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Conservative and reversible: The role of Body Psychotherapy in the treatment of Temporomandibular Disorders

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Narrative: Temporomandibular Disorder (TMD) is a common and impairing form of musculoskeletal pain that involves chronic pain and tension of the jaw and facial muscles. In spite of its pervasiveness, TMD's exact causes remain uncertain and optimal treatments are undecided.

Current evidence suggests that stress and emotional experiences may be related to experiences of TMD, and some research suggests that psychotherapeutic approaches may be beneficial for TMD. However, minimal research specifically examines how somatic therapy may be applied to TMD.

In this paper, I review current ways of defining TMD and methods of treatment. In addition, I look at how somatic theorists view these symptoms, and review evidence that suggests body psychotherapy could be a useful intervention for TMD, either on its own or in conjunction with other care.

I offer suggestions and considerations for body psychotherapists when working with jaw pain. Based on current research, it appears that body psychotherapy may be uniquely positioned to support clients with TMD, given its ability to help clients process their relationship to pain, bring awareness to underlying stressors, and support self-care practices.

However, additional research is needed to further explore the potential benefits of body psychotherapeutic approaches for this population, as well as the development of more accessible assessment tools to support body psychotherapists in working collaboratively with other allied health care practitioners.

Indexing terms: Chiropractic; Body Psychotherapist; psychotherapy; jaw pain; TMD; co-management.

Introduction

Temporomandibular Disorders (TMD) are the second most common form of musculoskeletal pain and can be marked by tension, grinding, and chronic pain of the jaw and facial muscles. (Wieckiewicz et al., 2018)

> *'... both physical, mental, and emotional symptoms are critical features of TMD, but there remains variation and ambiguity in presentation ...'*

In spite of its prevalence, TMD's exact causes are unknown and optimal treatments are unclear.

While this disorder has historically been viewed from a mechanical perspective, the biopsychosocial model of TMD has become more predominant, which takes a more holistic perspective and acknowledges the role of physical, mental, and emotional processes (and their interactions) in the onset or chronic nature of this disorder. (Klasser & Greene, 2009)

Supporting the biopsychosocial perspective, additional evidence suggests

that emotion and somatic awareness may play a role in this disorder. (Slade et al., 2013) Therefore, body psychotherapy may have a supportive role for clients with TMD, but knowing when and how to refer or co-treat with other allied care professionals (i.e. dentists, physical therapists, chiropractors) is important.

However, guidelines to co-treatment and referral of TMD are lacking from a body psychotherapist perspective. In this paper, I review current literature related to TMD and its treatment. I start by discussing TMD and how it is typically treated, how somatic therapy might aid in treatment, and recommendations for optimisation of care through collaborative health practices.

Temporomandibular Disorders (TMD)

TMD is a common, impairing musculoskeletal disorder that can often vary in its presentation. It is primarily characterised by jaw pain, headaches, altered dental occlusion (i.e., how the teeth come together), positioning of the TM condyle, myofascial imbalance, airway compromise and grinding or bruxing of the teeth. It can impact quality of life through consistent pain, limitations to eating, jaw motility and disruption of sleep quality. These impacts can have cascading negative consequences leading to increasing levels of emotional, mental and physical stress.

Diagnosis

The criteria for diagnosing TMD have been an area of ongoing development. The original Research Diagnostic Criteria (RDC) for Temporomandibular Disorders (RDC/TMD) were developed in 1992, and were recently revised to improve reliability and sensitivity. (Schiffman et al., 2014) The RDC/TMD is designed to cover the twelve most common presentations. Notably, these criteria include two parts:

- Axis I criteria focus on physical symptoms, while
- Axis II screens for psychosocial and comorbid factors.

Axis II may help to identify psychological symptoms that could be places of intervention as a body psychotherapist to support clients. An important update from previous versions is that the RDC/TMD asks patients about the familiarity of pain during examination, to ensure that it reflects the symptoms that patients are experiencing in their daily lives. (Kapos et al., 2020) In summary, it appears that both physical, mental, and emotional symptoms are critical features of TMD, but there remains variation and ambiguity in presentation, and consequently diagnosis and subsequent treatment, of this disorder.

Treatment

A consensus on the best way to treat TMD does not exist, and a variety of treatments have been proposed. Stabilisation splints are one example of a mechanical treatment for TMD, which entail wearing an acrylic or polyethylene mouthguard covering occlusal surfaces. Reviews of this literature suggest that these tools can lead to short-term improvement compared to no treatment, but it remains unclear if these methods perform significantly better than placebo alternatives. (List & Axelsson, 2010) However, over the counter mouth-guards can also have adverse effects, including unwanted or maladaptive changes in occlusion. (List & Axelsson, 2010)

Pharmacological treatments include medications such as the muscle relaxant *cyclobenzaprine*, as well as off-label use of psychiatric medications including tricyclic antidepressants, serotonin-noradrenaline reuptake inhibitors, *benzodiazepines*, *gabapentin* and *pregabalin.* (Kapos et al., 2020) Evidence suggests that *cyclobenzaprine* can have positive effects in short-term studies (around 3 weeks). (Haggman-Henrikson et al, 2017) Fewer studies have examined the potential benefits of other psychiatric medications on TMD, and current results are mixed. (Mujakperuo et al., 2010; Haviv et al., 2015)

Physical therapy focused on jaw mobility has also been shown to have some potential effectiveness. (Shimada et al, 2019) A meta-analysis examining the effects of acupuncture on TMD found improvements in pain compared to placebo. (Yuan et al., 2016) In sum, a variety of treatments exist, but it remains unclear which of these is the most effective and it may depend on the individual presentation or cause of TMD. More work is needed that directly compares the effectiveness of different treatments. As it stands, practitioners generally favour conservative and reversible treatments for TMD, as these have the least risk for negative consequences.

Body psychotherapy

While not a traditional approach to treating TMD, body psychotherapy may have benefits for treating TMD, with minimal associated risk.

Somatic theories argue that the mind and body are tightly interwoven, and tension in the body is often rooted in, or influenced by, emotional processes. From this perspective, the body can be conceived as an outward manifestation of someone's inner world. Thus, jaw pain may represent one possible manifestation of stress or emotional imbalance. Shifts in the flow of our energy can manifest in physical, mental, and emotional forms. These perspectives represent a shift from past theories which focused on unidirectional mind-body relationships (i.e., the mind guides the body), to a greater emphasis on bidirectional relationships between the body and mind.

One of the earliest examples of this perspective is the work of Wilhelm Reich, who is often credited as the first to integrate the body into psychoanalytic theory. Reich suggested that tension in the body is often held in one of seven segments:

- ocular
- oral
- cervical
- thoracic
- diaphragmatic
- abdominal, and
- pelvic …

… each with their own relation to the psyche. For example, tension in the oral segment may relate to feelings of neediness, contempt, or rage. (Reich, 1980) Adding a developmental perspective, Judith Kestenberg viewed different movement patterns (shape, flow, and attribute) as representations of different periods in biological/psychological development. (Amaghi et al., 2018) Peter Levine, pioneer of somatic experiencing, argued that each organ in the body has a separate psychic representation in the mind. (Levine, 1997)

In addition, he emphasised that traumatic experiences can be held in the body in different ways. From this perspective, jaw tension may be a physical manifestation of emotional or mental tension. Similarly, Alexander Lowen, the founder of *bioenergetic analysis*, viewed the body as holding a record of lived experience. He considered patterns of physical holding or tension as the suppression of different urges. Lowen explains '*For example, a jaw which is tightly held by tense muscles may hold back impulses to bite. Having a person bite on a towel can activate these impulses so that the suppressed desire to bite becomes conscious*'. (Lowen, 1989, p. 3)

Additionally, somatic theories emphasise the interconnected nature of the human body, meaning that malfunction in the jaw can be connected to trauma in other parts of the body. For example, bidirectional connections between the jaw and hips or pelvic region have been written about previously, and thus a holistic, somatic approach can have beneficial spreading effects. (Blum, 2010; Gregory, 1993; Fink et al., 2003)

In general, somatic theories argue that physical patterns such as rigidity, tension, or limited gesture can be related to undeveloped or impeded impulses or an unfinished trauma response. By bringing awareness to physical manifestations of discomfort, we can help open the door for clients to process deeper emotional or historical connections. Additionally, Christine Caldwell argues that supporting the client's connection to their somatic experiences and spontaneous impulses can help them generate a deeper sense of self-efficacy and wholeness. (Marlock & Weiss, 2015) Somatic treatments may involve first bringing awareness to the experience, for example through exercises of exaggerating movements, slowing down, and mindfulness.

Stress & emotional health

In line with somatic theories, prior work supports the idea that TMD can be caused by stress and negative emotional experiences. For example, Slade et al (2013) reviewed outcomes of the OPPERA prospective cohort study of 2,737 men and women over the course of roughly 3 years to assess how many developed TMD and what were prospective risk factors. The main risk factor was a general health measure which showed that somatic symptoms such as headache, IBS, low back, and genital pain were significant predictors of first experiences of TMD. Notably, these somatic symptoms are not all localised to the jaw.

The second most common risk factor was psychological with somatic symptoms, general psychological symptoms, and stress, PTSD, and perception of stress being significant risk factors for TMD. This review helps point to the importance of emotional health as a risk factor for TMD, and as body psychotherapist helping clients to cultivate increased interoception and awareness may support clients in adjusting to physiological, psychological and lifestyle stressors during treatment of or prior to developing TMD.

Further highlighting the role of stress in TMD, Lei et al (2015) looked at the relationship between TMD, psychological stress and sleep dysfunction. The researchers found that patients experiencing myofascial pain were more likely to report higher levels of stress and sleep disturbance. These are suggested to be risk factors that may make someone more likely to develop TMD. The emotional dimension of TMD may be better addressed via body psychotherapeutic approaches. Together, these studies highlight the potential causal role of stress and emotional experiences in the development of TMD, and support the idea that stress reduction and body-based interventions may have benefits for this class of disorders.

According to biopsychosocial models of TMD, psychotherapy may support the treatment of TMD by addressing underlying emotional or psychosocial factors contributing to this disorder. Some studies have examined the application of counselling and psycho-education to the treatment of TMD. For example, Turner et al (2006) examined the effects of a brief Cognitive Behavioural Therapy (CBT) intervention for patients with chronic TMD, in addition to usual care at a specialty clinic. The researchers found that the CBT treatment was associated with significant improvements in jaw function, pain, and depression over the following year. This remained significant 12 months following the start of treatment. This study suggests that co-treatment of TMD with psychotherapy may be especially beneficial. Notably, this treatment also led to improvements on cognitive measures such as beliefs about pain.

Similarly, Calderon and colleagues (2011) conducted a randomised control trial which examined the effects of CBT with or without medication on TMD. The CBT treatment involved relaxation training, explanation of coping strategies, and patient education. The CBT-only group showed significant improvements in pain over 7 weeks. Other studies have shown that patient education and self-care protocols can have benefits for individuals experiencing TMD. As an example, Magesty et al (2021) studied the benefits of providing TMD patients with counselling materials. These materials provided suggestions for self-care, including shifts in diets, avoidance of activities that may strain the jaw muscles, improving posture, and improving sleep.

Patients provided with these materials experienced a reduction in pain, social disability, and improvements in their oral health impact profile. Dworkin et al (2002) examined the benefits of a structured self-care intervention on TMD. This was provided by a dental hygienist, and included an individually tailored self-care plan, patient education, relaxation and stress management training, and instructions for self-monitoring. This group showed decreased pain at follow-up and sought out fewer TMD treatment sessions. This points to the value of individualised care that a body psychotherapist could help support.

Discussion

While evidence in favour of psychotherapeutic treatments for TMD is promising, less research has specifically examined the benefits of somatic therapy on TMD. However, the current literature suggests that approaches which promote body awareness and acceptance can have benefits, which aligns with somatic perspectives. While more research is needed in this domain, somatic therapy may have potential benefits for TMD.

Here, we include recommendations and considerations for body psychotherapists working with patients experiencing symptoms similar to TMD. In general, it may be valuable to collect information on a patient's network of care as a part of the intake process. If a client reports jaw pain, it can be useful to know if they have discussed this with other healthcare practitioners, if any formal diagnoses were made, and if any treatment plans were carried out.

Psychotherapists should also gather information on the onset of pain and other symptoms. Current assessment tools for TMD are not necessarily designed with body psychotherapists in mind, and the development of more accessible assessment tools could be beneficial. While TMD is not life-threatening, body psychotherapists should be aware of other conditions that may appear similar to TMD with more adverse consequences. For example, temporal arteritis is a condition involving inflammation of arteries near the temples, and can cause soreness in the temple and jaw when chewing. If left untreated, this condition can lead to permanent vision loss. This condition presents more often in individuals over 50 years of age, more often in women than men, and common symptoms include throbbing headaches, scalp tenderness, jaw pain, and vision changes. (Ness et al., 2013) If a patient matches this profile, therapists should refer to other practitioners, such as oral surgeons, oral medicine specialists, ENTs, neurologists or neurosurgeons. (Kapos et al., 2020)

As always, a key step in the therapeutic process is building rapport and establishing trust with the client. One method of working somatically involves *oscillating attention*. This is a practice that can help patients better regulate their attention towards or away from discomfort, and provide the client with additional tools to expand their relationship to sensorial experiences. As an example, this may involve guiding the client's attention towards objects or colours in the room and identifying features of their environment that feel safe or supportive.

As a next step, body psychotherapists may work with clients towards shifting attention inward, and identifying parts of their body that feel comfortable or safe. A next step could involve them placing their hand on that area to feel more deeply into feelings of safety. Alternatively, if it is challenging for the client to find safety in their body at the start, the therapist could invite them to recall some memory of love or happiness in order to notice those feelings of comfort in their body.

After experiencing the ability to oscillate inward and outward with feelings of safety, the therapist may lead the client into a brief exploration of their acute discomfort. This may bring up additional emotions, thoughts, sensations, or impulses that can be more safely experienced and processed with the support of the therapist. From the perspective of somatic theory, jaw pain could bring up developmental trauma around loss of voice, or not feeling safe enough to express. This is a process that can take place over multiple sessions, and oscillating between these

different loci of attention can be an important tool that gives the client more control over their somatic experiences and a greater window of tolerance.

- There is not a singular expected progression of a client's somatic awareness, and these processes and unwindings are not necessarily linear and require continued tracking by the therapist and client. In addition, it is important for a therapist to be aware of multicultural, trauma-informed perspectives that may impact the client's relationship to their body. A final piece that may be valuable is accurately assessing changes in symptoms over time. Tools such as the
- *Visual Analog Scale for pain*
- *Beck Depression Inventory*
- the *Oral Health Impact Profile*, and the
- P*ittsburgh Sleep Quality Index*

may be helpful in this regard. (Song et al., 2018)

If something isn't getting better, that is an especially important inflection point to consider referrals to other practitioners.

Conclusion

In sum, TMD is a pervasive and impairing disorder that can have cascading negative impacts in a variety of domains of life. This disorder can present in a variety of ways and may have multiple causes.

The biopsychosocial model emphasises that the experience of TMD involves physical, mental, and emotional stress. Since body psychotherapy deals with the integration for psychological and physiological processes, it may be well suited to the treatment of TMD. Helping clients cultivate greater awareness of their somatic experiences and develop the ability to oscillate attention away from or towards discomfort may support patients in managing TMD-related pain.

Furthermore, somatic processing can help support clients in being with the impulses and emotions that may be intertwined with experiences of physical pain. This approach is one with minimal associated risk that can also be done in conjunction with treatment from other allied practitioners.

Finally, creating a shared language and way for body psychotherapists to work with dentists and other practitioners who may be the primary entry-point for care would allow for improved health outcomes.

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