

Reasons That Patients Do Not Return for Appointments in the Initial Phase of Treatment of Temporomandibular Disorders

Jan A. De Boever, DDS, DMD, PhD
Professor and Chairman
Department of Fixed Prosthodontics
and Periodontology
Facial Pain Unit
University of Ghent
Ghent, Belgium

Katrien Van Wormhoudt, DDS
Clinical Consultant
Facial Pain Unit
University Hospital
University of Ghent
Ghent, Belgium

Erika H. De Boever, DDS, MPH
Postgraduate Student
University of Michigan, School of
Dentistry
Ann Arbor, Michigan

Correspondence to:
Dr Jan A. De Boever
Department of Fixed Prosthodontics
and Periodontology
Facial Pain Unit
University of Ghent
De Pintelaan, 185
B-9000, Ghent, Belgium

Patients suffering from pain and dysfunction in the temporomandibular region sometimes ignore appointments after the initial examination. This form of noncompliance is well known and is often studied in patients suffering from recurrent headaches, arthritis, and lower back pain. Information on patients with temporomandibular disorders (TMD) who fail to attend the next visits and do not comply with the proposed treatment is scarce. To 61 patients (aged 20 to 40 years) who did not attend the next visit after an initial examination and after discussing the treatment protocol, a questionnaire was mailed 6 months to 1 year after the first visit. The questions related to reasons for not attending and the possible treatment received. Some questions were also related to the present TMD state. The clinical profiles of the nonattenders were compared to those of a group of 400 TMD patients who did finish the proposed treatment (positive control). The nonattenders had more pain and dysfunction at initial examination than did the treated patients. The treated patients reported a shorter duration of symptoms before seeking treatment than did the nonattenders, suggesting that the latter group had a more chronic pain state. The main reason for not returning was that symptoms improved enough or disappeared completely and spontaneously without the proposed treatment. Sixteen patients did not return for further treatment for reasons linked to the dentist-patient relationship. Fifty-seven percent of the nonattenders reported to be symptom free or sufficiently improved. One year after the initial examination and without the proposed treatment, most still had some symptoms such as clicking (59%) and reduced mouth opening (21%), but only 24% reported to be in need of treatment.

J OROFACIAL PAIN 1996;10:66-72.

key words: temporomandibular disorders treatment, compliance

Some patients suffering from pain and dysfunction in the temporomandibular region ignore appointments after the first examination or after 1 or 2 sessions of initial treatment. However, according to the generally accepted standards of function of the orofacial region, they are still in need of further treatment. Not returning to the clinic after the initial examination is a form of noncompliance. Patient compliance is an important and critical factor in the success and in the outcome of treatment. Compliance with the proposed treatment depends on a variety of factors that have been studied thoroughly over the years mainly in the field of chronic pain and arthritis (for review, see Gerber¹).

In general, it appears that compliance is not correlated or is only weakly correlated to patients' characteristics such as gender, age, race, and marital status. The illness itself seems to be unrelated to the compliance; the characteristics of the illness are more relevant.² Compliance after initial examination is lower in patients suffering from a chronic disease than those suffering from an acute problem. Patients' beliefs and attitudes have a strong relation to the compliance.³

In a follow-up study,⁴ it was found that 40% of headache patients did not return to the clinic for a second scheduled visit after an intensive 1.5-hour initial evaluation. This initial examination did not only focus on the medical and headache history, but a treatment plan and protocol was also discussed with the patient. The main reason for not returning was the patient-clinician relationship (51.4%). Patients who had problems with the proposed treatment plan mentioned this as the primary factor for not returning (25.7%). Travel and waiting time or fees had no influence on whether the patient returned.

For 691 patients in physical therapy for interalial lower back pain, neck and shoulder pain, radiating back pain, and pain after trauma, the degree of compliance was also related to the presence or lack of positive feedback or to the degree of helplessness (patients who do not believe that the exercises would help).² In the literature on temporomandibular disorders (TMD), little attention has been given to aspects of noncompliance. Heløe⁵ was one of the first to study the need, the demand, and the response to a proposed treatment for myofascial pain. Of a sample of 246 young Norwegians, only four accepted a proposed functional treatment for their problem. Smith⁶ studied noncomplying patients with TMD by means of a questionnaire. His results indicated that the dislike of wearing a splint during the night appeared to be the main reason for nonattendance. In a second study,⁷ he stressed the fact that noninclusion of nonattenders in the analysis of treatment results biases the conclusions. Of the 649 individuals in his study, 42 did not attend after the first visit and 81 did not attend splint follow-up. For 67 patients, the condition resolved naturally. The nonattenders did not differ significantly from the attenders in chief complaint. Patients who did not return for splint follow-up had higher pain scores but did not have a longer duration of complaints.

Given the scarce data and information on noncompliance in patients with TMD, the aim of the present study was to examine this group of TMD patients in relation to their clinical profiles, TMD

characteristics, and the reasons for not attending and to evaluate their present TMD state.

Materials and Methods

A questionnaire was sent to 61 consecutive patients (15 males and 46 females aged 20 to 40 years; mean, 31.5 years) who, in spite of three letters, did not return after the first examination. They represented 10% of the patients with TMD treated at the Facial Pain Unit, University of Ghent, Ghent, Belgium, in a 2.5-year period. The questionnaire was mailed 6 months to 1 year after their first visit.

The first examination and history took approximately 1 hour. The patients were subjected to a routine stomatognathic examination to detect signs and symptoms of TMD and to record occlusal conditions. In this first examination, 195 variables such as dental, occlusal, socioeconomic, dysfunctional, and pain were scored for each patient. Based on the history and the clinical investigation, patients were divided into three groups: mainly myogenous TMD problems, arthrogenous TMD problems, or psychologic TMD problems, according to the criteria proposed by Bezuur et al.⁸ In this session, a provisional diagnosis was made, and the patient received counseling and explanation on his/her disease and its possible evolution. If indicated, impressions were already taken to fabricate an occlusal splint. In few cases, pain medication was prescribed. In the second session, the occlusal splint was placed, the necessary instructions were given, and a new appointment was made.

The 20 questions of the questionnaire were related to reasons for not returning (practical, medical, or psychologic), the present subjective functional and pain state, and the use of other treatment modalities not proposed to the patients in our clinic but possibly received in other treatment centers or in private practice. Codification of the questionnaire made identification of the anonymously responding patients possible.

Helkimo's Clinical Dysfunction index (D_i) was calculated⁹ from five clinical symptoms that divided the patients into five dysfunction subgroups. These five groups are usually regrouped into three dysfunction groups (I, II, III) and a zero-score group free of dysfunction. However, to detect any difference in severity between patients, the original five subgroups with dysfunction were analyzed in the present study.

The Helkimo index and the duration of the symptoms were compared statistically to those of a

Table 1 Relationship Between TMD Diagnosis and Compliance

	Non-attenders	Treated	χ^2	<i>df</i>	<i>P</i>
Myogenous	35	272	0.985	1	.321
Arthrogenous	14	92	0.068	1	.794
Psychologic	8	26	4.113	1	.043
Total for all types	57	400	4.168	2	.126

Table 2 Relationship Between Duration of Symptoms and Compliance

	Non-attenders	Treated	χ^2	<i>df</i>	<i>P</i> <
< 3 weeks	15	260	31.154	1	.001
< 3 months	18	84	3.320	1	.08
< 1 year	13	16	29.693	1	.001
> 1 year	11	40	4.351	1	.004
Total for all durations	57	400	46.583	3	.004

larger group of 400 treated patients with TMD (positive control subjects) aged between 15 and 69 years (mean, 28.6 years). These patients were treated according to a conservative protocol that included reassurance, occlusal splint, physiotherapy, and occlusal adjustment. The results of this treatment have been reported previously.¹⁰ For statistical analysis, chi square test was used.

Results

A total of 57 patients (93%) (15 males and 42 females) returned the questionnaires and could be identified as a result of the special code. Table 1 gives the type of TMD based on the initial diagnosis for the nonattenders and for the treated group. The myogenous subtype of TMD was found in most patients (61% and 68%, respectively). No statistically significant difference could be found between the two groups except for the psychologic subtype of TMD, which was present more often in the nonattenders group ($P = .043$). No statistically significant difference was found between the two groups with regard to age or gender.

Twenty-five patients gave practical problems or problems related to the dentist-patient relationship as the main reason for not attending: too expen-

sive ($n = 1$); distance to the clinic ($n = 8$); lack of explanation ($n = 7$); explanation of the disease seemed unlikely and unacceptable ($n = 4$); and did not like the clinic and/or the dentist ($n = 5$). In 29 cases, the patients referred to explanations linked to the disorder itself: became symptom free during the period between the first examination and the next visit ($n = 14$); symptoms did improve enough spontaneously after the first examination ($n = 5$); and symptoms became worse ($n = 10$). Three patients did not give a reason for not attending.

Figure 1 presents the D_i scores at the first visit for the two groups. More nonattenders than treated patients were found in group 5, the most severe dysfunction group ($P = .001$). The differences between attenders and nonattenders in group 4 was high but not statistically significant ($P = .087$). More patients in the treated group than in the nonattenders group belonged to group 1, the mild dysfunction group ($P = .004$).

Figure 2 shows the duration of the symptoms before the first examination. In the treated group, significantly more patients had symptoms for less than 3 weeks as compared to the group of nonattenders ($P < .001$; chi square = 31.154; $df = 3$). There were statistically more patients who had symptoms for more than 1 year in the group of nonattenders than in the treated group ($P < .001$; Table 2).

Thirteen patients in the nonattenders group mentioned that they received other forms of (combined) treatment during the period between the first examination and the time of answering the questionnaire 1 year later. Five underwent dental therapy (extraction of third molar teeth, a new denture, a new fixed partial denture, or orthodontic therapy). One patient took medication (non-steroidal anti-inflammatory drugs), one had intra-articular injections of corticosteroids, one had acupuncture done, one took a course in yoga, and two participated in relaxation therapy. Five patients of the 13 even underwent joint surgery, which was absolutely not indicated according to the clinical judgment of the authors of the present study. The patients judged the outcome of these therapies as successful in eight cases, satisfying in four, and unsuccessful in one. Four additional patients who received some other form of treatment in other clinics were symptom free.

Of the 44 patients who had no further treatment at all after the first examination, 16 reported to be completely symptom free. A total of 14 of the 57 (25%) reported to be in need of further treatment. The most persistent symptom reported (59%) was clicking in one or both joints. Twelve patients

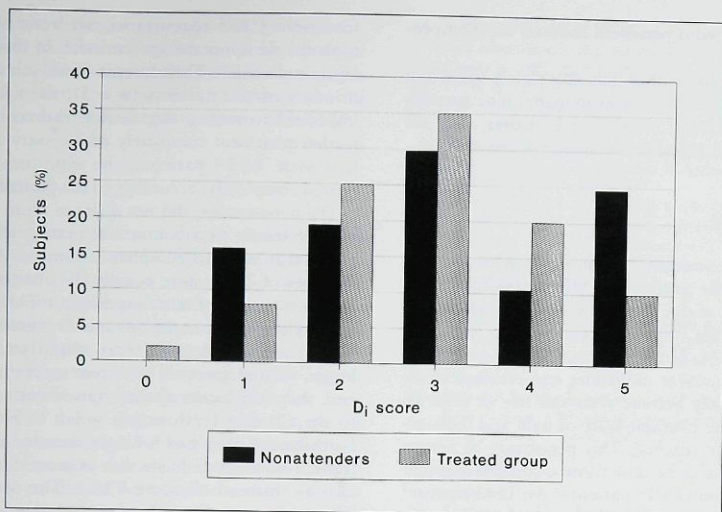


Fig 1 Helkimo's Clinical Dysfunction index at initial examination for the nonattenders and for the treated group.

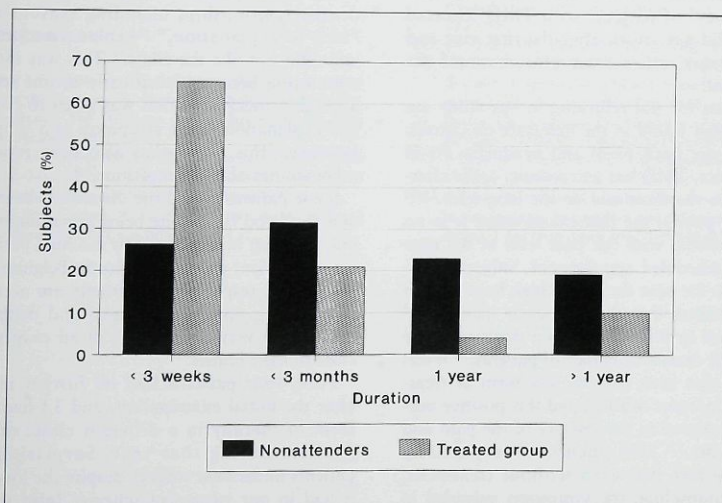


Fig 2 Duration of symptoms reported at first examination for the nonattenders and the treated group.

(21%) reported a persistent reduced mouth opening capacity.

From the group that was completely symptom free at the time of the questionnaire, nine patients had D_1 scores of 1, three had D_1 scores of 2, six had D_1 scores of 3, and two had D_1 scores of 5.

Discussion

In the present study, the patients who did not return for the proposed TMD treatment represented 10% of the patients with TMD referred to the Facial Pain Unit for treatment in a period of almost 3 years. Most patients normally accept the proposed treatment modalities and continue treatment until they become symptom free or until an improved and tolerable state of pain and dysfunction has been reached. This percentage of nonattenders seems to be rather low compared to other studies on nonTMD patients. An investigator² found that up to 40% of the patients were not compliant with the treatment. However, this percentage refers to a group of patients who had physiotherapeutic treatment for a number of weeks or months. In another study,⁴ 40.5% of headache patients did not return after the first visit. A survey⁷ of patients with TMD reported that 6.4% did not return after the first visit and 12.4% did not return after placement of the occlusal splint.

The reasons for not returning in our study are similar to those found in the literature on chronic pain (eg, lower back pain) and headache. As in these disorders, TMD has an episodic, cyclic character both on the short and on the long term.^{11,12} The level of pain at the first examination is in no direct relationship with the pain level at the time of the next scheduled appointment. Subjects seeking treatment for pain do so at a high level of pain or at the moment that the pain cycle increases.¹³ The regression to the mean plays a significant role in shaping the treatment choice of patients.¹⁴ It has been found that even without any form of treatment, the symptoms subside, and this positive outcome is not related to the severity of the pain and the symptoms.¹⁵ This phenomenon partially explains the fact that even without treatment, except for counseling, the symptoms subsided in the nonattenders.

During the first examination, extensive counseling was given to the patients. The benign nature of the disorder, the positive spontaneous evolution, and the high possibility of a positive treatment outcome were explained in detail to patients.

Counseling and reassurance are very powerful tools for the spontaneous remission of this type of chronic disorder. Therefore, it is no surprise that in some of the patients ($n = 5$), the symptoms improved to such a degree that they considered further treatment completely unnecessary after the first visit. In 19 patients, the symptoms disappeared completely, according to the patients.

The nonattenders did not differ in mean age and in male-female distribution when compared to the group that received complete treatment. Also, the subtypes of TMD were equally distributed, except for the subgroup of more psychogenic TMD, which was slightly higher in the nonattenders group.

The nonattenders differed slightly from the larger, treated group in symptom severity. In general, they had higher dysfunction scores according to the Clinical Dysfunction index of Helkimo.⁹ Furthermore, they had a longer duration of symptoms. This might indicate that in general, they had chronic instead of acute TMD. The use of the Clinical Dysfunction index for clinical analysis has been criticized in the past. However, it correlates well with the widely used Craniomandibular Index for clinical evaluation.^{16,17}

Most practical reasons for not attending mentioned by the patients refer to a disturbed patient-dentist relationship, including reasons such as "lack of explanation," "explanation unlikely," and "did not like the clinic." This was rather disappointing because specifically in our treatment approach, much attention was given to counseling and explanation of the symptoms in a simple way. However, this reason has also been reported in other studies of noncompliance.^{2,4}

Some patients found the distance between home and clinic too far despite being a maximum of 100 km. This can be explained by the high patient-dentist and patient-physician ratios in Belgium (1:1000 and 1:290, respectively). Patients are accustomed to receiving necessary medical and dental treatment, even very specialized, in an easy way and close to their homes.

Forty-four patients had no further treatment after the initial examination, and 13 had another form of therapy in a different clinic or private practice during that year. Surprisingly, five patients underwent surgery despite the low priority it had in our treatment scheme. Joint surgery is usually advocated in cases of a failing conservative therapy with much residual pain or in cases of pronounced forms of intra-articular derangement with pain and dysfunction. Of these five patients, some were satisfied with the result, but only two reported to be symptom free afterward. It is well

known that different types of TMD treatment, even some placebo treatments, result in a positive outcome.¹⁸ This is one of the main reasons why a reversible and conservative treatment should always be advocated for most patients with TMD.

Conclusion

From the present study, it can be concluded that patients do not return for various reasons, some linked to the illness and others more practical. However, one of the major reasons is spontaneous improvement of the symptoms as a result of the fluctuating nature of the illness and the positive result of reassurance and counseling. The reason for not attending or not complying does not seem to be related to the degree of pain/dysfunction at the initial examination but rather to other factors, mainly the patient-therapist relationship. In general, these results are very similar to those of studies investigating noncompliance in patients with chronic pain (eg, lower back pain), arthritis, and headache.

References

- Gerber KE. Compliance in the chronically ill: An introduction to the problem. In: Gerber KE, Nehemkis AM (eds). *Compliance: The Dilemma of the Chronically Ill*. New York: Springer, 1986:12-23.
- Sluys EM. *Patient Education in Physical Therapy* [PhD thesis. Maastricht, The Netherlands: University of Limburg]. Utrecht: NIVEL Bibliographies. 1991.
- Heilby EM, Carlson JG. The health compliance model. *J Compliance Health Care* 1986;2:135-152.
- Spierings EGL, Miree LF. Non-compliance with follow-up and improvement after treatment at a headache center. *Headache* 1993;32:205-209.
- Heloe B. *Demand and Need for Treatment of Myofascial Pain Dysfunction (MPD) Syndrome* [thesis]. Oslo, Norway: University of Oslo, 1980.
- Smith JP. Non-compliance in patients with temporomandibular joint dysfunction. *Community Dent Oral Epidemiol* 1983;11:132-135.
- Smith JP. Neglected patients in temporomandibular dysfunction reports. *J Prosthet Dent* 1988;59:78-80.
- Bezuur NJ, Hansson TL, Wilkinson TM. The recognition of craniomandibular disorders. An evaluation of the most reliable signs and symptoms when screening for CMD. *J Oral Rehabil* 1989;16:367-372.
- Helkimo M. Studies on function and dysfunction of the masticatory system. II. Index for anamnestic and clinical dysfunction and occlusal state. *Swed Dent J* 1975;67:101-121.
- Van den Bergh L. *Craniomandibular Disorders. An Epidemiologic, Clinical and Radiographic Study* [doctoral thesis]. Ghent, Belgium: State University of Ghent, 1989.
- Kopp S. Constancy of clinical signs in patients with mandibular dysfunction. *Community Dent Oral Epidemiol* 1977;5:94-98.
- Könönen M, Nystrom M. A longitudinal study of craniomandibular disorders in Finnish adolescents. *J Orofacial Pain* 1993;7:329-336.
- von Korff M, Wagner EH, Dworkin SF, Saunders KW. Chronic pain and use of ambulatory health care. *Psychosom Med* 1991;53:61-79.
- Whitney CW, von Korff M. Regression to the mean in treated versus untreated chronic pain. *Pain* 1992;50:281-285.
- De Leeuw JRJ, Ros WGJ, Steenks MH, Lobbezoo-Scholte AM, Bosman F, Winnebust JAM. Craniomandibular dysfunction: Patient characteristics related to treatment outcome. *J Oral Rehabil* 1994;21:667-678.
- Fricton JR, Schiffman EL. Reliability of a craniomandibular index. *J Dent Res* 1986;65:1359-1364.
- Fricton JR, Schiffman EL. The Craniomandibular Index: Validity. *J Prosthet Dent* 1987;58:222-228.
- Greene CS, Olson RE, Laskin DM. Psychological factors in the etiology, progression and treatment of MPD syndrome. *J Am Dent Assoc* 1982;105:443-449.

Resumen

Razones por las Cuales los Pacientes no Regresan a las Citas en la Fase Inicial del Tratamiento de los Desórdenes Temporomandibulares

Los pacientes que sufren de dolor y disfunción en la región craneomandibular algunas veces ignoran las citas después del examen inicial. Este incumplimiento es bien conocido y a veces es estudiado en pacientes que sufren de cefaleas recurrentes, artritis, y dolor de espalda en la parte inferior. La información de los pacientes con desórdenes temporomandibulares (DTM) que no vuelven a las citas posteriores y que no cumplen con el tratamiento propuesto, es escasa. De 6 meses a 1 año luego de la primera cita, se envió un cuestionario a 61 pacientes entre los 20 y 40 años de edad, quienes no habían acudido a la consulta posteriormente al examen inicial y a la discusión del protocolo del tratamiento. Las preguntas estaban relacionadas a las razones por las cuales los pacientes no habían vuelto, y al posible tratamiento recibido. Algunas preguntas también estaban relacionadas al estado presente de los DTM. Los perfiles clínicos de los no acudientes fueron comparados a aquellos de un grupo de 400 pacientes con DTM quienes habían terminado el tratamiento propuesto (control positivo). Los no acudientes presentaban más dolor y disfunción en el examen inicial en comparación con los pacientes tratados. En comparación con los no acudientes, los pacientes tratados informaron que su sintomatología había sido de corta duración antes de buscar tratamiento, lo cual indica que los no acudientes presentaban un estado de dolor más crónico. La razón principal de tal ausencia, se identificó con el hecho de que los síntomas habían mejorado lo suficiente o habían desaparecido completamente y espontáneamente sin el tratamiento propuesto. Diez y seis pacientes no volvieron para ser tratados posteriormente debido a razones vinculadas a la relación entre el odontólogo y el paciente. El 57% de los no acudientes comunicaron que no tenían síntomas o que habían mejorado suficientemente. Un año después del examen inicial y sin el tratamiento propuesto, la mayoría todavía presentaban algunos síntomas de clic (59%) y apertura bucal reducida (21%), pero solo 24% de los pacientes informaron que necesitaban tratamiento.

Zusammenfassung

Gründe, wieso Myoarthropathie-Patienten nach dem Erstuntersuch nicht mehr zu Sitzungen erscheinen

Patienten mit Myoarthropathien kommen manchmal nach dem Erstuntersuch nicht mehr zu weiteren Sitzungen. Gut untersucht ist diese Form schlechter Compliance schon bei Patienten mit rezidivierenden Kopfschmerzen, Arthritis und Kreuzschmerzen, aber praktisch nicht bei Myoarthropathie-Patienten. An 61 Patienten (20- bis 40-jährig), welche die Weiterbehandlung verweigerten, wurde ein Fragebogen innerhalb von 6 bis 12 Monaten nach dem Erstuntersuch geschickt. Die Fragen bezogen sich auf die Gründe, wieso die Patienten nicht mehr erschienen sind und auf eventuell anderswo durchgeführte Behandlungen. Einige Fragen bezogen sich auch auf den aktuellen Stand der Myoarthropathie. Die klinischen Profile dieser Patienten wurde mit einer Gruppe von 400 MAP-Patienten verglichen, welche die vorgeschlagene Behandlung zu Ende führten (positive Kontrollgruppe). Die Patienten mit der abgebrochenen Behandlung hatten beim Erstuntersuch stärkere Schmerzen und ausgeprägtere Dysfunktion als die behandelten Patienten. Die letzteren berichteten über eine kürzere Dauer der Symptome vor Beginn der Behandlung als die anderen, was bei den letzteren auf einen mehr chronischen Schmerzzustand schliessen lässt. Der Hauptgrund für das Abbrechen der Behandlung war das genügende oder komplette spontane Verschwinden der Symptome ohne Durchführung der vorgeschlagenen Behandlung. 16 Patienten kamen nicht mehr wegen einer gestörten Zahnarzt-Patienten-Beziehung. 57% berichteten über Symptomfreiheit oder genügende Linderung. Ein Jahr nach dem Erstuntersuch hatten die meisten einige Symptome wie Knacken (59%) und reduzierte Mundöffnung (21%), aber nur 24% hatten ein erneutes Bedürfnis nach Behandlung asymptomatischen Probanden.