



## Phonophoresis therapy for TMD pain control

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### 1 INTRODUCTION

Temporomandibular dysfunction (TMD) according to Okeson, (1998) is the term used to describe a comprehensive condition of clinical changes in the orofacial region, temporomandibular joint (TMJ) and adjacent structures, where it is most commonly observed the painful symptomatology present in the dysfunctions of the masticatory muscles and cervical muscles. A non-invasive therapeutic option for TMD control is phonophoresis, a technique that associates therapeutic ultrasound with a drug, described by Skauen and Zentner (1984), as drug movement through intact living skin and soft tissues under the influence of an ultrasonic disturbance, enabling greater spreading, penetration and absorption of the drugs used.

### 2 OBJECTIVE

The aim of this study was to evaluate pain control using the phonophoresis technique associated with a herbal cream in a patient diagnosed with muscular TMD.

### 3 METHODOLOGY

The patient sought care in private practice and received a diagnosis of temporomandibular dysfunction (TMD) muscle subtype according to the classification criteria of the DC/TDM - Axis 1, Ohrbach R., (2016). During the clinical palpation examination, the most painful points of the parotidomastoid regions were demarcated with the use of a dermatographic pencil and in sequence in order to ensure the reproducibility and standardization of future measurements of these points a transfer face mask was made. The patient underwent tests to measure the pain threshold at the demarcated points using pressure algometry at three times: (T1) before therapy; (T2) immediately after therapy; (T3) 24 hours after therapy, and received ultrasound therapy for 4 minutes, in the parotidomastoid regions bilaterally, with the device set in continuous mode, intensity of 0.5 watt, with a frequency of 1MHZ and using as a contact



medium the phytotherapeutic cream composed of honeydew, aloe vera, ginger, mint oil and arnica. The data recorded in kilograms, were collected and tabulated in excel program.

#### **4 DEVELOPMENT**

Phonophoresis is another therapeutic option for pain control in cases of muscular TMD. Safe and effective, its technical parameters are very well addressed and defined by Low and Reed, (2001). The present study corroborates this statement. The data collected at each moment were added and divided by simple average, and the results obtained were: T1 = 1,230 kg; T2 = 1,630 kg; T3 = 1,870 kg. The results point to an increase in pain threshold under the algometry tests. Clinically it reduced pain and provided a gain in range of mandibular movements. The patient spontaneously reported relief and muscle relaxation, contributing to treatment compliance.

#### **5 FINAL CONSIDERATIONS**

Phonophoresis is a technique widely used in physiotherapy and related areas, and although it is simple to perform, it requires mastery of the technique by the professional. In this case report, the conclusion was favorable, pointing out benefits to the patient; however, new studies are necessary in order to confirm the safety, efficiency, and technical improvement.



## REFERENCES

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