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## ORIGINAL ARTICLE

# Expectations From Orthodontic Treatment Patient / Parent Perspective

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### ABSTRACT

The purpose of this study was to investigate the expectations of children and their parents towards orthodontic treatment. A total of 200 subjects (100 patients and 100 parents) who were attending for their first visit, completed the questionnaire in the Department of Orthodontics at the Dasmesh Institute of Research and Dental Sciences, Faridkot. The children were aged between 10 to 15 years. The response of the children and one of the parents was examined by using parametric statistical methods. The patients and their parents had different expectations, as shown by the statistical analysis. Hence, effective communication between the orthodontist and the patients and their parents is considered to be essential.

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### Introduction

The primary goal for most of the patients who seek orthodontic treatment is a discernible improvement in some aspect of his / her dentofacial appearance. Orthodontic therapy, to their way of thinking, is something that makes people look better and feel better about themselves and perhaps, something that enhances their ability to socially interact with others. The dental profession has fostered the notion that enhanced occlusion improves the health and longevity of the dentition, and so, in effect, many patients who seek orthodontic care state that their secondary goal of treatment is an oral health benefit [1].

Thus, orthodontic treatment aims at getting results which gel with the patients' personality and makes him / her to look more aesthetic.

Renske Hiemstra [2] found that the expectations of the patients and their parents differed on several aspects. Effective communication between the orthodontist and the patients and their parents is considered to be essential.

Phillips et al. [3] found that the patients' main reason for seeking orthodontics is to correct dentofacial disharmony. Males have different expectations of orthodontic treatment than females. Males have a strong motivation for social well-being, while females focus on improved appearance as its own reward. Satisfaction with facial body image decreases with age and adults are more dissatisfied with their dentofacial appearance than children [4],[5],[6],[7]. Patients who are satisfied with the appearance of their teeth, have different expectations of orthodontic treatment than patients who are dissatisfied and older patients

expect more improvement in their self image than the younger patients. Bernabe' et al. [8] reported that it is widely known that orthodontic treatment occasionally causes pain, discomfort and functional limitations. The patients' self confidence during treatment might be affected by speech impairment and the visibility of the appliance. [9] Also, the discomfort caused by orthodontic treatment may affect the patients' compliance and satisfaction with treatment and it might lead to stress between the patient and the practitioner. [10],[11]

Previous studies have measured the subjects' expectations of orthodontic treatment after their initial consultation or during treatment, [12],[13] or have measured only the expectations of the orthodontic treatment of the parents and not that of their children [14]. Few studies have measured both the patients' and parents' expectations prior to their first consultation [7],[15],[16]. In a recent study, the expectations of orthodontic treatment of the patients and their parents were measured by using a validated questionnaire, prior to their initial appointment [15]. The patients and their parents showed similar expectations of treatment, except for having an orthodontic appliance fitted at their first visit, the expectations of the duration of orthodontic treatment and dietary and drinking restrictions as a result of orthodontic treatment. [15]

The aim of this study was to examine expectations of the patients and their parents from orthodontic treatment on their first visit to their visit to the Department of Orthodontics at the Dasmesh Institute of Research and Dental Sciences, Faridkot. We used a questionnaire which was originally developed by Sayers and Newton. [15],[16].

**Materials and Method**

A total of 200 subjects (100 patients and 100 parents) who were attending for their first visit, completed the questionnaire at the Department of Orthodontics at the Dasmesh Institute of Research and Dental Sciences, Faridkot. The children were aged between 10 to 15 years.

As used by Sayers and Newton,[15],[16] a visual analogue scale marked at 10-mm intervals, was used as the response scale for all questions, except questions 8 and 9. Scores on the visual analogue scale were calculated by measuring the distance to the mark in mm from the left hand side of the VAS. '0' represented 'extremely unlikely' and '100' represented 'extremely likely'. Question 8 and 9 had different response options.

A questionnaire was used to measure the patients' and their parent's expectations about the orthodontic treatment.

**Questionnaire**

1. At your initial appointment do you expect to:

A. Have a check-up and diagnosis?



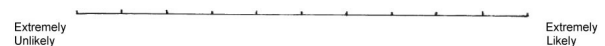
B. Have a discussion about treatment?



C. Have X-rays?



D. Have photographs taken?



E. Have impressions?



F. Have oral hygiene checked?



G. Have restorations?



H. Have a brace fitted?



2. What type of orthodontic treatment do you expect?

A. Fixed braces?



B. Removable braces?



C. Teeth extracted?



D. Headgear?



E. Jaw surgery?



3. Do you think wearing braces will be painful?



4. Do you think orthodontic treatment will produce problems with eating or drinking?



5. How do you think people will react to you wearing a brace?



6. Do you expect orthodontic treatment to:

A. Straighten your teeth?



B. Produce a better smile?



C. Improve your facial appearance?



D. Make it easier to eat?



E. Improvement in speech?



F. Make it easier to keep my teeth clean?



G. Improve my chances of a good career?



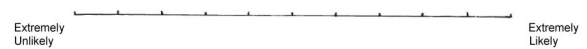
H. Boost my confidence?



I. Interfere with studies?



7. Do you think the treatment will be expensive?



8. How long do you expect orthodontic treatment to take?

< 1 year

1–1.5 years

1.6–2 years

>2–3 years

>3 years

Don't know

9. How often do you think you will need to attend for check up?

< 1 month

1–2 months

> 2–3 months

> 3–6 months

> 6 months

Don't know

10. Do you think about any post treatment complications?



### Statistical Analysis

The responses provided by the patients and their parents to the questionnaire was entered and analyzed. The data was examined and the differences in the responses to each item of the questionnaire between the patients and their parents was tested by using paired sample t tests. The responses to questions 8 and 9 were categorical and were not answered on a visual analogue scale. Item 8 and 9 had 11 and 10 response options, respectively.

### Results

All patients and their parents completed the questionnaire and no one refused to participate. The mean age of the children was 12.6 years (SD 1.2).

### Comparison of patient and parent expectations

[Table/Fig 1]: Shows the comparison of responses to each questionnaire item for the children compared with their parents.

S.No.	Questions	Patients (M)	SD	Parents(M)	SD	p
1.	At your initial appointment do you expect to:					
A	Have a check-up and diagnosis?	81.43	12.07	84.94	13.74	0.089
B	Have a discussion about treatment ?	68.33	22.43	74.50	23.04	0.008
C	Have X-rays?	21.41	22.81	27.94	21.38	0.044
D	Have photographs taken?	9.94	13.10	14.94	15.49	0.013
E	Have impressions?	8.7	8.07	13.42	24.42	0.01
F	Have oral hygiene checked?	44.2	14.7	71.41	19.31	0.003
G	Have restorations ?	31.32	28.1	39.14	21.14	0.047
H	Have a brace fitted?	72.14	18.77	77.84	23.03	0.084
2.	What type of orthodontic treatment do you expect?					
A	Fixed braces ?	75.43	13	77.12	13.34	0.243
B	Removable braces?	13.34	17.97	13.42	23.9	0.32
C	Teeth extracted?	49.88	21.92	37.38	22.11	0.003
D	Headgear ?	44.4	19.84	32.1	81.4	0.38
E	Jaw surgery?	0	0	0.4	1.21	0.001
3.	Do you think wearing braces will be painful?	80.40	13.97	75.32	14.21	0.007
4.	Do you think orthodontic treatment will produce problems with eating or drinking?	60.43	22.43	43.94	27.94	0.344
5.	How do you think people will react to you wearing a brace?	34.34	14.7	47.38	32.22	0.001
6.	Do you expect orthodontic treatment to:					
A	Straighten your teeth?	81.34	11.31	80.40	12.88	0.144
B	Produce a better smile?	84.73	10.21	84.31	10.83	0.24
C	Improve your facial appearance ?	83.24	13.88	80.04	13.02	0.13
D	Make it easier to eat?	77.13	22.01	34.91	21.39	0.493
E	Improvement in speech?	44.88	23.32	44.12	22.04	0.857
F	Make it easier to keep my teeth clean?	70.44	23.07	77.08	14.24	0.024
G	Improve my chances of a good career?	23.59	13.7	30.17	23.18	0.042
H	Boost my confidence ?	38.71	24.23	30.44	31.32	0.004
I	Interfere with studies ?	24.88	30.14	33.18	20.30	0.004
7.	Do you think the treatment will be expensive ?	42.43	18.13	49.89	20.83	0.012
10.	Do you think about any post treatment complications ?	13.34	23.24	22.33	29.09	0.031

Patients, as well as parents, had similar expectations with regards to having the fixed / removable brace (question 2A, 2B), regarding the headgear (question 2D) and jaw surgery (question 2E) and regarding whether orthodontic

treatment would produce problems with eating / drinking (question 4).

Similar expectations were observed between the patients as well as their parents regarding the orthodontic treatment to straighten teeth, produce a better smile, improve facial appearance and to make it easier to eat and for improvement in speech (question 6 A,B,C,D,E).

Patients and their parents had different opinions regarding the remaining questionnaire, as shown by the statistical analysis.

[Table/Fig 2] and [Table/Fig 3] shows the descriptive statistics for questions 8 and 9. 26 patients had no idea about the duration of orthodontic treatment as compared to 8 parents. Nearly twice as many parents as the patients expected the orthodontic treatment to be finished within 1 – 1.5 years. [Table/Fig 3] shows that more than 50% expected to visit once a month and that patients were more ignorant as compared to their parents regarding the frequency of their appointment.

[Table/Fig 2]: Expectations as to the duration of orthodontic treatment (question 8)

Duration of treatment	Patients (n=100)	Parents (n=100)	Total number (n=200)
<1 year	24	20	44
1-1.5 years	20	43	63
1.6-2 years	22	18	40
>2-3 years	5	8	13
>3 years	3	3	6
Don't know	26	8	34

[Table/Fig 3] Expectations as to the frequency of appointments (question 9)

Frequency of appointments	Patients (n=100)	Parents (n=100)	Total number (n=200)
<1 month	57	64	121
1-2 months	4	14	18
>2-3 months	5	8	13
>3-6 months	1	2	3
>6 months	1	1	2
Don't know	32	11	43

### Discussion

This study found some differences in the expectations of orthodontic treatment between the patients and their parents. Some patients/parents might have friends or relatives wearing braces and this might have changed their expectations.

Concerning the reliability and the validity of the questionnaire, it can be said that the questionnaire which was used in the study of Sayers and Newton was both valid and reliable. [15],[16]

It is not enough to translate a questionnaire literally. An additional challenge is to adapt it in a culturally relevant and comprehensible form while maintaining the meaning and intention of the original items; [17] however, even when the translation process is successfully implemented, the validity of the results might be suspicious. To increase the validity of our study, a pilot study was carried out before the questionnaire was distributed to all participants. The study was designed in such a way that the parents could not assist their children in answering the questionnaire, as they were observed by one of the interns. We therefore feel confident to say that the responses of the children reflect their true feelings and not what their parents suggested to them. Several results from the present study are different to the results found in previous studies.

Tung and Kiyak [12] stated that parents expected a higher increase in the social confidence of their children as a result of orthodontic treatment, than their children. This was not found in the present study. Also, a considerable amount of discomfort during orthodontic treatment was anticipated by patients in previous studies, [18],[10],[11] which was not found in this study. Some of our results agree with those of previous studies. Many children in the Netherlands are wearing braces. [19]

In clinical practice, age-appropriate communication concerning what can be expected from orthodontic treatment is essential to achieve good cooperation from the patient. Effective communication is needed, because of the differences in cognitive development among the children and their parents.

It is fundamental for the clinician to direct the attention to the person in the chair and not only to the accompanying parent. [20] Before starting the treatment, orthodontists should always ask their patients how they feel about their dental

appearance and what they expect from the orthodontic treatment. They should give extensive instructions on what people in fact can expect with regards to pain, limitations and discomfort. This strategy may lead to less disappointment and more satisfied patients and may improve the quality of orthodontic care.

## Conclusion

This study provides a validated measure of the orthodontic expectations of 10 to 15 year old patients and their parents before their initial orthodontic consultation regarding their initial appointment, type of treatment, expected experiences during treatment, duration of treatment, the frequency of their visits and the benefits of orthodontic treatment.

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