

Riding The Crimson Wave: Menstrual Disorders And Mental Health In Adolescents

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Disclosures

- No conflicts of interest or financial relationships to disclose

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Definitions

- Menarche – your first period
- Menses – your period
- Dysmenorrhea – painful periods
- Estrogen and progesterone – female hormones
- Androgens – male hormones (e.g. testosterone)
- Catamenial – related to periods

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Introduction

- Girls menstruate. Sigh.
 - Average age of menarche: 12.5 years
- Complex interplay of hormones produced by the hypothalamus, pituitary, and ovaries
- The hormones in question do not mind their own business
 - Physical effects on the brain and body outside of the reproductive axis

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Introduction

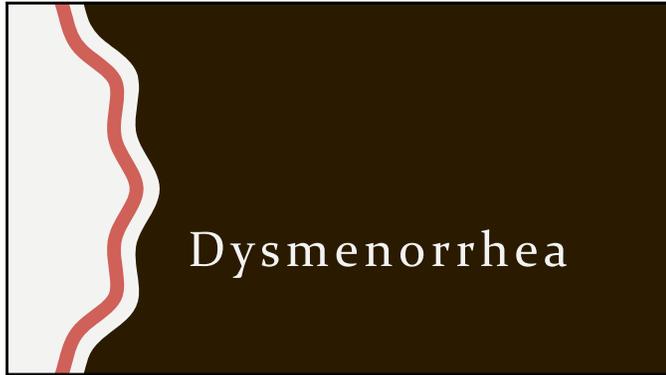
- Result:
 - Menses can cause significant primary physical and psychiatric symptoms
 - Menses can trigger secondary worsening of other primary medical and psychiatric conditions
- Just one example of the importance of the bidirectional relationship between physical and mental health and resultant effects on function

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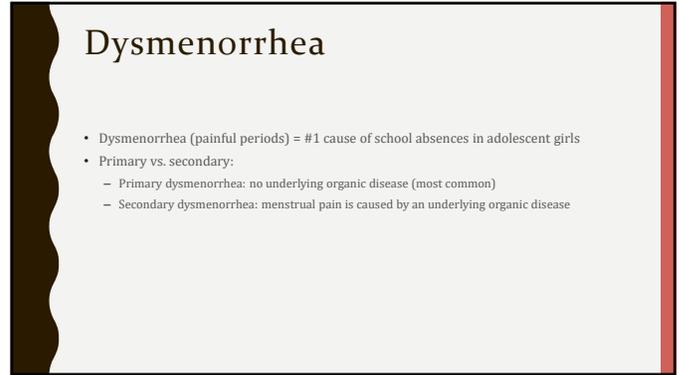
Objectives

- Review the complex interrelationship between several menstrual disorders and mental health disorders
 - Dysmenorrhea
 - Premenstrual syndrome/dysphoria
 - Premenstrual exacerbation of primary psychiatric disorders
 - Polycystic ovarian syndrome
 - Chronic pain and migraines
 - Menstrual side effects of psychotropic medications
- Learn to screen for menstrual-related worsening of mental health symptoms and when to refer to an MD for further evaluation and management

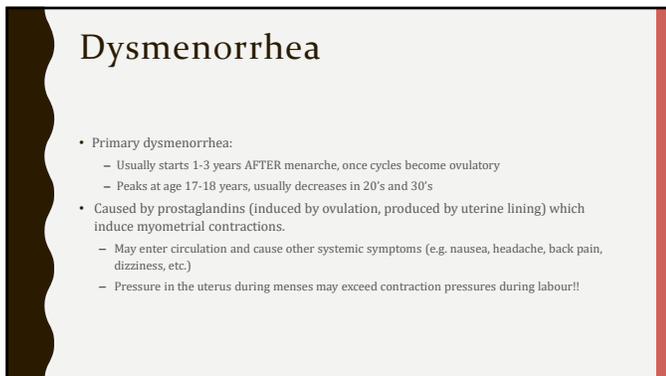
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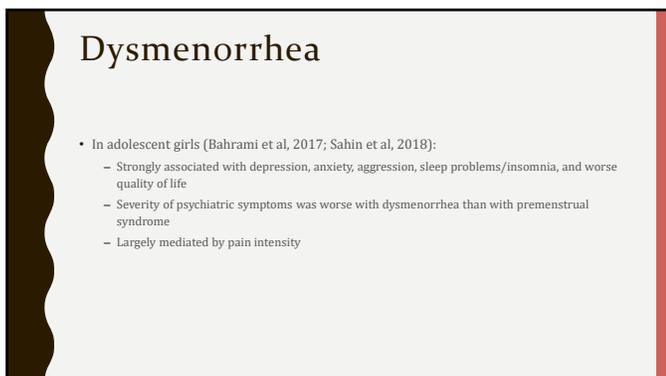
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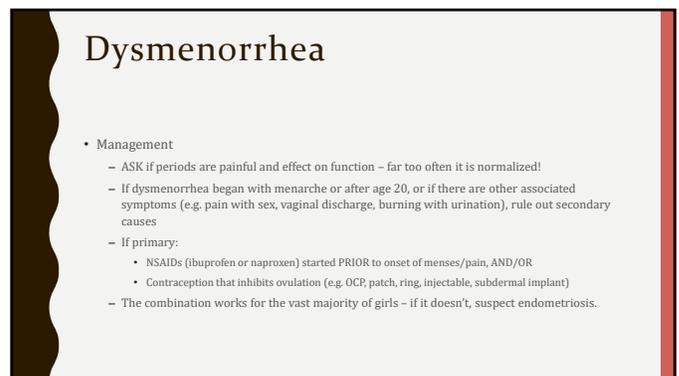
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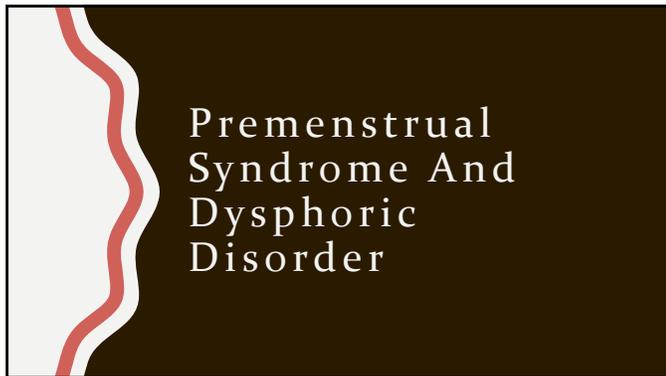
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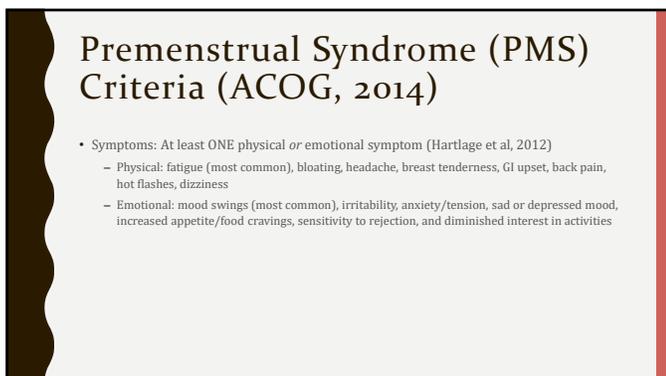
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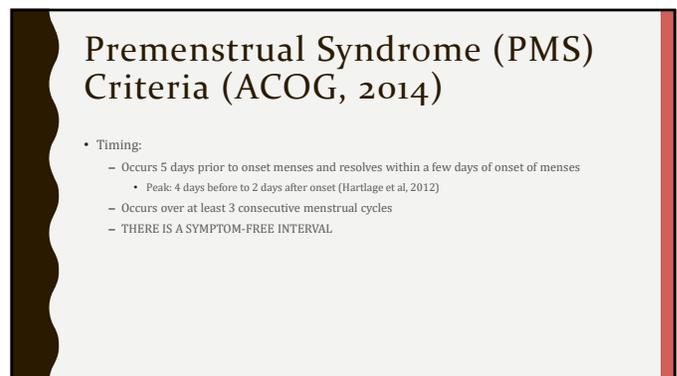
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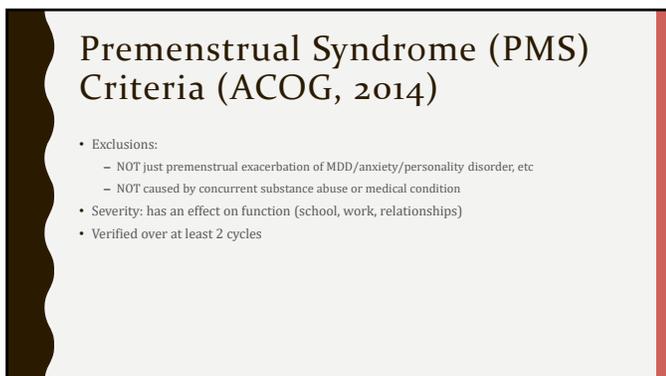
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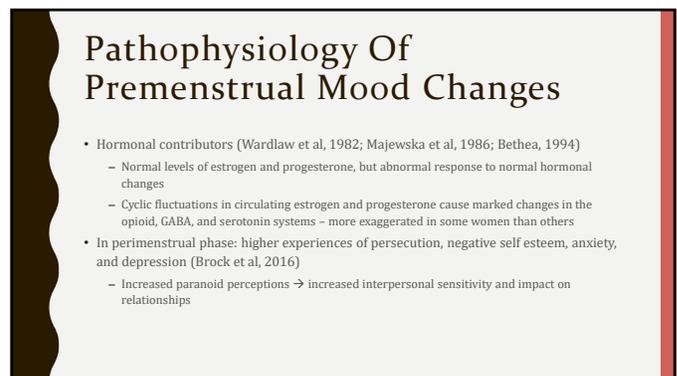
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Premenstrual Dysphoric Disorder (PMDD)

- Newly included in DSM5 (APA, 2013)
- At least 5 symptoms, at least ONE of which is a severe affective symptom (markedly severe mood swings, irritability/anger, depressed mood, anxiety, or anhedonia) for most menstrual cycles over the last year
- Timing: same as PMS
- Severity: **MARKED** effect on **FUNCTION**
- Exclusions: same as PMS
- **CONFIRMED** by prospective daily symptom ratings over at least 2 cycles

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PMS/PMDD

- Can start anytime after menarche but usually established by your 20's
- Prevalence in adolescents of moderate to severe PMS is at least 20% (Rapkin and Mikacich, 2008)
- Independent predictors of PMDD symptoms (Osman et al, 2017):
 - higher education, major life stressor, personal use of psychotropic medications, personal/family hx of psychological problems, and painful menses

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Treatment Of PMS/PMDD

- In general:
 - There is a very high placebo response rate for treatments of PMS/PMDD
 - Not a lot of treatments show effects superior to placebo!
- Mild symptoms: lifestyle modification may be enough
 - Exercise
 - Sleep hygiene
 - Balanced nutrition
 - Relaxation techniques and stress reduction
 - Getting sufficient dietary calcium
 - Natural remedies:
 - Herbal remedies: chasteberry is the only one that might work
 - Integrative medicine: maybe acupuncture

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Treatment Of PMS/PMDD

- Moderate/severe symptoms:
 - **FIRST LINE TREATMENT** is SSRI medication (clearly superior to placebo)
 - Works in 60-70% of women with PMDD
 - More effective for emotional symptoms than somatic symptoms
 - Works with **FIRST CYCLE** unlike other mood/anxiety disorders
 - Options: continuous, luteal phase therapy (starting day 14, stop at menses), or symptom-onset therapy (just take on symptomatic days)
 - ALL are effective
 - Choose based on pattern of symptoms, adherence, comorbid anxiety/depression, etc

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Treatment Of PMS/PMDD

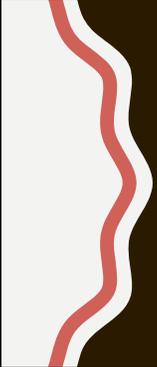
- Moderate/severe symptoms
 - Second-line treatment: Combined oral contraceptive pills (OCs)
 - Probably more effective for physical symptoms than emotional symptoms (Yonkers et al, 2017; Ekenros et al, 2019) but does modestly improve emotional symptoms
 - Works by inhibiting ovulation
 - Use of a 4-day hormone free interval seems to be more effective than 7 days
 - Can also be combined with SSRI

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Treatment Of PMS/PMDD

- Less well studied:
 - Medroxyprogesterone acetate (injectable birth control) also inhibits ovulation, but may also worsen some symptoms
 - Etonogestrel acetate (subdermal implant) also inhibits ovulation
- If you're desperate: GnRH agonists
 - Suppresses hormonal axis altogether at the level of the hypothalamus
 - Usually requires add-back hormonal therapy
- If you're REALLY desperate: bilateral oophorectomy and hysterectomy (removal of ovaries/uterus)
 - **LAST RESORT**
 - Childbearing is complete
 - GnRH agonists have been effective for at least 6 months

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Premenstrual Exacerbation Of Other Psychiatric Disorders

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Premenstrual Exacerbation Of Other Psychiatric Disorders

- Premenstrual worsening of symptoms associated with a primary psychiatric disorder
- An interesting study: Targum et al, 1991
 - 51 women admitted with psychiatric emergencies
 - 47% were in their the perimenstrual phase in contrast to 22% of staff controls
 - 33.3% of admissions occurred within 4 days of the onset of menses
 - Included depression, bipolar disorder, and psychotic disorders
 - No significant phase differences found between specific diagnoses or suicidal vs nonsuicidal

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Premenstrual Exacerbation Of Other Psychiatric Disorders

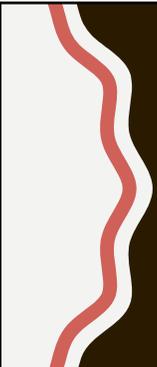
- E.g. Among premenopausal women with MDD (Kornstein et al, 2005):
 - 64% reported premenstrual exacerbation of depression - these women were:
 - More likely to have had longer duration of current MDD episode
 - More general medical comorbidity
 - More somatic complaints and psychomotor retardation with MDD
- E.g. Among women with bipolar disorder (Teaturo et al, 2014):
 - Menstrual cycle-related mood changes reported by 64-68% of women with BD in retrospective studies, and displayed by 44-65% of women in prospective studies
 - Mood changes could be depressive, manic, or hypomanic
- Other conditions which may be more symptomatic premenstrually: generalized anxiety disorder, schizophrenia, borderline personality disorder (Eisenlohr-Moul et al, 2018; Seeman, 2012; Hsiao et al, 2004)

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Premenstrual Exacerbation Of Other Psychiatric Disorders

- This is NOT PMS/PMDD
 - But, probably similar underlying effects of cyclic hormonal changes on neurotransmitters (opioid, GABA, serotonin)
- The UNDERLYING primary psychiatric disorder requires treatment
- BUT: consideration of hormonal contraception may be a helpful adjunct

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Polycystic Ovarian Syndrome

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Polycystic Ovarian Syndrome (PCOS)

- Affects up to 10% of girls and women - **1 in 10**
- Complex endocrine condition - pathophysiology not totally clear, but appears related to insulin resistance and relative hyperinsulinemia
 - Results in excessive androgen production and impaired ovulation
- Classic symptoms: irregular periods, symptoms of hyperandrogenism (body/facial hair, acne, body odor), infertility, obesity (in about 50%)
- Risks if not treated:
 - Development of type II diabetes mellitus
 - Uterine cancer

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PCOS And Mental Health

- Adolescents and adults with PCOS are significantly more likely to experience depression and anxiety (Glintborg et al, 2015; Dokras, 2012; Cinar et al, 2011; Weiner et al, 2004)
 - One study (Cinar et al) showed an 8-fold risk of depression in PCOS vs controls
 - There may be an association between obesity and metabolic abnormalities in PCOS with depression/anxiety, but this is poorly understood (Dokras et al, 2012; Cinar et al, 2011)
 - There may be an association between elevated androgens in PCOS and depression (Weiner et al, 2004)
 - Body image component?

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PCOS

- Mental health providers may be the first to detect possible PCOS
 - Should refer to MD for evaluation and treatment
- Women with PCOS should be particularly screened

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Chronic Pain And Catamenial Disorders

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Chronic Pain and Menstrual Exacerbation

- Premenopausal women with fibromyalgia (Pamuk and Cakir, 2005):
 - 45% reported higher pain severity and 57.5% reported higher fatigue severity during menses
 - Those who reported worse symptoms during menses were also the ones with worse sleep disturbance, worse somatization symptoms, and more tender points
- Unclear whether contraception could help - but it might be worth a shot

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Catamenial Disorders

- "Catamenial" - physical disorders that are worse with menses
 - Migraines***
 - Epilepsy
- Can be incredibly debilitating
- Inhibition of ovulation with contraception can be life-changing for women with catamenial physical disorders

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Psychotropic Medications And Menstrual Irregularity

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Effects Of Psychotropic Medications On Menses

- Lithium → thyroid dysfunction → menstrual irregularity, other metabolic effects
- Atypical antipsychotics → hyperprolactinemia → menstrual irregularity, galactorrhea
- Atypical antipsychotics → weight gain, insulin resistance → menstrual irregularity (similar to PCOS)
- Valproic acid → PCOS-like symptoms (hirsutism, weight gain, acne)

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Summary:

- Ask patients/clients if they have dysmenorrhea, explore impact on function, and REFER TO MD for evaluation/treatment.
- Ask patients/clients about premenstrual physical and emotional symptoms
 - Suggest lifestyle modification for mild cases
 - REFER TO MD for moderate/severe cases for consideration of SSRI and/or contraception
- Ask patients with primary psychiatric disorders about premenstrual exacerbation of symptoms
 - Suggest referral to MD for adjunctive contraceptive management

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Summary:

- PCOS
 - recognize possible symptoms and refer to MD for evaluation
 - screen girls with known PCOS for anxiety, depression, and body image problems
- Patients with debilitating chronic pain, especially migraines
 - Ask about worsening of symptoms with menses and suggest referral to MD for contraceptive management
- Be aware that menstrual irregularity can be a side of psychotropic medications – and may indicate a more serious underlying endocrine disturbance

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Thank You!

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