

**Effect of smell and taste stimuli on pain perception in patients with chronic oral burning pain: an exploratory study**

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*Introduction:* Oral burning pain is usually associated to the “Burning Mouth Syndrome”, a painful status where the oral pain has no causative reasons [1]. It mainly affects menopausal and post-menopausal women, and the incidence and prevalence are not well-established [2]. Growing evidence on multisensory integration states that different smell and taste substances exert an effect on experimentally induced pain, but in a clinical context results are still preliminary [3]. In patients with chronic oral burning pain, to our knowledge, a systematic evaluation is absent.

*Objective:* We decided to perform an exploratory study on chronic oral burning pain patients to evaluate multisensory interaction, namely the effect of different olfactory and gustatory substances on pain perception.

*Methods:* Twenty-two patients with chronic oral burning pain were tested with different olfactory and gustatory substances, of pleasant, neutral and unpleasant valences, in multisensory interaction. Pain intensity and unpleasantness were collected on a numerical rating scale from 0 to 10 at baselines and immediately after each substance administration, similar to our previous works [4,5].

*Results:* The unpleasant smell and taste stimuli increased the perception of pain unpleasantness compared to pleasant and neutral ones. No effect was detected on pain intensity. Pain modulation for both intensity and unpleasantness correlates with the subjectively valence of the smell substances: the more they were disliked, the more they increased the pain, and the more they were liked the more they decreased the pain.

*Conclusions:* These preliminary data highlight that the valence of a chemosensory stimulus might impact chronic oral burning pain perception. Future studies are necessary to unravel the role of chemosensory stimuli on this chronic and disabling pain condition.

**References**

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