

Evaluation of orthodontic treatment expectations of Indian parents and their children

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Abstract

Introduction: With the concept of the world as a global village, emerging trend is to know the perception about the orthodontic treatment by the public in different parts of the world so that the patients can be treated accordingly. This study aimed to evaluate the orthodontic treatment expectation in Asian origin patients and their parents.

Material and Methods: A cross sectional questionnaire study was done on a sample of 100 patients and the parents who visited Department of Orthodontics and Dentofacial Orthopedics. A set of 10 questions were filled by patients and parents. The data was subjected for chi-square test to check the difference between the options and between the parents and the patients.

Results: Maximum patients perceived that the initial visit will consists of check-ups and diagnosis. Significant number of parents felt that there will be a problem with eating beverage consumption with some restriction in eating ($P < 0.0001$). Most of the parents felt that the duration of interval between the appointments was 1 month and the difference between patients and the parents was significant for this finding ($P < 0.0001$). Most of the parents felt that the orthodontic treatment produced a better smile and there existed a significant difference between male and female parents for the same finding ($P < 0.0001$).

Conclusions: Orthodontic treatment expectation differed significantly from the parents and their children. Gender wise difference was also noticed. The findings can be effectively utilized in motivating and managing parents and their children during/at the beginning of the orthodontic treatment.

Keywords: Orthodontics Treatment; Treatment Expectations; Orthodontic Treatment Expectations

Introduction

It is certain that malocclusion is not a life threatening condition but its ill-effects are well accounted. The cause and effect relationship between malocclusion and the psychological disturbances, oral health and oral function is well established.¹⁻¹⁶ The oral health relationship of malocclusion is still controversial and mixed results have been reported so far.¹⁷⁻²⁰ The recent literature suggests that the malocclusion is capable of

producing physical, social and psychological trauma.^{5, 21} These causes surely dictate need for orthodontic treatment. However, the prejudices related to the orthodontic treatment have contributed much in non-receiving of the treatment.

Unlike the developed countries where the economic burden of orthodontic treatment is shared by the government through insurance policies, the developing countries face the problem of treatment cost. In developing countries orthodontic treatment is afforded by only a fraction of the population.

Even though its evolution is a gradual process, its benefits are admirable as more and more patients are willing to undergo treatment. This is because of the advent of new dental colleges and an associated hospital where the treatment is done at a very

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minimal cost. However, some needy patients still restrain themselves from taking the treatment and the need to assess the same is the prime focus of the present article. The assessment of such factors will help the orthodontic community to be aware of preconditioned notions of the patients related to orthodontics. This in turn enables the orthodontist to be better equipped to remove such restraining factors during the initial visits.

Research related to oral health quality of life pertaining to orthodontics in recent years has increased,^{2,5,6,22,23,24} nevertheless the researches evaluating the orthodontic treatment expectation and the factors restraining the needy patients from venturing the orthodontic treatment worldwide are rather limited²⁵⁻²⁹ and the studies pertaining to Indian patients are scant.³⁰ The present study is aimed to evaluate the orthodontic treatment expectation of the patients as well as their parents in India.

Material and Methods

A cross sectional study was conducted in the department of Orthodontics and Dentofacial Orthopedics, Darshan Dental College and Hospital, Udaipur. The patients who were referred from the Outpatient department for orthodontic treatment and who were not willing to take the orthodontic treatment were included in the study. The patients and the parents were informed regarding the purpose of the study and written consent was obtained. The ethical clearance for the study was obtained from the ethical committee of Darshan Dental College and Hospital, Udaipur. A set of ten questionnaires was prepared in accordance with the established inquiry standards of the previous studies.²⁶⁻³⁰ A panel of experienced orthodontists reviewed the same and was satisfied with the outline. The questionnaire included the personal data of patients along with question

pertaining to orthodontic treatment expectations. Initially the questionnaire was administrated to ten patients to check the feasibility of the prepared questionnaire. Sample of 100 patients filled the questionnaire in the department. The questionnaire was printed in both English as well as in the local language.

The collected data was tabulated in Microsoft Excel and SPSS 15 was used to conduct the statistical analysis. The chi-square test was used to find the statistical difference between the answers, parents and patients and between males and females. The P value less than 0.001 was considered as significant.

Results

The series of tables from 1-10 contain questions and their chosen options along with the P-value. There existed a significant difference in the options chosen by patients and their parents regarding the initial visit (Table I). Both male and female patients and their parents were ignorant of the various types of appliances generally used in Orthodontics (Table II). They also felt that Orthodontic treatment done will cause them pain (Table III and IV). Most of the parents felt that braces will pose problems during eating and there was significant difference between the opinion of patients and their parents in this regard (Table V). Significant difference was also noted in opinion for the restriction in consumption of eatables and beverages amongst the groups (Table VI). Both parents and patients felt that they will receive a positive reaction from the others towards the braces and the treatment duration will be for 1-2 years (Table VII). There existed a significant difference for the duration lapse between the visits for the female patients and parents and between total patients and parents (Table VIII & IX).

Table I: Expectation during initial appointment.

Sex	Child Patient						Parents						P Value
	a	b	C	d	e	f	A	b	c	d	e	f	
Male	7	18	10	5	5	5	5	25	10	3	3	4	P=0.0003
Female	5	35	5	0	5	0	5	35	6	0	4	0	P=0.65
Total	12	53	15	5	10	5	10	60	16	3	7	4	P<0.0001
P Value	P=0.003						P=0.08						

- Have braces fitted.
- Have checkup and diagnosis
- Have discussion about treatment
- Have x ray
- Have impressions
- Have oral hygiene check up

Table II: Type of orthodontic treatment expected

Sex	Patients					Parents					P Value
	a	B	c	d	e	a	b	C	D	e	
Male	34	4	6	0	6	35	5	5	0	5	0.958
Female	50	0	0	0	0	50	0	0	0	0	NA
Total	84	4	6	0	6	85	5	5	0	5	0.96
P Value	0.0003					0.0005					

- Braces, don't know what type?
- Trainer
- Teeth extracted
- Head gear
- Jaw surgery

Table III: Perception of orthodontic treatment as a problem

Sex	Patients		Parents		P Value
	a	b	a	b	
Male	22	28	20	30	P=0.68
Female	12	38	18	32	P=0.19
Total	34	66	38	62	P=0.55
	P=0.034		P=0.68		

- Yes
- No

Table IV: Association of braces and pain

Sex	Patients		Parents		P Value
	a	b	a	b	
Male	25	25	35	15	P=0.04
Female	35	15	27	23	P=0.099
Total	60	40	62	38	P=0.77
P value	P=0.04		P=0.099		

- Yes
- No

Table V: Problems pertaining to eating

Sex	Patients		Parents		P Value
	a	b	a	b	
Male	25	25	38	12	P=0.007
Female	15	35	42	8	P=0.001
Total	40	60	80	20	P<0.0001
P Value	P=0.04		P=0.37		

- a. Yes
b. No

Table VI: Restriction in eating and drinking

sex	patients		Parents		P Value
	a	b	a	b	
Male	25	25	42	8	P=0.003
Female	25	25	46	4	P<0.0001
Total	50	50	88	12	P<0.0001
PValue	P=1.00		P=0.218		

- a. Yes
b. No

Table VII: People's reaction to braces

Sex	Patients		Parents		P Value
	a	b	a	b	
Male	30	20	38	12	P=0.086
Female	25	25	22	28	P=0.547
Total	55	45	60	40	P=0.474
P Value	P=0.314		P=0.0011		

- a. Yes
b. No

Table VIII: Duration of orthodontic treatment

Sex	Patients						Parents						P Value
	A	b	C	D	e	F	a	b	c	d	e	f	
Male	0	6	20	12	8	4	0	5	5	12	22	6	0.003
Female	0	5	5	20	20	0	0	0	17	19	12	2	0.003
Total	0	11	25	32	28	4	0	5	22	31	34	8	0.358
P Value	0.0004						0.0012						

- a. 3.5-4 years
b. 3-3.5 years
c. 2-3 years
d. 1-2 years
e. Less than 1 year
f. Don't know

Table IX: Duration between appointments

Sex	Patients							Parents							P Value
	a	b	c	d	e	f	g	A	B	c	d	e	f	g	
Male	14	8	0	14	8	0	6	8	8	5	24	5	0	0	0.007
Female	0	5	0	20	5	0	20	5	10	5	30	0	0	0	<0.0001
Total	14	13	0	34	13	0	26	13	18	10	54	5	0	0	<0.0001
P Value	<0.0001							0.159							

- a. Every 6 months
- b. Every 3 months
- c. Every 2 months
- d. Every 1 month
- e. Every week
- f. Every day
- g. Don't know

Table X: Expectation from orthodontic treatment

Sex	Patients							Parents							P Value
	a	b	c	d	e	f	g	a	B	c	d	e	F	g	
Male	32	11	4	0	0	0	3	8	24	0	0	5	8	5	P<0.0001
Female	12	38	0	0	0	0	0	10	22	5	0	8	0	5	P=0.0002
Total	44	49	4	0	0	0	3	18	46	5	0	13	8	10	P<0.0001
P Value	P<0.0001							P=0.015							

- a. Straighten your teeth
- b. Produce a better smile
- c. Make it easier to eat
- d. Make it easier to speak
- e. Make it easier to clean my teeth
- f. Improve my chance of good carrier
- g. Gives you confidence socially

Most of the male patients felt that their teeth will be straightened by the orthodontic treatment and their opinion was significantly different from the male parents. Same significant difference was seen for the overall parent's and patient's opinion (Table X).

Discussion

It has been established that people who are in real need of orthodontics do not take up the treatment in spite of their crooked smile or debilitating masticatory function. This fact

was the main reason to peruse this particular study in order to know the constraints which prevent children and parents to avoid undertaking orthodontic treatment. Including parents in the survey was an added advantage as it was proven in the earlier reports that parents are suitable alternatives to the children in reporting oral health related quality of life.³¹

During the initial visit both parents and children expected check-ups and diagnostics but the number of parents who opted for the

same were more in number and this accounted for the statistically significant results. Our results were in agreement with the results of the previous studies.²⁸ In the same study it was emphasized that the ethnicity of the participants also affected the outcome.²⁸

Maximum parents and the children expected their teeth to be treated using the braces and the finding was in accordance to the earlier reports.^{28, 32} Few of the male children and the parents had the idea of the other type of treatments like trainers, extraction and jaw surgeries. But none of the female patients exhibited the knowledge of other type of treatment modalities. Surprisingly nobody expected head gear treatment. Sayers and Newton²⁸ mention that this lack of knowledge might be the reason for reluctance in wearing the head gear. Al Barakati reported 2.5% of the patients expected the wear of the head gear.³²

Though parents and children didn't consider orthodontic treatment being a creator of any sought of problem but most of them associated braces with pain. Same was true in the earlier reports by Bennett et al and Al Barakati.^{32, 33}

Parents felt there will be a problem in eating during orthodontic treatment, while children felt otherwise and the difference was statistically significant. In similar manner the parents felt that there will be restriction in eating and drinking. Contrastingly, in the earlier literature it is mentioned that the participants underestimated the changes to be made in their diet during orthodontic treatment.³⁴ There existed significant difference between the female children and the female parents and overall parents and children regarding the opinion on restriction of eating and drinking during orthodontic treatment with most of the parents opting for the restriction of eateries and beverages. This finding is in disagreement with the earlier reports where they found children to be more aware of dietary restriction than the parents.²⁸ Similarly the Pakistani parents were also

not aware of the eating restriction in the earlier reports, thus proving the fact that the culture, social and language can act as barrier for acquiring the proper knowledge about the orthodontic treatment.^{35, 36}

Both parents and children felt they will receive the positive response from the society if at all they decide to undergo orthodontic treatment. This was no surprise, considering the fact that the education and exposure level of the parents and as well as the patients ever in raise because of the electronic media. Same was in agreement with the findings of similar study on the western population.²⁸

Parents thought that the treatment duration will be for less than one year whereas the children felt that the treatment duration will be for 1-2 years and same was proven in the earlier study by Khan and William.³⁵ In one of the earlier studies it was reported that the parents who preferred orthodontic treatment for themselves or those who had received orthodontic treatment were more insistent on their children receiving the same.³⁷

Both groups felt that the recall visit will be once a month. There existed a significant difference between the female and overall parents and children's opinion on the same with maximum parents opting for the option of once a month appointment.³³ Same was true in a similar study on the Saudi Arabian population. Awaisi et al., reported that many of the patients were not happy with the recall visits and they preferred shorter duration of treatment.³⁶

Male children and overall children felt that orthodontic treatment will straighten the teeth but the male and parents as a whole felt that the orthodontic treatment will produce a better smile. The difference was found to be statistically significant. Nevertheless, an earlier report was quite opposite to this where it was found that the preference for straight teeth was more than having a better smile.²⁸ Even the difference between female and male children was statistically significant as increased number of female children felt that they will have a better smile after orthodontic

treatment. Other choices for expectation related to orthodontic treatment included easier mastication, speech, hygiene maintenance and self confidence were not chosen neither by the patient nor their parents frequently. Earlier reports on the same issue have shown that the patients expected that their mastication and speech will improve by getting orthodontic treatment and they also felt the treatment to aid in professional life success.³⁸

Overall the child patients and parents expectation about orthodontic treatment differed considerably and the results are in accordance with earlier studies on different population groups.^{27, 28, 30}

Conclusions

Perception of Orthodontic treatment expectation differed considerably between the parents and their children and even between opposite genders. The results can be utilized effectively in orthodontic patients as well as their parent's management. Moreover the scope to correlate malocclusion severity perception and treatment expectation still exists.

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