Evaluating the effects of the Jing Method™ on symptoms associated with Temporomandibular Disorders in adults

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A dissertation submitted in partial fulfilment of the requirements of Jing Advanced Massage Training for the Professional Diploma in Advanced Clinical Massage and Sports Massage

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"I certify that this work has not been accepted in substance for any degree and is not concurrently being submitted for any degree other than that of the Diploma in Advanced Clinical Massage and Sports Massage being studied at Jing Advanced Massage Training. I also declare that this work is the result of my own investigations except where otherwise identified by references and that I have not plagiarised the work of others".

Caroline ZITO:  Date: 16/03/2026

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ABSTRACT

Background

Temporomandibular disorders (TMD) is the most common cause of non-dental orofacial pain and the second most prevalent musculoskeletal condition after low back pain, with approximately 51% of individuals experiencing TMD-related symptoms at least once in their lifetime (Mnguni et al., 2021). Given the complex multifactorial nature of TMD, there is growing interest in non-invasive and multimodal treatment approaches. The aim of this study was to evaluate the effectiveness of clinical massage therapy based on the Jing Method™ for reducing symptoms associated with TMD in adults. Symptom frequency, pain intensity, and perceived stress levels were monitored throughout the study.

Method

Ten adults with TMD-related symptoms participated in this 12-week within-subjects study, which included a six-week control phase without intervention followed by a six-week intervention phase combining hands-on clinical massage treatments with home-based self-care exercises. A follow-up questionnaire was administered at week 16 to assess longer-term effects. Symptom frequency was measured using a modified TMD-7 questionnaire assessing eight symptoms instead of seven, while pain intensity was recorded using a Numeric Pain Rating Scale (NPRS). Perceived stress levels were monitored using a Numeric Rating Scale (NRS). All measures were collected via online questionnaires.

Results and Conclusion

The study demonstrated a 57% reduction in overall symptom frequency and a 51% reduction in pain intensity across multiple TMD-related symptoms from baseline to follow-up. The greatest reductions were observed for jaw pain (−86%) and temple/forehead pain (−72%), while

perceived stress levels remained stable throughout the study. These findings suggest that a multimodal advanced clinical massage approach based on the Jing Method™ may represent a non-invasive beneficial treatment for adults with TMD. Despite the small sample size, the results support the relevance of an integrated, biopsychosocial treatment model and highlight the need for further research using larger samples and additional measuring tools.

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ABBREVIATION

BPS: Biopsychosocial

MFR: Myofascial Release

NRS: Numeric Rating Scale

NPRS: Numeric Pain Rating Scale

TA: Therapeutic Alliance

TMD: Temporomandibular Disorder

TMJ: Temporomandibular Joint

LITERATURE REVIEW

1. What is TMD?

Temporomandibular disorder (TMD) is an umbrella term encompassing more than 30 health disorders (Bond et al., 2020). It includes musculoskeletal and neuromuscular conditions that cause pain and/or dysfunction in the masticatory muscles, temporomandibular joints (TMJ), and surrounding structures (Palmer & Durham, 2021). It may present as either acute or chronic.

TMD is the most common type of non-dental facial pain (Palmer & Durham, 2021) as well as the second most common musculoskeletal condition after low back pain (Busse et al. 2023) and about 51% of people experience TMD symptoms at least once in their life (Mnguni et al., 2021).

a. TMD symptoms

Common symptoms are pain around the jaw, temple and neck, articular sounds (clicking and popping), headaches, limited mandibular range of motion, functional difficulties with chewing, speaking and yawning (NHS, 2026). These are also frequently linked with comorbidities such as fibromyalgia, chronic fatigue, tinnitus, depression, sleep problems, and more (Kapos et al., 2020, Palmer et al, 2021; NHS, 2026).

b. Aetiology / Causes

Painful TMD is a multifactorial condition influenced by peripheral factors (myofascial trigger points, joint hypomobility, bruxism), biopsychosocial (BPS) factors (stress, catastrophising, sleeping issues) and pain compensation mechanisms, often overlapping with other chronic pain disorders (Suvinen et al, 2005; Slade et al, 2013; Maixner et al, 2016; Kapos et al, 2020).

c. Diagnosis

The Diagnostic Criteria for TMDs (DC/TMD) provide a standardised framework for classification, distinguishing between arthrogenous disorders (including joint and disc pathology), myogenous disorders (masticatory muscle conditions), and headache attributed to TMD (Mnguni et al., 2021). This tool has become the reference point in both clinical and research settings, ensuring greater consistency in diagnosis and reporting.

d. Prevalence

A recent meta-analysis estimated the global prevalence of TMD at 34%, with adults aged 18–60 years most commonly affected. Women are usually more affected than men, ranging from 9% to 56% across continents. Regional variations were also observed, with prevalence highest in South America (47%), followed by Asia (33%) and Europe (29%) (Zieliński, Pająk-Zielińska & Ginszt, 2024).

e. Treatment options

Current treatment options for TMD in Europe include: self-management programmes, intraoral appliances, pharmacotherapy, physical therapy, psychological and multimodal therapies, complementary techniques such as acupuncture and dry needling, as well as surgery, orthodontics, and occlusal adjustments (Durham et al., 2016; Shimada et al., 2019; Manfredini et al., 2025).

Massage and manual therapy are also effective for TMD, particularly in reducing myofascial pain, muscle tension, headaches, and improving functional movement of the masticatory system (Nicolakis et al., 2002; Quinn et al., 2002; De Laat et al., 2003; Ariji et al., 2009; Ariji et al., 2010; Miernik et al., 2012).

2. Central sensitisation and its role in TMD

Central sensitisation is now recognised as an important factor in chronic musculoskeletal pain, including TMD (Campi et al., 2020; Ferrillo et al., 2022). It describes alterations in the central nervous system that amplify pain, leading patients to experience exaggerated responses to minor stimuli (Kindler et al., 2012; Alencar, 2013; Nijs, Goubert & Ickmans, 2016; Minye, 2020).

Stress is a key factor in TMD as well, influencing both physical and psychological symptoms and reinforcing oral habits such as bruxism (Lavigne et al., 2003). Factors like poor sleep, anxiety, depression, and lifestyle behaviours also intensify central sensitisation (Harper et al., 2016; Costa et al., 2017; Deng et al., 2018; La Touche et al., 2018; Minye, 2020; Cho & Lee, 2020). Mental health comorbidities and health anxiety, present in around one-fifth of patients, can amplify pain perception and disability, highlighting the need for holistic and multidisciplinary care (Wan et al., 2024; Sun et al., 2025).

This highlights the need to view TMD as a complex disorder influenced by multiple interacting systems, rather than just a local or mechanical problem (Minye, 2020).

3. The BPS perspective on TMD

Rather than being considered only a local set of symptoms, TMD is now seen as a complex disorder shaped by overlapping biological, psychological, and social influences (Slade et al., 2013; Maixner et al., 2016). Evidence suggests that BPS vulnerabilities interact with environmental stressors, with or without initial trauma, to produce TMD symptoms and related comorbidities (Suvinen et al., 2005; Slade et al., 2013; Kapos et al. 2020).

However, although the BPS model provides a valuable framework for understanding TMD, its practical application in clinical settings remains challenging due to difficulties in integrating

psychological and social dimensions into standardised assessments and treatment protocols. Tools such as the OHIP-14 (Oral Health Impact Profile) are essential to understand the psychological and social impact of TMD on the patient's quality of life (Qamar et al., 2023). This highlights the importance of comprehensive assessment and management strategies that reflect the complex nature of TMD.

4. Therapeutic alliance: a key factor in the treatment of chronic pain

The therapeutic alliance (TA) between clinician and patient is recognised as a central element in the management of chronic pain. Strong TA has been linked to better outcomes in chronic musculoskeletal conditions, including reductions in pain intensity (Ferreira et al., 2013; Kinney et al., 2020). Positive communication between patients and clinicians is also associated with improvements in physiological, behavioural, or subjective health measures (Kaplan, Greenfield & Ware, 1989).

This relationship includes both *emotional care*—trust, empathy, respect—and *cognitive care*—information exchange, patient education, and expectation management. Together, these dimensions promote engagement and healthier behaviours, which in turn support improved clinical outcomes (Ong et al., 1995; Di Blasi et al., 2001; Kelley et al. 2014).

However, while the benefits of a strong TA are well documented, most studies are observational, making it difficult to establish causality and highlighting the need for more robust clinical trials.

While central sensitisation, the BPS framework, and the TA each offer valuable perspectives for understanding and managing TMD, much of the current evidence tends to examine these factors in isolation. However, a few studies conducted by Jing Massage Training students have begun to explore how integrating these elements in a treatment can enhance clinical outcomes

(Lindsay, 2023; Clarke, 2024; Davies, 2024; Gompertz, 2025). This research provides a basis for the next section, focusing on the Jing Method™ as an example of an integrated approach.

5. The Jing Method™: a treatment option for TMD

The Jing Method™, developed by Fairweather and Mari (2015), is a multimodal approach to the treatment of chronic musculoskeletal pain that combines several techniques to achieve greater benefit than each could provide alone. Central to the method is building a strong TA: listening to the client, building trust, and empowering them with self-care strategies. This holistic philosophy aligns with the BPS model and integrates elements of modern neuroscience along with clinical massage practice making it a potentially valuable treatment for TMD**.**

a. Structure of a treatment plan

A typical treatment plan involves six weekly sessions of about 45 minutes, incorporating all the elements of the Jing Method™ and episodic follow-up sessions might be required. Between appointments, they receive tailored self-care guidelines, including stretching, strengthening, or relaxation exercises**,** to encourage active participation in recovery**.**

b. Jing Method™ components and their application for TMD

The method structure uses the acronym HFMAST**:** Heat, Fascia, Muscles, Acupressure, Stretching, and Teaching**.** Each element targets different aspects of pain and dysfunction, with the combined approach aiming to provide both immediate relief and longer-term management strategies (see Table 1).

Table 1. Evidence supporting the Jing Method™ HFMAST approach

Elements	Summary of Literature Findings	References
HEAT	Applied to the face and neck, heat reduces pain, eases muscle tension, and improves mandibular mobility. Daily use for around 20 minutes can enhance jaw opening and function. Combining heat and massage also supports nervous system relaxation and pain relief.	Riley et al., 2007; Lee et al., 2011; Furlan et al., 2015
FASCIA	Intra-oral myofascial therapy improves chronic TMD. Myofascial release (MFR) reduces muscle tension and pain in the temporalis and masseter, decreases resting muscle activity, and increases pressure pain thresholds in associated cervical muscles.	Kalamir et al., 2010; Urbański et al., 2021; Guo et al., 2023
MUSCLES	This includes massage, trigger point therapy, and soft tissue techniques. Trigger points are highly prevalent in chronic pain, affecting up to 95% of patients. In TMD, active trigger points in masticatory and cervical muscles reproduce symptoms and contribute to central sensitisation, reinforcing pain mechanisms. Manual therapy reduces headaches, alleviates jaw muscle pain, restores muscle balance, and improves function.	Nicolakis et al., 2002; Quinn et al., 2002; Malanga & Cruz Colon, 2010; Fernández-de-las-Peñas et al., 2010; Miernik et al., 2012; Fernández-de-las-Peñas et al., 2014
ACUPRESSURE	Evidence supports its role in reducing pain and improving cervical ROM, making it a useful complementary therapy for TMD-related neck pain. Acupressure points often overlap with trigger points, reinforcing its clinical relevance. However, small samples and methodological variability limit conclusions, highlighting the need for stronger trials.	Melzack et al., 1977; Dorsher, 2008; Lee & Park, 2019; Kim & Kim, 2021
STRETCHING	Stretching improves pain, ROM, and mental health, reducing anxiety and fatigue and promoting well-being. Techniques such as PNF and MET show positive results in TMD with no reported side effects, supporting their role in multimodal approaches. Still, variation in study quality restricts firm conclusions.	Montero-Marín et al., 2013; Durham et al., 2023; Márquez-Vera et al., 2024
TEACHING SELF-CARE	Self-care is a cornerstone of chronic orofacial pain management. Common strategies include rest, relaxation, hot/cold packs, and self-massage, which patients report as effective for pain relief and control. Self-care is also	Riley et al., 2007; Aggarwal et al., 2019

	linked to improved psychosocial outcomes such as reduced depression and better sleep. Multimodal self-management interventions combining physical, psychosocial, and educational strategies further support long-term regulation of pain.	

In summary, this evidence supports each component of the Jing Method™ in the management of chronic pain and TMD, demonstrating benefits for pain, ROM, muscle activity, and function. Small-scale within-subjects studies assessing the effectiveness of the Jing Method™ for TMD also suggest clinically meaningful improvements in pain and symptoms, alongside improved quality of life (Lindsay, 2023; Davies, 2024; Clarke, 2024; Gompertz, 2025).

6. About this Study

Relevant literature was identified through Google Scholar and PubMed. However, much of the existing research, including studies conducted by Jing students, is limited by small sample sizes, inconsistent protocols, and variable quality. Consequently, larger and more rigorously designed clinical trials are needed to confirm the effectiveness of the Jing Method™ as a holistic treatment for TMD. Although the present research is also small in scale, it aims to build upon insights from earlier Jing studies, including those by Gompertz (2025) and Clarke (2024).

METHOD

This research study received ethical approval from Jing Advanced Massage (Appendix 1 - Ethics Form). The study employed a within-subjects design, which is a suitable method for small-scale studies and reduces variability between participants. It was conducted over a 12-week period. It consisted of a six-week control phase with no intervention, followed by a six-week intervention phase involving hands-on clinical massage treatments. A follow-up questionnaire was administered at week 16 to assess longer-term outcomes.

The study took place in Pernay, Indre-et-Loire, France, which explains why some appendices are presented in French. Recruitment occurred in June 2025 over a four-week period, primarily via online communication, including social media platforms (Appendix 2 – Recruitment: Online Communication), an existing client mailing list, a blog article, and a Google Business page. This was supplemented by posters displayed in local businesses, dental practices, and osteopathic clinics (Appendix 3 – Recruitment: Poster). All recruitment materials directed potential participants to a dedicated blog article explaining the study aims, methodology, inclusion and exclusion criteria, and providing access to an online application form.

A total of 24 individuals applied to participate. Several applicants were excluded based on predefined criteria, including recent dental or TMJ treatment (Table 2 – Exclusion Criteria). Ultimately, ten participants (one male and nine females), aged between 29 and 58 years, and presenting with at least three of the symptoms listed in Table 3 (Inclusion Criteria), were enrolled.

Table 2. Exclusion Criteria from TMD study

EXCLUSION CRITERIA
Pregnancy
Presence of systemic conditions (e.g. fibromyalgia, multiple sclerosis)
TMJ hypermobility
Inability to commit to the full study duration (12 weeks)
Dental treatment, TMJ treatment, or surgery within the previous 3 months
Planned dental treatment, TMJ treatment, or surgery during the study period

Table 3. Inclusion Criteria for TMD study

INCLUSION CRITERIA (≥18 years and presenting at least three of the following symptoms)
Headache or migraine
Jaw pain or stiffness
Facial pain
Neck and shoulder pain or stiffness
Forehead or temporal pain
Difficulty opening the mouth fully (trismus)
Joint noises (clicking or popping)
Difficulty when eating, chewing, or swallowing
Earache and/or tinnitus without infection
Bruxism (teeth grinding)
Dizzy spells

The most commonly reported symptoms were neck and shoulder pain or stiffness (90%), headache or migraine (80%), jaw pain or stiffness (80%), and joint noises (70%) (Table 4 – Symptom Prevalence among Participants at Baseline).

Table 4. Symptom Prevalence among Participants at Baseline

TMD-RELATED SYMPTOMS	Prevalence (%)
Headache or migraine	**80%**
Jaw pain or stiffness	**80%**
Facial pain	**40%**
Neck and shoulder pain or stiffness	**90%**
Forehead or temporal pain	**50%**
Difficulty opening the mouth fully (trismus)	**30%**
Joint noises (clicking or popping)	**70%**
Difficulty when eating, chewing, or swallowing	**20%**
Earache and/or tinnituswithout infection	**60%**
Bruxism (teeth grinding)	**40%**
Dizzy spells	**50%**

All participants completed a phone consultation to collect personal data, discuss health history and lifestyle factors, and address specific questions related to chronic pain and TMD symptoms. This consultation also provided an opportunity for participants to ask questions and provide written informed consent.

The TMD-7 questionnaire was used as a validated instrument to assess the frequency of TMD symptoms and was selected for its demonstrated reliability in adult populations (Koufos et al., 2022). However, as six out of ten participants reported experiencing earache and/or tinnitus in

the absence of infection, this symptom was monitored as a separate item. This decision was informed by an understanding of myofascial trigger points within muscles of the head and neck, as certain muscles, such as the sternocleidomastoid, may contribute to tinnitus symptoms, while jaw pain may also be influenced by psychosocial factors such as stress, which was concurrently monitored in this study. Consequently, the original TMD-7 questionnaire was used as a base and modified (Appendix 4 – Modified TMD-7). The adapted instrument therefore assessed eight symptoms rather than seven and is hereafter referred to as the modified TMD-7. This questionnaire was administered at weeks 1, 7, 12, and 16.

Pain intensity was recorded weekly for five TMD-related symptoms headaches, jaw pain, neck and shoulder pain, forehead and/or temples pain, and earache and/or tinnitus without infection using a NPRS. Mechanical symptoms such as difficulty opening mouth or articular noises were not assessed for pain intensity.

Stress levels were assessed weekly using a subjective NRS. Both pain intensity and stress questionnaires were recorded throughout the entire 12 weeks of the study and at week 16 for follow up.

All questionnaires were administered via Google Forms. They were completed every Monday during the control phase (weeks 1–6), then six days after each treatment during the intervention phase (weeks 7–12), and again at week 16 alongside a feedback questionnaire to assess longer-term outcomes and collect overall participant feedback.

Participants attended a clinical consultation at week 7 and again at week 12, which included an orthopaedic assessment of the TMJ, cervical spine, and scapular region. From week 7 to week 12, each treatment session consisted of a 45-minute clinical massage based on the Jing Method™ protocols for TMJ pain and neck and shoulder pain (Fairweather & Mari, 2015, pp. 225–245; 345–354) (Appendix 5 – Detailed clinical massage treatment week per week), followed by 10 minutes of self-care education.

Participants received a printed self-care guide specific to TMD, including relaxation techniques, mobilisation, stretching and strengthening exercises, trigger point self-treatment, and self-massage techniques (Appendix 6 – Self-Care Guidelines). A maximum of three exercises were prescribed per session, to be practised at least three times per week. The weekly questionnaire included a specific item assessing adherence to the prescribed self-care exercises. Self-care techniques were reviewed prior to each treatment session to ensure understanding and correct application.

RESULTS

Study data were collected and analysed over a 12-week period, with a final follow-up questionnaire administered at week 16. Results were obtained from 10 participants (9 females and 1 male), aged between 29 and 58 years, who completed a weekly online questionnaire.

In all graphs, the control phase is shown in blue, the intervention phase in red, and the follow-up period in green.

7. Symptom Frequency

The modified TMD-7 questionnaire, including the additional symptom "*earache and/or tinnitus without infection*", was administered at weeks 1, 7, 12, and 16 to compare the symptom frequency over the entire study period. At week 1, responses reflected symptom frequency over the preceding month and were therefore used to establish baseline values. In this section, in all graphs, dark blue represents the baseline data (week1).

Participants responded to the question: "Over the past 30 days, how frequently have you experienced any of the following symptoms?"

Scoring was as follows:

- 0 = rarely or never
- 1 = a few times per month
- 2 = once or twice a week
- 3 = nearly every day

Figure 1 displays the cumulative mean score of the modified TMD-7**,** representing monthly symptom frequency across all eight symptoms combined. Modified TMD-7 scores improved by 49% during the intervention phase, followed by a further 12% decrease at longer term

follow-up. This results in an overall reduction of 57% in symptom frequency across all eight TMD-related symptoms.

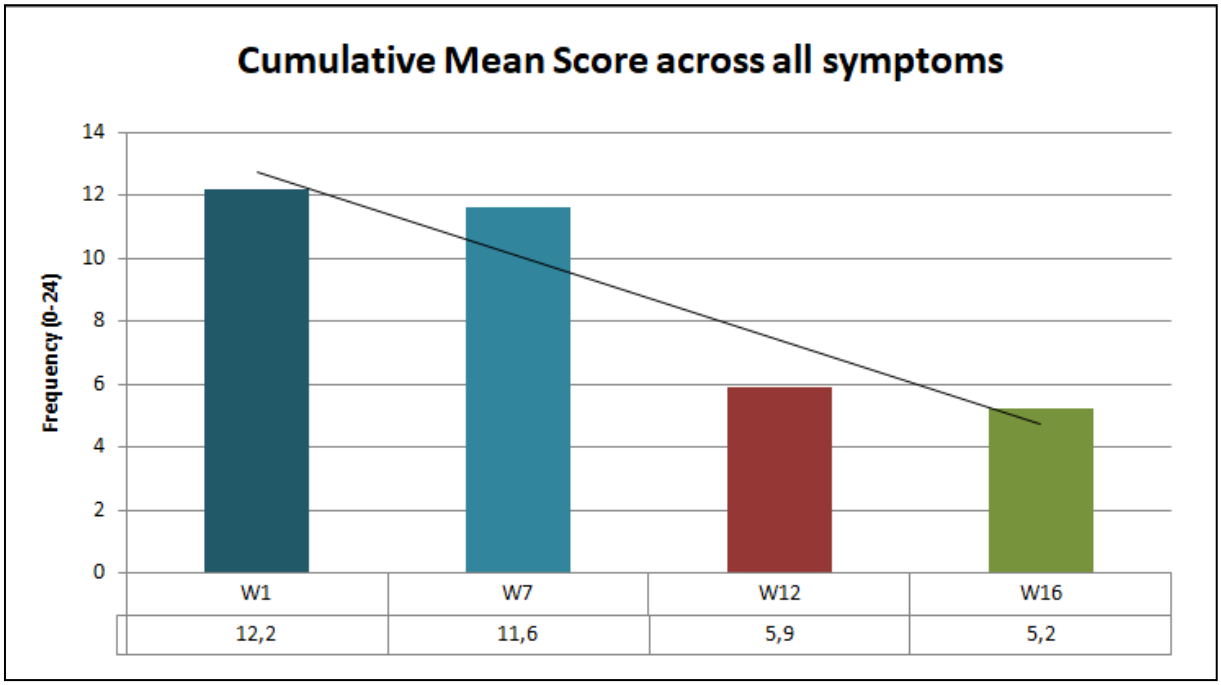
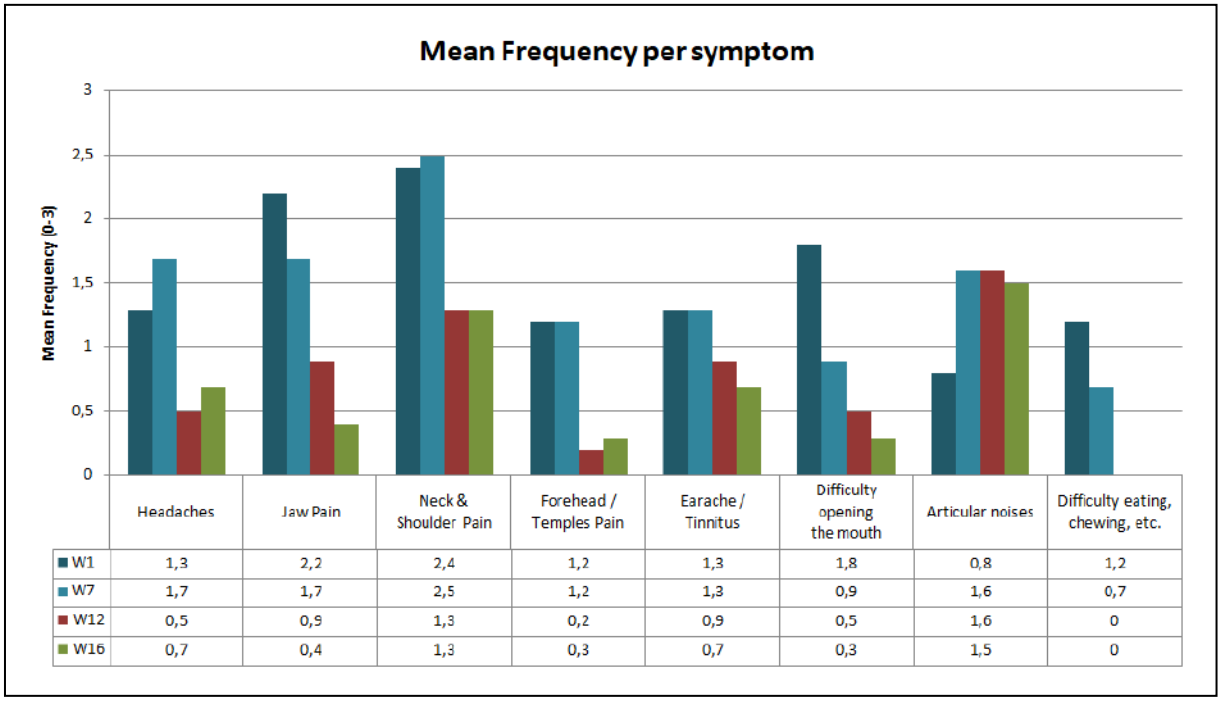


Fig. 1: Modified TMD-7 Cumulative Mean Score - Symptom Frequency - Maximum score = 24.

Figure 2 presents the mean modified TMD-7 score for each of the eight individual symptoms. The graph indicates a positive impact of the intervention on all TMD-related symptoms except articular noises.



	Headaches	Jaw Pain	Neck & Shoulder Pain	Forehead / Temples Pain	Earache / Tinnitus	Difficulty opening the mouth	Articular noises	Difficulty eating, chewing, etc.
W1	1,3	2,2	2,4	1,2	1,3	1,8	0,8	1,2
W7	1,7	1,7	2,5	1,2	1,3	0,9	1,6	0,7
W12	0,5	0,9	1,3	0,2	0,9	0,5	1,6	0
W16	0,7	0,4	1,3	0,3	0,7	0,3	1,5	0

Fig. 2: Modified TDM-7 Mean Score - Symptom Frequency –Maximum score = 3 per item.

Significant improvements were observed particularly for headaches, with an overall reduction of 59%, and for forehead and/or temple pain, which decreased by 75% from post-intervention to week 16, as shown in Figures 3 and 4. Detailed results for each symptom are presented in Appendix 7.

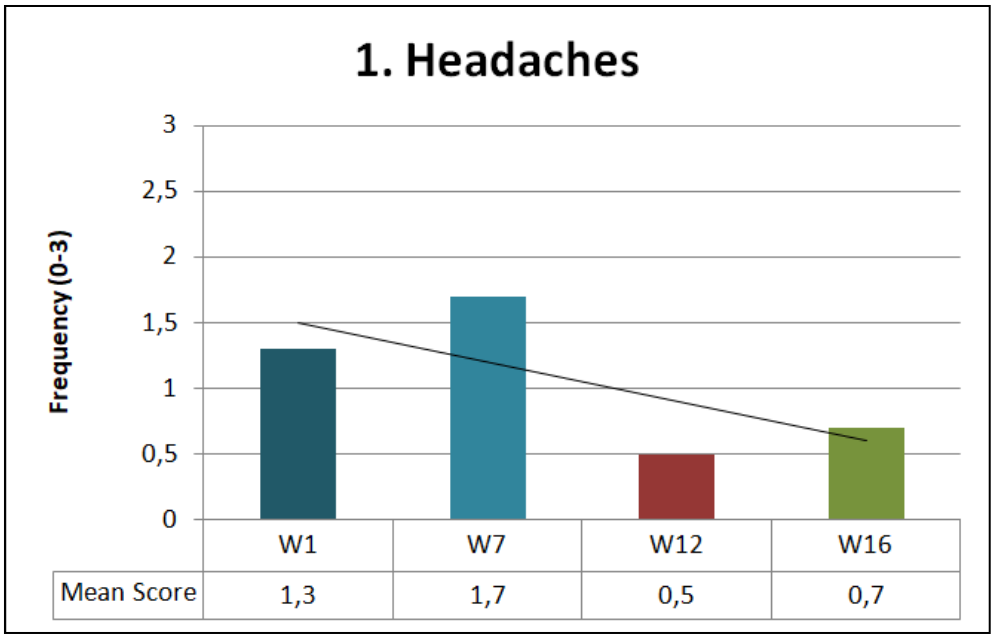


Fig. 3: Modified TMD-7 Mean Score for Headaches – Maximum score = 3

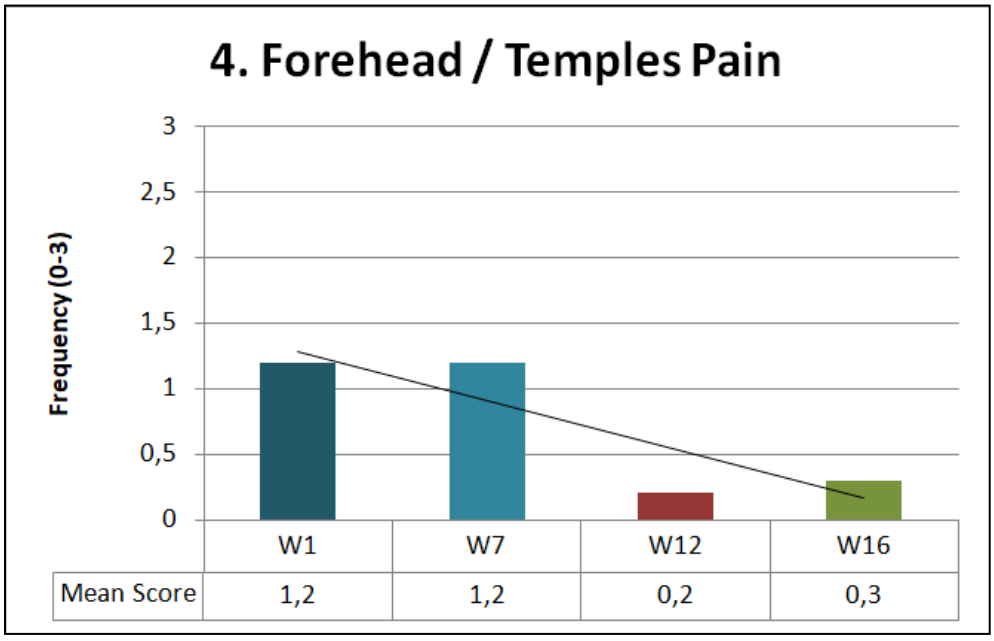


Fig. 4: Modified TMD-7 Mean Score for Forehead and/or Temple Pain – Maximum score = 3

To assess the impact of the intervention on quality of life, it was important to measure not only symptom frequency but also pain intensity, as these two parameters may change independently. Pain intensity scoring is described in the following section.

8. Pain level

Participants rated their nociceptive symptoms using a NPRS for five TMD-related symptoms: headaches, jaw pain, neck and shoulder pain, forehead and/or temples pain, and earache and/or tinnitus without infection.

Participants answered the question:"Over the past 7 days, how would you rate the intensity of these symptoms on a scale of 0 to 10?" with 0 representing 'no pain', 5 'moderate pain' and 10 'unbearable pain'.

Figure 5 displays the mean NPRS score for the five individual symptoms and shows a marked reduction in pain intensity during the intervention period. Overall, pain levels across all combined symptoms remained stable during the control phase, whereas the intervention phase shows a 63% reduction across all five symptoms, followed by a slight 30% increase at longer-term follow-up. This results in an overall 51% reduction in pain intensity across the five TMD-related symptoms.

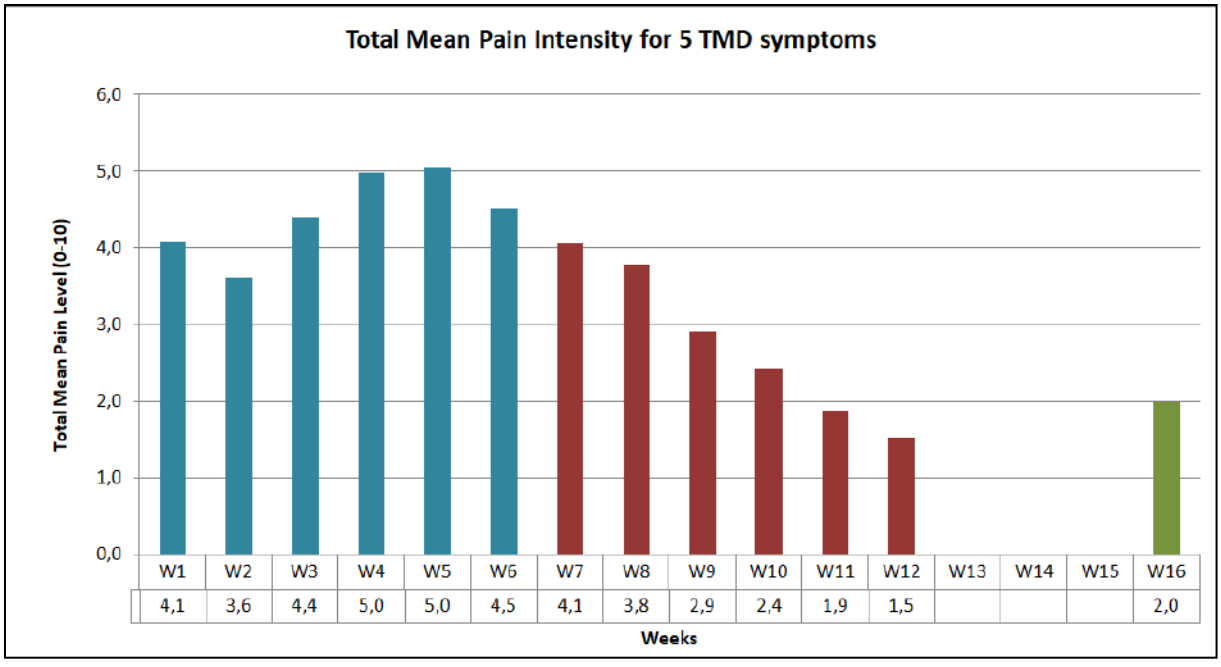


Fig. 5: Mean Pain Intensity Across Five TMD Symptoms (0-10 scale)

Marked improvements were observed particularly for jaw pain (-86%) and forehead and/or temple pain (-72%), as illustrated in Figures 6 and 7.

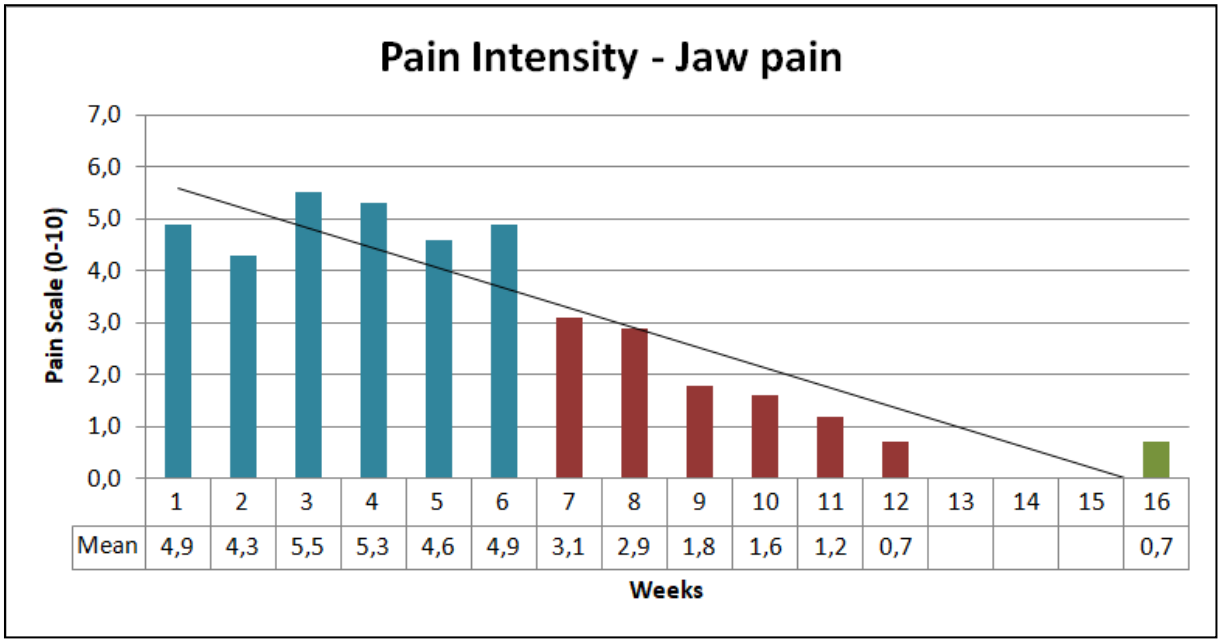


Fig. 6 – Mean Pain Intensity- Jaw Pain (0-10 scale)

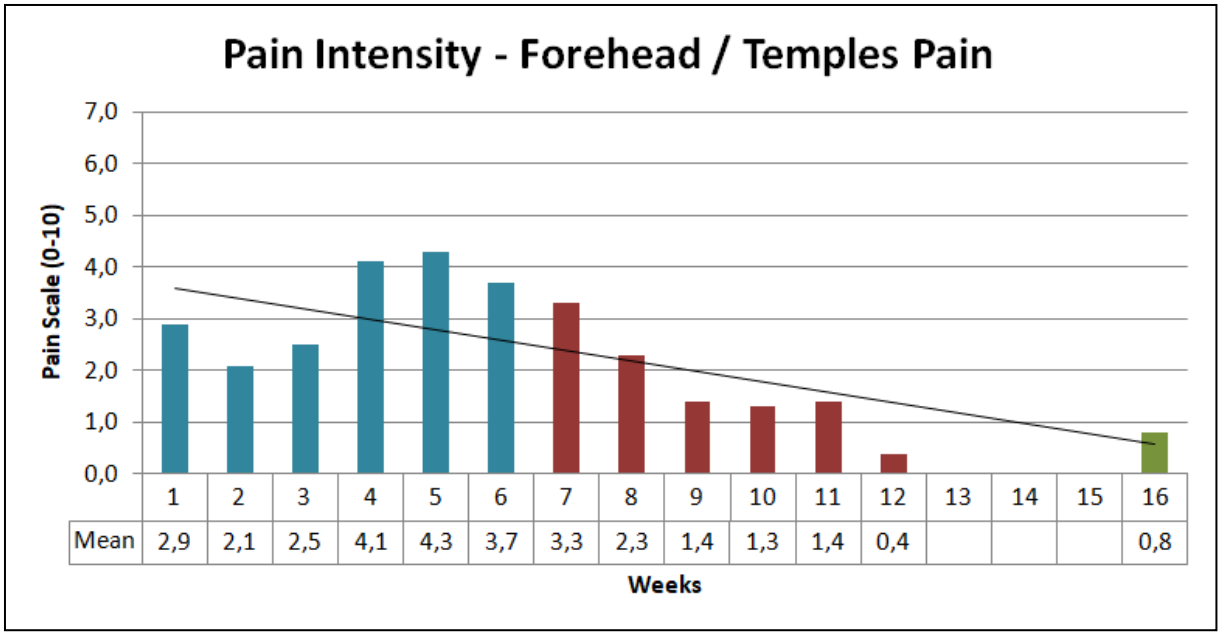


Fig. 7 – Mean Pain Intensity- Forehead and/or Temple Pain (0-10 scale)

Detailed data for each symptom are available in Appendix 8.

Given the established relationship between stress and TMD—stress influencing both physical and psychological symptoms and reinforcing oral behaviours such as bruxism (Lavigne et al., 2003)—stress levels were also monitored. Stress scoring is described in the following section.

9. Stress Level

Stress was assessed using a simple NRS. Participants answered the question:

"On a scale of 0 to 10, what has been your average stress level over the past 7 days?" with 0 representing 'no stress at all' and 10 'maximum stress'.

Figure 8 shows that stress levels remained stable throughout the study.

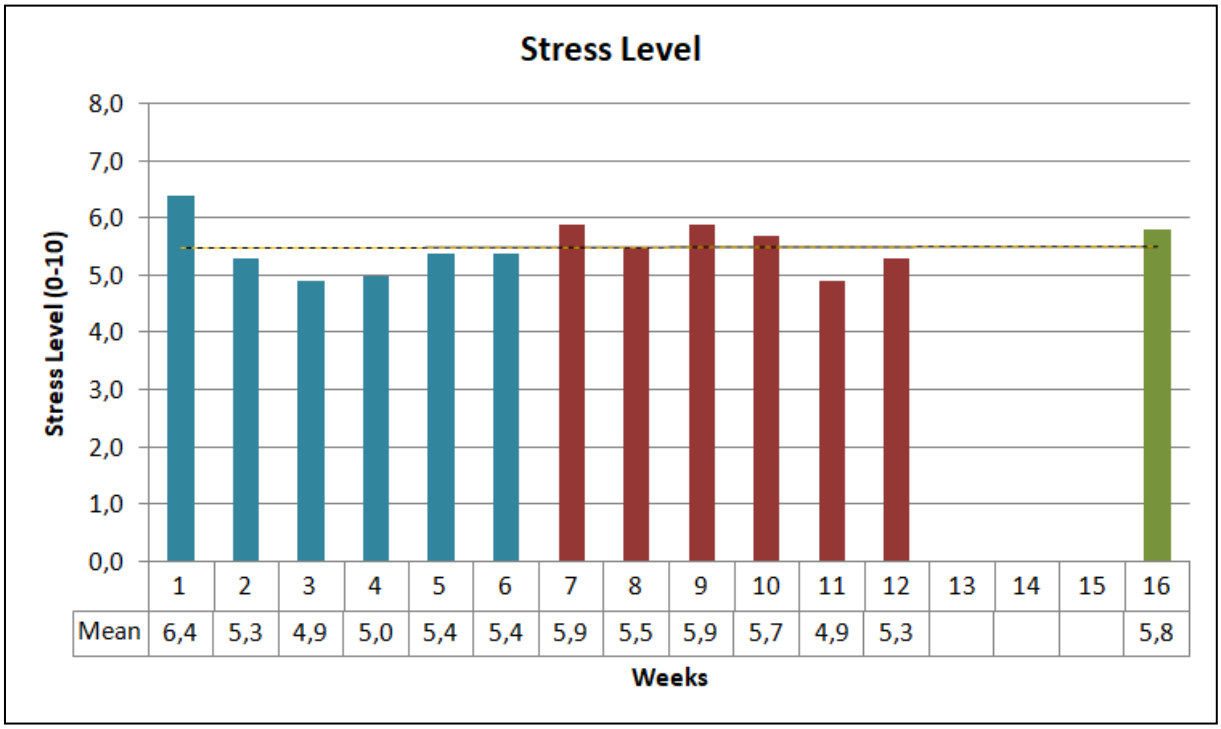


Fig. 8: Mean NRS Stress Level (0-10 scale)

10. Self-care adherence

During the intervention phase, self-care adherence was monitored weekly from week 7 (baseline) to week 12 and again at week 16 (follow-up) among all ten participants by recording how frequently they performed each prescribed self-care activity. Each week, up to three new exercises were introduced; these were cumulative in order to encourage progressive self-management and behavioural change. This meant that participants were expected to continue practising previously prescribed exercises in addition to the newly added ones, unless advised otherwise.

Participants responded to the following question: "How often have you applied the self-treatment exercises I suggested since the last session?". Potential answers were as follows: 'I didn't do them', '1 or 2 times', 'at least 3 times', 'more than 3 times', and 'every day'.

Table 5 presents the number of participants who reported completing their exercises 'at least 3 times, 'more than 3 times', and 'every day'. In addition, overall mean adherence score across the intervention and follow-up period was 5.2.

Table 5. Number of Participant performing the self-care exercises at least 3 times per week

	Number of participant doing self care more than 3 times a week						
	Breathing techniques	Cervical Mobilisation	Self Trigger Point	Specific stretching	Self Massage	Strengthening exercises	Mean Score
W7	10	10					10,0
W8	3	8	7	5			5,8
W9	4	5	3	4	2		3,6
W10	6	8	5	6	3	3	5,2
W11	6	5	4	3	4	5	4,5
W12	6	6	3	4	2	3	4,0
W13							
W14							
W15							
W16	4	5	2	4	2	2	3,2

DISCUSSION

The aim of this study was to evaluate the effects of the Jing Method™ on symptoms associated with TMD in adults. Overall, the results indicate that the six-week intervention using the HFMAST multimodal approach had a positive impact, reducing both symptom frequency (57%) and pain intensity (51%) across multiple TMD-related symptoms. These findings are consistent with the existing literature suggesting that multimodal approaches incorporating trigger point therapy, massage techniques, MFR, heat applications, stretching, and patient education can effectively reduce TMD symptoms (Fernández-de-las-Peñas et al., 2014; Guo et al., 2023; Márquez-Vera et al., 2024). Importantly, this study adds knowledge to the field of advanced clinical massage by providing evidence that a multimodal approach such as the Jing Method™ can be easily applied in a clinical context while addressing both physical and behavioural dimensions of TMD.

1. Symptom Frequency

Numerous studies support the efficacy of individual HFMAST components in the management of TMD, including heat therapy (Furlan et al., 2015), MFR (Urbański et al., 2021; Guo et al., 2023), and trigger point therapy (Fernández-de-las-Peñas et al., 2010; 2014). In the present study, the 57%overall reduction in symptom frequency observed between baseline and longer-term follow-up supports this literature and suggests that treatment benefits were maintained beyond the intervention period.

These findings are comparable to previous small-scale studies conducted by Jing students (Ellis-Jennings, 2026; Gompertz, 2025; Davies, 2025). Gompertz's study reported a 48% reduction in symptom frequency, while the mixed-method approaches adopted by Davies and Ellis-Jennings, combining hands-on treatment with online self-care guidance, reported reductions of 70% and 43%, respectively, both using the TMD-7 questionnaire and small

samples. Furthermore, Gompertz's recommendation to monitor pain intensity alongside symptom frequency informed the design of the present study.

2. Pain Intensity

Pain reduction was monitored weekly during the study with NPRS scores showing a 51% reduction from baseline to longer-term follow-up. These results align with previous research demonstrating the effectiveness of clinical massage and heat application for facial and cervical pain (Furlan et al., 2015), as well as MFR for masticatory muscle pain (Urbański et al., 2021; Guo et al., 2023). Notably, substantial reductions were observed in jaw pain (-86%) and headaches (-42%), reinforcing evidence that manual therapy can play a key role in addressing common pain drivers in TMD(Quinn et al., 2002; Miernik et al., 2012).

The marked improvements in jaw pain and temple/forehead pain are particularly relevant given the role of muscular hyperactivity—such as clenching and bruxism—and myofascial tension in TMD symptomatology (Maixner et al., 2016; Kapos et al., 2020).

Comparable reductions in pain intensity have been reported in previous Jing student research (Lindsay, 2023; Clarke, 2024), though differences in outcome measures and study design limit direct comparison.

3. Stress Levels

Contrary to expectations, stress levels remained stable throughout the study. Given the established relationship between stress, oral habits, and TMD symptom exacerbation (Lavigne et al., 2003), a reduction in stress might have been anticipated.

Several unmonitored factors—including sleep quality, anxiety, depression, and lifestyle behaviours—may have contributed to central sensitisation (La Touche et al., 2018; Minye, 2020; Cho & Lee, 2020). In addition, the use of a single-item NRS may have limited sensitivity

to subtle psychological changes. Despite this, improvements in symptom frequency and pain intensity occurred, suggesting that clinical benefits were not solely dependent on changes in perceived stress.

4. Patient Education, Biopsychosocial Considerations and Therapeutic Alliance

The findings can be interpreted within a biopsychosocial framework, in which TMD is understood as a complex condition shaped by interacting biological, psychological, and social factors (Slade et al., 2013; Maixner et al., 2016). Symptom improvement may therefore reflect the combined effects of hands-on treatment, patient education, behavioural engagement, and clinician–patient relationship.

Self-care adherence was monitored weekly, supporting active patient involvement in symptom management, although engagement declined over time. This highlights both the value and the challenge of sustaining behavioural change in chronic conditions.

Furthermore, regular consultations and ongoing feedback may have strengthened the TA, which is known to influence outcomes in chronic musculoskeletal pain (Ferreira et al., 2013; Kinney et al., 2020). While not directly measured, the structure of the intervention reflects an advanced clinical massage approach that integrates technical skill with relational and educational components.

5. Strength and Limitations

A key strength of this study is its within-subjects design, allowing participant to act as their own controls and reducing individual variability. The inclusion of a control phase followed by an intervention phase strengthened the study design, while the multimodal nature of the Jing Method™ aligns with contemporary views of TMD as a multifactorial condition. Measuring

several outcomes—symptom frequency, pain intensity, and stress—and including a longer-term follow-up allowed for a broader assessment of treatment effects.

However, limitations must be acknowledged. The small sample size limits generalisability and excludes subgroup analyses. Also, participants presented with heterogeneous clinical profiles and symptoms, including prior jaw surgery, facial paralysis, chronic migraine, hypertension, or medication intake, which may have influenced outcomes.

On top of that, outcome measures relied primarily on self-reported questionnaires. Although the TMD-7 is useful for symptom monitoring, it remains subjective and may lack sensitivity to detect subtle week-to-week changes. Stress was assessed using a single-item NRS, which may not fully capture psychological complexity.

Additionally, prior familiarity with the practitioner among some participants may have introduced expectancy bias. These factors limit generalisability and highlight the need for cautious interpretation.

6. Suggestions for future research

Future studies would benefit from larger sample sizes, stricter inclusion criteria, monitoring of medication use, and/or daily journaling for symptoms, pain intensity, and stress level. Using validated tools to measure psychological and social factors, along with objective measures of physical function, could help provide stronger evidence for multimodal treatments. In addition, presenting findings to dental practitioners, osteopaths, physiotherapists, and pain clinic teams may facilitate the integration of non-invasive approaches such as the Jing Method™ into broader clinical practice.

Despite these limitations, the findings provide encouraging evidence for the effectiveness of the Jing Method™ in reducing TMD symptoms, in terms of pain and symptom frequency. The results support the need for further research using larger samples.

In addition, incorporating validated patient-reported outcome measures such as the Oral Health Impact Profile (OHIP-14) (Qamar et al., 2023) or the Oral Behaviours Checklist could offer a more comprehensive understanding of the psychological, social, and behavioural dimensions of TMD and their response to multimodal care.

CONCLUSION

This study suggests that a six-week multimodal intervention using the Jing Method™ was associated with reductions in symptom frequency and pain intensity in adults with TMD, with benefits largely maintained at follow-up. These findings support existing evidence that TMD may respond well to integrated treatment approaches addressing both physical and behavioural factors.

The results also reinforce the relevance of a BPS framework in advanced clinical massage, demonstrating that symptom improvement can occur even in the absence of measurable changes in perceived stress. By combining manual techniques, patient education, self-care support, and a consistent therapeutic relationship, the Jing Method™ offers a clinically feasible model for addressing the complex nature of TMD.

Although limited by sample size and methodological constraints, this study contributes preliminary evidence to the field of advanced clinical massage and supports further research using longer follow-up periods and validated psychosocial outcome measures.

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Appendix 1 - Ethics Form

	CHECKLIST OF INSTRUCTIONS FOR STUDENTS	✔
1	Complete Section 1 to Section 13	
2	Electronically sign and date	
3	Participation information form (see separate form)	
4	Participation consent form (see separate form)	

Jing BTEC Research Ethics Form

BTEC Level 6: Professional diploma in Advanced Clinical and Sports Massage

Section 1: to be completed by student

Student's name:	Caroline ZITO
Student number:	PF69856
BTEC Year-group:	2024-2026
Date of application:	04/04/2025
Student e-mail address:	info-et-reservation@massagebycaroline.fr
Title of research project:	*"Evaluating the effects of the Jing Method™ on symptoms associated with Temporo-Mandibular Disorders (TMD) in adults"*

Section 2: Does your project involve any primary research using human subjects?
Please indicate as appropriate.

	YES	NO
Does your project involve any primary research using human subjects?	**X**	
If yes, does it involve children under 16?		X
If yes, does it involve children under 18?		X
Other vulnerable populations (i.e. mental illness, aged subjects)?		X
Does your project involve NHS patients, NHS staff or Local Authority Service Providers?		X

Are you planning to use deception?		X
Are you collecting sensitive personal data such as sexuality, mental health data, etc.?		X
Does your study involve paying participants or an alternative incentive to participate		X
Could the study put you or someone else at risk of injury?		X
Does your project make use of a validated questionnaire?	X	

If yes, please specify the name of the validated questionnaire you are using and attach a copy here.

- Modified TMD-7 questionnaire: to record eight instead of seven symptoms
- NPRS questionnaire: to record symptoms intensity
- NRS questionnaire: to record stress level

Amendment:
Originally, the TMD-7 questionnaire was selected as the validated instrument to assess the frequency of temporomandibular disorder (TMD) symptoms.
However, as six out of ten participants reported experiencing earache and/or tinnitus in the absence of infection, this symptom was subsequently monitored as a separate item. Consequently, the original TMD-7 questionnaire was modified to assess eight symptoms rather than seven and is hereafter referred to as the *modified TMD-7 questionnaire*.

Section 3: Research premises

Where is your research being undertaken? The research study will take place in my home massage studio at 703 route de Cinq Mars, 37230 Pernay, Indre et Loire, France.	
If your research is being undertaken outside of your own premises, do you have written confirmation from the establishment involved? If yes, please provide evidence.	Not applicable

Section 4: Recruitment

How will you recruit subjects for this research study?
The participants will be recruited through the following means:

- Posters/flyers in local businesses (if permission granted) in my town and surrounding area: bakery, hairdresser, pharmacy, fitness center, etc. ;
- Communication on Social Media: Facebook, Instagram and LinkedIn;
- Communication on Google business and my own website (pop-up and blog article)
- Health professionals (if permission granted): dentist/surgeons, osteopath, chiropractor, physiotherapist, GP
- Email to existing "Client and Prospects" database

Section 5 Outline your project procedure

This is effectively a draft of your method, include information on when questionnaires will be used, what your intervention will involve, any stimuli used, etc.

This study aims to investigate the effectiveness of the Jing Method™ on adult with symptoms associated with TMD.

Participants will be recruited for this within subject design using printed adverts (poster) and online communication.

Recruitment Period: All prospective participants will have access to a blog article providing an overview of the study, including its objectives, methodology, potential benefits, participant contribution (including any associated fees), and other relevant details.
Each candidate will be required to complete an online application questionnaire to collect basic data

and determine whether they meet the inclusion criteria for the study.
Eligible candidates will then receive a detailed information email outlining the aims of the research, what participation involves, and any potential (minimal) risks.
After receiving this information, a follow-up phone call will be scheduled to ensure that the participant fully understands the nature of the study, has the opportunity to ask questions, and is able to give informed consent to take part.

Selected candidates will attend a one-to-one consultation (via phone, Zoom, or in person) to review their health history, lifestyle information, and questions specifically related to their TMJ symptoms. This session will also provide an opportunity to revisit the details of the study, introduce the online questionnaires to be completed throughout the research period, address any additional queries, and obtain written consent to participate.

Weeks 1-6 will form the control period and give a baseline of the client's frequency and intensity of symptoms, and stress level. During this period, the modified TMD-7, assessing eight instead of seven symptoms, will be administered only at week 1. The NPRS and NRS questionnaires will be administrated once a week. There will be no intervention during the control period.

Weeks 7-12 will be the intervention period.

- Week 7 and 12 will include a 20/30 minutes consultation including orthopaedic assessment of the TMJ, cervical spine and scapular region.
- Each week participants will receive a hands-on 45-minutes clinical massage. Each week, the treatment will be different. It will follow the HFMAST approach and include Amma, hot stones, indirect and direct myofascial release, trigger point work, acupressure, stretches and self care advices. Details on each weekly treatment will be added as an appendix **(Appendix # – Detailed Clinical Massage Protocol).**
- Each session will follow the Jing Temporo-mandibular joint pain protocol (see Massage Fusion, pp. 345-353) combined with a selection of techniques of the Jing Neck and Shoulder Protocol (see Massage Fusion, pp. 225-245). This is an idea of what a treatment could look like :
    - **Prone :** Palm press upper shoulder, Amma on back and legs, Accupressure Point K1, Hot stones (back and shoulder), Deep effleurage upper shoulder, Petrissage back of the neck, Trigger point Upper Trapezius;
    - **Side lying** :Deep effleurage Upper Trapezius and Passive Fascial stretch;
    - **Supine** : Indirect Fascia leg pull and arm pull, Cross hand stretch Pectoral Area, Trigger point SCM, Thoracic Release, Intra-oral technique using non-latex gloves on Masseter and Temporalis, Acupressure Point SI 19, PNF SCM, PNF Masticatory Muscles, Face Massage.
- There will be some background relaxation music played throughout the treatment
- There will be use of hot stone as part of the treatment
- There will be a sweet orange essential oil diffuser
- The treatment room will have a dim light to induce relaxation
- After each session, the participants will be given self care advice. This self-care will take 10

minutes to complete and will be performed at least three times per week.

- Details of each weekly treatment plus self-care routine will be added as an appendix to the study.
- The modified TMD-7 will be sent on week 7 and 12. The NPRS and NRS questionnaires will be sent each week to participants to complete 24 hours before each treatment.
- At the same time, participants will be asked to inform the researcher how many times they performed the self-care that week.

At week 16, a follow up questionnaire will be send to participant, including the modified TMD-7, NPRS, and NRS questionnaires, to assess if there are any longer term changes as a result of the intervention period. At the same time, it will include a feedback questionnaire as well.

Section 6: Describe what your participants need to do

1. Before the control period, the selected Candidates are required to attend a one-to-one consultation (phone, zoom or in person). This includes collecting data about their health history, lifestyle information and asks specific questions about their chronic pain and symptoms associated with their TMD. This session will also provide an opportunity to revisit the details of the study, what is expected from them, introduce the online questionnaires to be completed throughout the research period, address any additional queries, and obtain written consent to participate.

2. During the 12 weeks of the study, participants are required to inform the researcher of any other necessary therapies, medication, intervention, or treatment they are taking for their TMJ in addition to the Jing Method™ over the duration of the study as this could be a criteria of exclusion

3. Weeks 1 – 6: participants are required to complete the online questionnaire once a week but there will be no intervention.

4. Weeks 7 – 12:

- Participants will receive weekly hands-on 45-minutes advanced clinical massage treatments for the TMJ.
- Week 7 and 12 will be longer and include a 20/30 minutes consultation including orthopaedic assessment of the TMJ, cervical spine and scapular region.
- After each treatment, participant with receive 10-minutes self care advice and will be asked to perform them at least 3 times a week.
- Participants are required to complete the online questionnaire 24 hours before each treatment.
- Participants will inform the researcher how many times they complete self-care each week.

5. **Week 16**: Participants are required to complete the online questionnaire along with additional feedback questions again to assess longer term benefits.

Section 7: Respecting confidentiality and ethical issues for participants

How will you manage participant confidentiality? Ensure that the information refers to GDPR and is compliant with this legislation. What ethical considerations are there?

- Participants' names and identities will remain strictly anonymous.
- All collected data will comply with GDPR regulations and confidentiality agreements.
- All personal data including consultation form and research report will be stored into a password protected folder on Google Drive
- All data will be anonymised before analysis to ensure participants cannot be identified.
- Fully qualified, insured massage therapist

Section 8: Inclusion and exclusion criteria

What sort of people will the subjects be?

Criteria of INCLUSION:

Adults over 18 presenting chronic pain (pain experienced for 3 months or more) associated with at least 3 or more symptoms related to TMD:

- Headache or Migraine
- Pain or stiffness in the jaw
- Pain on the face
- Pain or stiffness in the neck or shoulder
- Pain in the forehead or temples
- Trismus: Difficulty opening the mouth all of the way
- Popping and clicking noises when opening or closing the mouth
- Difficulty when eating, chewing food or swallowing
- Earache and/or tinnitus without infection
- Bruxism: teeth grinding
- Dizzy spells

Criteria of EXCLUSION:

- Pregnant women
- Candidates with systemic pathologies such as fibromyalgia, multiple sclerosis, etc.
- Candidates with TMJ hypermobility
- Candidates who cannot commit to the full length of the study (12 weeks)
- Candidates who had dental work or surgery or TMJ treatment within the past 3 months
- Candidates who has planned to have any dental work or surgery or TMJ treatment within the

12 weeks study period

Section 9: Student declaration:

I understand that I can only start my project, once this ethical application has been approved. This applies to ALL projects, whether using human participants or not.	YES	NO

Student's handwritten signature:

(To be completed, once ethical approval has been provided)

Print Name: Caroline ZITO **Date: 15/05/2025**

ONCE YOU HAVE COMPLETED THE ABOVE ETHICS DETAILS, THEN YOU CAN PROCEED TO PARTICIPANT INFORMATION AND CONSENT FORMS, SO READ BELOW AS IT IS IMPORTANT TO BE CLEAR ABOUT WHAT YOUR PARTICIPANTS NEED TO DO.

Informed consent must be obtained for **all** participants before they take part in your project. The Consent Form should clearly state the parameters and content of the research. It should explain what is expected of the participants and what they will be doing. It should draw specific attention to any elements that could conceivably cause subsequent objections, and the measures you are taking to ensure the confidentiality of their data. It should also state that the participants are free to withdraw from the study at any time.

Studies should not involve participants under 18 without express permission from your supervisor. Studies carried out in schools require the permission of the head-teacher, and of any responsible adults as per the head teachers' recommendation. Minors aged over 14 years should also sign an individual consent form themselves. If you are planning to carry out a project whereby you will be in contact with minors,you must establish from the head-teacher or other responsible adult whether the work proposed will require you to have the relevant DBS disclosure. Please seek advice from your Local

Authority.

You must complete a consent form for every participant involved in your study.

Jing's assessment (to be signed by Jing after ethics and participant information details completed)

EITHER:
This project is not designed to include fieldwork with human participants. Insofar as secondary data are to be used, I am confident that appropriate procedures are in place for data protection and non-disclosure of any personal or confidential data.

Signature: .....date: .....

OR:
This project is designed to include fieldwork with human participants.
(please circle yes or no)

YES	All necessary statutory, legislative or other formal external approvals have been obtained (e.g., permissions, police checks, external research ethics and governance approvals in the case of research involving NHS staff or patients or Local Authority service providers or users).
YES	The design of this study ensures that the dignity, welfare and safety of the participants will be ensured and that if children or other vulnerable individuals are involved they will be afforded the necessary protection.
YES	I am confident that participants will be given all necessary information before the study, in the consent form, and after the study if necessary.
YES	I am confident the participants' confidentiality will be preserved.
YES	I consider that any risks involved to the student, the participants, and any third party are minimal.
YES	I consider that Departmental approval should be given, since ethical risks have been appropriately addressed in the proposal and I am confident that steps will be taken to minimise any risks.

Signature: .....Susan Harrison..... date: ....12/5/25.....

If a second opinion was sought from a research ethics expert, the advisor should also sign this form below:
Advisor's name (please print):

Advisor's signature: ..... date: .....
Once the Jing's signature has been obtained, the student must return the completed form to the Jing Office.

Appendix 2 – Recruitment: Online Communication

INSTAGRAM & FACEBOOK POST #1

INSTAGRAM & FACEBOOK POST #2

INSTAGRAM & FACEBOOK POST #3

QR code link : https://massagebycaroline.fr/etude-massage-troubles-temporo-mandibulaires/

Appendix 3 – Recruitment: Poster

Souffrez-vous de Douleurs à la mâchoire ?

ou plus précisément de Troubles Temporo-Mandibulaire (TTM)

DATE LIMITE D'INSCRIPTION 30 JUIN 2025

- APPEL À CANDIDATURE -

PARTICIPEZ À UNE ÉTUDE SUR LE MASSAGE ET LES DOULEURS À LA MÂCHOIRE

ÉTUDE CLINIQUE – DÉBUT APPROXIMATIF FIN JUILLET 2025

1 PERSONNE SUR 3 SOUFFRE DE DYSFONCTIONNEMENTS DE L'ARTICULATION DE LA MÂCHOIRE (ATM)

LES **SYMPTOMES SONT MULTIPLES**, ET PEUVENT FORTEMENT IMPACTER LA VIE QUOTIDIENNE.

CETTE ÉTUDE VISE À ÉVALUER L'**EFFICACITÉ DU MASSAGE THERAPEUTIQUE SUR LES TROUBLES TEMPORO-MANDIBULAIRES** (TTM).

QUI PEUT PARTICIPER ?

Vous pouvez participer si vous avez **plus de 18 ans** et avez **au moins 3 des symptômes** ci-dessous :

- Maux de tête ou migraines,
- Douleurs ou raideurs à la mâchoire,
- Douleurs au visage,
- Douleurs au cou ou aux épaules,
- Trismus (difficulté à ouvrir complètement la bouche),
- Claquement ou craquement de l'ATM,
- Douleurs d'oreille sans infection ou acouphènes,
- Bruxisme (grincement des dents),
- Sensation de vertiges.

Aucun diagnostic médical formel n'est nécessaire pour participer.

DEROULEMENT DE L'ÉTUDE

- **Durée totale : 12 semaines**
- **S1 -S6** : questionnaire uniquement
- **S7 -S12** : 1 massage / semaine
- **S16** : Entretien final
- **Lieu** : Studio à Pernay (37230)
- **Participation** : 25€ / séance (au lieu de ~~65€~~)

A PROPOS

Je m'appelle Caroline, masseuse professionnelle depuis 2015 et fondatrice de *Massage by Caroline*. Je suis spécialisée dans l'accompagnement des personnes souffrant de douleurs chroniques. Je poursuis actuellement une formation diplômante en Massage Clinique Avancé et Sportif auprès de Jing Advanced Massage Training en Angleterre. Dans le cadre de ce cursus, j'ai l'opportunité de mener cette étude clinique visant à évaluer les effets du massage sur les symptômes liés au dysfonctionnement de l'articulation de la mâchoire (ATM).

EN SAVOIR PLUS + LIEN D'INSCRIPTION

Massage by Caroline / Caroline ZITO (EI) | info-et-reservation@massagebycaroline.fr | 06 41 06 47 89 | www.massagebycaroline.fr

Merci de contribuer à faire avancer la recherche en thérapie manuelle tout en prenant soin de vous !
Confidentialité garantie – Données anonymisées – Étude clinique supervisée par Jing Advanced Massage Training (UK)

Appendix 4 – Modified TMD-7

"Over the past 30 days, how frequently have you experienced any of the following symptoms?" **(Check one box for each item below)**				
	Rarely or never ***0***	***A few times per month*** ***1***	***Once or twice a week*** ***2***	***Nearly every day*** ***3***
1. Headaches				
2. pain in your jaw				
3. Pain in your neck or shoulders				
4. Pain in your forehead or temples				
5. Earache and/or tinnitus without infection				
6. Difficulty opening your mouth all the way				
7. Noise when opening or closing the mouth				
8. Difficulty when eating or chewing your food				

Appendix 5 - Detailed clinical massage treatment week per week

Week 1 – Clinical Massage Treatment		
Room Same set-up each week		Comfy massage table with heated mattress Sweet orange essential oil diffuser Relaxation music & soft lighting. Neutral unscented and dry grape seed oil
Consultation		20 min consultation with orthopaedic assessment of cervical spine, scapula-thoracic joint and TMJ. Explanation about what is expected during trigger point and intra-oral techniques. Written consent signature.
Global		Amma along bladder channel from upper back to toes
PRONE	H	Palm press on upper trapezius with hot stones Palm press Shoulder & erector spinae with hot stones
	F	Soft fist erector spinae Soft fist upper back Skin Rolling posterior cervical
	M	Deep forearm effleurage upper back over scapula Deep forearm effleurage upper trapezius Suboccipitals compression and cross-fibre friction Upper trapezius with thumbs over thumbs
SUPINE	H	Effleurage over pectoral area & lateral neck muscles with hot stones Hot stone placement on belly & solar plexus
	F	Cross-hand stretch platysma &clavicopectoral fascia Thoracic MFR
	M	SCM compression Intra-oral technique Face & Head Massage
	A	SJ 21 S19 GB 2
	S	Head pull Passive stretch SCM PNF Masseter
Self care	T	Breathing relaxation technique Cervical mobilisation

Week 2 – Clinical Massage Treatment		
Global		Amma along bladder channel from upper back to toes
PRONE	H	Palm press on upper trapezius with hot stones Palm press Shoulder & erector spinae with hot stones Dynamic whole back and neck with hot stones
	F	Soft fist erector spinae Cross-hand stretch upper back Skin Rolling posterior cervical
	M	Deep forearm effleurage upper back over scapula Deep forearm effleurage upper trapezius Levator Scapula & costal surface of the scapula Suboccipitals compression and cross-fibre friction Upper trapezius with thumbs over thumbs
SUPINE	H	Effleurage over pectoral area & lateral neck muscles with hot stones Hot stone placement on belly & solar plexus Light effleurage on masseter and temporalis with hot stones
	F	Single leg pull Cross-hand stretch platysma &clavicopectoral fascia Thoracic MFR
	M	SCM compression Intra-oral technique Temporalis Face & Head Massage
	A	SJ 21 S19 GB 2
	S	Head pull PNF SCM PNF & STR Masseter

Self care	T	Upper Trapezius Stretch (Passive & PNF) Self trigger point treatment SCM

Week 3 - Clinical Massage Treatment		
Global		Amma along bladder channel from upper back to toes
PRONE	H	Palm press on upper trapezius with hot stones Palm press Shoulder & erector spinae with hot stones Hot stone placement on sacrum Dynamic whole back and neck with hot stones
	F	Skin rolling upper trapezius & back of the neck Focused fascia stretch posterior cervical
	M	Deep forearm effleurage upper back over scapula Deep forearm effleurage upper trapezius Suboccipitals compression Upper trapezius (compression, money sign & uncoiling)
	A	GB 21
SUPINE	H	Effleurage over pectoral area & lateral neck muscles with hot stones Hot stone placement on belly & solar plexus Light effleurage on masseter and temporalis with hot stones
	F	Single leg pull Thoracic MFR
	M	Scalenes (stripping & anterior cervical transverse processes) SCM compression Intra-oral technique Temporalis Face & Head Massage
	A	SJ 21 S19 GB 2
	S	Head pull

		PNF & Pin and Stretch Masseter Neck mobilisation with a towel & SCM passive stretch
Self care	T	Platysma Stretch Self trigger point treatment Pterygoïd Self massage Upper Trapezius with a ball

Week 4 - Clinical Massage Treatment		
Global		Amma along bladder channel from upper back to toes
PRONE	H	Palm press on upper trapezius with hot stones Palm press Shoulder & erector spinae with hot stones Hot stone placement on sacrum Dynamic whole back and neck with hot stones
	F	Soft fists on erector spinae Skin rolling upper trapezius Torquing posterior cervical
	M	Deep forearm effleurage upper back over scapula Deep forearm effleurage upper trapezius Suboccipitals compression Upper trapezius (compression, money sign & uncoiling)
SUPINE	H	Effleurage over pectoral area & lateral neck muscles with hot stones Hot stone placement on belly & solar plexus Light effleurage on masseter with hot stones
	F	Single leg pull Cross-hand stretch platysma &clavicopectoral fascia
	M	Scalenes (stripping) SCM compression Intra-oral technique Digastricus Temporalis Face & Head Massage
	A	SJ 21

		S19 GB 2 GV 20
	S	Head pull PNF Masseter & Temporalis PNF SCM
Self care	T	Strengthening exercises for posterior and lateral neck muscles
Week 5 - Clinical Massage Treatment		
Global		Amma along bladder channel from upper back to toes Amma along the stomach channel from feet to hips
PRONE	H	Palm press on upper trapezius with hot stones Palm press Shoulder & erector spinae with hot stones Hot stone placement on sacrum Dynamic whole back and neck with hot stones
	F	Soft fists on erector spinae Skin rolling upper trapezius
	M	Deep forearm effleurage upper back over scapula Upper trapezius (compression, money sign & uncoiling) Levator scapula
SIDE LYING	H	Upper trapezius and Scalenes with hot stones
	F	Positional release 1st rib
	M	Soft fist on upper trap and neck Deep forearm effleurage on upper trap and neck Suboccipital compression Scalenes stripping Shoulder mobilisation
	S	PNF Upper trapezius
SUPINE	H	Hot stone placement on belly & solar plexus & heart
	F	Leg pull Thoracic MFR Skin rolling masseter
	M	Scalenes (stripping) SCM compression Temporalis Digastricus

		Head Massage
	A	SJ 21 S19 GB 2 GV 20
Self care	T	Masticatory muscles : PNF stretch – PNF Strengthening exercise – self trigger point masseter

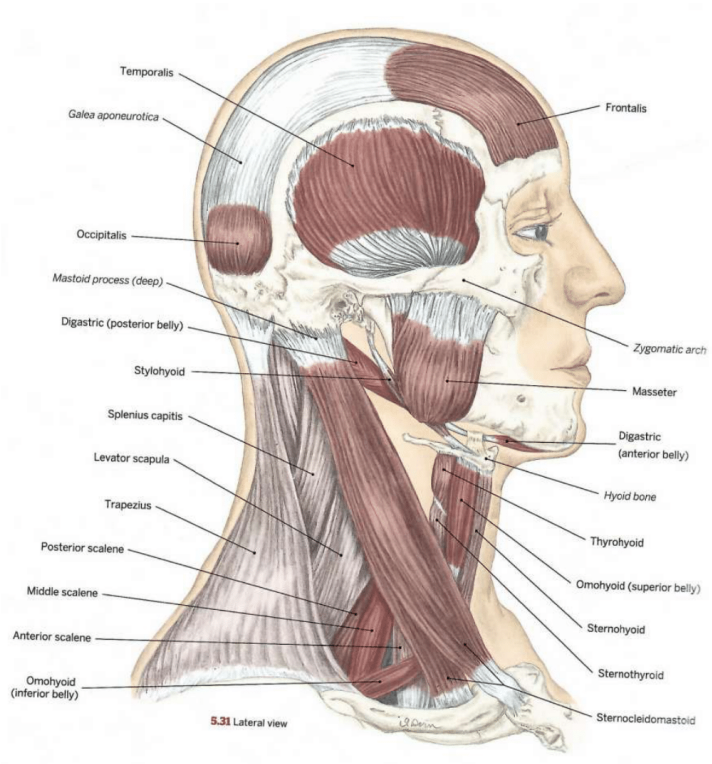
Week 6 - Clinical Massage Treatment		
Consultation		20 min consultation with orthopaedic assessment of cervical spine, scapula-thoracic joint and TMJ in order to compare with week 1.
Global		Amma along bladder channel from upper back to toes
PRONE	H	Palm press on upper trapezius with hot stones Palm press Shoulder & erector spinae with hot stones Hot stone placement on sacrum Dynamic whole back and neck with hot stones
	F	Soft fists on erector spinae Skin rolling upper trapezius and posterior neck muscles
	M	Deep forearm effleurage upper and low back Upper trapezius (compression, money sign & uncoiling) Levator scapula
SIDE LYING	H	Upper trapezius and Scalenes with hot stones
	M	Soft fist on upper trap and neck Deep forearm effleurage on upper trap and neck Suboccipital compression Upper trapezius STR
	S	Passive Upper Trapezius
SUPINE	H	Effleurage pectorals, shoulders and neck with hot stones Hot stone placement on belly & solar plexus & heart
	F	Double Leg pull Diaphragm release

	M	Effleurage pectorals, shoulders and neck Scalenes (stripping) SCM compression Masseter & Temporalis finger tips massage Head Massage
	A	SJ 21 S19 GB 2 GV 20
	S	PNF Scalenes Passive SCM
Self care	T	None

Appendix 6 – Self-Care Guidelines

Routine de soins autonomes à faire chez soi

Document réalisé dans le cadre de l'étude clinique « Évaluation de l'efficacité du massage clinique, basé sur la Jing Method™, sur les symptômes associés aux dysfonctionnements de l'articulation temporo-mandibulaire (ATM) chez l'adulte. »



La **dysfonction de l'articulation temporo-mandibulaire (ou ATM)** désigne un ensemble de troubles qui affectent la **mâchoire**, provoquant ainsi douleurs, craquements, tensions musculaires ou difficultés à ouvrir la bouche. Elle peut aussi entraîner des maux de tête, des douleurs au cou ou des bourdonnements d'oreilles.

Fréquence recommandée pour les exercices

- **Choisir 2/3 exercices minimum par semaine**
- **Fréquence** : au moins **3 fois par semaine**
- **Durée** : variable en fonction des exercices
- **Précaution** : si un exercice ne vous convient pas ou aggrave vos symptômes, arrêtez de le faire. Ecoutez votre corps.
- **Objectif** : prendre en main sa santé, réduire les tensions, restaurer la mobilité et soutenir l'effet des traitements.

Bonnes habitudes à adopter au quotidien

- **Surveiller sa posture** au travail et **bouger régulièrement.** Penser à aligner tête, épaules, hanches et regard pour éviter les tensions chroniques. Bouger ou faire une mini pause toutes les heures.
- **Éviter** de mâcher du chewing-gum ou manger des aliments trop durs.
- **Adopter une alimentation anti-inflammatoire** : des aliments comme les légumes verts, les baies, les poissons gras, les oléagineux et une bonne hydratation quotidienne aident à réduire l'inflammation, détendre les muscles et soutenir la récupération. *Si besoin, consulter un nutritionniste.*
- **Améliorer son sommeil** : Dormir sur le ventre aggrave souvent les douleurs (surtout au niveau de la mâchoire). Préférer dormir sur le côté ou sur le dos, avec un bon oreiller. En cas de bruxisme, un protège-dents personnalisé peut soulager la mâchoire. *Si besoin, consulter un dentiste.*
- **Stimuler le cerveau aux bons moments** : Les exercices de relaxation ou de respiration sont plus efficaces tôt le matin ou avant de dormir — moments où le cerveau est dans un état propice à la réorganisation neurologique (ondes alpha/thêta).
- **Cultiver un état d'esprit positif** : les pensées influencent la capacité du corps à guérir. La peur, le doute ou la frustration bloquent le système nerveux. Croire en la possibilité de changement active le processus de guérison.

« Le corps a cette capacité étonnante de se réparer, pourvu qu'on lui en donne l'opportunité. »

- Dr. Deepak Chopra –

1. Relaxation & Respiration Abdominale

Objectif : activer le système nerveux parasympathique responsable de l'état de repos et de la récupération, stimuler le nerf vague, réduire le stress, favoriser le sommeil, réduire le bruxisme nocturne.

Exercice de respiration :

- Allongez-vous ou asseyez-vous confortablement dans un endroit calme.
- **Fermez les yeux**.
- Placez les **mains sur votre ventre**.
- **Inspirez profondément par le nez pendant 4 secondes** (sentez le ventre se gonfler).
- **Expirez lentement par la bouche pendant 6 à 8 secondes** (sentez le ventre se dégonfler).
- Répétez pendant **3 à 5 minutes**.

Conseil : pratiquez cet exercice avant de dormir ou en cas d'épisode stressant.

> ***Le saviez-vous ?***
> En allongeant l'expiration, on stimule le **parasympathique** ce qui **ralentit le rythme cardiaque**, **réduit le cortisol** (hormone du stress), et **améliore la variabilité de la fréquence cardiaque (HRV)** ce qui est un bon indicateur de résilience au stress.

2. Mobilisations douces

Objectif : restaurer la mobilité sans forcer et déverrouiller en douceur.

Mobilisation mandibulaire :

- Ouvrez la bouche lentement jusqu'à une sensation d'étirement, puis refermez doucement. **(x10)**
- Ouvrez la bouche en déplaçant légèrement la mâchoire vers la droite, puis vers la gauche **(x5 de chaque côté)**
- Faites un cercle avec la mâchoire inférieure **(x5 dans un sens puis 5x dans l'autre)**

Mobilisation cervicale :

- Penchez la **tête en avant** (flexion) puis lentement tournez la tête d'un côté puis de l'autre (rotation). **(x10)**
- Penchez la **tête en arrière** (extension) puis lentement tournez la tête d'un côté puis de l'autre (rotation). **(x10)**
- **Penchez la tête à droite** (flexion latérale) puis, r**egardez en haut à gauche puis en bas à droite** (rotation). **(x5) Faites pareil de l'autre côté.**

Conseil : Fermez les yeux. Respirez calmement. Gardez les épaules basses. Ne pas forcer, les mouvements ne doivent pas provoquer de douleurs, d'inconfort ou de vertiges. Ecoutez votre corps et allez-y progressivement.

Le saviez-vous ?

Bouger la tête dans plusieurs directions en même temps (par exemple, en l'inclinant puis en la tournant doucement) peut être **plus efficace** que des mouvements simples. Les chercheurs ont montré que ces mouvements combinés **stimulent mieux les muscles profonds**, **améliorent la souplesse**, et aident votre cerveau à **réapprendre à bouger sans douleur**. C'est aussi plus proche des gestes que l'on fait dans la vie de tous les jours.

3. Étirements spécifiques

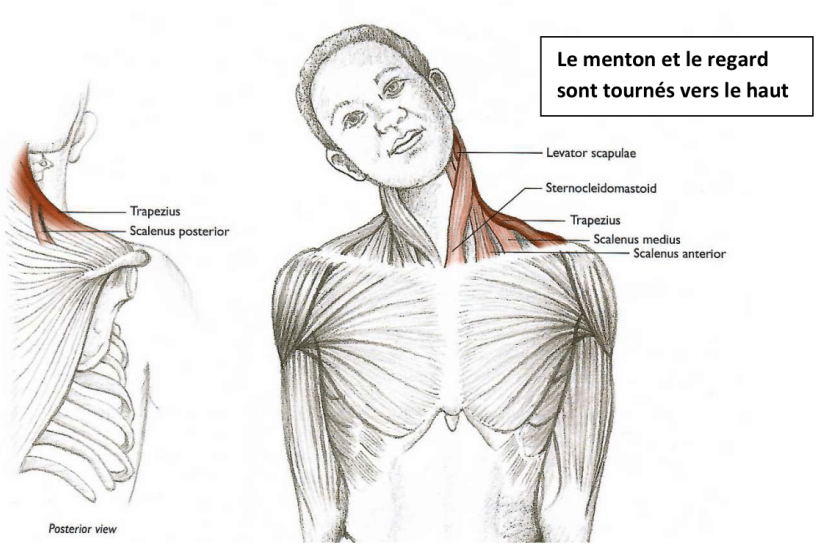
Objectif : relâcher les muscles de la nuque et des épaules; améliorer l'amplitude de mouvement articulaire ; réduire la traction sur l'ATM.

Étirement PNF des Masseters :

- Inspirez et ouvrez lentement la bouche
- Maintenez l'ouverture avec 2 doigts sur les dents du bas ou sur le menton
- Expirez et essayez de refermer la bouche, sans trop forcer
- **Contractez à environ 20-30 % de votre force, pendant 5 secondes**, puis relâchez
- **Répétez 3 fois**

Étirement PNF combiné des muscles cervicaux :

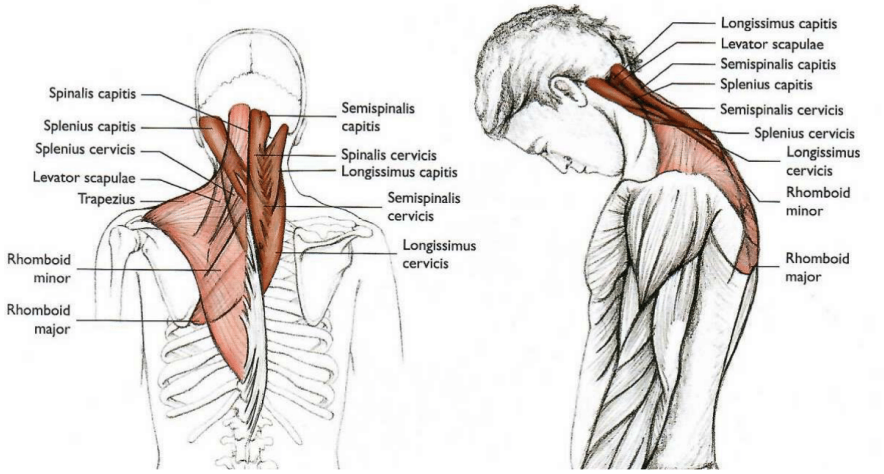
- Assis(e) ou debout, dos droit, épaules détendues.
- **Tournez la tête légèrement vers la droite** (rotation), puis **inclinez-la légèrement vers la gauche** (flexion latérale opposée).
- Placez la main gauche sur la tempe droite et essayez de **ramener la tête vers la droite**.
- **Maintenez la résistance 5 secondes, à environ 20-30 % de votre force.**
- Relâchez complètement.
- **Répétez 3 fois de chaque côté**.



Étirement Trapezius / Levator Scapula :

OPTION 1 : Etirement Passif

- **Croisez les doigts derrière la tête et penchez la tête en avant** (flexion)
- Laissez tomber les bras de chaque côté. Ne tirez pas sur la nuque.
- Respirez profondément.
- **Maintenez 20 à 30 secondes**



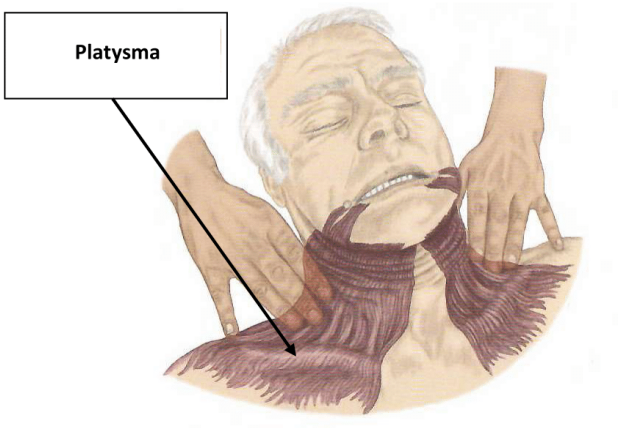
OPTION 2 : Etirement PNF

- Croisez les doigts derrière la tête et penchez la tête en avant (flexion)
- Prenez une grande inspiration. Sur l'expire, essayez de relever la tête. Les mains créent une résistance.
- **Maintenez la résistance 5 secondes, à environ 20-30 % de votre force.**
- **Relâchez complètement.**
- **Répétez 3 fois**. Vous devez sentir que votre tête va de plus en plus bas à chaque répétition.

Étirement Passif Platysma

- Penchez doucement la tête vers l'avant pour relâcher les tissus du cou.
- Croisez les mains à plat sur le bas de votre cou, juste en-dessous des clavicules. Puis, exercez une légère pression descendante sur la peau du cou, comme pour tirer doucement la peau vers la poitrine.
- Puis, penchez lentement la tête vers l'arrière, tout en gardant la pression douce vers le bas.
- Maintenez 20 à 30 secondes, avec une respiration lente et calme.

Précaution : ne forcez pas l'hyper extension cervicale (tête en arrière). Arrêtez si vous ressentez des vertiges ou douleurs aigües.



Le saviez-vous ?

Les **étirements PNF** (Facilitation Neuromusculaire Proprioceptive) sont une méthode avancée qui **combine contraction musculaire et relâchement pour améliorer la souplesse**. Utilisée par les kinésithérapeutes et les sportifs, cette technique peut aider à gagner en amplitude de mouvement plus rapidement qu'un étirement classique. Elle est **particulièrement utile en cas de raideurs ou de tensions musculaires chroniques.**

4. Auto-traitement des trigger points

Objectif : désactiver les « nœuds » musculaires responsables de douleurs locales ou diffuses.

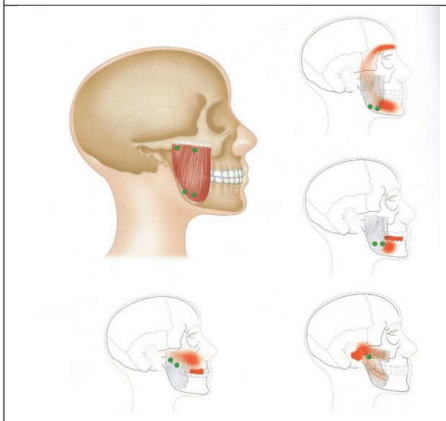
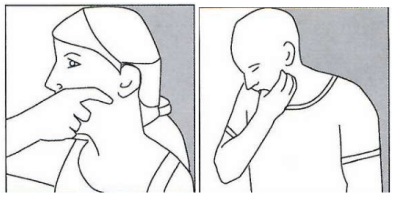
Principe : Scanner un muscle. Trouver un trigger point (il peut se manifester par une douleur à la pression, un nodule, une douleur ressentie ailleurs). La douleur ressentie ne doit pas dépasser 5/10. Appliquer une pression légère pendant 10 secondes tout en respirant calmement. Relâcher complètement. Répéter maximum 3 fois sur le même point.

Recommandation : il est recommandé d'étirer le muscle après avoir désactiver les triggers points. Ne pas insister trop sur un point car vous pourrez ressentir un inconfort dans les jours qui suivent.

Précaution : si la douleur augmente sous la pression, arrêtez.

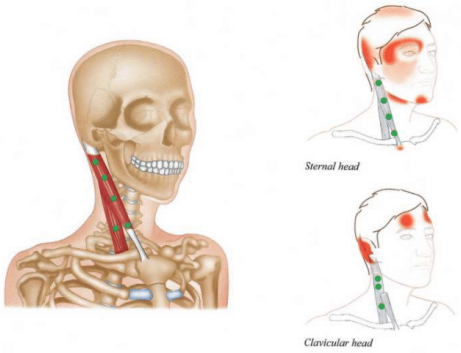
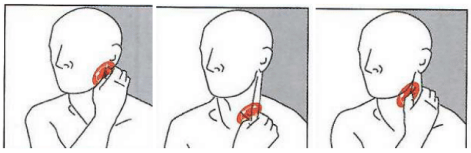
Trigger Point du Masseter

Le **masséter** est l'un des muscles les plus puissants du corps humain. Il joue un rôle essentiel dans la mastication mais il est aussi souvent **surchargé en cas de bruxisme, stress ou mauvais alignement dentaire**. Des trigger points peuvent s'y former, provoquant **douleurs locales ou irradiées (dents, oreille, tête, ATM)**.

SCHEMA DE LA DOULEUR	AUTO-TRAITEMENT
	Placer le pouce à l'intérieur de la joue opposée. Serrer les dents pour sentir le muscle se contracter. Utiliser le reste des doigts pour scanner le muscle (forme de pince) à la recherche de points sensibles. 

Trigger Point du SCM (Sternocleidomastoid)

Le **SCM** est situé à l'avant du cou, joue un rôle crucial dans les **mouvements de la tête** (rotation, flexion) et le maintien de la posture. Mais lorsqu'il est **tendu ou sursollicité** (stress, mauvaise posture, bruxisme...), il peut déclencher des **douleurs projetées vers la mâchoire, l'oreille, autour des yeux ou les tempes**. Il est souvent tendu chez les personnes souffrant de troubles temporo-mandibulaires, et un travail sur ce muscle peut **soulager les tensions cervicales et mandibulaires**.

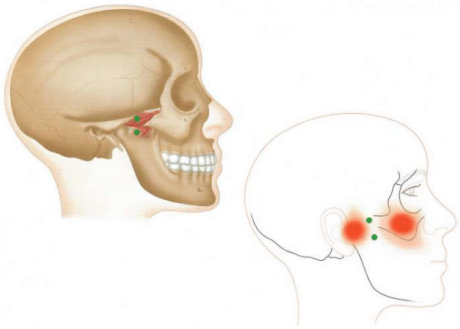
SCHEMA DE LA DOULEUR	AUTO-TRAITEMENT
	Tournez et penchez la tête légèrement vers l'avant. Attrapez le SCM entre le côté de l'index et le pouce (forme de pince). Scannez le muscle de la base du crâne jusqu'au sternum à la recherche de points sensibles. Maintenez la pression 10 sec puis relâchez. 

Trigger Point du Ptérygoïde

Les **muscles ptérygoïdiens**, cachés en profondeur dans la joue, sont **des acteurs clés de la mâchoire**. Quand ces muscles deviennent **tendus ou douloureux**, cela peut provoquer :

- des **douleurs dans la mâchoire ou l'oreille**,
- des difficultés à **ouvrir la bouche**,
- des **bruits articulaires**,
- ou encore des **troubles de l'équilibre**.

Ils sont souvent **trop sollicités en cas de stress**, de bruxisme (grincement des dents) ou de mauvaise posture. Détendre les ptérygoïdiens peut donc **grandement améliorer les symptômes liés à l'ATM**.

SCHEMA DE LA DOULEUR	AUTO-TRAITEMENT
	Mettre l'index dans la bouche, l'ongle côté dent. Suivre les dents jusqu'à tomber sur une zone dure. Si il y a douleur, restez appuyer 10 sec puis relâchez. 

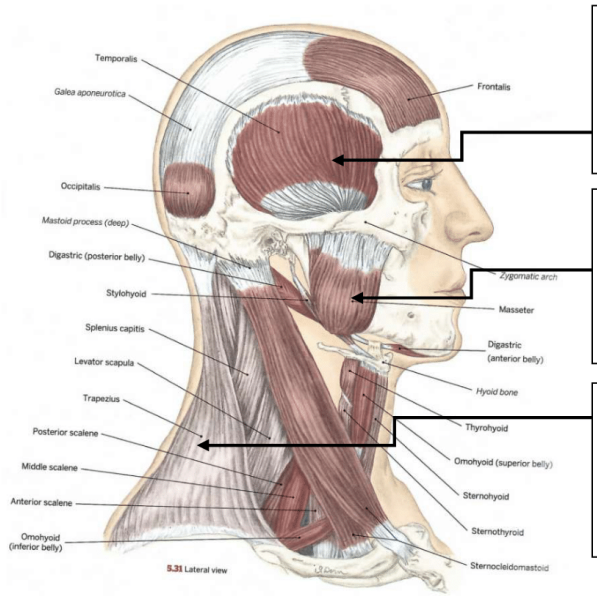
Conseil : Associez ces routines à un moment de détente (ex. après une douche chaude ou avant de dormir) pour **amplifier les effets sur le système nerveux**.

Le saviez-vous ?

Les **trigger points** sont des zones musculaires contractées qui peuvent provoquer des douleurs locales ou à distance. Des preuves scientifiques solides soutiennent leur rôle dans les douleurs chroniques et l'efficacité des traitements ciblés pour les soulager.

Selon *Travell & Simons*, pionniers dans le domaine, **la majorité des douleurs chroniques non articulaires seraient d'origine myofasciale**, c'est-à-dire liées aux trigger points (Simons et al., 1999).

5. Automassage



Temporalis : appliquez une pression douce et faites des frictions ou des cercles avec le bout des doigts pendant 30 sec.

Masseters : : appliquez une pression douce et faites des frictions ou des cercles avec le bout des doigts pendant 30 sec.

Upper Trapezius : mettez une balle de tennis dans une chaussette. Placez la balle entre le trapèze et un mur. Massez pendant 30 sec.

6. Renforcement doux

Objectif : restaurer la stabilité mandibulaire et posturale

Exercice isométrique mandibulaire :

- Ouvrez légèrement la bouche.
- Placez les pouces ou les poings sous le menton.
- Essayez d'ouvrir la bouche un peu plus, en résistant contre les mains. La mâchoire ne doit pas bouger.
- **Résistez 5 secondes** (à intensité légère, sans douleur).
- **Relâchez complètement** et ouvrez la bouche doucement.
- Répétez **3 fois**, avec 20 secondes de pause entre chaque répétition.

Renforcement des muscles cervicaux postérieurs profonds :

- Allongez-vous sur le dos sur un tapis de sol (surface dure), menton légèrement rentré.
- Poussez la tête contre le sol. **Contractez à environ 20-30 % de votre force.**
- **Maintenez 5 secondes**. Relâchez.
- Répétez **3 fois**

Renforcement des muscles cervicaux latéraux profonds :

- Debout, à côté d'un mur. Posez la main contre la joue et le coude contre le mur.
- Essayez de pencher la tête vers le mur, la main crée une résistance. **Contractez à environ 20-30 % de votre force.**
- **Maintenez 5 secondes**. Relâchez.
- Répétez **3 fois puis changez de côté**.

Le saviez-vous ?

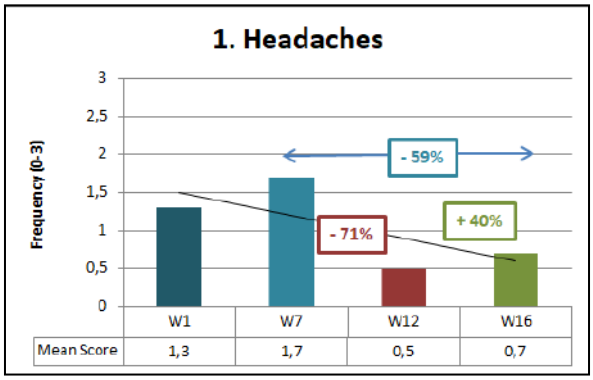
Dans le cas des troubles de l'ATM, la **faiblesse de certains muscles**, comme ceux qui stabilisent la tête, le cou ou la mâchoire, peut provoquer un **déséquilibre**. Résultat : d'autres muscles **compensent à outrance**, se **surchargent** et deviennent douloureux à leur tour. Renforcer les bons muscles permet donc de :

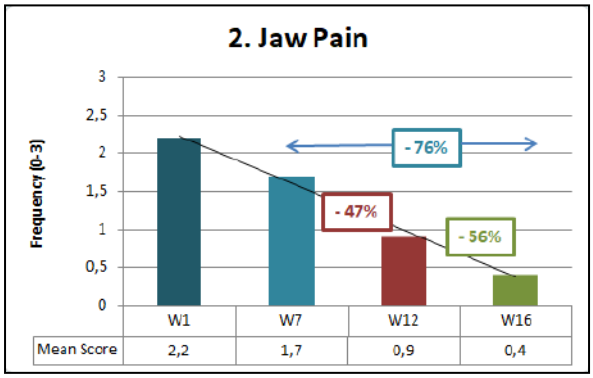
- **réduire les tensions chroniques**,
- **améliorer la posture**,
- **éviter les compensations**,
- et surtout, **prévenir les récidives** de douleur.

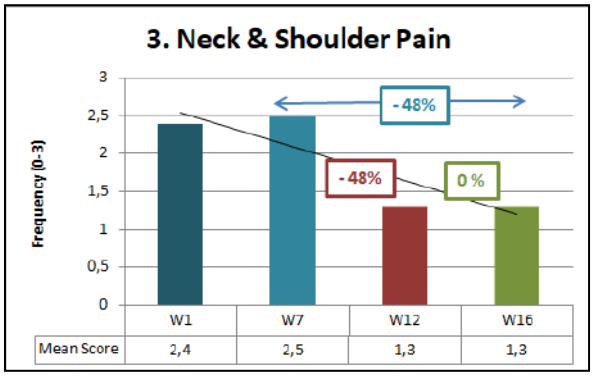
Inspiration : Physioloops – Dr Joe Damiani – TMJ, Head & Neck Specialist; Massage Fusion, The Jing Method for the treatment of chronic pain – Fairweather & Mary
Images extraites des livres suivants : "Trail Guide to the Body – 6th edition", A. BIEL; "The Concise book of trigger points", S. NIEL-ASHER; "The Anatomy of Stretching", B.WALKER.

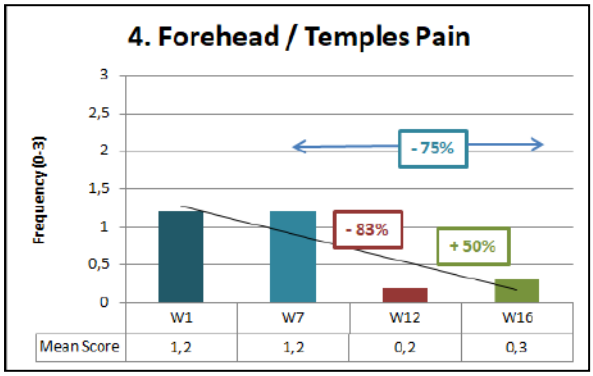
Appendix 7 – Modified TMD-7 mean scores for each individual symptom

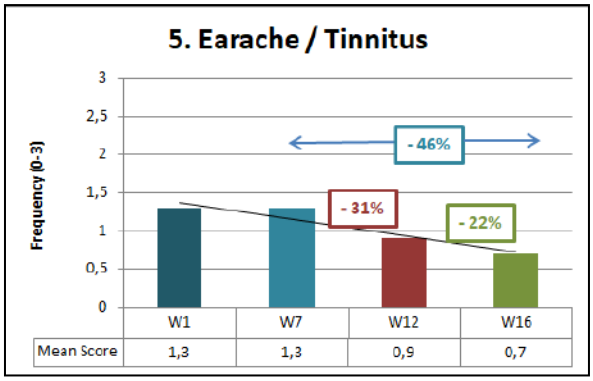
Trend between week 7 and 16 - **Trend between week 7 and 12** - **Trend between week 12 and 16**

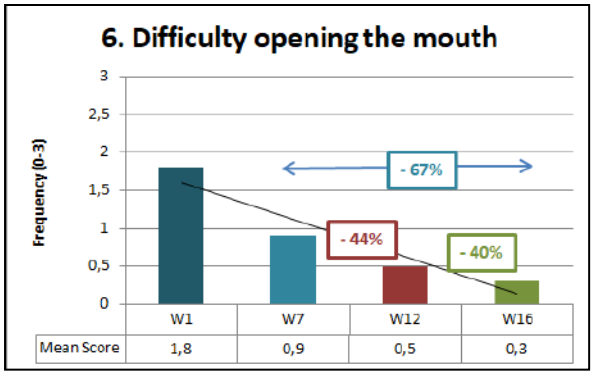


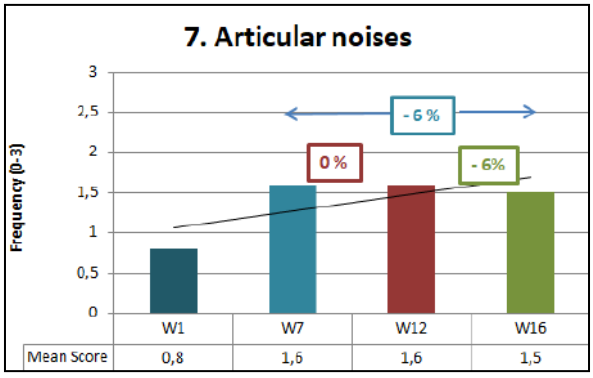


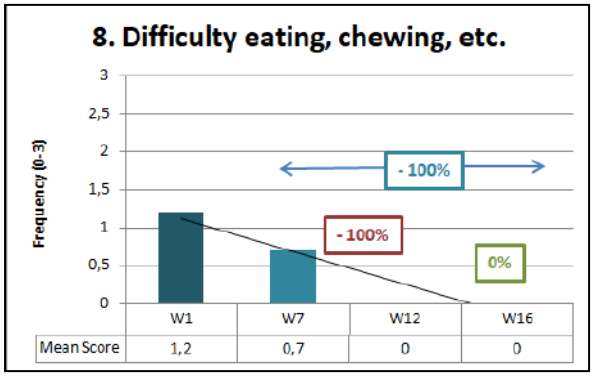












Appendix 8 - Mean Pain Intensity for 5 painful TMD symptoms

Trend between week 7 and 12 - **Trend between week 12 and 16**