Examining the Scientific and Regulatory Basis of Treatments for Muscle Cramps
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Objectives

Determine the scientific validity and regulatory framework of various products advertised to treat or prevent muscle cramps and create a product database.

Background

Muscle cramps are a non-fatal but intense pain in the muscles that is estimated to be experienced by 95% of the population\(^1\). Muscle cramps are diverse in who they affect, including physically active individuals, the elderly, pregnant women, and patients with certain medical conditions\(^2,3\). Yet, there are few treatments for this condition.

Methods

1. Products were searched for on Amazon and categorized by broad types before searching up specific product names.
2. Studies for specific products’ effectiveness were searched for on PubMed.
3. Product claims were identified, and warning letters were searched for on the FDA and FTC websites.

Findings

• Over 3000 results were found for muscle cramp treatments.

<table>
<thead>
<tr>
<th>Product</th>
<th>Product type</th>
<th>Relevant results</th>
<th>Studies in favor of use</th>
<th>Studies against use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pickle juice</td>
<td>Food</td>
<td>6</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Caleb Treeze</td>
<td>Traditional remedy</td>
<td>0</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Hyland’s leg cramp relief</td>
<td>Homeopathic drug</td>
<td>0</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Theraworx</td>
<td>OTC drug*</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

*: Claims were recently challenged and its marketing status is being disputed.

Figure 1. First Page of Amazon Results for Muscle Cramp Treatments

Conclusions

This research reveals:
• The market of muscle cramp products are largely dominated by non-drug products.
• Products on the market generally lack scientific evidence for their claims of therapeutic effect.
• Despite not being allowed to do so under the current US regulatory framework, non-drug products make therapeutic claims and thus have issues with mislabeling.

Considering the ubiquity of muscle cramps, products currently available may be inadequate in fulfilling the therapeutic needs of those affected by the condition.

Literature Cited