When a period is more than a punctuation mark: Contemporary Perspectives on Dysmenorrhea Management

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Outline

• Background
  • Definition
  • Classification
  • Impact
  • Pathophysiology

• Clinical Assessment

• Management of Dysmenorrhea
  • Pharmacological Treatment
  • Complementary Alternative Treatments
  • Other Treatments
Definition

- Symptoms:
  - Abdominal pain that occurs just before or during menstruation.
  - Other symptoms: low back pain, radiation of pain to the upper thighs, nausea, vomiting, diarrhea, bloating.

(IASP, 1994; IASP, 2011; Smith, & Kaunitz, 2013)
Dysmenorrhea vs. Premenstrual Syndrome (PMS)

<table>
<thead>
<tr>
<th>PD</th>
<th>PMS/PMDD</th>
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</thead>
<tbody>
<tr>
<td>Diagnostic code</td>
<td>ICD-9-CM 625.3</td>
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<tr>
<td>Predominant/classic symptoms</td>
<td>Pelvic cramps or pain (WHO, 2013)</td>
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<tr>
<td>Secondary/other symptoms</td>
<td>Referred back, thigh pain, GI symptoms (e.g., nausea, vomiting and change in bowel frequency) secondary to the release of PGs and other inflammatory substances (Dawood, 1981, 1984)</td>
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<td>Timing of symptoms</td>
<td>Start several hours before or during menstruation; May get worse once menstruation begins (Booton and Seideman, 1989)</td>
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<tr>
<td>Classic medical treatment</td>
<td>NSAIDs, OCS (Coco, 1999)</td>
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(Chen, Kwekkeboom, & Ward, 2014)
Classification

- **Primary Dysmenorrhea**
  - No structural lesion.

- **Secondary Dysmenorrhea:**
  - Associated with underlying pathology
  - e.g., endometriosis, uterine fibroids, pelvic inflammatory diseases.

(IASP, 1994; IASP, 2011)
Risk / protective factors

- Risk factors:
  - Young age
  - Nulliparity
  - Family history
  - Smoking
  - Longer and heavier menstrual flow

- Protective factors
  - Use of oral contraceptives

(Ju, Jones, & Mishra, 2014)
Impact

- Prevalence: 16% - 91% of women of reproductive age.
- The leading cause of lost work hours in women.
  - 10–30% of women miss work because of dysmenorrhea.
  - A loss of 600 million working hours.
  - A loss of up to 2 billion dollars annually.
- Negative impact on physical activity, productivity, health-related quality of life, productivity.

Impact

Links between Dysmenorrhea and Other Chronic Pain Conditions

Dysmenorrhea

• Commonly co-occurs with other chronic pain conditions.
• Can exacerbate other chronic pain conditions.
• Its treatment can relieve symptoms associated with other chronic pain conditions.
• May increases risks for future pain.

(Altman et al., 2006; Amital et al., 2010; Berkley, 2013; Mannix, 2008; Olafsdottir et al., 2012; Yunus et al., 1989; Shaver et al., 2006)
Impact (con’t)
Links between Dysmenorrhea and Other Chronic Pain Conditions

Dysmenorrhea

• Causes significant changes (structural & functional) in the brain.
• Increases sensitivity to pain.
• May explain gender disparity in pain.

(Brinkert, et al., 2007; Berkley, 2011; Berkley, 2013; Giamberardino et al., 2001; Giamberardino et al., 1997; Giamberardino, 2008; Tu et al., 2009; Tu et al., 2010; Tu et al., 2013; Iacovides, Baker, Avidon, & Bentley, 2013; Vincent et al., 2011)
Pathophysiology

Membrane phospholipids

Prostaglandins

Dysrhythmic uterine contractions, ischemia, hypoxia, hyper-sensitization of the peripheral nerve

Symptoms of Dysmenorrhea

(Chan, Dawood, & Fuchs, 1981; Dawood, 1984; Dawood, 1988; Dawood, 2006)
Clinical Assessment of Dysmenorrhea

- History
- Physical Examination
- Pelvic ultrasound
- Laparotomy or laparoscopy (gold standard for diagnosis of endometriosis)

(Smith & Kaunitz, 2013; Speer, 2014)
Treatments of Dysmenorrhea

- Pharmacological Treatments
- Complementary/Alternative Medicine (CAM)
- Other Treatments
Pharmacological Treatments

NSAIDs

- Well established as effective therapy.
- More effective than acetaminophen.
- No evidence suggests any particular NSAIDs is more effective than others.
- Ideally, administered prior to the onset of menses.

(Marjoribanks et al., 2010, Smith et al., 2013; Speer 2014; Tu, 2007)
Pharmacological Treatments (con’t)

- Combined oral contraceptives are effective for prevention of dysmenorrhea.
- Continuous regimens may provide better control than traditional cyclic regimens.

(Smith & Kaunitz, 2013; Smith & Kaunitz, 2014; Speer, 2014)
Pharmacological Treatment (con’t)

- Levonorgestrel intrauterine system (IUD, LNG20/ Mirena®) is associated with improvement in menstrual pain.

(Dean & Goldberg, 2014; Smith & Kaunitz, 2013; Smith & Kaunitz, 2014)
Pharmacological Treatment (con’t)

- The injectable contraceptive depot medroxyprogesterone acetate (DMPA) given every 3 months to induce anovulation.

(Smith & Kaunitz, 2013; Smith & Kaunitz, 2014)
Complementary Alternative Medicine (CAM)

- High-frequency transcutaneous electrical nerve stimulation (TENS) is effective in relieving menstrual pain.
- Dietary and herbal supplements
  - Magnesium, Vitamin B1, Vitamin B6, Vitamin E, Omega 3 Fatty acid are possibly effective.
- Acupuncture may be effective, but the related studies are limited by methodological flaws.
- Behavioral interventions may be effective, but results should be viewed with caution.
- Spinal manipulation is unlikely to be beneficial.

(Cho & Hwang, 2010; Kannan & Claydon, 2014; Proctor, Hing, Johnson, & Murphy, 2006; Proctor, Smith, Farquhar, & Stones, 2002; Proctor & Murphy, 2001; Proctor, Smith, Farquhar, & Stones, 2002; Proctor, Murphy, Pattison, Suckling, & Farquhar, 2007; Smith & Kaunitz, 2014; Smith, Zhu, He, & Song, 2011)
Other treatments

- Topical heat leads to significant reductions in pain severity.
- Surgical cutting uterine nerves is likely to be ineffective or harmful.

(Kannan & Claydon, 2014; Proctor, Smith, Farquhar, & Stones, 2002; Smith & Kaunitz, 2014)
Thank you!

For more information, email chen.chen@wisc.edu


References (con’t)

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