

Emotional diagnosis in patient relationship management

Abstract

Research around facial expression of emotions has only made significant progress in the last two decades, remaining closely connected to the emerging empirical knowledge in the field of non-verbal communication. Understanding the phenomenon of Pain experience involves and raises questions across various healthcare specialties, and therefore, it should be approached in a necessarily multidisciplinary manner, emphasizing the Biopsychosocial nature of the pain phenomenon. It is essential to implement the true biopsychosocial model from a Patient-centered perspective, in which the Dentist should position themselves, in essence, within the context of the Dentist-Patient Relationship as a “reader of the facial expressions” of the Patient, with the relationship established with the “Silent Patient” functioning as a “therapeutic analgesia” within the context of the Dentist-Patient relationship. Nevertheless, the major challenge facing the Dentist in relation to the subjective language of Pain is a matter of time availability, both due to the demands of healthcare institution management models, which allocate little time for Therapeutic dialogue, and the intrapsychic availability of both the Patient and the Healthcare Professional.

Keywords: emotional diagnosis, dentistry, orofacial pain, dentist-patient relationship, clinical education

Volume 16 Issue 3 - 2025

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Received: July 18, 2025 | **Published:** August 13, 2025

Introduction

The relationship between the Dentist and the Patient seeking their healthcare services is more complex than it appears to be. The “first contact” between the Dentist and the Patient is often constrained by spatiotemporal factors inherent to clinical practice, even though it is considered the cornerstone of any therapeutic relationship.

Pain is the most common reason for seeking consultation, presenting either as a major symptom or as the condition itself (emotional pain).¹⁻³ The patient is the only one capable of describing it, albeit in its subjective dimension and through their own narrative, personalizing this biological phenomenon as a clinical situation where pain is a symptom. Different individuals perceive and react to pain in various ways, with inter- and intra-individual variation being noted.⁴⁻⁷

The understanding of pain should not be confined to its neurosensory expression; it must also be interpreted as an Emotional Message, a hidden perceptual metaphor that the clinician must learn to decode, following the guidance of the Biopsychosocial model proposed by Engel, the father of American Psychosomatic Medicine.⁸

For effective clinical data collection, the healthcare professional must be able to differentiate and identify the various forms of verbal and non-verbal communication. The metalanguage of pain includes emotional prosody through variations in tone of voice and facial expressions, which together constitute the narrative of the patient in question.

The current Patient requires the Dentist to have personal and professional skills that go far beyond their specific and specialized academic training. Providing quality healthcare services challenges us to integrate the body and mind, in a holistic view of the complaint with its meaning and interpretation, considering the experiences, emotions, and personality of the person who experiences pain, with pain, and, in some situations, for pain. This is the recipe for making a difference.

Pain, described as an “unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in

terms of such damage,” generally, and oral cavity pain, in particular, is considered (1) a sensory experience that motivates the patient to seek dental healthcare services and influences the perception of emotions by creating physical discomfort, and (2) a biological defense mechanism, an internal signal that alerts to a potential or actual risk to the organism (IASP).

The experience of pain is multidimensional in nature. Anxiety, the expectations of the patient and/or family members, the patient’s interpretation of symptoms, self-efficacy, and perception of control, social support, and personality are psychological factors intrinsic to the individual that influence the experience of pain. Pain perception can be affected by cognitive, social, psychological, and cultural factors. Diagnosing pain in a clinical context is challenging due to its subjective nature, which reflects inter- and intra-individual variability and may originate from the presence or absence of clinical signs. This sensory manifestation is expressed in multiple ways as a result of a complex emotional experience, whose perception varies depending on the context, the meaning attributed to the pain, and the emotional state of the patient.^{2,4,5-7,9}

Pain is clinically assessed according to a classical biomedical model, which guides the clinician in gathering relevant clinical data about the patient under study (anamnesis) based on the patient’s subjective narrative. This is complemented by laboratory and imaging tests to “construct” the history of the patient’s current illness. Any diagnosis of pain involves investigating its origin and implementing a therapeutic approach to eliminate or alleviate it, providing only sensory relief.⁵⁻⁷ This model, however, does not explain pain in its emotional dimension.

Engel emphasizes the shortcomings and limitations of the traditional biomedical model and advocates for the adoption of a psychosomatic (Biopsychosocial) approach.⁸ This approach is based on the constant biological, psychological, and social interaction of the human being and the variable clinical expression of the different dimensions involved in a dysfunction, with the impact of each

dimension depending on the individual's personality, socio-familial context, and the "weight" of each factor in the dysfunction itself. Pain is thus described in the following dimensions:

1. Sensory, related to "feeling";
2. Cognitive, involving understanding and evaluating its meaning;
3. Emotional, reflecting the resulting feelings and emotions; and
4. Motivational, which drives the initiative to seek healthcare and make decisions.^{1,2,10}

Imaging studies, such as Positron Emission Tomography (PET), have confirmed the significant influence of cognitive and emotional aspects on pain perception.¹¹⁻¹⁹ Functional imaging has also highlighted the sharing of the same neurophysiological circuits by physical pain and emotional pain.^{12,15,20-23}

The intimate, interconnected, and coordinated relationship between the body and the mind, metaphorically referred to as the "body-mind relationship," represents a symbiosis between these two aspects. Thus, a negative emotional state enhances the perception of pain, while a positive state reduces it.^{12,18,24,25} The autonomic nervous system, responsible for coordinating all internal organs, is regulated by the limbic system, which is, in turn, influenced by the affective and emotional experiences of the individual within their social context.^{26,27}

Pharmacotherapy influences the functioning of this relationship, as studies on pharmacological efficacy have shown that negative expectations can reverse the analgesic effect, while the expectation of pain relief plays a significant analgesic role in a placebo.^{28,29}

In a clinical context, a simple psychological intervention, such as the introduction of distracting elements, has a significant effect on pain perception, assisting the clinician in gathering information about this sensory experience.^{12,30} Complex emotional states, such as empathy- which incorporates both emotional and cognitive factors—alter the way we individually perceive pain.²⁴

Somatization is a complex phenomenon with conceptual ambiguity, characterized by a pattern of unexplained physical complaints that appear to be related to underlying psychological, psychiatric, or social aspects.^{31,32} This process does not represent a specific diagnostic entity, nor does it imply the presence of a psychiatric disorder; rather, it reflects the interactive and dynamic nature of the biopsychosocial model. This clinical challenge should be addressed while respecting the ways in which patients monitor their bodies, define and interpret their symptoms, take corrective actions, and engage with the healthcare system.

When organic diagnosis and somatic treatments are prioritized, neglecting emotional indicators, patients face the absence of medical validation for their subjective distress. This leads to an increase in the prescription of supplementary tests to aid in the definitive diagnosis and an incessant search for more specialized healthcare services, perpetuating an alternative cycle of chronicity. This feeling of powerlessness drives the patient to seek more healthcare professionals, an increase in the number of consultations with their regular doctor, and the investment in more specific and often inconclusive diagnostic tests.

Pain is a complex, subjective, and multidimensional perceptual phenomenon, as it constitutes a unique experience for everyone. Therefore, healthcare providers can only assess it indirectly.³³ Consequently, the assessment of pain in a patient depends on how they communicate it, either verbally or behaviorally. Turk and colleagues

state that it is highly unlikely to assess pain without relying on the patient's individual perception.^{4,34}

Nevertheless, the major challenge faced by the clinician regarding the Language of Pain is a matter of time availability, both due to the demands of healthcare institution management models that allocate limited therapeutic time for dialogue and the intrapsychic availability of the patient, as well as the "uncomfortable" proximity in the therapeutic setting. The clinician should strive to establish an empathetic and therapeutic relationship by showing understanding and being capable of effectively responding to the patient's needs, in accordance with the various emotional experiences of the other person. At the undergraduate education level, there is an attempt to clinically format students, focusing on clinical procedure protocols, while neglecting training in socio-affective (psychological?) care and the exploration of the patient's narrative. Dias states that the sharing of information can be considered as a kind of corrective lens, compensating for the deficit in the relational dimension observed in the doctor-patient relationship.³⁵

The facial expression of physical pain is a non-verbal communication signal to which the Dentist should be attentive.³⁶ There are specific facial movements related to the experience of pain, mentioned by Darwin (1872-1965) and cited by Williams, namely, "[...] "the mouth may be closely compressed, or more commonly the lips are retracted, with the teeth clenched or ground together . . . The eyes stare wildly as in horrified astonishment, or the brows are heavily contracted" (p. 446).³⁷ Additionally, Williams analyzed various facial expressions of physical pain and created a "map" of pain on the face, where he highlighted the existence of eyebrow depression, eyelid closure, and elevation of the upper lip as facial signs in the upper part of the face, and cheek elevation, wrinkling of the nose, and eye closure as facial signs in the lower part of the face.³⁷ In studies conducted on individuals with chronic temporomandibular pain of Caucasian ethnicity, it was found that the most frequent expressions were sadness in female individuals and anger in male individuals.³⁸

Freitas-Magalhães states that the smile is a neuropsychological reaction that manifests in situations where the subject is happy or in well-being, and when this is not the case, the smile is inhibited and repressed, resulting in what we know as the smile of pain.³⁹ When this occurs, it manifests only at the level of the mouth. In addition to being a social mechanism, the smile is also an emotional self-regulator, known as the smile of sadness.^{1,39,40}

Regarding muscular dynamics, there is a high correlation between the zygomatic muscles and the perception of facial expressions of pain, with the contraction of these muscles giving rise to the so-called "smile of pain".^{41,42}

In the context of the consultation and the manifestation of this smile, the doctor or healthcare professional must conduct a facial autopsy and correctly interpret the non-verbal information transmitted by the patient. If this is not done, the patient may suffer in the sense that the smile can be seen as a "definitive invalidation" of the suffering and "permission for negligence" on the part of the Dentist.⁴¹

In this silent language, the smile is configured as a reactive phenomenon of emotions, and the oral hygiene industry uses this means of communication to convey a positive image of its product, getting closer to people, creating empathy, seducing them, and winning them over.^{1,40} Although it is a non-verbal language, this emotion ends up influencing speech and prosody during the exposition of patients' problems, affecting the phonetic acoustics in terms of rhythm, intonation, and the accent of words, such as pitch,

intensity, and duration of their diction.^{1,40} These characteristics of prosody are also appropriate according to the type of pain and can be distinguished by the characteristics of physical pain and emotional pain. In physical pain, a higher pitch than the reference is recorded, with frequent fluctuations in F0, increased or similar speech rate to the reference, and a higher F1 and lower F2 compared to emotional pain. In emotional pain, a tone of voice similar to the reference is observed, with few variations in F0, a longer duration of vowels, and a low speech rate similar to the reference.^{1,40}

It can be argued that there is a distinct register, a metalanguage, when referring to physical and/or emotional pain. In the narrative, it shapes the description of events, their interpretation, associated myths, the establishment of associations, and alters the chronology of various occurrences. In observing the face, we can detect characteristic movements, assess the congruence between the upper and lower face, and the duration of facial expressions.^{39,43} Regarding the voice, variations in pitch during speech are observed, and speech rate and prosody also have typical components, with a change in voice quality.

All individuals have different emotional intelligence, and their self-perception is crucial to the mutuality of pain-emotion and its manifestation. Emotions modulate the experience of pain, influencing cognition and behaviors. This statement is so true that, even when exposed to the same stressful events and traumas, each person's emotional awareness alerts and modulates attention, differentiation, and labeling of emotion, leading to variability in the response, which can be expressed or suppressed/evaded. This response alters the individual's emotional experience, allowing access to and reflection on emotions to strengthen adaptation to the experience of pain in its multiple components.⁴⁴

In this approach to the concept of pain, the lack of awareness, expression, and emotional experience contributes to a higher level of pain and dysfunction. Emotional awareness is crucial for the adaptation of primary emotions to secondary ones.

The paradox of facial expressions is only truly understood in the context of the authentic relational dynamic between dentist and patient. As such, we rely on Franklin's concept of *affective analgesia* as the symbolic equivalent of a therapeutic analgesic instrument configured in the relational power of the dentist-patient relationship.⁴⁵

Conclusion

Research around facial expression of emotions has only made significant progress in the last two decades, closely linked to non-verbal communication. As such, it is in this context that concepts such as spatial behavior, body contact, interpersonal distance, posture, and gaze should be included in the analytical spectrum of the empirical field of the "Language of the Silence of PAIN" within the Dentist-Patient Relationship.

It is important to note that, according to the preliminary results obtained in the EM-CIMPS research, the Dentist essentially sees themselves as a "reader of the facial expressions" of the Patient, with the relationship established with the "mute Patient" being regarded as a "therapeutic analgesia" within the context of the Dentist-Patient relationship.

Smiling during the experience of pain can serve as a positive self-regulatory strategy that helps the individual dissociate the negative and threatening aspects of pain (self-regulatory coping function). It is necessary to implement the true biopsychosocial model from a Patient-centered perspective, in which the three domains can be more integrated into the context of the pain-emotion mutuality. Interpersonal

factors contribute to the modulation of negative emotions through processes such as interpersonal expression and empathy, which also influence pain.

The need to educate patients about the influence of emotions, which, once modulated by psychological factors, influence and are influenced by neural processes that shape the experience of pain. Understanding pain as a complex phenomenon that needs to be understood in its various dimensions involves and challenges different specialties and therefore requires a necessarily multidisciplinary approach that emphasizes the biopsychosocial nature of the pain phenomenon.

Today, treatments based on Multidisciplinary Programs that integrate Psychosocial interventions are available, and have proven effective, especially in the treatment of chronic pain. This reflects a growing concern in health policies with the quality of life of patients and with the Humanization of the care they receive.

Data availability

No data are associated with this article.

Grant information

This paper was not funded.

Acknowledgements

None.

Conflicts of interest

The authors declare that there are no conflicts of interest.

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