Original article

PATIENTS EXPECTATIONS OF ORTHODONTIC TREATMENT IN CHENNAI, INDIA.

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ABSTRACT

Objective: To measure the patients expectations towards orthodontic treatment. Subject: A questionnaire was designed and distributed to 175 patients. Materials and methods: A questionnaire was designed, developed and distributed to 175 subjects aged between 12-25 years which they completed before their initial appointment. Next a correlation was made between patients expectations, satisfaction with facial appearance, age and gender were examined. A re-test was then conducted of which he questionnaire was again distributed to 22 subjects who completed the questionnaire before their initial appointment for which a valid and mean analysis was done. The variable of age and gender were explored. Result: the questionnaire gave a clear idea of what the patients mainly expect from their orthodontic treatment, which is very useful in improving the quality of the treatment and treatment planning and also their expectations. Conclusion: the study provides a valid and reliable measure to know the expectations of the patients, aged between 12-25 years.

Key words: patients expectation, orthodontic treatment, questionnaire, measure.

INTRODUCTION

Quality of life has become increasingly important in day-to-day life. Now-a-days the quality of treatment is very important and at the same time should satisfy the patient. Orthodontic treatment now has been considered as a way for patients to attain a good and acceptable facial appearance within the social environment. Health related quality of life has become increasingly important as researchers have realized that traditional outcome measures are of little interest to the patient and that some forms of –real life – outcome measures are required in the current health climate.1 Health related quality of life have become a popular way of assessing treatment needs and the outcome in the following situations.2

- Clinical trials
- Regular monitoring of the patients care
- Improving doctor-patient interaction
- Between illness comparison
- Evaluation of different methods of organizing and financing health care services.

Clinicians are expected to be accountable for the effectiveness of treatment and the efficient use of resource Carr et al proposed a model, but there were three problems by measuring the health related quality of life. Firstly, the patients have different expectations, secondly, patients will be at different levels in their illness, and thirdly, patients expectations will change overtime.3

It is generally accepted that health related quality of life included a number of domains for example

- Physical status
- Psychological
- Social interactions
- Economic
- Religion

In orthodontics, little research is done. In recent Medline search only 11 papers were found. Given that many orthodontic patients are children and young adolescent there may be some potential barriers to use health related quality of life measures. The issue is further complicated in adolescent when the patient is undergoing major changes and it is difficult to find those changes due to orthodontic treatment.4 Other studies have mainly focused on the benefits and not the experience of orthodontic treatment. Few questions were asked about the orthodontic appliances, discomfort or duration of time expected for orthodontic treatment.5 many other studies did not include a valid and reliable testing I their measure. These factors are important to rigor and reduce bias.6
When the patient gets treated there may be some positive experience and some negative experience. When there are negative experiences, we need to adapt into their expectations and change them from negative to positive. Most of the studies have focused on factors which will motivate the patient to undergo orthodontic treatment.7

The questionnaires used to measure patients expectations required further psychometric evaluations. Few questions were asked about the type of orthodontic appliance, discomfort and the duration of time expected for the treatment. A valid and reliable measure for patients presenting with unrealistic expectations is helpful in effective orthodontic treatment planning, consent and quality of treatment provided.

Orthodontic treatment has been a most sought after treatment now-a-days since patients come to get a better facial appearance and in other cases to improve their ability in speech and eating habits.

The general appearance of patients during their treatment is also discussed here. Many patients during their treatment found it difficult to interact in public, due to wearing braces of different types. Some of the types of braces are head braces, train track braces etc. Now-a-days many other methods have been found for the patients to have an acceptable appearance like lingual braces, or wearing braces which are tooth colored.

The main aim of this study is to measure the patients satisfaction with orthodontic treatment and to preliminarily assess its validity. It is done in the for of a questionnaire study in order to get a clear idea of the patients expectations who come for orthodontic treatment. It is done to investigate and correlate between the satisfaction with the patients facial and dental appearance and its expectations. The effects of age and gender are explored along with various other important factors. The correlation were variant over gender and age. It is concluded that satisfaction with dental appearance is a significant predictor of orthodontic patients expectations of their treatment.8

MATERIAL AND METHODS

A sample size of 175 subjects was taken and the questionnaire was distributed to the patients from various dental clinics in Chennai. The research was done on age and gender as well. But they are distributed to a certain criteria.

Criteria:

New patients presenting to the orthodontic clinic.
Patients aged between 12-25 years.
Patient with no history of orthodontic treatment.

QUESTIONNAIRE CONSTRUCTION

First a questionnaire was prepared based on the research done and what the patients expect by doing a few interviews with the patient’s who come to the clinic for orthodontic treatment. The qualitative interviews were designed and carried out following the guidelines for qualitative research. These interviews were designed to ask the patients about their expectations of orthodontic treatment regarding their benefits and experiences.

The main factor upon which the questions were asked is the ‘general’ and ‘dental’ appearance of the patient after the treatment is over. The questionnaire was constructed in the Yes / No format regarding their expectations of their initial appointment, type of treatment expected, problems associated with the treatment, duration i.e. how long will it take for the completion of the treatment, the number of dental visits during that and most importantly the benefits. The questionnaire also deals with other people’s reaction to the patients wearing braces as it is one of the most important factor now-a-days.

The questionnaire was constructed in the Yes / No format as it is very easy for the patient to fill and get their opinion. It is then evaluated using kappa to know the value of this study. The mean analysis is also done for the same. After the questionnaire is filled it is recorded. The use of Yes /No format, Likert scale and Visual Analogue Scale have been used in a number of studies.

QUESTIONNAIRE DISTRIBUTION

The questionnaire was distributed to 175 subjects with an age range of 12-25 years old. The typical time taken for the completion of the questionnaire was
approximately 5-10 minutes. The data was later analyzed using an experimental study and represented. The first time the questionnaire was distributed to them before their initial appointment and later a re-test was conducted for about 22 subjects after their treatment to compare the patient’s response between the two studies and to reduce operator bias.

The Research varies according to the patient’s age and gender correlation between the patients expectations and their facial appearance.

Although only a few studies were made to evaluate the patients expectation of orthodontic treatment, we present data from the questionnaire that illustrates how many patients react positive to the treatment and the duration. Data were analyzed using mean and value analysis.

The patient were asked to fill the questionnaire before their initial appointment and then the questionnaire was again distributed to 22 subjects who have completed their treatment for reliability.

RESULTS

A total of 175 subjects participated in this research during the period of September 2011 to January 2012. The findings from the questionnaire was analyzed.

The correlation was found that females are considering more to undergo orthodontic treatment than males.

Around 15 subjects participated in the construction of the questionnaire. The content of the analysis are such as their initial appointment, type of treatment, problems associated with the treatment, the reaction of the people to the patients during the treatment, the duration, the number of dental visits and most importantly the benefits from the treatment.(Table 1)

The frequency of each theme and sub-theme is identified in table 1. Whilst not required for qualitative research of this nature, this information is included in order to provide some information.

From the above table(Table 2) it is said that about 39.4% of the people would give a negative reaction to the patients wearing braces, while about 44% of the people have said they would give no reaction and while about 14.3% of the patients said that they would give positive reaction.

From the above, we see that frequency of Dental Check-up needs at different level of month. In this it is found that most of them think that they have to visit the clinic every month.( Table 4) In 175 subjects who took up the questionnaire a test –retest analysis was conducted on 22 participants who have already completed the questionnaire before the treatment.( Table 5)

Responses were compared between the test and re-test to find that there was a difference in their agreement to the question. The values were measured in percentage except question 8 and 9 were measured in kappa since they are ordeal in nature. A good level of agreement was found between the two(table 6)

The value analysis were made using and their approximate significance. It was made for the 22 participants who took the test and re-test. In this table the level of agreement of the patient when they took the test and re-test is seen. All the questions except question 8 and 9 were evaluated. Question 8 and 9 were not evaluated since they measure the duration of the treatment and the frequency of the number of visits to the clinic during the treatment.( Table 6) The kappa value is evaluated and entered along with its approximate significance to measure the level of agreement of the patients who took the re-test. It is measured by not assuming the null hypothesis.

DISCUSSION

Questionnaire can be used in a wide range of settings to gather information about the opinion and behavior of the consumers. The questionnaire was written from the perspective of the provider. However the information that was collected tends to be ambiguous and misleading.9 Patient based questionnaire are increasingly used in Randomized Controlled Trial to evaluate new treatment and also part of an audit. As any other branch of science the validity and the reliability of the measurement tool i.e. questionnaire need to be rigorously tested that the data collected is meaningful. Previous study have shown that people are more likely to respond to questionnaire that cover the issues that are relevant to them.10

During the analysis it is found that most of the patients in their early stages who took the questionnaire didn’t think that they would get braces fitted in their initial appointment. There was a slight
level of agreement of patient’s getting their teeth extracted, having x-rays taken, diagnosis and impression taken while only few people say that they would get a surgery done. Most of the patient say that they think that wearing braces wold be painful and restrict their intake in food and drinks. The reaction of other people to them wearing braces is also measured. From the given research done it is found that around 44% have said that they would not give any reaction to the patient’s in wearing brace, while only 14.3% have said that they would give a positive reaction. Hence in order to eliminate those factors a number of ways have been introduced, like tooth colored braces or lingual braces, although lingual braces are still under research.

But the result which the patients expect after their treatment is very high. The main goal after finishing the treatment is that the patients to have their teeth aligned and straight which gives a better smile and make communication in the social environment easier as well as to eat and drink. Some people say that that also can also improve their chances for a better career. And for the frequency of visiting the dental clinic is that most patients took that they had to visit it once every month. The duration of the treatment they thought it would take was around a year.

A Test-retest of the questionnaire was conducted to confirm its reproducibility using a statistical analysis which have been recommended recently.6,10 Validity was tested using kappa to assess the value of the questionnaire. Its main assessment is of whether an instrument measures what it aims to measure.6,10

Weakness of the study was found that mean and value are threatened by bias and errors. They are measures using kappa and hence measure the accurate significance could not be given. The robustness could not be given because of the small size test-retest.

This study provides a questionnaire which measures the expectations of the patients before their treatment and also factors like the duration of the treatment, frequency of orthodontic appointment.

The questionnaire has recorded the patients high and low expectations of their orthodontic treatment and their initial expectations. The statistical analysis used to confirm can be questioned even though it is supported by literature.

Application of the questionnaire is that it is used to assess the expectation and requirement of the patient. It is also useful for consent and treatment planning. All these factors help to improve the quality of the treatment and give the required expectation of the patient.

CONCLUSION

This study provides the following:

- A reliable measure of the patients expectation when they undergo orthodontic treatment
- It gives a clear idea of what the patient expects before the treatment like what they will do, type of treatment, expected experiences during the treatment, duration, frequency of visits and the benefits from their treatment.

REFERENCES


