Mind-Body Considerations in Orofacial Pain

Hayley A. Cole, MS[a], Charles R. Carlson, PhD, ABPP[b,*]

KEYWORDS

• Psychosocial connection • Psychology • Diagnosis • Orofacial pain management

KEY POINTS

- Matched cohort and prospective studies have shown strong associations between OFP and psychological dysfunction. Depression and somatization consistently appear as predictors of OFP onset and maintenance and pain-related disability.
- Sleep quality, parafunctional behaviors, and smoking history serve as important behavioral predictors for TMD development and maintenance.
- Findings suggest there are likely reciprocal relationships between emotions, cognitions, behaviors, and pain experiences for patients with OFP such that dysfunction in one area increases the odds of dysfunction in another.
- Research supports multimodal OFP interventions that address cognitive distortions, self-regulation, and behavioral management.

INTRODUCTION

Orofacial pain (OFP) is a broad term that refers to pain experienced in the face, mouth, or neck. Although a wide variety of disorders can lead to OFP, clinicians and researchers are particularly interested in temporomandibular disorders (TMDs) because they are a frequently experienced and often debilitating class of pain disorders. TMDs are the third most commonly reported chronic pain condition in the world[1] and are estimated to affect between 5%[2] and 10%[3] of the adult population. Some estimates suggest women are up to three times more likely than men to develop a TMD, and TMDs occur more frequently in older adults and non-Hispanic white persons.[4] Despite the high prevalence rates, patients with OFP often find it difficult to receive adequate care. Studies suggest that somewhere between one-half and two-thirds of TMDs fail to remit within 5 years of onset.[4] A recent survey of 101 patients with chronic OFP revealed that on average, patients attended seven consultations with health providers

Disclosure Statement: The authors have nothing to disclose.
[a] Department of Psychology, University of Kentucky, 111 Kastle Hall, Lexington, KY 40506, USA;
[b] Department of Psychology, Orofacial Pain Clinic, University of Kentucky, 209-A Kastle Hall, Lexington, KY 40506, USA
* Corresponding author.
E-mail address: ccarl@email.uky.edu

Dent Clin N Am ■ (2018) ■–■
https://doi.org/10.1016/j.cden.2018.06.004 **dental.theclinics.com**

and saw three specialists to treat their pain; and even then, only 24% of patients classified their treatment as "successful."[5]

OROFACIAL PAIN AND PSYCHOSOCIAL FACTORS

Numerous research groups in the twentieth century demonstrated that OFP is often associated with significant psychological dysfunction. Patients who report OFP symptoms also report higher rates of anxiety and depression than matched non-OFP control subjects.[6–9] Researchers have found strong associations between OFP and trauma. Anonymous patient surveys indicate that 68% of OFP patients report a history of physical or sexual abuse.[10] However, evidence is mixed as to whether or not abuse history relates to pain severity.[10,11] OFP has also been linked to factors associated with general psychological well-being, such as sleep quality,[9] fatigue,[12] self-deception,[12] respiration rate,[7] cardiovascular activity,[13] and emotionality.[13]

Although twentieth century work helped to establish that an association exists between OFP and psychological functioning, most of these studies were limited to correlational work with matched control subjects and thus, researchers were unable to establish temporal relationships between these variables. During this time period, two studies used longitudinal designs to follow patients presenting with TMD and identify psychological factors that differed between patients with acute and chronic TMD.[14,15] Although there was some evidence to suggest depression and somatization relate to TMD chronicity,[15] there was no evidence to suggest that psychological factors predict changes in pain intensity over time.[14]

Together, these studies speak to the idea that OFP likely has physical and psychosocial components. However, the studies stopped short of allowing investigators to determine whether psychological distress is a precursor to OFP, psychological distress is a by-product of dealing with chronic OFP, or co-occurrence is less sequential in nature (eg, both disorders are the consequence of some other variable). As a result, by the end of the twentieth century, the National Institutes of Health consensus conference on TMD management called for the development of conceptual theories and high-quality empirical studies that could clarify the role of psychosocial variables in the development and maintenance of TMDs.[16]

TWENTY-FIRST CENTURY ADVANCEMENTS IN OROFACIAL PAIN: OROFACIAL PAIN: PROSPECTIVE RISK EVALUATION AND ASSESSMENT STUDIES

Heeding the National Institutes of Health TMD conference's call, a group of international scientists initiated The Orofacial Pain: Prospective Risk Evaluation and Assessment (OPPERA) study.[4] The OPPERA study was the first large-scale, prospective study designed to identify biopsychosocial factors that contribute to TMD development and maintenance. The original OPPERA studies spanned 7 years and included a case-control and a prospective cohort study. The case control study matched 185 persons with chronic TMD to 1633 asymptomatic control subjects to identify factors that appeared more frequently in TMD patients than non-TMD patients. The prospective study recruited 2737 volunteers with no past or present TMD diagnoses and followed participants for up to 5 years (mean, 2.8 years) to identify features present at baseline that predicted the development of TMD.[17] Both studies used samples of adults between the ages of 18 and 44 recruited around four large cities in the United States. Taken together, the two studies helped to identify psychological and physiologic factors that seem to contribute to TMD onset and chronicity. Because of the limited scope of this article, only findings most relevant to the relationship between OFP and psychological factors are reported next.