

Evaluation of level of satisfaction in orthodontic patients considering professional performance

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Abstract

Objective: Considering the increasing professional concern in conquering new patients and maintaining them satisfied with treatment, this study aimed to evaluate the level of satisfaction of patients in orthodontic treatment, considering the orthodontist's performance. **Methodology:** Sixty questionnaires were filled out by patients in orthodontic treatment with specialists in Orthodontics, from Curitiba. The patients were divided into two groups. Group I consisted of 30 patients which considered themselves unsatisfied and changed orthodontists in the last 12 months. Group II consisted of 30 patients which considered themselves satisfied, and were in treatment with the same professional for at least, 12 months. **Results and Conclusion:** after statistical analysis, using the chi-square test, it was concluded that that the factors statistically associated to patient's level of satisfaction considering the orthodontist's performance were: professional degree, professional referral, motivation, technical classification, doctor-patient personal relationship and interaction. For orthodontic treatment evaluation, the factors that determined statistical differences for patients' level of satisfaction were: the number of simultaneously attended patients and the integration of the patients during the appointments.

Keywords: Patient Satisfaction. Orthodontics. Professional-Patient Relationship

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INTRODUCTION

Considering the growing concern of professionals in acquiring new patients and keep them satisfied with orthodontic treatment carried out this study is to identify the main factors responsible for the satisfaction of patients in treatment in relation to professional performance.

In Orthodontics, there is emerging interest in the study of expectations and patient satisfaction.²⁵ However, it is difficult to quantify them, the need to consult patients and the review by the protracted nature of orthodontic treatment, the results of which involve complex functional and aesthetic components. What, then, that would influence perceptions of patient satisfaction with orthodontic treatment and also with the professional's performance? This is an important issue to unravel the psychological universe of the patient, responsible for integration or not the clinical environment.

According to Bos et al^{6,7} professionals agree on the importance of gaining and maintaining the patient's cooperation to ensure the success of treatment. When the patient's expectations are not understood, there may be dissatisfaction, demotivation and even withdrawal of orthodontic treatment.¹⁴ Was the relationship professional / patient the most important motivating factor to ensure patient satisfaction?

For Sinha et al,^{29,30} the lack of professional efficiency in exposing the problems inherent in the case could lead to a mismatch of information. Professionals should focus more on the quality of care, their personalities, their attitudes and professional competence, so that the end of orthodontic treatment, the objectives are achieved personal satisfaction and professional satisfaction of the patient's orthodontist.^{2,3}

When a professional acts calmly, assuring safety to the patient, that will rely on the professional choice. You must provide adequate

information about treatment, show interest in helping the patient to gain her satisfaction.

Orthodontics and Quality of Life

The Orthodontic treatment, more than improving the quality of life, can bring to physical, psychological and social changes.^{5,12,17} Few studies explore such issues or, as the pain and discomfort that may occur during treatment, affect quality of life of patients. A better understanding of the impact of orthodontic treatment on quality of life is important for many reasons.²³

According to Zhang et al,^{33,34} when patients are aware of the treatment's consequences, such as discomfort, develop more realistic expectations, which may help them to encourage cooperation during treatment. In addition, the patient can do a more detailed analysis of the benefits and effectiveness of orthodontic treatment.⁸

Professional Relations / Patient

The dialogue with the patient favors the understanding of their reactions during orthodontic treatment. To this end, the professional should try a variety of strategies to achieve the desired level of patient cooperation (Fiillingim and Sinha; Maltagliati and Montes.^{13,18,19-22} To Turbill et al,³¹ the treatment goals should be detailed to motivate patients and to avoid patient dissatisfaction. The professional should use a vocabulary that can be understood by patients and their caregivers.

Thus, in this study through a questionnaire, we sought to determine the factors related to satisfaction level of patients in orthodontic treatment, given in relation to the orthodontist and the treatment itself.

MATERIAL AND METHODS

There were few professionals who have allowed the use of the questionnaire to their patients in Curitiba-PR; average 35 patients were

interviewed in each professional. Other professionals were interviewed, but did not allow access to their patients. In this way, we analyzed three hundred and twenty sheets of questionnaires filled by patients in orthodontic treatment, from 16 years of age, in Curitiba-PR. This age limit subtends the presence of capacity to formulate questions and the establishment of the maturity of the patients in the study. The maximum age of sample participants was 43 years and the mean age of patients was 28 years.

The choice of patients to answer to the questionnaires was random, in the office of ten professional specialists in orthodontics, which allowed access to their patients. Within professional s, participants were six male and four female. To a better understanding of the results, the questionnaire was divided into two parts (Table 1):

- » Assessment on the professional-total of eleven questions that were related specifically to the analysis of the patients interviewed in relation to the professionals who treated them. At no time was any comment from the interviewer on the professional;
- » Assessment in relation to orthodontic treatment, a total of six questions that were related to the conduct and expectations of orthodontic treatment by the clinician. To ensure confidentiality of the sample components, questionnaires were delivered in an envelope without any identification and sealed after filling.

Sample

For analysis and comparison of results, the sample was divided into two groups:

GROUP 1 (DISSATISFIED): Included 30 patients who considered themselves dissatisfied with the performance of the professional who did the previous treatment, and for this reason they moved to another professional. These patients answered the questionnaire in

accordance with the professional and prior treatment. No reference was made to the current treatment. The composition of this group included 18 females and 12 males, ages ranged from 16 to 40 years.

GROUP 2 (SATISFIED): This group was initially composed of 290 patients in orthodontic treatment, but to obtain a statistical parity, were eliminated invalid questionnaires (filled out incorrectly or incompletely), and randomly selected 30 questionnaires were . These patients were undergoing orthodontic treatment for over a year with the same professional. In this group only participated in the patients satisfied with treatment. Those patients who were more than a year in treatment, but dissatisfied with the choice of professional, do not participated of the sample. The composition of this group included 16 females and 14 males, ages ranged from 16 to 43 years.

Data Collection

The questionnaire allowed each patient to check one of three alternatives, each of 17 objective questions. The patients completed the questionnaire in the waiting rooms of clinics orthodontics. They were aware that the information collected was confidential (Statement of Consent) and be unavailable to anyone except the researchers. The questions are presented in Table 1.

Statistical Analysis

Resorted to descriptive analysis of data through charts and graphs. To test the hypothesis at work, we used the nonparametric test Chi-Square ". The significance level was 5% (0.05).

RESULTS

Tables 1 and 2 (on the professional assessment) and 3 and 4 (evaluation in relation to orthodontic treatment) described the results obtained.

QUESTIONNAIRE TO PATIENTS

Age: _____ Sex: _____	
1) You are in orthodontic treatment for over a year?	a) yes b) not
2) Are you satisfied with the choice of your orthodontist?	a) yes b) not
3) You have moved or changed your orthodontist in the last 12 months?	a) yes b) not
3.1) The transfer occurred because you were unhappy with the professional?	a) yes b) not
Answer the questions below according to their experience with your orthodontist. If you answered YES on question 3, answer according to his experience with the previous orthodontist.	
4) What is the financial aspect that influenced your decision to choose the orthodontist?	a) high cost of orthodontic treatment b) low cost of orthodontic treatment c) the cost of treatment did not influence
5) The environment of the office (waiting room, clinic) influenced the choice of orthodontist?	a) yes b) not
6) The title of the orthodontist (specialist, master or doctor), influenced the choice of the professional?	a) yes b) not
7) Would you recommend your orthodontist to your friends, relatives?	a) yes b) not
8) Who do your clinical care?	a) the orthodontist b) the auxiliary
9) You're motivated by his orthodontist (hygiene, use of accessories)?	a) yes b) not
10) How do you rate the information that you transmit your orthodontist?	a) educational b) punitive c) rude
11) How do you feel during the consultations?	a) the integrated office environment b) moved c) do not care about this relationship
12) How many patients are treated simultaneously during their consultations?	a) one b) two c) more than two
13) Your the orthodontist recognize you by the name?	a) yes b) not c) sometimes
14) Have you had any financial problems with your orthodontist?	a) yes b) not
15) When you have any criticisms or suggestions to your orthodontist:	a) my orthodontist never accepts my criticism and suggestions b) I have no opportunity to make comments and suggestions c) I am free to make criticisms and suggestions
16) How do you rate your personal relationship with your orthodontist?	a) very good b) good c) poor
17) How do you rate your orthodontist technically?	a) good b) very good c) poor

TABLE 1 - Percentage distribution of group study in relation to the professional.

DATA		GROUP 1 (n=30) (dissatisfied)		GROUP 2 (satisfied) (n= 30)		TOTAL (n=60)	
		NO	%	NO	%	NO	%
Satisfied with the professional's choice?	yes	0	0	30	100	30	50
	no	30	100	0	0	30	50
Transferred to a professional?	yes	30	100	0	0	30	50
	no	0	0	30	100	30	50
Influence of titles to choose?	yes	17	56,7	27	90	44	73,3
	no	13	43,3	3	10	16	26,7
Recommend the professional?	yes	0	0	30	100	30	50
	no	30	100	0	0	30	50
Are you motivated by the professional?	yes	9	30	26	86,6	35	58,3
	no	21	70	4	13,4	25	41,7
Information supplied:	educational	17	56,7	23	76,6	40	66,6
	punitive	8	26,7	5	16,6	13	21,6
	rude	5	16,6	2	6,8	7	11,8
Professional recognize you by the name?	yes	21	70	28	93,3	49	81,6
	no	9	30	2	6,7	11	18,4
Existence of financial problem with the professional?	yes	11	63,3	3	10	14	23,4
	no	19	36,7	27	90	46	76,6
Criticisms or suggestions:	The orthodontist never accepts	7	23,3	1	3,4	8	13,3
	I have no opportunity to	18	60	4	13,3	22	36,7
	I have freedom to present	5	16,7	25	83,3	30	50
Relationship with the professional:	very good	0	0	20	66,6	20	33,3
	good	4	13,3	10	33,4	14	23,4
	bad	26	86,7	0	0	26	43,3
Technical Rating:	good	12	40	18	60	30	50
	very good	2	6,7	12	40	14	23,3
	bad	16	53,3	0	0	16	26,7

TABLE 2 - Test result used in comparison of groups with respect to the professional.

Questions	Test result	Table value
Professional's titles	8,523	p<0,05
Would you recommend the professional	60	p<0,05
Do you feel encouraged?	19,817	P<0,005
The information transmitted	2,878	p>0,1
The professional recognizes the name	5,455	p>0,1
Had financial problems	5,962	p>0,1
The professional accepts criticism and suggestions	26,823	p<0,005
Personal relationship with the professional	48,571	p<0,005
Technical classification of professional	24,343	p<0,005

TABLE 3 - Percentage distribution of study group with respect to orthodontic treatment.

DATA	GROUP 1 (n=30)		GROUP 2 (n= 30)		TOTAL (n=60)	
	NO	%	NO	%	NO	%
Are you in orthodontic treatment for over a year?						
• yes	30	100	30	100	60	100
• no	0	0	0	0	0	0
Financial aspect that influenced the choice of professional						
• High cost of treatment	2	6,7	4	13,4	6	10
• Low cost of treatment	8	26,7	2	6,6	10	16,7
• the cost did not influence	20	66,6	24	80	44	73,3
The office environment has influenced the decision choice						
• yes	16	53,3	23	76,6	39	65
• no	14	46,7	7	23,4	21	35
How do you feel during consultations						
• Integrated environment	4	13,3	25	83,3	29	48,3
• displaced	18	60	1	3,3	19	31,7
• not care	8	26,7	4	13,4	12	20
How many patients are seen during the consultations?						
• one	5	16,7	16	53,3	21	35
• two	19	63,3	12	40,1	31	51,6
• more than two	6	20	2	6,6	08	13,4
Clinical work done by:						
• orthodontist	16	53,3	22	73,3	38	63,3
• dental assistants	14	46,7	8	26,7	22	36,7

TABLE 4 - Test results used in comparison of groups with respect to orthodontic treatment.

Questions	Test result	Table value
Cost of treatment	4,631	p>0,5
Office's environment	1,795	p>0,5
How do you feel during the consultations	31,750	p<0,005
How many patients are treated	9,343	p<0,05
Who does care clinical	2,583	p>0,1

DISCUSSION

In discussing the work, those questions statistically significant were considered, analyzing and formulating plausible conclusions when comparing patients who consid-

ered themselves satisfied, and patients who thought they were dissatisfied with the performance of the orthodontist. For a better use of data obtained in this study, the results were discussed in threads.

Titles

Regarding the title of the professional, were statistically significant differences between groups. More than half of professionals chosen by the dissatisfied patients had an extensive resume. The results suggest that not only experienced a curriculum to ensure patient satisfaction. Other factors are involved, especially the ability to have a good relationship with the patient.

According to Richter et al,²⁴ and the results achieved, another factor responsible for a patient stays in treatment with the same professional is your satisfaction with the conduct of treatment. Valle,³² determined that patients value the professional expertise and are seeking information against being fooled by professionals without adequate training.

Recommendation of professional

Considering the recommendation of the professional, were statistically significant differences between groups. Table 2 showed the distrust of patients who consider themselves unhappy, to recommend the professional to friends and relatives, doubting the benefits and results achieved by the treatment they could provide. On the other hand, it is clear the recommendation made by the patients who considered themselves happy, because it would indicate the professional to friends and relatives. Thus, it is noted that patient satisfaction was also determined by the indication of the professional to friends and relatives. For Morgens-tern et al,²⁰ a survey of students and teachers of Orthodontics, the main referral source for patients are the patients themselves (89.3%).

Nature of the information provided

Regarding the nature of the information provided, there were no statistically significant differences between groups. The majority of respondents in this study (both those who

considered themselves satisfied as those who considered themselves dissatisfied) claimed to have received educational information by the clinician. This means an average of great concern to professionals in guiding patients during orthodontic treatment.

The transmission of knowledge is an obligation of the professional, but according to our results, it is not a determinant of patient satisfaction. Patients prefer to receive educational information, which influenced the cooperation during treatment. Gerbert et al,¹⁵ assessed professional qualities that patients value. The authors showed that the technical competence, friendliness, courtesy and ability to inform patients about procedures, were very well evaluated by patients.

Patient care

One of the simplest characteristics of human relationships is the recognition of another person by name. In this study, the professional name recognized by most patients in both groups. This suggests that the professional / patient relationship is improving today, despite the presence of clinics that offer various professionals, in which the patient is treated by different people or in an environment where two or more patients are treated simultaneously.

Although no statistical difference between groups, the numerical difference was observed in patients who thought they were dissatisfied. Almost a third of these patients reported that nurses do not recognize them by name. For Cross and Cruz¹¹ probably this is due to the large turnover of patients, present in these clinical professionals, making difficult the task of differentiating them, especially when one considers the large clinics, which are currently booming. When patients realize that health professionals have forgotten your name, you are disappointed, less satisfied, less collaborate with the instructions required. Sinha et al²⁹ for the

psychological impact of a dissatisfied patient may manifest through higher anxiety, less cooperation and eventually poor orthodontic results.

Financial aspect

For most patients who consider themselves unhappy, the cost of treatment did not influence the professional's choice. Supposedly, for these patients, the professional choice could satisfy their aesthetic needs functional and emotional, related to orthodontic treatment. However, most of these patients was not successful in the professional's choice, so that transferred to another specialist.

Informally, it is observed in clinical practice that patients with financial problems becomes disinterested collaborating with the occupation. Similarly, the orthodontist also discouraging to give his utmost in the query. This ultimately compromises the outcome of orthodontic treatment.

Other factors such as failure to communicate with patients, lack of integration in the office setting due to little time for consultation or impatience of the professional, were probably responsible for the dissatisfaction and transfer of these patients. To Atta⁴ in Orthodontics, the tendency is for professionals seeking to treat more patients in less time and at a lower cost, but with favorable results to the professional and patient. The efficiency in clinical care allows the maximization of financial return to the professional.

Professional interactions and patient

With the acceptance of criticism and suggestions by the professional, were statistically significant differences between groups. In this study, among patients who thought they were dissatisfied, 60% had no freedom to express opinions and suggestions. This suggests a failure of communication that existed in more than half of the professionals who had trans-

ferred patients. This fact serves to alert professionals to spend more time cultivating a personal relationship with the patient.

The present study showed that the ability to hear and heed the suggestions of the patient, plus the technical skill of the trader, was important in the acquisition of patient satisfaction.

Chakraborty et al¹⁰ studied the preferences of patients and professionals have determined that the preferred responded to questions from patients, arguing about uncertainty, helping to overcome them. The communication skills were considered important in ensuring patient satisfaction. In this study, the ability of professionals to accept criticism and suggestions also was one of the determinants of patient satisfaction.

Patient's personal relationship with the professional

Considering the personal relationship between patient and professional, were statistically significant differences between groups. In the study, almost 90% of patients who thought they were dissatisfied (Table 1), had a bad relationship with the professional staff, and no patient reported having a very good relationship. These data suggest that patient satisfaction is strongly related to good personal relationship with the professional.

Abrams et al,¹ determined that the patient does not realize is receiving a high-level treatment simply by observing the technical quality of the professional. The critical factor, an indicator of quality of care for the patient, is the psychological attention given to it (a good personal relationship with the professional's patient).

Technical classification of professional

Concerning the classification of the professional technique, we found statistically significant differences between groups. In this study, more than half of patients who consider them-

selves unhappy, technically classified as poor professional, however, these patients may have been influenced by other factors to make such a classification.

Often, the lack of attention to it, plus the difficulty in expressing his opinion regarding the treatment and sense of displacement during the consultations can lead to this sort of professional. The technical classification of the professional was one of the determinants of patient satisfaction.

For Nanda and Kierl,²¹ patients need to choose professionals who treat them with kindness, friendship and expertise. Burke and Croucher⁹ conducted a patient survey to assess the criteria of good dental practice. The most important factors were determined by patient explanation of the procedures in the first place, sterilization and sanitation in second place and professional skills in third place. The factors that influenced the patients were less modern equipment and office setting (decor).

Patient motivation

Considering the motivation of patients were statistically significant differences between groups. In the present study, Table 2 showed that patient satisfaction in orthodontic treatment also depends on the motivation held by the professional. Among patients who considered themselves dissatisfied, 70% were not motivated. These professionals are not complying with their obligations, that is the motivation, guidance, encouragement of the patient.

It was evident the importance of this factor as a determinant of patient satisfaction, as nearly 90% of patients who considered themselves satisfied endorsed the actions of professionals chosen.

The concern of the professional to ensure the welfare of the patient's vital to win it. Sinha et al,²⁹ determined that when the trader does not motivate the patient, making negative

criticism, is impacting negatively on patient adherence to treatment.

Integration of the patient during consultations

There were no significant differences between groups, considering the integration of patients during consultations. In this study, 60% of dissatisfied patients felt displaced during the consultations, which suggests that these professionals often automated procedures performed, carefree in clarifying the doubts and anxieties, maintaining a poor personal relationship, resulting an unhappy patient.

Agreeing with Valle,³² we observed that patients are aware of Orthodontics of what occurs in clinical applications with stringent quality and reliability of professionals in the area.

Number of patients treated simultaneously

Considering the number of patients seen at the same time were statistically significant differences between groups. In this study, more than half of patients who thought they were dissatisfied was served concurrently with another patient in clinic, this seems to suggest that the lack of attention given to the patient, due to the extra volume of patients, also contributes to patient dissatisfaction. It was evident that one of the factors responsible for patient dissatisfaction is the lack of individual attention in attendance.

The patient is starved for attention, need explanation about the progress of treatment, has doubts and insecurities that need to be addressed by the professional.

For Cross and Cruz,¹¹ with the growing number of office-bearers of Orthodontics rooms with various clinical dental chairs, the trader eventually raise the number of patients in vezda quality of care.

Thus, there is devaluation of the patient

/ professional involvement and patient satisfaction with the professional's performance. Orthodontic patients are demanding and require individual attention from professional, otherwise seek another professional opinion.

Office environment

Taking as reference the authors as Hans and Valiathan,¹⁶ we observed that in the absence of a manual for assessing the quality of orthodontic appointment, patients are worth the office setting, personality and his professional team to make the choice of the specialist, although the environment the office is not one of the factors related to patient satisfaction study undertaken by us.

In this study, more than half of dissatisfied patients said it was important the office atmosphere in the choice of professionals. These patients reportedly sought benefits aesthetic, functional and psychological, when the professional's choice, based in the office setting. However, their expectations were not recognized by these professionals, who have invested in decorating the environment, new equipment and devalued the cultivation of communication skills with patients, failing to encourage you, motivate you and answer your questions.

Concluding Remarks

Based on the results presented and discussed, it became evident that patients' satis-

faction in relation to professional performance depends essentially on the good relationship with the professional staff of the patient. When present, the good relationship ensured the integration of the patient in the clinical setting, settled the question that the patient, providing an indication of the professional and the patient's relatives and friends.

The success of the work can be measured by the level of patient satisfaction, not only in relation to results achieved with changes in the treatment of occlusion of a systematic and effective, but also on the expectations addressed. The path to excellence is the knowledge accumulated over time applied in full, willing and hard.

CONCLUSIONS

With respect to this research, it was possible to draw the following conclusions:

- » The factors that were related to the level of patient satisfaction assessed by considering, in relation to the orthodontist, were: title, recommendation of professional motivation, classification technique, professional interactions and patient and personal relationship with the patient.
- » To consider the factors related to orthodontic treatment, those differences were significant at the level of patient satisfaction, were: number of patients treated simultaneously and integrating the patient during consultations.

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