

# Quality of life in chronic trigeminal neuralgia patients\*

## Qualidade de vida em pacientes com neuralgia trigeminal crônica

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### ABSTRACT

**BACKGROUND AND OBJECTIVES:** Trigeminal neuralgia is a debilitating painful condition found in some patients. It is classified as neuropathic episodic pain, reported as “electric shock”, “burning” and/or “tingling”. This study aimed at evaluating the impact of trigeminal neuralgia on quality of life and its association with pain duration.

**METHODS:** Participated in the study 20 patients above 40 years of age, who were divided in two groups. Group I was composed of 10 trigeminal neuralgia patients and group II of healthy painless patients. All patients have filled a visual analog scale about pain severity and the Oral Health Impact Profile questionnaire about quality of life. Group I patients were also asked about time of pain onset. Data were recorded and submitted to statistical analysis (Spearman correlation and Mann-Whitney tests).

**RESULTS:** Trigeminal neuralgia significantly and negatively impacts quality of life ( $p \leq 0.01$ ). However, neither pain intensity nor pain duration seem to be associated with this result.

**CONCLUSION:** Trigeminal neuralgia negatively impacts quality of life regardless of pain intensity.

**Keywords:** Chronic pain, Facial pain, Quality of life, Trigeminal neuralgia.

### RESUMO

**JUSTIFICATIVA E OBJETIVOS:** A neuralgia trigeminal é uma condição dolorosa debilitante encontrada em alguns pacientes. É classificada como uma dor neuropática episódica, reportada como “choque elétrico”, “queimação” e/ou “formigamento”. O objetivo deste estudo foi avaliar o impacto da neuralgia trigeminal na qualidade de vida e sua associação com o tempo de dor.

**MÉTODOS:** Foram avaliados 20 pacientes, acima de 40 anos, divididos em 2 grupos. O grupo I foi formado por 10 pacientes com neuralgia trigeminal e o grupo II por 10 pacientes saudáveis, sem dor. Todos os pacientes preencheram uma escala analógica visual sobre a gravidade da dor e o questionário *Oral Health Impact Profile* sobre qualidade de vida. Os pacientes do grupo I também foram questionados sobre o tempo de início da dor. Os dados foram registrados e submetidos a análise estatística (testes de correlação de Spearman e de Mann-Whitney).

**RESULTADOS:** A presença da neuralgia trigeminal tem impacto significativo e negativo na qualidade de vida ( $p \leq 0,01$ ). No entanto, nem a intensidade da dor, nem o tempo de dor parecem estar associados a esse resultado.

**CONCLUSÃO:** A neuralgia trigeminal exerce um impacto negativo na qualidade de vida, não importando a intensidade da dor.

**Descritores:** Dor Crônica, Dor Facial, Neuralgia trigeminal, Qualidade de vida.

### INTRODUCTION

According to the International Headache Society (IHS)<sup>1</sup>, trigeminal neuralgia (TN) is an episodic neuropathic pain, reported as electric shock, disabling and intense. Pain is felt in the area innervated by the trigeminal nerve, most commonly the second and/or the third divisions<sup>2</sup>. Diagnosis is made primarily by clinical history and anamnesis. Pain is fast, lasts just a few seconds and is unilateral, in a branch of the distribution of the affected nerve being triggered by a stimulus generally mild and not harmful (eg. shaving, combing hair, speaking) of a trigger zone. There is a latency period between each episode and painful attacks are stereotyped in each patient.

The understanding and management of patients with chronic orofacial pain is probably the biggest challenge faced by professionals<sup>2,3</sup>. Individuals with chronic pain have a multifactorial problem with physical and psychosocial symptoms<sup>4,5</sup>. Recognizing the psychological components of pain is critical to conduct an effective treatment<sup>6</sup>. The pathophysiology of TN has received more attention in the literature over the past years. However, it is suggested that facial pain needs to be viewed from a global perspective, including not only biological features but also their social and psychologic influences. That is particularly interesting because one can better understand the health outcomes and disease impact on quality of life (QL). According to the biobehavioral model of disease, emotions can facilitate or inhibit orofacial pain. Physical discomfort, behavioral and functional limitations and psychosocial disability, may influence on how one can res-

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pond to a treatment modality and also indicate if it is being successful<sup>7,8</sup>. Chronic pain has multiple etiologies thus, hearing TN patients' emotional, social, functional and behavioral complaints improves doctor's diagnosis of this poorly understood condition. Despite TN being a very debilitating disease, there are not many papers in the literature that specifically assess the QL of patients with trigeminal neuralgia<sup>2</sup>.

The aim of this cross-sectional preliminary study was to evaluate the impact of TN and pain intensity on QL.

## METHODS

Sample was comprised of twenty female volunteers up to 40 years old, selected from individuals seeking treatment for orofacial pain at Bauru School of Dentistry Orofacial Pain Center. Two groups were formed, according to the following criteria. Group I was comprised of 10 patients with classical TN pain, according to the IHS criteria<sup>1</sup>, without prior treatment. The IHS criteria for TN are: unilateral disorder characterized by brief electric shock-like pains, abrupt in onset and termination, limited to the distribution of one or more divisions of the TN. Pain is commonly evoked by trivial stimuli including washing, shaving, smoking, talking and/or brushing the teeth and frequently occurs spontaneously. Small areas in the nasolabial fold and/or chin may be particularly susceptible to the precipitation of pain. Pains usually remit for variable periods.

### Diagnostic criteria

1. Paroxysmal attacks of pain lasting from a fraction of a second to 2 minutes, affecting one or more divisions of the TN.
2. Pain has at least one of the following characteristics:
  - Intense, sharp, superficial or stabbing;
  - Precipitated from trigger areas or by trigger factors;
  - Attacks are stereotyped in the individual patient;
  - There is no clinically evident neurological deficit;
  - Not attributed to another disorder.

All TN patients had unilateral pain, affecting V2 branch of the TN. Four of them had pain on the left side and 6 of them had pain on the right side. All patients were experiencing frequent daily paroxysmal pain, with few seconds of duration, for at least 90 days. None of them had already been submitted to any invasive and/or surgical treatment modality prior to the present evaluation. Patients from Group I were selected from those seeking treatment for orofacial pain and by the time of the present study were already taking 300mg/day of carbamazepine for 7 days. Group II was comprised of 10 healthy and painless female patients. Those patients were recruited by advertisement. Illiterate and/or patients with history or diagnosis of mental or psychosomatic disorders, headaches and/or multiple sclerosis were excluded from the sample.

Mean pain intensity was obtained through a visual analog scale (VAS) ranging from 0 to 100 mm. Time of pain onset was questioned and recorded in months. To evaluate the impact of TN on daily life of patients, the Oral Health Impact Profile (OHIP) modified for orofacial pain patients was used. In this inventory, the final score varies from 0 to 30 and higher scores indicate a hi-

gher impact of pain on patient's quality of life. All subjects were interviewed once by the same examiner. After that, they were all referred for treatment.

Statistical analysis was performed using Spearman correlation and Mann-Whitney tests to verify the correlation and association between variables: pain onset, pain intensity and quality of life. The level of significance was set at 5%.

All subjects signed the informed consent to procedures approved by the Ethics Committee of Bauru School of Dentistry, University of São Paulo, protocol #139/2009.

## RESULTS

Twenty patients with age between 41 and 75 years were evaluated. Statistical analysis showed that there was a significant difference between groups for age and for quality of life. Table 1 shows mean age and OHIP mean scores for both groups.

**Table 1.** Mean age (years) and quality of life (OHIP mean scores) by groups

	Group I	Group II	p value
Age	62.40±11.24	47.70±4.83	0.00*
Quality of life	16.90±6.59	1.10±2.33	0.00*

\*Statistically significant.

For group I, duration of pain was found to vary from 18 to 360 months. Mean pain intensity varied from 26 to 100mm in the VAS, with a mean value of 73.30±28.79. Correlation tests were performed between OHIP score and pain intensity (R=0.18, p=0.62), as well as pain onset and VAS (R=-0.56, p=0.09) and OHIP score and time of pain onset (R=-0.47, p=0.17). However, none of them was statistically significant.

## DISCUSSION

Differences in mean age between groups were already expected. It is known that TN has a higher prevalence between subjects above 50 years old<sup>9</sup>. Mean age results found for group I are in accordance with other authors<sup>10</sup>. Healthy patients from group II had a significantly lower mean age than experimental group. This was probably because younger patients, with the same age of group I, who did not have TN, or any other disease here considered as exclusion criteria, are not easily found in the general population.

According to previous articles<sup>8,11</sup>, patients with orofacial pain seem to have a handicap in quality of life. The same was found in the present study, where TN patients showed a significant handicap in their quality of life when compared to those without pain. There are no studies in the literature similar to the present one, using the OHIP questionnaire modified for patients with orofacial pain. Therefore, there are no numeric values for comparison. However, some studies with a similar general conclusion will be presented and discussed.

Unlike patients with Temporomandibular Disorders<sup>12</sup>, TN patients do not have a greater impact on quality of life the more severe is pain intensity. Moreover the mean score obtained for

OHIP in TMD patients is lower, about 11.74<sup>11</sup>. Perhaps TN is a condition so disabling that only being there, even in mild intensity, is enough to poorly and significantly influence the quality of life of the individual.

The OHIP questionnaire proved to be a good simple tool to assess the impact of the presence of trigeminal neuralgia in patients' lives and also may serve as a marker of efficacy of different treatment modalities for this condition. This can be done using other QL questionnaires, such as the 36-item Short Form Health Survey (SF-36). It is suggested that the recovery of a surgery may be influenced by QL factors. TN patients who underwent microvascular decompression (MVD) took almost a year to recover from social and emotional limitations<sup>13</sup>. A short form of this same questionnaire, SF-36 was used to evaluate the long term effect of Gamma Knife Surgery in TN patients. On a scale from 0 to 10, patients rated a mean score of 7.8±3.1 for their QL after treatment. And 61% indicated that pain did not interfere with their normal daily activities<sup>14</sup>. Although none of these two studies measured QL score prior to surgical intervention, which prevents outcome comparisons. Another study<sup>15</sup> evaluated TN patients' QL using part of the EuroQol EQ-5D questionnaire, before and after intervention with radiofrequency thermocoagulation of the Gasserian ganglion. Baseline QL scores varied from 27.8 to 32.0 on a 0 to 100 scale. After radiofrequency treatment all TN patients had a statistically significant improvement of QL. These authors did find a significant correlation between pain intensity and QL (R=0.93), unlike the present study (R=0.18).

In addition, all patients here evaluated in group I had TN pain persisting at least for more than 3 to 6 months, which can be considered as chronic pain. It is known that chronic pain is associated with psychological symptoms and persistent central sensitization of the central nervous system<sup>2</sup>. Macianskyte et al.<sup>5</sup> conducted a study with 30 patients with TN and chronic unspecified facial pain, and 30 patients with atypical facial pain. Subjects were evaluated for duration of pain, levels of anxiety and depression through the use of questionnaires. Results showed that patients with TN had higher levels of pain, anxiety and depression when compared to the group of atypical facial pain. A limitation of the present study was not having evaluated depressive and anxiety symptoms in these patients.

Patients with chronic pain experience dramatic changes in their lifestyle, resulting from persistent pain. The frustrations of unsuccessful treatments are added to the suffering caused by pain. With the course of time, often associated with depression, breakdowns occur within the family and the patient becomes in-

capacitated. Therefore, in these cases, interventions should be addressed directly to the patient, with the main objective of improving QL through symptom relief, psychotherapy, functional improvement and limitation of disease progression<sup>2-4,6</sup>.

## CONCLUSION

Even considering the small sample and some limitations the present data indicates that presence of TN has a negative impact on patients' quality of life. However, time and intensity of pain do not seem to influence such association.

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