The Effects of Dry Needling Compared to Manual Therapy Techniques in Patients with Myofascial Neck Pain: A Systematic Review

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The Effects of Dry Needling Compared to Manual Therapy Techniques in Patients with Myofascial Neck Pain: A Systematic Review

Nicole Forte
Fort Hays State University

Abstract

Myofascial trigger points (MTrPs) are the most common cause of neck and shoulder pain. MTrPs are associated with increased muscle tone, decreased range of motion, and muscle weakness. Common signs and symptoms associated with MTrPs include local and referred pain, restricted range of motion, and muscle weakness. MTrPs can be categorized as either active or latent. An active MTrPs can cause spontaneous pain during movement, compression, or stretching. Latent MTrPs are usually asymptomatic, with compression only provoking pain or discomfort. MTrPs can cause referred pain to other areas of the body, such as the facial and cranial muscles. MTrPs can be treated using various techniques, including dry needling, friction massage, ischemic compression, manual pressure, orthopedic manual therapy, soft tissue massage, and exercise interventions. The aim of this systematic review and meta-analysis was to determine the effectiveness of dry needling compared to manual therapy techniques in patients with neck and shoulder pain.

Introduction

Multifaceted trigger points (MTrPs) are considered the cause of neck and shoulder pain. MTrPs are defined as hyperirritable, localized, and discrete spots within a band of skeletal muscle and are painful to compress and move. A trigger point (TrP) can be felt in the superficial or deep musculature. MTrPs can be categorized as either active or latent. An active MTrP can cause spontaneous pain during movement, compression, or stretching. Latent MTrPs are usually asymptomatic, with compression only provoking pain or discomfort. MTrPs can cause referred pain to other areas of the body, such as the facial and cranial muscles. MTrPs can be treated using various techniques, including dry needling, friction massage, compression, manual pressure, orthopedic manual therapy, soft tissue massage, and exercise interventions. The aim of this systematic review and meta-analysis was to determine the effectiveness of dry needling compared to manual therapy techniques in patients with neck and shoulder pain.

Interventions

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Diagnosis Description</th>
<th>Participants</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trigger point dry needling (TDN)</td>
<td>Trigger point manual therapy (TMT)</td>
<td>Chronic idiopathic mechanical neck pain</td>
<td>94</td>
</tr>
<tr>
<td>Dry needling-strain-countertrain technique (SCS)</td>
<td></td>
<td>Mechanical neck pain</td>
<td>36</td>
</tr>
<tr>
<td>Dry Needling Strain-counters train technique (SCS)</td>
<td></td>
<td>Upper thoracic myofascial trigger points</td>
<td>34</td>
</tr>
<tr>
<td>Manual Pressure (MP)</td>
<td></td>
<td>Neck disability index (NDI), and pain intensity.</td>
<td>42</td>
</tr>
<tr>
<td>Friction Massage</td>
<td></td>
<td>Headache frequency and intensity of headaches reduced significantly in both study groups.</td>
<td>40</td>
</tr>
<tr>
<td>Chronic myofascial neck pain</td>
<td></td>
<td></td>
<td>39</td>
</tr>
</tbody>
</table>

Results

The six studies meeting the exclusion criteria had similar results. However, the age groups were different across all the studies. However, they all met the inclusion criteria for the systematic review. There were no significant differences between intervention groups for age, weight, neck disability index (NDI), and pain duration. Both the DN-S and OMT groups reduced neck disability and increased cervical range of motion. DN did relieve pain after fewer sessions than SCS and sham SCS. The mixed model ANOVA showed a significant time effect for pain, elicited pain, PPT, and NDI. Pain intensity decreased in all groups. DN did relieve pain after fewer sessions than SCS and sham SCS.

Conclusion

Based on all six of the studies, there was no difference in the effectiveness of DN compared to the other interventions in the treatment of MTrPs. The outcome measures used in each of the studies included manual therapy techniques. The results for DN showed a time effect for the change from the start to the end of the treatment period. However, the results for DN showed no treatment effect for the change from the start to the end of the treatment period. The results for DN showed a time effect for the change from the start to the end of the treatment period. The results for DN showed a time effect for the change from the start to the end of the treatment period.