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. Yet, there are few treatments for them.

Methods

Product Identification
• Muscle cramp products were searched for on Amazon
• Products type was identified for each result.

Studies Search
• Studies for effectiveness were searched for using PubMed using the product’s name as keywords.

Claims and Warning Letter Search
• Identified claims on product labels and websites.
• Searched for warning letters on the FDA and FTC websites.

Findings
• Over 3000 results were found for muscle cramp treatments.

OTC Drug
Homeopathic Drug
Food
Dietary Supplement
Traditional Remedy
Other

n = 43, 5 results were excluded due to irrelevance.

• Searching for studies on “pickle juice muscle” yielded 6 unique, relevant results out of 10.
  • Studies were excluded for irrelevance.
  • Some duplicate results were found and excluded.

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.