Effectiveness of Trigger Point Dry Needling on Myofascial Pain and Range of Motion Associated with Temporomandibular Disorders: A Systematic Review

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BACKGROUND AND PURPOSE

Temporomandibular disorders (TMD) are characterized as a diverse group of musculoskeletal disorders that affect the temporomandibular joint (TMJ) and muscles of mastication.1 Myofascial pain, characterized by palpable muscle tenderness and trigger points (TrPs), accounts for approximately 30% of patients who seek treatment for TMD.2 Without intervention, the pain may become chronic and cause restricted range of motion (ROM) and muscle weakness.3 Recent studies show that dry needing (DN) is a safe, effective and low cost treatment technique for patients with TMD.4 The purpose of this systematic review was to evaluate the effectiveness of DN in reducing myofascial pain and improving ROM in patients with TMD.

METHODS

An electronic database search was performed using the keywords temporomandibular joint, TMJ, temporomandibular dysfunction, masseter, pterygoid, temporalis, myofascial pain, pain, tenderness, trigger point, range of motion, ROM and dry needling. Articles identified in the search were limited to years 2010 to 2015, English language and human subjects. Inclusion criteria included randomized controlled trials, male and female subjects and DN or TrP acupuncture associated with TMD. Studies were excluded if other interventions were incorporated with DN. The quality of the selected RCTs were assessed and rated for internal validity and statistical reporting using the PEDro scale. The following databases were searched on September 1, 2015: CINAHL, Google Scholar, ProQuest, PubMed and ScienceDirect.

RESULTS

The initial search yielded 547 articles. After accounting for selection criteria and duplicates, 3 articles were selected. One article was hand searched for a total of 4 articles included in the systematic review. The PEDro scores ranged from 5/10 to 9/10, with a mean score of 7.75/10. Three studies compared TrP DN to sham treatment. The 2 studies that assessed pain pressure threshold (PPT) found significantly higher PPTs in the treatment group. Of the 2 studies that assessed pain intensity, 1 study found significantly lower pain intensities, specifically with both eating and talking. Three studies assessed ROM and 1 study found significantly increased mandibular opening in the treatment group. One study compared TrP DN to dry treatment and found significantly reduced pain intensities at rest and with mastication, increased mandibular protrusion and right and left lateral deviation and overall improved temporomandibular function in the treatment group.

CONCLUSION

Based on the current evidence, TrP DN is an effective intervention for treating patients with myofascial pain associated with TMD. Limitations included small sample sizes and short-term follow-up. Future studies are required to determine the effectiveness of DN compared to other interventions and the number of treatments required for maximal benefits.

REFERENCES


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