.3)	0 (0.0)	3 (2.4)		2 (5.1)	0	0	2 (1.6)	
Q.07	yes	22 (56.4)	22 (51.2)	25 (59.5)	69 (55.6)	0.735	30 (76.9)	19 (44.2)	26 (61.9)	75 (60.5)	0.01
	no	17 (43.6)	21 (48.8)	55 (44.4)	55 (44.4)		9 (23.1)	24 (55.8)	16 (38.1)	49 (39.5)	
Q.08.01	never	29 (74.4)	2 (4.7)	0 (0.0)	31 (25.0)	<0.001	28 (71.8)	1 (2.3)	0	29 (23.4)	<0.001
	rarely	3 (7.7)	9 (20.9)	9 (21.4)	21 (16.9)		4 (10.3)	14 (32.6)	10 (23.8)	28 (22.6)	
	sometimes	5 (12.8)	15 (34.9)	9 (21.4)	29 (23.4)		5 (12.8)	11 (25.6)	10 (23.8)	26 (21)	
	often	1 (2.6)	13 (30.2)	18 (42.9)	32 (25.8)		1 (2.6)	14 (32.6)	16 (38.1)	31 (25)	
	always	1 (2.6)	4 (9.3)	6 (14.3)	11 (8.9)		1 (2.6)	3 (7)	6 (14.3)	10 (8.1)	
Q.08.02	never	21 (53.8)	12 (27.9)	0 (0.0)	33 (26.6)	<0.001	20 (51.3)	14 (32.6)	0	34 (27.4)	<0.001
	rarely	15 (38.5)	17 (39.5)	7 (16.7)	39 (31.5)		14 (35.9)	17 (39.5)	13 (31)	44 (35.5)	
	sometimes	1 (2.6)	12 (27.9)	23 (54.8)	36 (29.0)		4 (10.3)	10 (23.3)	16 (38.1)	30 (24.2)	
	often	1 (2.6)	2 (4.7)	11 (26.2)	14 (11.3)		0	2 (4.7)	12 (28.6)	14 (11.3)	
	always	1 (2.6)	0 (0.0)	1 (2.4)	2 (1.6)		1 (2.6)	0	1 (2.4)	2 (1.6)	
Q.08	never	5 (12.8)	5 (11.6)	0 (0.0)	10 (8.1)	0.16	5 (12.8)	5 (11.6)	1 (2.4)	11 (8.9)	0.02

.03						2					9
	rarely	10 (25.6)	12 (27.9)	7 (16.7)	29 (23.4)		8 (20.5)	14 (32.6)	9 (21.4)	31 (25)	
	sometimes	15 (38.5)	15 (34.9)	18 (42.9)	48 (38.7)		20 (51.3)	16 (37.2)	14 (33.3)	50 (40.3)	
	often	5 (12.8)	7 (16.3)	14 (33.3)	26 (21.0)		3 (7.7)	7 (16.3)	16 (38.1)	26 (21)	
	always	4 (10.3)	4 (9.3)	3 (7.1)	11 (8.9)		3 (7.7)	1 (2.3)	2 (4.8)	6 (4.8)	
Q.08.04	never	0 (0.0)	12 (27.9)	0 (0.0)	12 (9.7)	<0.001	0	8 (18.6)	1 (2.4)	9 (7.3)	0.002
	rarely	8 (20.5)	16 (37.2)	19 (45.2)	43 (34.7)		8 (20.5)	14 (32.6)	9 (21.4)	31 (25)	
	sometimes	18 (46.2)	10 (23.3)	15 (35.7)	43 (34.7)		14 (35.9)	17 (39.5)	21 (50)	52 (41.9)	
	often	12 (30.8)	4 (9.3)	5 (11.9)	21 (16.9)		16 (41)	4 (9.3)	10 (23.8)	30 (24.2)	
	always	1 (2.6)	1 (2.3)	3 (7.1)	5 (4.0)		1 (2.6)	0	1 (2.4)	2 (1.6)	
Q.08.05	never	6 (15.4)	21 (48.8)	0 (0.0)	27 (21.8)	<0.001	5 (12.8)	23 (53.5)	2 (4.8)	30 (24.2)	<0.001
	rarely	9 (23.1)	13 (30.2)	15 (35.7)	37 (29.8)		11 (28.2)	13 (30.2)	14 (33.3)	38 (30.6)	
	sometimes	20 (51.3)	7 (16.3)	22 (52.4)	49 (39.5)		18 (46.2)	5 (11.6)	20 (47.6)	43 (34.7)	
	often	4 (10.3)	2 (4.7)	2 (4.8)	8 (6.5)		5 (12.8)	2 (4.7)	5 (11.9)	12 (9.7)	
	always	0 (0.0)	0 (0.0)	3 (7.1)	3 (2.4)		0	0	1 (2.4)	1 (0.8)	
Q.08.06	never	9 (23.1)	11 (25.6)	0 (0.0)	20 (16.1)	0.006	4 (10.3)	12 (27.9)	0	16 (12.9)	<0.001
	rarely	15 (38.5)	21 (48.8)	15 (35.7)	51 (41.1)		18 (46.2)	23 (53.5)	15 (35.7)	56 (45.2)	
	sometimes	12 (30.8)	7 (16.3)	18 (42.9)	37 (29.8)		17 (43.6)	7 (16.3)	19 (45.2)	43 (34.7)	
	often	3 (7.7)	2 (4.7)	7 (16.7)	12 (9.7)		0	0	7 (16.7)	7 (5.6)	
	always	0 (0.0)	2 (4.7)	2 (4.8)	4 (3.2)		0	1 (2.3)	1 (2.4)	2 (1.6)	
Q.08.07	never	14 (35.9)	33 (76.7)	15 (35.7)	62 (50.0)	<0.001	12 (30.8)	32 (74.4)	11 (26.2)	55 (44.4)	<0.001
	rarely	10 (25.6)	6 (14.0)	13 (31.0)	29 (23.4)		16 (41)	7 (16.3)	11 (26.2)	34 (27.4)	
	sometimes	15 (38.5)	4 (9.3)	9 (21.4)	28 (22.6)		10 (25.6)	4 (9.3)	15 (35.7)	29 (23.4)	
	often	0 (0.0)	0 (0.0)	3 (7.1)	3 (2.4)		1 (2.6)	0	3 (7.1)	4 (3.2)	
	always	0 (0.0)	0 (0.0)	2 (4.8)	2 (1.6)		0	0	2 (4.8)	2 (1.6)	
Q.08.08	never	0 (0.0)	1 (2.3)	1 (2.4)	2 (1.6)	0.055	1 (2.6)	0	0	1 (0.8)	0.053
	rarely	15 (38.5)	13 (30.2)	10 (23.8)	38 (30.6)		9 (23.1)	10 (23.3)	9 (21.4)	28 (22.6)	
	sometimes	18 (46.2)	11 (25.6)	13 (31.0)	42 (33.9)		24 (61.5)	16 (37.2)	15 (35.7)	55 (44.4)	
	often	3 (7.7)	17 (39.5)	16 (38.1)	36 (29.0)		4 (10.3)	17 (39.5)	16 (38.1)	37 (29.8)	

	always	3 (7.7)	1 (2.3)	2 (4.8)	6 (4.8)		1 (2.6)	0	2 (4.8)	3 (2.4)	
Q.08.09	never	2 (5.1)	5 (11.6)	1 (2.4)	8 (6.5)	0.014	2 (5.1)	4 (9.3)	0	6 (4.8)	0.027
	rarely	17 (43.6)	12 (27.9)	12 (28.6)	41 (33.1)		16 (41)	12 (27.9)	9 (21.4)	37 (29.8)	
	sometimes	15 (38.5)	10 (23.3)	10 (23.8)	35 (28.2)		17 (43.6)	15 (34.9)	13 (31)	45 (36.3)	
	often	3 (7.7)	16 (37.2)	15 (35.7)	34 (27.4)		3 (7.7)	10 (23.3)	16 (38.1)	29 (23.4)	
	always	2 (5.1)	0 (0.0)	4 (9.5)	6 (4.8)		1 (2.6)	2 (4.7)	4 (9.5)	7 (5.6)	
Q.08.10	never	4 (10.3)	4 (9.3)	0 (0.0)	0 (0.0)	<0.001	5 (12.8)	3 (7)	0	8 (6.5)	<0.001
	rarely	14 (35.9)	4 (9.3)	2 (4.8)	2 (4.8)		15 (38.5)	3 (7)	3 (7.1)	21 (16.9)	
	sometimes	16 (41.0)	13 (30.2)	11 (26.2)	11 (26.2)		15 (38.5)	13 (30.2)	11 (26.2)	39 (31.5)	
	often	3 (7.7)	15 (34.9)	27 (64.3)	27 (64.3)		3 (7.7)	16 (37.2)	26 (61.9)	45 (36.3)	
	always	2 (5.1)	7 (16.3)	2 (4.8)	2 (4.8)		1 (2.6)	8 (18.6)	2 (4.8)	11 (8.9)	
Q.08.11	never	3 (7.7)	4 (9.3)	1 (2.4)	8 (6.5)	0.057	1 (2.6)	4 (9.3)	0	5 (4)	0.011
	rarely	10 (25.6)	9 (20.9)	10 (23.8)	29 (23.4)		9 (23.1)	8 (18.6)	12 (28.6)	29 (23.4)	
	sometimes	23 (59.0)	13 (30.2)	22 (52.4)	58 (46.8)		26 (66.7)	14 (32.6)	19 (45.2)	59 (47.6)	
	often	2 (5.1)	12 (27.9)	7 (16.7)	21 (16.9)		2 (5.1)	14 (32.6)	10 (23.8)	26 (21)	
	always	1 (2.6)	5 (11.6)	2 (4.8)	8 (6.5)		1 (2.6)	3 (7)	1 (2.4)	5 (4)	
Q.08.12	never	8 (20.5)	6 (14.0)	6 (14.3)	20 (16.1)	0.507	5 (12.8)	8 (18.6)	6 (14.3)	19 (15.3)	0.206
	rarely	13 (33.3)	13 (30.2)	7 (16.7)	33 (26.6)		11 (28.2)	12 (27.9)	4 (9.5)	27 (21.8)	
	sometimes	10 (25.6)	16 (37.2)	19 (45.2)	45 (36.3)		16 (41)	15 (34.9)	16 (38.1)	47 (37.9)	
	often	7 (17.9)	8 (18.6)	8 (19.0)	23 (18.5)		7 (17.9)	7 (16.3)	13 (31)	27 (21.8)	
	always	1 (2.6)	0 (0.0)	2 (4.8)	3 (2.4)		0	1 (2.3)	3 (7.1)	4 (3.2)	
Q.08.13	never	6 (15.4)	18 (41.9)	5 (11.9)	29 (23.4)	0.008	6 (15.4)	16 (37.2)	6 (14.3)	28 (22.6)	0.009
	rarely	19 (48.7)	9 (20.9)	16 (38.1)	44 (35.5)		20 (51.3)	8 (18.6)	14 (33.3)	42 (33.9)	
	sometimes	9 (23.1)	10 (23.3)	10 (23.8)	29 (23.4)		8 (20.5)	16 (37.2)	11 (26.2)	35 (28.2)	
	often	2 (5.1)	6 (14.0)	8 (19.0)	16 (12.9)		2 (5.1)	2 (4.7)	5 (11.9)	9 (7.3)	
	always	3 (7.7)	0 (0.0)	3 (7.1)	6 (4.8)		3 (7.7)	1 (2.3)	6 (14.3)	10 (8.1)	
Q.08.14	never	30 (76.9)	32 (74.4)	13 (31.0)	75 (60.5)	<0.001	28 (71.8)	25 (58.1)	14 (33.3)	67 (54)	0.056
	rarely	2 (5.1)	7 (16.3)	14	23		4 (10.3)	8 (18.6)	22	22	

				(33.3)	(18.5)				(17.7)	(17.7)	
	sometimes	6 (15.4)	3 (7.0)	13 (31.0)	22 (17.7)		5 (12.8)	9 (20.9)	14 (33.3)	28 (22.6)	
	often	0 (0.0)	1 (2.3)	0 (0.0)	1 (0.8)		1 (2.6)	1 (2.3)	1 (2.4)	3 (2.4)	
	always	1 (2.6)	0 (0.0)	2 (4.8)	3 (2.4)		1 (2.6)	0	3 (7.1)	4 (3.2)	
Q.08.15	never	6 (15.4)	4 (9.3)	7 (16.7)	17 (13.7)	0.082	4 (10.3)	6 (14)	5 (11.9)	15 (12.1)	0.391
	rarely	15 (38.5)	10 (23.3)	11 (26.2)	36 (29.0)		12 (30.8)	9 (20.9)	14 (33.3)	35 (28.2)	
	sometimes	15 (38.5)	18 (41.9)	20 (47.6)	53 (42.7)		19 (48.7)	15 (34.9)	18 (42.9)	52 (41.9)	
	often	1 (2.6)	10 (23.3)	2 (4.8)	13 (10.5)		3 (7.7)	9 (20.9)	3 (7.1)	15 (12.1)	
	always	2 (5.1)	1 (2.3)	2 (4.8)	5 (4.0)		1 (2.6)	4 (9.3)	2 (4.8)	7 (5.6)	
Q.08.16	never	3 (7.7)	13 (30.2)	16 (38.1)	32 (25.8)	0.011	0	14 (32.6)	16 (38.1)	30 (24.2)	0.001
	rarely	12 (30.8)	16 (37.2)	17 (40.5)	45 (36.3)		15 (38.5)	16 (37.2)	17 (40.5)	48 (38.7)	
	sometimes	16 (41.0)	12 (27.9)	5 (11.9)	33 (26.6)		15 (38.5)	11 (25.6)	7 (16.7)	33 (26.6)	
	often	6 (15.4)	2 (4.7)	3 (7.1)	11 (8.9)		7 (17.9)	2 (4.7)	1 (2.4)	10 (8.1)	
	always	2 (5.1)	0 (0.0)	1 (2.4)	3 (2.4)		2 (5.1)	0	1 (2.4)	3 (2.4)	
Q.08.17	never	12 (30.8)	8 (18.6)	1 (2.4)	21 (16.9)	<0.001	12 (30.8)	10 (23.3)	1 (2.4)	23 (18.5)	<0.001
	rarely	11 (28.2)	5 (11.6)	7 (16.7)	23 (18.5)		14 (35.9)	3 (7)	9 (21.4)	26 (21)	
	sometimes	14 (35.9)	16 (37.2)	8 (19.0)	38 (30.6)		11 (28.2)	15 (34.9)	8 (19)	34 (27.4)	
	often	1 (2.6)	12 (27.9)	24 (57.1)	37 (29.8)		1 (2.6)	14 (32.6)	22 (52.4)	37 (29.8)	
	always	1 (2.6)	2 (4.7)	2 (4.8)	5 (4.0)		1 (2.6)	1 (2.3)	2 (4.8)	4 (3.2)	

*__Mann__-Whitney U test for independent samples.

Patients and their parents reported eating problems, and the majority of these parents (38.1%) and patients (42.9%) belonged to the removable group ($p<0.001$). The patients in the braces community who had the least feeding problems. Many patients (31.5%) noted that they rarely had drinking fluid problems, and again the brace patients encountered the least drinking fluid problems ($p<0.001$).

During appliance use, toothache and jaw pain were experienced at times. Most of these complaints were made by the patient group using the brace system (61.5%). Both problems did not result in the consumption of drugs (60.5%). Over half of the removable group's patients had oral sores (64.3%).

The parents noticed improvements to their speech were encountered by the patients treated with the disposable appliance. Patients who used the brace appliance had speech difficulties. Problems with displacement and breakage were mostly seen in the removable category (57.1%) ($p<0.001$). Patients had difficulty keeping their appliances dry, according to the results. A total of 55% of patients said that, if possible, they would prefer to be treated with an alternative device.

Discussion:-

The purpose of this study was to plan and perform a survey to compare the experiences of patients being treated with various appliances and the experiences of their parents, with respect to different user groups of appliances.
Raising the response rate and increasing the number of questions for detailed examination without losing any information created a problem when structuring the survey. Increasing the number and quality of the questions limited the response rate, leading to misinterpretations (23). A questionnaire of 31 questions were planned for this purpose, and patients were asked to assess their experience using the appliances.

It can be expected that in studies examining perception, the wide age range is likely to affect the outcome. Depending on the development of the child, removable functional appliances are mostly used during the early and late mixed dentition era at age 8–13, while fixed functional appliances are used at age 11–16 (9,24,25). Therefore, to make a realistic comparison, the possible effects of the relatively wide age range were ignored.

Pain and speech problems were the major issues arising from the use of the devices. While using fixed functioning devices, these problems are particularly troublesome. Such results do not match the other research which note the impact of the type of appliance on patient symptoms such as pain or speech disorders (11,16). This may be attributed to the different practical instruments used in earlier studies, such as Bionator and Frankel I.

The rationale for low patient cooperation was reported in previous studies as pain (28%), appearance dissatisfaction (16%), and functional limitations (7%) (13). 98.1 percent of patients reported having toothache for the present study, and there was no difference in pain between the devices. Oliver and Knapman, too. (15) There was no difference in pain.

Such findings are in line with the results of earlier studies showing that the operational devices are causing undesirable consequences due to oral stress sensation (16,26). This sensation also occurs immediately after the appliance has been mounted, and there is an obvious correlation between the pressure sensation and the operational appliance form (26,27).

When pronunciation issues were raised, it was stated that the removable appliance resulted in speaking difficulties. This may be due to the size of the appliance, the impact on the tongue of the acrylic part, and two removable sections that influence the maxilla and mandible structure of the appliance. Such results are in line with O'Brien et al. (7)'s study of the practical appliances impacts.

Tooth sensitivity existed in each group of patients, but mostly within the category of braces. All patients suffered due to the use of the functional appliance from a certain amount of pain. This issue has also been mentioned in previous studies (16,26,27).

Due to displacement and breakage of fixed rigid functional appliances, there was an increased number of urgent appointment requests reported compared to removable functional appliances in previous studies (7,28). Likewise, the most displacement and breakage problems are faced by fixed functional patients.

Conclusion:-

Both devices have their unique set of drawbacks and factors that, depending on their design and implementation, cause discomfort. Depending on the type of equipment, it may be helpful for orthodontists to be aware of possible discomforts and to warn patients beforehand. In addition to age and clinical evaluations, orthodontists should also be aware of the experiences of patients in the process of treatment planning regarding the selection of appliances in order to ensure high patient cooperation.

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