Acupuncture Therapy in the Treatment of Osteoarthritis of the Knee

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Abstract
Osteoarthritis (OA) is a chronic condition that affects the joints of the body, most commonly the knees; it has the potential to cause debilitating pain, stiffness and decrease quality of life. The current management involves lifestyle modifications of a healthy diet and exercise as well as analgesics like NSAIDs or acetaminophen to manage symptoms. Long-term use of these medications has been associated with many side effects affecting the GI and CV system. This review analyzes the use of acupuncture therapy (I) for symptom management (O) in patients aged 60–80 years old suffering from mild to moderate OA of the knee (P) as compared to sham acupuncture (C).

Introduction

Osteoarthritis (OA)

Overview
- Affects >30 million Americans
- Due to biomechanical and metabolic factors (alter articular cartilage and bone)

Symptoms
- Joint pain, stiffness, tenderness, reduced mobility
- Symptoms can be so severe causing debilitation and reduced QoL

Treatment
- First-line treatment includes lifestyle modifications and symptom management with Tylenol or NSAIDs
- Acupuncture has been seen as a possible alternative treatment option
- Acupuncture is widely accepted in China and Japan; first documented use as a treatment in China (100 BCE) - "The Yellow Emperor’s Classic of Internal Medicine"

Methods

Literature search
- Performed in Nov. 2019 using Google Scholar, EBSCO host and PubMed
- Search terms: “acupuncture and sham acupuncture and mild to moderate knee osteoarthritis and OA and NSAIDS” and “acupuncture and osteoarthritis and sham acupuncture”
- Inclusion Criteria:
  - Age of subjects (60 – 80 years old)
  - Type and severity of osteoarthritis (knee, mild to moderate)
  - Type of acupuncture (needle or sham acupuncture)
- RCT or SR published after 1998
- Exclusion Criteria:
  - Studies that involved a meta-analysis
  - Clinical trials that involved animals
  - Studies that did not include a clinical trial.
  - Studies involving a subject mean age under 60 years old
  - Studies that focused on severe osteoarthritis

Results

Table 1: Validity Assessment: Acupuncture vs. Sham Acupuncture

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<th>Study</th>
<th>Sample</th>
<th>Recruitment</th>
<th>Randomization</th>
<th>Blinding</th>
<th>Timeline</th>
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Key: A – Adequate, M- Marginal, I -Inadequate

Table 2: Summary of Results: Acupuncture vs. Sham Acupuncture

| Study | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | WOMAC | W