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### Effectiveness of Physical Therapy Interventions for Women with Dysmenorrhea: a Systematic Review

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# Effectiveness of Physical Therapy Interventions for Women with Dysmenorrhea: A Systematic Review

Authors: Amy Tremback-Ball, PhD, PT, Emily Hammond, SPT, Abigail Applegate, SPT, Emma Caldwell, SPT, Hayley Witmer, SPT

## INTRODUCTION

- **Primary Dysmenorrhea:**
  - Idiopathic painful menstruation
  - 60–90% prevalence in females
  - May cause school absences and missed work
  - Impacts social life and psychological health
  - Traditional treatments: NSAIDs, contraceptives, and thermotherapy

## PHYSIOLOGY

- **Prostaglandins:**
  - Aid in shedding of endometrium by reducing blood flow triggering muscle contractions; extremely elevated levels in primary dysmenorrhea causing painful contractions
- **Endorphins:**
  - Endogenous peptides that relieve stress and pain by binding to opiate receptors in brain
- **Exercise:**
  - Increases blood flow, decreases prostaglandin levels and releases endorphins
  - Innate pain relief, improved quality of life.
  - Releases endorphins acting as non-specific analgesics

## PURPOSE

The aim of this study is to explore the role of physical therapy in treating primary dysmenorrhea through traditional and alternative interventions.

## METHODS/RESULTS



## RESULTS – CONVENTIONAL

- **Aerobic Exercise:**
  - Frequency varied between 4–12 weeks
  - Duration: varied between 25–40 mins.
  - Type: dancing, walking, cycling, and treadmill training
  - Reduction in pain intensity and duration
- **Core Stabilization:**
  - Engages back extensors, abdominals and pelvic floor muscles
  - Increases circulation to surrounding musculature and tissue
  - Reduction in pain intensity and duration
- **Alternating Knee Chest Position:**
  - Strengthens pelvic floor
  - Reduction in pain intensity



- **Active Stretching:**
  - Creates flexibility in abdomen, pelvis, and groin
  - Perform stretches regularly to reduce post-cycle symptoms
  - Not superior to aerobic exercise
  - Simple and effective method for decreasing dysmenorrhea symptoms
- **Patient Education:**
  - Maintaining active lifestyle creates a positive aspect on dysmenorrhea
  - Foods rich in magnesium, potassium, and vitamin C can decrease prostaglandin production

## RESULTS – NON-CONVENTIONAL

- **Spinal Manipulation:**
  - Stimulates pelvic nerves
  - More effective with exercise regimen
  - Effective in reducing intensity of pain
- **Yoga:**
  - Stretching and core stabilization
  - Poses analyzed: Corpse, Sun Salutation, Sleeping Thunderbolt, Head to Knee, and Seated forward bend
  - Research needed for long-term benefits
- **Aquatic Therapy:**
  - Promotes muscle relaxation and stretching
  - Reduces intensity and duration of pain
- **Kinesio Taping:**
  - More effective than isometric exercise
  - Can provide immediate pain relief through cutaneous stimulation



Anterior

8cm x 5cm = horizontal  
10cm x 5cm = vertical



Posterior

No specified dimensions  
Pictured: 2, 10cm x 5cm

## RESULTS- NON-CONVENTIONAL

- **Acupressure:**
  - Auricular acupressure
    - Internal genitals, endocrine, shenmen, sympathesis, liver, kidney
    - No obvious effects on dysmenorrhea pain
  - Acupoints
    - SP-6 and RANGU points
    - Effective in reducing pain



## APPLICATION TO CLINICAL PRACTICE

- Include questions on the intake form to screen for symptoms
- Easy addition to plan of care
- Advocate to treat the “whole” person
- Promote open communication
- Can incorporate into any clinical setting

## LIMITATIONS

- Limited availability of high quality RCTs
- Limited long-term follow-up
- Lack of evidence analyzing several menstrual cycles
- Small sample sizes

## CONCLUSIONS

- Most effective: aerobic exercise, active stretching, and core stabilization
- Traditional methods recommended in conjunction with alternatives
- More research needed
- Physicians should recommend physical therapy to patients